Symposium VI

Symposium: Overeducation and skill mismatch in labor markets

Chair
Paula Protsch (WZB - Berlin Social Science Center, Germany)

Room: Richard Strauss

Abstract

Educational and skill mismatch can be seen as major challenges of modern labor markets. While educational mismatch refers to discrepancies in formal qualifications, skill mismatch concerns the actual skills possessed by the worker and required by the job. The symposium will present new insights into both types of labor market mismatch and will open the floor for an indepth discussion of substantial and methodological issues. Vocational in contrast to general education is assumed to facilitate the matching of non-tertiary educated individuals to jobs in entry labor markets. But what about careers in the longer run? Buisman, Levels, and van der Velden's analysis based on cross-sectional PIAAC 2011/12 data for 24 countries suggests that general skills are important for employment chances across the birth cohorts. Thus, vocational education might prevent early mismatches but general skills seem to be a more flexible asset throughout the life course. To actually measure mismatch is a complex and bias-prone endeavor. Perry exemplifies this in her presentation on skill-mismatch self-reports. Since self-reports are easily implementable in surveys, PIAAC-related research would benefit strongly from a valid and robust measure. Perry discusses how her newly developed instruments perform in comparison to other self-reports. Measuring overeducation – educational mismatch in the sense of being higher qualified than one's job requires – is not trivial either as Lind and Larsson emphasize in their contribution. Using register variables linked to the Nordic PIAAC-database and thus longitudinal data, they show that being overeducated (measured by the Job Analysis approach) is a rather persistent state, particularly for older workers. Their analysis indicates that initial differences in basic skills cannot explain who becomes overeducated in Denmark, Finland, and Sweden. By contrast, using cross-sectional PIAAC data for 16 European countries, Borgna, Solga, and Protsch, find that among prime-age workers at same levels of education, lower basic skills are related to (self-assessed) overeducation. Skill heterogeneity, however, does not explain the observed cross-country differences. Their findings suggest that supply and demand side behavior and consequently overeducation rates are not only affected by the different institutional contexts but also the respective economic conditions, especially in times of economic downturn.

Presentations

- Title: Should we teach general skills in vocational education? Evidence from 24 developed countries.
  Authors: Marieke Buisman (University of Amsterdam, Netherlands), Mark Levels (ROA, Maastricht University, Netherlands) & Rolf van der Velden (ROA, Maastricht University, Netherlands)

- Title: Developing a subjective skill mismatch measure for PIAAC.
  Author: Anja Perry (GESIS – Leibniz-Institute for the Social Sciences, Germany)

- Title: Educational attainment, overeducation and basic skills in the Nordic countries.
  Authors: Patrik Lind (IFAU – The Institute for Evaluation of Labour Market and
**Education Policy, Sweden** et Lotta Larsson (Statistics Sweden, Sweden)

- Title: Overeducation, labor market dynamics, and economic downturn in Europe.
- Authors: Camilla Borgna, Heike Solga & Paula Protsch (WZB – Berlin Social Science Center, Germany)

Title: Should we teach general skills in vocational education? Evidence from 24 developed countries.

**Authors**

Marieke Buisman (University of Amsterdam, Netherlands), Mark Levels (ROA, Maastricht University, Netherlands) et Rolf van der Velden (ROA, Maastricht University, Netherlands)

**Abstract**

Whether secondary vocational education should primarily teach occupationally specific skills or should also aim at providing pupils with general skills is still a hotly debated question. Recent research suggests that in many countries, vocationally educated graduates from non-tertiary education experience higher quality school-to-work transitions than their generally educated peers, suggesting that occupationally specific skills are key in quickly finding and keeping well-matching jobs. However, evidence strongly suggests that early career education-to-job matching may come at a price. The relatively high returns to vocational education in the early career peter out during the career, and in the long run, generally educated workers appear to be better off. This regularity has been explained by assuming that the lack of general skills makes vocationally educated less flexible on the labor market, which would hamper their ability to find jobs outside of their field or at a different education level if they are unemployed.

Although these assumptions are plausible they have not been tested yet. In this paper, we use adult literacy data from the Programme for the International Assessment of Adult Competencies (PIAAC) to explore the relationship between general skills and labor market success of 20-65 year old (potential) workers from 24 developed countries with advanced economies. Focusing on people who completed education at ISCED levels 3 or 4, we assess the differential role of general skills in predicting employment chances and earnings for generally and vocationally educated workers from different birth cohorts. Preliminary results indicate that general skills contribute in important ways to the productivity of vocationally trained workers of all cohorts. Findings have major implications for curriculum design of vocational education systems. Ideally, they should not just aim at teaching occupationally specific skills that enable quick education-to-job matches, but also strive to inculcate general skills that help workers to remain employable and productive later in their careers.

Title: Developing a subjective skill mismatch measure for PIAAC.

**Author**

Anja Perry (GESIS – Leibniz-Institute for the Social Sciences, Germany)

**Abstract**

"There are essentially two ways to measure skill mismatch: self-reported (subjective) and direct (objective) measures of skill mismatch (see Flisi et al., 2015, and Perry, Wiederhold, & Ackermann-Piek, 2014). Skill mismatch self-reports are most often used to measure skill mismatch. Although, compared to objective measures, they are prone to biases (Hartog, 2000); they have the advantage of being easily implementable in a survey; thus, up-to-date information on skill mismatch can be obtained."
Also in the Programme for the International Assessment of Adult Competencies (PIAAC), a skill mismatch self-report was implemented. It is based on a set of two questions and is used by the OECD to derive an objective measure (OECD, 2013; Pellizzari & Fichen, 2013). However, this subjective measure does not provide valid results. For example, only about 6% of the workers in the participating countries are well-matched according to this self-report. Furthermore, the combination of both questions leads to four categories, one of them being "over-skilled as well as under-skilled" which makes the interpretation of resulting data unclear.

But also alternative measures in other studies lead to differing results. The percentages of underskilled workers range between 4 and 13% and that of over-skilled workers between 30 and 59% across the different surveys. The shares of self-reported over-skilled workers are typically higher than that of under-skilled workers which can be a result of a social desirability bias, leading respondents to overstate their skills.

An important goal should be the development of a skill mismatch measure that minimizes potential biases such as the social desirability bias. The aim of this presentation is to describe the steps towards developing a valid and robust skill mismatch self-report. New questions are tested against previously used self-reports by implementing them in the German Internet Panel (GIP, Blom, Gathmann, & Krieger, 2015). The results of this test will be presented and critically evaluated.

Title: Educational attainment, overeducation and basic skills in the Nordic countries.

Authors
Patrik Lind (IFAU – The Institute for Evaluation of Labour Market and Education Policy, Sweden) & Lotta Larsson (Statistics Sweden, Sweden)

Abstract
Using direct measures of skills together with the time dimension available through register data in the Nordic PIAAC-database we analyze flows out of overeducation and skill-differences between those who are categorized as over-educated and well-matched individuals. The Nordic PIAAC-database consists of the national PIAAC files for Denmark, Estonia, Finland, Norway, and Sweden, together with a set of register variables on e.g. family background, employment status, and education from each country's national administrative registers. The register information covers the year of the PIAAC survey (2011) as well as 2008. Due to partly missing data, only Denmark, Finland, and Sweden can be included in our main analyses.

We are able to compare three commonly used measures of overeducation: Self-assessment (SA), Job Analysis (JA; based on the ISCO occupational skill levels and their associated, usually required, educational level), and Realized Matches (RM; required educational level defined as the occupational average). The three measures differ in levels, but not in patterns. We cannot tell which measure gives the more accurate incidence of overeducation.

To use the time-dimension available through register data, the only feasible measure is JA. According to JA, overeducation seems to be a persistent state for many individuals, at least in the medium-run. Barely half of those aged 23–32 at the time of PIAAC, and who were classified as over-educated in 2008, were well-matched in 2011. Among the older individuals, 70–80 percent were still classified as overeducated after three years.

To test whether initial skill differences (i.e. before employment) can explain the incidence of overeducation we would need measures of skills from at least two points in time – before employment and at some point in time after. As this is not available, we compare the skills of over-educated and well-matched individuals who recently graduated (proxying initial skill
differences) to the skill differences between those who graduated earlier. Neither unadjusted estimates of “initial” skill-differences, nor estimates adjusted for education and gender, are significantly different from zero. This suggests that initial differences in basic skills cannot explain overeducation. However, potential differences in higher-order skills or non-cognitive skills could still possibly explain overeducation.

Title: Overeducation, labor market dynamics, and economic downturn in Europe.

Authors
Camilla Borgna, Heike Solga & Paula Protzsch (WZB – Berlin Social Science Center, Germany)

Abstract
Early overeducation studies have focused on micro- and meso-level determinants within single-country frameworks. Recent cross-country comparisons investigate the role of labor markets and educational systems (Allen et al. 2013; Levels et al. 2014). However, the endurance of the current economic crisis, with its heterogeneous repercussions across European countries, challenges cross-country overeducation studies.

This paper investigates the link between overeducation incidence and economic conditions by explicitly considering cross-sectional overeducation rates as the result of labor market dynamics over a long time span, starting from the moment when the individual with the longest job tenure at the time of observation was hired.

We analyze data from the 2011/12 round of the Programme for the International Assessment of Adult Competences (PIAAC) for prime-age workers (35-to-55-year-old) in 16 European countries. The direct measures of general skills available in PIAAC allow us to disentangle ‘apparent’ overeducation (resulting from individuals having higher qualifications than their skills would suggest) from ‘real’ overeducation (signaling an actual job mismatch). This is particularly important in international comparisons because the association between qualifications and skills—hence, skills heterogeneity within qualification levels—has been shown to vary substantially across countries (Heisig & Solga 2014).

Our results, based on mixed-effects linear-probability models, indicate that overeducation is partly explained by a lack of skills in all countries studied; however, workers’ skill heterogeneity is not responsible for cross-country country variation in overeducation rates. Moreover, our findings suggest that ‘real’ overeducation is influenced by the economic downturn, as: (i) individuals who experienced job mobility after the outbreak of the 2007 financial crisis are more likely to be overeducated than those who stayed in their jobs; (ii) overeducation is more pronounced in labor markets with higher shares of not-employed adults.