Individual Paper Session VIII

Thursday, April 6th, 2017, 14:00 – 15:30

Paper Session: Returns to education and skills

Chair
Jan Paul Heisig (WZB - Berlin Social Science Center, Germany)

Room: Richard Strauss

Presentations

- **Title**: The relationship between non-cognitive skills and life outcomes in Poland  
  **Authors**: Karolina Świst & Marta Palczyńska (Educational Research Institute, Warsaw, Poland)

- **Title**: Soft skills, hard world: Examining the relationships between tertiary education, soft skills, and occupational status in Germany and the United States  
  **Authors**: Frank Fernandez & Liu Huacong (THE PENNSYLVANIA STATE UNIVERSITY, USA)

- **Title**: Cross-country comparisons on the relative relationship between education and workplace task discretion  
  **Authors**: Ashley Pullman (University of British Columbia, Canada) & Janine Jongbloed (Institut de Recherche sur l’Éducation, Université Bourgogne Franche-Comté, Dijon, France)

- **Title**: Cross-national deployment of "Graduate Jobs": Analysis using a new indicator based on high skills use  
  **Authors**: Golo Henseke & Francis Green (University College London, United Kingdom)

- **Title**: Trade-off between occupation-specific skills and key competences: The consequences of different vocational education and training (VET) pathways and its impact on PIAAC skills and relevant labor market outcomes  
  **Author**: Eduard Stöger (Statistics Austria, Austria)

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**Title: The relationship between non-cognitive skills and life outcomes in Poland**

Authors
Karolina Świst & Marta Palczyńska (Educational Research Institute, Warsaw, Poland)

Abstract
There is a large volume of empirical literature providing evidence that not only cognitive skills but also non-cognitive skills are important for life outcomes. This paper assesses the relationship between the Big Five and Grit scales and social and economic outcomes in a large representative sample of adults in Poland. The data from the Polish Follow-up Study on the Programme for International Assessment of Adult Competencies (postPIAAC) include longitudinal information on PIAAC respondents in Poland and additional background information not available in the international study. The results of OLS regression presented in this paper confirm earlier findings from the literature that differences in personality traits are clearly associated with differences in the outcomes. Conscientiousness is positively linked to most of the outcomes while Neuroticism has a negative relationship. Extraversion is positively related to self-rated outcomes such as job and life satisfaction or health. There is also a negative relationship between Agreeableness and wages. Openness is positively related
to educational attainment. For most of the outcomes, the Big Five traits outperform cognitive skills in predictive power. Only educational attainment is more strongly related to cognitive skills, while for wages, the predictive power of personality and cognitive skills is similar. The paper also applies structural equation modeling (SEM) framework for a comparison. Such a framework allows for investigating the causality of relationships, incorporating the latent trait interactions and the analysis of mediation and moderation (Little, Card, Boivard, Preacher & Candall, 2007). What is more, this approach allows for a more effective control of measurement error. Finally, conclusions on the relationship between cognitive and non-cognitive skills in both SEM and OLS frameworks will be provided.

Title: Soft skills, hard world: Examining the relationships between tertiary education, soft skills, and occupational status in Germany and the United States

Authors
Frank Fernandez & Liu Huacong (THE PENNSYLVANIA STATE UNIVERSITY, USA)

Abstract
In an increasingly global, high-tech economy, many international leaders have looked beyond traditional skill sets, such as numeracy and literacy, to focus on more abstract attitudes and abilities, often times labeled as “soft skills” or “noncognitive skills”. Non-cognitive skills are often contrasted with technical skills, which are necessary but not sufficient for workers who wish to move beyond entrylevel jobs or who aspire to enter professional fields. Although non-cognitive skills are receiving more attention, there is a lack of literature that explores how they are related to educational attainment (and how the two, together, are correlated with labor market outcomes). In this study, we focus on the United States and Germany for this analysis because of their distinct education systems as well as labor market characteristics.

The two education systems differ significantly in balancing between providing students with general skills versus specific skills (Allmendinger, 1989; Bol & Van de Werfhorst, 2013; Muller & Gangl, 2003). Generally speaking, for example, the United States’ educational system is strongly oriented towards providing general qualifications with an emphasize on general skills such as critical thinking, analytical writing, etc. In contrast, Germany exemplifies the traditional vocationoriented systems that feature extensive vocational training through apprenticeship programs or occupationally specific training in vocational schools.

The two countries also exhibit distinct labor market features. For example, Germany has higher union density, stricter employment protection, and larger public-sector shares than the United States. Returns to general skills show a distinct pattern between these two countries. They are significantly lower in Germany. Hanushek, Schwerdt, Wiederhold, and Woessmann (2015) explained that this is probably due to Germany’s labor market characteristics – higher union density, stricter employment protection, and larger public-sector shares.

Using OECD’s Survey of Adult Skills (PIAAC) data, this study is guided by the following research questions:
1. How is tertiary educational attainment correlated with workers’ development and use of non-cognitive skills in the U.S. and Germany?
2. How are non-cognitive skills correlated with workers’ occupational status after controlling for educational attainment? Is this relationship the same between U.S. and Germany, two countries with distinct labor market characteristics?
# Cross-country comparisons on the relative relationship between education and workplace task discretion

**Authors**  
Ashley Pullman *(University of British Columbia, Canada)* & Janine Jongbloed *(Institut de Recherche sur l’Éducation, Université Bourgogne Franche-Comté, Dijon, France)*

**Abstract**  
Over 40 years ago, Bowles and Gintis argued that research in education cannot be conducted without reference to both labour power and ‘the demands of working people—for literacy, for the possibility of greater occupational mobility, for financial security, for personal growth, for social respect’ (1976, 240). Within the study of education and work various perspectives take up this appeal, examining how education and skill not only generate productive and political forms of labour power (Collins 1979) but also have the power to transform work (Baker 2009). Of central importance for Bowles and Gintis is ‘the degree to which workers have control over planning, decision-making, and execution of production and tasks, as well as sufficient autonomy to express their creative needs and capacities’ (1976, 68–69). That is, education is argued to not only prepare individuals for economic life but also to be intimately connected to the nature of work itself.

Through analyses utilizing the OECD Programme for the International Assessment of Adult Competencies (PIAAC), we consider the relationship between education and workplace task discretion in an international comparative context. We study how mechanisms of inequality function through both ‘direct’ and ‘indirect’ means by examining the mediated and non-mediated relationships between education, skill, occupational sector and task discretion through the KHB method of statistical analysis. The ways in which these relationships are dependent on the availability of task discretion across occupational sectors within a country are considered.

Theoretically, individual-agency and critical-institutional hypotheses are compared, two perspectives which provide divergent explanations for the association between education and task discretion. Although our findings partially support both perspectives, we find strong evidence of a relative relationship between education and task discretion. That is, a rising tide lifts all boats. We find that in contexts where overall levels of task discretion are higher, education and skill operate less strongly as a stratifying force.

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# Cross-national deployment of “Graduate Jobs”: Analysis using a new indicator based on high skills use

**Authors**  
Golo Henseke & Francis Green *(University College London, United Kingdom)*

**Abstract**  
Utilising work task data drawn from the OECD’s Survey of Adult Skills of 2011/2012 and 2014/2015, we derive a new skills-based indicator of graduate jobs, termed ISCO(HE)2008, for twenty-seven countries. The indicator generates a plausible distribution of graduate occupations and explains graduates' wages and job satisfaction better than hitherto existing indicators. Unlike with the traditional classifier, several jobs in major group 3 “Technicians and Associate Professionals” require higher education in many countries. Altogether, almost a third of labour is deployed in graduate jobs in the 31 countries, but with large cross-national differences. Industry and establishment-size composition can account for some of the variation. In addition, two indicators of the relative quality of the higher education system also contribute to the variation in the prevalence of graduate jobs across countries.
Title: Trade-off between occupation-specific skills and key competences: The consequences of different vocational education and training (VET) pathways and its impact on PIAAC skills and relevant labor market outcomes

Author
Eduard Stöger (Statistics Austria, Austria)

Abstract
Recent analyzes of the PIAAC data points out the particular relevance of the formal school system for the development of PIAAC competences “literacy” and “numeracy”. Against this background, this paper focuses on a very important educational track within the Austrian school system (as well as in Germany and Switzerland): the apprenticeship system.

As the company-based part is dominating within the apprenticeship system, the training of occupation-specific skills is highlighted within the curricula, but with inherit consequences on the provision of basic skills on the one hand and employability chances on the other hand. This trade-off is an important aspect for VET policy and VET research and thus this paper provides analyses by combining different data sources in Austria covering the following research questions:

- Differences on the proficiency level between apprentices and pupils who completed a comparable VET school on the same ISCED level (so called “Berufsbildende Mittlere Schulen”) (Data source: PISA)
- Labor market status of apprenticeship graduates (i.e. skilled workers) compared to comparable VET-graduates on the same ISCED level (so called “BMS-graduates”) within the first four years after completion (Data source: Educational Monitoring)
- Differences on PIAAC skills between apprenticeship graduates (i.e. skilled workers) and BMS-graduates (Data source: PIAAC) when also accounting for other important characteristics of graduates such as cultural capital of the parental home or the use of key skills in everyday life.
- Key labor market results (risk of unemployment, employment patterns, number of change of business sectors) apprenticeship graduates (i.e. skilled workers) compared to comparable VET-graduates on the same ISCED level (so called “BMS-graduates”) (Data source: PIAAC linked with Educational Monitoring and Public Employment Service)