



# Human Capital and Education: the State of the Art and a Research Agenda

## Minutes

The workshop was held in Brussels (Université libre de Bruxelles)  
on Thursday 8 October 2015

*Conference organized within the COEURE project “Cooperation for European Research in  
Economics”, funded by the FP7 SSH research programme under the grant agreement  
FP7/320300 (COEURE)*

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## Workshop Programme

- 09:30 - 09:45** **Introduction COEURE**  
**Wolfgang Leininger** (*TU Dortmund*), *Exec Committee, COEURE*  
**Elisabeth Lipiatou**, *DG Research and Innovation, European Commission*
- 09:45 - 10:45** **The State of the Art in Economics of Education**  
**Simon Burgess**, *University of Bristol*
- 10:45-11:00** *Coffee Break*
- 11:00 - 12:30** **Discussion from the Research Viewpoint**  
**Susanna Loeb**, *Stanford University*  
**Gabriella Conti**, *University College London*  
**Lex Borghans**, *Maastricht University*  
*Discussion*
- 12:30 -13:30** *Lunch Break*
- 13:30-15:00** **Data in Economics of Education Research and Policy**  
**Kjell Salvanes**, *Norwegian School of Economics*  
**Eleanor Stringer**, *Education Endowment Foundation*  
**Emla Fitzsimons**, *University College London*  
*Discussion*
- 15:00 -15:15** *Coffee Break*
- 15:15-16:15** **Leading Issues in Education Policy**  
**Ismael Sanz**, *National Institute of Education Evaluation Madrid*  
**Paolo Sestito**, *Banca d'Italia*  
**Paolo Battaglia**, *DG Education and Culture, European Commission*  
*Discussion*
- 15:15-16:15** **Open Discussion: Challenges and Closing Remarks**  
Kick-off: **Mantas Sekmokas**, *DG Employment, Social Affairs and Inclusion, European Commission*  
**Simon Burgess**, *Discussants and Participants*

## Participants

### SURVEY AND COORDINATION

Burgess, Simon	Principal Investigator
Lipiatou, Elisabeth	EC Research Programme officer, case officer
Leininger, Wolfgang	Executive Committee of COEURE

### DISCUSSANTS

Battaglia, Paolo	DG Education and Culture, European Commission
Borghans, Lex	Maastricht University
Conti, Gabriella	University College London
Fitzsimons, Emla	University College London
Loeb, Susanna	Stanford University
Salvanes, Kjell	Norwegian School of Economics
Sanz, Ismael	National Institute of Education Evaluation Madrid
Sestito, Paolo	Banca d'Italia
Sekmokas, Mantas	DG Employment, Social Affairs and Inclusion, European Commission
Stringer, Eleanor	Education Endowment Foundation

### AUDIENCE

Anderson, Julie	Di Liberto, Adriana	Pappalardo, Luca
Borgmann-Prebil, Yuri	Legros, Patrick	Pereyra, Juan S.
Chen, Li	Maselli, Ilaria	Verwimp, Philip
Contigiani, Alessandra	Munda, Giuseppe	

Belau-Garmann, Julia (Administration)

## 1 Introduction COEURE

Wolfgang Leininger from TU Dortmund opened the workshop and emphasized the aims of the COEURE project, in particular the endeavor to evaluate European Research in Economics with a particular reference to its contribution to European economic policy issues. How useful is European Research in Economics for European economic policy making? And how useful could it be? Which funding strategies are needed to improve the policy effectiveness of European research in economics? He outlined the three-stage structure of COEURE and how the proposed Agenda for research *and* its funding should emerge from these stages.

He was followed by Elisabeth Lipiatou from DG Research and Innovation of the European Commission, who summarized the rationale of COEURE from the policy community's point of view and its expectations with regard to it.

## 2 The State of the Art: Human Capital and Education

The Principal Investigator Simon Burgess from Bristol University gave an one-hour account of the main findings of his survey.

## 3 Discussion from the Research Viewpoint

**Susanna Loeb** from Stanford University gave a very comprehensive comment on the survey and made suggestions for a partial reordering of topics in it. Most importantly, she drew on the following points:

- The importance of education and its public returns for the determination of growth, income inequality and social mobility have been well established; causal relationships have been isolated from careful empirical work.
- However, causal relationships are not sufficient for policy relevance; one needs an understanding of the mechanism producing this relationship. A much more detailed account for institutions, legal framework and politics itself have to be given to establish the latter! For that one has to leave the standard demand-supply framework.
- Furthermore, we do not very well know what types of human capital are most important in which of these aspects.
- In the determination of the returns to education much more emphasis should be put on the variation in these returns and its determinants; for this the consideration of

uncertainty and information will become a major topic in future research. People on average seem to make poor decisions on investments into education. This is one reason for the need of state intervention. A need to study and model the *dynamics* of the education process - like in the learning sciences - is hence required. Time-inconsistency in either preferences or decision-making has to be addressed.

**Gabriella Conti** from University College London focused primarily on education as an ongoing *process*; she really appreciated the fact, that the survey gives ample space to early development, but encouraged the author to proceed smoothly to later years to emphasize the continuity of the process of human capital accumulation. She criticized the survey as too short on health aspects; i. e. health is increasingly recognized as a form of human capital; in particular the pre-school health effect on attainments is important (after all, the technical term ECEC means *Early Childhood Education and Care*) and policy-relevant. Investments in early child development will later reduce health costs for society, so there are private as well as social benefits from ECD. The need is not just for good teachers, but also good parents! Those are in control of the investment function into human capital in early years, before the parent-child interaction takes control of this and, finally, the adolescents themselves. Whenever studies reveal causal relationships the need to understand the mechanisms causing these becomes crucial: otherwise one is not able to generalize results. This requires the combining of RCTs (randomized controlled trials) and structural models, which would also allow to simulate impacts of *alternative* policies.

**Lex Borghans** from Maastricht University documented the extraordinary growth of research in the economics of education over the past 15 years and asked for the robustness of the results achieved: He argued that only of a limited amount of data, namely easily *available* data, use has been made. The next step calls for systematic data *production*; e. g. through real world experiments in schools. Researchers should work hand in hand with schools. He drew attention to the Dutch experience, in which carefully directed experimental evidence is used in the formulation of school policy as exemplified by the Limburg Educational Agenda.

**Discussion:** The discussion centered around the limited usefulness of local experiments across countries and the necessity to use general models first, which then can be tested through experiments under different circumstances. It was agreed that the demand for university education is still growing, yet returns of education are not uniformly positive rather on average. It is known that returns highly depend on preparations for university and there is huge variation, in particular in the United States, over these. Insufficient preparation, in turn, is one reason for too few people going to university; e. g. in Spain.

## 4 Data in Economics of Education Research and Policy

**Kjell Salvanes** from the Norwegian School of Economics gave an account of general data availability in Norway from different administrative sources. Norway has probably the most advanced data source in the world in this respect. He demonstrated how widely this data base can be used for “natural” experiments. He then outlined how the *combined* use of register data, surveys and experiments can enormously improve the statistical power of tests and research in education economics in general. Key for these enormous possibilities is a unique person identifier across all administrative data sources.

**Eleanor Stringer** from the Education Endowment Foundation introduced her organization, which aims to reduce the so-called “educational attainment gap” between pupils from low-income families and better-off families, that widens with the age of the children. Described as a “What Works”-center it closely cooperates with more than 4000 schools, which take part in randomized controlled trials of various sorts to find out what interventions result in what effects at what cost. All data get archived and are accessible to schools and researchers. First evidence shows that schools are surprisingly willing to take part in such studies; yet it is less clear whether schools and policy makers will follow the advice extracted from the evidence.

**Emla Fitzsimons** from the University College London gave a very useful and detailed account on the role of birth cohort data in the economics of education. She is Director of the Millennium Cohort Study in England, which follows more than 19000 individuals born in 2000/01. Cohort studies enable researchers to exploit particular events or policy changes as *sources of random variation* in variables of interest. This reduces selection bias in the data further and gives even more power to causal inference. Cohort studies are a powerful instrument to understand the formation of human capital. If linked to administrative data, they become very powerful.

**Discussion:** Susanna Loeb agreed that these types of richer data are a great opportunity; however, the development of appropriate measures (sufficient statistics) from these qualitative data is still missing. Simon Burgess agrees. Eleanor Stringer points out how this could be done with EEF data, while Emla Fitzsimons makes the same claim for cohort data. Ismael Sanz points out that PISA data have been linked to administrative data and the results have shown that the measurement problem for those “mixed” data sets clearly exists.

## 5 Leading Issues in Education Policy

**Ismael Sanz** from the National Institute of Education Evaluation in Madrid stressed the importance of communicating scientific findings in the right way in order to reach decision makers and create an impact on their decisions. Mixed evidence and technical presentations make policy makers wary to follow advice. Economics, in particular, draws criticism for its quantitative orientation compared to other disciplines. Nontechnical summaries of research papers are essential. He highlighted policy makers interest in research on the impact of class size, teacher turnover and school autonomy/accountability on pupils' educational attainments.

**Paolo Sestito** from Banca d'Italia agreed with the survey's view on teachers as the single most important "variable" for student achievement, but warned that "this will not be an easy fix". First of all, little is known about a teacher's effect on different dimensions of skills and the process of teacher-pupil matching through the creation of classes. There are many different rules in place whose consequences have to be assessed to be able to address the problem of how to raise teacher's effectiveness. Incentivizing teachers is difficult, because it can easily be gamed, and has long-term consequences for the composition of the teacher population. Most promising seem retention policies (e. g. a tenure-track, allowing to select after an extended probationary period) which combine selection, training and incentive-enhancing approaches. To realize this promise he sees a clear role for hierarchical supervision and interventions, which should go along with "market-based" measures.

**Paolo Battaglia** from the DG Education and Culture of the European Commission called for microeconomic insights into the macro picture of an aging and shrinking workforce, which creates the need for higher employment or at least productivity. Education is key to counter the consequences of this development; yet almost all expenditures on education go to basic education. The growing importance of adult learning is widely neglected. He sees the need for cooperation of European governments as the Commission has only limited powers in education policy, as well as a need to involve the private sector.

## 6 Open Discussion: Challenges and Closing Remarks

The session set off with an account by **Mantas Sekmokas** from DG Employment, Social Affairs and Inclusion of a study on “An in-depth analysis of adult learning policies and their effectiveness in Europe”, which supported Paolo Battaglia’s position.

The general discussion concentrated on the link between theoretical insights and actual policy implementation of recommendations following from them. Susanna Loeb criticized that too many suggestions following from theoretical insight are not taken up by policy makers and hence cannot be “tested”. Lex Borghans replied by pointing out that more emphasis on behalf of researchers on implementation is also required. Just as researchers feel left alone by policy makers teachers are left alone by researchers. This is in line with findings of the Education Endowment Foundation, which precisely wants to establish this link by close cooperation with schools. However, their measurements of effect sizes are often smaller than anticipated, which calls for larger trials to get robust measures of impacts.

In summary, three main issues were identified: the importance of the “early years” in childhood education, the identification of improved teacher effectiveness as the main vehicle for higher educational attainment, and the increasing returns to society from adult learning and education.