

# Leipzig Policy Research Workshop

Fraunhofer MOEZ, Leipzig, Germany  
November 6-7, 2014

## Objectives

To discuss the evolution of **step4EU** as a Europe-wide, research-based, independent network aiming at fostering a new understanding of future policies of science, technology and higher education across Europe, together with new observation activities, “informed participatory debates” and the engagement of scientists in policy action.

The meeting follows the “*Bergamo Statement of Purposes*”, as discussed in the initial event of **step4EU** in Bergamo in April 2014, and the meeting with the EC in July 2014.

## Background

In a decade hit by recession and economic and budgetary problems, which public policies for science, technology and education are necessary in the near future, both for individual member states as well as the EU as a whole?

This question has driven the creation of “step4EU – Science, Technology, Education and Policy for Europe” (<http://www.step4eu.org/>), a European wide network aimed to foster the systematic observation of issues in science and technology, higher education and public policy in Europe based on in-depth research. Its rationale derived from the observation that the quasi stagnation of R&D public investment in Europe over the last decade, which now accounts for about 2.0% of EU’s GDP (for comparison, GERD in the US is about 2.8% GDP), hides a major trend of internal divergence inside Europe itself. For example, in the year 2000, Germany and France presented similar national R&D budgets; today, Germany outpaces France by 50%. Italy budgets have declined since 2007, and in real terms are 15% lower than in 2000. And, most of small countries have slowed down, or cancelled, previous increases in R&D budgets.

Overall, the average investment in R&D per citizen has decreased comparatively with that in USA and the accumulation of R&D investment over the last 30 years is 50% lower in Europe than in the USA by 2012. Undoubtedly there was progress in Science, Technology and Higher Education throughout Europe, but as a whole, Europe has met neither its goals nor its promises in this area.

The challenges for Europe are immense, independently if they are global, national or local in nature, as most are to all effects transversal (e.g., global warming). An adequate policy framework not only helps mediating the interface between science, education and society, but also contributes to shaping systems, strategies and development patterns. Ultimately, the question is how to avoid the surprising estimates of UNESCO (2012) that warns about the possibility to have a “lost generation” of 200 million of young people – the bulk of which are expected to possess some kind of higher education qualification.

These issues, among many others that could have been listed, recall similar debates in the eighties, as associated with overcrowding among students, lack of resources, increased costs of the school places, maladjustment between the educational and productive systems and the slow speed of response to labour market demands in the educational response.

In that occasion, it was clear that investments in education were important drivers of economic and social development. Indeed, investing in education in Europe, and elsewhere, contributed to develop new capacities and skills, together with professional competencies that mitigated negative effects of cyclic crisis. The flexibility in addressing economic and societal dynamics has been facilitated and stimulated through science and education, although many authors have argued that in the absence of a coherent policy framework (including collaborative arrangements, quality assurance procedures and other feedback mechanisms, among other issues) science and education are necessary conditions but not sufficient for wealth generation. In addition, analysis has also shown that budgetary cuts in science and (higher) education over time have exacerbated economic inequality and social exclusion.

In this context, scientific and higher education institutions are critical agents given their privileged locus as repositories of knowledge, skills and competencies, as well as their effective contributions to the economy. Thus, the current economic situation presents a strategic opportunity for revisiting the role and mission of advanced training, knowledge and innovation in a post-financial crisis in Europe. This requires the adequate and systematic observation of policies and budgets across Europe in a way to report, publicly and periodically, relevant information and early warnings on the state of policies and budgets in each country and at EU level.

## Agenda

### Thursday, November 6

- 15:00**      **Opening Remarks**
- **Thorsten Posselt**,  
Director, Fraunhofer MOEZ, and Professor, University of Leipzig, Germany
  - **Georg Rosenfeld**,  
Division Director Research, Fraunhofer-Gesellschaft, München, Germany
- 15:15**      **Introductory Statement: “Internationalization and Reform of German Universities”,  
Matthias Schwarz**, Vice-Rector, University of Leipzig, Germany
- 15:30**      **“step4EU – Towards a New Understanding of Science, Technology and Higher  
Education Policies in Europe”, Manuel Heitor**, Center for Innovation, Technology and  
Policy Research, IN+, at Instituto Superior Técnico, Portugal
- 15:50**      **Comments from Science**
- **Luis Sanz Menéndez**, Director, CSIC Institute of Public Goods and Policies,  
Consejo Superior de Investigaciones Científicas (CSIC), Spain
  - **Olaf Gajl**, Professor and Director, National Information Processing Institute (OPI),  
Poland
  - **Andrew Gibson**, Professor, Dublin Institute of Technology, Ireland
- 16:20**      **Immediate Reactions from Administration**
- **Diana Senczyszyn**, European Commission, DG Research & Innovation
  - **Mattia Corbetta**, Ministry of Economic Development, Minister’s Technical  
Secretariat, Italy
- 16:40**      **Coffee Break**
- 17:10**      **Plenary Discussion: Focussing the Idea of step4EU**  
(Co-Chairs: **Manuel Heitor** and **Thorsten Posselt**)  
*In a decade hit by recession as well as economic and budgetary problems, which  
public policies for science, technology and education are necessary in the near future,  
both for individual member states as well as for the EU as a whole?  
How can step4EU help to frame new policies?*
- **Thorsten Posselt**, Director, Fraunhofer MOEZ, Germany
  - **Peter van den Besselaar**, Professor, VU University Amsterdam, Netherlands
  - **Laura Cruz-Castro**, Head of Department Science and Innovation, Institute of  
Public Goods and Policies, Consejo Superior de Investigaciones Científicas (CSIC),  
Spain
  - **Michele Meoli**, Professor, University of Bergamo, Italy
  - **Jan Slovák**, Professor, Masarik University, Czech Republic
  - **Marco Seeber**, Research Director, University of Ghent, Belgium
- Debate**
- 19:15**      **Closing of the First Day and Joint Walk to Ratskeller Restaurant**
- 19:30**      **Dinner at Ratskeller Restaurant**

## Friday, November 7

- 9:00**            **Opening of the Second Day, Manuel Heitor and Thorsten Posselt**
- 9:05**            **Plenary Discussion: Further Thoughts on Establishing step4EU**  
(Co-Chairs: **Peter van den Besselaar** and **Luis Sanz Menéndez**)  
*Which strategy should be adopted for the sustainable development of step4EU? How to make it operational? The discussion will be framed in terms of establishing step4EU as a long-term network, involving: 1) a portfolio of R&D projects, to be funded by the EU and several national sources of funding; and 2) an independent observatory, including funding from the institutions involved and from private organizations and foundations.*
- 10:30**            **Coffee Break**
- 10:45**            **Parallel Workshops: Identification of Research Themes, Relevant EU Tenders and Potential Consortia**
- **Workshop 1: Emerging Industrial and Innovation Policy in EU Regions/Nations**  
(Chair: **Manuel Molina Vogelsang**)
    - **Michele Meoli**, Professor, University of Bergamo, Italy  
Presentation: 'The dynamic of university spatial competition for students: The Italian case'
    - **Jan Slovák**, Professor, Masarik University, Czech Republic  
Presentation: 'The innovation policy and vision of the South Moravian Region'
    - **Manuel Heitor**, Center for Innovation, Technology and Policy Research, IN+, at Instituto Superior Técnico, Portugal  
Presentation: 'Training PhDs for what? On the dynamics of their contribution to social, economic, and scientific development in Portugal and Spain'
    - **Thorsten Posselt**, Director, Fraunhofer MOEZ, Germany
  
  - **Workshop 2: Reform and Internationalization of HE and Research Organizations in EU Regions/Nations**  
(Chair: **Daniel W. Bloemers**)
    - **Jani Ursin**, Senior Researcher, University of Jyväskylä, Finnish Institute for Educational Research (FIER), Finland  
Presentation: 'Internationalization of the Finnish Higher Education System'
    - **Peter van den Besselaar**, VU University Amsterdam, Netherlands  
Presentation: 'Funding modes and the performance of national research systems'
    - **Olaf Gajl**, Professor and Director, National Information Processing Institute (OPI), Poland  
Presentation: 'Unintended consequences of science policy in Poland – unequal evolution of research organizations'
    - **Andrew Gibson**, Professor, Dublin Institute of Technology, Ireland  
Presentation: 'Rebooting Irish Higher Education: Moving Beyond Economic Crisis'
    - **Marco Seeber**, University of Ghent, Belgium  
Presentation: 'Country and organizational-level effects in the internationalization of European Higher Education Institutions'
    - **Luis Sanz Menéndez**, Director, CSIC Institute of Public Goods and Policies, Consejo Superior de Investigaciones Científicas (CSIC), Spain

- **Laura Cruz-Castro**, Head of Department Science and Innovation, Institute of Public Goods and Policies, Consejo Superior de Investigaciones Cientificas (CSIC), Spain

**12:30**

**Final Plenary Session**

(Co-Chairs: **Manuel Heitor** and **Thorsten Posselt**)

- Reports by Workshop Rapporteurs
- Final Thoughts
- Next Steps
  - Next meeting (Spring 2015)
  - Working group to establish the Observatory and contact potential funding sources
  - Working groups to outline potential proposals for EU consortia (ITN and other H2020 calls)

**13:00**

**Light Lunch and Open Discussion**

**Confirmed Participants  
(in alphabetical order)**

- **Nizar Abdelkafi**, Head of Group Business Models and Services, Fraunhofer MOEZ, Germany
- **Peter van den Besselaar**, Professor, VU University Amsterdam, Netherlands
- **Daniel W. Bloemers**, Head of Strategic Development, Fraunhofer MOEZ, Germany
- **Mattia Corbetta**, Ministry of Economic Development, Minister's Technical Secretariat, Italy
- **Laura Cruz-Castro**, Head of Department Science and Innovation, Institute of Public Goods and Policies, Consejo Superior de Investigaciones Científicas (CSIC), Spain
- **Thomas Feist**, Member of the Bundestag, Committee on Education, Research and Technology Assessment, Germany
- **Olaf Gajl**, Professor and Director, National Information Processing Institute (OPI), Poland
- **Andrew Gibson**, Professor, Dublin Institute of Technology, Ireland
- **Manuel Heitor**, Professor and Director, Center for Innovation, Technology and Policy Research, IN+, at Instituto Superior Técnico, Portugal
- **Michele Meoli**, Professor, University of Bergamo, Italy
- **Manuel Molina Vogelsang**, Special Assistant to the Director, Fraunhofer MOEZ, Germany
- **Thorsten Posselt**, Director, Fraunhofer MOEZ, and Professor, University of Leipzig, Germany
- **Steffen Preissler**, Head of Department Innovative Transfer Systems, Fraunhofer MOEZ, Germany
- **Georg Rosenfeld**, Division Director Research, Fraunhofer-Gesellschaft, Germany
- **Marta Rózkiewicz**, Research Fellow, National Information Processing Institute, Poland
- **Luis Sanz Menéndez**, Director, Institute of Public Goods and Policies, Consejo Superior de Investigaciones Científicas (CSIC), Spain
- **Matthias Schwarz**, Vice-Rector, University of Leipzig, Germany
- **Marco Seeber**, University of Ghent, Belgium
- **Diana Senczyszyn**, European Commission, DG Research & Innovation
- **Jan Slovák**, Professor, Masarik University, Czech Republic
- **Simon Tunderman**, Research Fellow, Fraunhofer MOEZ, Germany
- **Jani Ursin**, Senior Researcher, University of Jyväskylä, Finnish Institute for Educational Research (FIER), Finland

## Annex – Presentation Abstracts

### *Workshop 1*

#### **The dynamic of university spatial competition for students: The Italian case**

Michele Meoli, Mattia Cattaneo, and Paolo Malighetti

The ability to attract students has progressively become a crucial factor for the sustainability of universities in Southern European countries, due to decreasing governmental funding. Using a competing destinations model for the population of 75 Italian universities in the period 2002-2012, this paper investigates whether they compete for students and how this rivalry has evolved in response to changing enrolment demand. First, results show that there is competition for students among Italian universities. Second, the characteristics of the competition forces have changed after the recent financial crisis, with universities located in close proximity to others becoming more attractive to students.

#### **The innovation policy and vision of the South Moravian Region**

Jan Slovák

Within the Czech Republic, the region of South Moravia represents a rather positive example of a combination of visions, political practice, managerial approach, and innovative development. The talk will shortly display the background, early plans, current results and further visions. While the report on the achievements is going to question the first three stages of the regional innovation strategy (2000-2014), the further visions are related to its fourth continuation. The conclusions will focus on the lessons learned so far.

#### **Training PhDs for what? On the dynamics of their contribution to social, economic, and scientific development in Portugal and Spain**

Manuel Heitor, Hugo Horta, and João M. Santos

Despite the tacit importance given to education in modern economies, little is known about the benefits of a highly qualified workforce, especially in what concerns the dynamics of the process of building-up a national stock of doctorates. Because of this, criticism has emerged in recent times, with public funding for doctoral education being reduced in many countries and regions in Europe, particularly in southern Europe, as financial constraints have increased. This article aims to debunk the generalization of this assessment by showing that tertiary and PhD education patterns differ largely by stage of scientific, educational and economic development. The analysis of both large and small countries, with a special emphasis on Portugal and Spain, shows that the sectorial distribution of doctorates depends on the national stock of doctorates, which also differs greatly by country. Most industrialized economies have built a relatively robust stock of doctorates over several generations of doctorates, taking on quite diversified roles in society. On the other hand, countries still dominated by “near first-generation” doctorates need to concentrate their investment on R&D, on the advanced education of human resources, and on training the teaching staff.

## *Workshop 2*

### **Internationalization of the Finnish Higher Education System**

Jani Ursin

Finnish higher education has undergone several reforms over the past decade. Many of them have highlighted international competitiveness of Finnish higher education system. In my presentation I will focus on challenges and future aims of internationalization of Finnish higher education.

### **Funding modes and the performance of national research systems**

Peter van den Besselaar, Ulf Sandstrom, and Ulf Heyman

The increased use of international funding data in relation to scientific output highlights that efficiency at the research system level is a complex research question. As pointed out by many scholars, the OECD R&D expenditure indicators are problematic. Not to mention the problem of how to account for research output. This paper contributes in three ways. (i) Firstly we suggest how to construct the input and output indicators. We develop a method for comparing the efficiency of science systems, by focusing on change in scientific output in relation to change of funding. This, to a large extent, eliminates the problem of measurement differences between countries. (ii) Secondly, we apply these indicators on a set of countries, showing which national science systems are more efficient (performance grows more than expected given change in inputs) and which are less efficient. (iii) Thirdly, we evaluate existing explanations for the differences referring to competition. What factors are responsible for efficiency differences: the level of competition, the level of university autonomy, or the level of academic freedom, or a combination? The paper ends with some conclusions about data, theory and policies.

### **Unintended consequences of science policy in Poland – unequal evolution of research organizations**

Olaf Gajl

The recent changes in the Polish science system have been analysed through John Ziman's concept of science models. The authors argue that Poland is currently in the process of transition from academic to post-academic science as shown inter alia by the consequences of the broad reform of science and higher education 2010-2011. The study focuses on the adaptation of various research organizations in Poland to the transition process. Meta-analysis of OPI's research shows that the unequal evolution of research organizations has its roots in the science system, which has both academic and post-academic features. Based on the study questions are posed whether this system is well-suited to the needs and financial capabilities of the newest members of the EU and whether the alternatives to the post-academic science exist in Europe or elsewhere.

### **Rebooting Irish Higher Education: Moving Beyond Economic Crisis**

Andrew Gibson

"This presentation examines the background and policy challenges confronting the government and higher education in Ireland in moving past the results of global financial crisis. After providing an overview of the economic and policy context, the chapter summarises four key policy challenges: i) creating a coherent higher education "system"; ii) sustainability; iii) research excellence; and iv) quality and performance."

## **Country and organizational-level effects in the internationalization of European Higher Education Institutions**

Marco Seeber

The results of an analysis of the competition for skilled human resources between European Universities are presented. We employed a multi-level model predicting their ability to attract foreign researchers. Predictions of the model are tested on a dataset on internationalization of 601 HEIs in 8 European countries. We show that (1) the model is able to explain a large proportion of the variance in the levels of internationalization of academic staff between HEIs; (2) country factors are more important than HEIs' characteristics in driving internationalization; (3) research-oriented HEIs in attractive countries have a larger share of international staff, whereas this happens only to a limited extent with similar HEIs in low attractive countries; (4) the association of research orientation with internationalization is mediated by the HEI's international network