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Drivers for EU research in a global context

Jean Chambaz

Vice President for Research, Université Pierre et Marie Curie, Paris

Chair of the Steering Committee, Council for Doctoral Education,
European University Association



The global context (1)

◆ « globalisation is an overarching 'mega-trend' which will progressively shape the world (...) The net benefits will not necessary be global »

CREST report on internationalisation of R&D, 2008

◆ globalisation = a market-led organisation of the world

◆ **The Lisbon strategy to maintain Europe competitiveness (2000):** promote a (knowledge) innovation-driven economy

- Develop a market for innovative goods and services
- Materialize in products and services investments in knowledge
- Develop R&D in Europe : the famous 3% GDP target for R&D and 600 000 new researchers to be recruited by 2010 ...

Europe figures are far from Lisbon objectives

- a 5 fold increase in the net imbalance of R&D investments by EU firms in USA compared with US firms in EU between 1997 and 2002
 - EU service sectors invest 0.2% GDP in R&D vs 0.7 in USA
 - R&D represents 1.93 % GDP in EU vs 2.6 in USA and 3.15 in Japan in 2003
 - by 2010, EU may fall at the 1999 level, and China may match EU
 - researchers are 6/1000 in Europe vs 9 in Japan and 10 in USA
- « More sustainable (public and private) resources are a prerequisite (but not sufficient means) to move forward towards an innovative Europe »

*Esko Aho Expert Group following
Hampton Court Summit, 2006*

The global context (2)

- ◆ globalisation changes spatial and temporal norms
- ◆ complexity, interdependence of the problems to face
- ◆ need to change the way to address these problems
- ◆ promote the development of a knowledge-based society in the broadest sense, not only in market terms
- ◆ a tremendous need for dissemination in the society of creative thinking

An increased strategic role for HEI

World Bank, OECD, EU...

- ◆ as key actors of research
 - in extending the frontiers of knowledge
 - in transferring knowledge into new products and services: innovation

- ◆ in training highly qualified and educated professional workers
 - by giving students key competences, skills and vocational guidance
 - to develop their professional career in a changing environment
 - to prepare to life-long training

 - PhD: development of creative thinking by training through research

- ◆ in educating citizens

An increased responsibility for HEI in an innovation-driven economy

- ◆ Knowledge is and must remain a universal public good
- ◆ Research, knowledge and innovation are not identical
- ◆ The need for an innovation-driven economy and for the transfer of knowledge into innovation ...
 - ... does not imply an innovation-driven research, a fortiori a market-driven research
- ◆ Research results cannot be ordered or preset
- ◆ The time scales of research, policy makers, and short-term profit are different
- ◆ Research is one of human activities the most under the pressure of competitiveness and continuous quality assessment

Drivers for research

- ◆ Mastering (research) policy by HEI
 - ◆ Responsible partnering with industry for effective knowledge transfer
 - ◆ Developing networking in Europe
 - collaboration expanding from 32 to 45 % (coauthored papers have greater impact)
 - both France and Germany now add greater impact to UK co-authored papers than does the US
- Evidence : comparative performance of the UK research base, 2008*
- ◆ Achieving a more open and attractive ERA

Postgraduate researchers issues

◆ Employers' views of researchers' skills

- if companies have postgraduate researchers, few recruit postgraduate
- postgraduate are nearly always given the same roles as graduates
- mostly employed for consultancy, scientific research and development
- seen as overqualified and/or overspecialized with narrowness of interest

The Rugby Team, 2007

◆ How to bridge this 'communication gap' ?

- implementing the new vision of doctorate
- developing awareness of stakeholders on the added value of training through research
- partnering with enterprises in doctoral education

The new European vision of doctorate

- ◆ The core component of doctoral training:
 - an original research project at the edge of knowledge
 - under the supervision of (a) senior scientist(s)
 - and the elaboration of one's own career development plan
 - as such, a full-time professional experience

Salzburg Principles, 2005

- ◆ Doctoral candidates, as early stage researchers, should be recognized as professionals - with commensurate rights and duties

European Researchers Charter, 2005

- ◆ Post-graduate are graduate with a 3/4-yr professional experience of research during which they develop creative thinking

Core competences, transferable skills and employability/career development of PhD holders

The EUA Doc-careers project, 2006-7

creative thinking - facing the unknown - quickly extracting and synthesising knowledge - elaborating innovative solutions - solving of complex problems
developing strategies by combining varied perspectives - networking - communication - quality, time and resources management - failure management

- directly linked to the employability of PhD holders for academic and non-academic, research and non-research careers
 - developed by performing research *during* a thesis run as a professional experience
 - are otherwise difficult to acquire and master, cannot be mastered by only taking courses
- ◆ Doctoral structures should offer (*not impose*) a positive environment to develop transferable skills for *both* academic and non-academic careers without overcharging, respecting diversity, and providing individualised training

Developing awareness of all stakeholders

- ◆ Developing awareness of supervisors:

Need for professional skills development for supervisors
(training supervisors)

- on the management of a doctoral project
- on job opportunities and career development for PhD holders

- ◆ Developing awareness of recruiters and employers:

- partnership with enterprises in doctoral training
- lobbying on an evidence-based policy

Career development of research staff (postdoctoral researchers)

- ◆ Workforce of today's research institutions
- ◆ Academics, top managers, policy makers and business leaders of tomorrow

They do not need a 4th cycle of HE but fair career prospects and incentives

- life-long training, as any professionals
- attractive employment and working conditions
- flexisecurity (social and pension rights), a condition of intersectoral and geographic mobility

A continuous quality improvement

- considering evolution of research practices and of the labour market
- based on autoevaluation indicators
- by monitoring new trends
- by exchange of experiences and good practices

*« Cheat shamelessly each other » F. Kafatos
EUA CDE Launching conference, Lausanne, 2008*

To better fulfill our task in doctoral education and career development of doctorate holders

To develop international attractiveness

To raise the awareness of stakeholders, recruiters

The Council for Doctoral Education (EUA-CDE)

the first Europe-wide platform
to develop and advance doctoral education
and to enhance its visibility at international level

- ◆ Encouraging and supporting the development of institutional policies
- ◆ Promoting cooperation and exchange of good practices
- ◆ Identifying and monitoring the trends in doctoral education, inside and outside Europe
- ◆ Improving the availability of data and information
- ◆ Acting as a representative voice for doctoral education in European universities in dialogue with stakeholders