4th Max Weber Programme Academic Careers Observatory Conference

"Openness and Competition in European Research Funding: Grants for International Researchers"

San Domenico di Fiesole

Villa la Fonte, 11 November, 2009

An European Research Area for young researchers? ERA's achievements and challenges

Ramon Marimon

Max Weber Programme

Openness and Competition in…

the Max Weber Programme

The distribution of the MWF in 2009-10 (MWF + MWP Visiting Fellows)

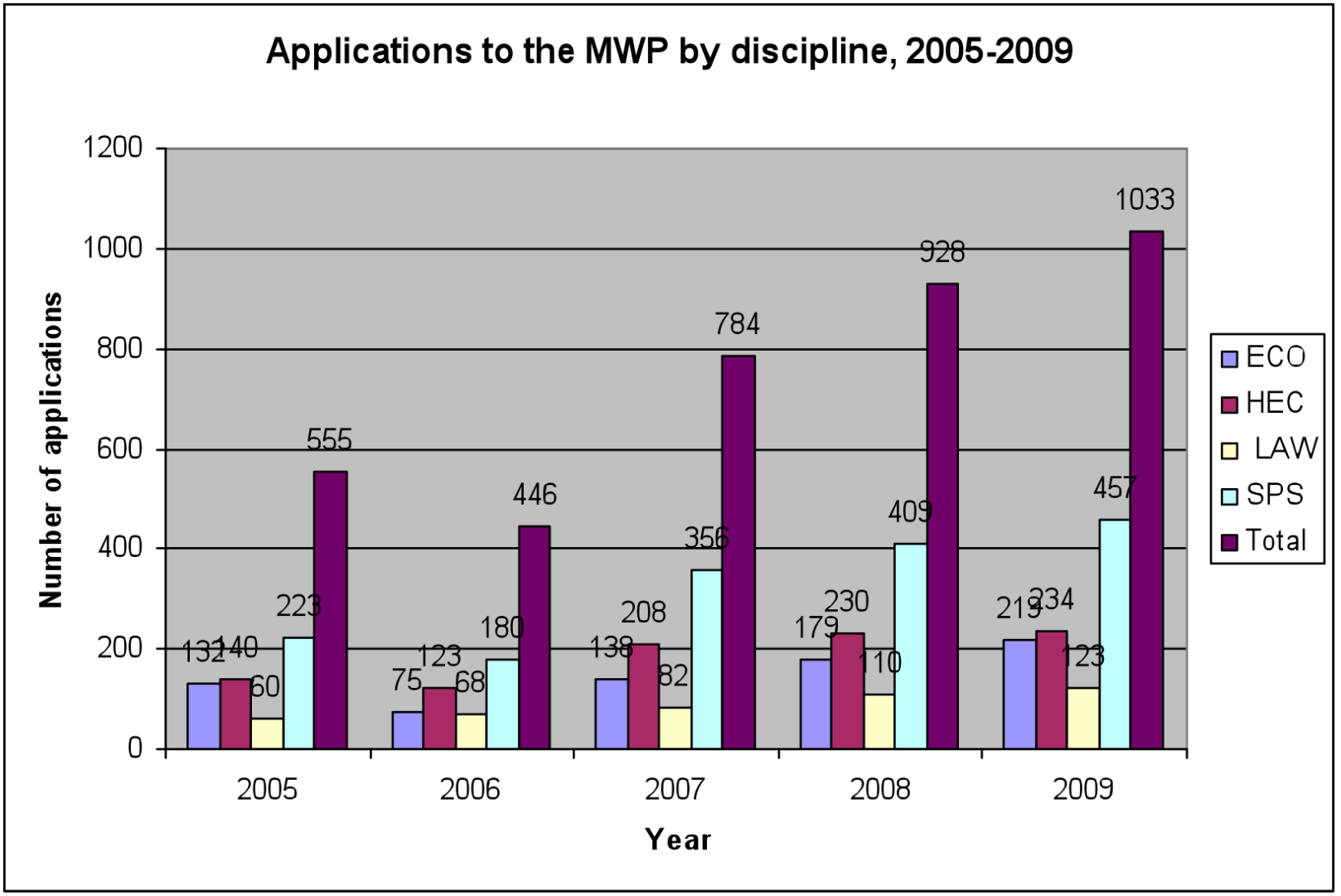
ECO	10+2
HEC	11+1
LAW	9+3
SPS	14+5

Female	24+8
Male	20+3

Austria	1	Italy	6+1
Argentina	1	Japan	1
Bosnia-Herz.	1	Netherlands	1+1
Bulgaria	1	Poland	2+1
China	1+1	Romania	1
Estonia	1	Serbia	1
France	2	Singapore	1
Georgia	1	Slovenia	1
Germany	4	Spain	2
Great Britain	5+1	Switzerland	1
Greece	1	Thailand	1
Hungary	3	Tunisia	1
Ireland	2	Turkey	4+1
Israel	1	United States	1

The applicants to the MWP: a diverse population (2006-2010)

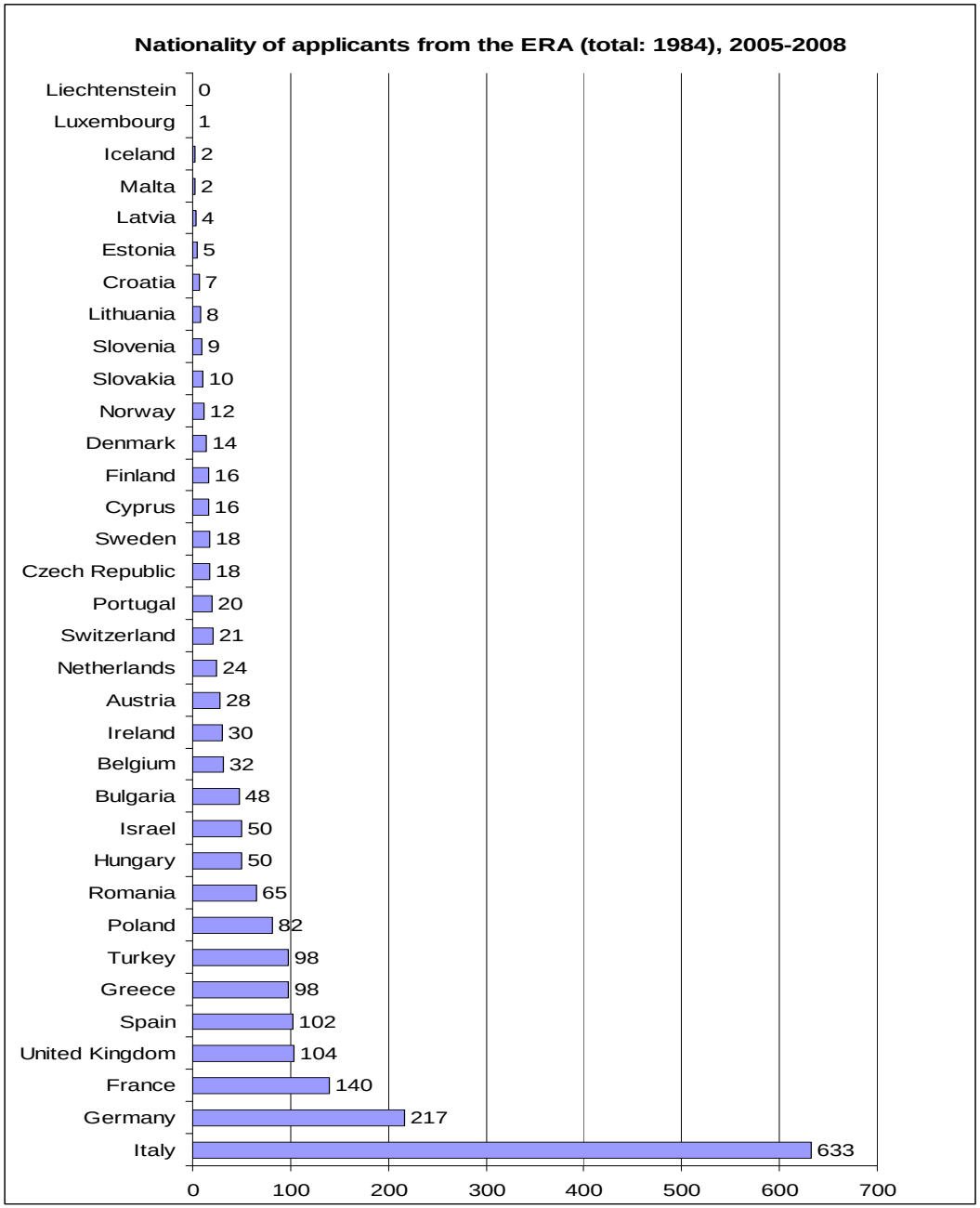
- 3745 applicants from more than 105 countries



Applicants from the European Research Area (ERA) (2006-2010)

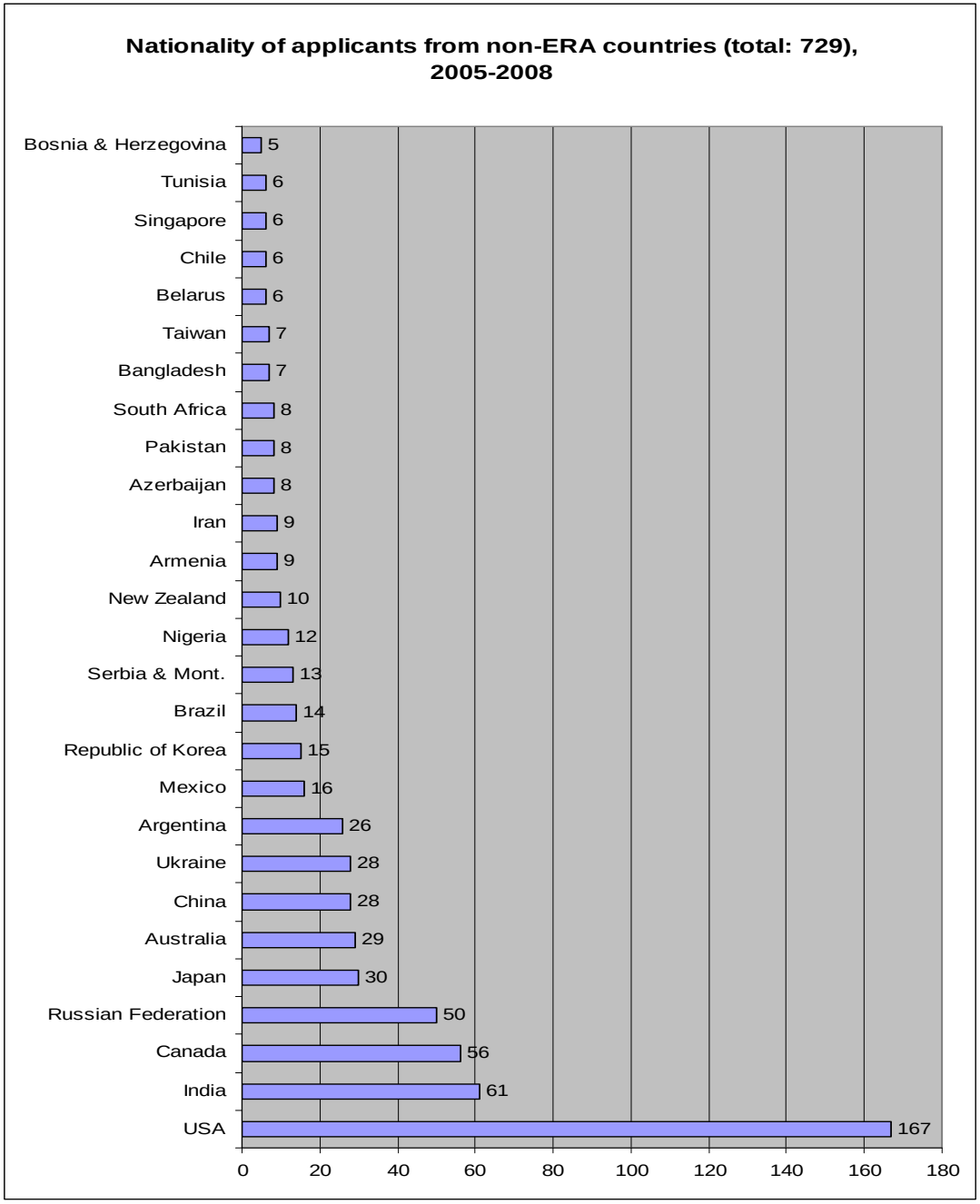
- 1984 applicants
- EU 27 + 7 associated countries:

- Croatia
- Iceland
- Israel
- Liechtenstein
- Norway
- Switzerland



Applicants from non-ERA countries (2006-2010)

- 729 applicants from 70 non-ERA countries (all continents)
- From 167 to 5 applicants: see table to right
- 4 applicants: Albania, Cameroon, Colombia, Georgia, Moldova, Morocco, Nepal, Thailand, Uruguay.
- 3 applicants: Egypt, Lebanon, Peru, Puerto Rico.
- 2 applicants: Cote d'Ivoire, Ghana, Indonesia, Kyrgyzstan, Malaysia, Palestinian Territories, Philippines, Uzbekistan, Venezuela, Vietnam, Zimbabwe.
- 1 applicant: Andorra, Barbados, Bolivia, Ethiopia, FYRO Macedonia, Guinea, Iraq, Jamaica, Jordan, Kazakhstan, Kenya, Malawi, Mauritius, San Marino, Senegal, Sierra Leone, Sudan, Syria, United Arab Emirates



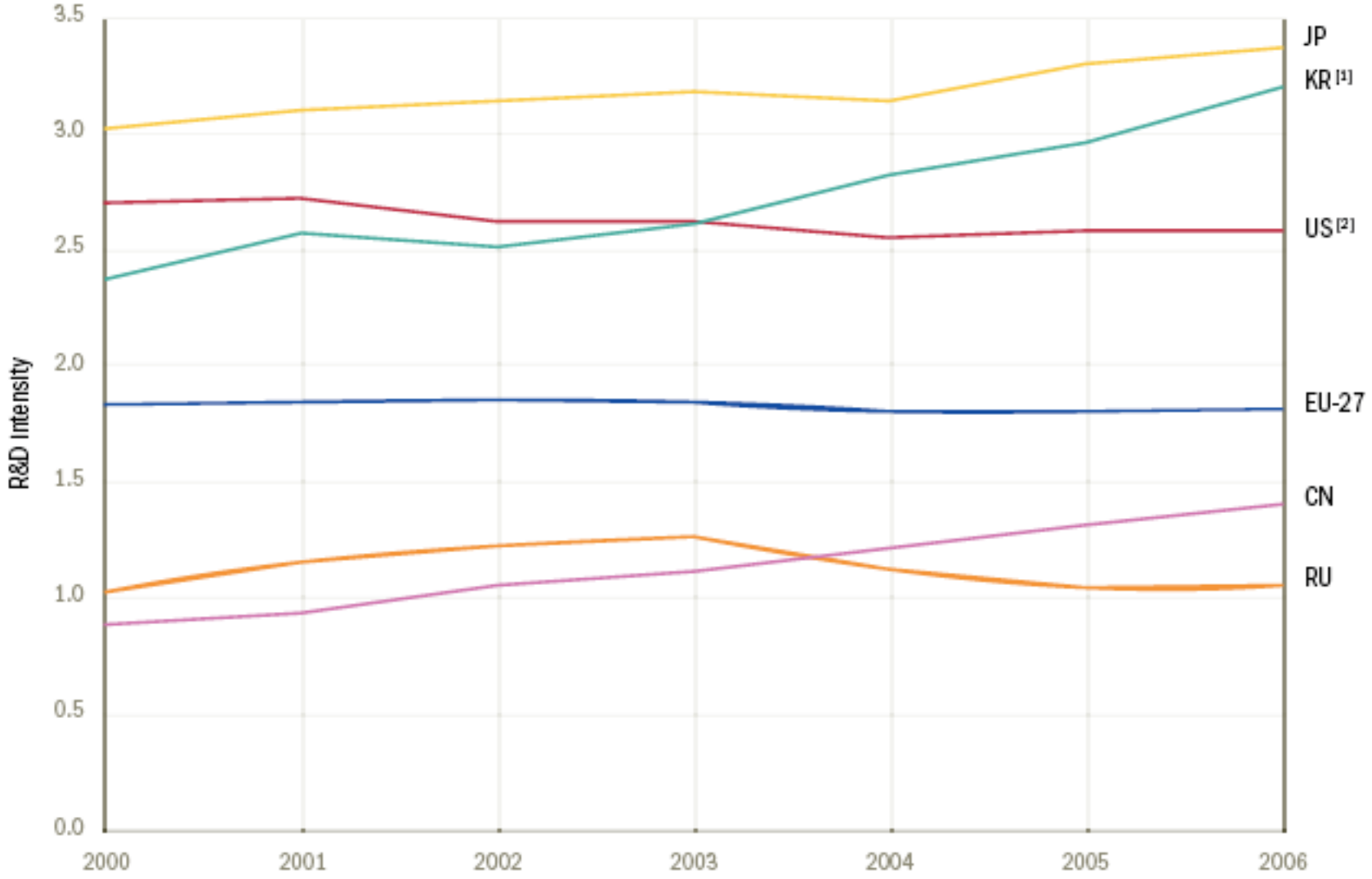
Openness and Competition in…

European Research Funding

European Research Funding and Spending…

A flat encephalogram…

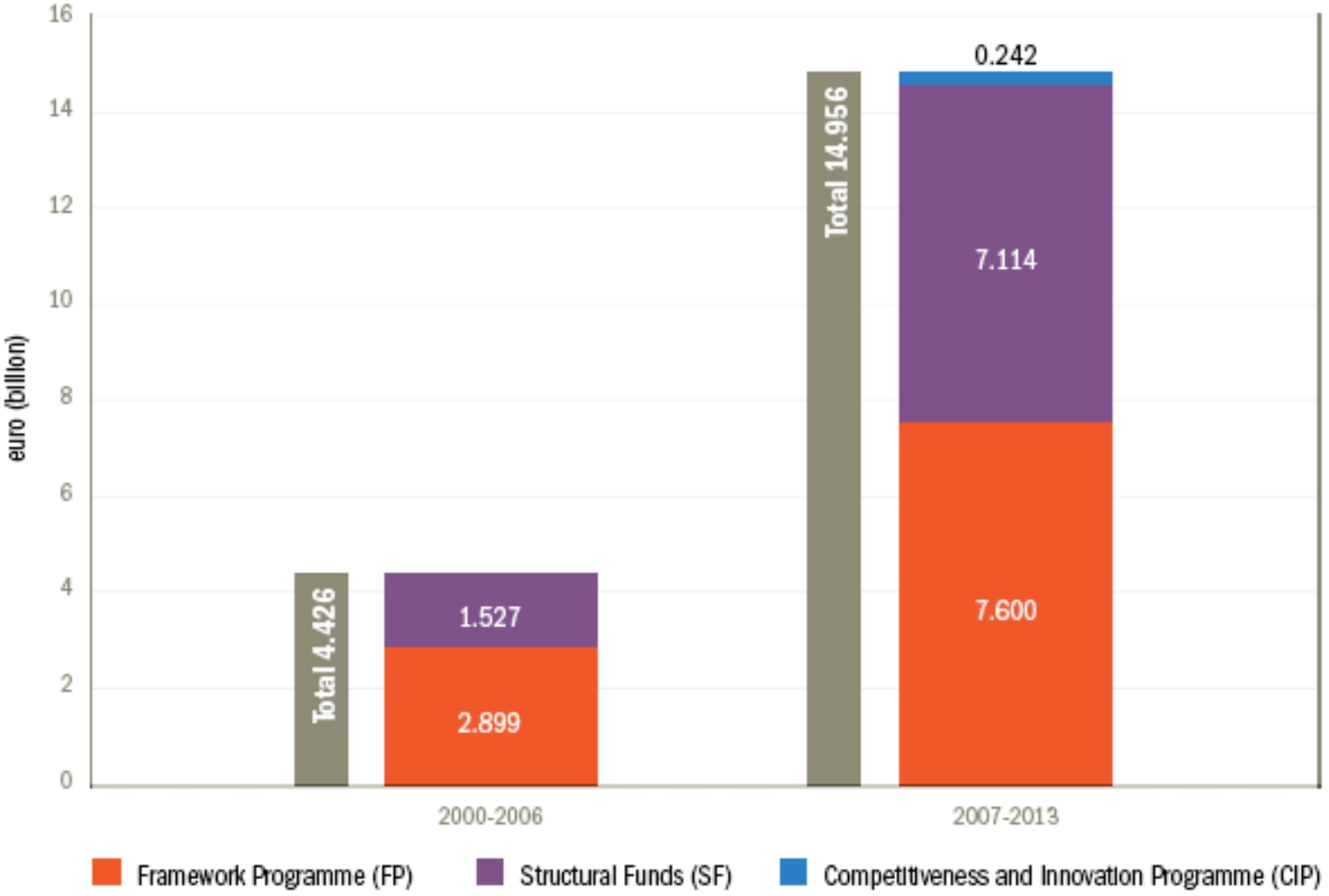
FIGURE I.1.2 Evolution of R&D intensity, 2000-2006



Source: DG Research

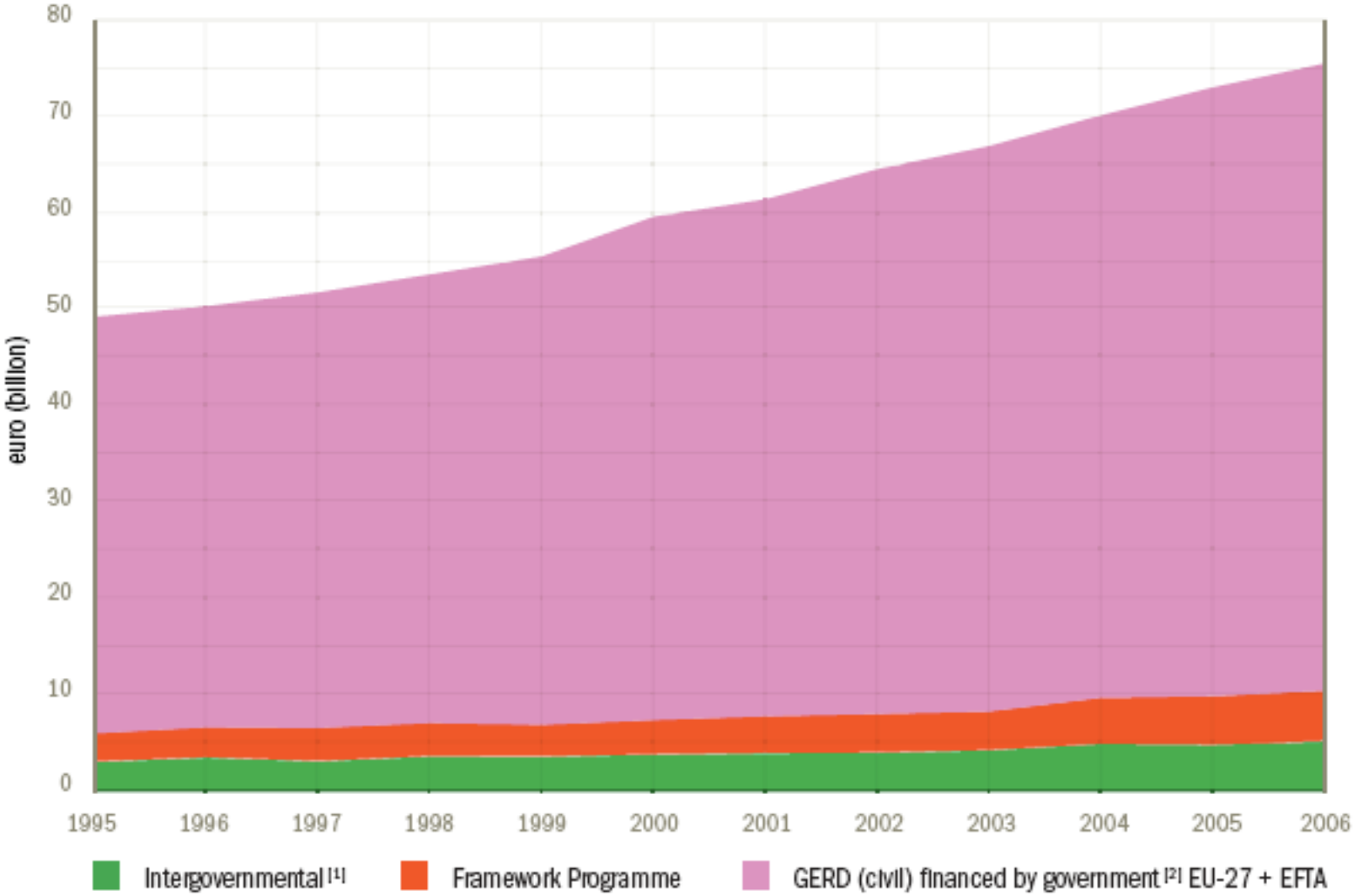
… with some positive signs on EU funding

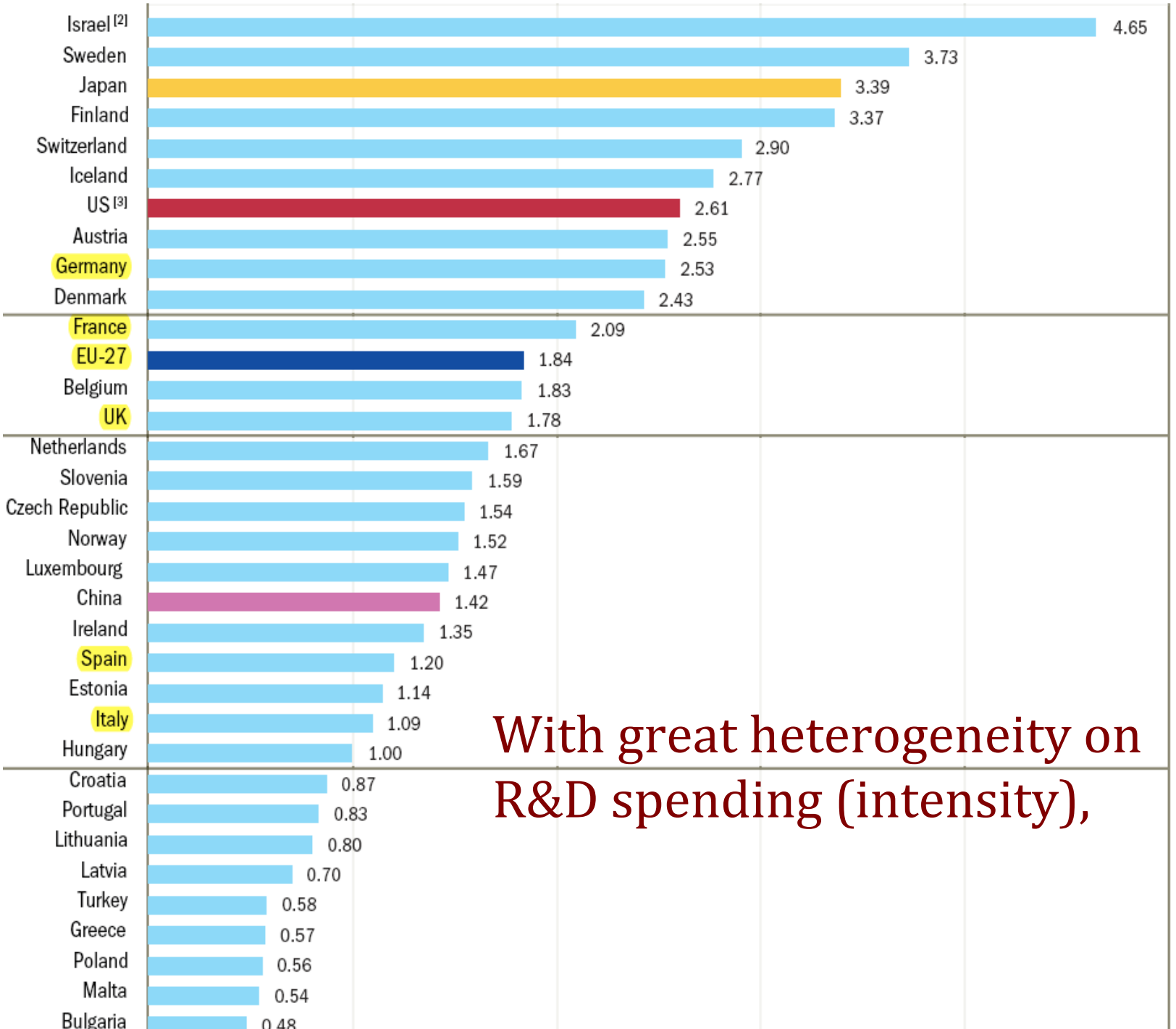
FIGURE II.2.3 EC funding for research and innovation (annual average funding)



but EU R&D funding is a small fraction of public funding in Europe

FIGURE II.2.1 Structure of public funding of R&D in Europe



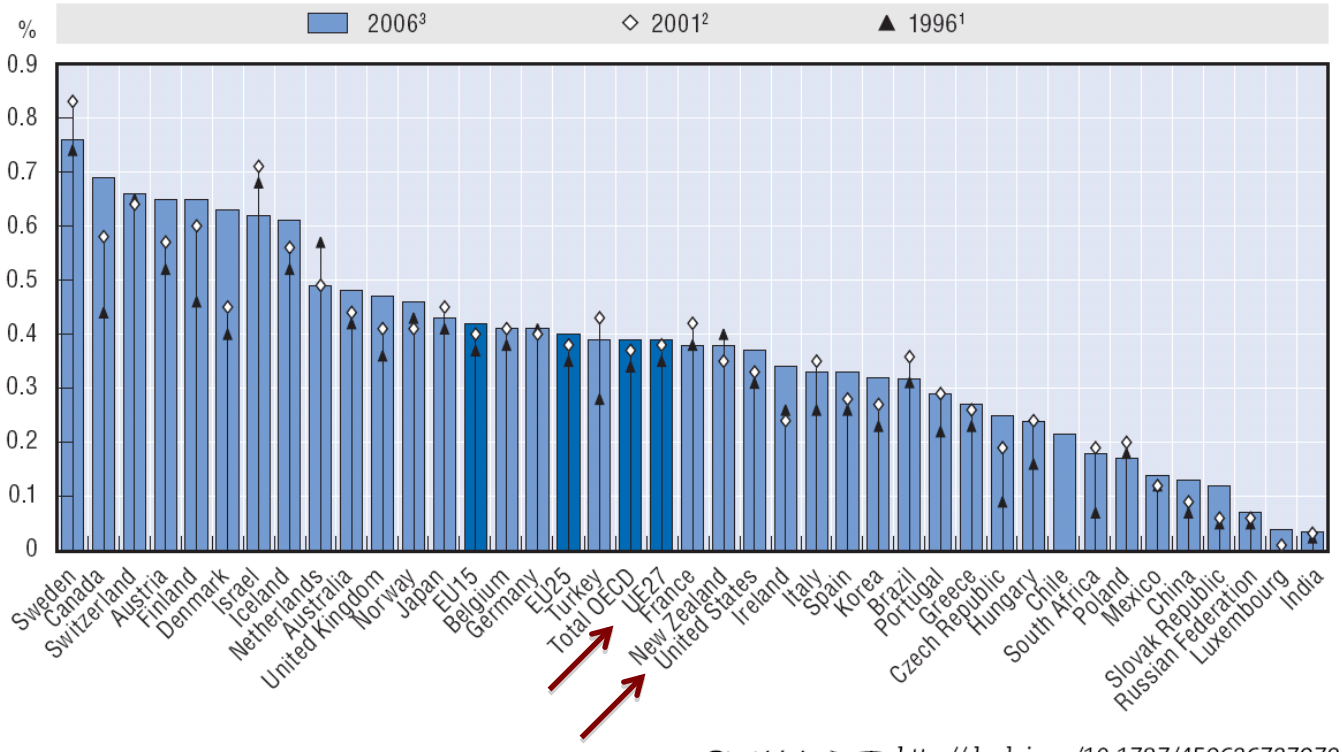


With great heterogeneity on R&D spending (intensity),

A diverse EU, but not behind US in Spending on R&D + Higher Education

Figure 1.13. **Higher education research and development, 1996, 2001 and 2006**

As a % of GDP

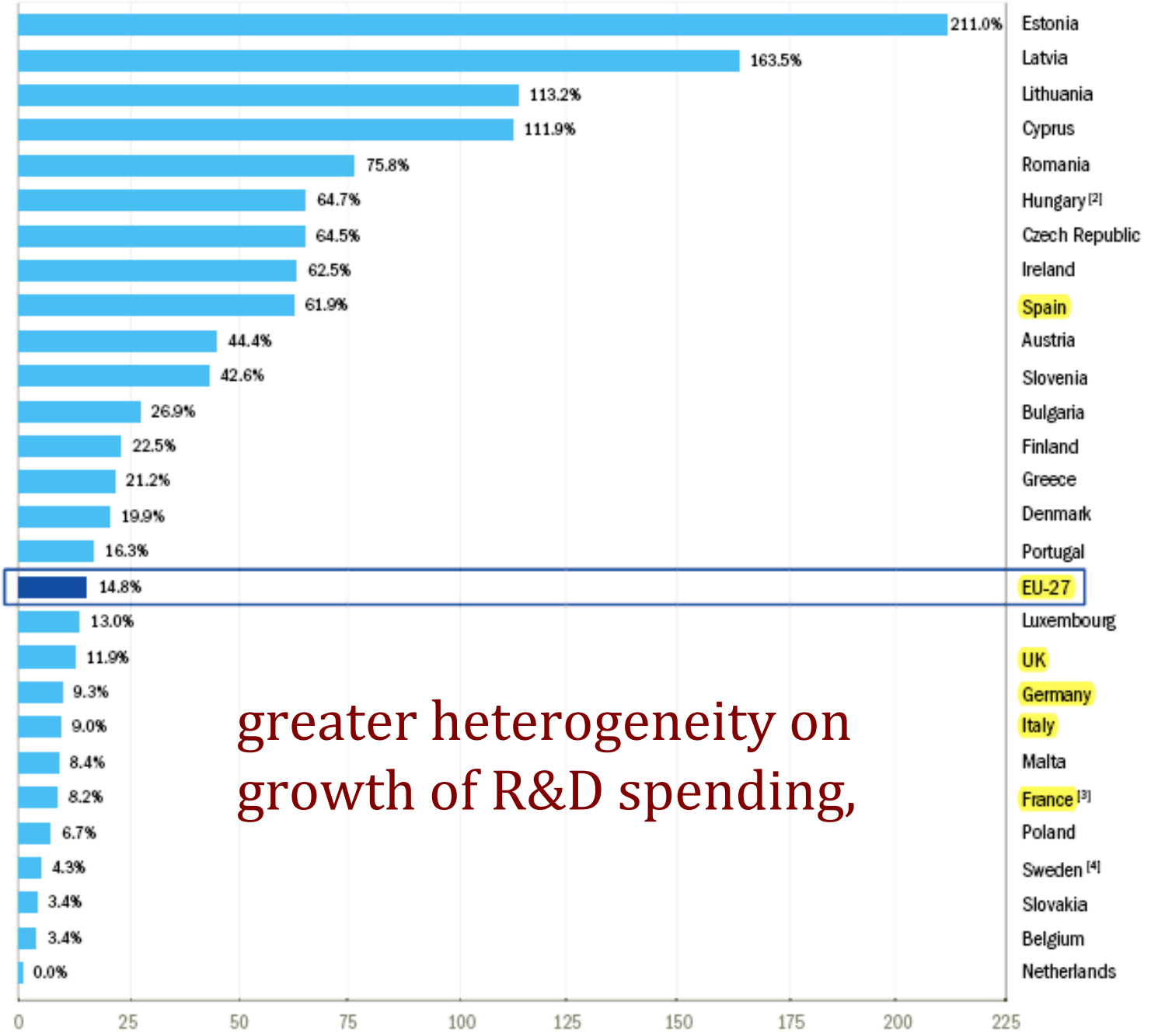


StatLink http://dx.doi.org/10.1787/450636737072

1. 1998 instead of 1996 in Austria; 1997 for Greece, Iceland, India, New Zealand, Norway, Sweden and South Africa.
2. 2002 instead of 2001 in Australia, Austria, India and Switzerland.
3. 2005 for Iceland, Italy, Mexico, New Zealand, Portugal, South Africa; 2004 for Australia, Brazil, Chile, India and Switzerland; 2003 for the Netherlands.

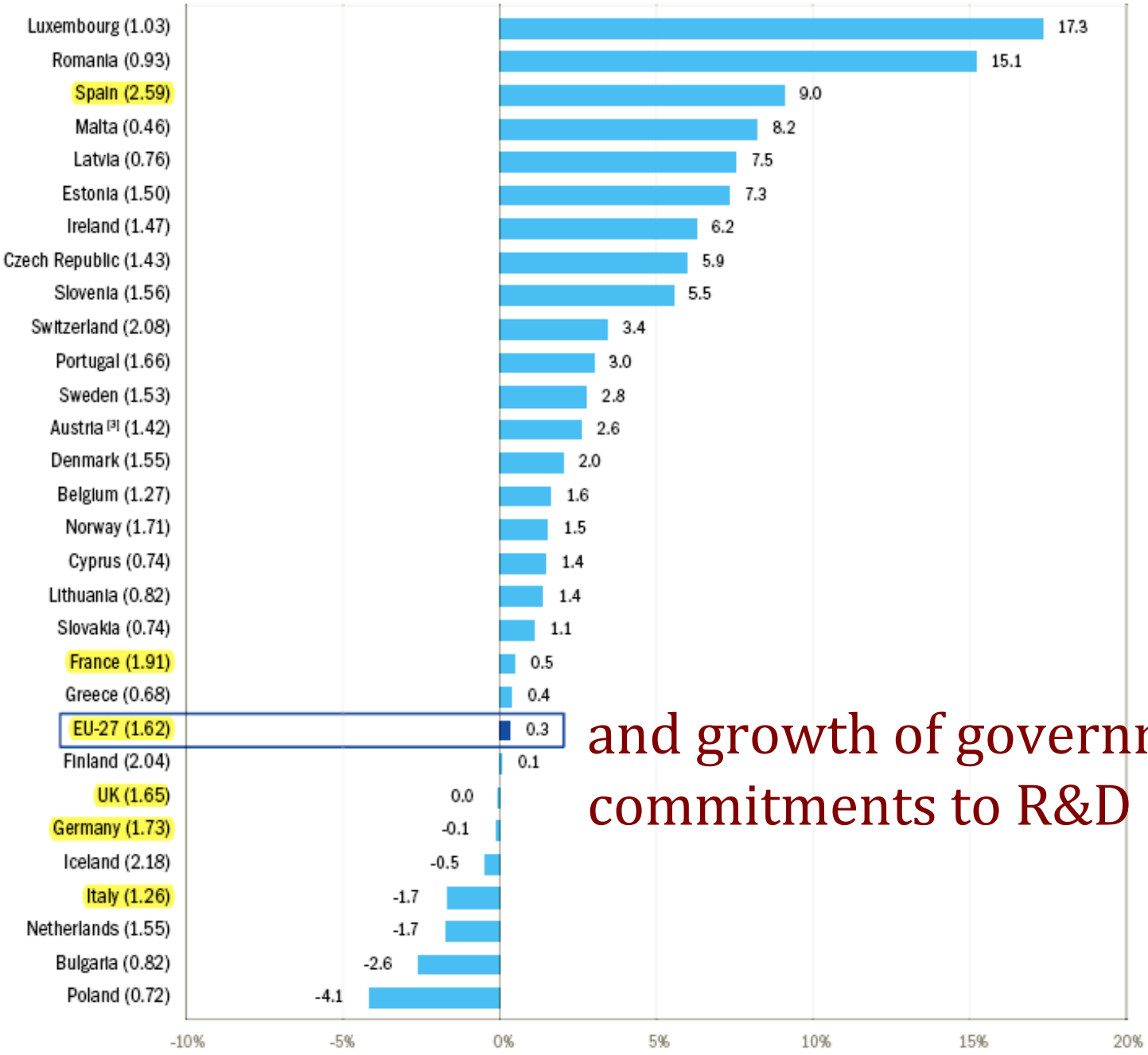
Source: OECD, *Main Science and Technology Indicators (MSTI) Database 2008/1*. Chile and India: national sources.

FIGURE 3 Gross Domestic Expenditure on R&D (GERD) – real growth (%) between 2000 and 2006 [1]



greater heterogeneity on growth of R&D spending,

FIGURE I.1.8 GBAORD as % of general government expenditure – average annual growth, 2000-2007 [1]
in brackets GBAORD as % of general government expenditure, 2007 [2]

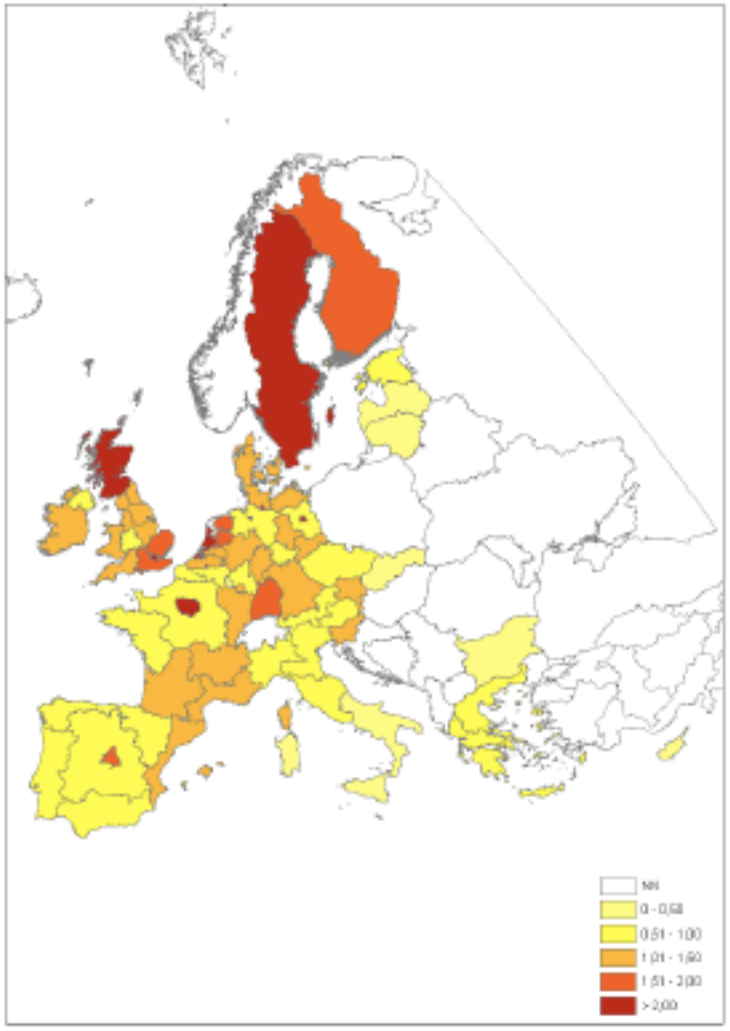


and growth of governments' commitments to R&D

Resulting in heterogeneous performances

Publication intensities (2005)

Figure III-3 Publication intensities (1) in European regions, 2005

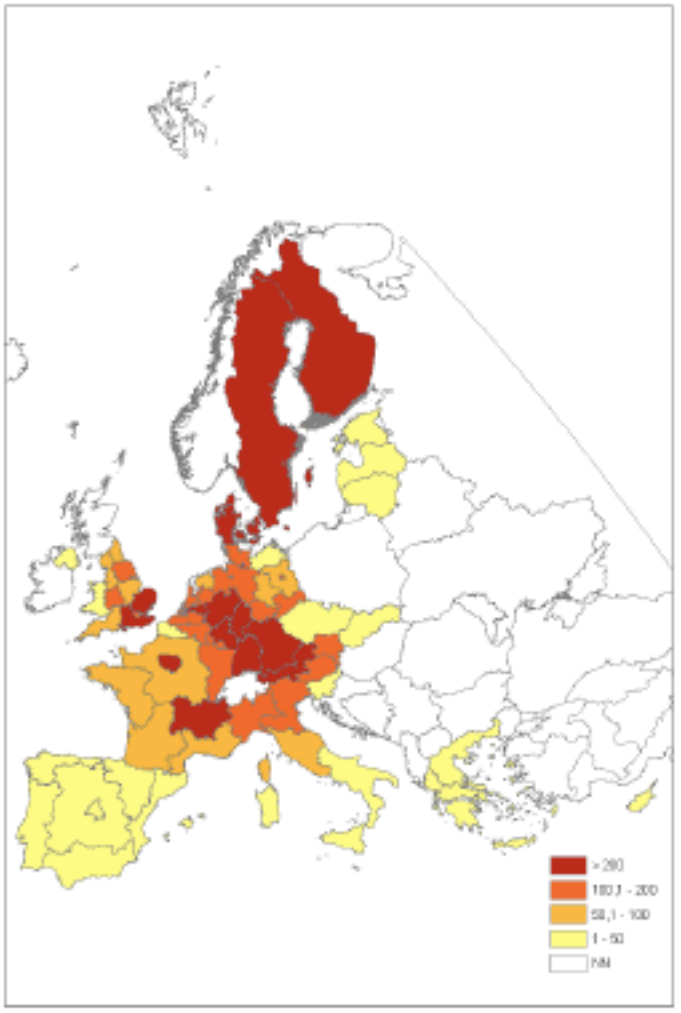


Source: DG Research

Regional Key Figures 2008

Patent intensities (2001)

Figure III-4 Patent intensities (1) in European regions, 2001



Source: DG Research Regional Key Figures 2008

It’s not just a question of funding!

It’s also a question of how it is allocated,
how it is finally spent

It’s also a question of
what is the playing field?

A playing field of great potential:

an

Open,

Integrated,

and

Competitive

European Research Area

in a Global Knowledge Society

A Competitive

European Research Area

Ideas, Innovations and Researchers

competing without barriers

among individuals, groups, and 'Knowledge Institutions' (Universities, etc.)

competing and cooperating without barriers

An Open
European Research Area

Open with-in –THE-EU

Open with-out-SIDE-WORLD

"Europe cannot be externally competitive and attractive if it is not

Open & Competitive with-in"

A Competitive and Open

European Research Area

Implementing

"the fifth freedom"

of *free movement of*

knowledge, ideas and researchers in Europe

An Integrated
European Research Area

the emergence of strong R&D

agglomerations & networks (poles of excellence)

together with

the development of a decentralized

R&D and Higher Education

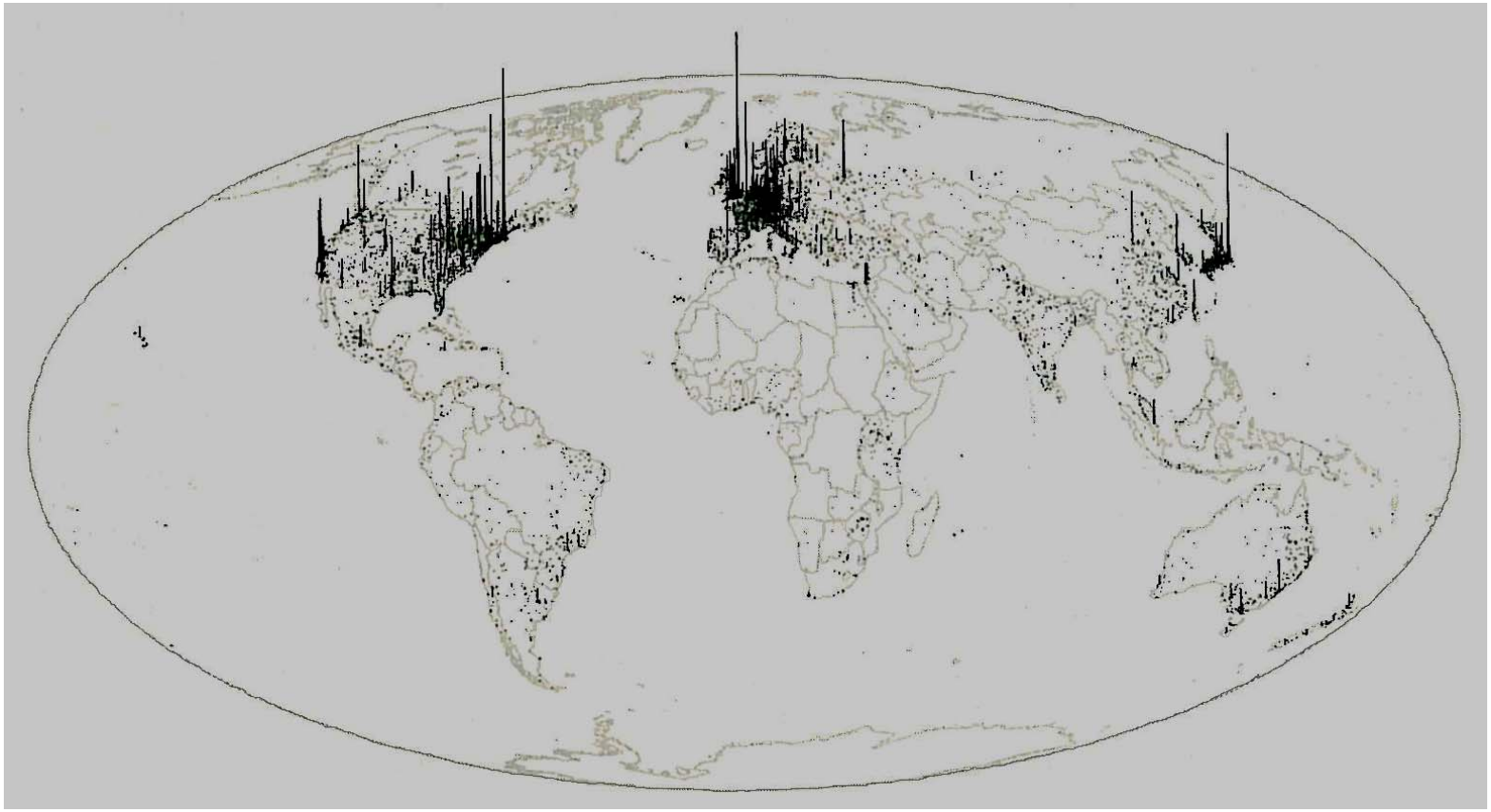
of high quality (base for excellence)

across all European regions

ERA in a Global Knowledge Society

"The distribution of scientific production"

(Caroline Wagner, 2008; cited by Luc Soete et al. 2009)

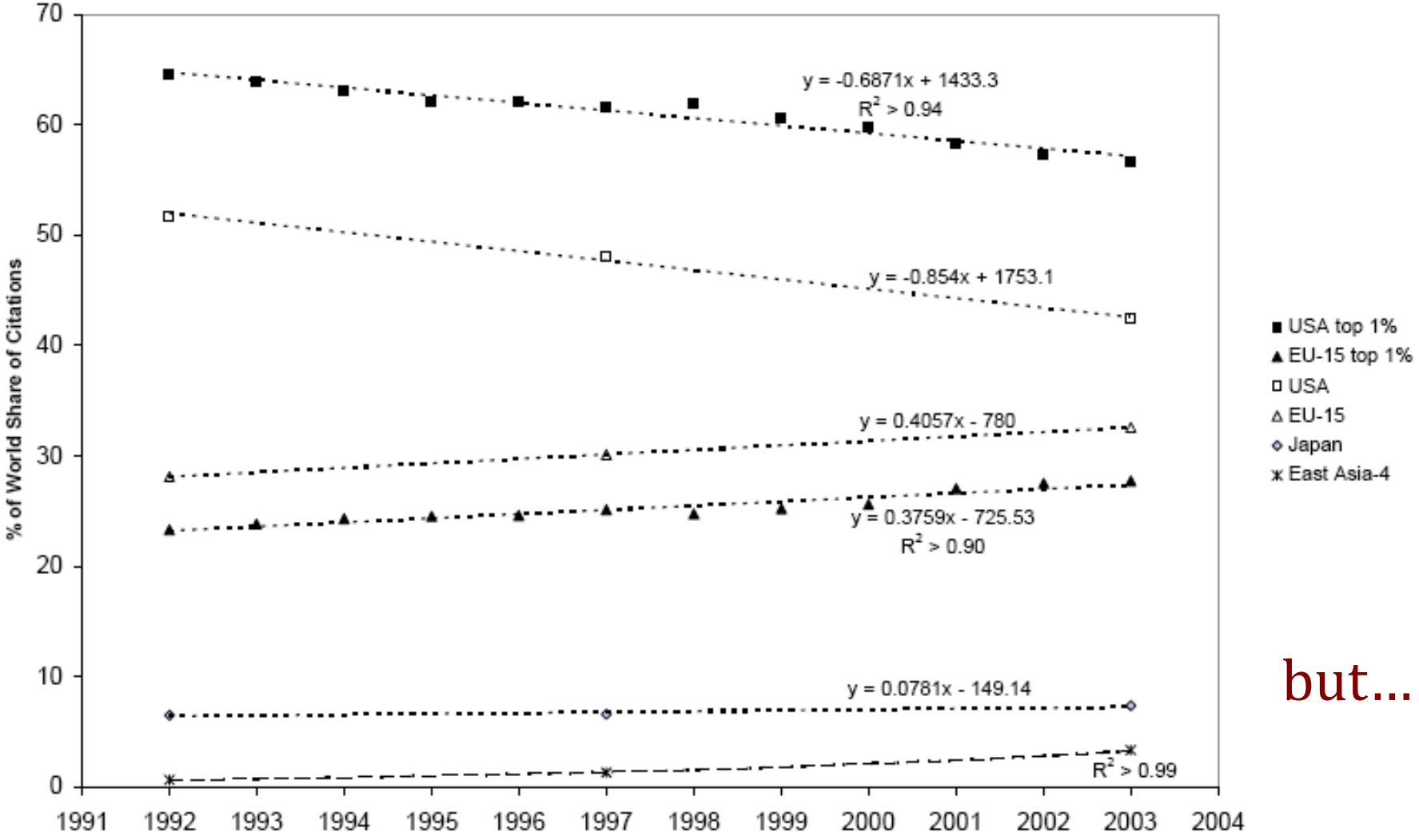


Europe is not – & should not be – like USA or Asia…

EU is slowly gaining ground

"World Shares of Citations"

(Loet Leydesdorff and Caroline Wagner, 2009)



but…

An Open, Integrated, and Competitive European Research Area

Requires policy and institutional reforms

- At the EU level
- At the National (& Regional) level

Otherwise

- Openness and Competition can not be achieved
- There is no Integration, but a trade-off between 'excellence' and 'cohesion'

between

'excellence' and 'quality'

National & Regional reforms, such as

- effective opening-up of Universities and other Research Performing Organizations
- no barriers for the mobility of researchers at all stages of their career
- effective Open & Competitive R&D funding (even when it is locally invested)
- the provision of better career prospects and working environments to researchers

European Union reforms, such as

- an **EU legal framework** simplifying transnational
  - R&D contracts
  - R&D institutions
- better governance of ERC and other European agencies
  - lower the effective barriers for the mobility of researcher careers
  - coordination of ERA (and Higher Education) policy reforms

where are we now?

EC's 7th Framework Programme

- Limited direct effect on increasing research?
  - People: The success of post-doctoral programmes (M. Curie, Max Weber Programme), must be coupled with greater openness for tenure positions
  - Cooperation: Current structure creates a very costly 'adverse selection problem'
  - Ideas: ERC is the major innovation, but are few large grants an efficient allocation to develop research in SSH or just 'prizes'?
- Large potential indirect (leverage) effect?

What about the EC's 8th Framework Programme?

European National & Regional Research Funding:
Four historical patterns among heterogeneous traditions

ERA countries have very different academic traditions [Marimon et al. (2009)]. Funding systems reflect stylized differences:

- **European Continental:** regulated/ historically closed/ islands of excellence
  Funding: centralized & and high degree of government dependence (in direct and indirect funding)

- **Anglo-Saxon:** open/ competitive/ transparent
  Funding: independent agencies, specialized research councils

- **Scandinavian:** transparent/ competitive/ but self-referential
  Funding: independent agencies/ high GERD to GDP ratio

- **Central & Eastern European:** in transition/ language barriers/ non-competitive salaries/ not transparent
  Funding: centralized & institutionalized (Acad. of Sciences) / + private / low
-

Table 3: Performance and Openness Indicator:

	Scientific Articles per mio. population[2]	Patents with foreign co-investors[2]	% of GERD financed by abroad[2]
France	*516.22 (2003)*	*17.16 (2002-04)*	*7.49 (2005)*
Italy	*428.72 (2003)*	*9.80 (2002-04)*	*7.96 (2005)*
Germany	*536.90 (2003)*	*12.90 (2002-04)*	*3.75 (2005)*
Spain	*400.58 (2003)*	*21.38 (2002-04)*	*5.94 (2006)*
Sweden	*1,142.78 (2003)*	*16.72 (2002-04)*	*7.71 (2005)*
Denmark	*981.63 (2003)*	*20.71 (2002-04)*	*10.07 (2005)*
Hungary	*247.10 (2003)*	*36.44 (2002-04)*	*11.30 (2006)*
Poland	*177.25 (2003)*	*35.97 (2002-04)*	*7.04 (2006)*
United Kingdom	*810.83 (2003)*	*23.90 (2002-04)*	*17.04 (2006)*
Netherlands	*830.61 (2003)*	*18.30 (2002-04)*	*11.28 (2003)*

Source: EUROSTAT (1); OECD (2)

European National & Regional Research Funding: Reforms

Reforms aim at:

- **creating independent funding agencies**:
  France: ANR (2007); Spain (expected??)

- **designing excellence initiatives/ clusters**:
  Germany: 'Excellence Initiative' (2005); France: Opération Campus (2007)

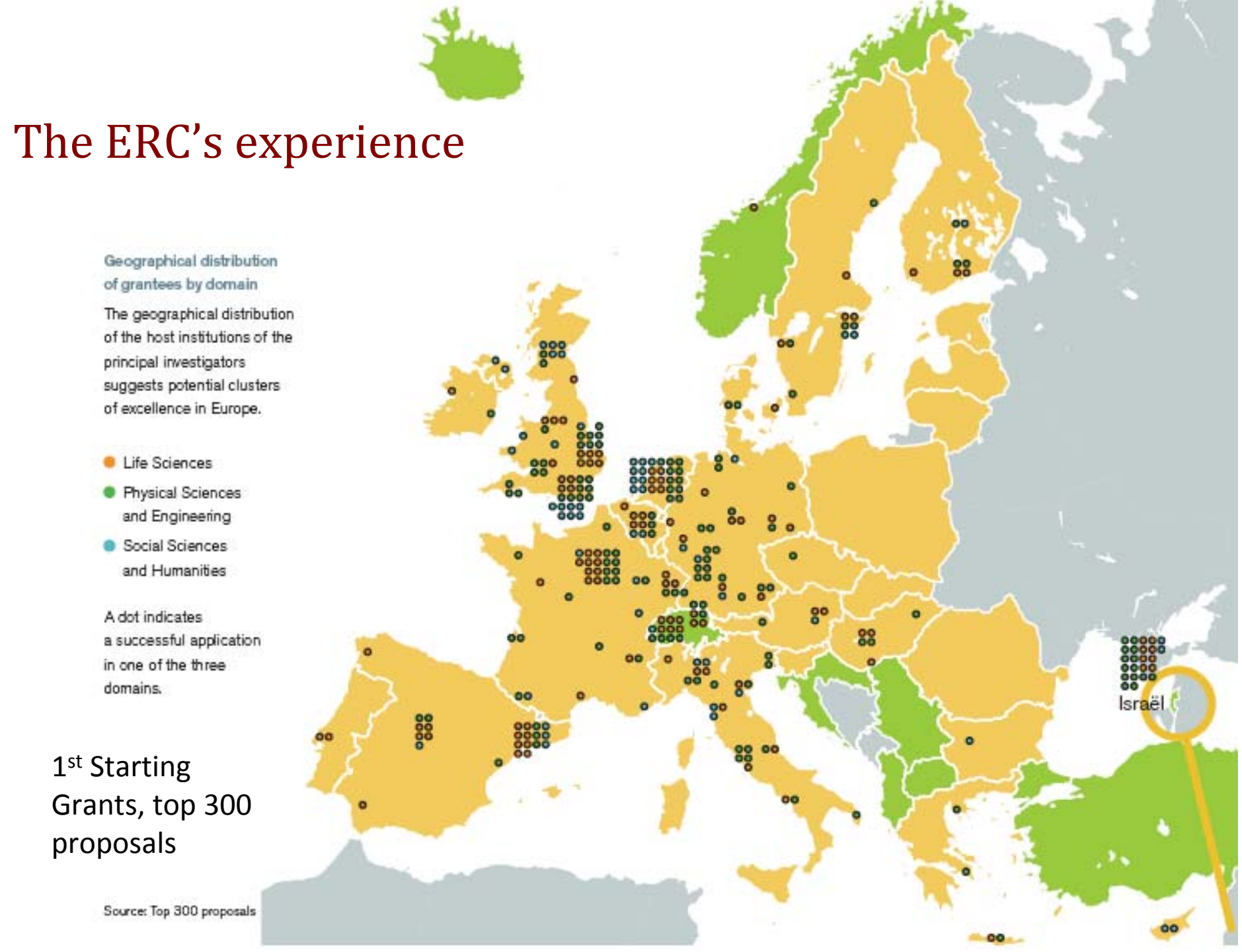
- **increasing bottom-up funding (especially for young researchers)**
  Italy, MIUR: Futuro in Ricerca (2008); France, ANR: Young Researchers (2007)

- **introducing peer review processes for evaluation** (incl. foreign experts)

- **reversing brain-drain & attracting foreign scholars**:
  Spain, ICREA: Senior; Germany, DFG: Mercator Programme

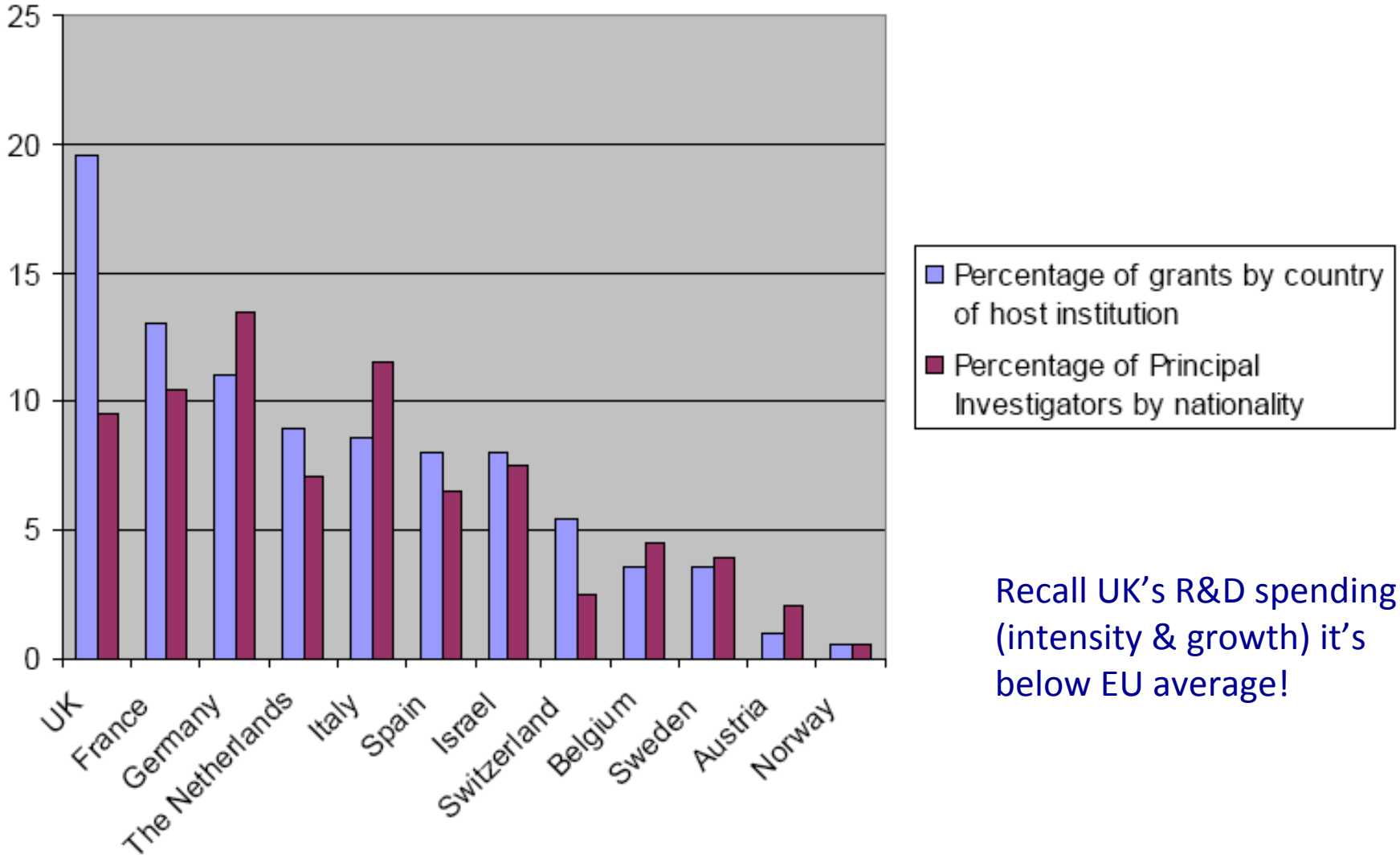
- **internationalising the research environment**:

The ERC's experience



1st Starting Grants, top 300 proposals

Comparison of the ERC Grant Holders Nationality against the Country of Host Institution



Recall UK's R&D spending (intensity & growth) it's below EU average!

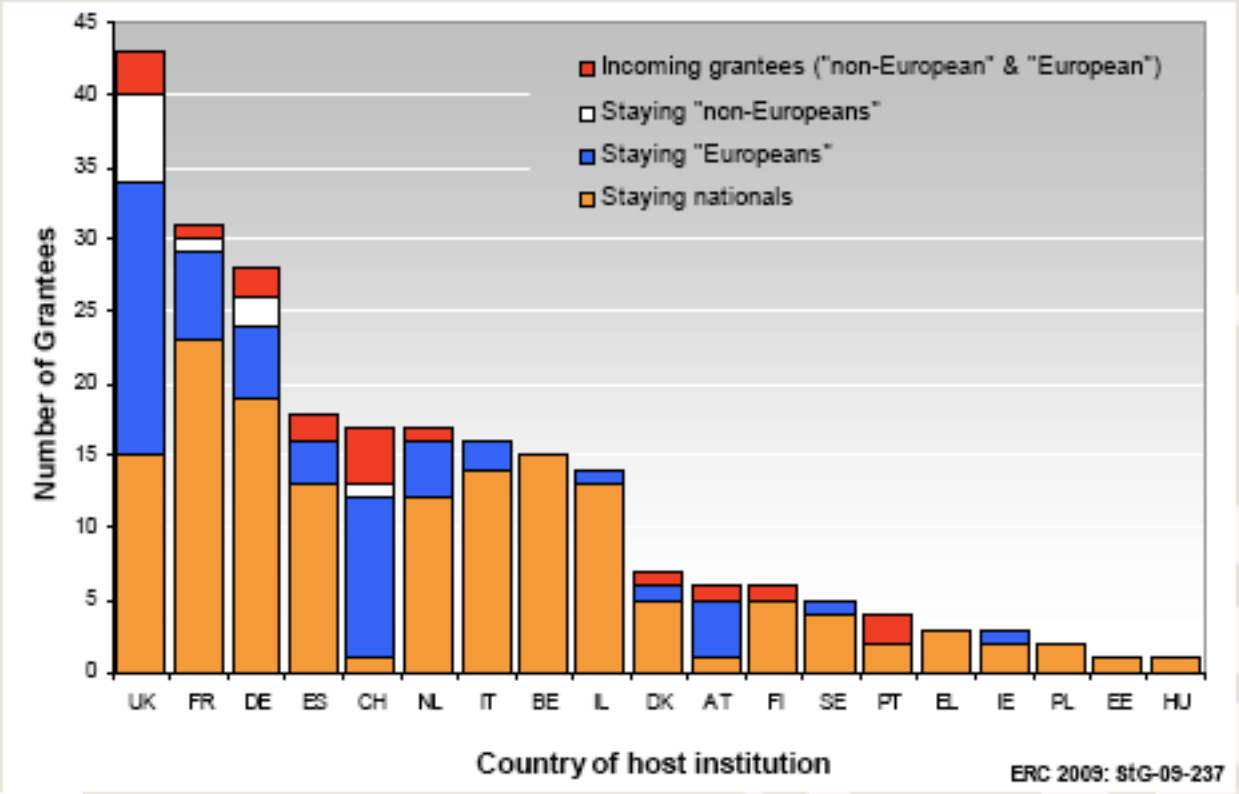
Source: European Research Council, 14 December 2007, MEMO/07/586

ERC Starting Grant: 2009 call

Mobility: Incoming & staying candidates

Source: top 237 proposals

European Research Council



Lessons from the ERC experience…

and a final quote:

The next Commission must take **EU Research policy** to a new level and make it one of the motors of our sustainable development. The United States draws great benefit from its continental scale in research, from a long tradition of close university-business co-operation and from the ease of movement enjoyed by researchers within and to the US. In contrast, despite its excellence, the European research effort remains fragmented. We need to stretch ourselves to achieve world excellence and to find new ways of combining our resources to make a reality of the **European Research Area.**

I would envisage refocusing on key areas to secure:

- world excellence in basic research. Our future agenda for science driven frontier research, should be set by the scientific community, principally working through the European Research Council;
- new opportunities for researchers, extending exchange programmes like Marie Curie, and attracting world class researchers to the EU;

Political guidelines for the next Commission
José Manuel Barroso
Brussels, 3 September 2009

Thanks!