



# **OECD's Innovation Strategy:** *Developing Policies for Innovation for the 21<sup>st</sup> Century*

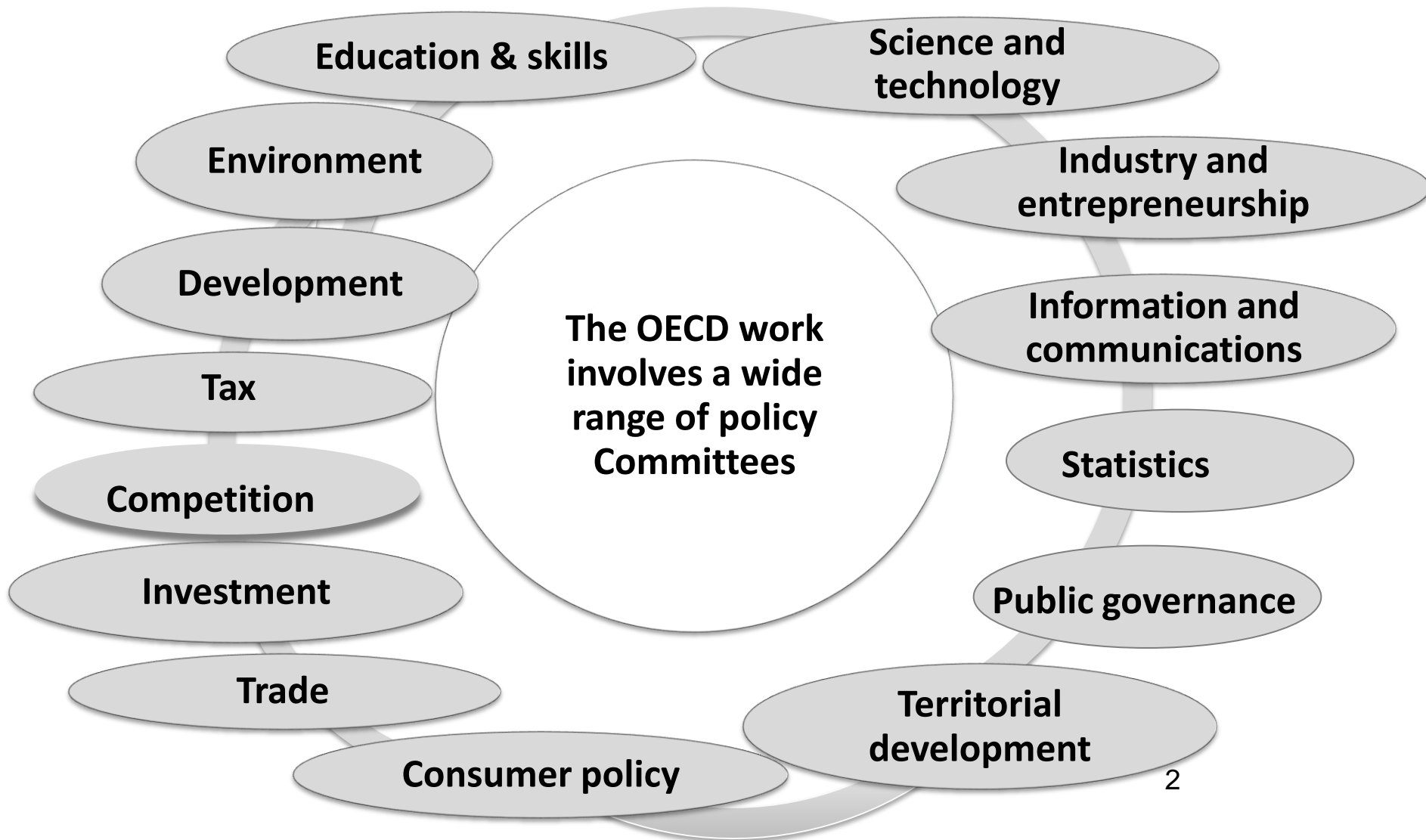


**Andrew Wyckoff**

**Lisbon Council, Brussels, 5 March 2010**

# The OECD Innovation Strategy:

Cutting across many policy areas



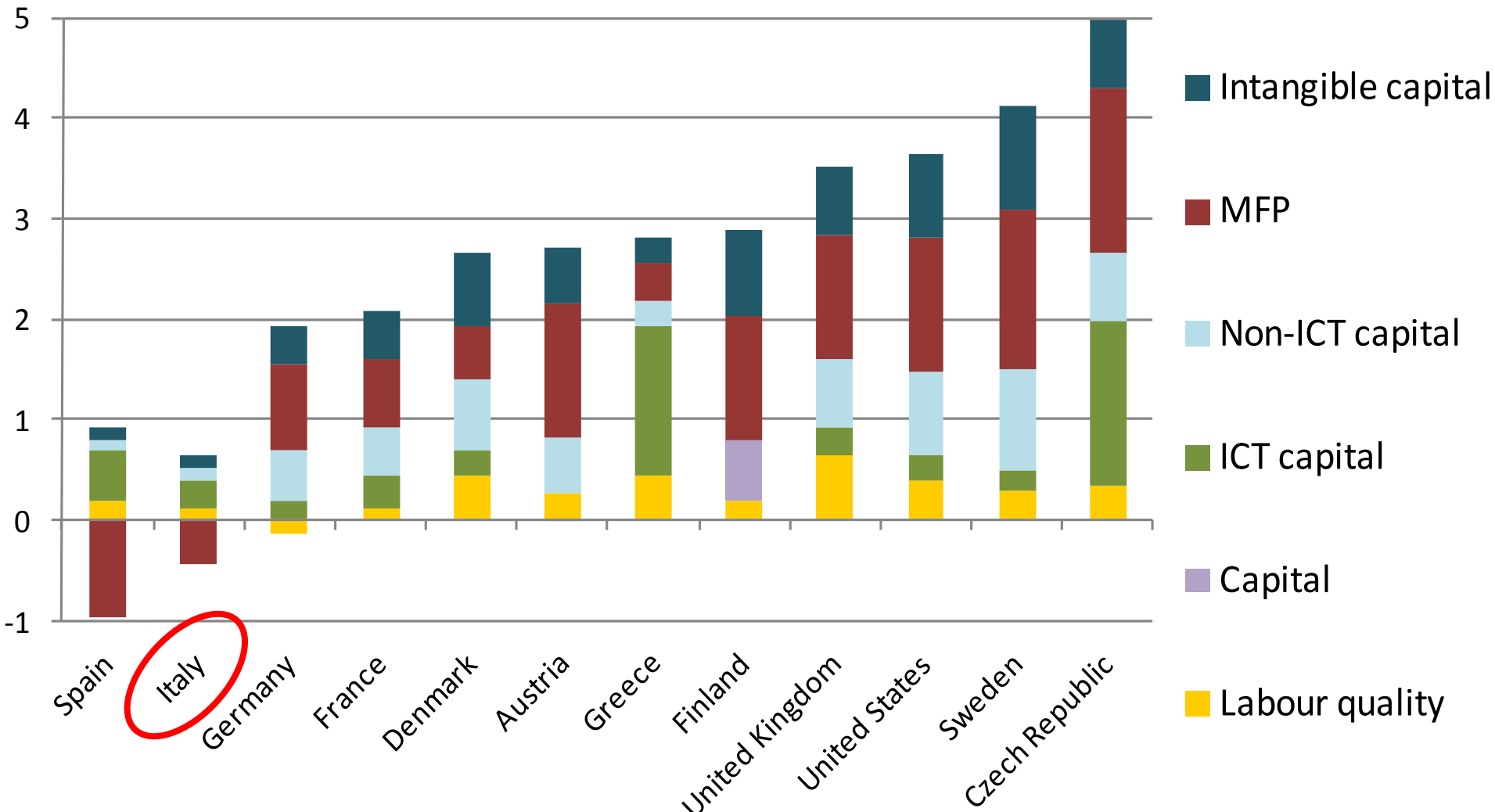
# 1. The Innovation Imperative



# Innovation is a driver of growth...

## Innovation accounts for a large share of Labour Productivity growth

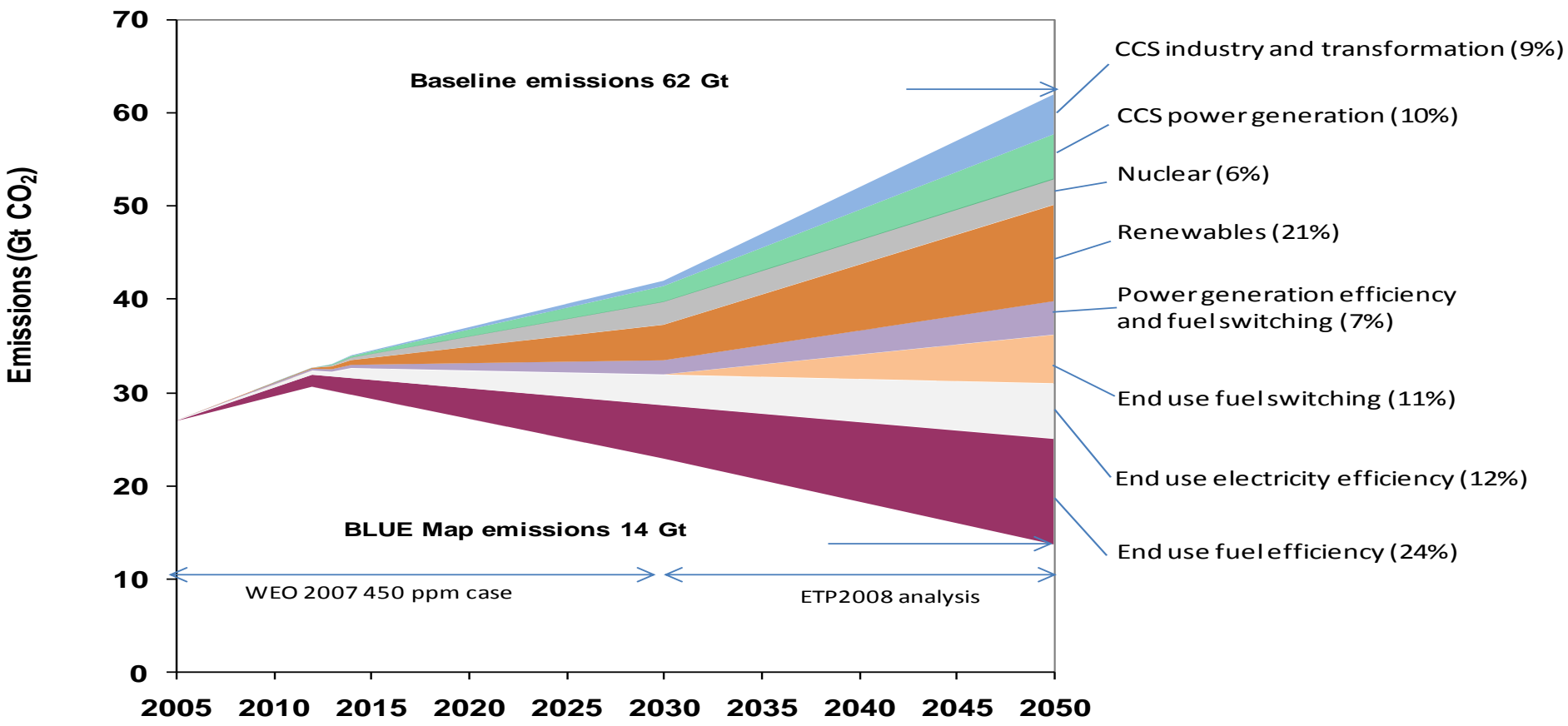
Percentage contributions, 1995-2006, in %



\* Investment in intangibles and MFP account for between 2/3s and 3/4s of LP growth.

# ...and can help address global challenges like climate change.

## Potential technological contributions to CO<sub>2</sub> emission reductions



Note: WEO refers to the IEA's 2007 World Energy Outlook.

Source: International Energy Agency, Energy Technology Perspectives 2008: Scenarios and Strategies to 2050.

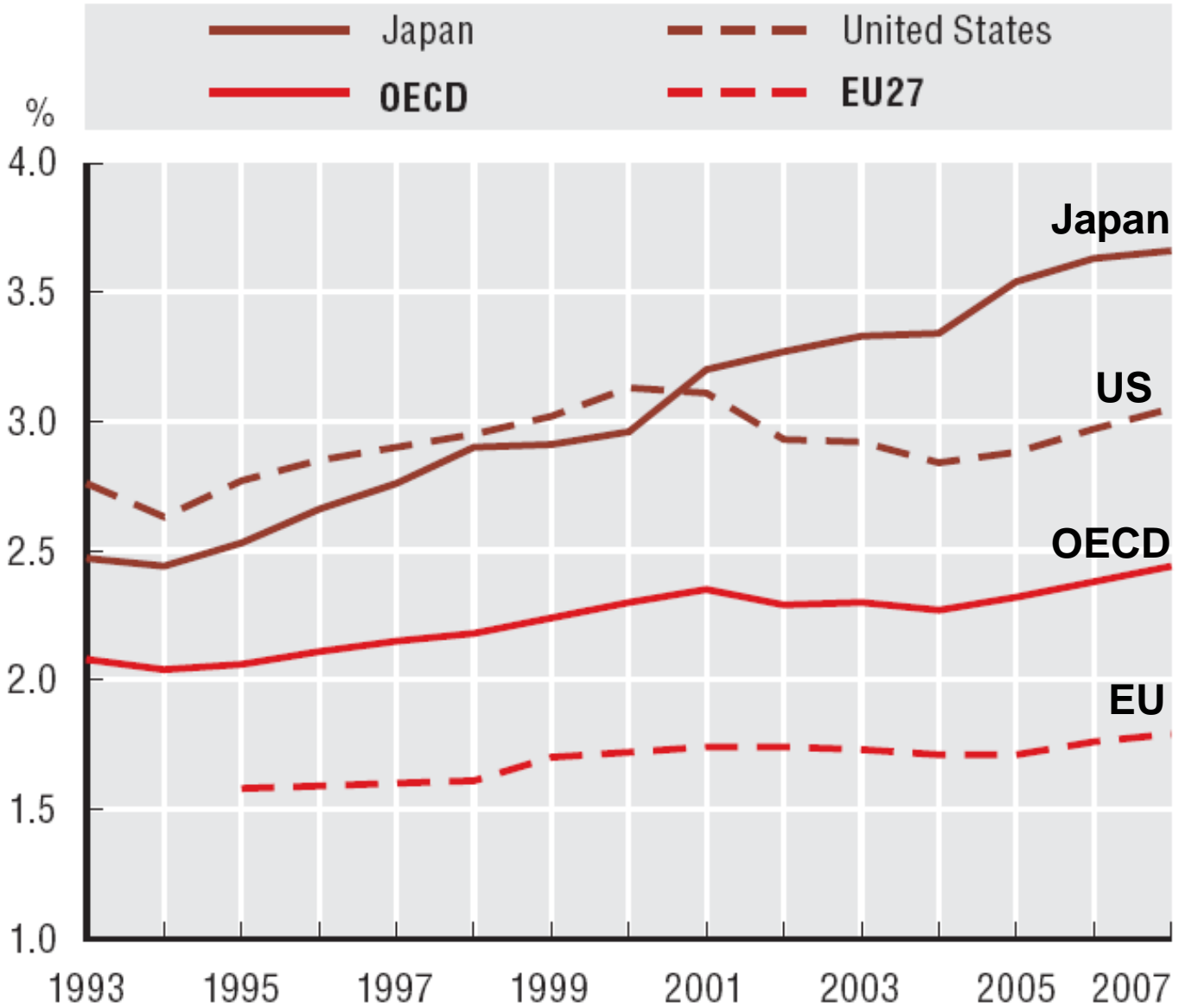
# The need for an upgrade in policies for innovation:

- **More than just R&D**
- **The collaborative / open model**
- **The changing topography**



# R&D is a key driver of innovation...

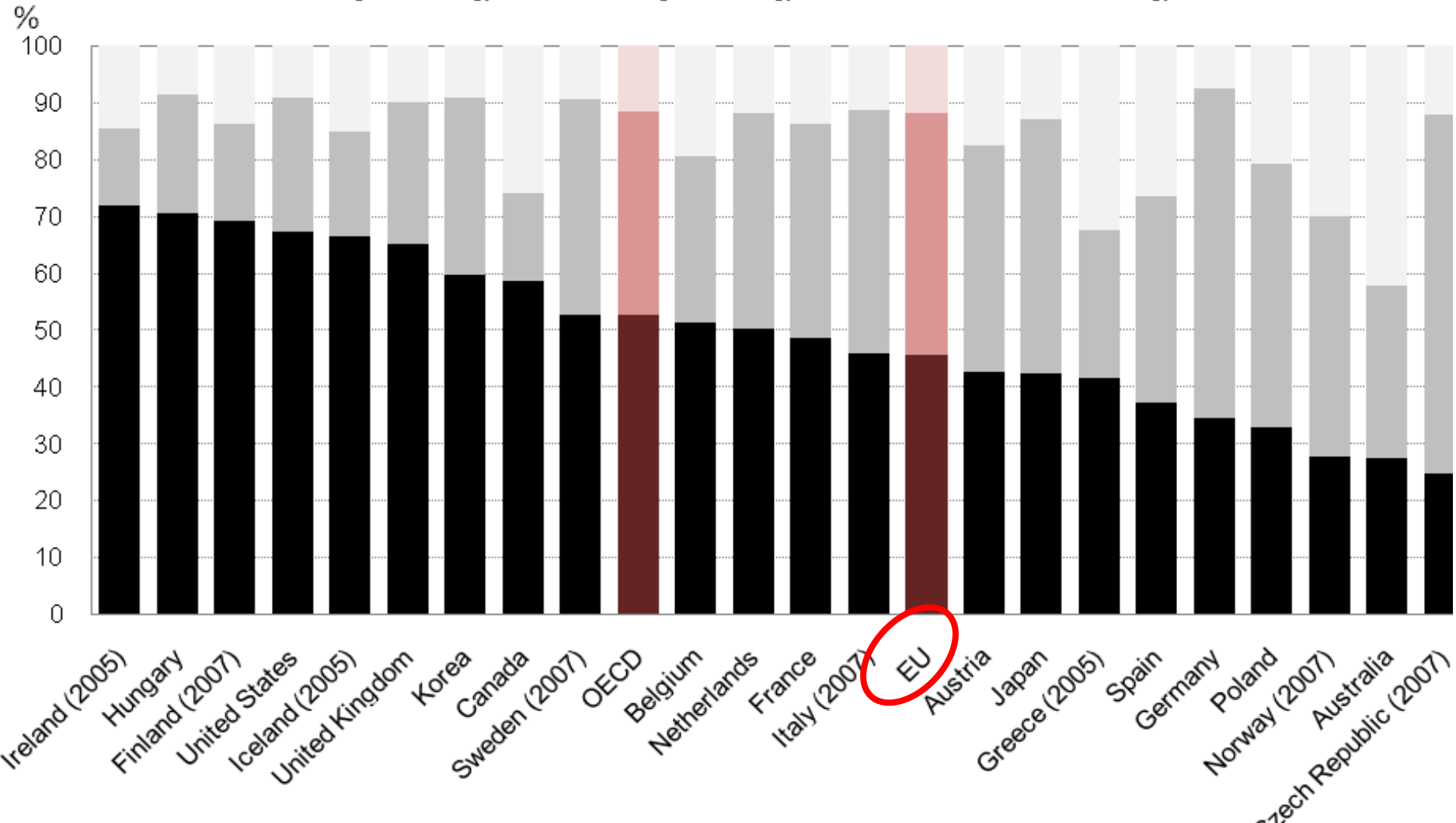
## Business R&D as a percentage of industry value added



# ...and is not only for high-tech firms.

## Share of business R&D by technological intensity (manufacturing, 2006)

High-technology
  Medium-high technology
  Medium-low and low technology



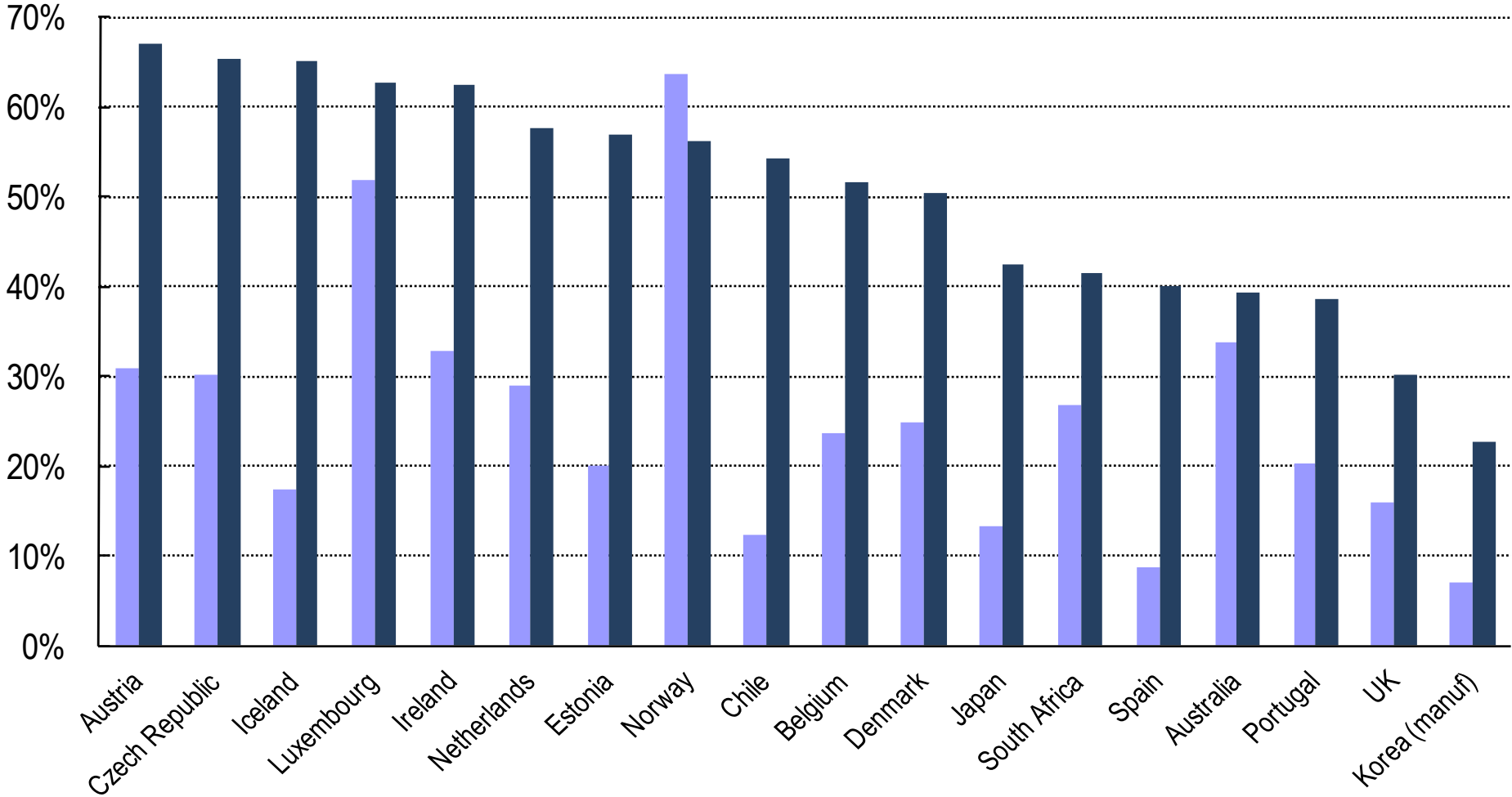


# But innovation is more than just R&D,

## New to market product innovators with and without R&D, 2004-06 (or latest)

As a percentage of innovators

■ Innovation (no R&D) ■ In-house R&D



# ...it is a bundle that includes services software and “network” capital.

**The Apple iPod = 299\$ of Chinese exports to US**



**Distribution of the value added**

- 299 US\$
  - 75\$ profit to US (Apple)
  - 73\$ whls/retail US (Apple)
  - 75\$ to Japan (Toshiba)
  - 60\$ 400 parts from Asia
  - 15\$ 16 parts from the US
  - 2\$ assembly by China

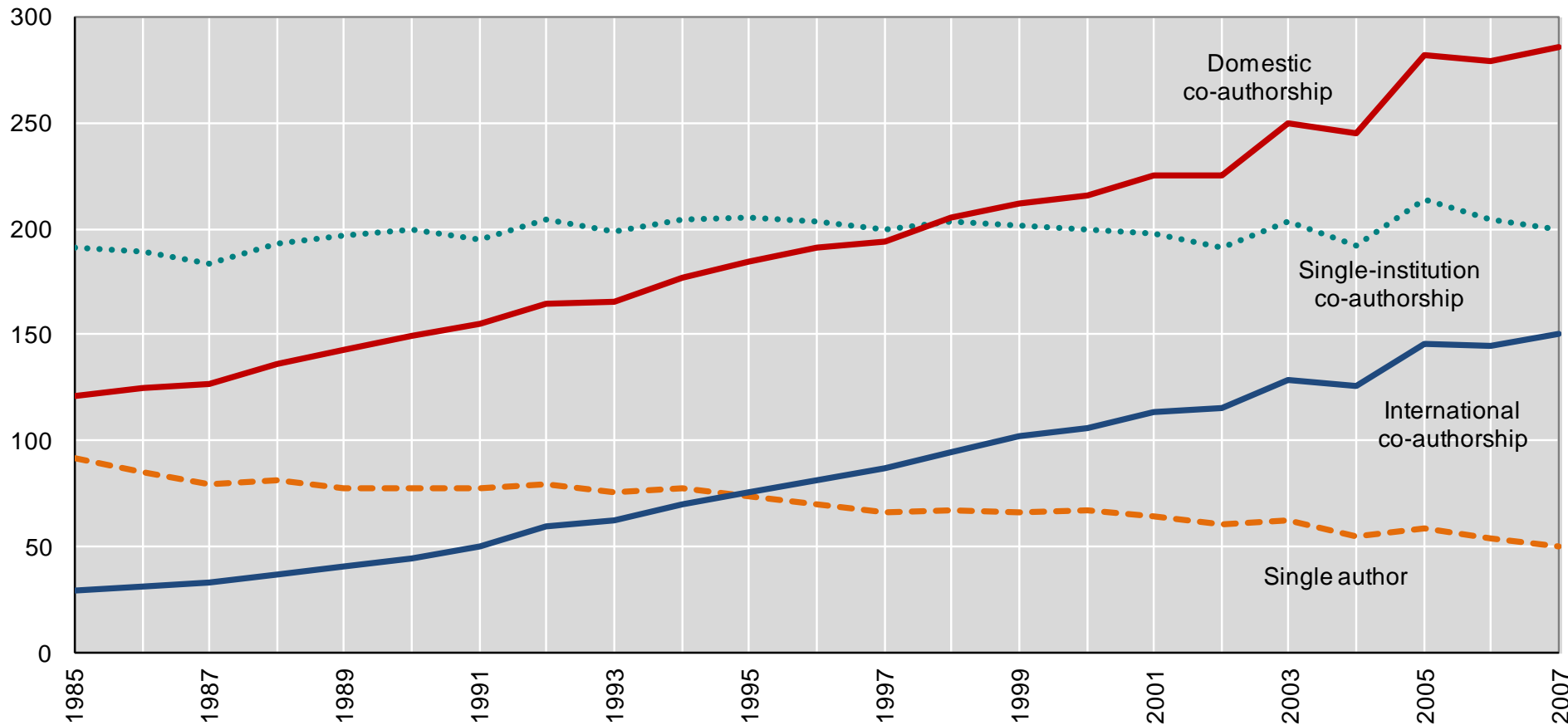
- iTunes Music Store (2003)
  - 70% digital market share
  - Big 5 recording companies

# The rise of collaboration

# There is more collaboration among scientists...

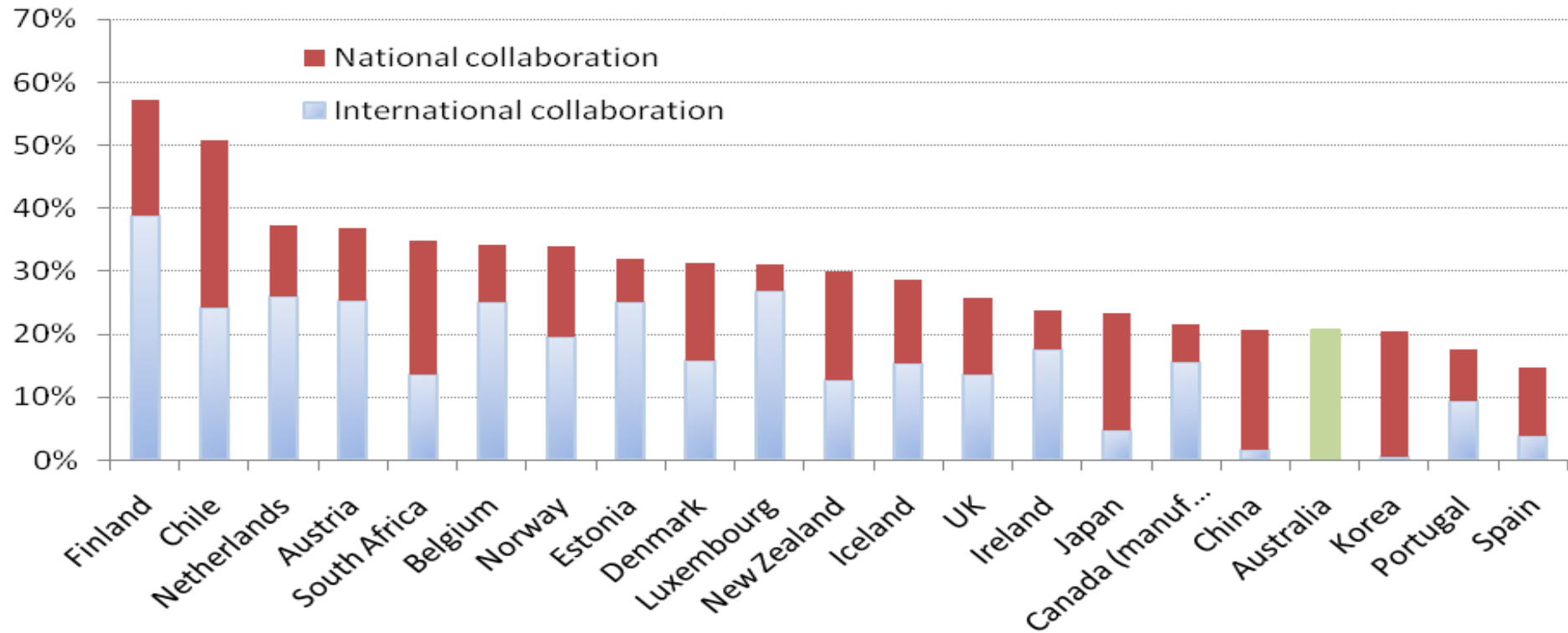
## Trends in co-authorship in scientific publications

Thousands



# ...and between firms.

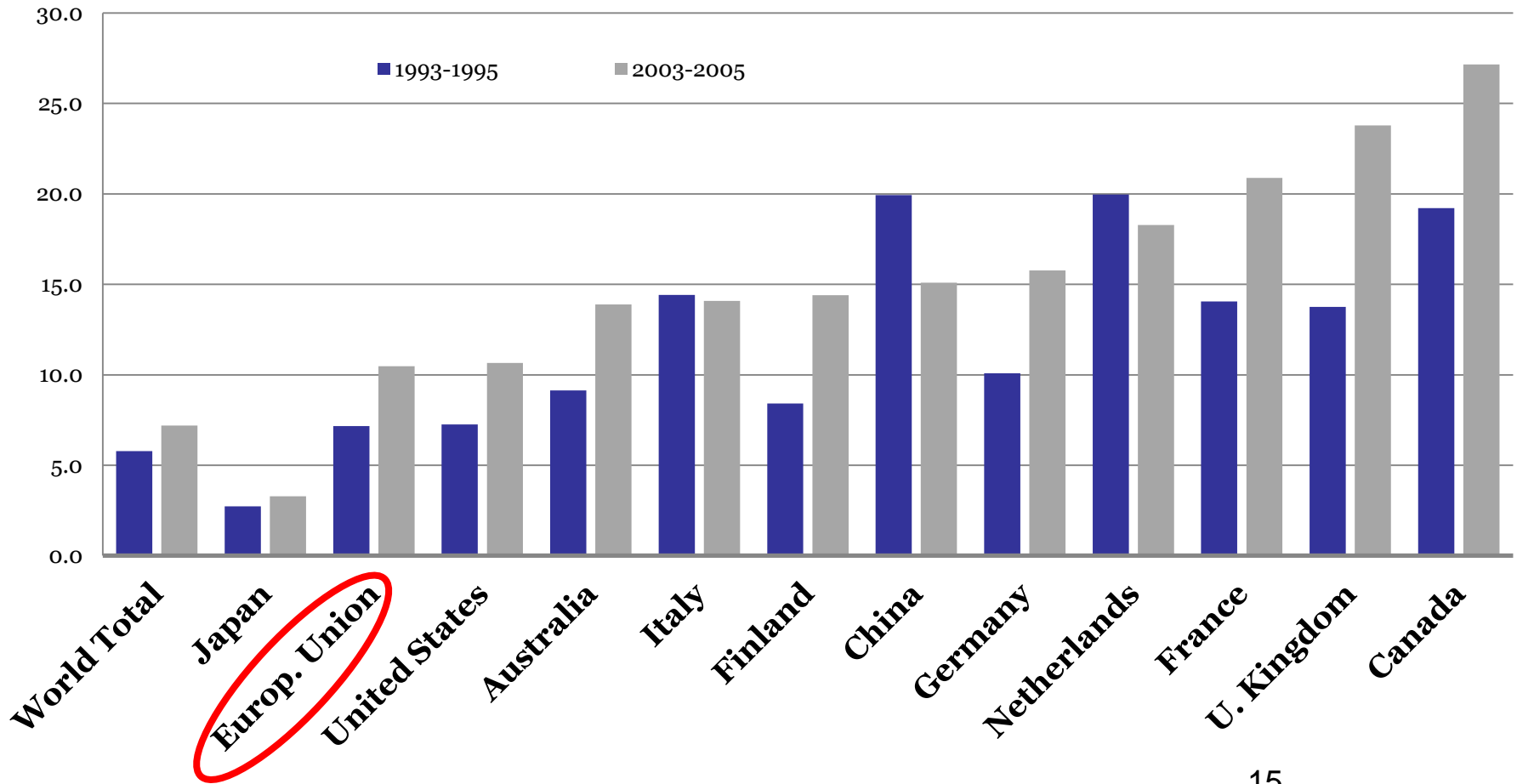
Companies collaborating on innovation, as a percentage of all firms, 2004-2006



# The Changing Topography

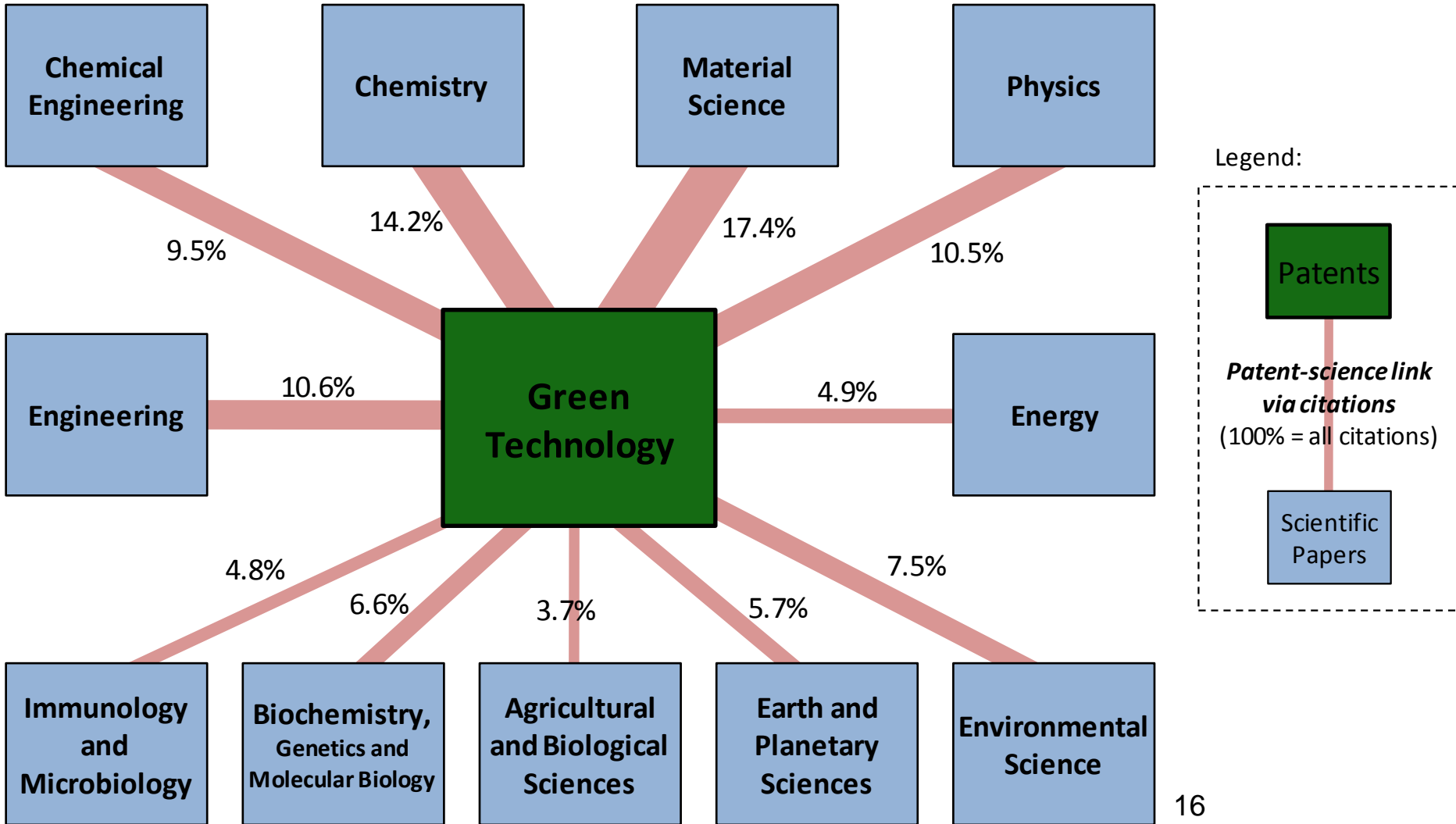
# Across borders...

## Share of patents with foreign co-inventors (%)



# ...and disciplines.

## Scientific publications cited by “green” patents

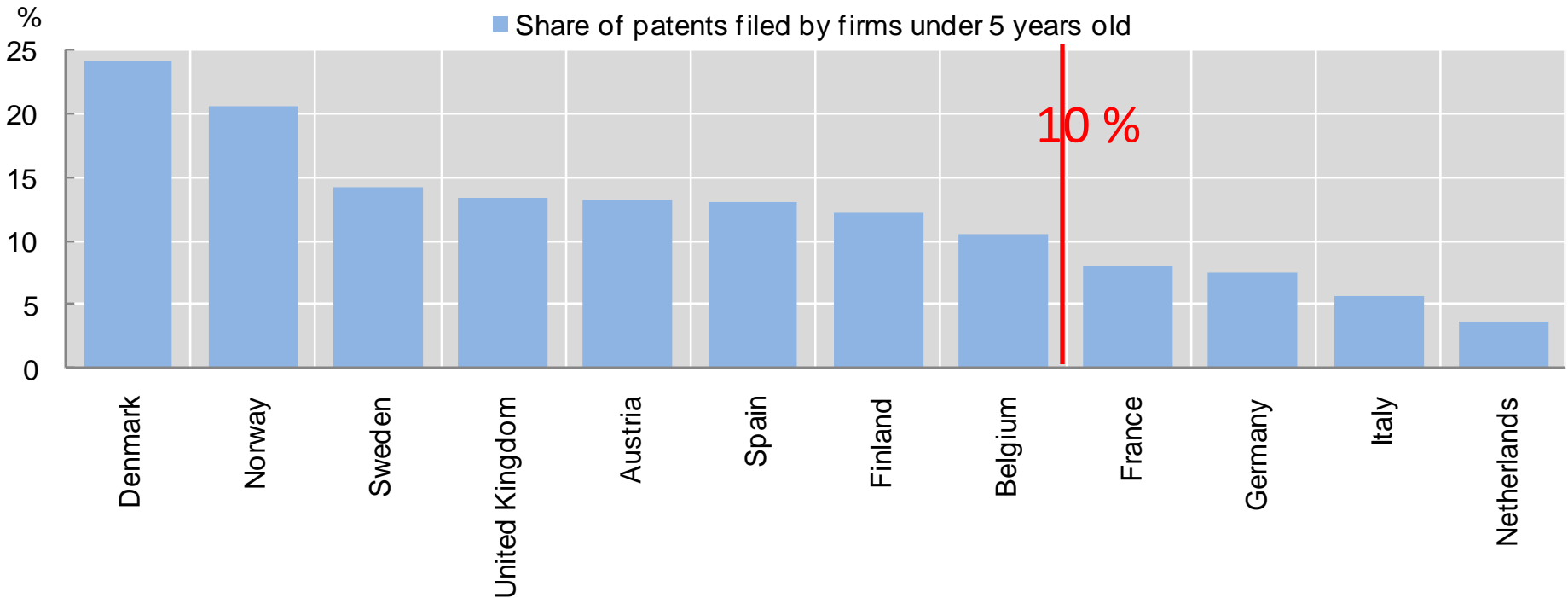




# With new firms...

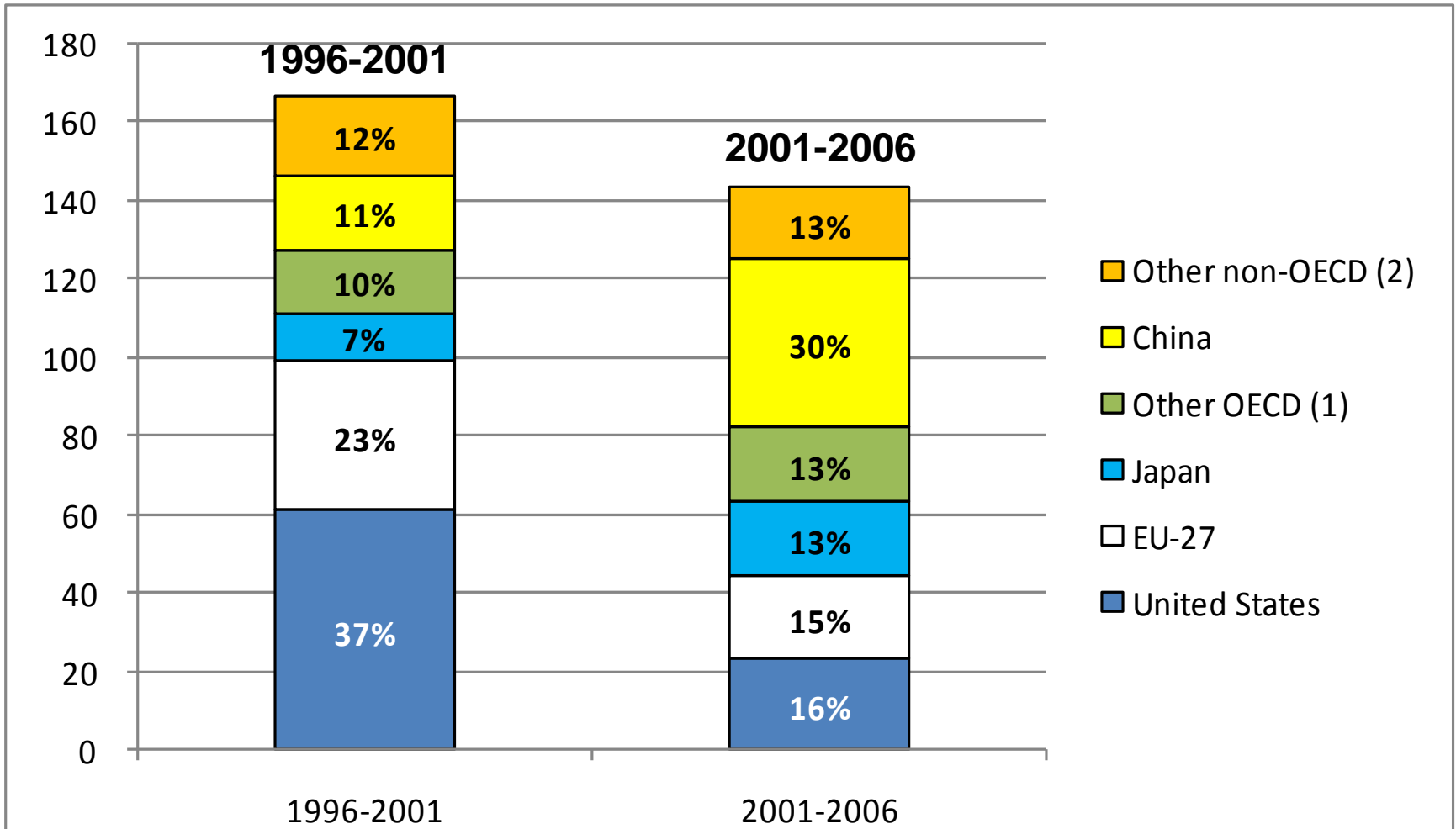
## Patent applications filed by young firms, 2005

*As a percentage of patents filed by firms at the European Patent Office (EPO)*



# ...and new players.

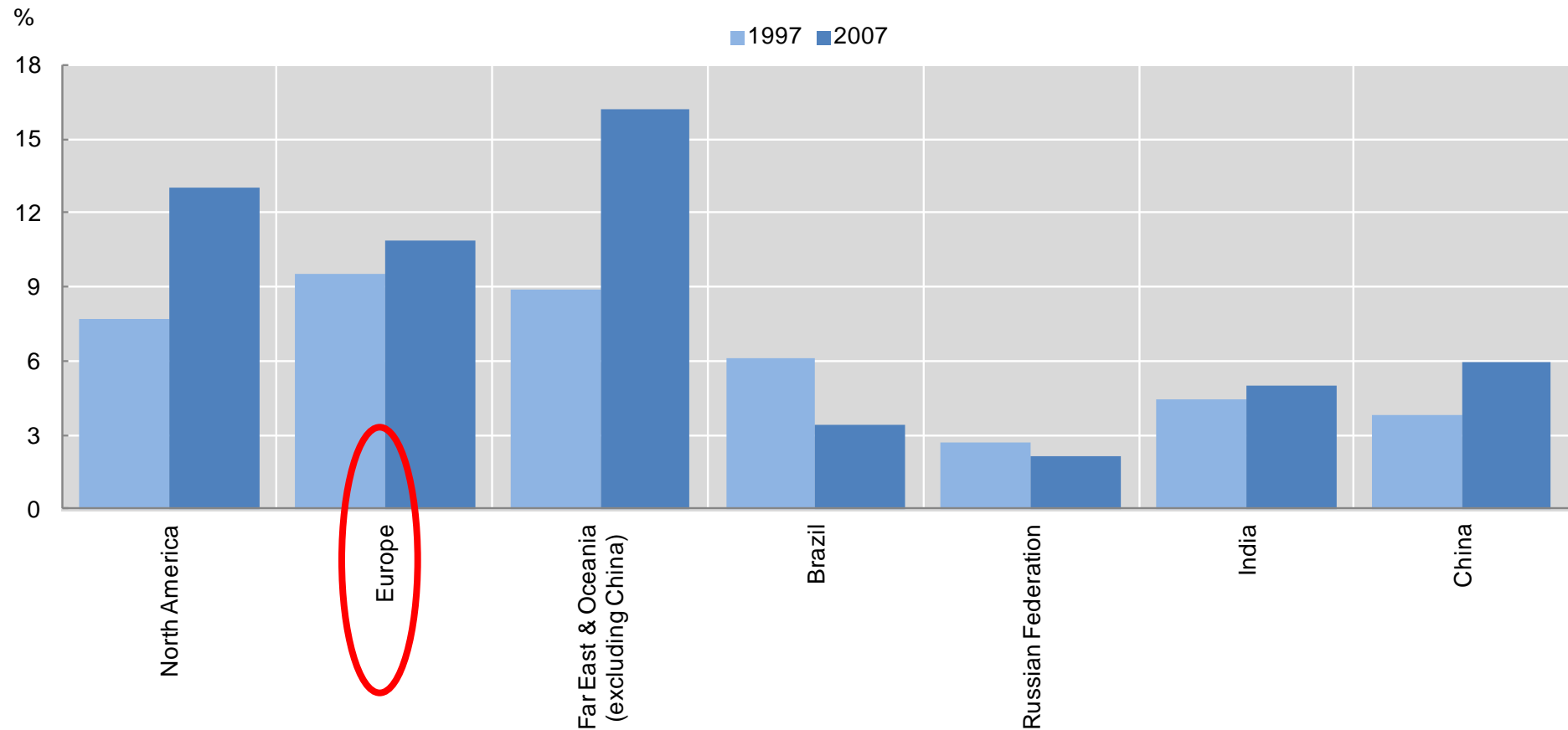
## Contributions to growth in global R&D (in billion constant US PPP and %)



Note: (1) Australia, Canada, Iceland, Korea, Mexico, New Zealand, Norway and Turkey  
 (2) Argentina, Brazil, India, Israel, Russian Federation, Singapore, South Africa, Chinese Taipei

Source: OECD.

# Scientific collaboration with BRIC countries (co-authored scientific publications)



# Some Implications for policy

- **Importance broad based human capital: hard and soft skills**, that can traverse disciplines, cultures and organisations.
- ***Erect bridges*** between the different parts, forming or joining a network – not necessarily more or new hard infrastructure – labour mobility;
- Importance of ***services*** as a means of capturing value locally & gaining access to lead-users;
- **Universities** are an essential node in innovation systems that can be the glue between actors, a local anchor into global networks and a magnet for global talent.

# Some Implications for policy

- Use of ***ICT*** to build networks; ***informatics*** as a multidisciplinary field and ***public depositories of information*** as a platform for innovation;
- Need for ***knowledge networks and markets***;
- ***New forms of governance of innovation***

# Contact

- **E-mail comments & ideas:**
  - [Andrew.Wyckoff@oecd.org](mailto:Andrew.Wyckoff@oecd.org)
  
- **Keep abreast**
  - [www.oecd.org/innovation/strategy](http://www.oecd.org/innovation/strategy)