



OECD Innovation Strategy: Developing an Innovation Policy for the 21st Century

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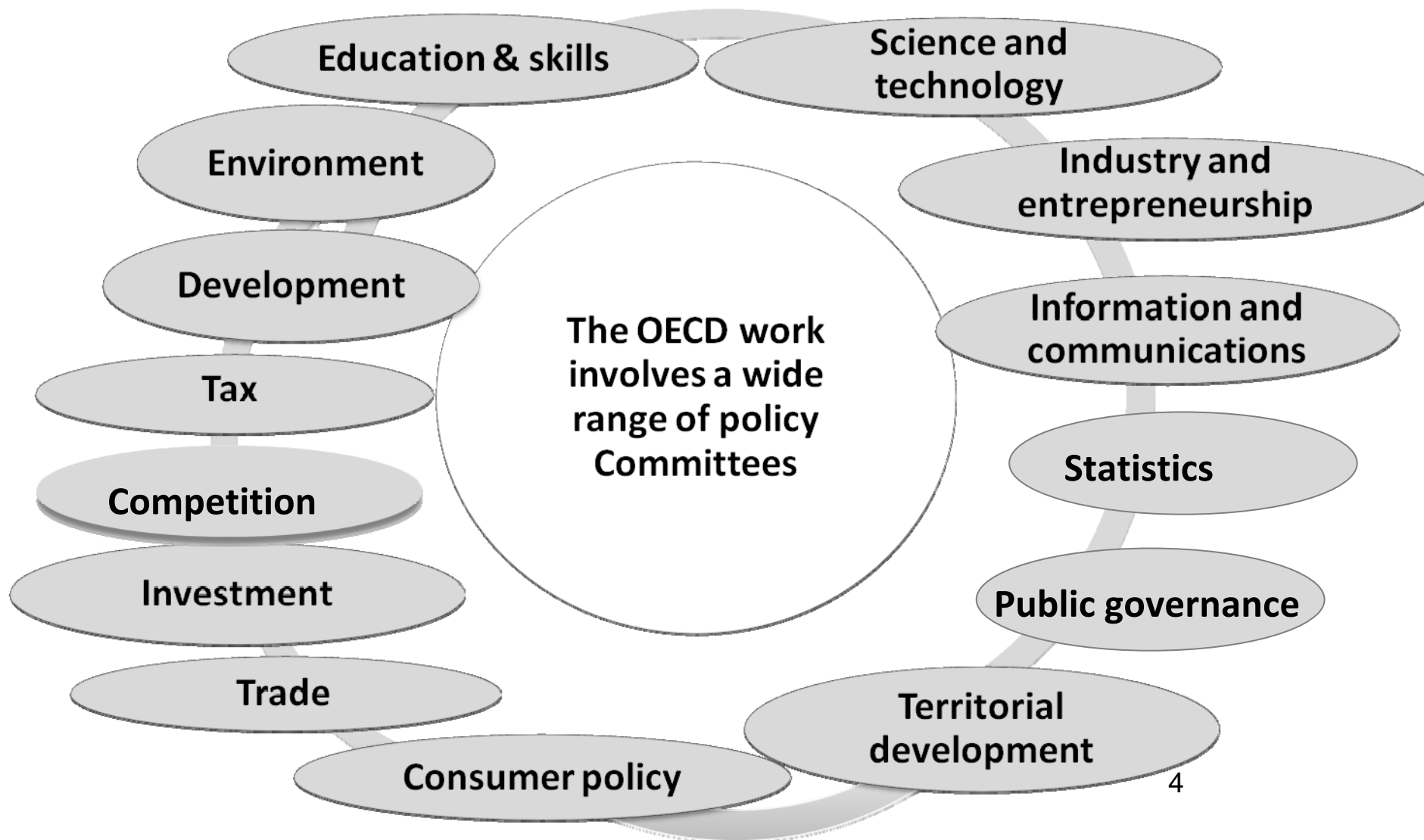
Overview

- 1. The OECD Innovation Strategy**
- 2. The innovation imperative**
- 3. The changing nature of innovation**
- 4. The Key Policy Messages from the OECD Innovation Strategy**
- 5. Concluding remarks**

1. OECD's Innovation Strategy

The OECD Innovation Strategy:

Cutting across many policy areas



2.

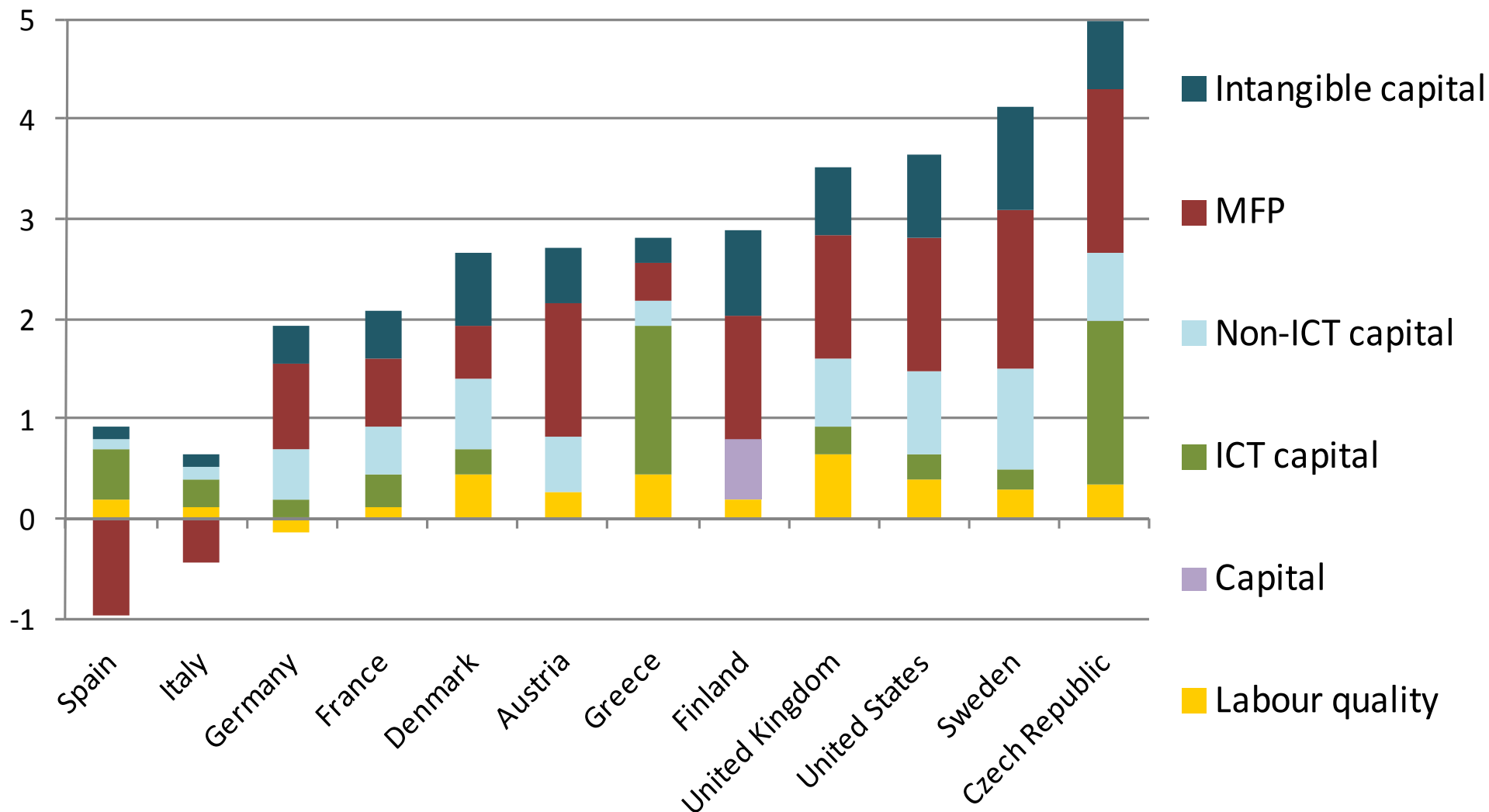
The Innovation Imperative



Innovation is a driver of growth...

Innovation accounts for a large share of GDP growth

Percentage contributions, 1995-2006, in %

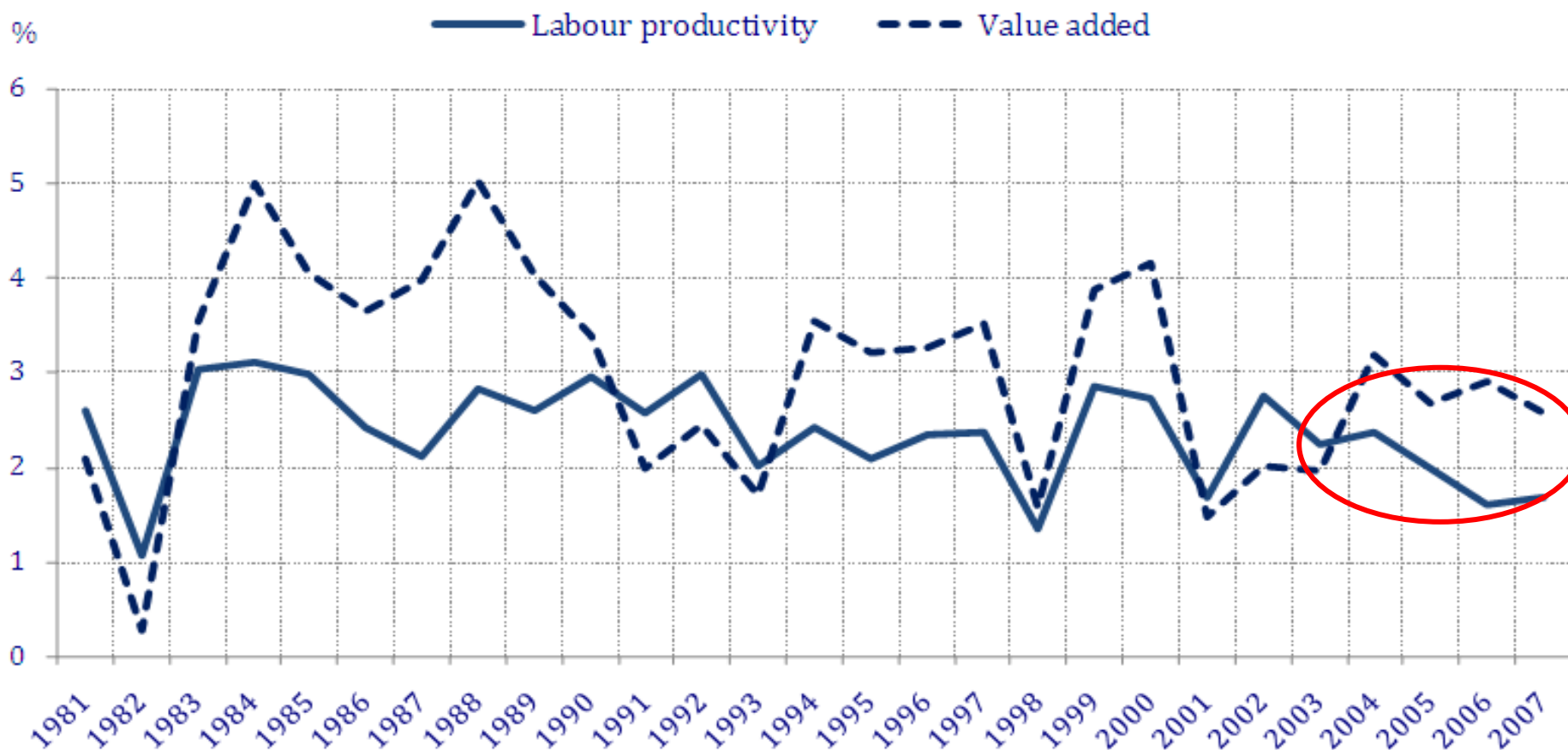


* Investment in intangibles and MFP account for between 2/3s and 3/4s of GDP growth.

...and is needed to restore lagging productivity growth...

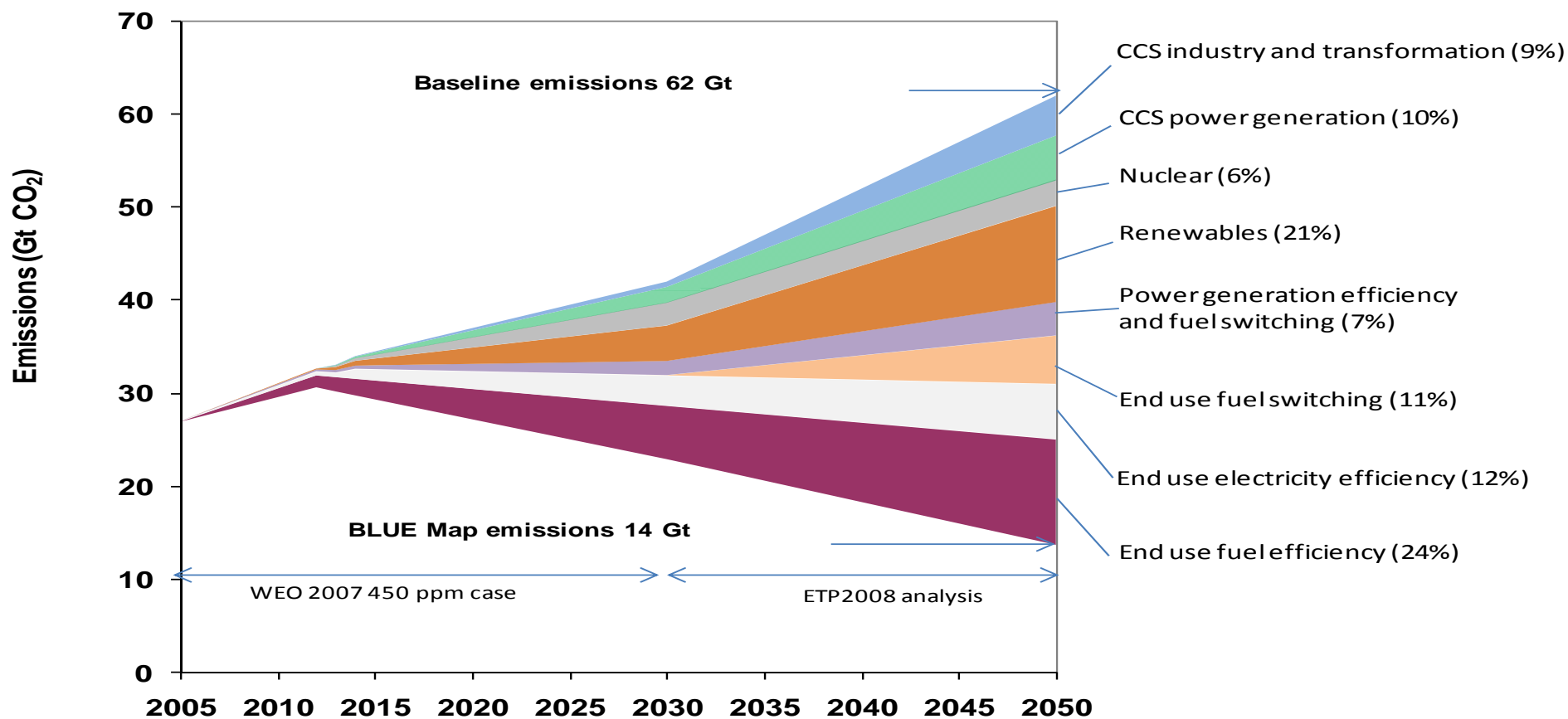
Labour productivity growth in the OECD area, 1981-2007

Annual growth rate, percentage



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

Potential technological contributions to CO₂ 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.

3.

The Changing Nature of Innovation: the *what, how, where & who* have changed



What innovation encompasses has changed...

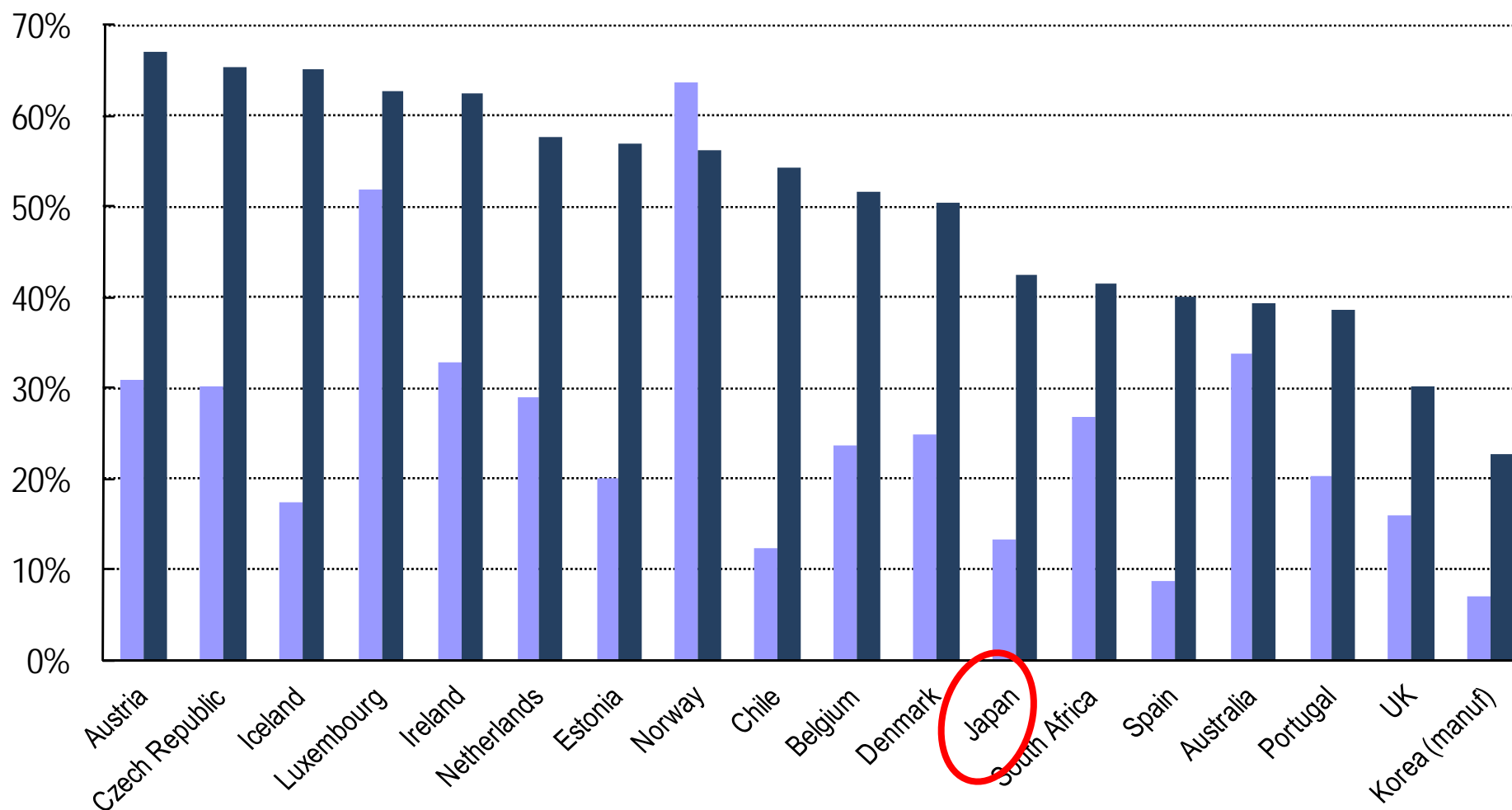
- **Broader than just R&D** to include non-R&D innovation like design, marketing, organisational innovation;
- Involves **more than just “high-tech”** firms;
- Encompasses **services**, including non-market services like public sector services;

Innovation is not only about R&D...

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

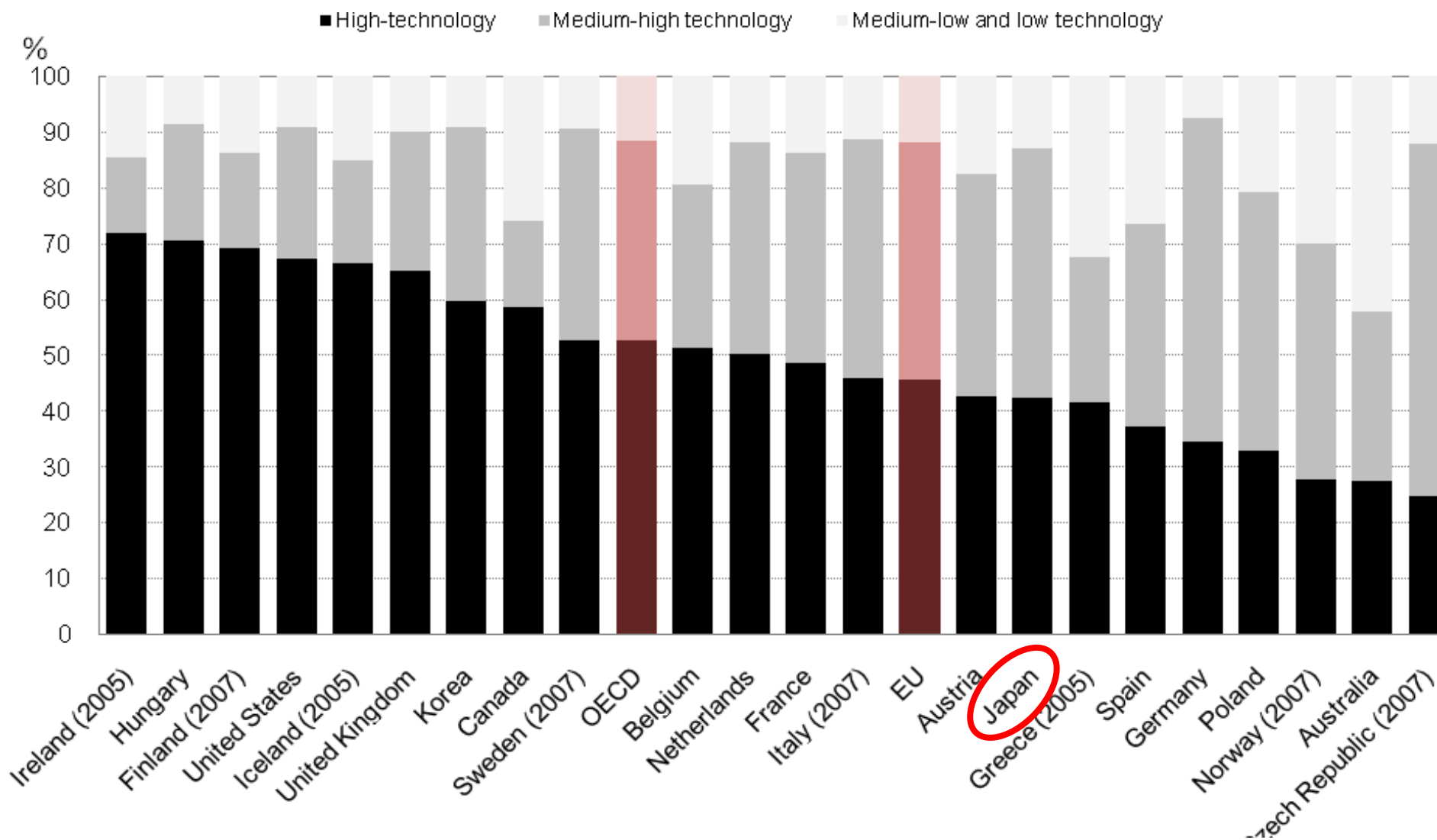
As a percentage of innovators

■ Innovation (no R&D) ■ In-house R&D



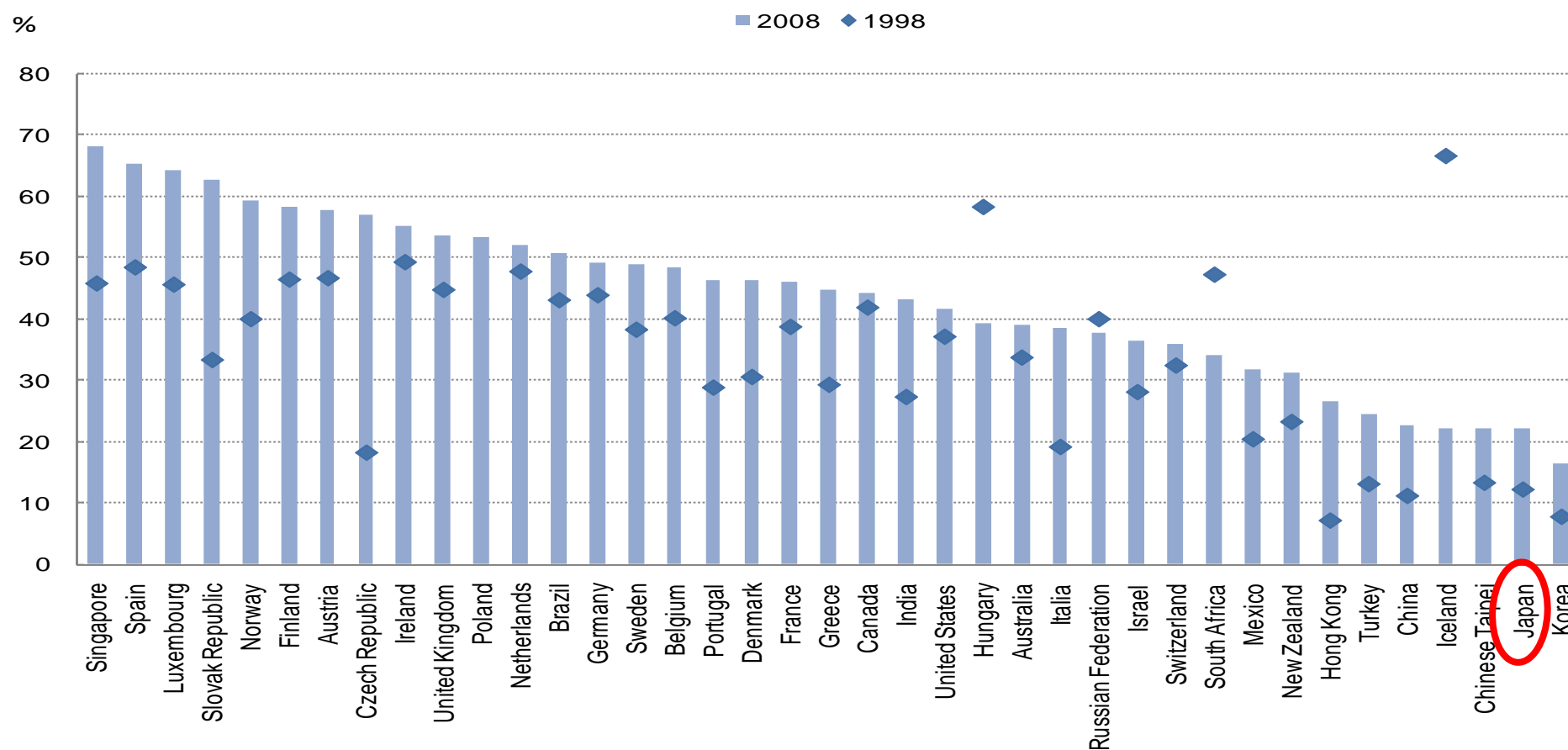
...and R&D is not only for high-tech firms...

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



...and innovation is not only about manufacturing.

Share of all trademarks registered by services



Policy Implications from the broadening of innovation

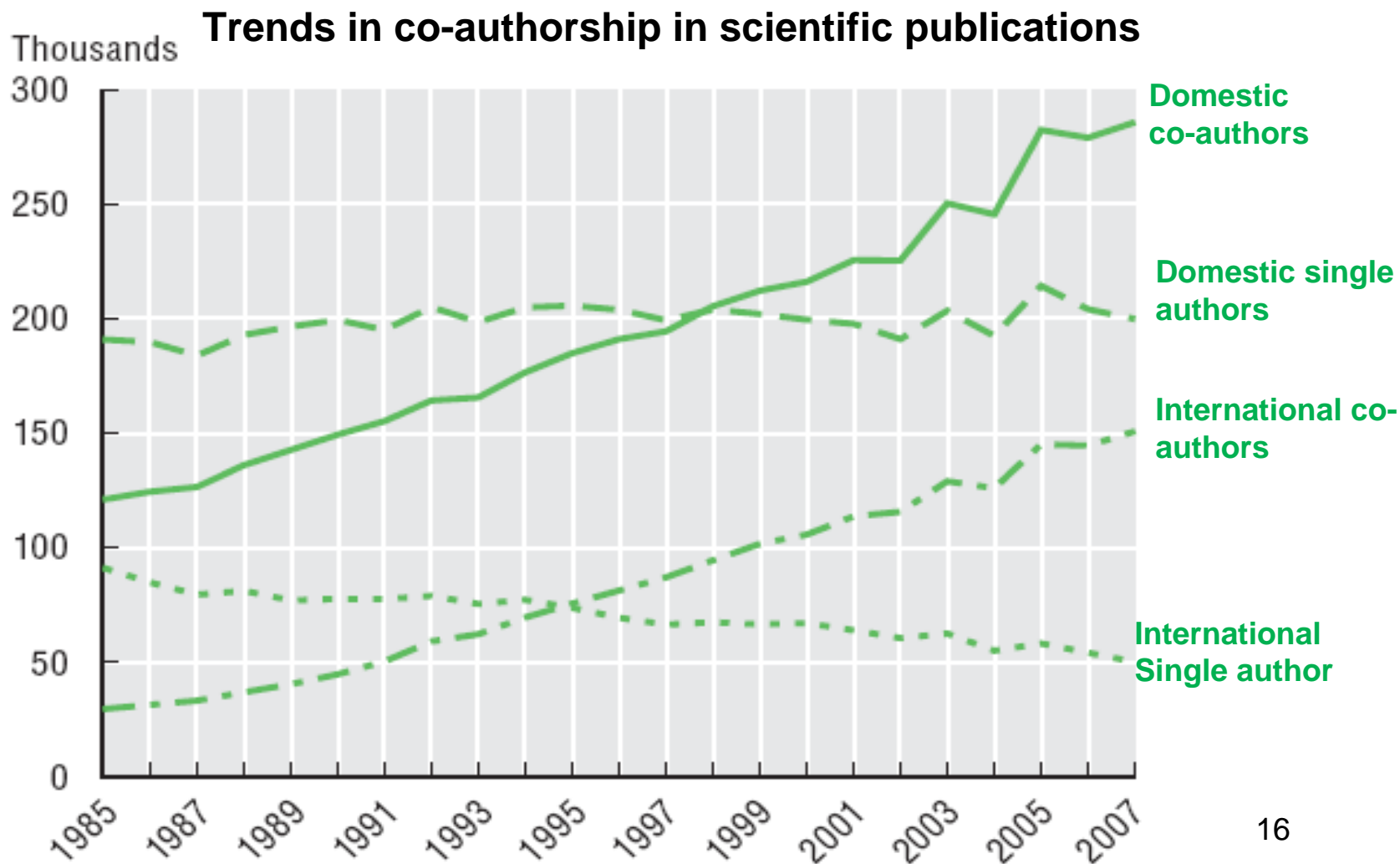
- Growing **importance of education and training: hard and soft skills**, including entrepreneurship
- Need to motivate and **provide space for innovation to flourish**:
 - Competition & empowering consumers
 - Solid, predictable institutional framework that supports entrepreneurs:
- Recognition that **a bundle** of investments are needed for innovation: tech & non-tech.



How innovation is conducted has changed...

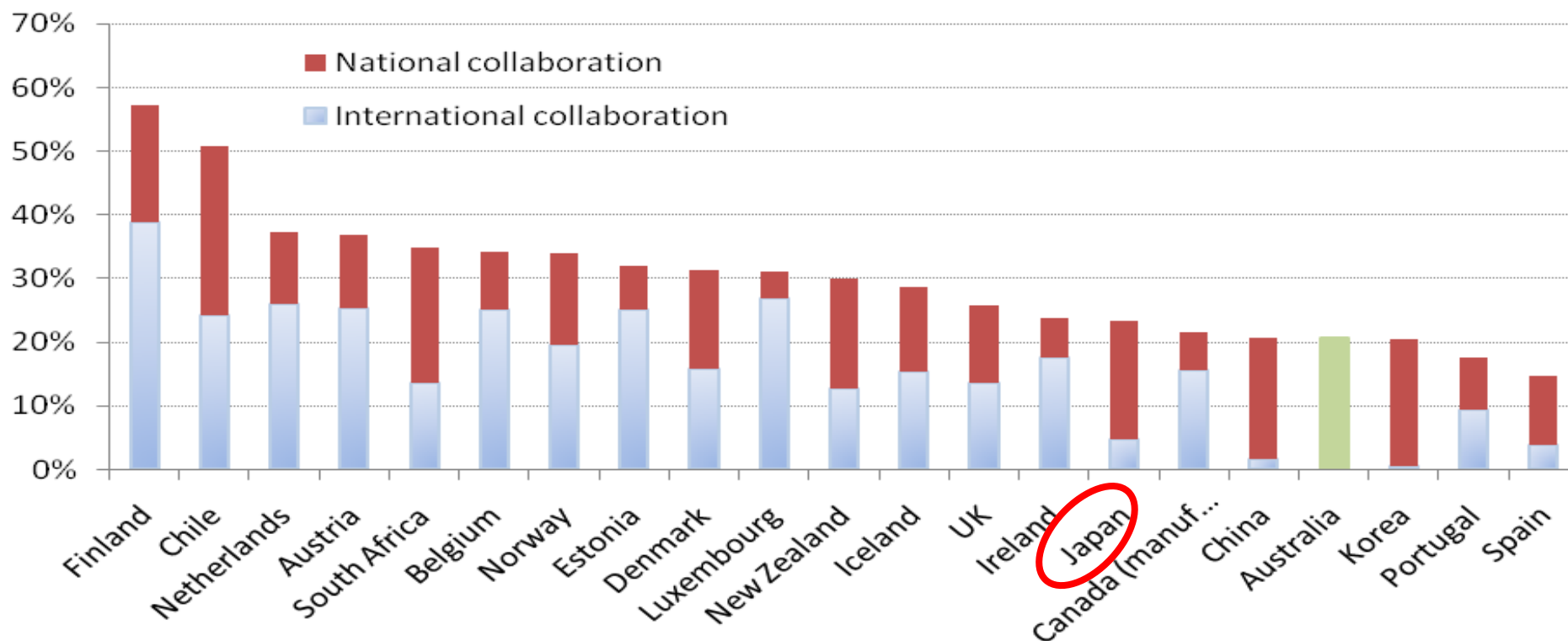
- Increasingly **at the intersection** / interaction of separate **borders: disciplines; geography and institutions**
- Cost pressures, competition and desire to reduce risk have led to **more open / collaborative strategies;**
- Premium and competitive advantage attached to **tacit knowledge**: know-how, organisational capital, access to networks.

There is more collaboration among scientists...



...and between firms...

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



...who are employing “open innovation”
strategies for competitive advantage...

 Q3 '09

- Items shipped on behalf of sellers who utilized Fulfillment by Amazon (FBA): **3x from 2008**
- Amazon Web Services (AWS): **300k users**



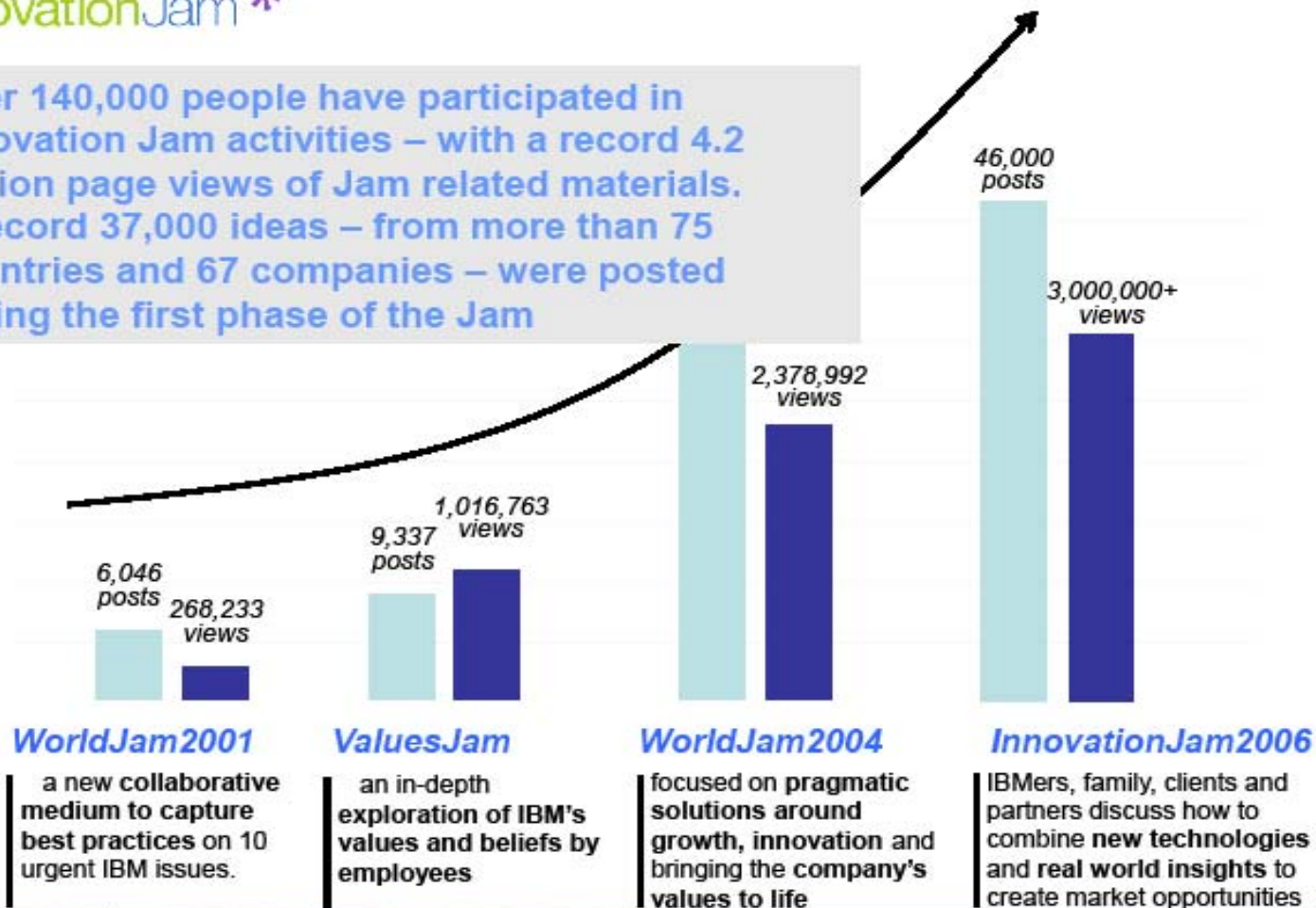
Q3 '09

- **100k approved apps**, up from 65k in August
- estimated 2.5b\$US iPhone “apps economy”*

...aided by ICT (especially the Internet).

InnovationJam*

Over 140,000 people have participated in Innovation Jam activities – with a record 4.2 million page views of Jam related materials. A record 37,000 ideas – from more than 75 countries and 67 companies – were posted during the first phase of the Jam



Policy Implications for a more open mode of innovation

- ***Erect bridges*** between the different parts, forming or joining a network – not necessarily more or new hard infrastructure.
- ***Soft skills are needed*** that can traverse disciplines, cultures and organisations.
- Building networks through ***labour mobility***.
- Use of ***ICT*** to build networks; ***informatics*** as a multidisciplinary field and ***public depositories of information*** as a platform for innovation;
- Developing ***knowledge networks and markets***;

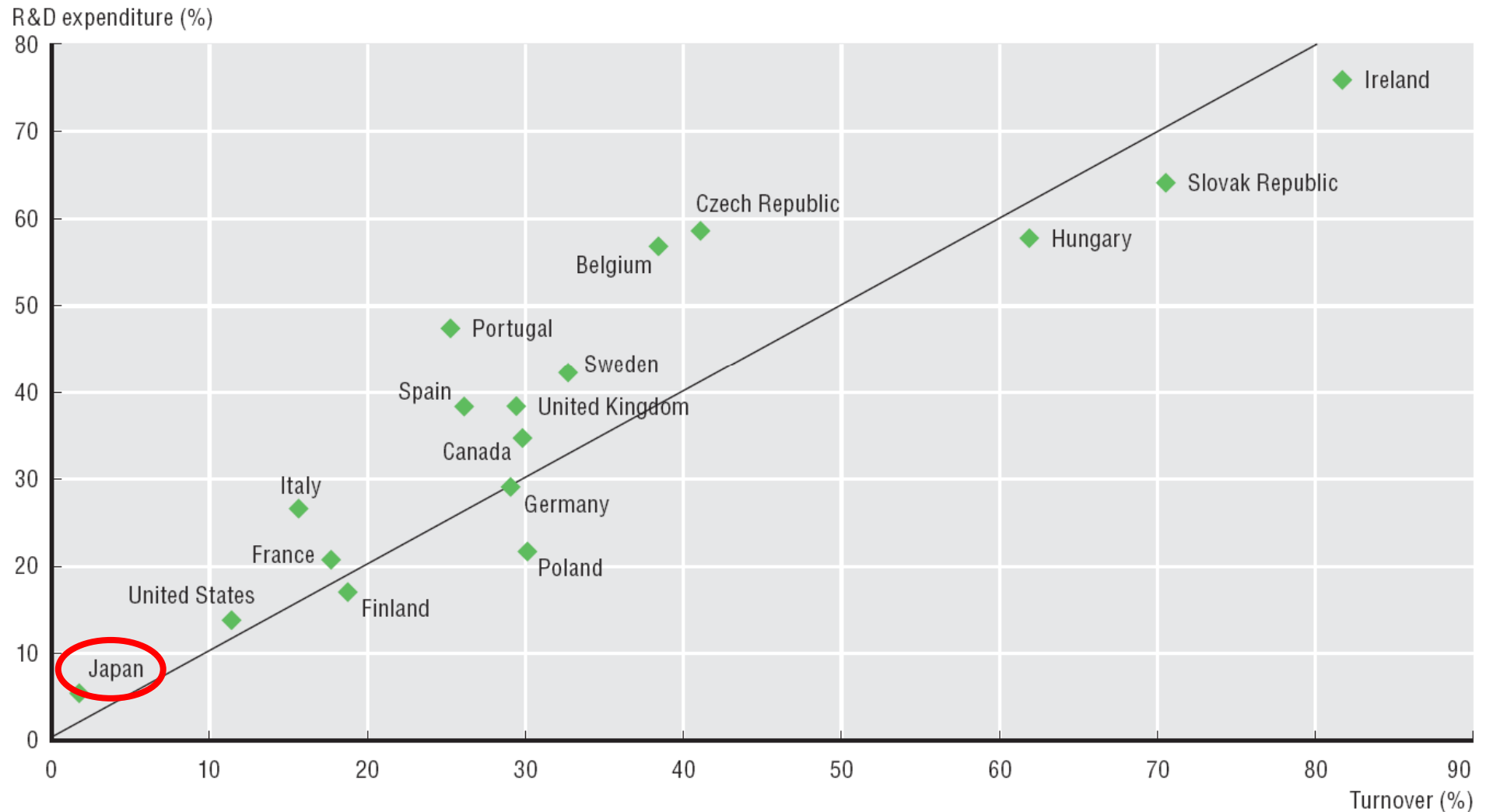
Where innovation occurs has changed...

- **MNEs** still play a huge role; but increasingly more than just “D” abroad;
- **Young firms** a key as change agents;
- Increase in **cross-border links**;
- Rise of **China and India**.

...with MNEs playing a large role...

R&D and turnover of affiliates under foreign control, 2006

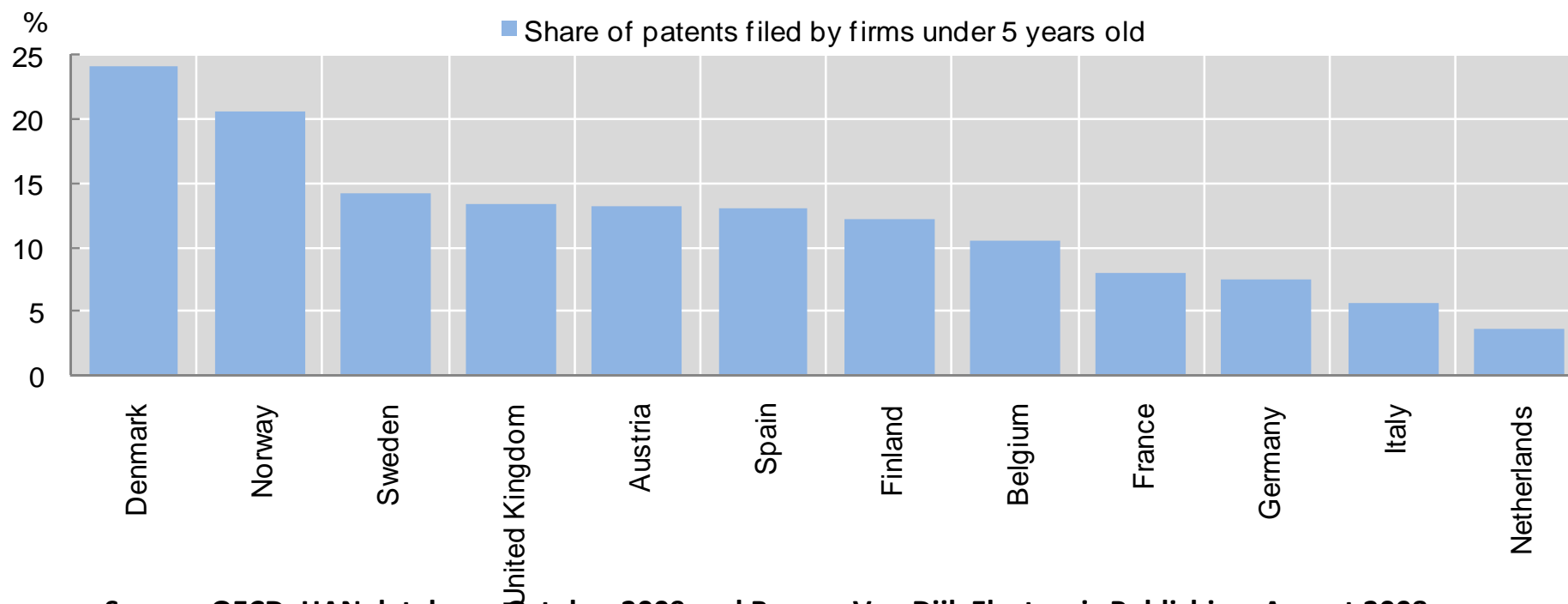
As a percentage of total



...but so do young firms.

Patent applications filed by young firms, 2005

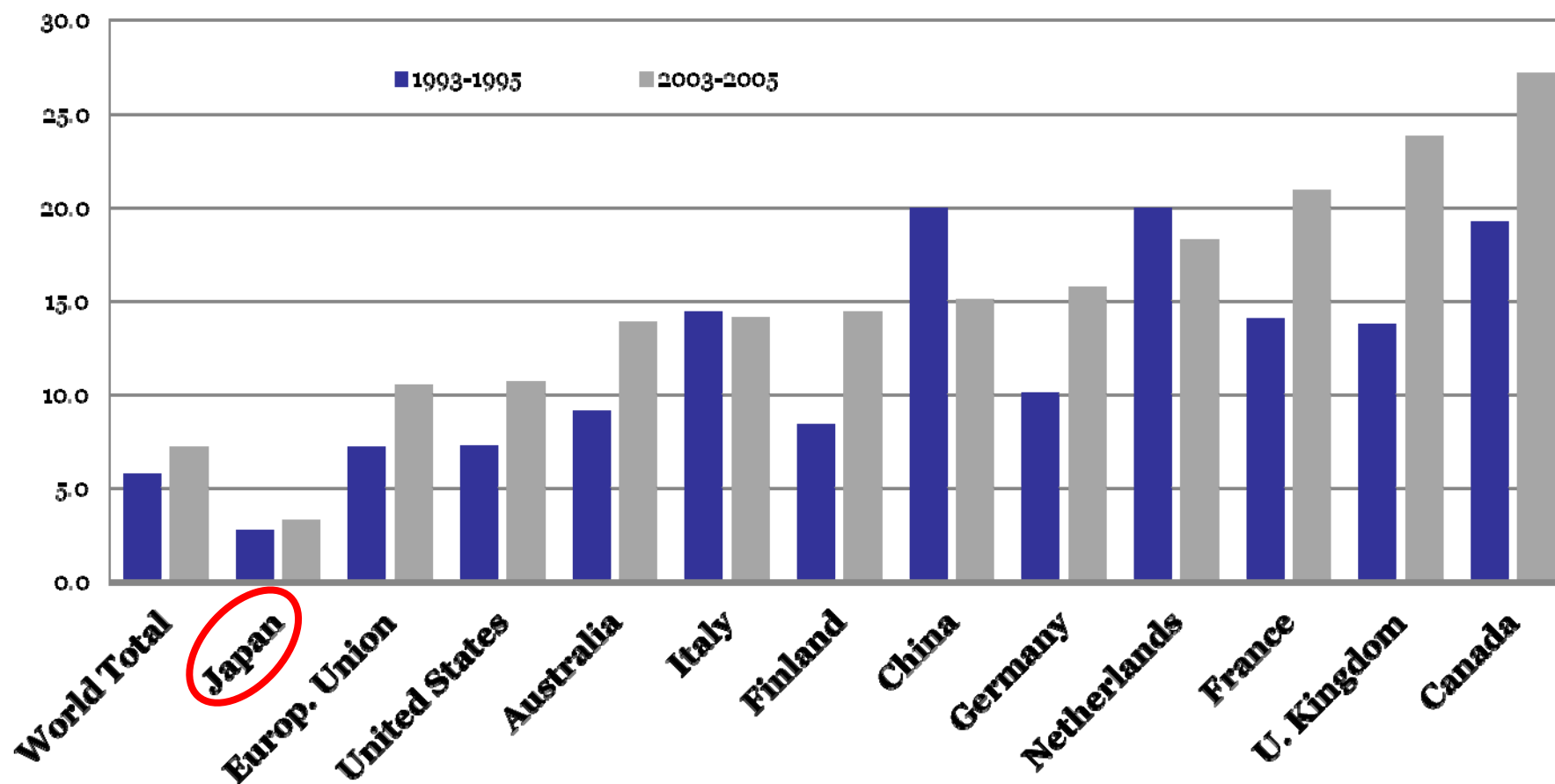
As a percentage of patents filed by firms at the European Patent Office (EPO)



Source: OECD, HAN database, October 2009 and Bureau Van Dijk Electronic Publishing, August 2008

Global innovation networks are emerging...

Share of patents with foreign co-inventors (%)



...that alter relative comparative advantages...

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

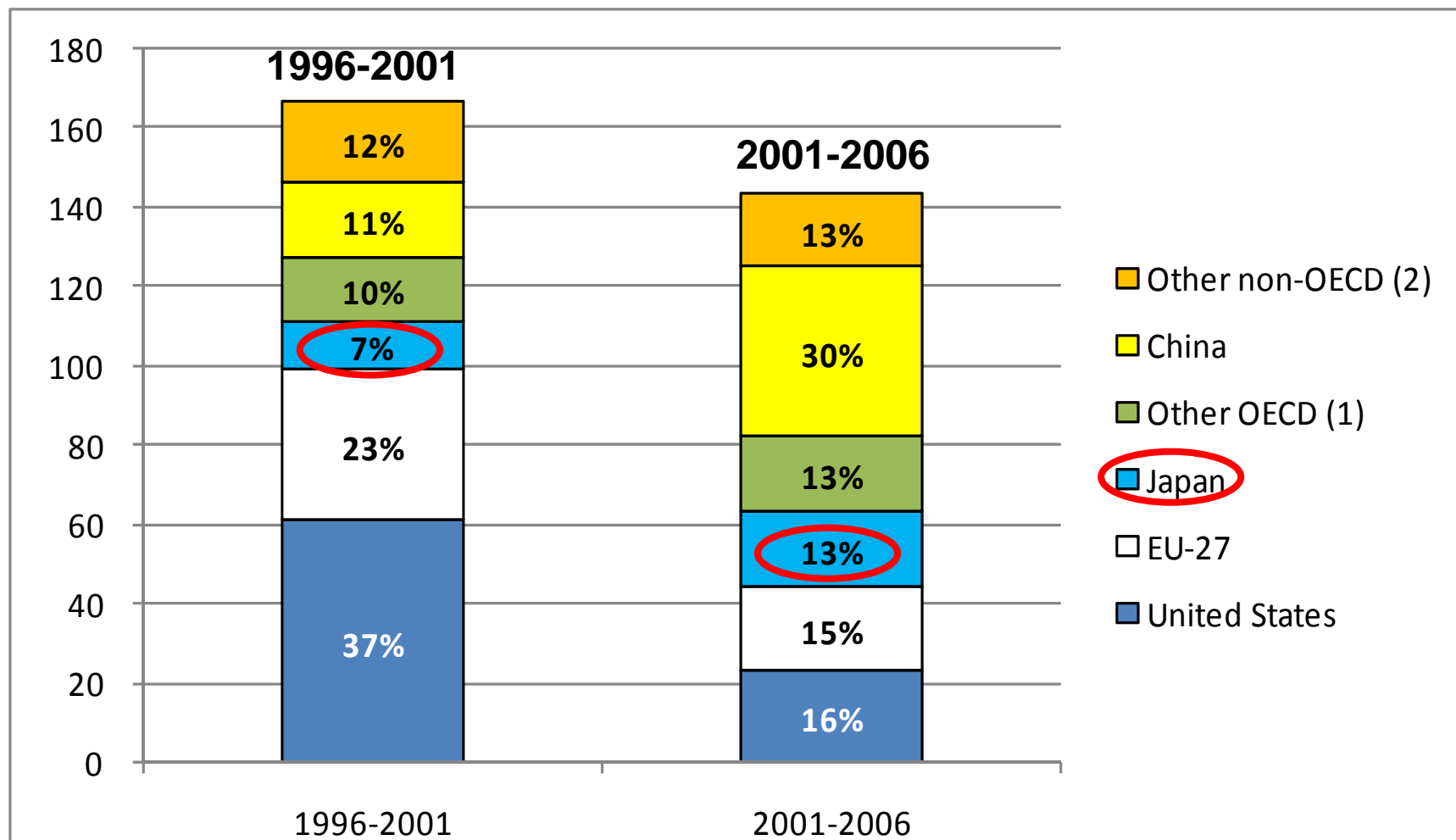


Distribution of the value added

- 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

...driven by new players...

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

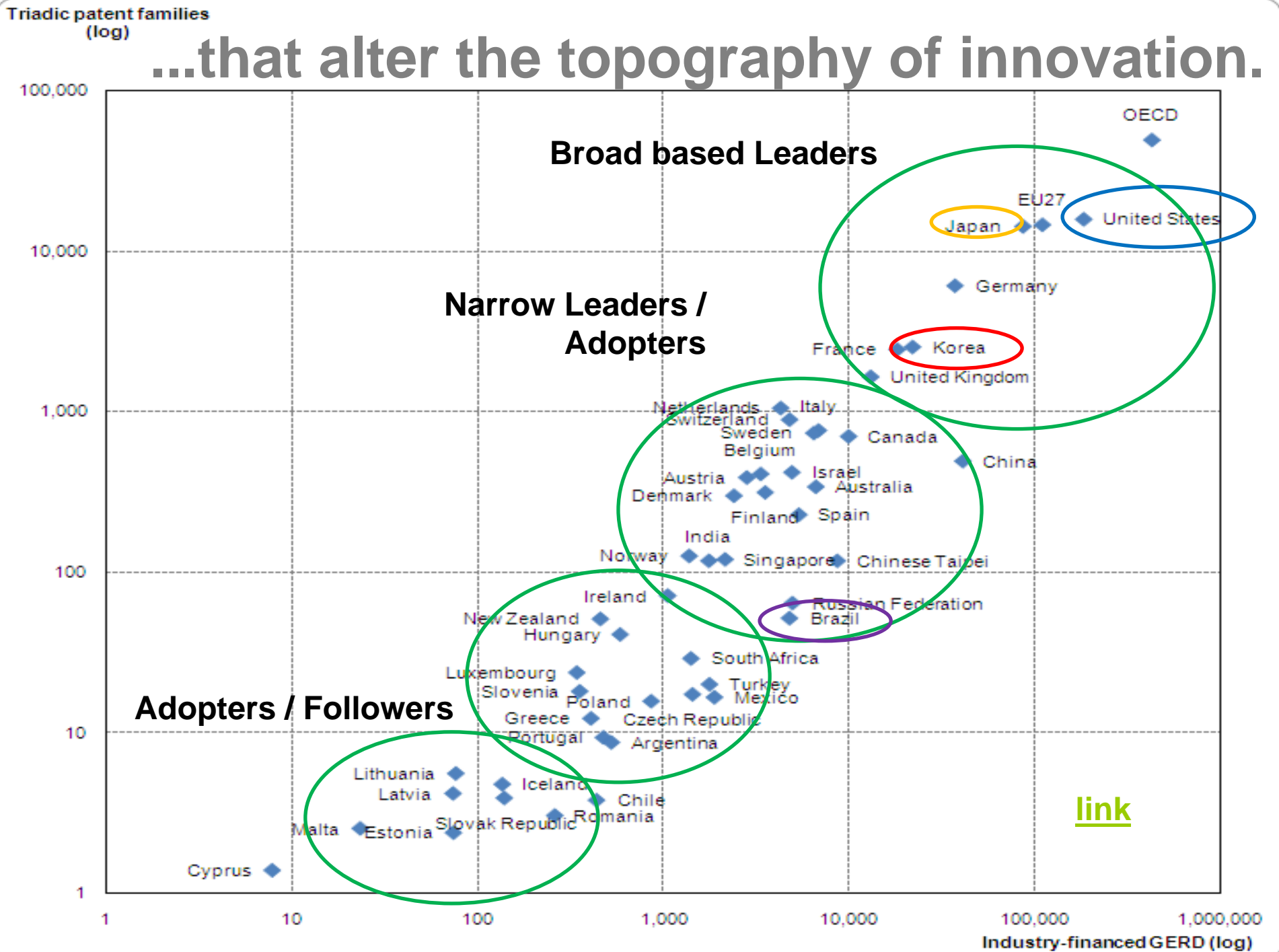


Note: (1) Australia, Canada, Iceland, Korea, Mexico, New Zealand, Norway and Turkey

(2) Argentina, Brazil, India, Israel, Russian Federation, Singapore, South Africa, Chinese Taipei

Source: OECD.

...that alter the topography of innovation.



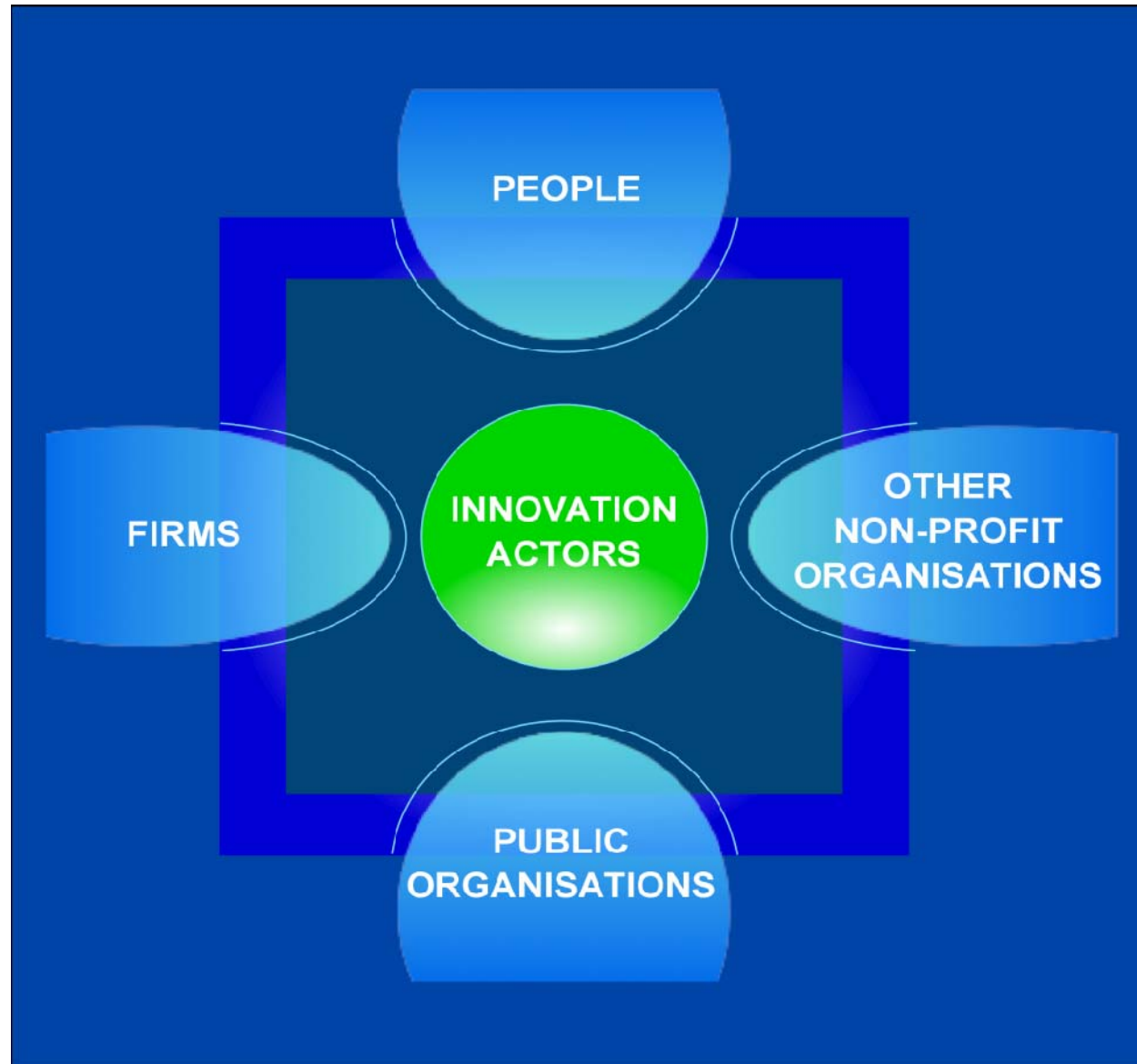
Policy Implications of global networks of innovation

- ***Build absorptive capacity:*** skills, institutions, access to networks;
- 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.
- **Building on existing strengths** for dynamic comparative advantage through innovation.



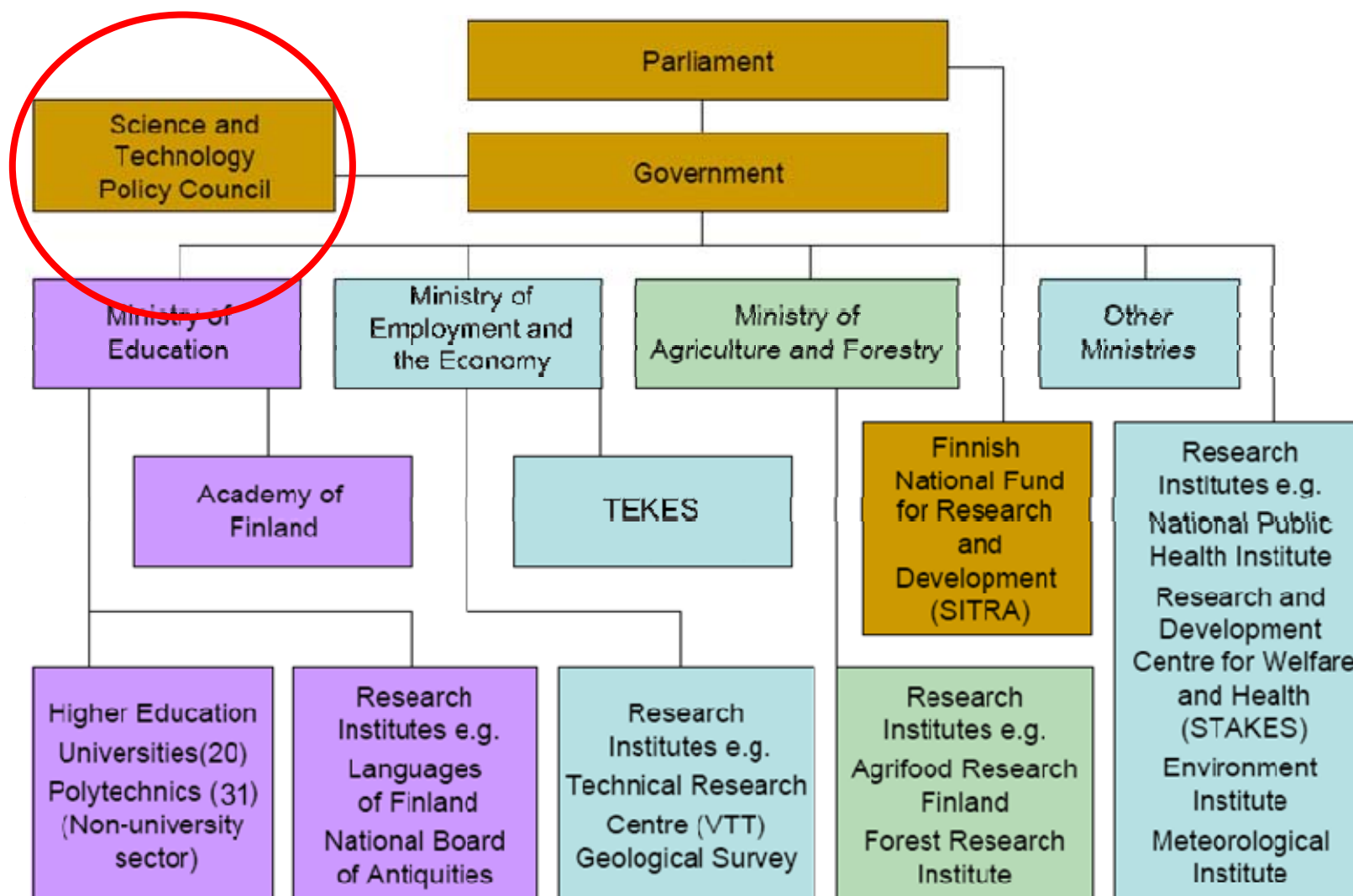
Who the actors are in the innovation system has changed...

...to include a wide range of actors...



...a range of Ministries...

Finland's Governance of Innovation Policy



...and many levels of government.



...which raises issues of how to govern policies for innovation.

- Need for strong **political leadership**;
- Need to clearly **delineate local, regional & national roles** to avoid duplication, and build coherence.
- **Need for measurement and evaluation frameworks** to support policy.

4. Key Policy Messages

A) Adapting to a post crisis environment

- **Diffusing, applying, adapting** vs. developing – the need for cooperation is growing.
- **Leverage** public resources – partnerships with firms, avoid duplication.
- **Create room** for new firms and allow creative destruction to occur .

B) Harness innovation to address global challenges

- combination of “getting prices right” and stimulating innovation;
 - stable and long-term policy horizon;
 - improved international S&T co-operation;
 - New mechanisms and platforms for collaboration based on new partnerships
 - Enabling new actors: social entrepreneurship, foundations, etc.
- Demand **and** supply side policies

C) Developing a more systemic set of policies for innovations

- Most public policy is aimed at the creation of knowledge: R&D, HRST, IPR.
- Need to better join up “push” and “pull” policies:
 - Empowering people to create knowledge and apply knowledge
 - Protecting IPR and creating value from IPR
 - Getting prices right to create markets for environmental innovation and policies that can create radical innovations and breakthroughs

4. Concluding Remarks: the Japanese Context

Challenges for Japan

- **People:**
 - Little labour mobility within the economy and internationally
 - A dual labour market
 - Limited foreign interaction
- **Innovation in firms:**
 - Very low degree of internationalisation – low FDI, and low degree of international cooperation in innovation
 - Relatively poor productivity growth in the services sector – some sectors remain too heavily regulated
 - Starting a business in Japan remains too complicated

Building on Japanese Strengths

- **Exploiting high Public & Private R&D**
 - Improve the linkages between public & private
 - Enhance competition for R&D awards
 - Use strong base to tap into global networks
- **Global challenges:**
 - Leverage strength in “green” innovation thru push and pull (getting prices right)
 - Assert leadership in multilateral STI co-operation for Grand Challenges
- **Apply ICT**
 - For services productivity, especially services for the aged.
 - Seize on the shift to mobile computing.

Contact

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- **Keep abreast**
 - www.oecd.org/innovation/strategy