

Innovation and Innovation Policy in the Nordic region

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Aims, scope and methods

- Desk-study on **innovation performance** and **policies** influencing it in four Nordic countries
- Entirely based on **published sources**
- Comparative analysis of **innovation activities & performance** in the Nordic area and Europe based on data from the **Community Innovation Survey (CIS)** and other relevant sources
- Descriptive analysis the **evolution and character of innovation policy** in Sweden, Norway, Finland and Denmark

Preliminaries

What is “innovation policy?”

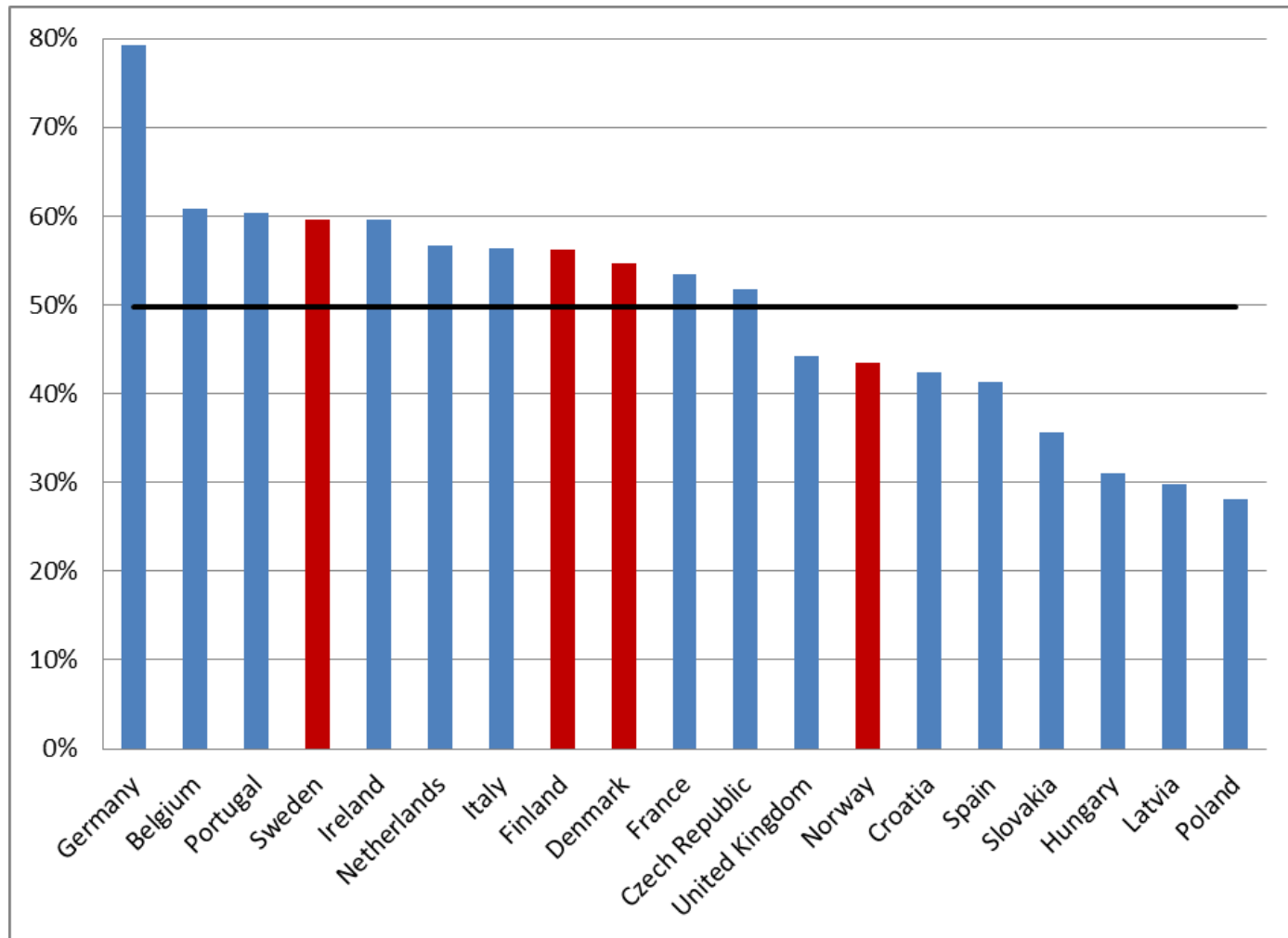
- Innovation policy: Policies that **affect** innovation?
- Or policies created with the **explicit intent** of doing so?
- Why do we care? Beneficial economic effects?
- **Broad approach** to innovation (not only “high-tech”) most **relevant**
- But **difficult** to apply empirically
- **Rewrite history?**

And “innovation”?

*the entire innovation process from the **creation** new products, processes or ways to do things to the **application** and **spread** of these in the economic system.*

Innovative firms, broadly defined 2010

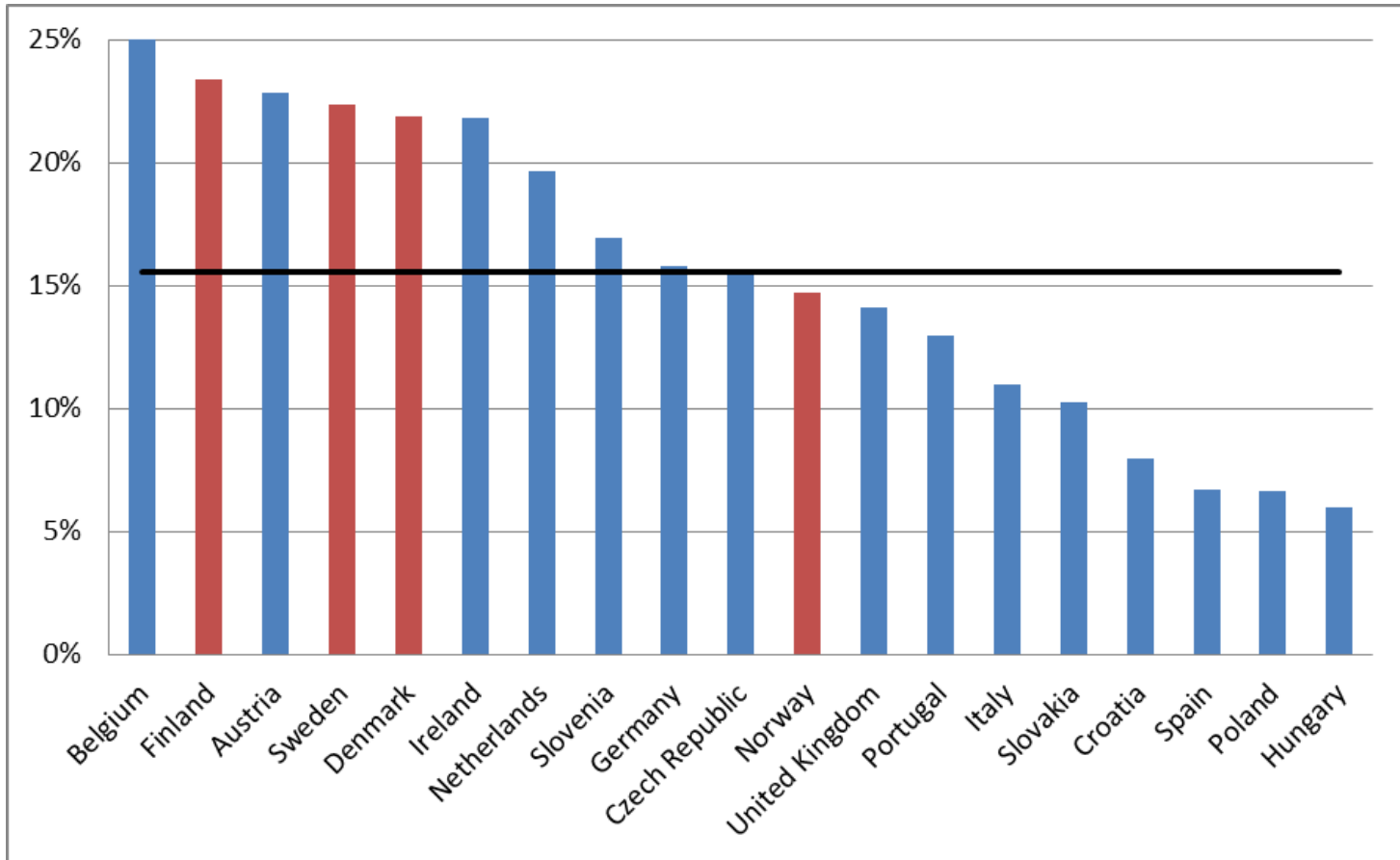
(share of all firms)



Source: Authors' calculations based on Eurostat (CIS 7)

Radical innovators, 2010

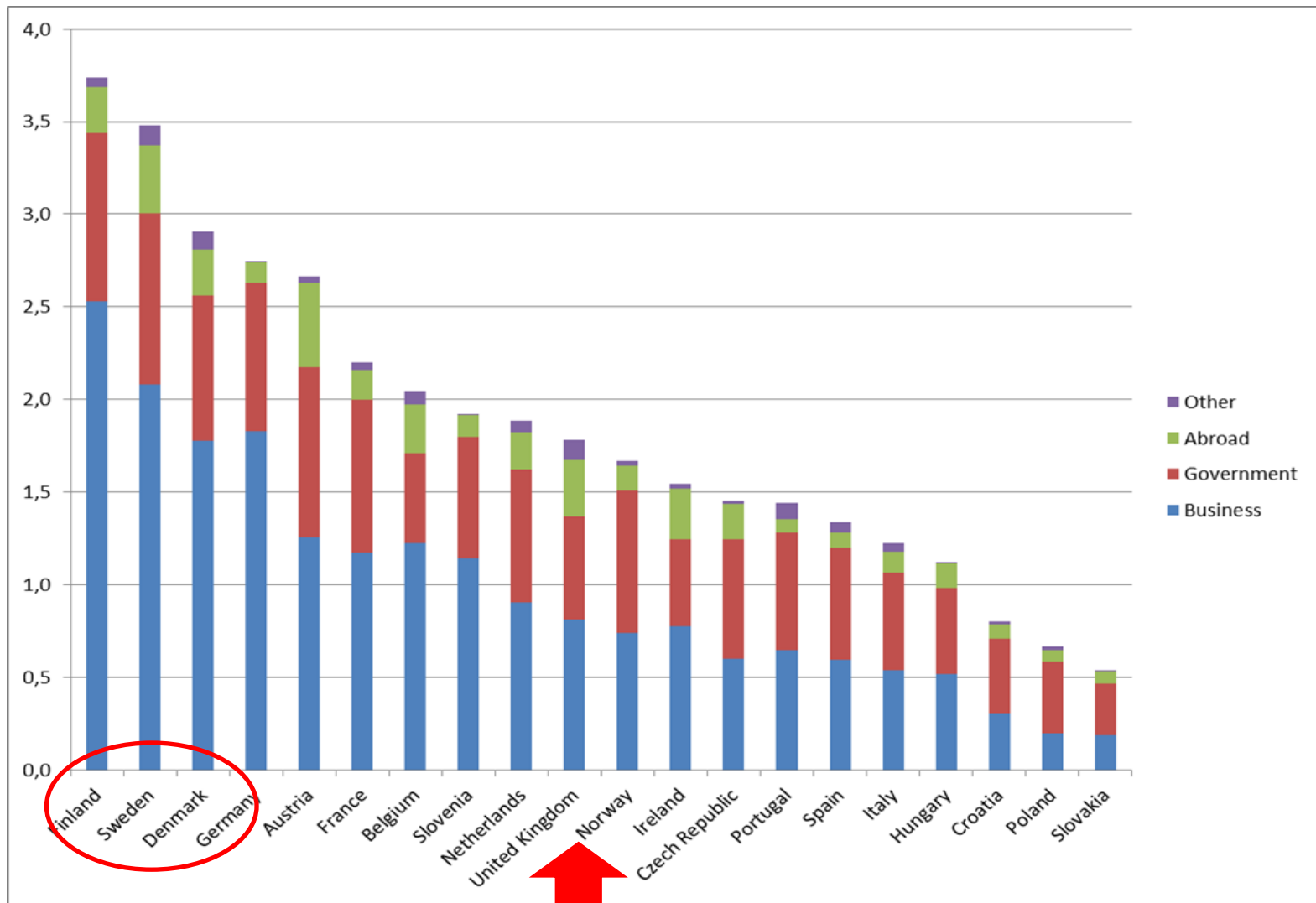
(share of all firms)



Source: Authors' calculations based on statistics from Eurostat (CIS 7) on innovations that are "new to the market"

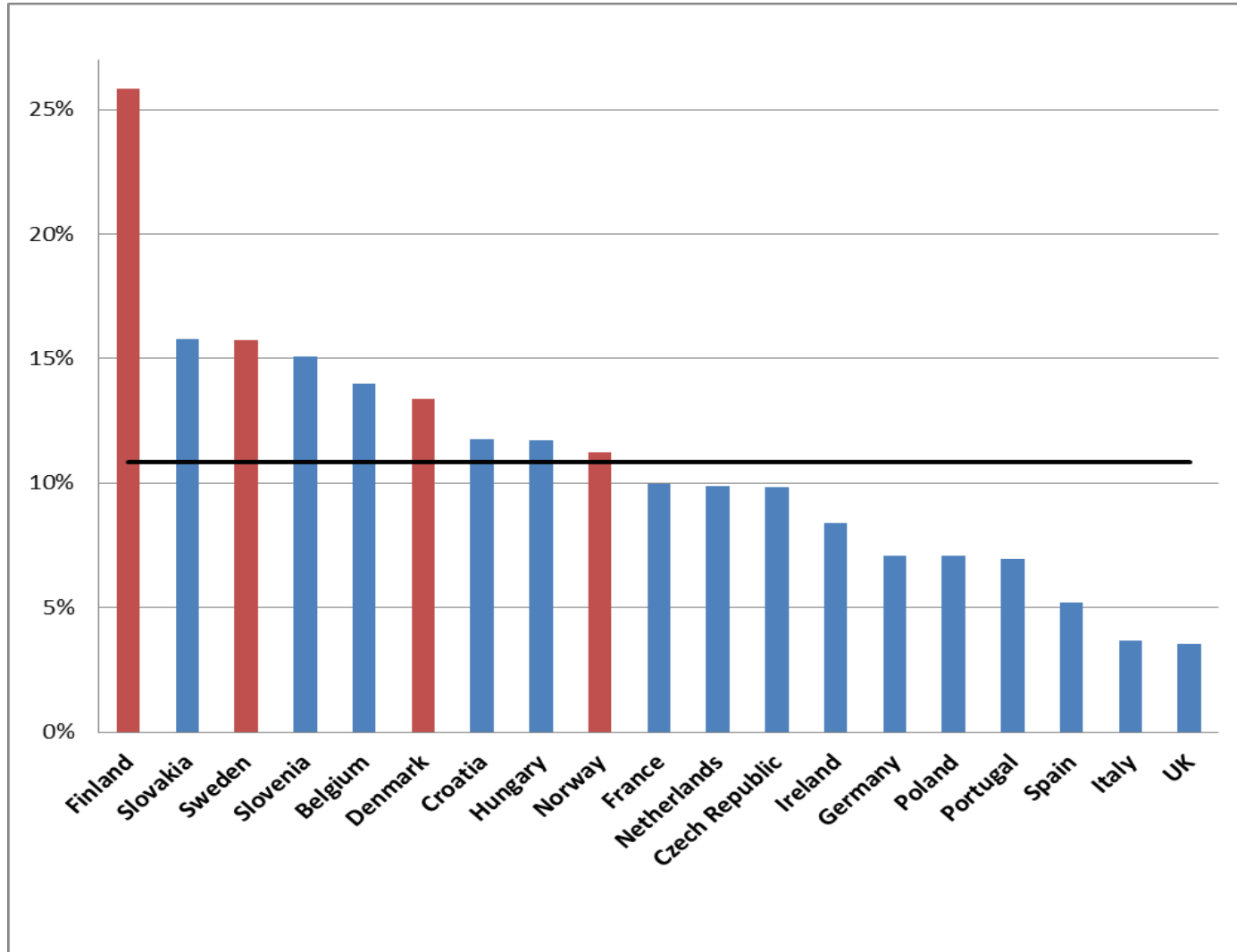
R&D as a share of GDP, average 2007-2011

(total and by funding sector, from Eurostat)



Innovation Cooperation, 2010

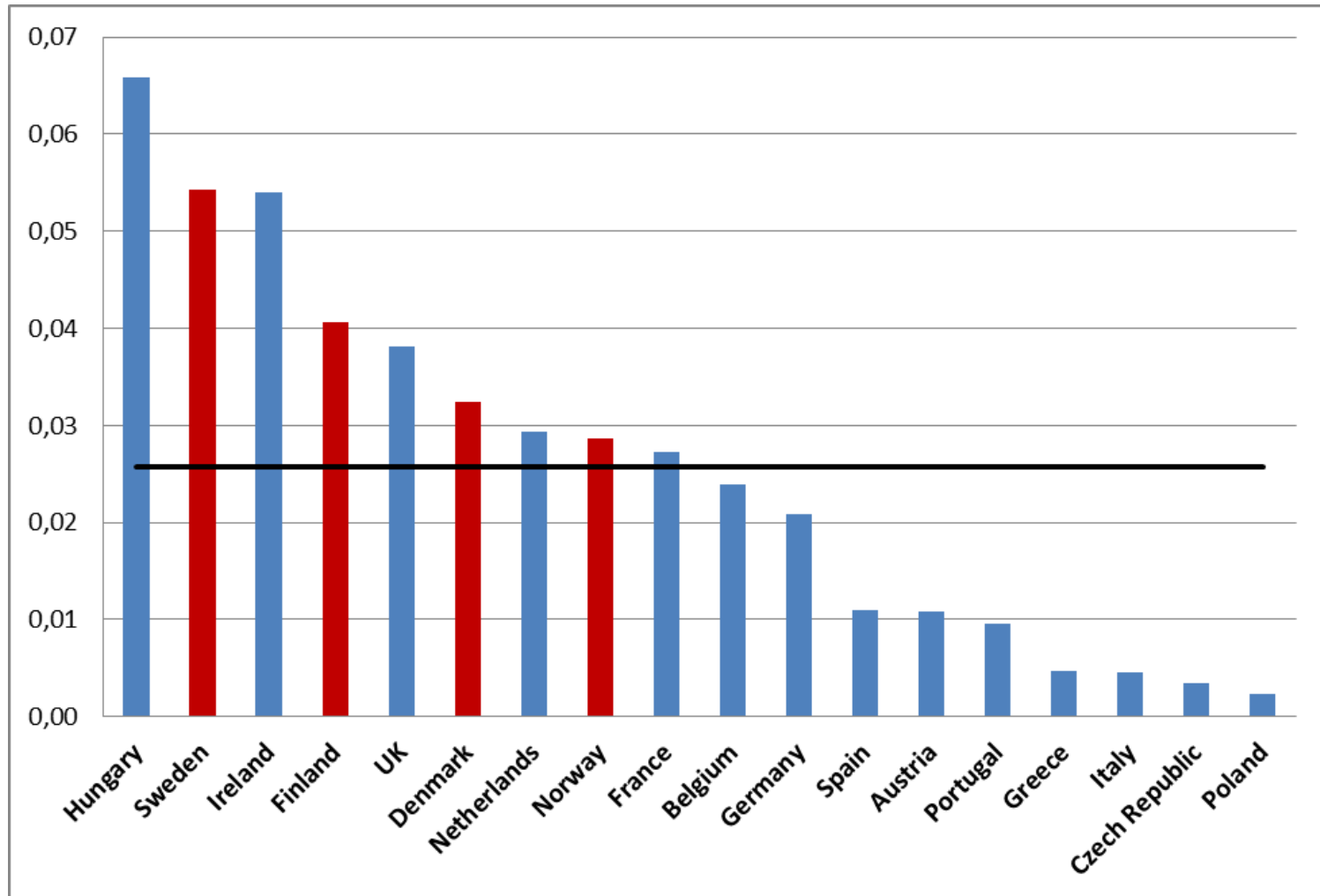
(share of all innovative firms)



Source: Authors' calculations based on Eurostat (CIS 7)

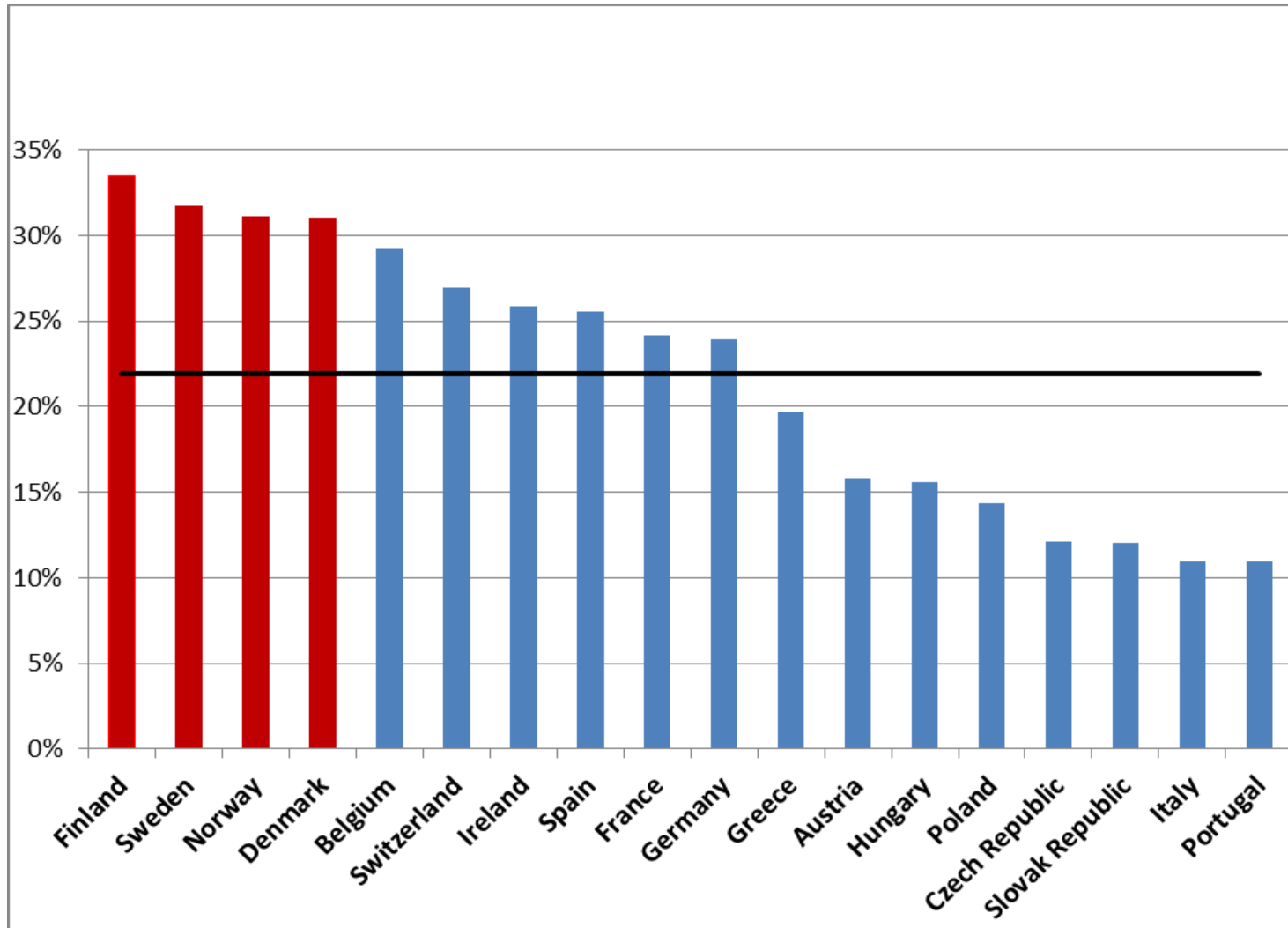
Venture Capital, per cent of GDP, 2012

(Source: OECD)



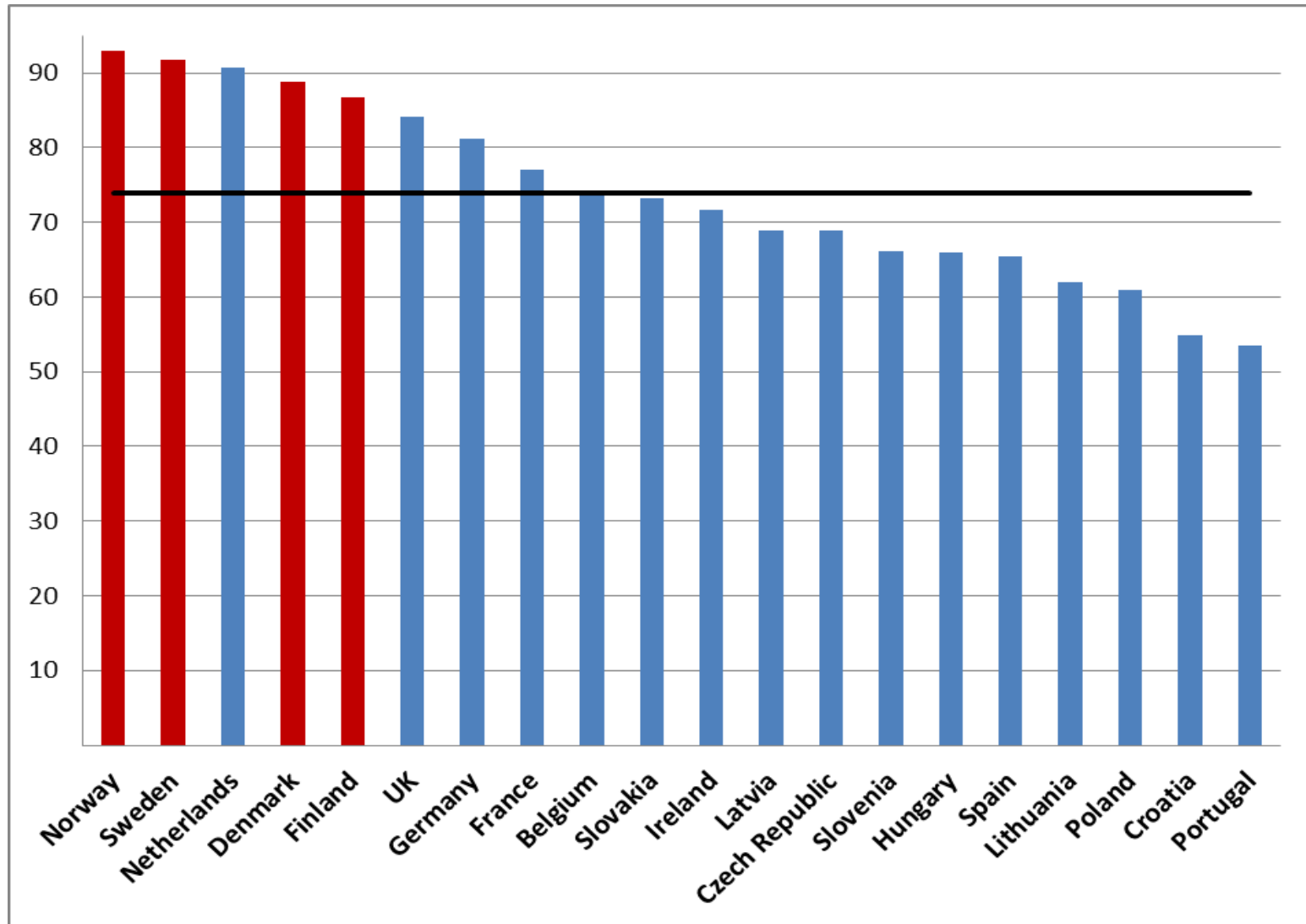
Tertiary education, average 2000-2006

(Share of population age 25-64, Source: OECD)



Internet users, per cent, average 2008-2012,

(Source: World Bank)



Conclusions from the comparative analysis

- **“Absorptive capacities”** (skills, ICTs) among the highest in Europe. **Why?**
- Sweden, Finland and Denmark among the **“innovation leaders”** in Europe
- **Norway** more “average” both in terms of performance and innovation-cooperation
- How did they get there? **Origins, development trends and governance**

Origins

- National Innovation Systems: Evolve through **interaction between economic and political system**
- Sweden & Denmark: Strong nation-states with well developed university systems a century ago: **Universities** continue to play a central role
- Finland & Norway less so: **PROs outside universities** key actors (VTT (3000 employees), SINTEF (2000 employees) and receive **ample public support**
- **Structurally different – equally efficient?**

Trends

- Early post-war periods: Public **R&D support**, science policy, research councils – a “fragmented” system
- **Proactive, targeted innovation policies** emerge in Sweden & Norway from the 1960s onwards, later in Finland (1980s and 1990s) and not all in Denmark with “**mixed results**” or?
- 1990s onwards: Challenge from **globalization**, increasing emphasis on **R&D** (Lisboa process & the 3% target), supporting **excellence**, role of **universities** (Sweden, Denmark and Finland)
- 2000s: **Broadening of the agenda?** More than **R&D & high-tech?** **Entrepreneurship?** Dealing with **grand challenges?** Social innovation? Work organization?

Governance: Specialized innovation agencies emerge

- Finland: **TEKES** (1983)
- Sweden: **VINNOVA** (2001)
- Norway: **Innovation division** (2002) & **Innovation Norway** (2004)
- Denmark: **Council for Technology and Innovation** (2002-3) & **Innovation fund** (2014)
- In terms of **budget** TEKES is the largest, followed by Vinnova (OECD 2013)

The challenge from fragmentation & lack of coordination

- **Innovation systems dynamics: Complementarities & coordination**
- **Coordination of policy** – a long standing challenge (example Denmark)
- **Fragmented** – and **inefficient** ? - systems have emerged (example Sweden and Norway?)
- **Combatting fragmentation requires political leadership (example Finland?)**
- **But conflicts with democratic traditions (Miettinen 2013) ?**