

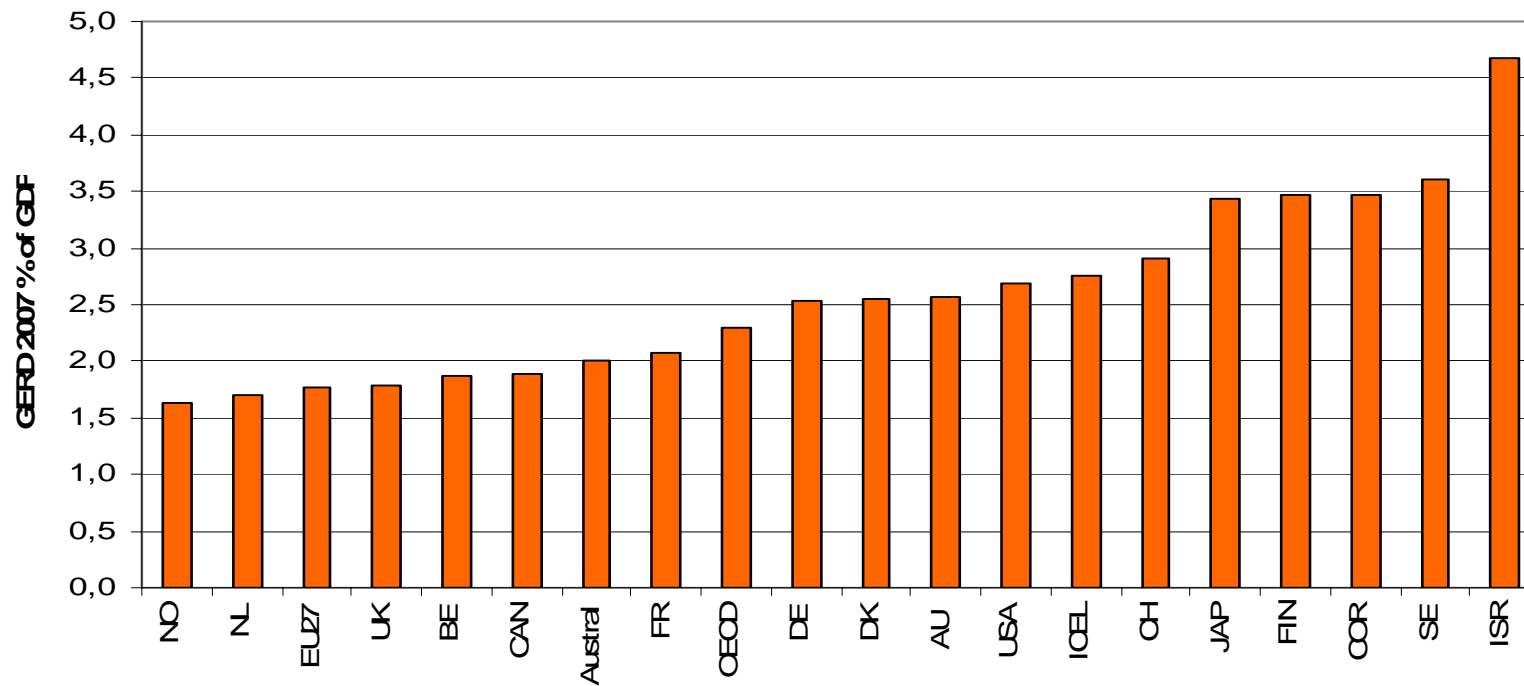
# A boost for research and innovation

Swedish Research  
Policies  
2009-2012



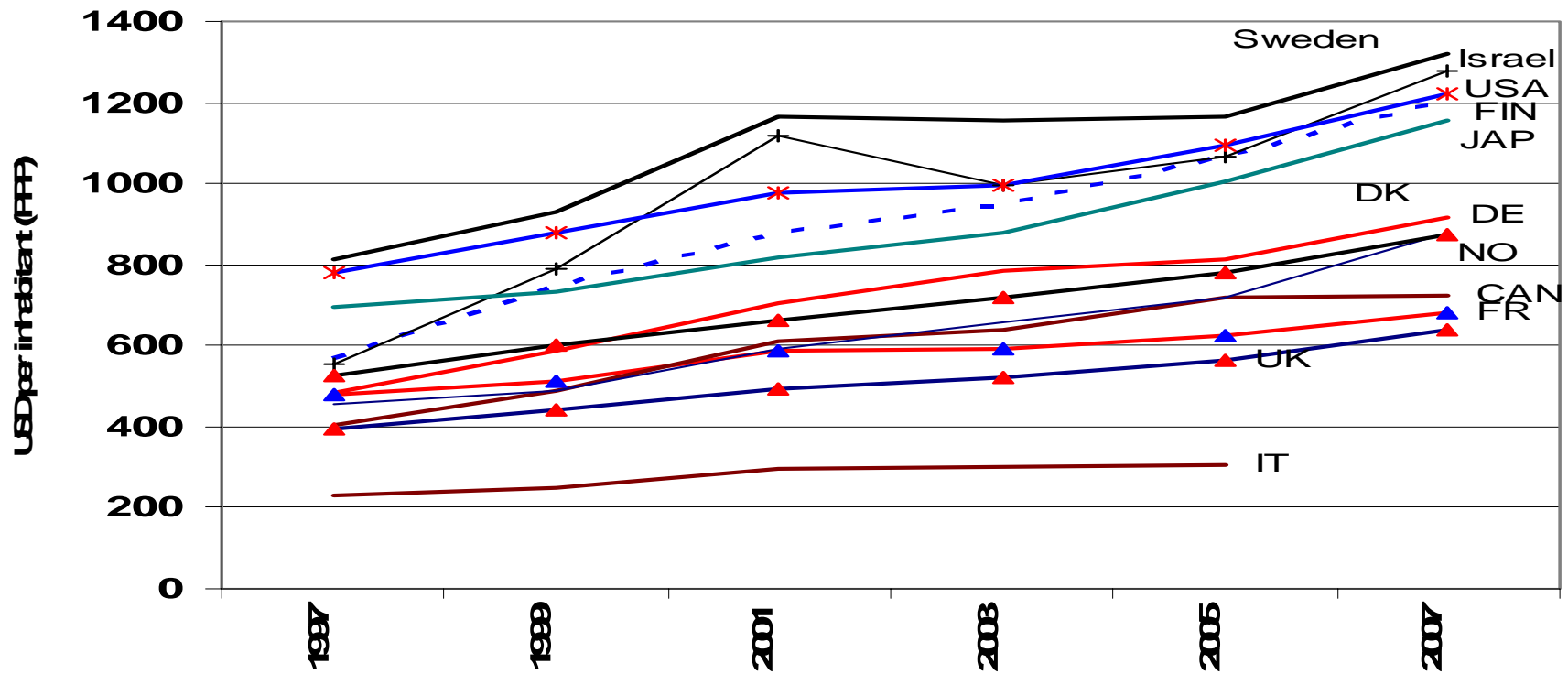
# Total investments in R&D

## 2007, as share of GDP



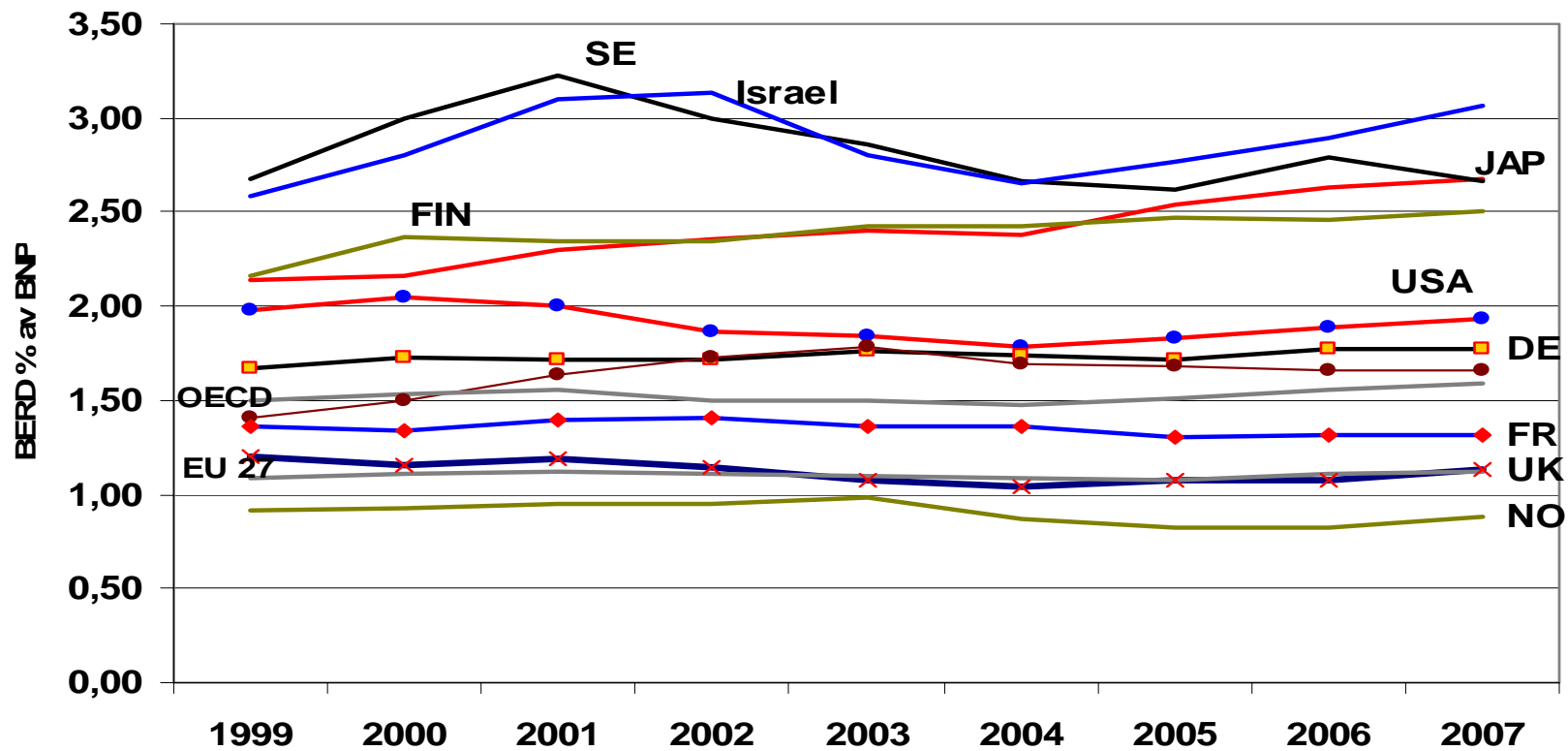
# Total investments in R&D

## USD(PPP)/inhabitant



# Business investments in R&D

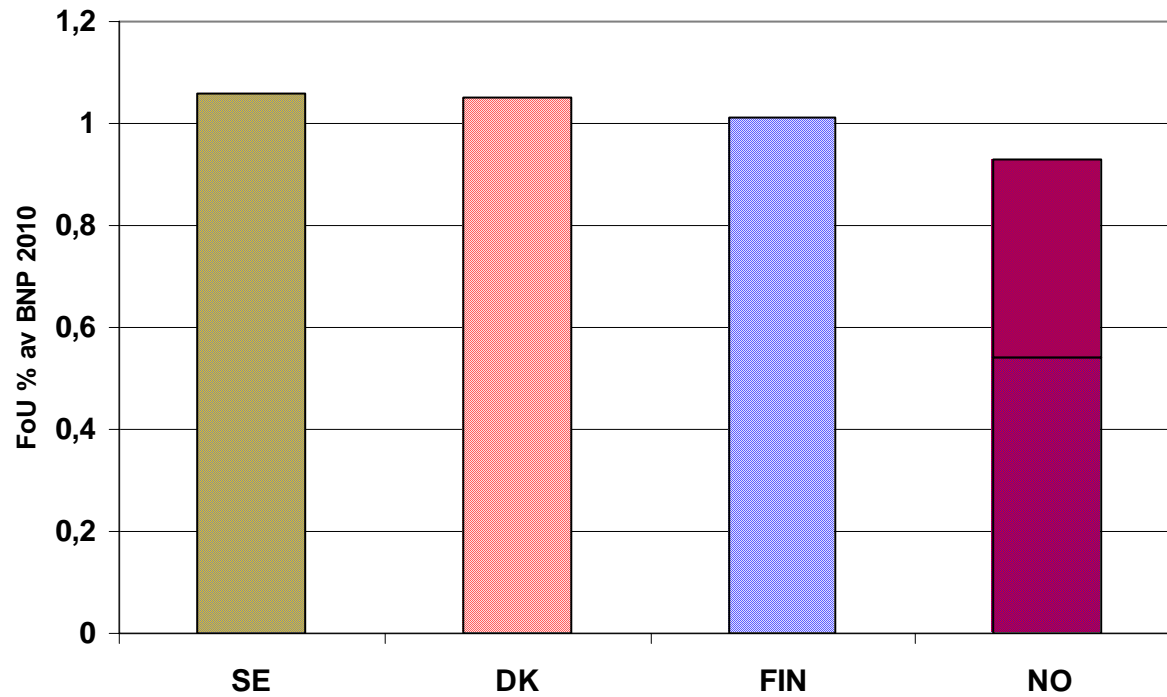
## % of GDP



# Public investments in R&D

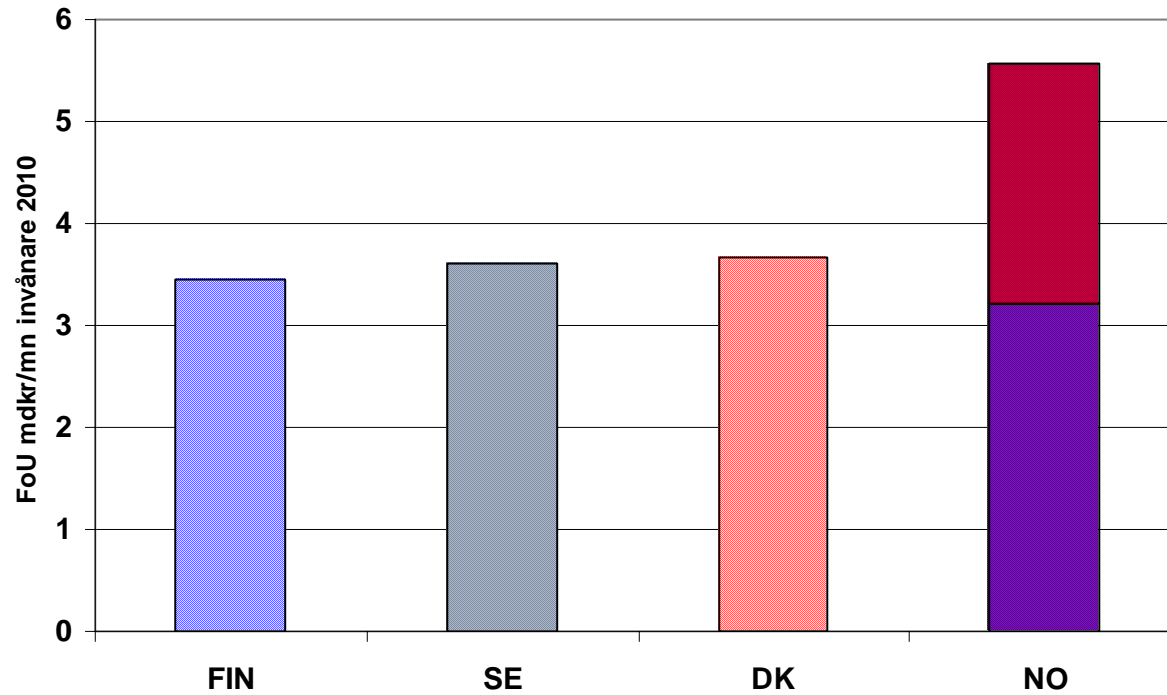
The Nordic countries

% of GDP 2010



# Public investments in R&D

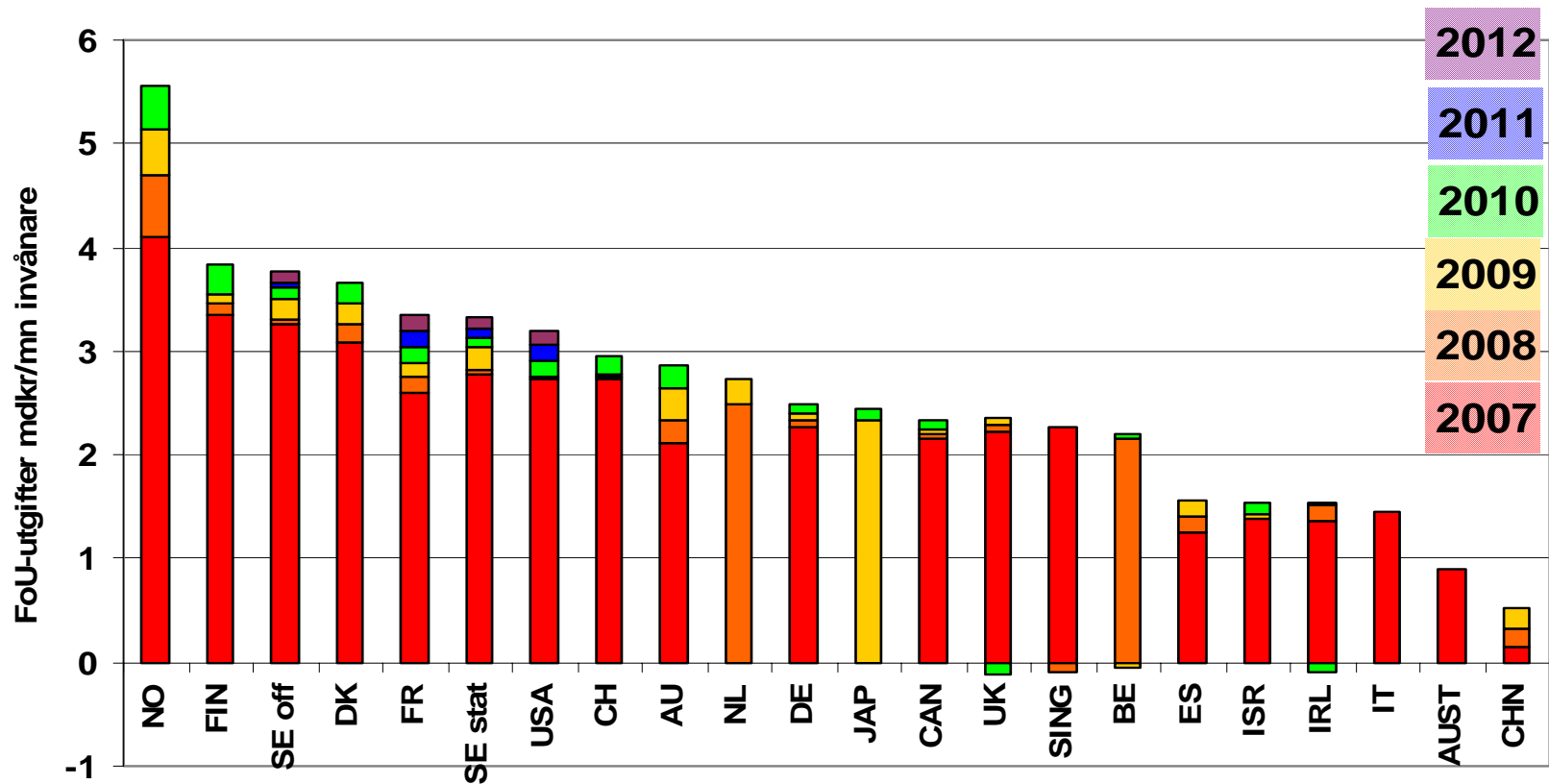
## The Nordic countries per capita 2010



# Public investments in R&D

2007-2012

billion SEK per million inhabitants

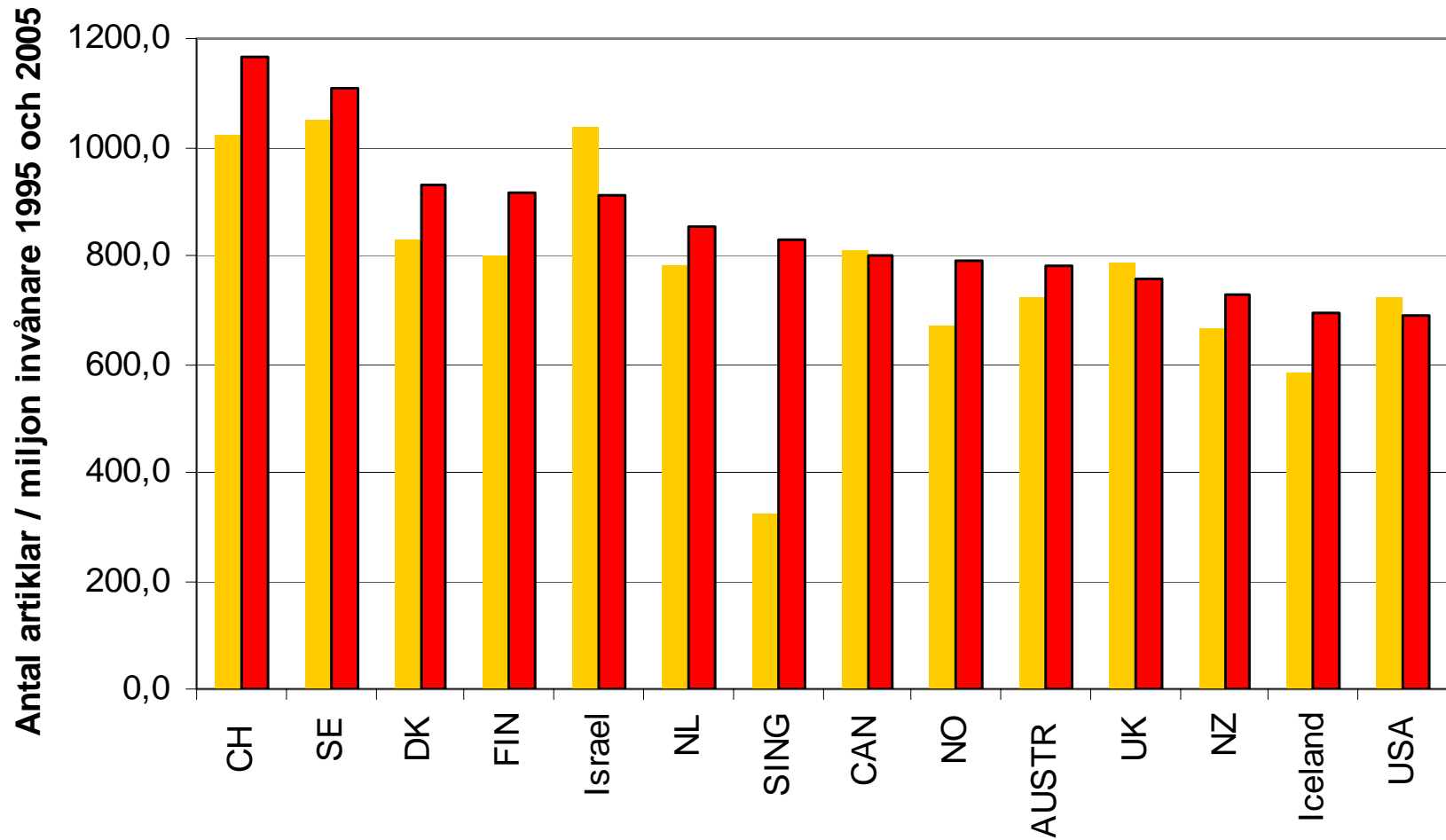


# Investments – Production – Quality

- Among the worlds highest investments in R&D
- Production?
- Quality?

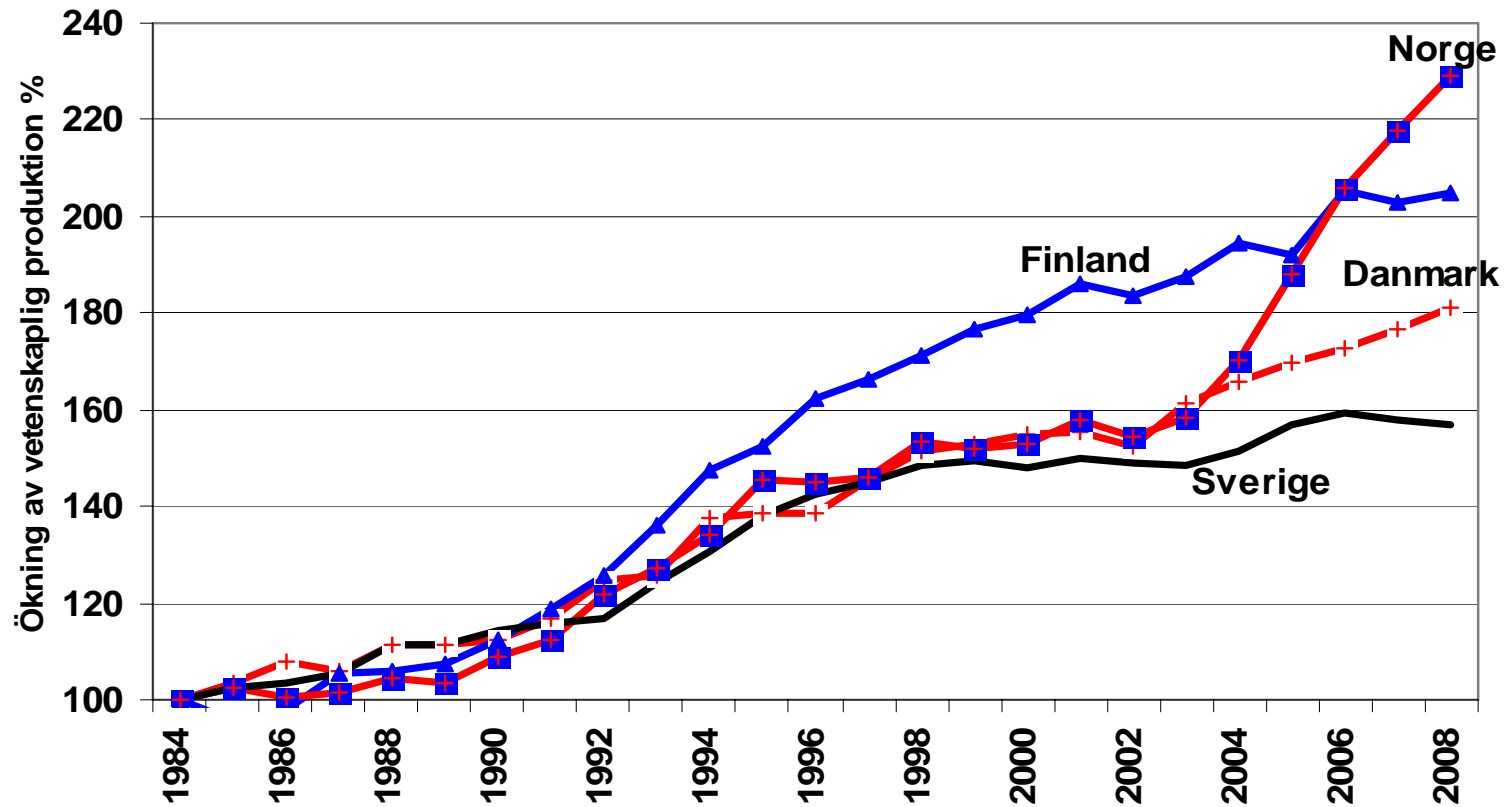
# Production of publications

number of papers per million inhabitants



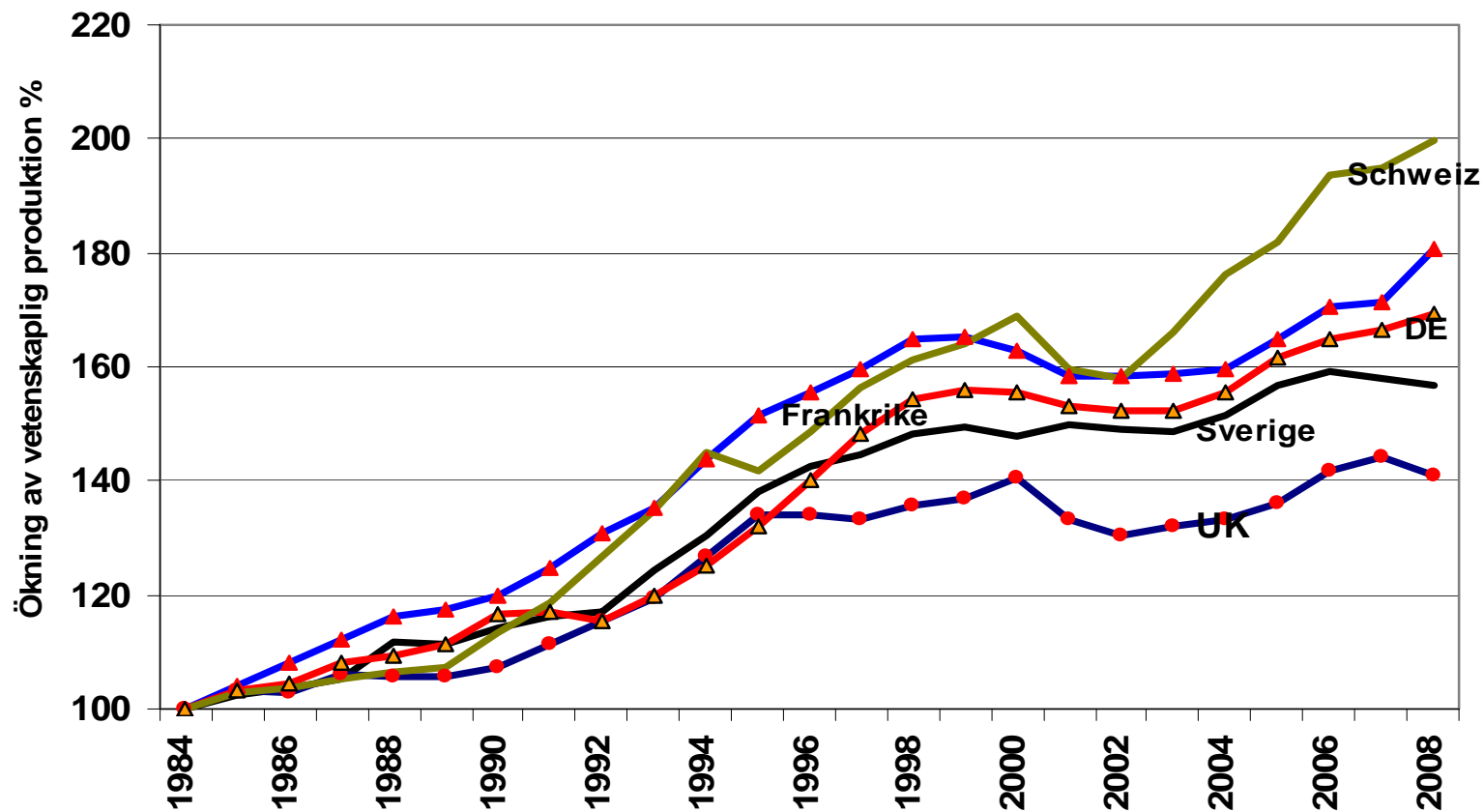
# Production of publications

Increase since 1984



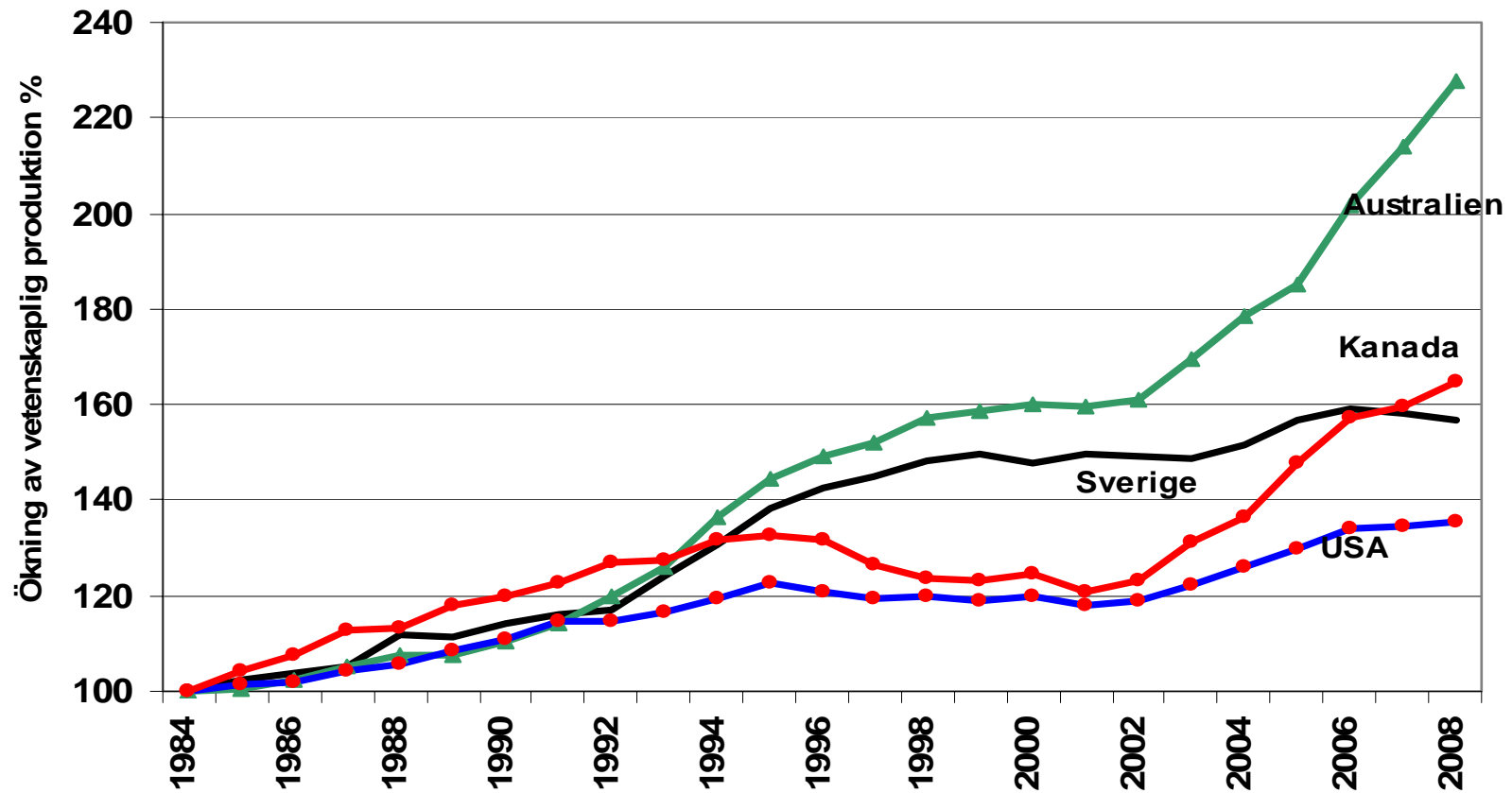
# Production of publications

Increase since 1984



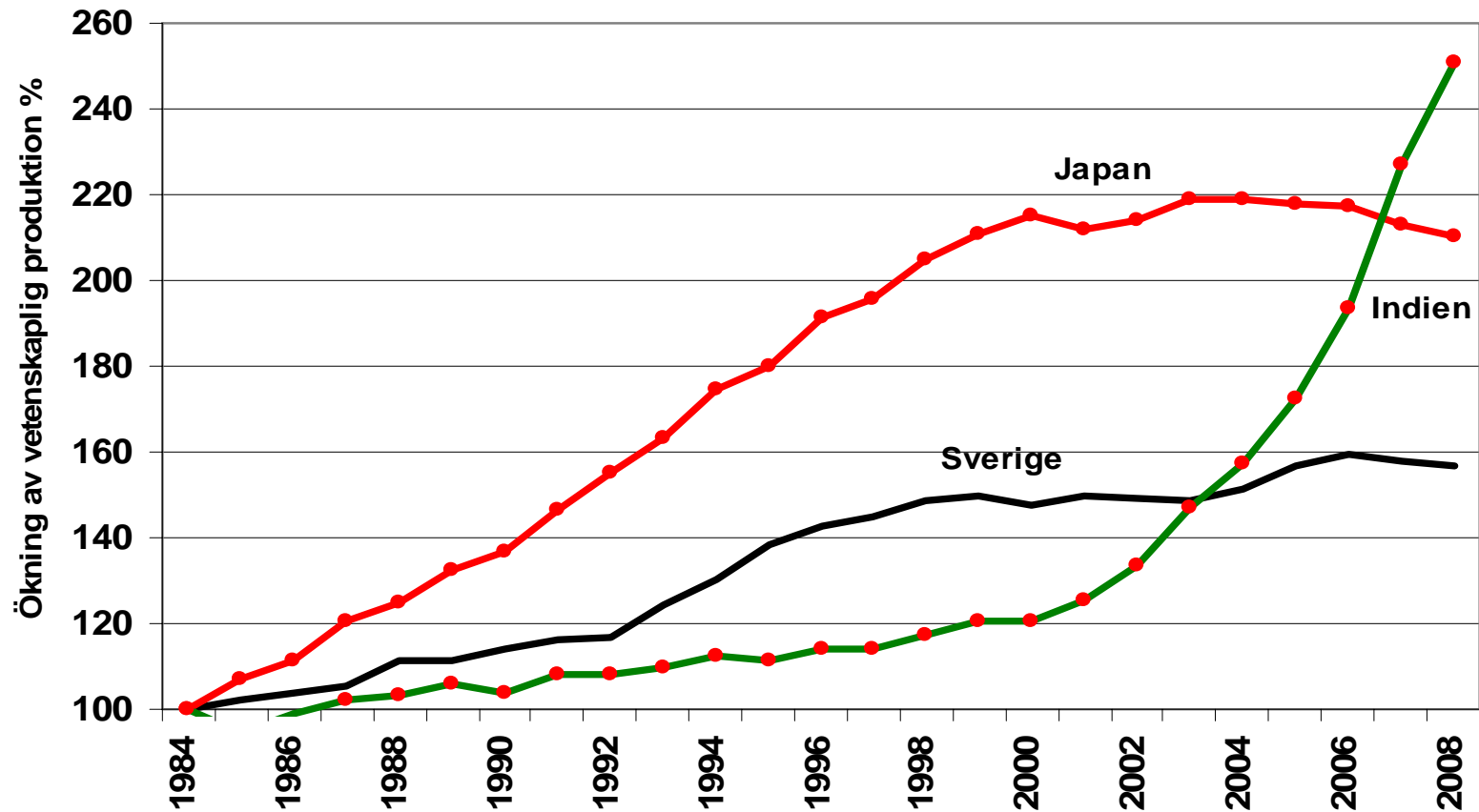
# Production of publications

Increase since 1984



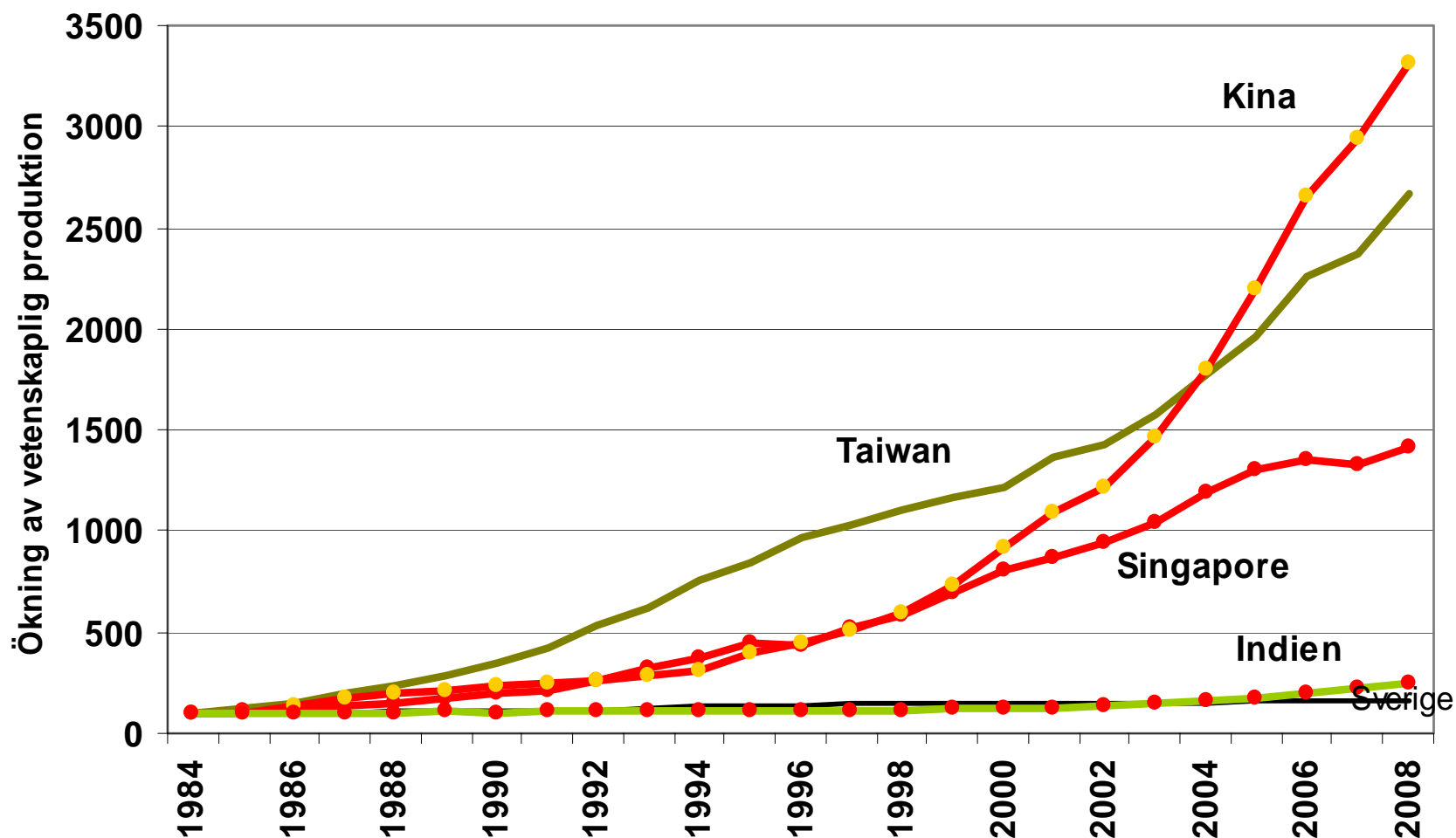
# Production of publications

Increase since 1984



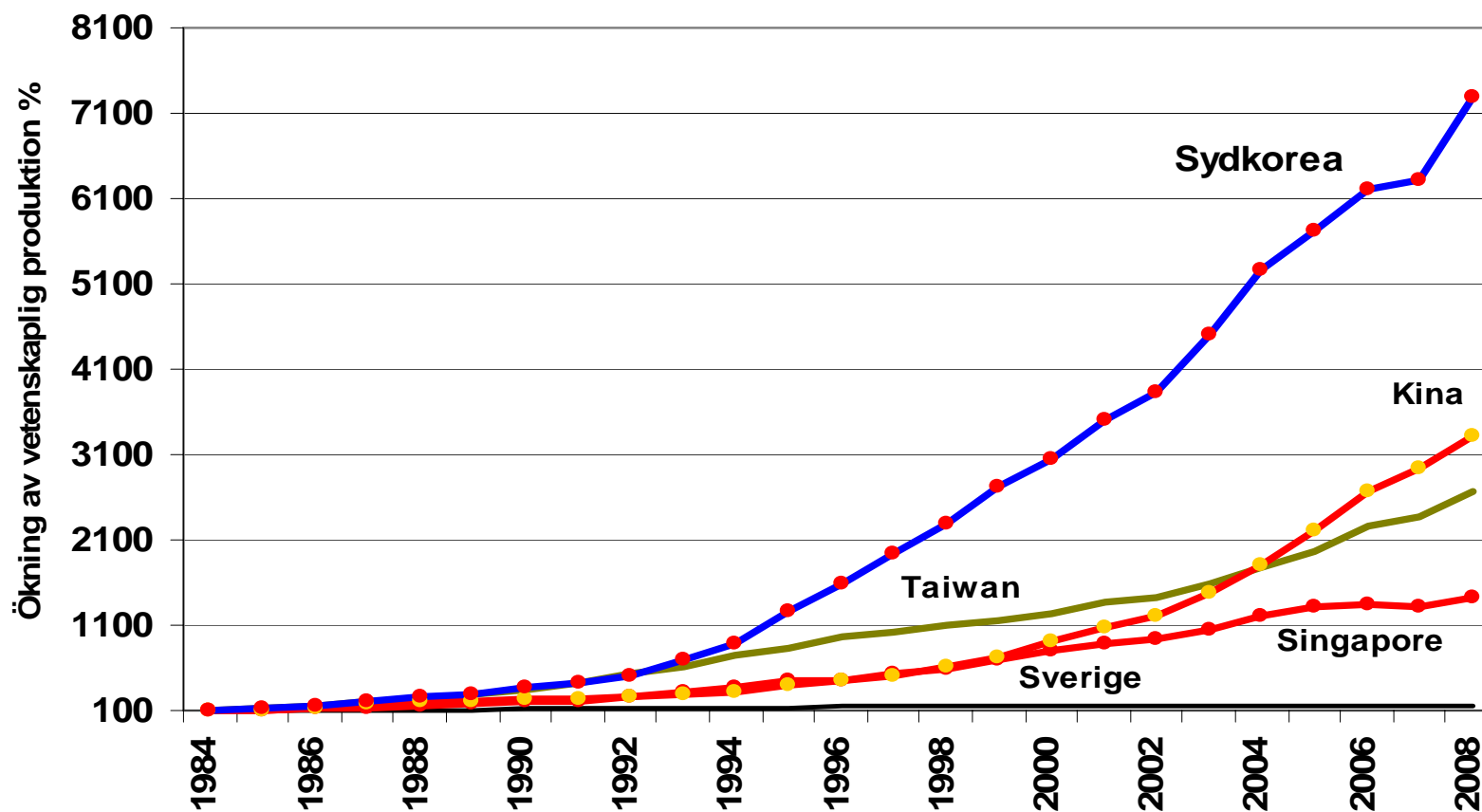
# Production of publications

Increase since 1984



# Production of publications

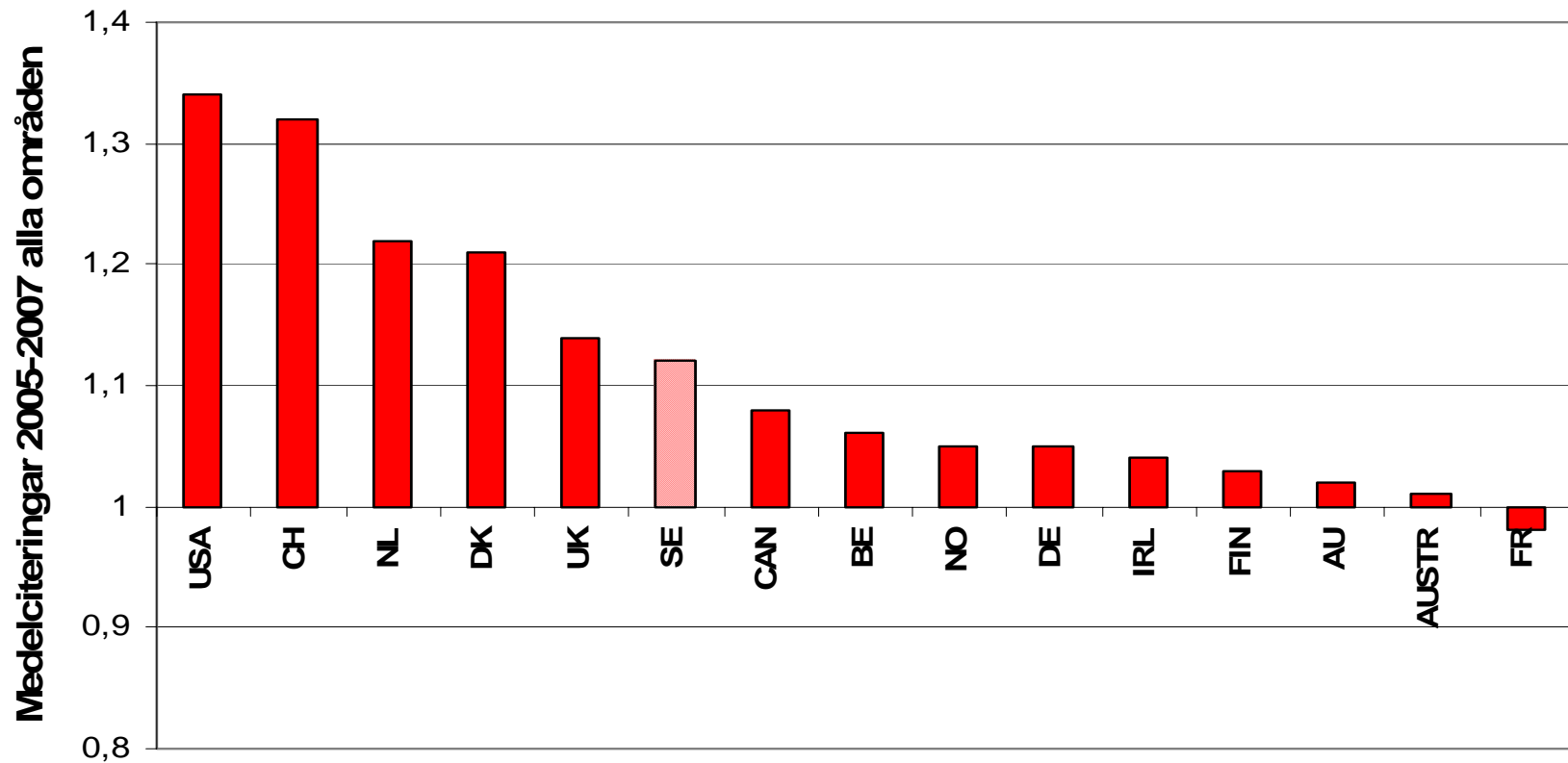
Increase since 1984



# Citations 2000-2007

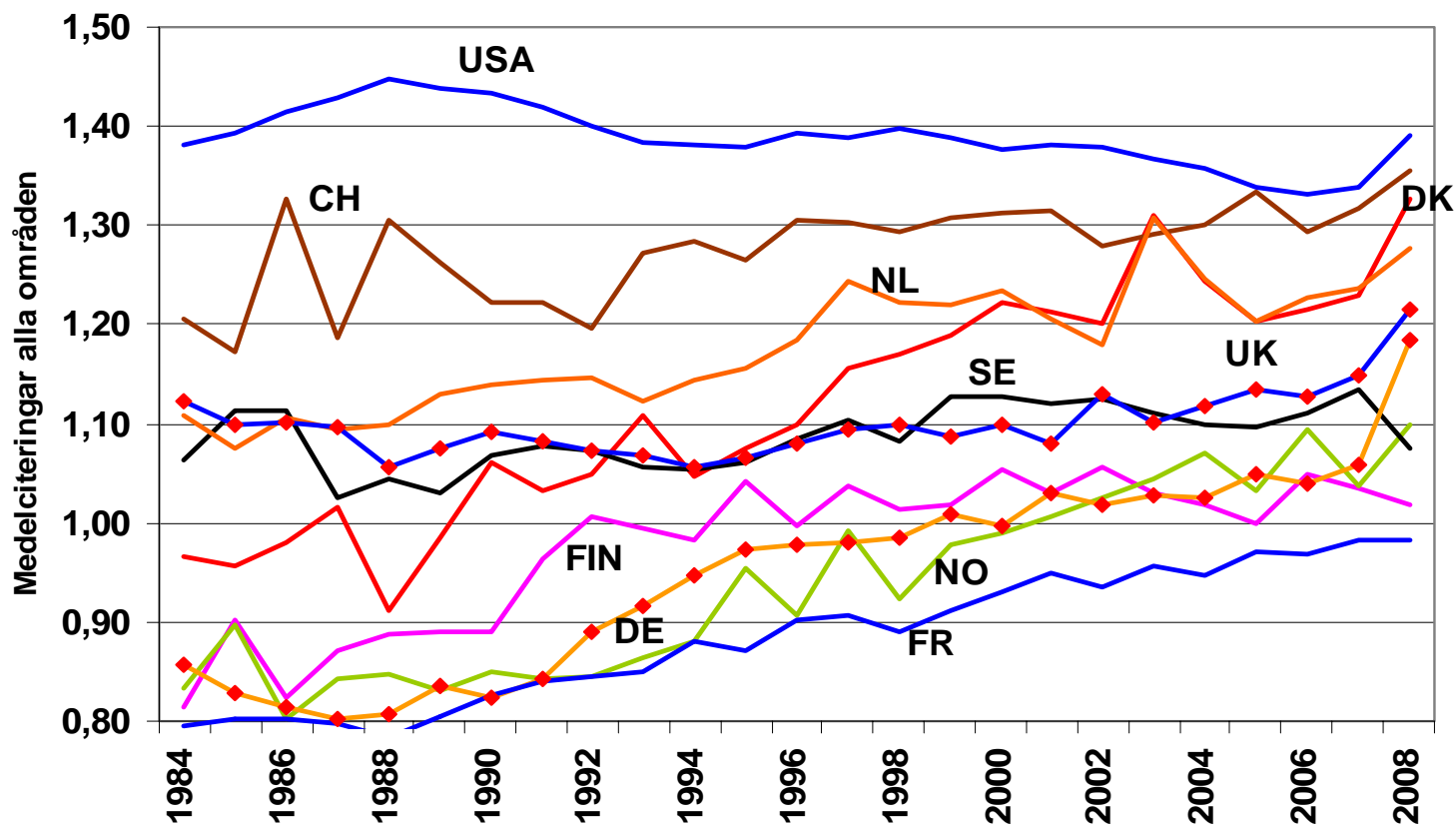
selection of countries

average citations all areas



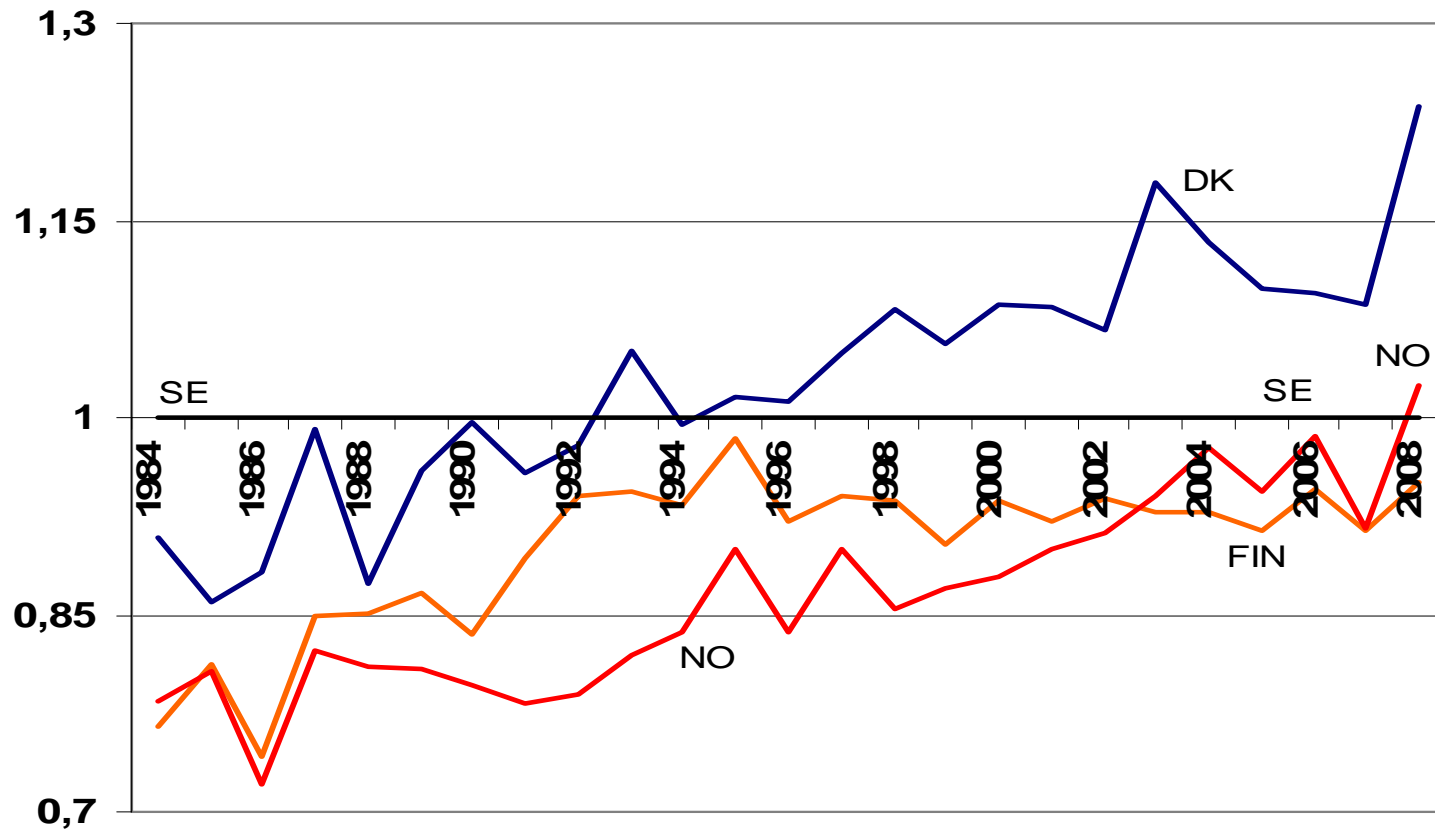
# Citations 1984-2009

average citations all areas



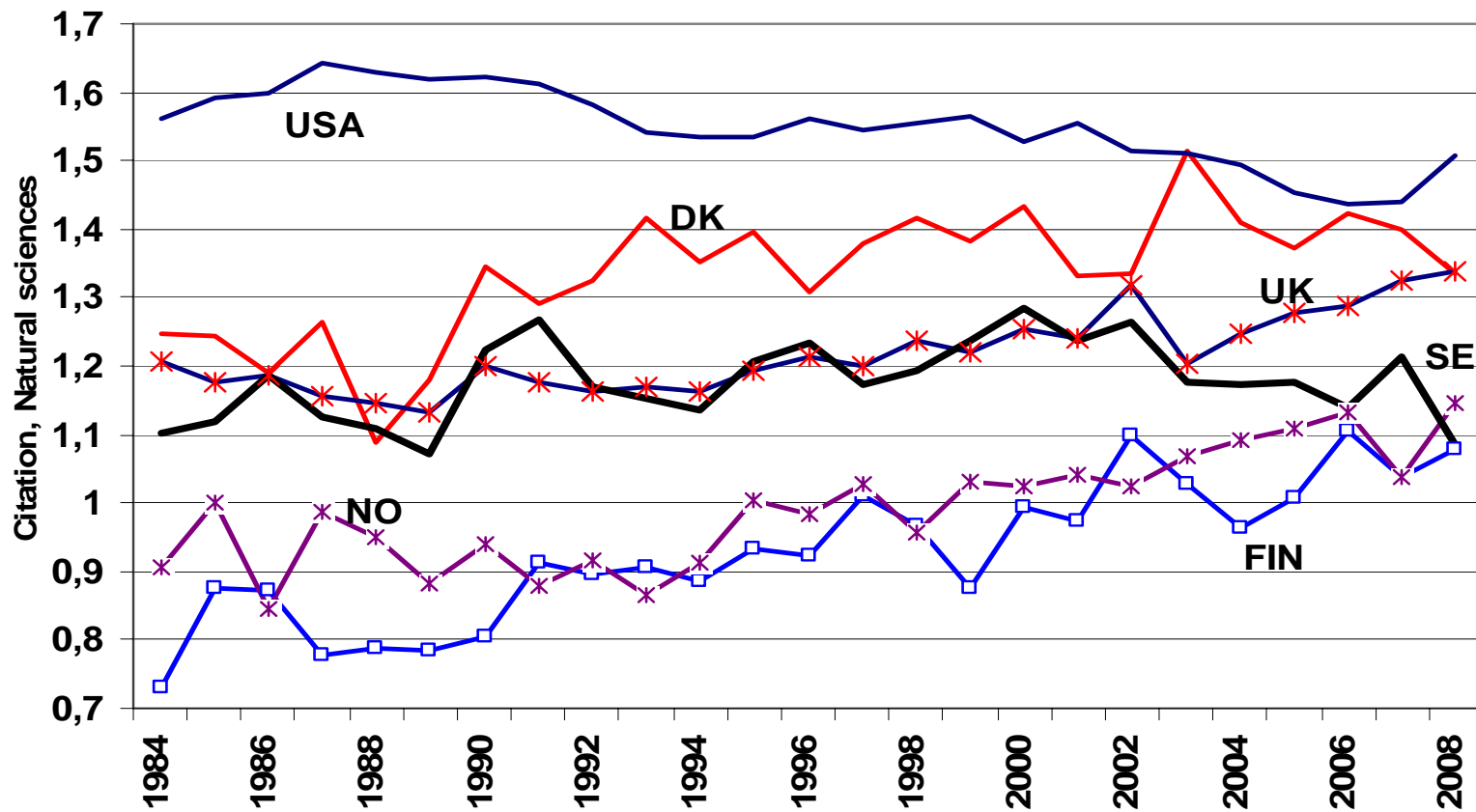
# The Nordic countries

relative Sweden



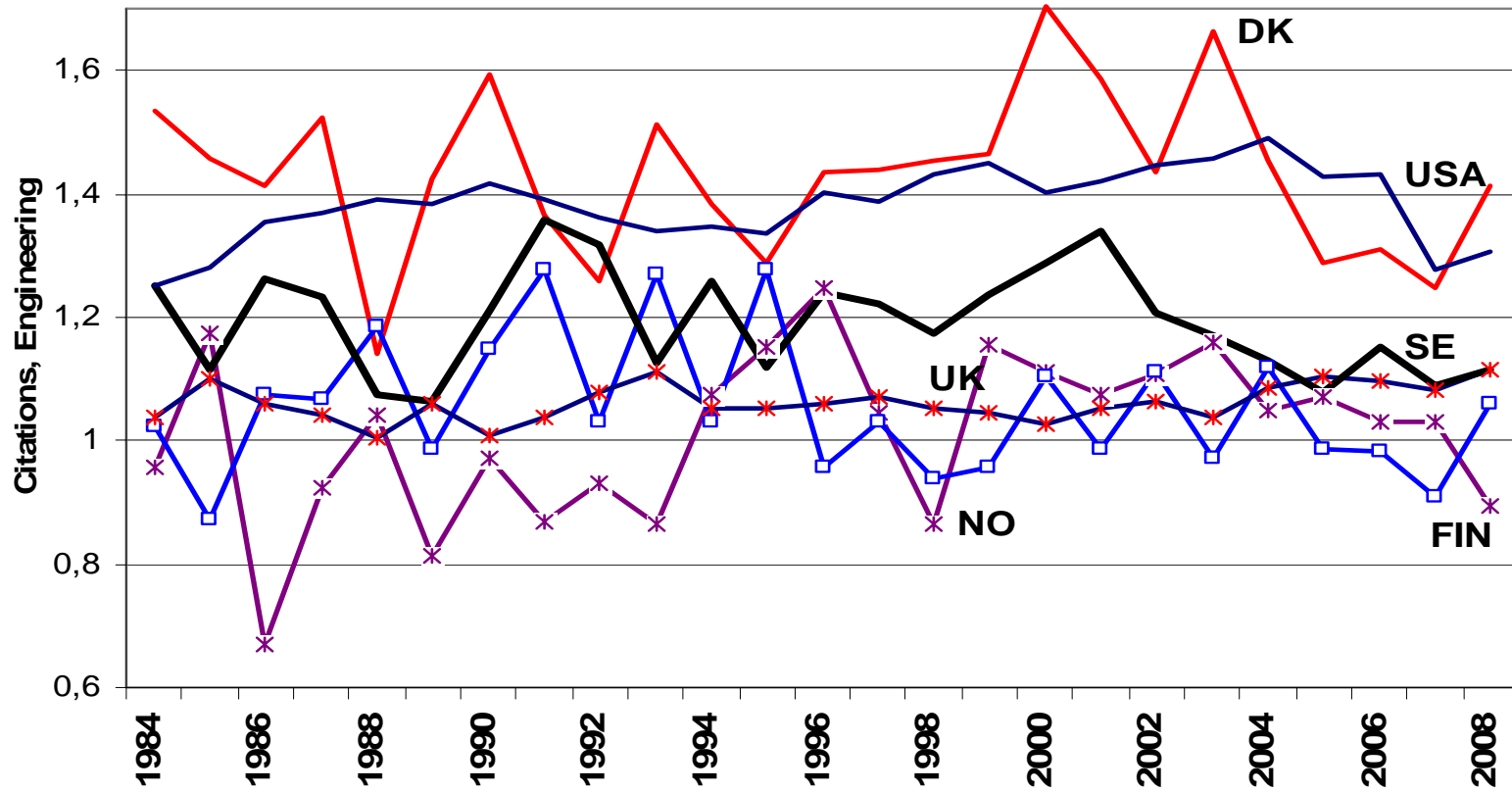
# Citations

## Natural Sciences



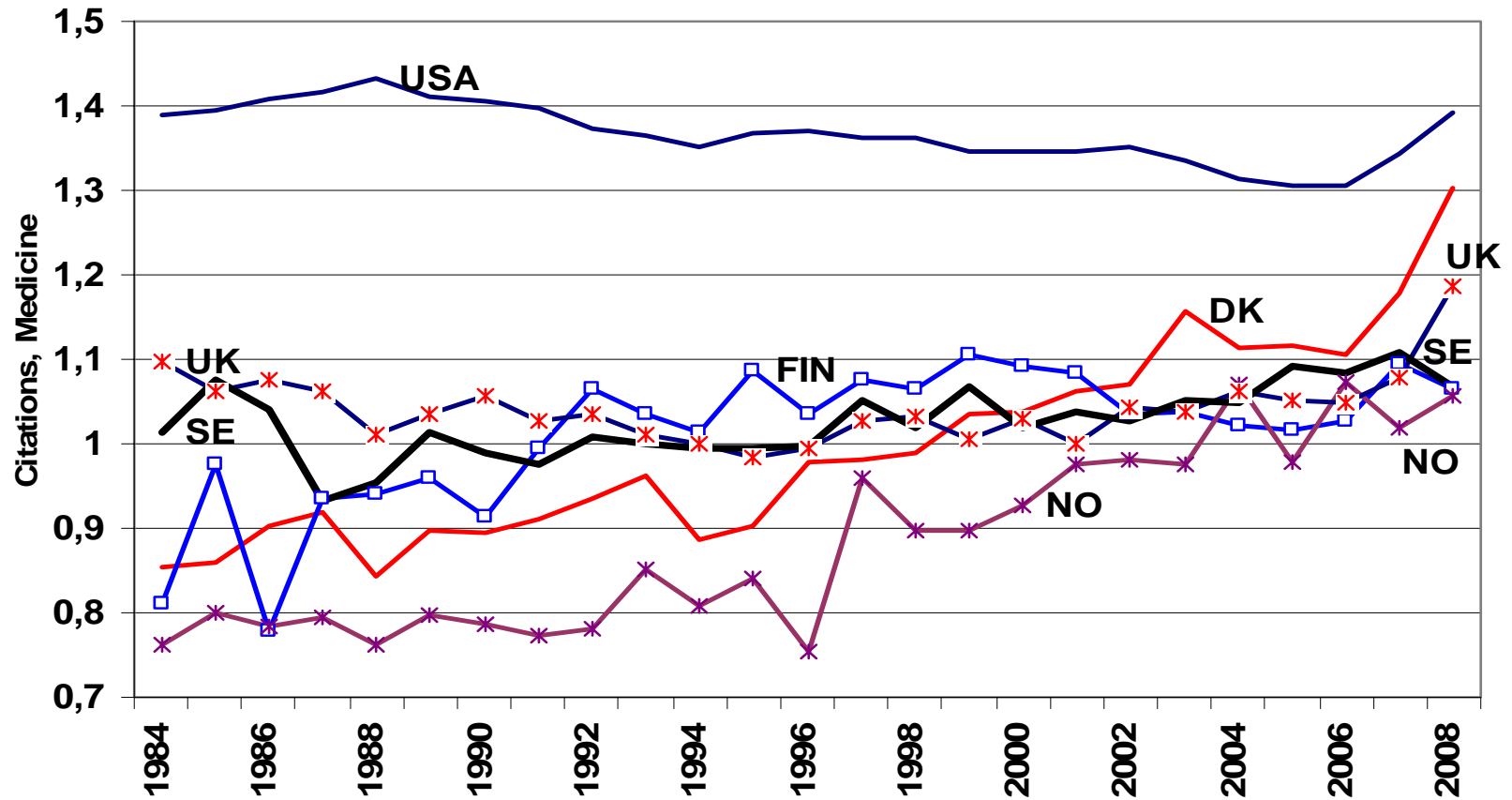
# Citations

## Engineering



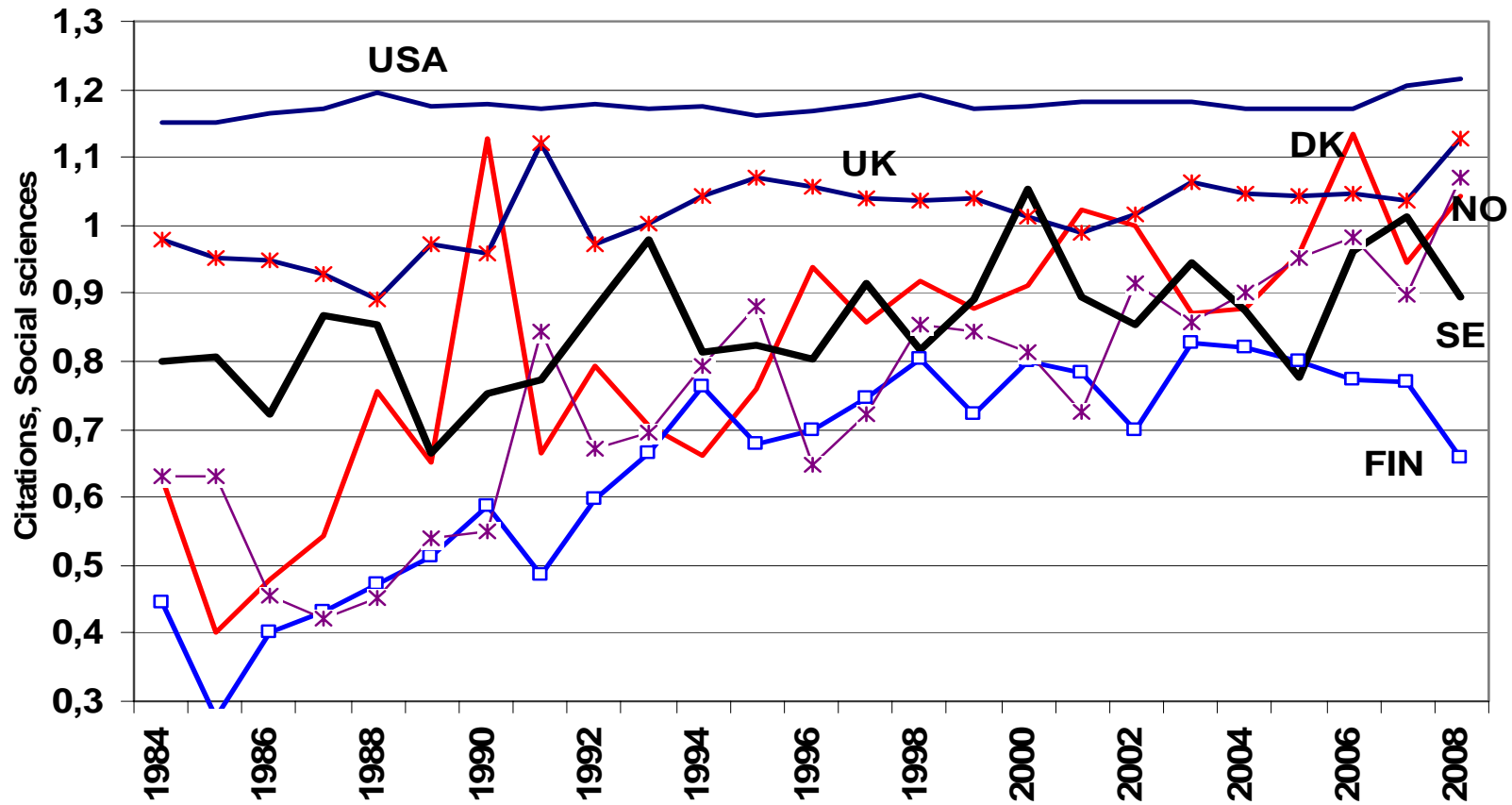
# Citations

## Medicine



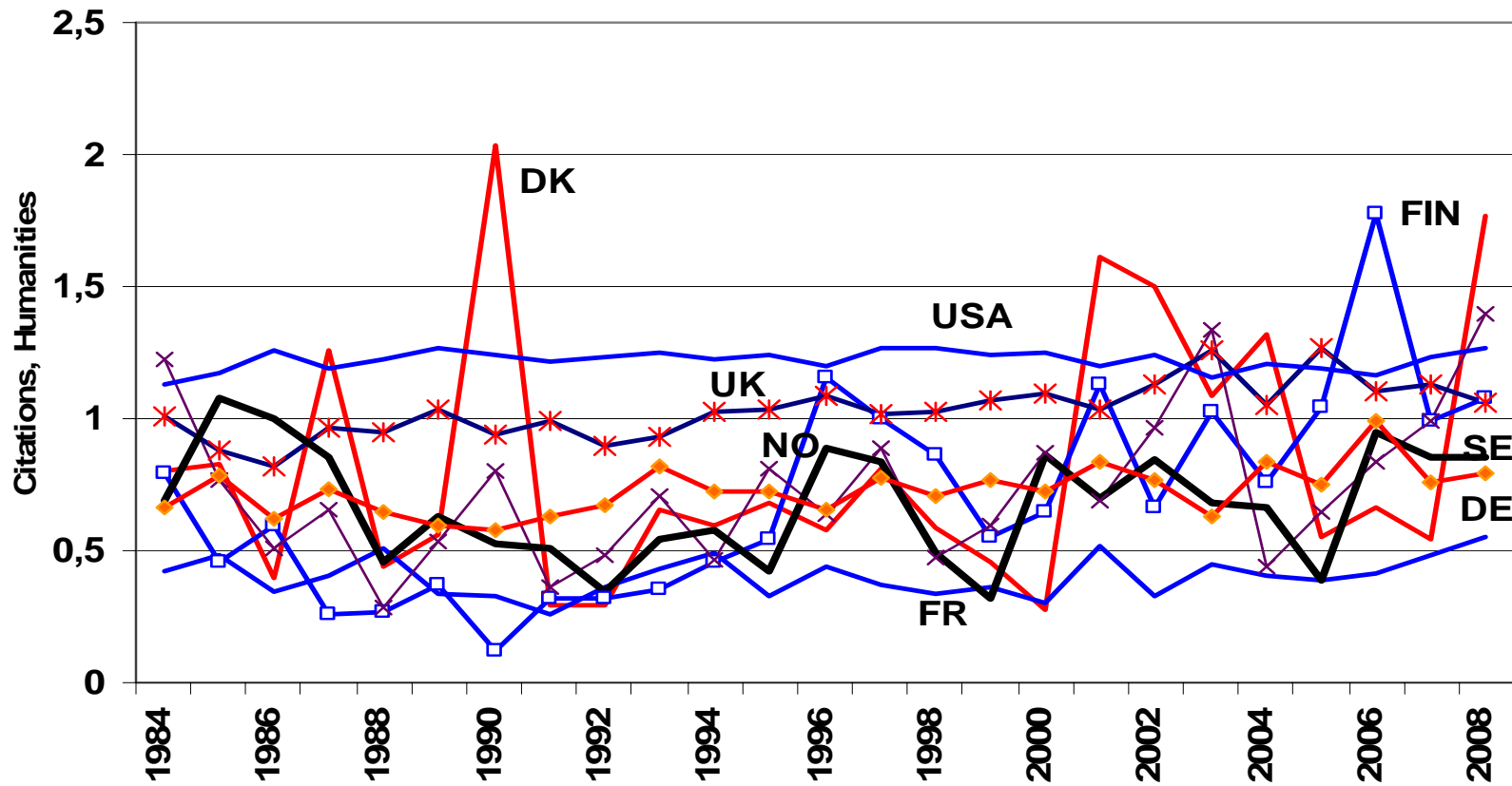
# Citations

## Social sciences



# Citations

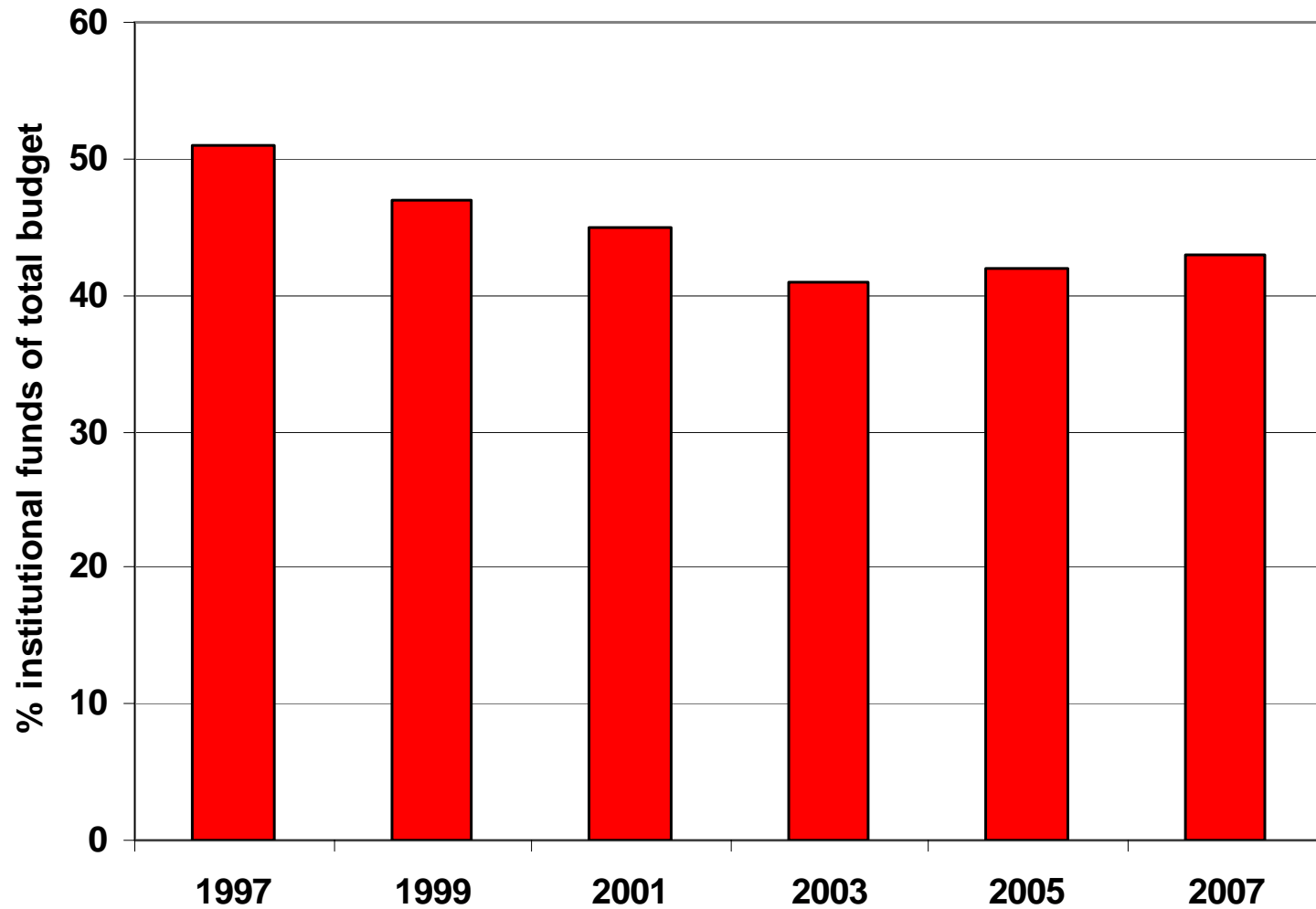
## Humanities



# Situation 2001-2008

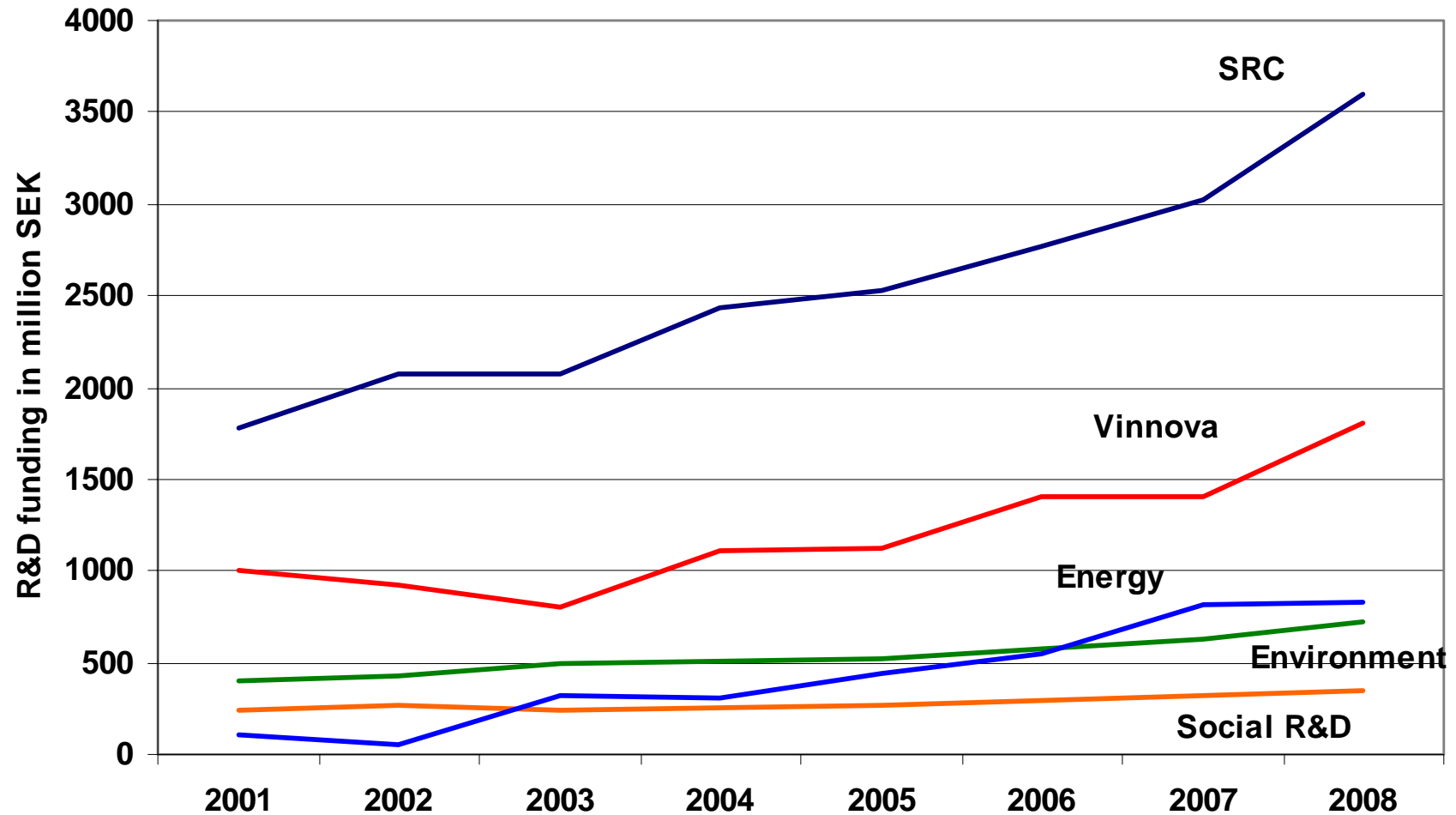
- High funding in international comparison
  - but the number of scientists has increased more than the funding
- High number of triadic patents
  - but decreasing
- High production of papers
  - but read by fewer scientists
- High quality
  - but negative trend

# Institutional grants as % of total budget



# External funding

## budget for Research Funding Agencies



# External R&D Funding

- Quality evaluation/peer review



- Increased quality of projects

But

- Funding for 3 years
- Larger fraction as soft money



- Less risk

# Funding

- Government research budget increases with 20 % 2009-2012
  - University research budget increases with 25 %
- Reallocation of institutional funding by..

# Reallocation of institutional funding

- Baseline 2008
  - 10 % withdrawn
- Funding increases with 15 % 2009-2012
- The 10 + 15 % reallocated each year
  - External funding 50 % weight
  - Production of articles 25 % weight
  - Citation 25 % weight

# 25 Priority areas

1,8 bn/year to:

- Medicine
  - Engineering
  - Climate and environment
  - Humanities, social sciences
- 75 % as institutional funding direct to universities
  - 25 % to external funding organisations

# Priority based on quality

- Two ways
  - Direct grants + 15 %
  - Strategic areas + 12 %

# Critics

- Top-down
- Quality measurements are discriminating social science and humanities
- Large universities are favoured
- Priority areas are not selected in a transparent way

# Implications on the EU-level

- Academic research funding increases with 25 %
- Priority areas are geared towards business needs
- EU-funding ~ 5 % of Swedish R&D funds
- Swedish participation in EU-projects ~ 4 %

# Continued reforms for 2012-2015

- Increased funding of high-risk project
- National elite programme
- Post-docs in business R&D
- More international recruitments
- Increased autonomy for universities

FIN