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# Challenges and opportunities in R&D statistics in Sweden

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# Challenges - opportunities

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- Comparing R&D statistics between countries
- Capturing globalisation
- Response burden and measurement error





# Challenges for R&D statistics

## – comparing R&D statistics

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- The Frascati Manual defines the statistical requirements for R&D surveys – a general understanding that the regulations need to be adapted from time to time
- Growing need to increase the international comparability
- The national systems of R&D show a high degree of variation



# Challenges for R&D statistics

## – comparing R&D statistics

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- How to compare R&D statistics between countries?
- Several aspects to take into consideration when making international comparisons:
  - differences in industry structure and education structure
  - differences in costs/rents for university buildings and the salaries of PhD students.
  - some countries have full surveys, some take data from registers
  - the legal basis of the survey may vary from country to country





# Challenges for R&D statistics

## – comparing R&D statistics

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- What is done?
  - Development of a standard model R&D questionnaire
  - Comparison of research and development in the Nordic countries





# Challenges for R&D statistics – capturing globalisation

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- Different problems to take into account depending on NACE and on enterprise size
- Difficulties in separating extramural R&D from intramural R&D
- International flows of capital in globalised companies



# Challenges for R&D statistics

## – capturing globalisation

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- FATS (Community statistics on the structure and activity of foreign affiliates, EC regulation 716/2007)
- The ‘book-keeping problem’
- Using the enterprises’ investment in a country instead of source of funds – then R&D can be traced to all corners of the world and not just EU/non-EU
- Is a further breakdown of the source of funds from abroad the solution?

# Challenges for R&D statistics – capturing globalisation – example

## BUSINESS ENTERPRISE SECTOR

### TYPE OF FINANCING INSTITUTIONS

FOREIGN BUSINESS ENTERPRISES	82%
enterprises within the same group	..
other business enterprise companies	..
OTHER NATIONAL GOVERNMENTS	8%
HIGHER EDUCATION	..
PNP	2%
EUROPEAN COMMISSION	5%
INTERNATIONAL ORGANISATIONS	2%
N.E.C.	..
FUNDS FROM ABROAD IN BERD	100%





## Challenges for R&D statistics – Response burden and measurement error

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- The ‘book-keeping problem’
- The more questions we put in the questionnaires and the more refined the variables, the more difficulty the company will have answering.
- Feasibility studies

