

Strategic Orientations on a European Level

Common Trends in

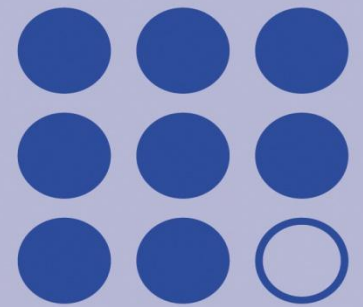
Research

Technology

Innovation

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Alpbach, August 2009



**austrian
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RAT FÜR FORSCHUNG UND
TECHNOLOGIEENTWICKLUNG



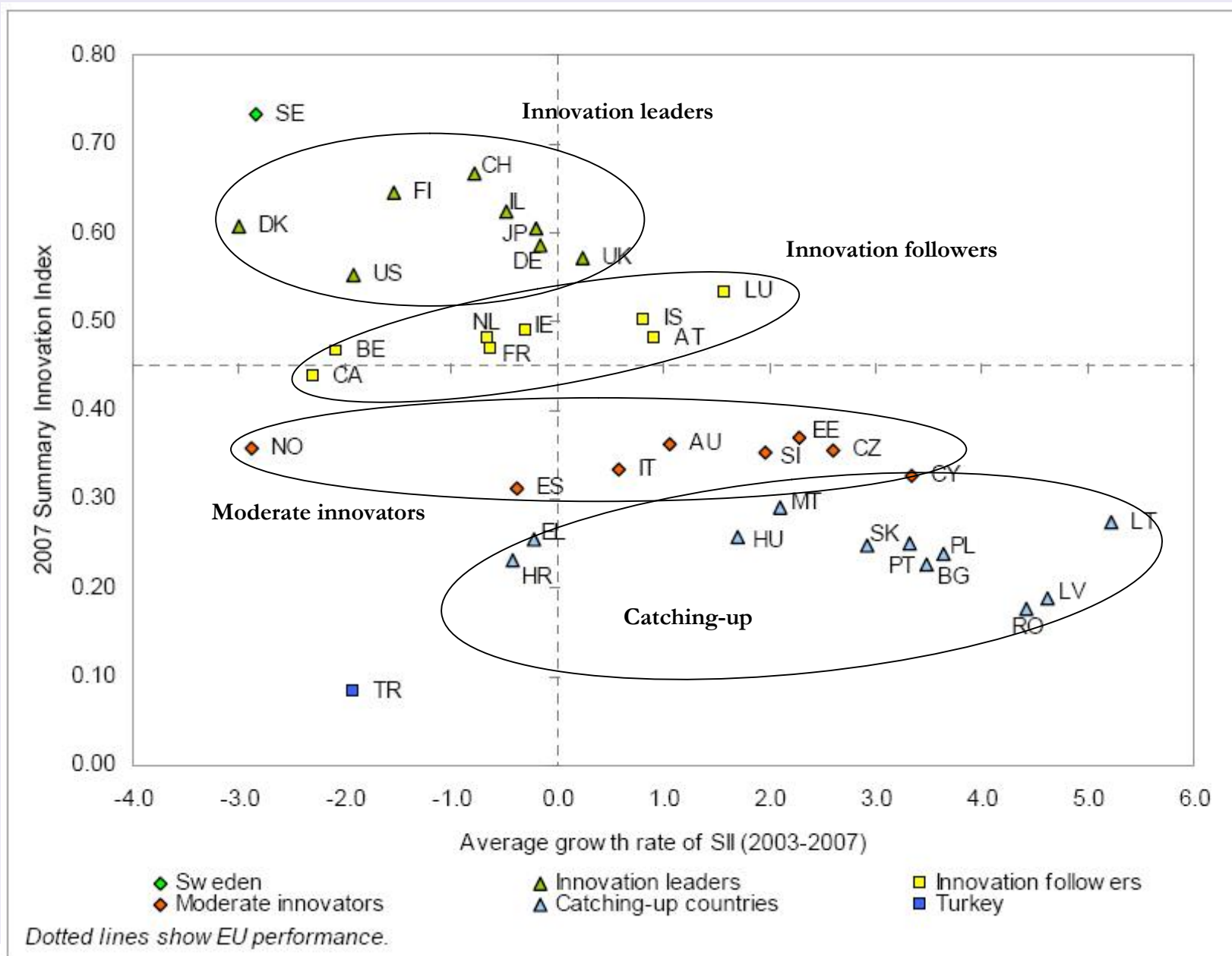
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Common Objectives

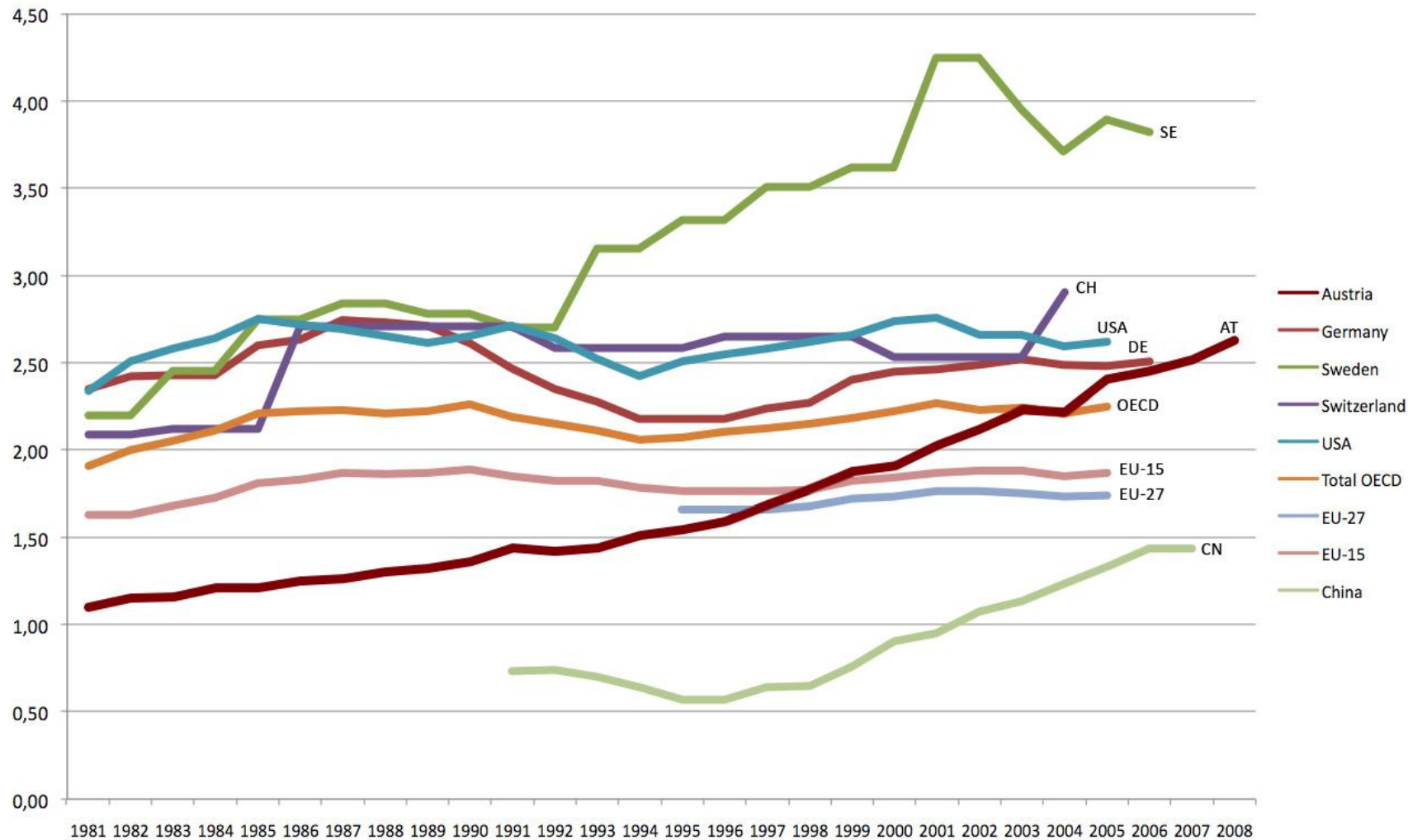


- Education, research, technology, innovation as key policy areas
- People at the heart of a dynamic knowledge-based society
- Sustainable social and economic progress
- Increasing national attractiveness and competitiveness
- Further improving conditions for research (university system)
- Strengthening cooperation between science and industry

The European Landscape 2007



Dynamics of Innovation Development in an International Comparison (R&D Quota as a % of GDP)



Dimensions of RTI-Strategies Reality Check

- **Timing:** Is the RTI System ready to accept a long-term strategy ?
- **Process:** Is the institution in charge able to organise the process and produce a strategy in due time ?
- **Consistency:** Are the strategy segments consistent in themselves ?
- **Completeness:** Does the strategy tackle all relevant segments at system level ?
- **Implementation:** Is there a stable political level to accept and implement the strategy ?

Functions of RTI-Strategies

- Strategies are deemed as guiding framework for national policies that is oriented towards macro-objectives focusing on societal and economic challenges.
- National programming (implementing the macro-objectives into priorities and programs)
- Operation (effective realization of research and innovation)
- Besides the long-term meta-goals, sub-objectives have to be defined and revised on a regular basis to account for changes in the framework conditions.

Guiding Principles

- Barcelona Target as common overall aim
- Defining education and continuing education of human resources as a key asset in the knowledge-based society
- Making structures more flexible (i.e. governance)
- Investing in designated 'Key Areas'
- Increasing mobility / labour market flexibility
- Employing innovation capacity for meeting public objectives
- Acknowledging for the autonomy of the actors of the innovation system
- Funding on a competitive basis as preferred option

Identifying Priorities and Thematic Areas

Based upon the following guiding criteria:

- areas of importance for the national economy and its future development (competitiveness)
- areas with potential for RTI excellence (national strengths)
- areas of relevance for society (mission)

Areas of Action (1/2)

- Indirect support in form of tax allowances and innovation credits (F, DK, GR, NL, GER)
- Human resources in particular increasing the attractiveness of science, brain gain, mobility, lack of “researcher-managers”, improving education (GR, NL, F, GER, PL)
- Co-operation of public and private RTI (GR, SU)
- Strengthening and enhancing research infrastructures and developing roadmaps (e.g. F, SU, GR; ESFRI)
- University reforms (DK, SU)

Areas of Action (2/2)

- Evaluating the innovation/funding systems (DK, F, SU)
- Dialogue of Science and Society (UK)
- Striving for excellence (GER, UK, PL, GR)
- Multilevel governance (GR)
- Innovative public procurement (UK, F)
- Entrepreneurship (start-ups, spin-offs, young enterprises, SMEs, e.g. GR, NL)

The Crisis as Short-term Challenge (1/2)

General topics:

- **Stick to the long-term strategy and do not change orientation**
- Maintain the Barcelona (3%) objective – adjust the public / private ratio

National measures:

- **Belgium:** recovery plan including tax deduction on wages of scientists of minus 15% to keep R&D divisions of firms in the country; public R&D spending 7% per annum (nominal value of 5%) until 2010; innovation was broadened from technological to non-technological; additional budget of 200 Mio. Euro for education and R&D-funding;
- **France:** R&D budget is maintained; system evaluation ongoing; tax incentives changed; now, research credits are no longer
- **Germany:** three fields of action:
 - (1) number of new students at universities,
 - (2) prolongating excellence initiative with budget increase of 30%, i.e. 2.7 Mio. Euro, over next 5 years,
 - (3) improving financial structure of funding agencies from 3 to 5% increase p.a. (18 Mio. Euro) from 2009 to 2018.

The Crisis as Short-term Challenge (2/2)

- **Luxembourg:** 2009 elections thus facing insecure future, not sure, whether 30% increase in R&D expenditures p.a. can be sustained, but budget will be going up; law modifying framework for private sector research.
- **UK:** funding for scientific research protected for the next year. Concerns that major international companies will move abroad thus looking for respective measures.
- **Austria:** five points to be minded:
 - (1) do not change long-term strategies;
 - (2) change from input to more output oriented criteria to bring more efficiency into the system;
 - (3) change from 1/3 public funding and 2/3 business funding to half / half in the years ahead until 2013 or 2014;
 - (4) fundamental and applied research are strong pillars of university and private research. Between these two sectors is the important area of cooperative research to be strongly developed under the roof of the universities based on the demand of the business-side;
 - (5) the economic crisis is a world-wide structural crisis, this entails growing importance of social science; ethic and value changes will also have an influence on the structure of sciences.

Conclusions

- Basic and applied research should coexist (synergy)
- Scientific excellence, and scientific and social recognition constitute the cornerstones of science
- New roles for the main actors of RTI policy taking into consideration the competitiveness, international environment and collaborations, the attendance in national and European networks