Geographic distribution of excellence science and its impact on innovation

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Why invest in public research

• Knowledge generation

• Higher education

• Absorptive capacity

• Societal and socio-economic impact
  ✓ (radical) innovation in high tech sectors
  ✓ innovation in non high tech sectors
Excellence and impact

Literature suggests a link between scientific excellence and economic impact, e.g.:

• Countries with a strong science base tend also be the countries with strong technological performance (Jonkers and Sachwald, forthcoming)

• Highly cited patents tend to refer relatively often to highly cited publications (e.g. Tijssen, 2016)

• Successful high tech start up formation around universities with “star scientists” (Zucker and Darby, 2003)
Shifting Balance?

Jonkers and Sachwald (forthcoming)
Scientifically lagging regions

- Unrealistic to become scientific powerhouse in short term?
- Global research agenda vs domestic relevance
- Good quality research outside top 10% also important:
  - Applied research with impact on (incremental) innovation outside high tech sectors
  - Absorptive capacity
  - Higher education / skill formation
- Seek industrial specialisation outside high tech sectors or niche areas where competitiveness is still possible
How to improve the science base

- Increase funding levels
- International collaboration: FP participation, Stairways to excellence, seal of excellence
- Improve governance
- Explore e.g. performance based funding systems?
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