



***Geographic
distribution of
excellence science
and its impact on
innovation***

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the European Commission's
in-house science service



ec.europa.eu/jrc

Why invest in public research



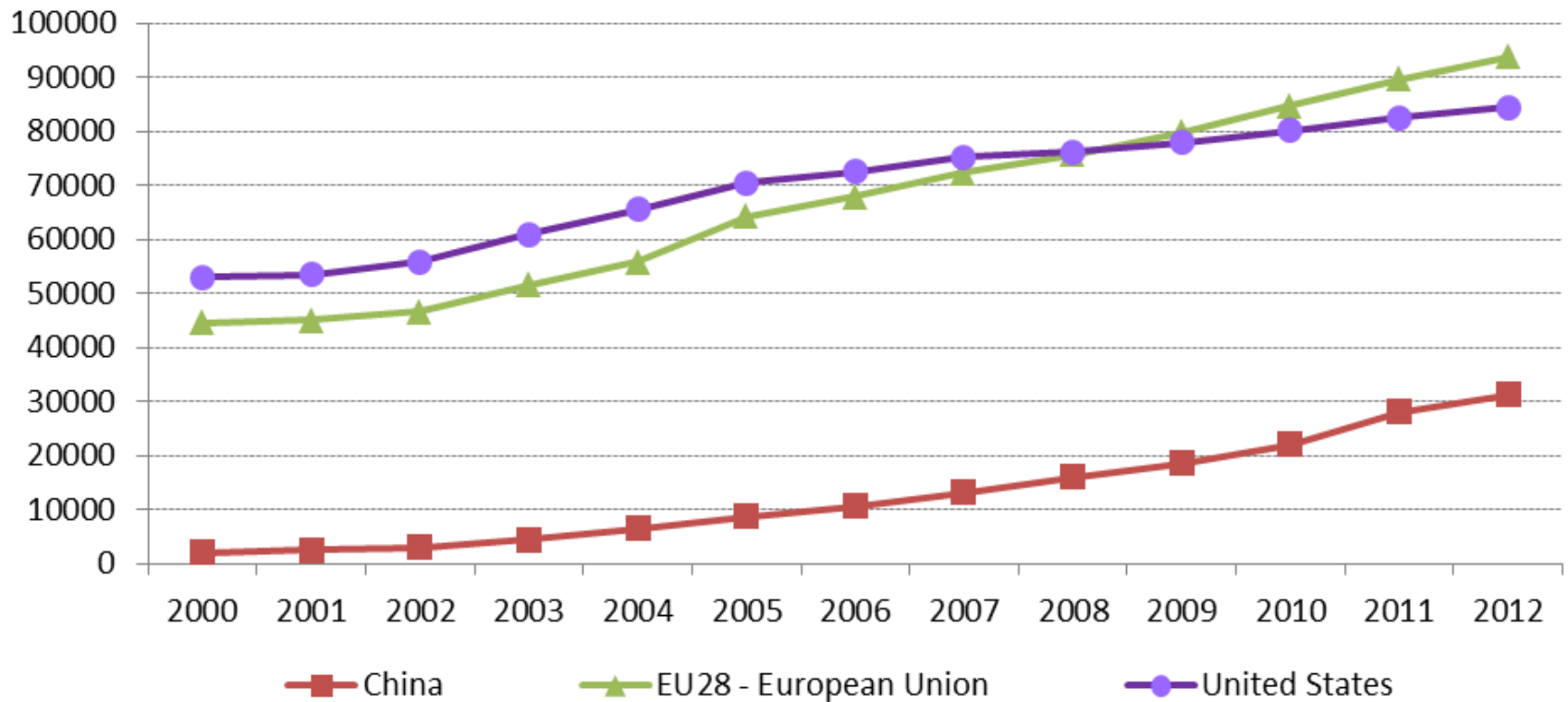
- Knowledge generation
- Higher education
- Absorptive capacity
- Societal and socio-economic impact
 - ✓ (radical) innovation in high tech sectors
 - ✓ innovation in non high tech sectors



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 ?



JRC SCIENCE FOR POLICY REPORT

Research Performance Based
Funding Systems: a Comparative
Assessment

Koen Jonkers & Thomas Zacharewicz

2016





<https://rio.jrc.ec.europa.eu/>

A screenshot of the RIO website homepage. The top navigation bar is blue with white text for "Home", "Country analysis", "Library", "Statistics", and "About". A search bar is on the right. Below the navigation bar, there is a paragraph of text describing the RIO initiative and the Horizon 2020 Policy Support Facility (H2020 PSF). The main content area features a large banner image of a desk with a coffee cup and a report titled "RIO SCIENCE FOR POLICY REPORT RIO COUNTRY REPORT 2015". Below the banner, a text box states "The RIO Country Report 2015 is now available" and provides a brief description of the report's content. At the bottom, there is a map of Europe and a row of buttons for "Home", "About", "Library", and "Statistics".