Indicators and the evaluation of research performance .. and of research policies

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Outline

1. Bibliometric indicators
2. Efficient research systems and the role of evaluation
3. Netherlands research evaluation system
4. Mission orientation and performance
5. Conclusions
The debate about (bibliometric) indicators

• Are indicators reliable and especially, are they valid?

• Systemic (perverse) effects and playing the indicators:
  • Citation clubs?
  • Publishing more but less good?
Citation clubs

- Italy: citations are important for careers since early 2010
  - Inward orientation grows strongly
  - Claim: citation clubs
Citation clubs 2

- Convincing proof?
  - Timing
  - Effect on national performance?
  - Can be detected $\rightarrow$ correct bibliometric indicators for this behavior

Van den Besselaar, HCER
Do bibliometric indicators have perverse effects?

• The case of Australia
  • Australia introduced funding partially based on number of international publications.
  • Criticism: lower quality as unintended effect
    (Butler, Research Policy 2003)

• However: this is not the case – quantity and quality both increased
  • Stimulating productivity worked well
    (Van den Besselaar, Heyman, Sandström, Journal of Informetrics 2017)
Evaluation and efficient research systems

• Efficiency = increase of output by increase in input

• Indicator for relevant output: top 10% cited papers

• Indicator for input: funding

• Compare different national research systems: what characteristics relate to efficiency?

• Literature:
  • Competitive funding
  • Autonomous institutions
Efficiency by autonomy and competitiveness

Van den Besselaar, HCERES séminaire, Paris, 17-18 Sept 2019
What improves efficiency?

• But data suggest that efficient research systems have:
  • Not too much competitive (project) funding
  • Not too much autonomy
  • National ex-post evaluation system

• Ex-ante selection and evaluation does not work well
• but on ex post accountability and evaluation does
Netherlands: standard evaluation protocol since the late 1980s

• Universities have the lead, but protocol (SEP) needs to be followed

• Evaluation of output, impact, societal impact and sustainability of research programs

• Self-evaluation (with bibliometric indicators) as input for international evaluation committees

• No real funding impact (redistribution)

• But a competitive culture

• High level and increasing output an impact
Growth of top cited papers 2000-2010

Share top 10% cited papers (articles) by country

Van den Besselaar, HCERES séminaire, Paris, 17-18 Sept 2019
Mission orientation 2000-2010

• Did not work:
  • The share of most focal areas in Dutch research output did decrease

• Why?
  • Complex funding system
  • Researcher driven model remained dominant – ex ante steering failed
  • Money ended at other places than intended

Van den Besselaar & Horlings, Focus and Mass report (in Dutch)
Mission orientation
2011-now

• Strong top-down policy
  • large among of the public funding
  • economically defined
  • innovation driven
  • consortia, companies in the lead
  • (some would say: subsidizing the large companies)

• Decline of Dutch research performance (next slide)
• Why: too much *ex ante* steering
Some lessons

• Bibliometric indicators are useful

• Ex ante policies seem contra-productive
  • Mission orientation at national level
  • Autonomy university management with its top-down priorities
  • Too much ‘competitive’ money with ex ante selection by councils
  • Decision makers cannot really oversee where the money should go

• Ex post research evaluation systems are important
  • Evaluation and accountability
  • Competitive culture
Some literature


• Peter van den Besselaar & Edwin Horlings (2011), Focus en massa in het wetenschappelijk onderzoek. de Nederlandse onderzoeksportfolio in internationaal perspectief (Focus and mass in scientific research: the Dutch research portfolio in international perspective). Den Haag, Rathenau Instituut.