

VS.

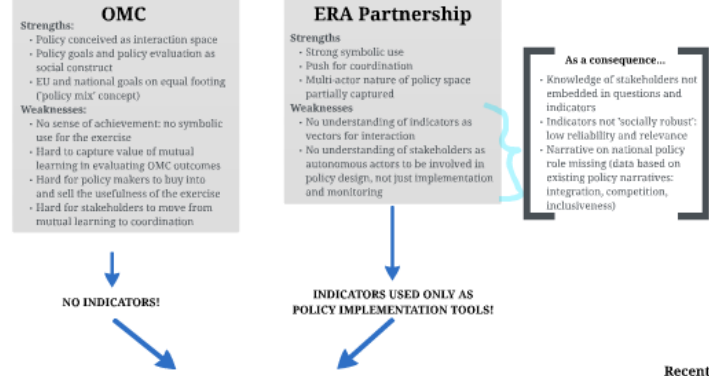
**EU policy on national policy!**  
 Since 2000, EU new actor in national science policy spaces (Lisbon Strategy, Lisbon Treaty)

**EU contracts to collect data relevant to science policy**

- On national research systems (JOSEF, EUMEDA)
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- Knowledge Networks and Outputs: publications, patents
- Research Infrastructures: MERIL



The EU is looking for a process to steer actors towards Treaty objectives

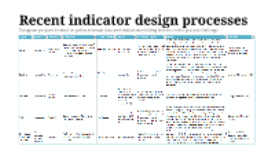


**THANK YOU!**

matteo.razzanelli@scienceeurope.org

twitter.com/mrazzanelli

- With the EMM, EU wants to analyse national systems and contextually steer their actors towards EU Treaty objectives (integration, efficiency, inclusiveness)
  - A **working policy design/evaluation/implementation process** has not been found (process-related challenge)
  - From a **participatory approach** to policy design (OMC)...
  - ...to **top-down** policy and indicator design, coupled with indicator-based policy implementation (ERA policy and EMM)
  - Solutions?
  - The literature points to indicator design as a possible vector for interaction and decision-making by different policy actors
- Examples?**



**Lessons for EU-led evaluation of national R&D policies**

- Experimental design phase of indicators crucial for collective learning, but problematic to work with NSRF (EUMEDA, JERKE)
- Controlled concept definition and decentralised concept application in a promising model (MERIL, EUMEDA)
- Local institutions can impact data quality or coverage (EUMEDA, MERIL)
- Just implementation of datasets can be offset by value of new information (JERKE)
- The sustainability of fully bottom-up processes has not been proven (ENF 14), but even light top-down steering can be a strong sign (MERIL)
- Top-down processes raise narratives on national systems and strategies and fail to steer actors (EMM)

These are lessons mainly on how data availability (DA) is constrained by processes (P), but this is a first step to building indicators that can be used as policy tools.

Vienna, 14-15/11/2013  
New horizons \ New challenges

**Data availability for STI  
policy portfolio  
evaluations: a process-  
related challenge  
requiring new models for  
stakeholder engagement**

*matteo razzanelli*

Policy Affairs Team - Science Europe  
matteo.razzanelli@scienceeurope.org

Views expressed here  
are personal

## **Goal of presentation**

- Using fteval as platform to exchange ideas, getting to know the community
- Personal policy reflection based on and useful for my day-to-day job
- Sparking discussion and being exposed to diverse points of view on the challenges to S&T policy evaluation at European level

# Scope

- **Public R&D policy in Europe:** the public funding system
- **R&D:** creation of original knowledge by professionals formally devoted to research (Frascati Manual)
- **R&D policy:** "policies that intentionally aim to affect the behaviour of R&D performers, changing size, scope, timing and content of R&D activities by [...] R&D performers" (Wintjes and Nauwelaers, 2007)

# Examples of R&D policy

not innovation

- Organisational models for and agenda setting in science funding
- Procedures for project proposal evaluation (peer review)
- R&D human resources matters: mobility, career paths, diversity...
- Research infrastructures
- Access to data and publications
- Knowledge transfer

# Topic

**Conference topic:** increasing demand for strategic STI policy-making and increasing complexity of national innovation systems are shifting the focus of evaluations to **systems' evaluations** and to evaluations of bundles of instruments, programmes and measures, as well as of governance, institutional and regulatory frameworks.



True at EU level:

- New policy competence gives EU mission to foster integration and efficiency of national systems

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True at EU level:

- New policy competence gives EU mission to foster integration and efficiency of national systems
- This creates a need for evaluation and benchmarking of national systems for policy design purposes

How can these efforts be seen through the lens of recent literature on public funding systems?

## Argument

- *Past* indicators design and
- *Current* use of scholarly vi
- *Future:* We challenge

## **Argument**

- *Past* indicator-less approaches to EU policy design and implementation failed
- *Current* use of indicators does not embrace scholarly views on their use
- *Future*: We are facing a process-related challenge

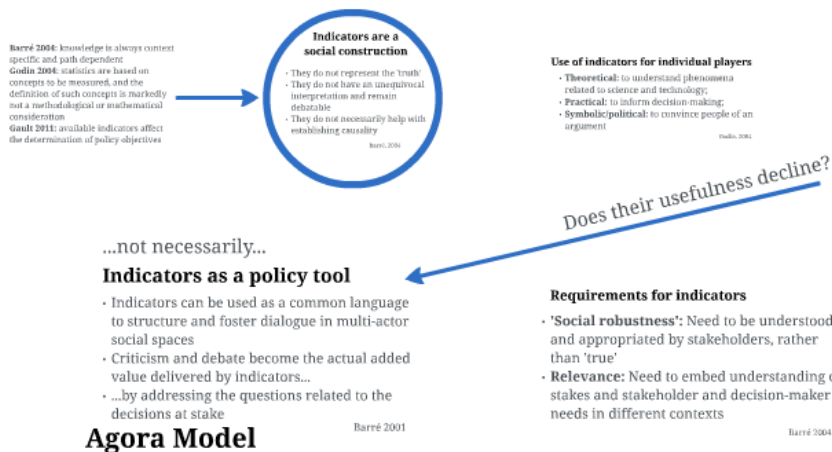


# Contributions from the literature

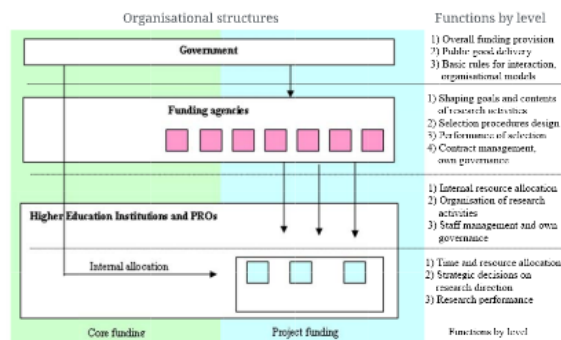
Indicators: theory-based numbers, explicitly building connections between quantities and non observable properties (e.g. research excellence, societal impact)

## S&T indicators

### Indicators as Social Construction and as Policy Tool



## Public Research Systems



### Systemic features

- Multi-actor and multilevel systems
- Largely autonomous actors that interact in the strategic pursuit of their own goals
- No top-down policy steering: policy-level decisions are endogenous to the system
- Organisational structures and interaction patterns determine system outputs
- Different coordination modes co-exist to ensure the production of public goods (market, hierarchies, networks...)

V

**Barré 2004:** knowledge is always context specific and path dependent

**Godin 2004:** statistics are based on concepts to be measured, and the definition of such concepts is markedly not a methodological or mathematical consideration

**Gault 2011:** available indicators affect the determination of policy objectives

# **Indicators are a social construction**

- They do not represent the 'truth'
- They do not have an unequivocal interpretation and remain debatable
- They do not necessarily help with establishing causality

Barré, 2004

# Use of indicators for individual players

- **Theoretical:** to understand phenomena related to science and technology;
- **Practical:** to inform decision-making;
- **Symbolic/political:** to convince people of an argument

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# from the literature

## Social Construction and as Policy Tool

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Does their usefulness decline?

7...

### policy tool

and as a common language  
for dialogue in multi-actor

### Requirements for indicators

- **'Social robustness':** Need to be understood

...not necessarily...

## **Indicators as a policy tool**

- Indicators can be used as a common language to structure and foster dialogue in multi-actor social spaces
- Criticism and debate become the actual added value delivered by indicators...
- ...by addressing the questions related to the decisions at stake

# **Agora Model**

Barré 2001



## Requirements for indicators

- **'Social robustness'**: Need to be understood and appropriated by stakeholders, rather than 'true'
- **Relevance**: Need to embed understanding of stakes and stakeholder and decision-maker needs in different contexts

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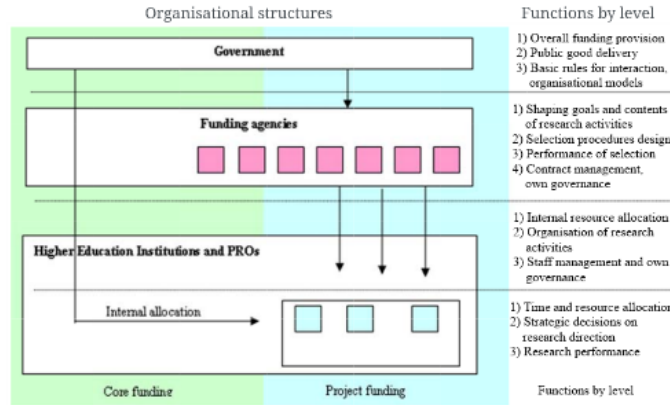
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## Agora Model



Adapted from Lepori, 2011

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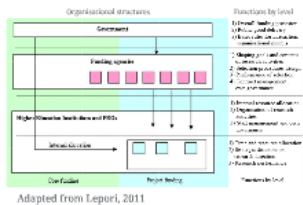
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Agora Model (Lepori, 2011)

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- 2003-2008: four OMC cycles, based on 'learning', 'coordination' and 'monitoring'
- Peer review, exchange of good practice, guidelines
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- ERA Monitoring Mechanism: List of indicators, annual ERA Progress Reports
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## The EU is looking for a process to steer actors towards Treaty objectives

### OMC

**Strengths:**

- Policy conceived as interaction space
- Policy goals and policy evaluation as social construct
- EU and national goals on equal footing ('policy mix' concept)

**Weaknesses:**

- No sense of achievement: no symbolic use for the exercise
- Hard to capture value of mutual learning in evaluating OMC outcomes
- Hard for policy makers to buy into and sell the usefulness of the exercise
- Hard for stakeholders to move from mutual learning to coordination

### ERA Partnership

**Strengths**

- Strong symbolic use
- Push for coordination
- Multi-actor nature of policy space partially captured

**Weaknesses**

- No understanding of indicators as vectors for interaction
- No understanding of stakeholders as autonomous actors to be involved in policy design, not just implementation and monitoring

As a consequence...

- Knowledge of stakeholders not embedded in questions and indicators
- Indicators not 'socially robust': low reliability and relevance
- Narrative on national policy role missing (data based on existing policy narratives: integration, competition, inclusiveness)

NO INDICATORS!

INDICATORS USED ONLY AS POLICY IMPLEMENTATION TOOLS!

- With the EMM, EU wants to analyse national systems and contextually steer their actors towards EU Treaty objectives (integration, efficiency, inclusiveness)
- A working policy design/evaluation/implementation

### Recent indicator

Indicator	Value
...	...
...	...
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### Lisbon Treaty (December 2009)

#### Art. 179

1. The Union shall have the objective of strengthening its scientific and technological base by achieving a European research area in which researchers, scientific knowledge and technology circulate freely, and encouraging it to become more competitive, including in its industry, while protecting all the research activities deemed necessary by virtue of other Chapters of the Treaty.

2. For this purpose the Union shall, throughout the Union, encourage undertakings, including small and medium-sized enterprises, research centres and universities in their research and technological development activities of high quality; it shall support their efforts to cooperate with one another, acting, notably, as permitting researchers to cooperate freely across borders and of enabling undertakings to exploit the internal market potential of the EU, in particular through the opening-up of national public contracts, the definition of common standards and the recognition of legal and financial standards for that cooperation.

### Europe 2020 (June 2010)

- European Research Area initiative within the Innovation Union Flagship
- To dispel perceived failure of Lisbon Strategy and OMC, emphasis on commitments, targets, monitoring and measurability

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**OMC**

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- No understanding of indicators as vectors for interaction
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**As a consequence...**

- Knowledge of stakeholders not embedded in questions and indicators
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# Ability to steer actors towards Treaty objectives

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**Examples?**

# Recent indicator design processes

European projects focused on policy-relevant data and indicators yielding lessons on the process challenge

Project	Narrative	Indicator use	Indicators on	Concept definition	Process	Participatory aspects	Lesson	Reference
JOREP	Integration	Theoretical, practical	Openness and coordination levels of national programmes as measured in terms of budget allocation (coordination of research agendas, input side)	Driven by experts and EC	Experts, NSAs, Eurostat, PROs	PROs participated and provided the data, the project built a pilot dataset in cooperation with statistical authorities	1) Difficult to involve NSAs at experimental design phase (staff availability, length of statistical cycles, limited expertise with micro-data requiring subject-matter expertise); 2) The pilot was successful, which shows that (theory-based) indicators for science policy can be built with a participatory process; 3) The pilot dataset was used for the ERA Progress Report and the Innovation Union Report, which shows that dataset incompleteness can be offset by the value of new information	Project reports and discussions with people involved in the project
EUMIDA	Competition	Theoretical	Census of European universities, including their profiling	Driven by experts and EC	Experts, NSAs	Centralised concept definition, decentralised concept application	1) Political controversy impacts on dataset coverage, depth and quality. Census linked to a policy shift: universities as independent and competing actors. NSAs not comfortable with new concepts that are not perceived as 'objective'. This lowered the quality and completeness of the dataset. 2) Centralised concept-definition and decentralised concept application can be a good compromise; 3) Absence of a participatory process impacts on data quality and availability	Lepori and Bonaccorsi, 2013
SheFigures	Inclusiveness	Practical, symbolic	Gender balance in science	EC, experts	Policy makers (EC), NSAs, Eurostat, national government officials (national statistical correspondents)	Part of the data is traditional statistics, but part is gathered nationally and aggregated centrally	Consolidated concepts and shared narratives allow for complex processes mixing official statistics and stakeholder data	SheFigures publications
MERIL	Integration	Practical	Census of research infrastructures of international relevance	Stakeholders, EC	European stakeholder organisation (ESF), national policy-level players	Participatory process based on central concept definition and decentralised concept application. Involvement of data providers ongoing.	MERIL follows previously failed attempts. Previous attempts failed to deliver coverage and data quality, problems with concept definition and application. MERIL solved the problem by designing criteria for inclusion in a participatory way (EC, stakeholders) and then by assigning 'gatekeepers' for criteria application. Results are pretty good as 45% of the expected entries have been provided. The main challenge to be solved is the awareness and involvement of final data providers, as users seem to be mostly policy makers	Discussions with project players
ESF Indicators of Internationalisation	Efficiency in pursuit of national missions	Practical	Performance of Funding Agencies in terms of internationalisation of activities	Experts, stakeholders	Experts, stakeholders	Process fully participatory, from concept definition to data collection	Exclusion of central policy makers means that commitment to dataset depends on individual strategies, interests and resource availability of each organisation. The dataset was conceived as of practical use (to inform strategies), therefore a strong narrative was missing. This questions the sustainability and continuation of the exercise	Reale et al., 2012; van den Besselaar et al., 2012. Discussions with project players

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- Experimental design phase of indicators crucial for collective learning, but problematic to work with NSAs (EUMIDA, JOREP)
- Centralised concept definition and decentralised concept application is a promising model (MERIL, EUMIDA)
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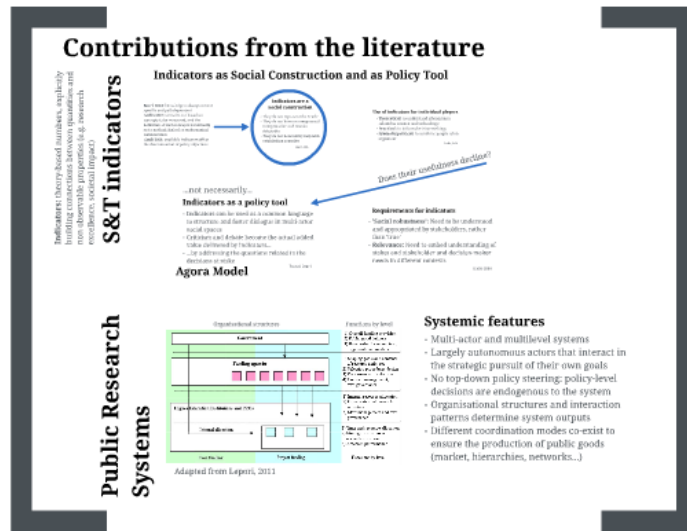
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- ...but incompleteness of datasets can be offset by value of new information (JORIS)
- The sustainability of daily business processes has not been proven (ESP Ltd), but even light top-down steering can go a long way (MERL)
- Top-down processes (indicators) do not national research strategies and tend to steer actors/GEMO

These are lessons mainly on how data availability (RA) is constrained by processes (P), but DA is a first step to building indicators that can be used as policy tools



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