

Constructing a register of public-sector research organizations

Conceptual, design and methodological issues

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The paper in a nutshell

Document the construction of a public-sector research and higher education register in Europe

- Why a register is important
- The choices made (and their limitations)

Register: a step towards standardizing the notion of 'public research organization'

- Involves normative and conceptual perspective on what these are organizations are
- Contributes to establishing them as a relevant scholarly and policy object
- Choices are (partially) conventional and generate a representation of reality

Goal of the paper: reflect on these choices and their implications

- What specific perspective they shed on public research?
- Potential biases?
- Areas of debate and future developments?

Outline

1. Why on organizational register for public research?
2. Conceptual roots and debates
3. Methodological solutions (and remaining puzzles)
4. The practical implementation (and its compromises)
5. Future perspectives

1. Why an organizational register?

Three functions of registers

- Provide a 'certified' list of statistical units
- Allows the construction of samples (for example for surveys)
- Highlight the 'ecological diversity' and demography of research organizations

Increasingly important with the focus on linked data and interoperability

- A stable reference list makes much easier interlinking and searching for data

Registers have a long tradition in the private sector

- Both as a statistical and research instrument

No similar tradition in the public sector

- Perhaps no 'research organizations'
- Higher Education registers/databases as precursors (IPEDS/ETER)

1. Questions

Is there a need for a register of public-sector organizations?

- What are the benefits?

Does it make sense at all?

- Are public research organizations a relevant object of study?

Is this feasible?

- Can methodological issues be addressed?
- Can the register be operationalized?

➔ The construction of Orgreg was largely feasible and manageable, but:

- Some significant methodological issues remain.
- Orgreg has still to prove its usefulness (beyond higher education)

2. Conceptual roots and debates

NPM policies: 'constructing organizations' as a relevant actor in the public sector:

- Clear boundaries and autonomy
- Internal hierarchy and decision-making
- Control of the research work

The implicit conceptual blueprint of OrgReg

- Never clearly expressed
- ➔ A register makes sense only if we believe in some of these transformations
- Organizations are an important actors in public research

But a need to deal with complexities and variations in what 'organizations' are

- A highly generic and conventional definition of organization
- A pragmatic and case by case implementation in practice

A radical critique

The basic building blocks of science are laboratories

- The 'production unit' of science
- High level of disciplinary heterogeneity and incommensurability
- Accumulation of credibility and resources

➔ Organizations are mere containers that do not account for the development of knowledge

There are some good reasons to consider also organizations as a relevant unit of analysis

- Research organizations have functions in managing public research, human resources, finances, strategy
- Organizational heterogeneity matters, hence the need of multi-level frameworks
- Research organizations as an important policy focus
- Heterogeneity can to some extent be controlled, while aggregation effects may be important

At the end the balance between levels is an empirical issue to be investigated

A moderate critique

Organizations are indeed relevant

- But the simple conceptualization as a clearly delimited entities does not fit reality
- Importance of multilevel structures ('umbrella PROs')
- Pervasiveness of linkages ('joint units')

→ Moving beyond the multi-level design of ETER and IPEDS

- Account for multi-level structures
- Deal properly with linkages between organizations

How far should we go in introducing complexity

- Without jeopardizing the feasibility and conceptual clarity of a register

Calls for a more fine-grained methodological work.

3. Methodological solutions (and remaining puzzles)

Three key issues

- Inclusion and exclusion criteria. What are public research organizations?
- How to deal with multi-level structures and organizational linkages?
- How to deal with change and with organizational demography?

Dimensions:

- Which solutions have been adopted?
- Trade-offs between precision and complexity?
- Remaining puzzles?

Understanding the choices behind the current register

- Identifying areas for further work

Identifying public research organizations

Should be distinct and identifiable

- Research centers within the public administration (for example within statistical offices) > included as a separate category
- 'transient organizations' grouping existing labs ('competence centers') > generally excluded

The public nature: no prevalent market orientation (the Frascati criterion)

- Technology and innovation centers as the main borderline case

Involved in R&D and higher education

- Thresholds in terms of students, publications, European projects
- Few debated cases (science parks, science communication, etc.)

Borderline cases have substantive interest to analyze interfaces and transfer

- But are less relevant when focusing on the core of public research activity

Linkages and multilevel structures

Three levels:

- Groups
- Organizations > the main focus of OrgReg
- Components

Different types of linkages between entities (component, affiliation, association)

Both are useful, but a large number of ambiguous cases

- Distinction between components and affiliated organizations sometimes problematic
- Proper treatment of 'umbrella' PROs difficult (groups or individual organizations)

The current OrgReg provides useful data to analyze such multi-level structures

- But definitions and categories are not fully consistent and of difficult application
- Fortunately they don't belong to the register core and therefore changes can be implemented

Demography

Demography in the public sector is becoming of substantive interest

- Beliefs that mergers allow to improve the system's efficiency
- But little empirical evidence

OrgReg: continuous treatment of demography through a distinct event's table

- Feasible solution for the public sector, not for the private one!
- Identifying organizational continuity was rarely a problem

Orgreg documents all demographic events occurred in the period 2000-2018

- 400 demographic events overall
- ¼ of the entities have been founded after 2000
- More than 500 name changes observed

An unprecedented coverage of demographic events in European public-sector research

- Yet to be fully exploited for analytical purposes

4. Implementation issues

Beyond conceptual debates

- Register needs to be filled in with data and made available to users
- Limits to complexity bound to resources, but also usability

Trade-offs

- Design: standardization vs. flexibility
- Filling in: reliance on existing sources vs. checking against reality
- Process: distributed work vs. central coordination

Discuss advantages and limitations of the choices made around each issue

General approach: register as an evolving resource

- Feed back from usage critical

Design

Store in the register only identification information

- No statistical data
- Link to other resources providing such data

Largely achieved for universities, missing basic data for other entities

Ids independent from all other characteristics like type, location, name, etc.

- A highly flexible design to track changes
- Makes implementation and usage slightly more complex
- Multiple location can be easily managed

Next core task: complete the interlinking with key source databases

Implementation

Building on existing lists of organizations

- ETER for HEIs
- CWTS-WoS and EUPRO for PROs
- CWTS-WoS for the hospitals

Harmonization of these lists

- Building linkages (PROs<>universities, universities<>hospitals)
- Harmonizing definitions and removing duplicates
- Checking against 'reality' (organizational websites, wikipedia, national experts)

The methodological status of the register may be discussed

- an unprecedented effort to align and harmonize different information sources

The register as a public resource accessible to the whole research community.

Assessment

For the first time a comprehensive overview of organizational heterogeneity of public-sector research in Europe

- Merging and harmonizing different data sources
- Comprehensive coverage of demographic events
- more systematic interlinking between datasets

Reasonably good delineation of public sector research and higher education: few borderline cases

How to deal with multi-level structures and linkages remains unclear

- A key area for future methodological work
- But at least some useful empirical material to go into this issue

Future developments will depend on keeping a balance between complexity and feasibility

- As well as on emerging usages and practices that will take time

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Thank you very much
