

A framework for the indicators on internationalisation

From the triangle to a conceptual scheme for
funding agencies and performing
organisations

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ESF - MO Forum Meeting

Paris, 9-10 May 2011

Content

- Summary of the results of the MO Forum Expert meeting
- Methodological choices
- Rationales for internationalisation
- A possible conceptual framework
- Role of indicators

MO Forum on Internationalisation

What emerged from the Funding
Agencies (FAs)

Main questions of the Funding Agencies

- Why are we investing in collaborative international research?
 - Competition, globalisation, new dynamics in research
- What is the outcome of investing in international activities?
 - Funding schemes pursuing internationalisation
 - Investment in international activities developed by the agencies themselves
 - Internationalisation of the performers funded

Funding schemes pursuing internationalisation

- Are they helpful for addressing research challenges?
- Do they enhance scale and scope of research?
- Do they support sharing of facilities and expertise?
- Do they help to get co-funding from other sources?
- Do they support “market penetration”?

Different aims of the funding programs pursuing internationalisation

- Research activities
 - Training of researchers
 - Mobility of researchers
 - Sharing research infrastructures
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- But in all cases they implies co-operation with non-national partners

Internationalisation of the Funding Agencies

- Investment of the agencies for keeping an international perspective (looking what is happening in other countries)
 - Participation in international associations
 - Workshops and conferences
 - ESF initiatives and similarities
 - Units located abroad

Internationalisation of the Performing Organisations

- How much are internationalised the people funded?
 - International academic standing of the teams
 - Mobility abroad (inward and outward)
 - Co-publications with non-national researchers

MO Forum on Internationalisation

What emerged from the Research
Performing Organisations (RPOs)

Internationalization of research

- Intrinsic characteristic of the research effort affecting all the scientific disciplines (trade off between internationalization as epistemic value and its effectiveness)
- Growing phenomenon due to the globalization of economies, the enlargement of competition for good researchers and research funds, the need to improve reputation and visibility at the knowledge frontier (quality indicator)
- Changing meaning: from internationalisation of researchers and research groups to embedment of institutions and individuals in international networks, capability to attract foreigners (researchers, clients), and to localize research activities abroad (researchers and units)
- Europeanization and Internationalisation are different process, with the former supported by specific policy instruments (European Framework Programmes, the Lisbon strategy, the European Research Area, European agencies, etc)

Dimensions of internationalisation

- Internationalisation dimensions:
 - funding and resource flows from international agencies and sources,
 - collaboration and networking patterns between institutions, groups and individuals,
 - co-production of knowledge (publications and technological outputs).
- Vertical relationships (with funding agencies) and horizontal relationships (with other performers) are also important elements of the analysis

Dimensions of internationalisation

- Each RPOs can be assessed by giving the prevalence to one or another of the dimensions according to:
 - The mission and the objectives
 - The traditional behaviour
 - Norms and value existing at national and institutional level
 - Proximity to the Universities or the Firms
- Internationalisation affects both the organisation and the research units inside

Funding
flows

Funding flows from/to abroad,
Opening of national funding schemes,
Joint programmes, Panellists from
abroad in ex-ante evaluation
processes

Collaboration
and networking

Collaboration schemes, Phd
schools and training from/to
abroad, Leading positions of
foreign scholars, Membership in
international networks, LSF use

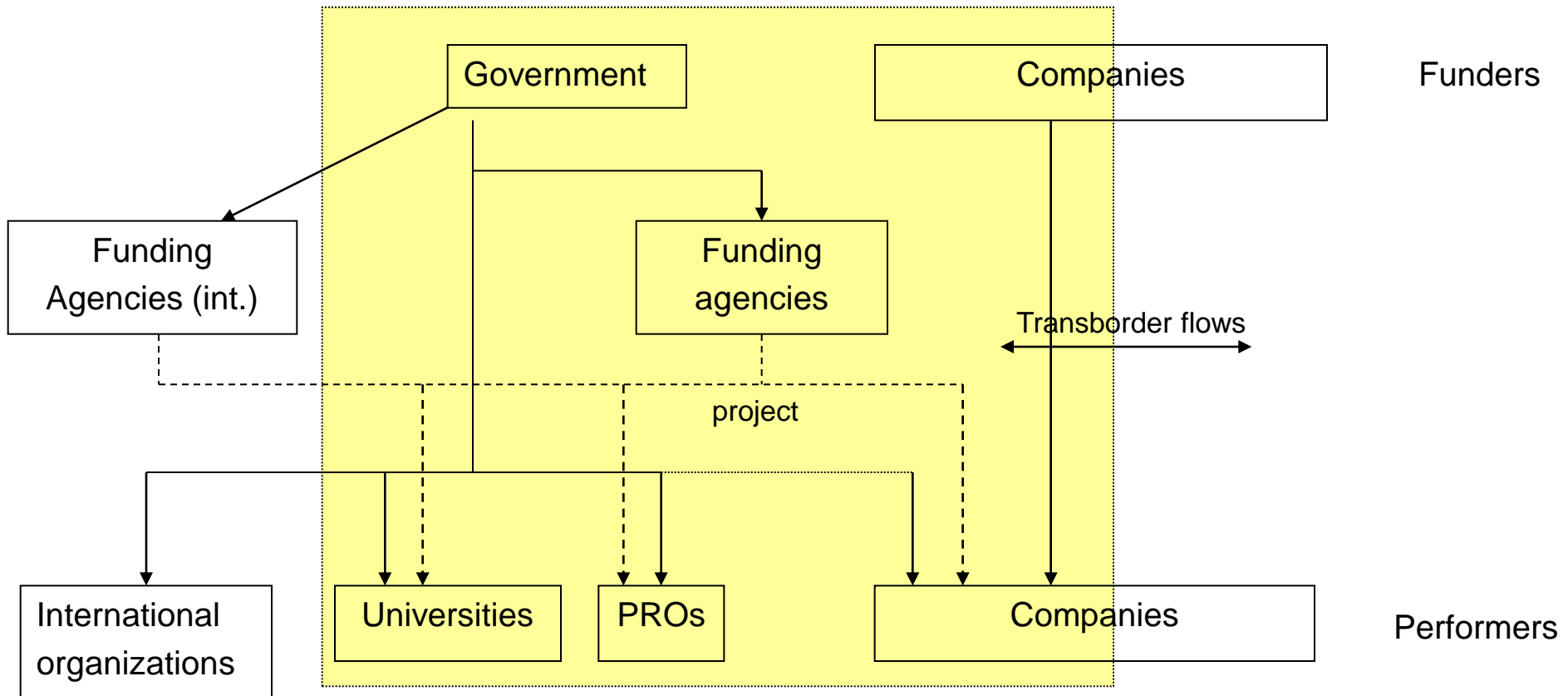
Knowledge
production

Co-publication and co-patenting with
foreign partners, Mobility of senior,
junior and Phds, Research Units
abroad

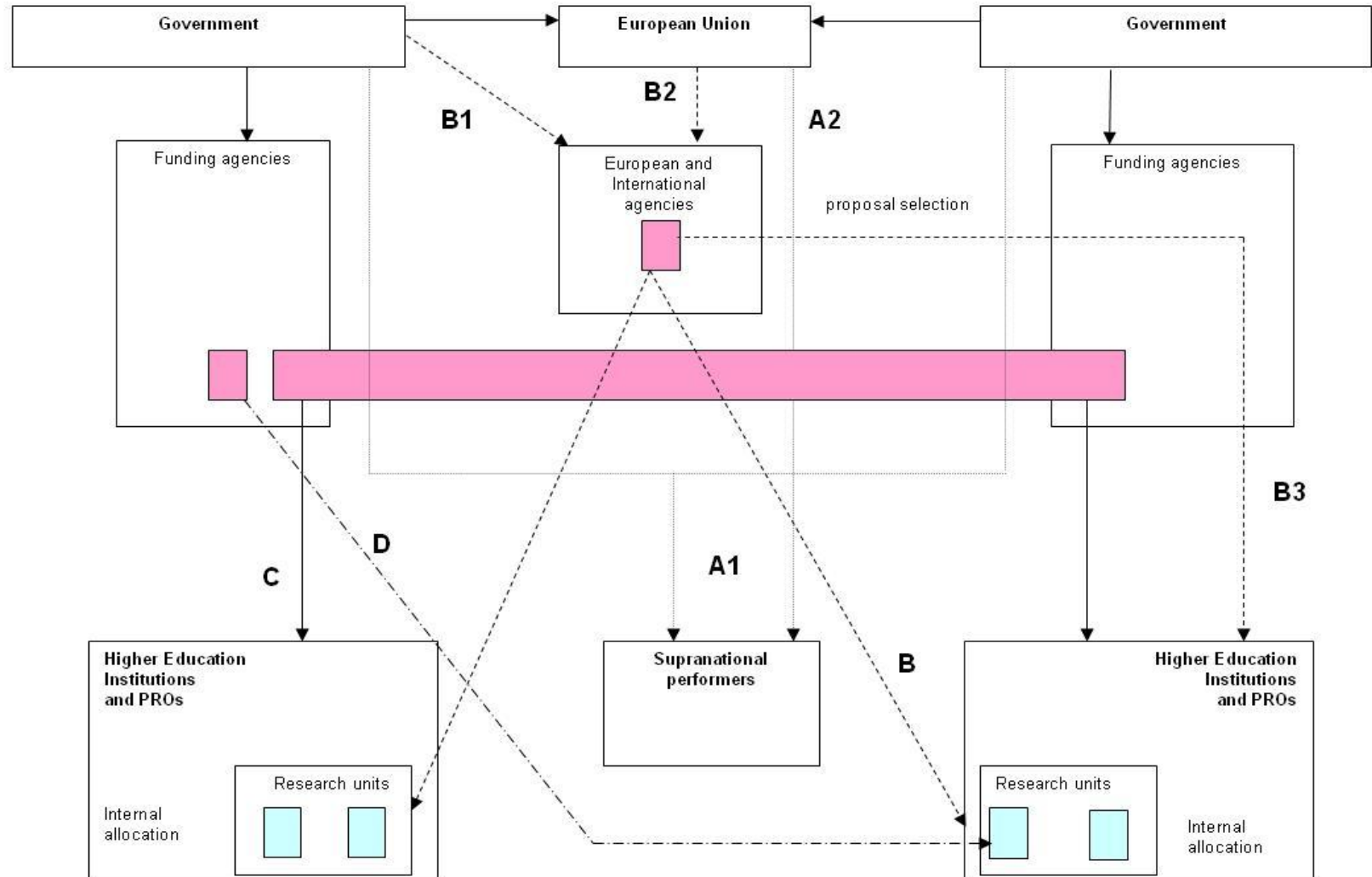
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Toward a conceptual framework

Capitalising from the past: the conceptual model used in PRIME Project Funding



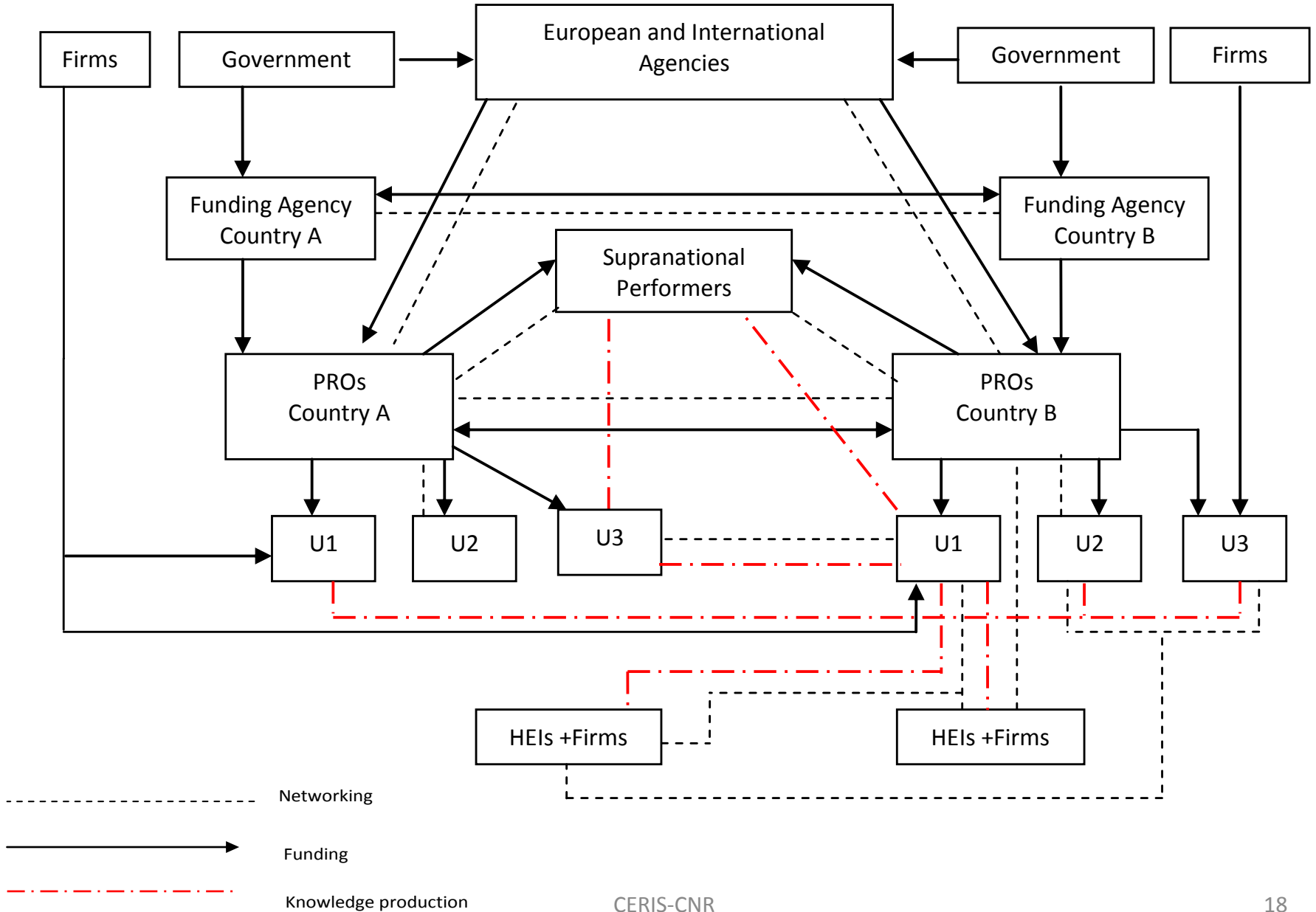
Making reference to the present: the general conceptual framework used in the JOREP Project



A possible conceptual framework

- The aforementioned schemes represent only funding flows from supra-national, national and agencies
- Assessing internationalisation must consider also other relevant dimensions:
 - Internationalisation of FAs is related to funding allocation (research, knowledge circulation, shared infrastructures) in the country and abroad, and networking
 - Internationalisation of RPOs is linked to resource flow, knowledge production and circulation, and networking with international funders (Supranational agencies, Firms) and performers (HEIs and Firms)

A possible conceptual framework



Interested Organisations

- Types of organisations we look at:
 - Funding Agencies – exclusively funding
 - Performing Organisations – exclusively performing
 - Hybrids organisations - both funding and performing
 - Exclusivity does not eliminate the possibility to have some funding activities within the Performing organisations but they must be of minor significance

As a whole we have a sufficient number of participant organisations allowing a good pilot experiment

Methodological choices

- We separate the indicators of internationalisation between FAs and RPOs
- We distinguish between Internationalization and Europeanization
- We adopt the positioning indicators approach (Lepori et al., 2008) as alternative approach with respect to the input-output one
 - Attention to the changes in the positioning of the actors (funders and beneficiaries, research organizations, research labs)

Key functionalities of internationalisation

- Integration at European level of research system (the ERA rationales)
- Collaborations between European research actors (funders and performers)
- Openness at European level of the research actors
- Collaborations and openness with non-European countries

Internationalisation of FAs

- Funding programmes aimed at the internationalisation of the research system provide financial support to:
 - Inward and outward mobility of researchers and PhDs
 - Attraction of high standing researchers
 - Development of joint programs
 - Development of open programs
 - Sharing infrastructures
 - Networking and coordination between researchers
- Investment of the agencies for keeping an international perspective (looking what is happening in other countries)
 - Hiring procedures
 - Internationalisation of the selection and evaluation processes
 - Mobility of the internal staff
 - Participation in international committees and organisation

Internationalisation of FAs

- FAs are interested to look at the effectiveness of their funding schemes (how they contribute to the internationalisation of the beneficiaries)
- Internationalisation of the beneficiaries can be considered as a good representation of a successful design and implementation of the FAs' funding schemes
- Positioning indicators do not look at the input-output relation (causal link) between the FAs' funding and the beneficiaries' results rather on how the beneficiaries (HEIs, RPOs, Firms, individuals) modify their positioning as to their European and international standing

Internationalisation of FAs

- FAs are intermediaries between the Government and the performing sector:
 - Acting in a multi-layered policy environment,
 - Performing different functionalities related to research funding (determining goals and content, submission and selection, decisions, contract management, etc.), which can be more or less internationalized,
 - Performing different functionalities related to governance and processes according to a more or less propensity toward internationalisation

Internationalization of RPOs

- Internationalisation of the research performers (RPOs) can be analysed distinguishing between indicators at the general organisation level or at the laboratories/researchers levels
- Laboratories have internal “mode of internationalization”. Drivers of this different behaviours might be:
 - The differences between scientific fields and within a given field
 - Internal/external factors (institutional rules, norms and regulations, human resources composition, wealth of the local environment, local policies, etc)
 - Historical reasons (path dependence effects)
- Researchers generally show different research profiles as to the propensity toward internationalisation even within the same field

Internationalisation of RPOs

- RPOs are research actors positioning between collaboration and competition with Higher Education Institutions and Firms, in different disciplinary fields, in national, European and global markets
- RPOs indicators along the 4 dimensions (resource flow, knowledge production and circulation, collaborations and networking, governance and processes) must be applied according to the relevant level of analysis
- Hybrid organisations cumulate different perspectives on internationalisation

The evaluation design

- What we want to observe
 - Internationalisation of funders and performers (activities, processes and results)
- Internationalisation is related to different motivations and rationales of FAs and RPOs, distinguishing between:
 - Scale motivations, such as pooling together of resources (critical mass) or getting access to new resources
 - Scope motivations, such as pooling together competences (complementarities) or broadening the scope of the research agenda

Indicators for evaluation

- Indicators should be:
 - Designed for answering specific evaluation questions (relevance)
 - Built upon a conceptual model of the reality (definitions, state-of-the-art, delimitation of the elements to be measured)
 - Feasible in terms of data quality and availability (cost and time)
 - Transparent in terms of capability of users to understand background and limitations affecting indicators
 - Build upon data that allow comparison between countries

Role of indicators in evaluation

- Supply information on the investment in research developed at international level
- Support a better understanding of activities linked to different FAs' and RPOs' rationales
- Enlighten short-term and long-term connexions and relationships between actors at European and non-European level
- Understanding the proximity of RPOs to the different research performers
- Indicators must be supplemented by other information sources, in order to assess qualitative aspects of the internationalisation and Europeanization

Classes of indicators

- *Descriptors* just describe some aspects of reality without leading to further interpretation
 - distribution of project proposals by country
 - counts of publications by institutionsare just descriptive information on where proposals and patents come from, without any attempt to use them to track underlying phenomena (very useful for supply the state of the art).
- *Indicators* are constructs which explicitly build the connection between some quantities and not observable properties
 - Citation statistics as indicators of research quality
 - Patent statistics and R&D investment as indicators of innovation

Indicators

- Name of the indicator
 - does it describe or counts, does it allow to test some hypothesis?
- Description
 - How the indicator is constructed (selection of the relevant data, which kind of intensity it represents, etc.)
- Use
 - in which activity/process it can be used (strategic planning, priority setting, funding allocation, HR management, etc.)
- Source
 - feasibility and reliability
- Going beyond the wish list

Thank you for your attention

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