Innovation policy at stake: should we throw the baby with the bath waters or change the composition of the bath waters?

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Main points in the debate

- R&I policies are too supply-oriented & forget demand
- R&I policies forget their history – to serve public missions & challenges
- More R&I policies are missing the boat – the sustainability / energy transition
- Putting together research & innovation has become unproductive
- R&I policies are unable to cope with the changing institutional landscape - remaining locked in their 'unique space' paradigm

My take on the debate

Policies since their start have shared the same 3 overarching objectives

1. Fostering the science base – remains critical, but has to be reconsidered in its approach
2. Supporting firm innovation capacity – the priority issue for the last 30 years, and the greatest source of failure & dis-alignment with socio-economic dynamics
3. 'Mission-oriented R&D for 'collective'/public goods – A quasi-forgotten objectives for two decades, and the source since of multiple discourses (grand challenges) with limited action.

→ Presentation focused on developing points and discussing potential research agenda

Fostering the science base

- Lasting questions
  e.g. core vs project-based funding, agencification, normal vs frontier science…

- But in a different organisational environment combining PROs & universities - no longer one or the other model, but systematic hybrid models (e.g. PROs as key elements for emerging fields & for facilities; e.g. alliances between both types – the French UMR or the German KIT)

- Driving to a strong articulation with higher education & new questions: what balance between 'capacity building' and 'academic research'? Are 'academically excellent universities' an encompassing answer? …

→ Should this become a new 'sectoral' policy per se? May be, but it is more of a 'higher education & (academic) research policy' than an old type of 'science policy'

Supporting the innovation capacity of firms

- The largest issue

- A dominating approach: supporting technology-based innovation capacity of 'manufacturing' firms

- A simplified view of types/phases
  - collective industrial research
  - collaborative programmes & industry-university relations
  - supporting SME innovation (direct / tax credits / clusters)
  - supporting start-up ecology

- Multiple debates
  - balance between direct & indirect supports
  - roles of innovation 'infrastructures': IP but also standards & capacity building
  - efficiency of tax credits (a 'loose-loose situation' for governments)
  - critical role of midsized firms not addressed
  - too supply oriented: rebalance with demand-based policies

- **Still not addressing the core of transformations: 3 major challenges**

The scope of innovation activities:
3 main issues (1)

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Issue 1: How to cope with the over-dominating service economy?

Are the 2 ways we categorize innovation in services enough?
- firms that operate in a manufacturing mode (transport, banks, construction)
- Knowledge intensive business services (KIBS)

How to consider 'services to individuals' (health, tourism, leisure & culture), apart from their 'manufacturing like bits (e.g. videogames, new drugs).
E.g. What about hotel chains and their analytics? What about the role of cultural investments (museums, events) in tourism? Etc.

The scope of innovation activities: 3 main issues (2)

IFRIS

Issue 2 - New issues raised by globalisation

- Growing concentration: few firms in most markets, present everywhere → Our competition paradigm cannot cope with this
- Absolute & no longer comparative advantages → powerful shifts in manufacturing landscapes (look at shifting French structure or US 'reindustrialisation' discourse)
- Wide transformation of relations between producing firms & consumers: the internet 'revolution' & a new focus on 'circulation' processes (away from production); ecology of new hardware & software firms dealing with producer user interfaces

The scope of innovation activities:
3 issues (3)

IFRIS

Issue 3: Shifting role of users in driving innovation

- 4 key words to capture the massive transformations underway
  - crowd sourcing
  - political consumption / responsible innovation
  - social innovation & new forms of local collective development
  - DIY (fablab, 3D printing, ...) / sharing economy (cars, tools, even houses...) questioning articulation of consumption & ownership

- Are these movements marginal, or do they, together, drive to a reconsideration of innovation dynamics (as a permanent source for renewed and enlarged consumption)?

Supporting the innovation capacity of firms

- For policy makers in numerous regions/countries, both the 'technology-based' & 'manufacturing' foci are now questioned

- But what understanding and frameworks can we propose to cope for the 3 issues identified (even phrased differently!)

- One striking phenomenon (when analysing recent reports): researchers in advisory positions keep focusing on the old 'manufacturing' models

- Thus URGENT need to fully redefine the research agenda for the study of firm innovation processes

Developing research & innovation
in support of "public / collective missions"

- Mission-oriented has always been the core of public funding – over 90% in the US for instance.

- An old model 'forgotten' (Piganiol report):
  - R&D in all departments
  - driven by 'demand' (e.g. problems identified by ministries)
  - a transversal 'responsibility' at high government level to balance efforts & organise coordination & transversal approaches

- An evolving balance of themes over time:
  - the endless rise of 'health' issues & life sciences
  - the rise to prominence of environment
  - the changing priority of energy policies (from 'national autonomy' to CO_2-free renewable energies)
  - the downsizing of defence R&D
  - a point to note: the continuing importance of communication issues while shifting from transport to telecommunications & internet

R&I for public missions (2)

- What does the notion of 'grand challenge' bring?
  - a move toward 'solution development'
  - more integrated approaches (technological & social, upstream & downstream)
  - interdisciplinary focus in research

- References in history: 'large programmes' & a wealth of forgotten knowledge on the approaches developed

- A key change: we no longer can reduce it to types of 'militaro-industrial complexes' (where researchers as advisers & operators played a central role!)
  → requires important work on governance & on understanding the new roles of researchers in a knowledge-based society

R&I for public missions (3)

- However a crucial dimension: political will to focus allocation of resources
- Limitation 1 – allocation of resources & balance between priorities is not a 'R&I' issue but a democratic issue at large. The research agenda should thus be shared…
- Limitation 2 – under which conditions can long term issues (with effects not visible or not yet commensurable) can be embedded? Should we study the power of 'proximity approaches' compared to over-dominating approaches of 'inter-governmental' or 'global' approaches?
- Links with critical debate about 'who' is developing R&I policies.

Who is the policy-maker? What are the 'spaces' we consider?

- Our three dominating paradigms facing evolutions:
  - The country taken for granted as the central actor (even facing the rise of regions or the EU): NIS framework
  - From Government to Governance and arenas
  - Multi-level 'governance' to face the multiplication of 'legitimate' authorities acting in the same territory (city, region, country & the EU)

- BUT we know little on how this works in practice – look at limited work on their interactions in the field (cf. J.A. Heraud) → requires important research efforts on the revised role of 'place' (mostly urban/metropolitan areas in our field) as a driving force and 'de facto' aligning/coordinating actor.

To sum up

- We still face a 'baby' (60 years in the policy landscape is limited!)

- Should the baby disappear – e.g. for new types of 'grand challenge policies'? I doubt it (in any case as for most radical innovation in policymaking, history tells us that we are bad, very bad in anticipating!)

- Should we reconsider borders? The first OECD evaluations showed that borders should differ between countries, depending upon 'national preferences' and past histories … so no general solution but urgent redefinition of so called 'science policies' required!

- Should we radically change our approach to the 'friendly firm innovation ecology'? clearly yes, with a major research agenda facing us

- Should we focus on 'grand challenges' more? The only answer can be for the research agenda and it is Yes, but it should be more grounded on historical learning rather than starting from a blank sheet…