Reforms of national innovation policies in Europe: Towards converging models?

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Introducing the theme

- Preliminary steps
- The observation: simultaneous reforms in innovation policies during past decade.
- The motivation: policies are unavoidable elements in the institutional frameworks of a system, so we must understand how they change.
- The theoretical background: institutional theory of policy change, ambiguity and agency.
- Question: converging policy models? Converging policy-makers as agents' learning?
- The missing link for future enquire: Explaining nature of policy change and its relation with innovation dynamics and processes.

The 4 cases

	Coordinated market economy	Nordic/ hybrid market economy
Diffusion oriented policy	Germany	Denmark
Mission-oriented policy	France	Sweden

- Types of policy:
  - Mission-oriented: ”Big science deployed to meet big problems” => When R&D public investement is dominated by programs serving specific government missions (defense, agriculture, health, energy…)
  - Diffusion-oriented: ”seek to provide a broadly capacity for adjusting to technological change throughout the industrial structure” => R&D public investment is dominated by programs of horizontal nature.
- Varieties of capitalism
  - Coordinated market economy
  - Hybrid market economy
  - Liberal market economy

A bit of institutionalist theory of change

- Theories of institutional change:
  - Type of change
  - Explaining change: structures & agency
  - Role of ambiguity (inescapable to learning or institutional vagueness)
- Agency
  - Rationalist approaches to agency: opportunistic behaviour induces change
  - Sociological approaches to agency: agency as appropriate behaviour induces change
- Innovation policy change and policy-makers:
  - the evolutionary policy maker vs the optimizing policy-maker

Denmark

- Nature of the policy change: Addendums & re-organiation
- Changes:
  - Creation of 3 new research councils (applied & strategic technology) & re-organization of the basic-science research councils => re-organization again.
  - Universities: New governance form (more autonomy) & merger of universities and PROs.
  - New rules on technology transfer (abolishment professor privilege).
  - Continued little presence of technology procurement

Sweden

- Nature of the policy change: Addendums
- Changes:
  - Creation of Vinnova
  - Creation of Vetenskapsrådet
  - First national innovation strategy (2004)
  - No change regarding professors' privilege on patenting.
  - No changes in university governance
  - Continued strong presence of technology procurement

Germany

- Nature of the policy change: more than usual adaptation but less than substantial transformation with a stronger emphasis on mission-oriented policy instruments
- Changes:
  - 2006 high-tech strategy
  - 2006 Excellence initiative for universities
  - No changes in university governance, but 2002 law on university patents.

France

- Nature of the reforms: substantial reform adding new initiatives at the top of a large system, traditionally characterized by mission-oriented policy
- Changes:
  - 1999 innovation law: bridge gap industry-PROs, SMEs, and horizontal mechanisms
  - 2007 increased autonomy of universities, with 3rd mission obligation
  - Poles de recherche (PRES) universities-CNRS-grandes ecoles
  - Creation of ANR the french research council
  - 2005 Poles de competitivite at regional level
  - Creation of Institut Carnot: localized and sectorial

Convergence of models?

1. Policy-making rationales & ideas
2. Distribution of public R&D funding
3. Transformation in innovation processes

Policy-making rationales & ideas

- Intensive exchange of information and devlopment of ideas at supra-national level: OECD & EU's Open Method of coordination (OMC)
- OMC has contributed to:
  - Process:
    - Generated overview of own national policy & others'
    - Created international networks of policy-makers with influence
    - LESS so: upgrading national knowledeg competences & develop common concepts
  - Influence in national debates, has depended on:
    - The organization of national policy-making
    - The timing of OMC information/ideas on the political debates at national level

Changes in distribution of public R&D funding too?

- Mission-oriented measurements:
  - Share of government-financed R&D performed in the government sector
  - Share of government-financed R&D performed by SMEs and by universities
  - Concentration of % of governmental R&D funds into % of SMEs receiving those funds.
  - Commercialization of R&D results performed by the government sector.
- Diffusion-oriented measurements:
  - Share of competition-based R&D public funds
  - Share of basic-science R&D public funds

Any transformation in innovation dynamics?

- Changes in the previous share of private and public R&D spending on specific sectors (ICT, biotech, nanotech).
- Creation of new strength areas
- Innovative dynamics in some sectors in terms of innovation output measurement
- Concentration Employment of technical personnel in some governmental/industrial sectors.

Final remarks on policy rationales

- Mowery on the economics of mission-oriented policies:
  - market-failure rationale: underinvestment by private firms due to appropriability issues => most suitable for diffusion-oriented policies.
  - Mission-oriented policies not justified by market-failure rationales, but on the grounds of strategic national interests. Economic rationality is missing. Perhaps introducing criteria on complementarity: the complementarity effect of R&D investment in the broader structural field in question. Need to study this.
- A possible convergence of models makes this argument even more relevant. Because countries might be having a more balanced mission- and diffusion-policies, making this distinction of market-failure and complementarity rationales is most important. Policy-makers must have a clear idea of the relative impacts of each of both types of programs on each other, and on the overall innovation dynamics of hte system.