

# Inequality in global STI policies

Presentation of WP1 of ResIST



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## Standard framework of STI policy – economy-biased policy framework

- ⌘ STI policy: “science, technology and innovation policy”:
  - ☒ - retains its economy-bias from its “I=industry” pre-history
  - ☒ - key objectives: growth, productivity, competitiveness
  - ☒ - key actors: “innovative firms”
- ⌘ A transient moment of “social” STI policy:
  - ☒ - the “social priorities paradigm” of STI policy (1971: OECD/Brooks report)
  - ☒ - almost immediately again swept away by the “structural crisis” of Western economies from mid/late 70s on; paving the way for the neo-liberal policies of the 1980s, extending into the “new/knowledge economy” era of the 1990s
- ⌘ What unites conceptions of “new economy”, “knowledge-based economy”, and “systems of innovation”?
  - ☒ - economy-biased conceptions of STI policy shaped in the 1980s and 90s
  - ☒ - here fused into the strawman of “the knowledge-economy paradigm”

# The re-emergence of inequality on the STI policy agenda

- ⌘ The re-emergence of inequality in S&T policy, in response to evidence of
  - ⊞ extremely uneven distribution of the benefits of growth;
    - ⊞ the flipside of the “US model” of growth in the new economy
  - ⊞ persistent and exacerbated global inequalities;
    - ⊞ - in highly visible instances directly linked to the new, knowledge-based economy: e.g., IPR protection and the AIDS vaccine issue
- ⌘ The re-emergence in STI policy of “the social”, redefined as *asset* for innovation, e.g.,
  - ⊞ “social capital” as innovative factor
  - ⊞ “the Nordic model”: general welfare, social equality and security partly *explains* the flexibility, change-embracing and adaptive capability of Nordic economies and societies
  - ⊞ conception of “mutually supportive” policy objectives; “win-win” policies (growth, sustainability, welfare)

# Integrating distributional and growth objectives

- ⌘ Rejecting standard argumentative strategies for excluding social objectives from STI economic policy, such as:
  - ☒ Growth as "a tide that makes all boats rise";
  - ☒ "value must be created before it can be distributed".
- ⌘ developing STI policy frameworks which "balance" and integrate different, often opposite, objectives, building on some key framing assumptions
  - ☒ *How* growth is created matters, taking distributional objectives and outcomes into account in the initial ("upstream") stages of articulation of STI policy;
  - ☒ The qualitative *content* of growth matters (vs GDP)

# “Paradigms” of STI policy

⌘ A heuristic to assess and assist in developing STI policy by setting up an analytic opposition between two ideal type paradigms of STI policy”:

☒ - KEPP: the “knowledge economy paradigm”

☒ - SCPP: the “social cohesion paradigm”

# Knowledge Economy Policy Paradigm - KEPP

- ⌘ economic objectives only: (aggregate) growth, competitiveness, productivity,
- ⌘ distribution of benefits through markets, demand-based innovation
- ⌘ private firms as primary agents of innovation and assessor of “systemic” coherence
- ⌘ private firms set the direction and pace of innovation (cfr Barcelona target);
- ⌘ the main role of public policy is to facilitate innovation, redress systemic deficiencies and gaps,
- ⌘ main focus on advanced (science-based) technologies, and on high-tech manufacturing,
- ⌘ formal, science-/research-based STI forms of knowledge at the apex of the knowledge hierarchy
- ⌘ preference for policy instruments which promote global (scientific *cum* economic) excellence, critical mass, concentration
- ⌘ strong, standardized (“one size fits all”) IP protection

# Social Cohesion Policy Paradigm - SCPP



- ⌘ social objectives (welfare, income, education, health, housing, security, cohesion, environmental quality);
- ⌘ focus on benefits and costs of innovation for individuals and social groups; needs-based innovation
- ⌘ private firm innovation shaped and directed by public policies
- ⌘ emphasize social dimension and drivers of innovation, mobilize knowledge resources and innovative capacity of all members of society (cfr Sen: equality as capacity);
- ⌘ the innovative potential of traditional and experience based knowledge
- ⌘ preference for policy processes and instruments which enhance and widen the distributive scope of STI systems:
  - ⊠ Shared influence/power/participation,
  - ⊠ Inclusive approach to building knowledge/innovative capacity (Sen)
  - ⊠ Equitable sharing of benefits and costs of innovation/change

# Options for equality oriented policy action in all domains of STI policy



- ⌘ Research (knowledge production)
  - ⌘ Human resources
  - ⌘ Innovation
  - ⌘ Regulation
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- ⌘ STI policy created in widely distributed (fragmented) sites of policymaking



# Illustration from regional (European) STI policy

- ⌘ The "Lisbon strategy" as indicator of the re-emergence of the social:
  - ⊞ states the ambition and outline of a novel, if saliently ambiguous, multi-objective, STI policy agenda:
  - ⊞ remains, however, largely locked to an economy-biased, single-objective STI policy framework:
    - ⊞ "Europe as "the most dynamic and competitive knowledge-based economy in the world"
  - ⊞ While also framing an agenda for a wider, multi-objective policy:
    - ⊞ social cohesion, sustainability, quality jobs ...
    - ⊞ "social cohesion" (i.a.) and the "European social model", as opposed to the "US model" of combined high aggregate growth and dramatically increasing social inequalities

## Tensions in EU policy

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- ⌘ EU STI policy predicated on the “knowledge economy paradigm”
  - ⊞ Emphasis on global competitiveness, excellence, role of private firms, high-tech sectors, science-based knowledge, IPRs, concentration in centres (critical mass, mobility)
- ⌘ Social cohesion objectives are also stated, but mostly pursued within other policies (e.g. cohesion policy) than STI policy;
  - ⊞ Mobility policies and Marie Curie programs emphasize open flows, but other policies emphasise concentration; tensions between mobility, individual careers and flows of human resources
  - ⊞ tensions in decision-making processes vis-à-vis participation of Member-States; variable geometry seldom used (example is precisely the EDCTP)

## Illustrations from global STI policies



- ⌘ shift towards STI for development/poverty reduction;
- ⌘ development of local capabilities;
- ⌘ learning, not just technologies;
- ⌘ IPR protection: development/flexibility vs standardization, "world patent"

# Illustrations from national STI policies

Inequality not a salient issue in STI policies of developed countries, but explicit and central in developing countries

## Typical policies across OECD countries

- R&D tax relief for firms
- public/private partnerships
- stronger IPR protection
- attracting foreign researchers
- (centers of) excellence, critical mass

## Distribution oriented policies

- development of social technologies (Brazil)
- needs-based research (malaria)
- using new technologies in traditional products (potatoes)
- focusing on users (farmer, not industry-oriented)
- exploit local/indigenous knowledges (Mozambique, South Africa)
- promote participation of women and disadvantaged groups

## From KEPP to SCPP – from high-tech to learning



- ⌘ Positions within (some) economy-biased STI policy conceptions do assign a key role for social/distributional issues
  - ☒ Criticism of high-tech bias, emphasis on innovation in “low-tech” industries and services
  - ☒ From science-based innovation to pervasive learning (Lundvall: STI vs DUI knowledge)
    - ☒ the importance of a wider, inclusive conception of knowledge, learning and innovation
  - ☒ Social dimensions included in terms of their impact on economic performance, more than in their own right as a separate policy objective

## From KEPP to SCPP – accountability and politics



- ⌘ Accountability in “innovation systems” frameworks defined by indicators and “best practices”
  - ☑ Beyond economic and firm level indicators to indicators of distributional impacts
  - ☑ New sets of “good practices” in terms of distributional effectiveness (- input to this from ResIST research)
- ⌘ Dimensions that are neglected/de-emphasized in KEPP
  - ☑ Power, politics, goal conflicts
  - ☑ The directing (not only facilitating) role of public policies

# Widening accountability and adding politics: the ResIST CARE model



## ⌘ Three forms of inequalities:

### ☒ Representational inequalities

- ☒ Power, participation, accountability

- ☒ “Who gets a voice? How are decisions held accountable? To whom”?

- ☒ The importance of the processes of policy-making (“input legitimacy”)

### ☒ Structural inequalities

- ☒ Research & innovative capacity; human resources

### ☒ Distributional inequalities

- ☒ Distribution of benefits and costs between social groups

## ⌘ A ResIST hypothesis:

- ☒ There is correlation and causality between the three forms of inequality: more of one comes with more/less of the other(s)

## Widening accountability practices

- ⌘ Representation, participation (“participatory accountability”, cfr WP3; “input legitimacy”)
- ⌘ Cohesion/distributional indicators (“directive accountability”, cf WP3)
- ⌘ Understand knowledge flows beyond the “knowledge economy”
- ⌘ New sets of “good policy practice”, selected on distributional criteria



# Conclusions



- ⌘ Concern with growing inequalities has reentered STI policies
- ⌘ From this perspective we have identified two policy paradigms, differing in the extent and way they address inequality within STI policy
  - ⊞ Knowledge Economy Policy Paradigm
  - ⊞ Social Cohesion Policy Paradigm
- ⌘ These ideal types do not exist in practice as fully distinct, but can be used descriptively to characterize national, regional and global practices and normatively to guide policy development
- ⌘ SCPP emphasizes the key role of inclusive representation (power, influence, accountability) in STI policy for (in)equality issues to be taken effectively into account