



**GOVERNMENT R&D ALLOCATION POLICIES:  
AN EMPIRICAL EXPLORATION OF CHANGES  
IN DELEGATION AND EVALUATION MODES**

Bianca Poti and Emanuela Reale  
CERIS CNR

---

---

---

---

---

---

---

---

**AIM OF THE PAPER**

The aim of the paper is to give an empirical basis to the analysis of changes in the Government R&D allocation policy to public and private beneficiaries, from 1970 to 2002, using in a comparative way indicators on project funding developed in the ENIP project of the European PRIME network of excellence

The theoretical basis for analysing changes in the Government funding allocation is the distinction of different delegation modes between Government and public or private beneficiaries during the time (see D. Brown, 2003), to which an evolution of R/D project selection and evaluation modes is connected.

Countries analysed: Austria, Italy, Switzerland

---

---

---

---

---

---

---

---

**DEFINITIONS**

Project funding is defined as “money attributed to a group or an individual to perform a research activity limited in scope, budget and time”, distinguished from recurrent funding, and it is a central policy category, since it is an instrument for steering public and private R/D activity towards policy goals.

The production of these *ad hoc* indicators allows to consider the portfolio of project funding, together with its aggregated weight in financial terms.

---

---

---

---

---

---

---

---

**Basic data for 2002, million current PPP\$**

	ITALY	AUSTRIA	SWITZ.
<b>GERD</b>	15.230,2	5.117,9	5.556*
<b>GDP</b>	1.491.647	233.390,2	228.241,1
<b>GBAORD</b>	9.358,8*	1.466,7	2.960
<b>Total Population (x1000)</b>	57.994	8.053	7.348

\*2000

---

---

---

---

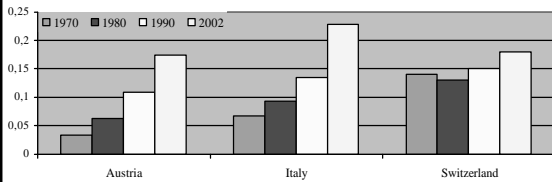
---

---

---

---

**Fig 1 Project Funding (PF) change: PF as % of GDP (1970-2002)**




---

---

---

---

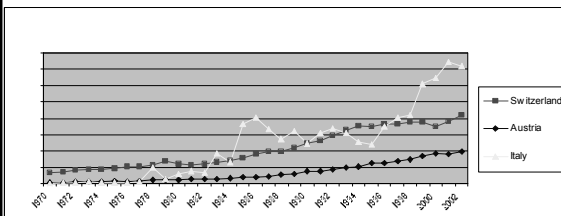
---

---

---

---

**Fig 2 Thirty years PF evolution at current value (Euros)**




---

---

---

---

---

---

---

---

## DEFINITION OF TYPE OF DELEGATION

**Blind delegation:** Policy makers trust the scientific community or private beneficiaries: scientists establish their own peer-review system of control. Scientific quality is accepted as a sufficient standard for using public money in research. Science is trusted to deliver in the medium and long term what society needs.

**Incentive delegation:** The incentive model comes near to the genuine principal-agent features: the principal (the policy maker) is attempting to formulate priorities that should serve as instruction to the agent in the execution of research. Scientists maintain relatively high independence in executing the instructions.

---

---

---

---

---

---

---

---

## DEFINITION OF TYPE OF DELEGATION

**Contract delegation:** The New public management framework has given rise to reflection on a more efficient use of public money and a more effective delivery of public service. The principal pays the agent and define in broad terms what she/he wants, while the agent promises to use her/his labour power and organisation to implement the wishes of the principal.

**Network delegation:** the State is mostly a facilitator; it means that Government wants to organise/develop knowledge sharing and thus gives the means to research institutions and scientists to self organise innovation networks with user systems, while it loses pretensions of instrumental guidance.

---

---

---

---

---

---

---

---

## AUSTERITY

It identifies a period of public budget reduction, which impact R/D project funding, producing many sectoral and institutional consequences.

To differentiate the political phenomenon from an economic trend we should need evidences on the political awareness /choices about funding reduction, i.e. aimed at enhancing institutional capabilities to survive and/or concentrating resources on specific priorities.

---

---

---

---

---

---

---

---

## HYPOTHESIS 1

**Hp 1:** The relation between Government and fund beneficiaries evolved from a low demanding to a more oriented and monitored one: from a “blind delegation” (’70s) to a “golden period” of a classical incentive-based relation and finally, through the economic crisis from mid ’80s to mid ’90s, to contract based relations, counterbalanced in some way by some network delegation way

---

---

---

---

---

---

---

---

## HYPOTHESIS 2

**Hp2:** The evaluation processes of Government project funding evolved too from an ex ante selection process, based on an internal to the beneficiary’s community judgement, towards a double (ex ante and ex post) evaluation process, where external actors are involved, economic impact criteria are included and the ex-post evaluation has an effect on future Government allocation choices.

---

---

---

---

---

---

---

---

## DELEGATION TYPOLOGY AND RELATED TYPE OF PROJECT FUNDING INSTRUMENT

**Blind delegation = Free projects and grants**

**Incentive delegation= R/D programmes and projects** included in large framework where horizontal and/or sectoral priority are identified]. The programmes have longer time horizon than R/D projects.

**Contract delegation = R&D contracts**, where the object of research is predefined. Contracts have short (1-3 years) time horizon.

**Network delegation= Research centers, S/T districts and parks.** Funds to Research centers have been included within project funding typologies and identified with fund to “temporary” R/D infrastructures.

---

---

---

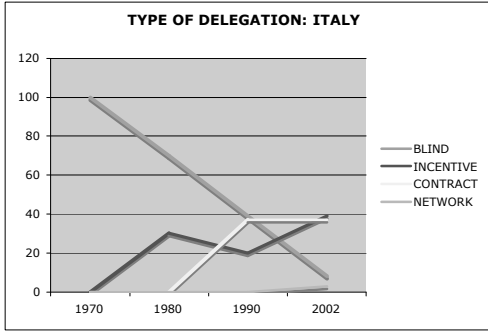
---

---

---

---

---




---

---

---

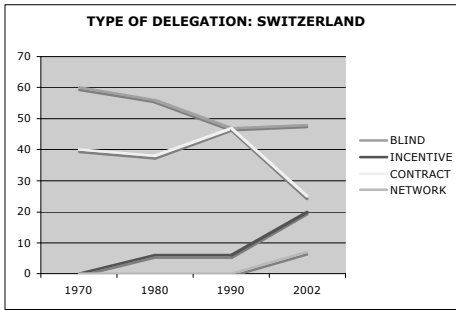
---

---

---

---

---




---

---

---

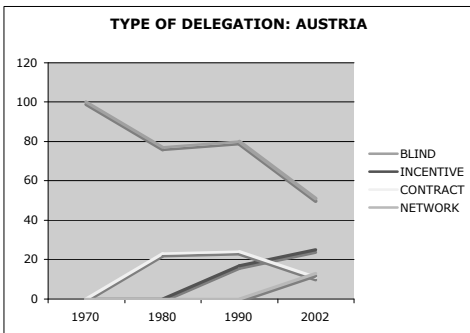
---

---

---

---

---




---

---

---

---

---

---

---

---

## PROCESSES OF SELECTION/EVALUATION

The process can be described through four types of indicators:

**\*Who:** Composition of the evaluation Committee: presence of external members; members from abroad; stakeholder representatives. Temporary or permanent structure of the evaluation Committee.

**\*How:**

- a) Methodologies: external peer review; bibliometrics; econometric models; cost/benefit analysis; case studies, a mix of instruments
- b) Criteria: scientific quality; economic impact; social impact; internationalisation

**\*When:** ex-ante, intermediary, ex-post evaluation

**\*Effects** of evaluation on: funding; priority settings

---

---

---

---

---

---

---

---

## OUR HYPOTHESIS

The move toward contract delegation is prevailing with respect to the network-based delegation, where the costs for policy making are mainly related to the building up of co-ordination processes.

The expected consequence for project funding is the reinforcement of the ex-ante evaluation processes, and the setting up of strong in-itinere and ex-post assessments, whose results are supposed to influence the resource allocation.

The hypothesis was tested for Switzerland and Italy.

---

---

---

---

---

---

---

---

## Switzerland

Given the characters of PF, the scientific quality of the projects is the main criteria of selection adopted: but there isn't a progression from an internal to the scientific community peer review to a review with experts or an evaluation by a committee with a mixed composition; different ways coexists since 70's also for academic oriented project funding, characterising the Swiss PF.

The role of SNF as intermediary body between the principal and the agents succeeded in order to avoid moral hazards and adverse selections.

---

---

---

---

---

---

---

---

## Italy

Passage from criteria based on scientific quality (blind delegation and incentive delegation) to a more diversified set of criteria, according to the cogent characteristics of the instruments.

Moreover, we note, on the one hand the opening to external experts of the peer committees in charge for evaluation, in order to acquire reviews from specialised scholars, thus assuring more precise and independent judgements. On the other hand, the enlargement of instruments based on contract delegation did not go with the implementation of ex-post evaluation, and consequently with a significant augment of the cost of policy making, as expected. Thus, the case of Italy does not fit with our hypothesis.

---

---

---

---

---

---

---

---

## Conclusions

The change in the Government allocation processes can be attributed to one of three different drivers:

- the **funder interest**: identified with the presence of intermediary bodies, different from policy makers
- a **policy idea**, where the driver is the Government
- a **mimetic behaviour**, which identifies as a residual category.

The empirical test of these hypothesis showed that there is a risk of oversimplification.

We looked only to three countries, but their differences were relevant to show that the transition was not linear neither homogeneous.

---

---

---

---

---

---

---

---

## Conclusions

The reasons can be found in the **source of change**: in some cases changes came were based on **political rhetoric**, such as in Italy, where a long but un-effective debate was present on the necessity of a centralised coordination among different Ministries, and a distrust characterised the relation between the State and its intermediary with the scientific community.

In other case, changes were driven by **intermediary agencies**, which remained strong, and succeeded in mediating among the emerging needs of third parties.

Pressure for more funds to innovation and thematic policy were present also in Switzerland, but the historical intermediary (SNF) didn't loose its power and reorganised itself.

---

---

---

---

---

---

---

---