Instruments shaping policy design: the case of the focalized policies in the Plan *Argentina Innovadora 2020*

International Conference

The Transformation of Research in the South: policies and outcomes

January 2016

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Outline

Background concepts and ideas:

- STI Policy
- Political Sociology of Public Policy Instruments (PSPI): Policy Instruments
- National System of Innovation (NSI)

STI Policies and Instruments in Argentina:

- Ministry of Science, Technology and Productive Innovation (MINCYT)
- Sectorial Funds: Technological and Regional Innovation Sectorial Funds (TISF and TRISF), and the High-Technology Sectorial Funds (HTSF)
- National Plan on STI: Plan *Argentina Innovadora 2020* (*PAI 2020*)
- Sectorial Funds and PAI 2020 interaction

Background (1)

olicy:

"The decisions and measures taken by the government in order to create, fund, support, promote, mobilize and influence the direction and rhythm of the use and development of scientific and technological resources (Shils 1968; Rico-Castro and Morera Cuesta 2009)".

fore, Policy implementation studies should analyze the operationalization process of lic policy.

ical Sociology of Policy Instruments (PSPI) approach:

ublic policy instrument constitutes a device that is both technical and social, that organizes specific social relations between the state and those it is addressed to, according to the representations and meanings it carries. It is a particular type of tution, a technical device with the generic purpose of carrying a concrete concept

Discourse and narrative to support the policy implementation process

Background (2)

onal System of Innovation (NSI):

main ideas behind this conceptualization are the following:

Real economic actors behave since they are seen as rationally bounded agents that (inter)act in an uncertain atmosphere due to the lack of complete information. In turn, this supports the idea that their decisions are based on their accumulated knowledge in a path-dependent trajectory; and,

nstitutions -formal and informal ones- like R&D organisms, nfrastructure, educational, financial and legislative systems are extremely important as framework conditions for spurring innovation and, ultimately, economic growth and national competitiveness.

STI Policies and Instruments in Argentina

ARGENTINA INNOVADORA 2020

PLAN NACIONAL DE CIENCIA, TECNOLOGÍA E INNOVACIÓN PRODUCTIVA

Ministry of Science, Technology and Productive Innovation (MINCYT)

ate: December 2007.
lission: To guide national STI by formulating policies and plans that dicate the main social and sectorial problems to be solved and the echnological capabilities that are needed to be developed to address hem.
oal: To assist in generating a new productive model and turning the ountry into a knowledge society improving the competitiveness of the rgentine economy.
linister: PhD. Lino Barañao - well-known researcher with extensive xperience in connecting the scientific and business sectors as a result of is research in animal biotechnology.

- **Objective:** To rebalance public funding from a more neutral to a more

Constructing the Sectorial Funds (1)

ommon funding instrument in many Latin American countries.
ew generation of instruments for promoting innovation:
- Thematic or sectorial focus;
- Public-private partnerships (PPP) for implementing high-tech projects;
- Linking the research base of the country and the productive sector.

IS: conceptual background for Argentine STI sector since 1998.
romotion system of the Argentine S&T: Most of the funding from
ultilateral financing institutions - especially the IADB:
- They introduce and disseminate the NIS approach;
- They "put conditions" regarding the design and implementation of public policies, organizational structures and management devices.

o consolidate the Argentine innovation system:
. Government intervention: knowledge and S&T are public goods.

Constructing the Sectorial Funds (2)

dopting the SF by adapting them as the Brazilian experience proved to e successful in addressing similar needs and objectives.

important differences:

a) Source of the financial resources: Based on International Bank for Reconstruction and Development (IBDR) and Inter-American Development Bank (IADB) loans instead of on the National Treasury.

b) Eligibility of actions: Funding is only for experimental development, high-tech innovation and pilot plants/demonstrative projects.

c) Only one main implementation actor/manager: MINCYT- National Agency for Scientific and Technological Promotion (ANPCYT).
   - **Ministry**: Responsible for **technical specifications** (theme, objectives, and expected outcomes and impacts).
   - **ANPCYT** through the Argentinean Sectorial Fund (**FONARSEC**): In charge of the **calls for projects and the evaluation process**.

Constructing the Sectorial Funds (3)

lid-2007 - 2009: Secretary of Science and Technology (SECYT) and the NPCYT in negotiations with the IBRD to sign a loan of U$s 150 million.

- August 2009: Contract signed.

008 - 2010: Negotiation with the IADB for loan of U$S 750 million elivered in successive operations.

- March 2010: Contract signed.

types:

a) **High-Technology Sectorial Funds (HTSF)**: IBRD + combining existing knowledge with bio, nano and/or ICTs -or general purposes technologies (GPT) - to improve/ generate new processes/products.

b) **Technological Innovation Sectorial Funds (TISF)**: IADB + projects focused on agroindustry, renewable energy, health, environment, and social development.

c) **Regional Innovation Sectorial Fund (RISF)**: IADB + designed in 2012

Constructing the Sectorial Funds (4)

011: First call for proposal for the HTSF.

- Complexity and novelty slowed down the implementation.
- 2007-2008: Preparatory activities because investing in the SF was considered a highly risky activity:
  - The amount of money devoted to each project (U$S 5-10 million)
  - The lack of previous examples of successful PPP

anks requested for evidence demonstrating that the selected echnologies and sectors could produce high impacts on the productivity nd competitiveness of the country.

Bargaining processes:

a) Authorities from the banks visited the country several times.
b) International consultancy firms confirmed the soundness of the selected technologies, identified possible topics, key actors of the selected areas and proposed a governance system for these

Constructing the Sectorial Funds (5)

tivities carried out as part of the **"express planning"** for both type of SF :
dentifying the issues to be the topics of each call for proposals;
Consulting with the highest public authorities responsible of the sectorial policy and agreeing about the themes;
Exploring their feasibility in the scientific and productive sectors by,

a) Identifying public available capabilities, including state of the art, researchers in the area, and first-class labs that could transform knowledge into pilot plants/demonstration units and,
b) Detecting private companies prepared to invest resources and interested in being part of the developments to scale up those results;

Drafting the documents with technical specifications, or proposed profiles (PP);
Developing validation processes by international experts that certify such capabilities and the relevance of the selected topics, and;
Drawing up the final version of the documents and submitting them to the Ministry to resolve their implementation by the FONARSEC through specific call

Constructing the Sectorial Funds (6)

TSF implementation : *learning by doing*.

09: TISF carried out in a more structured and patterned way.

- **Operative Rules**: Manual that complements every operation that is part of the IADB loan.
- SF implemented in a two-stage cycle.
- First phase: Steps 1 to 5 of the "express planning" adding the consulting stage of the Sectorial Technology Councils (STC).
  - 1 for each of the SF.
  - Composed of no more than 10 representatives of the public, private or civil society, and scientific and technological sectors.
  - Public representatives : MINCYT and ANPCYT-FONARSEC + other Ministries government bodies with competence in that sector.
  - Private or civil society members: Experts in the field taking part in an individual capacity.
  - Once the documents with technical specification are prepared these

National Plan on STI: Plan *Argentina Innovadora* 2020 (PAI 2020) (1)

reasons for PAI2020:

1. Law 25.467: A national plan on STI must be issued every 4 years.
   - ❖ Art. 21: It has to be the outcome of an ample consultation process among all the interested parties from all the sectors.
2. Authorities wanted to provide a consolidated perspective of all the activities that were carried out and of the intermediate results -especially regarding the SF call for proposals- achieved.
3. A plan is an effective communication tool that produces visibility.
4. It offers the opportunity to translate practical activities into concepts and to develop sound arguments for those activities

National Plan on STI: Plan *Argentina Innovadora* 2020 (PAI 2020) (2)

nd - 2009: **First phase**: The process started in simultaneous with the
express planning".
010: The staff worked in parallel for the SF implementation and the
rmulation of the National Plan on STI.

- Activities: Diagnosis, identification of problems and opportunities, and detection of priority sectors.

eptember 2010: Expert meeting divided in 10 Working Tables formulating
sectorial document and identifying strengths and weaknesses, objectives
nd sectorial priorities.

011: The documents were validated by consulting with:

1. The Federal Council for Science and Technology (COFECYT) and the Inter-institutional Council on Science and Technology (CICYT).
2. The Advisory Committee of the Plan- composed of recognized

National Plan on STI: Plan *Argentina Innovadora* 2020 (PAI 2020) (3)

utcome: **PAI2020-Strategic Guidelines 2012-2015.**

- Short-term needs and priorities.
- 2 main strategies:
  a) Institutional development of the National System on Science, Technology and Innovation; and,
  b) Focalization- to realize the 2020 vision.

ocalization: The outcome of the strategy adopted for the SF nd translated into 36 Strategic Socio Productive Cores SSPC).

" They are the result of combin(ing) the use of the potential offered by general purpose technologies in different socio-productive sectors and

National Plan on STI: Plan *Argentina Innovadora* 2020 (PAI 2020) (4)

012- 2014: **Second phase**:

- Around 1200 people involved;
- 24 Implementation Tables (IT) addressing the SSPC;
- 9 months of work for each; and,

❖ Outcome: **24 Operative Plans** (OP): Actions, outcomes and indicators.

esson learned from the "express planning": OP were formulated by an xtensive process of consultation and coordination of different actors ith their own logics and objectives.

: Identified several goals and applied the STI instruments to promote ctivities and to develop new capabilities – provided 2-4 projects ideas for he SF.

P: Roadmap for realizing those objectives in terms of basic and applied esearch that should be supported, specialized human resources needed

National Plan on STI: Plan *Argentina Innovadora* 2020 (PAI 2020) (5)

nexpected result: OP compiled demands from actors other than the uthorities responsible for the sectorial policy. There were many more and ew demands related to setting up an articulated and developed NIS.

ew funding instruments were implemented:

- Basic and applied research grants;
- Subsidies and loans for technological developments;
- Scholarships for doctoral students and researchers.

were running in parallel and overlapping with the first phase of the SF cluding the Sectorial Technology Councils.

- STC compared to the hundreds of participants that were part of the OP, are a highly restricted governance system.
- STC as part of a specific, closed and guided process could assure the quality of the selected ideas

National Plan on STI: Plan *Argentina Innovadora* 2020 (PAI 2020) (6)

simultaneous with the implementation of the Plan, the enewal of the IADB loan had to be annually negotiated.

- 2011: The IADB proposed to create a new Sectorial Fund focused on Environment and Climate Change as a sector.
- 2012: The Ministry proposed a new type of SF, the Regional Innovation Sectorial Fund (RISF).
  - Designed to address the requests from provinces where there were no consortiums neither the technical capabilities to develop frontier technology.
  - Call for proposal:
    - Only covering the topic;
    - No technical specification; and

Conclusion

The adoption of a foreign and highly selective STI instrument was adapted to the local context, needs and resources. It took around 3 years to agree upon the implementation procedures and implement the first calls for proposals.

a) Bargaining processes expanded beyond the boundaries of the traditional STI actors and included representatives from other State institutions.
b) High level of technical and political articulation and coordination of actors.
c) New management devises and institutions created: The Sectorial Technology Councils and the FONARSEC unit.

Conclusion

Participatory model of policy-making instead of a model pulled by technical rationality and informed by expert knowledge.

a) Bottom up process of policies and strategies formulation was deliberately implemented with the expectation of promoting the implementation of the SF by traditional actors of the STI sector in partnership with those from the private sector.

b) Methodology may have been in contradiction with the narrowly focused objective of the financing instrument but produced the opposite result.

c) Uncovered demands connected to the SF and to the development of a highly articulated NIS.

d) The National Plan and the IT adopted the focalization strategy. Policy instrument and policy design have been mutually affected and

Conclusion

Effects of the public-private cooperation:

a) Constitution and consolidation of a new actor in the STI sector as it has given voice to representatives of the productive world.
b) The private sector is empowered through the interaction with the S&T agents as well as participating in the rounds of meetings (Working Tables and Implementation Tables) that formulate and design policies.
c) Once it is part of the policy formulation it is also doing politics. These instruments not only implement they are also designing and modifying policies.

Thank you

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