Le rôle croissant des approches expérimentales dans l'évaluation ex-ante et ex-post des politiques agricoles

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Politiques agricoles et alimentaires : trajectoires et réformes

Colloque thématique de la SFER 20-21 Juin 2018 à Montpellier Supagro

Session organisée

Evaluation des politiques agricoles: évolution des objectifs, des méthodes et des données

Le rôle croissant des approches expérimentales dans l'évaluation ex-ante et ex-post des politiques agricoles

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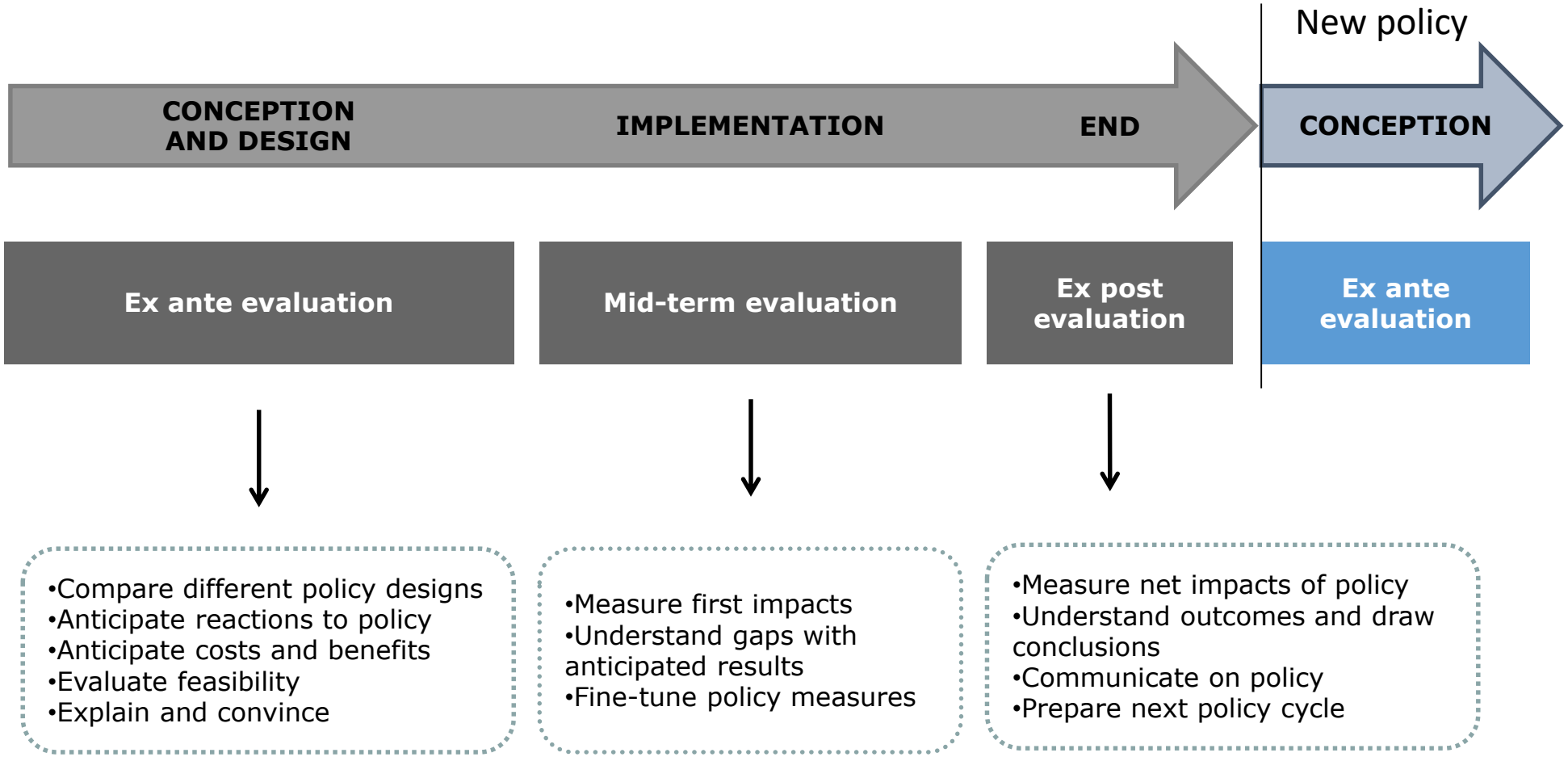
REE CAP

Research network on Economic Experiments
for the Common Agricultural Policy

Context:
the current evaluation toolbox and new evaluation needs

Policy evaluation cycle



The evaluation tooolbox

Obseved data

- FADN / RICA (DG Agri)
- Farm Structure Survey (Eurostat)
- Market data, Eurostat, OECD, FAO…
- Surveys, focus group

Ex ante evaluation

Ex-post evaluation

Simulation models

Statistical and econometric analysis

CAP reform and new needs

- Payments targeted at **farm** or even plot **level**;
- Accounting for the **voluntary** nature of many measures;
- Allowing the evaluation and acceptability of **regulatory** measures (with no EU funding involved);
- Accounting for the **heterogeneity** in CAP implementation across Member States and regions.

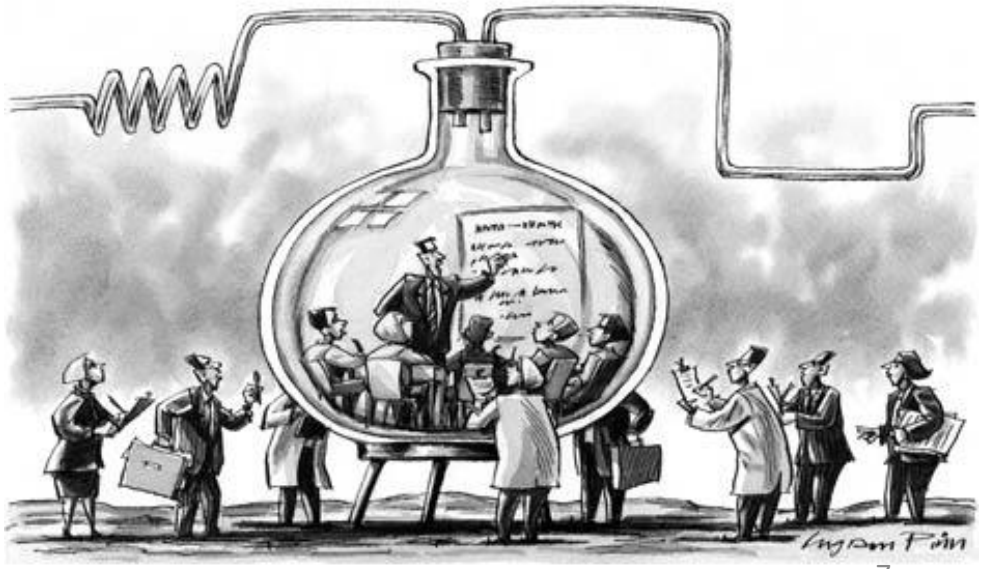
Needs for evaluation tools :

- Measuring the net impact of a policy: accountability of public money
- Accounting for behavioural drivers in farmers' decisions: anticipate acceptablity and counter-intuitive effects
- Being flexible enough to bring quick responses to local policy design issues prior to implementation

Experimental approaches

Experimental approaches

- Data **generation controlled by the experimenter** (instead of observational data)
- In a **controlled setting**: comparison of a treated group with a control group
- Ensuring replicability and representativity: **randomization** procedure for subject selection and treatment assignment
- Often rely on **revealed preference methods** (behaviour is usually incentivized)



Type of experiments

Economic experiments

- Laboratory experiments
- Discrete Choice Experiments (DCE)
- Field experiments
- Randomized Control Trials (RCT)

	Alternative A	Alternative B	Current situation
Reduction of herbicides use in proportion of present use	30 % reduction	60% reduction	
Supplementary localized use of herbicides (max 10% of the committed area)	Allowed	Allowed	
Collective and final bonus for each farmer committed if 50% of		Final bonus 150€/ha	
Administrative and technical assistance	Not included	Included	
Payment per year and per hectare subscribed	170 €/ha/an	330 €/ha/an	
Choose your preferred option →	☐	☐	☐

Economic experiments are particularly useful:

- to elicit farmers' preferences and to understand their reactions to policy in the presence of behavioural factors (risk and loss aversion, social norms, intrinsic motivations, time inconsistencies …), usually not accounted for by other evaluation methods;

- to test different policies prior to implementation in order to compare their effectiveness and/or efficiency;

- to generate fined-tuned data enabling to measure the net impact of the policy and to distinguish it from other factors.

Methodological challenges

How to present economic experiments to research funders and policy makers?

Replicability and generalizability of economic experiments results

How to choose the best format within the portfolio of economic experiments?

The way towards launching Randomized Control Trials with European farmers

How to recruit farmers as participants in economic experiments ?

Combining economic experiments with other data sources and methods

What types of policy changes can be evaluated with economic experiments?

Can we use web-based surveys with farmers?

Promoting experimental approaches for CAP evaluation

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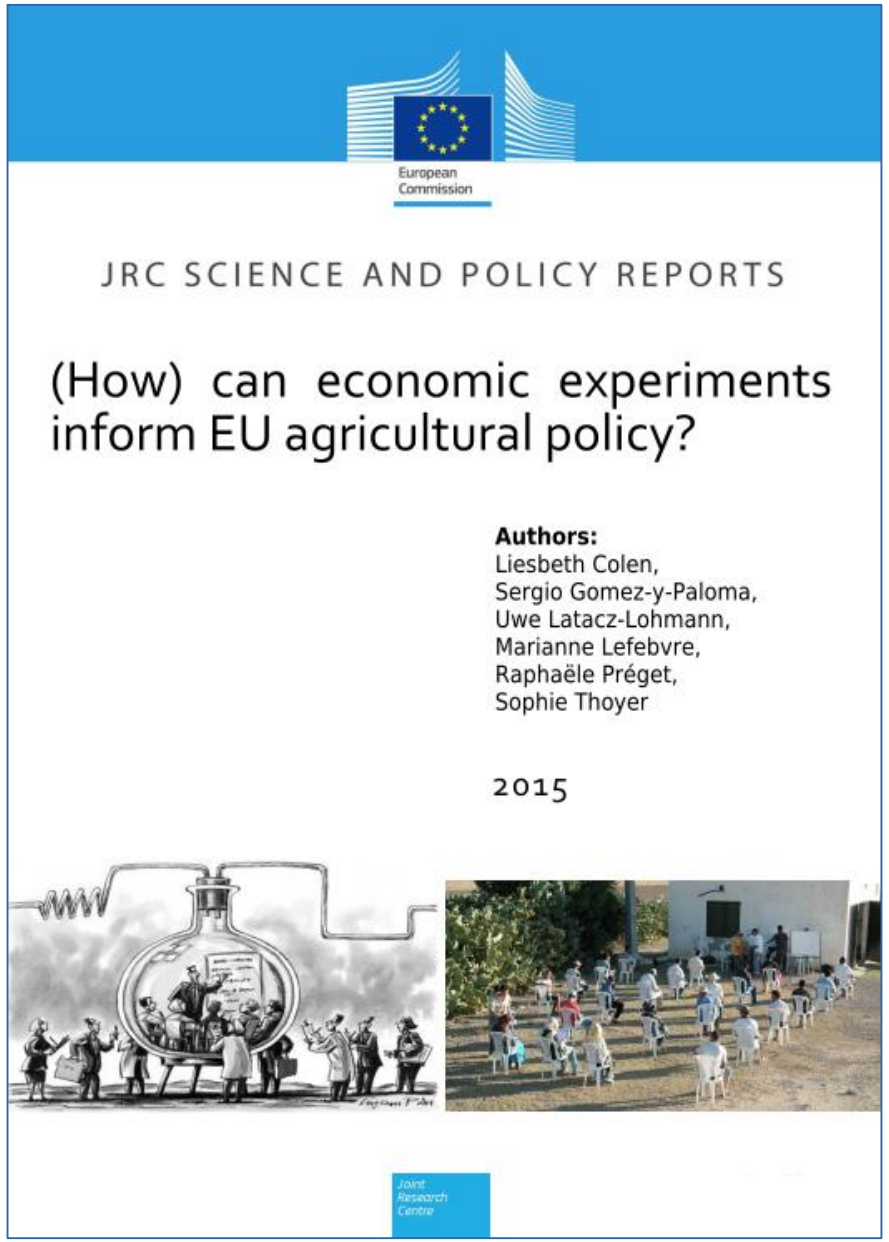


2014: Origins of the network

- Joint work with JRC of the European Commission at Seville
- Presented in a workshop in January 2015 at DG Agri
- **Objectives:**
  - ✓ Promote a better use of experimental approaches in the CAP evaluation toolbox
  - ✓ Create a European network of researchers able to respond to calls on this issue

2017: creation of REECAP

- **Website:**
  https://sites.google.com/view/reecap/about
  Contact: info@reecap.org

Our mission: To bring together researchers, experts and policy makers interested in the use of economic experimental approaches to evaluate and improve the Common Agricultural Policy

- 6-7 June 2017 in Angers
  1st workshop on methodological challenges
  - 34 researchers from 11 different EU Member states
  - 9 policy makers or experts informing policy-makers



2018: REECAP activities

- *European Review of Agricultural Economics* **special issue**

  "Enriching the CAP evaluation toolbox with experimental approaches"

  - 15 papers submitted, each sent to 3 reviewers
  - 9 papers selected for the second phase (*revise & resubmit process*)
  - Coaching workshop in Montpellier Friday and Saturday
  - Publication planned for end of 2018 – beginning of 2019

- **2nd REECAP workshop** in Vienna 26-27th September 2018

  - organized by REECAP, BOKU, and IUSF in cooperation with the "Annual Conference of the Austrian Society of Agricultural Economics" – Link with Center for Behavioural and Experimental Agri-environmental Research (CBEAR – US): http://centerbear.org/about/

Perspectives for research practices

- Need to build a shared experimental data platform or shared experimental data bases
  - Open to researchers, experts and policy makers
  - To centralize and make available already-obtained experimental data
  - To coordinate studies or replications of experiments in different countries or different contexts
  - To increase the dissemination and eventually the impact of experimental results
  - To share results, including no-impact outcomes (less easily publishable)
  - To foster the integration of experimental data into “simulation models” or any other agricultural policy evaluation tool.

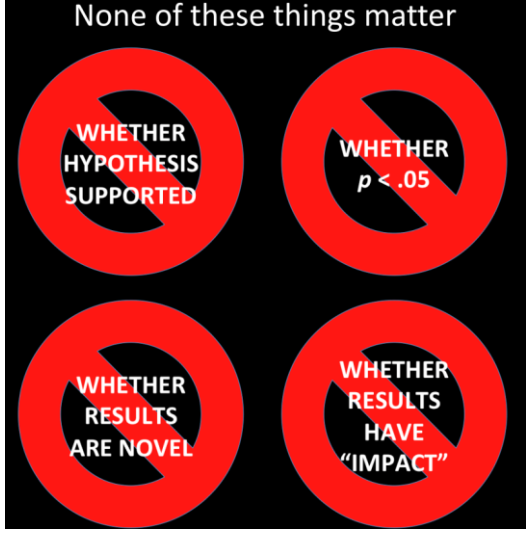
Pregistration of experimental protocols in economics

- (created in 2012) registry for Randomized Controlled Trials in the fields of economics, political science, and other social sciences. The RCT can be run anywhere in the world.
- Draft trials are reviewed
- Not linked to publication

Example: LE COENT, Philippe et al. 2017. "Effect of social information on farmers' irrigation decisions." AEA RCT Registry. July 13. https://www.socialscienceregistry.org/trials/2283/history/19389

Registered report publishing format

(108 journals have accepted this format in medicine, psychology, neuroscience)



Authors submit **STAGE 1** manuscript with Introduction, Proposed Methods & Analyses, and Pilot Data (if applicable)

Stage 1 peer review

Are the hypotheses well founded?

Are the methods and proposed analyses feasible and sufficiently detailed?

Is the study well powered? (≥90%)

Have the authors included sufficient positive controls to confirm that the study will provide a fair test?

If reviews are positive then journal offers **in-principle acceptance (IPA)**, regardless of study outcome (*protocol not published yet*)

Authors do the research

Authors resubmit completed **STAGE 2** manuscript:

- **Introduction** and **Methods** (virtually unchanged)
- **Results (new)**: Registered confirmatory analyses + unregistered exploratory analyses
- **Discussion (new)**
- **Data deposited in a public archive**

Stage 2 peer review

Did the authors follow the approved protocol?

Did positive controls succeed?

Are the conclusions justified by the data?

Manuscript published!

See https://cos.io/rr/

CENTER FOR OPEN SCIENCE

Pregistration of experimental protocols in economics
Pros & Cons

+ Reinforce the importance of the processes of research rather than results

+ Improved use of theory and stronger research methods due to the initial review of the protocol

+ Overcome the publication bias that blocks negative findings from appearing fully in the literature.

+ Contribute to address the 'Reproducibility Crisis'

- Favor confirmatory research (hypothetico-deductive model of the scientific method): Science is also exploratory
- Forces scientists to use what you might call a *one-shot approach*: You get only one chance of obtaining a significant result. You are not allowed to accumulate evidence, for example by testing more participants

Perspectives for policy recommendations

Maintain a lively network of researchers, evaluation agencies, and policy-makers working together to:

- Identify relevant evaluation questions for CAP
- Develop more adequate monitoring and evaluation frameworks, including the design of pilot studies before full implementation
- Propose practical solutions to issues related to experiments within the CAP framework:
  - Enrolling farmers
  - Ethical concerns
  - Create control groups
  - Reinforce jointly internal and external validity
- Succeed in bringing together various complementary evaluation methods

Thanks for your attention