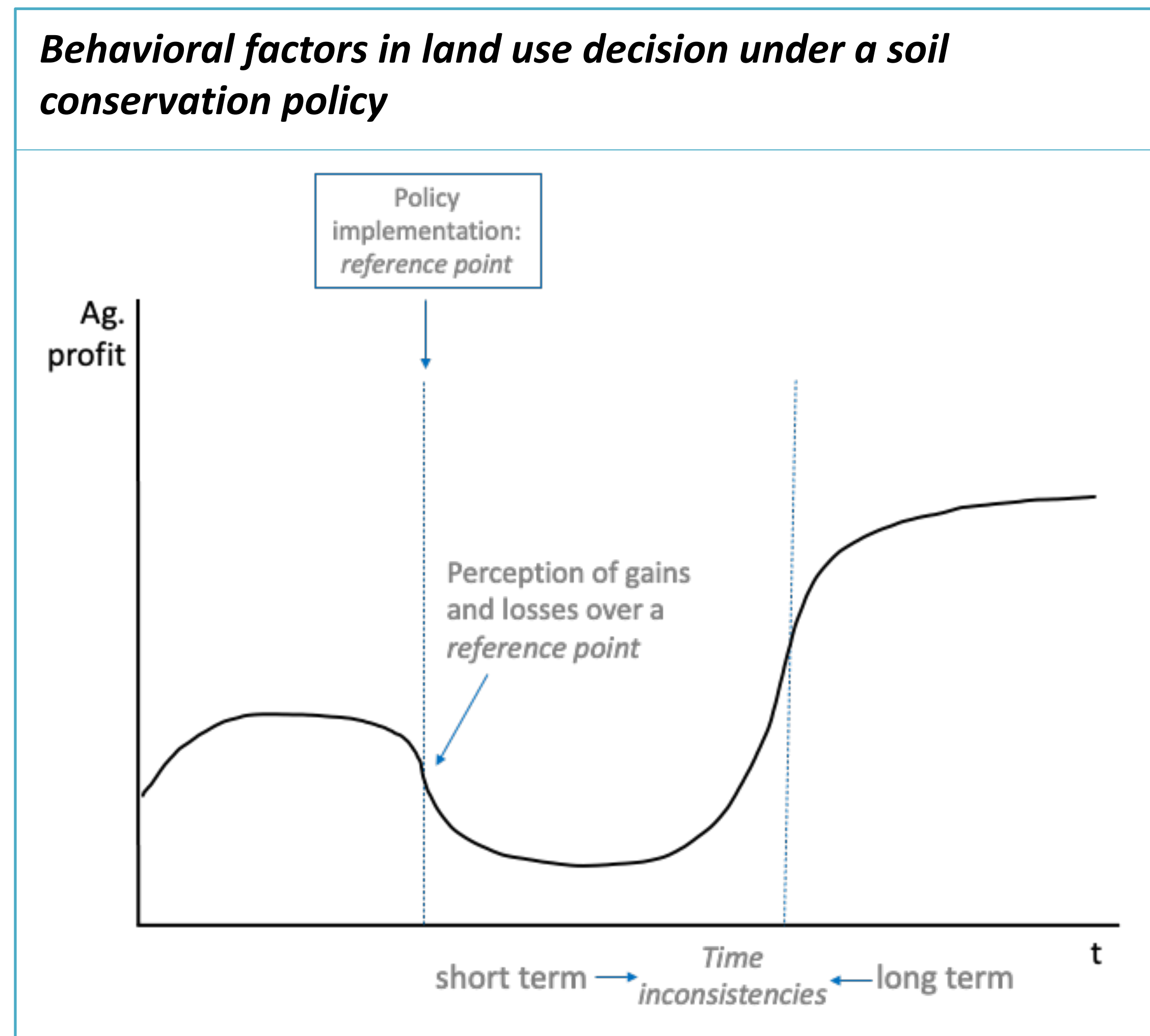


# The role of the Reference point and Time inconsistencies in Farmers' Adoption of Sustainable Soil Practices.

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## Research background

- Trade-offs posed by the agri-environmental policies at the farmer level can erode the efficiency of the policy.
- Behavioral factors underlying decision making in the agri-environmental field matter.
- E.g.: land use decisions under a soil conservation policy are affected by farmers':
  - Perceptions of gains and losses  
*Framed in the Prospect Theory (Kahneman and Tversky, 1979)*
  - Time preferences  
*Framed in time inconsistencies (Lowenstein and Prelec 1992, 1993).*



## Research questions

- How did the time in which the policy entered into force operate as a favorable *reference point* for different types of farmers?
- How did the relevant time inconsistencies (*Hyperbolic discounting, the Signal effect and the Preference for improving sequences*) affect soil use decisions of different types of farmers?

## Empirical strategy:

### Case study: Soil conservation policy in Uruguay.

- Imposes restrictions on soil use to prevent erosion.
- Main component: Soil plans at farmer level with land use decisions under policy restrictions.

- Dataset of soil plans from Uruguay from 2013 – 2021.
- Modeling behaviors using GAMS.

### RQ Modeling strategy

- Baseline scenario: key behavioral parameters of the Value function of the Prospect Theory will be calibrated to replicate the observed situation.  
Alternative scenario: different trajectories for the agricultural profit (reference point) will be simulated.
- Hyperbolic discounting and Signal effect: Calibration of the parameters of the time discounting factor that captures time inconsistencies.  
The estimated values will define the are present.  
Preferences for improving sequences: Conditional on finding a suitable functional form to make it empirically testable.

## Contribution and expected outcomes:

- Contribution to a growing but not yet extensive literature on the application of the behavioral hints in the agri-environmental field.
- If reference point and/ or the time inconsistencies affected compliance to the policy:
  - AEP should factor in the behavioral factors in their design.
  - AEP should *frame the decision-making* - in the sense of Kahneman and Tversky- in a way that facilitates the acceptance of trade-offs at the farmer level.