Agri-Environmental Scheme objectives and evaluation

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AES: a weak flexible multipurpose policy tool

1. From the accompanying measures of the 1992 McSharry CAP reform to the payments of Environmental Services

2. Cost effectiveness evaluation approaches: transaction costs, windfall effects and incentives.

3. Public economics of AESs: an imperfect tool for an imperfect world

AES: a weak policy tool

Compulsory for EU member states (since Mc Sharry CAP reform).

Optional for farmers: expected private adoption benefits must be higher than non adoption benefits.

However payments should not exceed participants' extra costs or forgone profits.

A difficult equation solved – or not - by the heterogeneity of farmers and farmlands around fine tuned references of usual farming practices and more or less smart policy design and implementation.

AES: one policy tool used for very different objective

(Van Huylenbroeck, G., & Whitby, M. (1999). Countryside Stewardship: Farmers, policies and markets (p. 232). Oxford: Pergamon.)

Reduced use of polluting inputs: Accompanying measures of the Mc Sharry CAP reform: the integration of environment stakes in the CAP mainly comes from the decrease in agricultural commodity price support…but more extensive practices induce adaptation costs at the farm level.

Land abandonment: Technical change endangers the agricultural management of semi-natural land of ecological interest: marshlands, slopes, moorlands (Brouwer, F. (Ed.). (2004). *Sustaining Agriculture and the Rural Environment: Governance, Policy, and Multifunctionality*. Edward Elgar Publishing.)

Compliance with stricter environmental rules (EU directives about water quality): induced costs that can be covered by specific AES (N catch crops).

Income support of certain farmers: CAP reform decoupling of public support disfavored certain farm types (extensive livestock in France) that are further compensated by AES (*Chatellier et Delattre, 2005, Economie rurale*)

AES: a very flexible policy tool

(Van Huylenbroeck, G., & Whitby, M. (1999). Countryside Stewardship: Farmers, policies and markets (p. 232). Oxford: Pergamon.)

Whole farm measures: French grassland premium, conversion into organic.

Horizontal schemes: Finnish basic measures (more than 90% of farmers)

Fine tailored measures: winter coverage of arable land, mowing from center to periphery of the plot

Ecological targeting: ponds, hedges, dead trees, wall, forest borders

agronomic targeting: crop diversification, late mowing**,** forest grazing

Geographical targeting: sites of specific interest

High variety of measures and schemes (combinations of measures) more or less difficult to design, to manage and to inspect, with more or less predictable results.

AES transaction costs (1)

Why: AES aim at externalities and public goods with no clear definition and difficult to quantify (landscape beauty, non point pollution, ecosystem functions) Fear of hidden action/information implies costs to specify AES commitments, inspect and enforce them.

Transaction costs are higher for environmentally ambitious AES

Public administrative costs are not negligible (Falconer, K., & Whitby, M. (2000). Untangling red tape: scheme administration and the invisible costs of European agri-environmental policy. *European Environment*, *10*(4), 193-203.)
Decreased by the number of scheme participants and the administration learning process over time (Falconer, K., Dupraz, P., & Whitby, M. (2001). An investigation of policy administrative costs using panel data for the English environmentally sensitive areas. *Journal of agricultural economics*, *52*(1), 83-103.)
Poorly if ever monitored (Mettepenningen, E., Beckmann, V., & Eggers, J. (2011). Public transaction costs of agri-environmental schemes and their determinants—Analysing stakeholders' involvement and perceptions. *Ecological Economics*, *70*(4), 641-650.)

AES transaction costs (2)

Private transaction costs may consume a high share of the AES payment, decreasing its incentive for adoption and practice improvement.

Private transaction costs may deter adoption for environmentally most ambitious measures (Ducos, G., & Dupraz, P. (2006, July). Private provision of environmental services and transaction costs: Agro-environmental contracts in France. In *Contribution paper to the 3rd World Congress of Environmental and Resource Economists, Kyoto, Japan, July* (Vol. 24).)

Private transaction costs are largely fixed costs at the farm level and may deter adoption of farms with smallest eligible area (Espinosa-Goded, M., Barreiro-Hurlé, J., & Dupraz, P. (2013). Identifying additional barriers in the adoption of agri-environmental schemes: The role of fixed costs. *Land use policy*, *31*, 526-535.)

Over time, **private transaction costs have been more and more explicitly taken into account** into policy design, by specific measures in AES or inclusion of transaction costs in the payment calculation.
Public transaction costs remain largely implicit and may favor simplest measures

AES effectiveness

The optional nature of participation in AES entails a number of difficulties.

The windfall effect, especially for reduced use of polluting inputs: many participants would have done the same choices without AES payments (Chabé-Ferret, S., & Subervie, J. (2013). How much green for the buck? Estimating additional and windfall effects of French agro-environmental schemes by DID-matching. *Journal of Environmental Economics and Management*, *65*(1), 12-27).

Geographical dispersion of environmental efforts is useless when threshold effects prevail (Dupraz, P., Latouche, K., & Turpin, N. (2009). Threshold effect and co-ordination of agri-environmental efforts. *Journal of environmental planning and management*, *52*(5), 613-630.)

Geographical targeting and higher payments in restricted eligible area is one response (Desjeux, et al. (2015). Evaluating the impact of rural development measures on nature value indicators at different spatial levels: Application to France and The Netherlands. *Ecological Indicators*, *59*, 41-61.)

More elaborate solutions (agglomeration bonuses, collective contracts) are rare.

Public economics of AES

More and more reliable AES evaluation methods have been developed

DiD, econometrics need huge amount of economic, agricultural and environmental data

However, environmental benefits remain difficult to monetarize, also because of delayed effects over time: cost-benefit analysis are very uncertain.

Progress have been realized with higher participation of social/environmental associations or representatives in AES design (Mettepenningen, E., Beckmann, V., & Eggers, J. (2011)).

Polluter/Beneficiary Pays Principles are still not enough implemented

- Inefficient AES are designed to cope with this situation: for instance locally designed AECS can not equalize the marginal abatement cost of green house gaz reduction (because of the forgone profit rule)
- Local authorities may target local public goods (landscape beauty, water quality) with EU money rather than global public good (climate change, biodiversity).
- Result oriented measures: higher risks for more environmentally skillful farmers ?

Local and global public goods

Local good: the beneficiaries of the local good belong to a limited territory (water quality, landscapes national defense)

The public good funding and management must logically be set by the local authority.

Global good: the beneficiaries are far beyond the borders, although its production / degradation is rooted in small areas (biodiversity, climate stability, health):

International coordination is needed, some states have the temptation to behave as free riders.

CAP could make additional efforts to support agricultural services to global public goods

The current rules of CAP funding and decision making lead each Member State to favor its local public goods.

THANK YOU FOR YOUR ATTENTION

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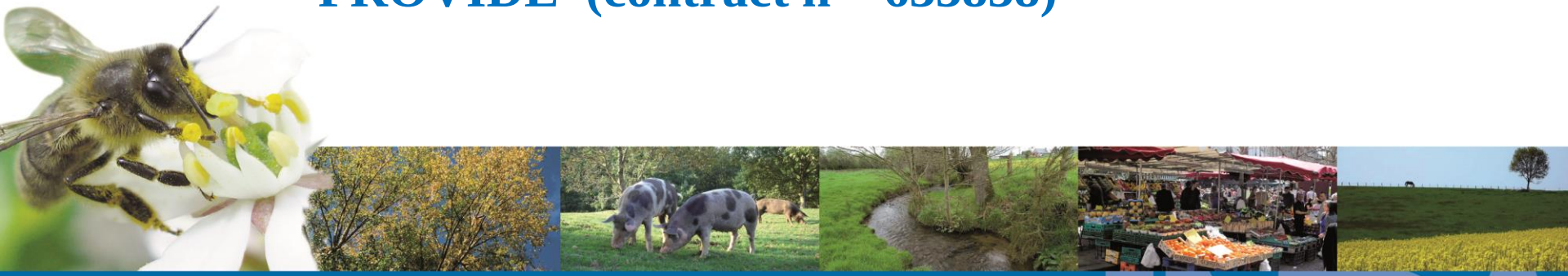

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