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EU Agri-Environmental Payments: Appropriate Policy or Protectionism in Disguise?

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Thanks for the invitation
I was asked to look at the agri-environmental policy from a theoretical perspective
Based on a neo-classical perspective, I want to give a brief overview how agri-environmental should be designed.
In this context I want to look at some critical issues with regard to the EU agri-environmental policy
I want to ask therefore the rather provocative question of whether offering agri-environmental payments, as practised in the EU is appropriate or a more sophisticated approach of hiding protectionism.
Critical issues with regard to the appropriateness of the EU agri-environmental policy can be seen in the following areas:

1. **Low emphasise given to targeting:**
   - Environmental goals are often not clearly specified
   - The source of environmental problems is often not addressed directly

2. **Low efficiency:**
   - Offering voluntary contracts: Farmers are rewarded for the reduction of pollution rather than being punished for causing it
   - CO-financing agri-environmental payments from the EU budget creates may lead to a restaurant table effect.

3. **Low effectiveness of public expenses:**
   - Once it has been decided to offer voluntary contracts, environmental targets could be reached with less public expenses
Let's have a closer look to the issue of targeting
Let us first look of how to address a positive environmental good, such as hedgerows marking the boundaries of agricultural fields. The optimal policy would be to address this issue directly to make sure that the marginal environmental benefit equals the marginal private costs associated with the provision of such a public good. Introducing subsidies or mandatory regulations for the maintenance of hedgerows is relatively easy. However, it will be extremely difficult, if not impossible to directly address agri-environmental goods related to the biodiversity of eco-systems or the aesthetic value of an agricultural landscape. The Problems are, that these goods are difficult to be attributed to specific farmers and that sufficient information about the marginal values of these goods are mostly not available.
The implementation of first best policies is similarly difficult when we look to the negative externalities of farming.

The optimal level of agri-environmental pollution measured by the quantity of emissions is given where the Marginal environmental costs associated with the pollution equals the marginal private benefit.

However, it is extremely difficult to attribute pollution to specific farmers, if we consider that we deal mainly with a non-point source pollution.

Given the fragmented farm structure in the EU, it is also extremely difficult to measure pollution on a plot to plot basis.
If it's not possible to implement first-best policies, we need to find second-best solutions. The common approach has therefore been to target the application of agricultural inputs or management practices in a wider sense such as the time of fertilizer application or regulations related to land preparation. In fact either or a combination of both approaches may lead to the efficient level of pollution. Hence, we can summarize that targeting input intensity and/or management practices can be an efficient second-best policy, if first-best policies cannot be implemented.
Let us next turn to the choice of an appropriate environmental policy instrument leading to economic efficiency.
The first question is whether it is economically more efficient to implement mandatory regulations such as restrictions for the use of agro-chemical inputs or to introduce prices instruments such as pollution taxes or subsidies for the reduction of pollution. Economic theory suggests that this depends crucially on the nature of an environmental problem. Most agri-environmental problems are location specific. Diffusion occurs only for airborne pollutants. Consider a heterogeneous farm structure, characterised by the following marginal benefit functions. If we consider that most agri-environmental pollutants can be characterised by a rather shallow MEC costs curve, it would be more efficient to implement a tax/subsidy instrument. However, if the MEC curve is very steep, which may occur if highly toxic pollutants get into the environment. A quantitative restriction would be more efficient.
Let us consider that a price instrument is more efficient and the case of a negative externality, since two thirds of the agri-environmental payments are paid for the reduction of negative externalities.

The question is then whether it is more efficient to implement a Pigou tax or a subsidy as practiced in the EU.

From a theoretical perspective, efficiency can be reached by either taxing pollution or subsidising the reduction of pollution.

However, this is only the case as long as agri-environmental payments are paid regardless of whether fields are cultivated or left barren.

The critical issue however, is that most agri-environmental payments are only given to land that is cultivated, which thereby provides an incentive to enhance the cultivated area.

The controversial issue is here whether the production effect is efficient of a hidden form of protectionism.
The answer to this question crucially depends on whether an enhancement of the cultivated area leads to a positive overall environmental effect.

In my paper I deal mainly with the question of whether the positive environmental effects related to the enhancement of biodiversity and the aesthetic value of the landscape may exceed the value of the negative pollution effects associated with agriculture.

The literature suggests that an increase of the cultivated area will generally reduce environmental quality, if agriculture is managed intensively.

However, the overall environmental quality is expected to increase in case of extensively farming, though the overall environmental effect may turn negative if the cultivated area has reached a size at which forests or barren land is preferred to cultivated area.

Whether agri-environmental payments, notably its cultivation effect is appropriate become thereby an empirical question:

How extensive is the type of farming promoted by agri-environmental payments?
What is the maximum cultivated area at which a further increase will still enhance the overall environmental quality?
Another issue is the co-financing rule of the EU agri-environmental policy. Agri-environmental schemes are administrated at national or regional level, but partially financed from the EU budget. With the 2003 CAP reform, the EU Co-financing share has increased from 75% to 85% in objective 1 areas and from 50 to 60% in all other areas.
If a national or regional government has to pay only a share of the total agri-environmental payments, this creates an incentive to spend more than the efficient level, as illustrated in this diagram.

This effect is often referred to as a restaurant table effect. The context is that each individual will order a more expensive meal if the total bill is equally shared between all members of a group compared to the situation that each has to pay his own bill.

However, we have shown in another study that there seems to be no empirical evidence for a restaurant table effect with regard to the EU agri-environmental payments. (For those interested, I have got a copy of this paper here.)
If land property rights are such that farmers need to be compensated if they convert to environmentally friendly management practices, the question is then how, public expenses can be used most effectively to reach specific environmental targets.

The cost effectiveness of agri-environmental payments can be enhanced if environmental contracts are differentiated or tendered.
The idea of differentiating contracts is to gain part of the information rent, farmers can realise due to asymmetric information.

By splitting farmers into different groups, and designing different contracts for different farmers' groups, the effectiveness can be enhanced.

Criteria for differentiation of agri-environmental programs, could be the location, productivity indicators, or a self-selective approach to overcome problems of adverse selection.
An alternative would be to tender environmental contracts as it is done with the Conservation Reserve Program.
Conclusions

- **Targeting**
  - Addressing environmental goods or emissions directly is difficult (Valuation, Attribution)
  - Second-best approach: Addressing input use and management practices

- **Efficiency**
  - Agri-environmental payments create incentive to cultivate more land → positive production effect
  - Enhancement of cultivated area is only appropriate if the overall environmental effect is positive

To conclude, …
Conclusions

- **Efficiency**
  - Co-financing rule creates an incentive to extend agri-environmental policy beyond the optimum
  - No empirical validity of „restaurant table effect“

- **Cost-effectiveness**
  - Auctioning or differentiation of agri-environmental contracts can enhance the effectiveness of public expenses