



# Causes of Multifunctionality: Pollution or Politics?

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# Introduction

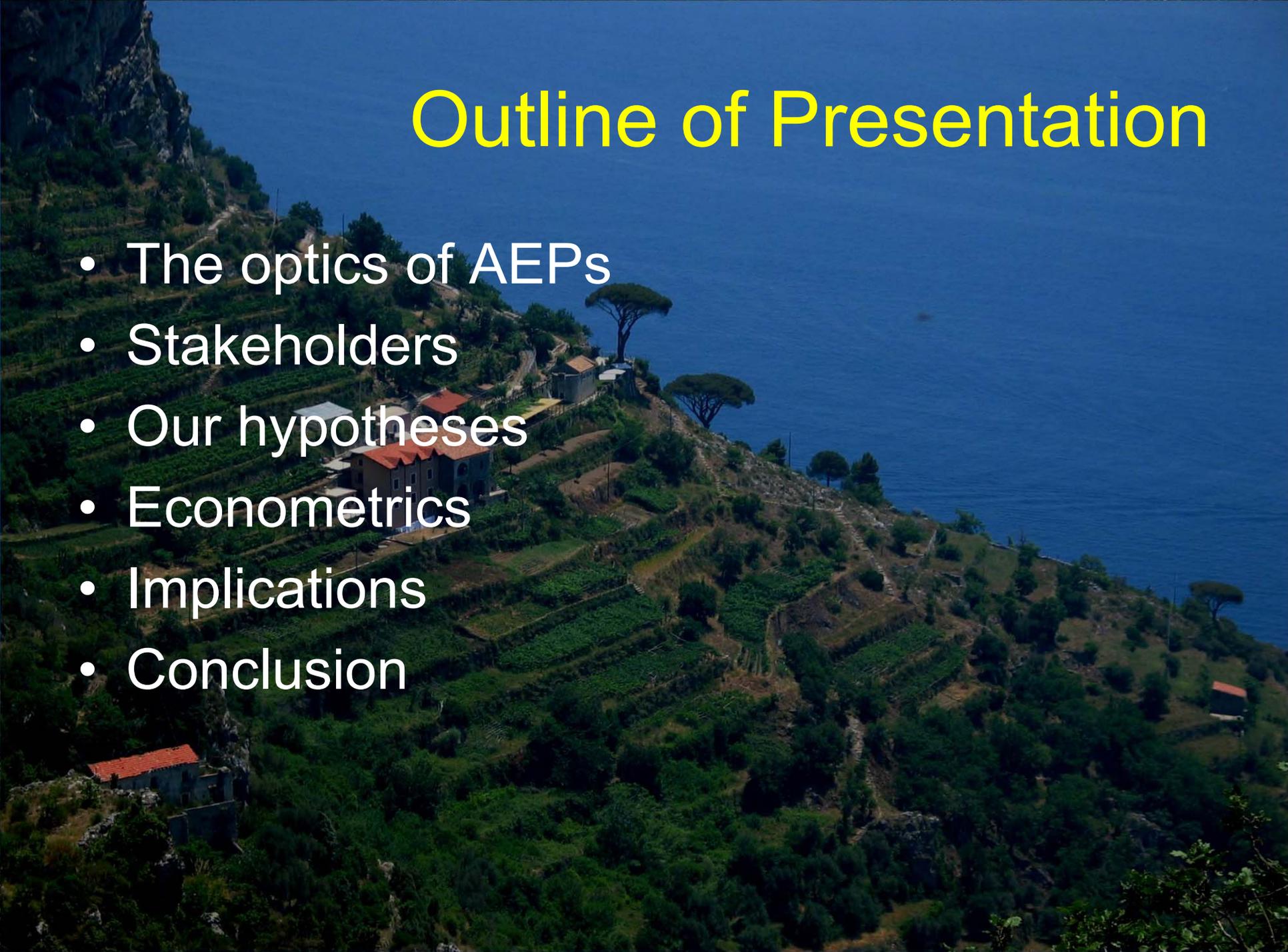
- Agri-Environmental Programmes (AEPs) were introduced in late 80s/90s, and expanded by the Agenda 2000 reforms of the Common Agricultural Policy (CAP).
- EU position that some ag. subsidies are needed to provide optimal amount of externalities (both positive and negative).
- Critics, (United States, developing countries) view AEPs with suspicion as being disguised production subsidies.

# Introduction cont'd

- What is the motivation behind EU AEPs?
  - Addressing externalities
  - A politically-feasible way to reform the CAP
  - A trade-friendly way of subsidising farmers
- Which view is right has implications for trade and trade agreements.
- Other countries (esp. US) considering following suit (esp. after cotton case).
- Canada considering AEPs too.

# Outline of Presentation

- The optics of AEPs
- Stakeholders
- Our hypotheses
- Econometrics
- Implications
- Conclusion

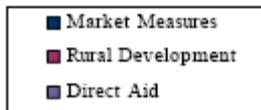
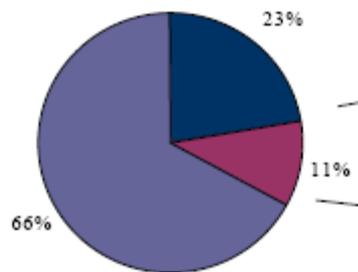


# How AEPs are funded

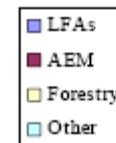
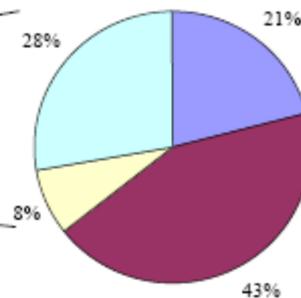
- Co-financed by Brussels 50:50 as part of the 'Pillar 2' Rural Development Regulation (RDR). The only compulsory measure in RDRs.
- 'Modulation' will increase money available to RDR programmes, but not necessarily AEPs.
- Wide variety in uptake of programs among member states.

# AEPs and the EU Budget

Allocation of 2003 EAGGF Expenditure for Agriculture and RD in EU-15



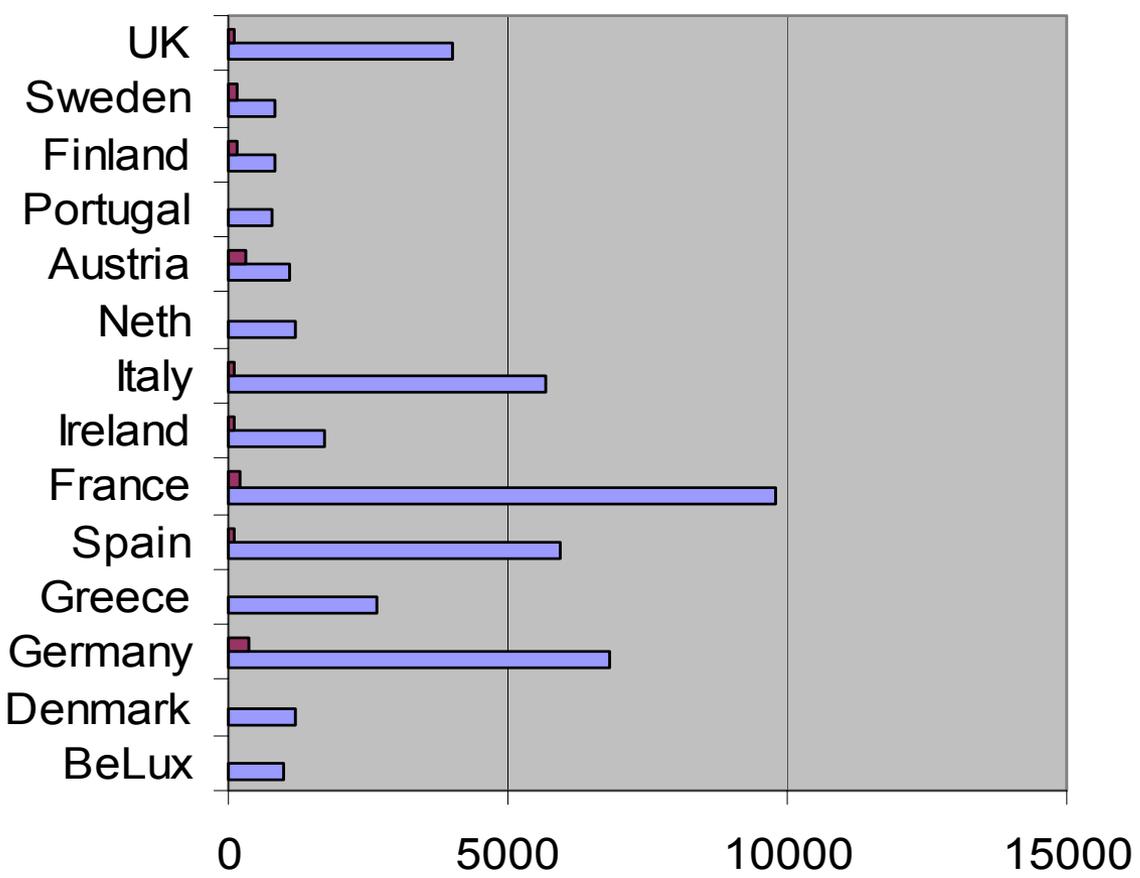
Allocation of 2003 EAGGF Rural Development Measure in EU-15



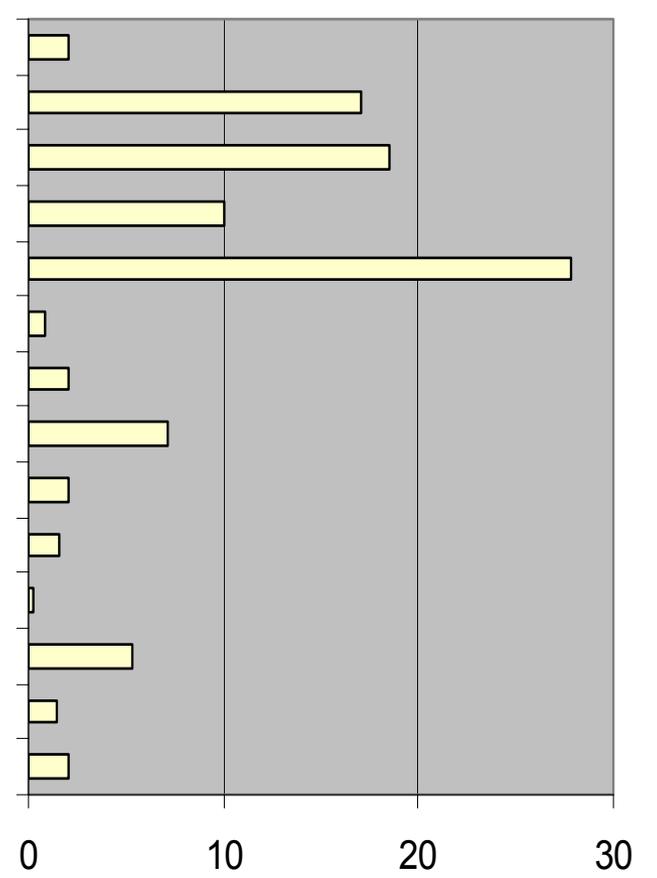
Source: European Commission, DG Budget (2004).

# Background on AEP

## Total Ag and AE Expenditures

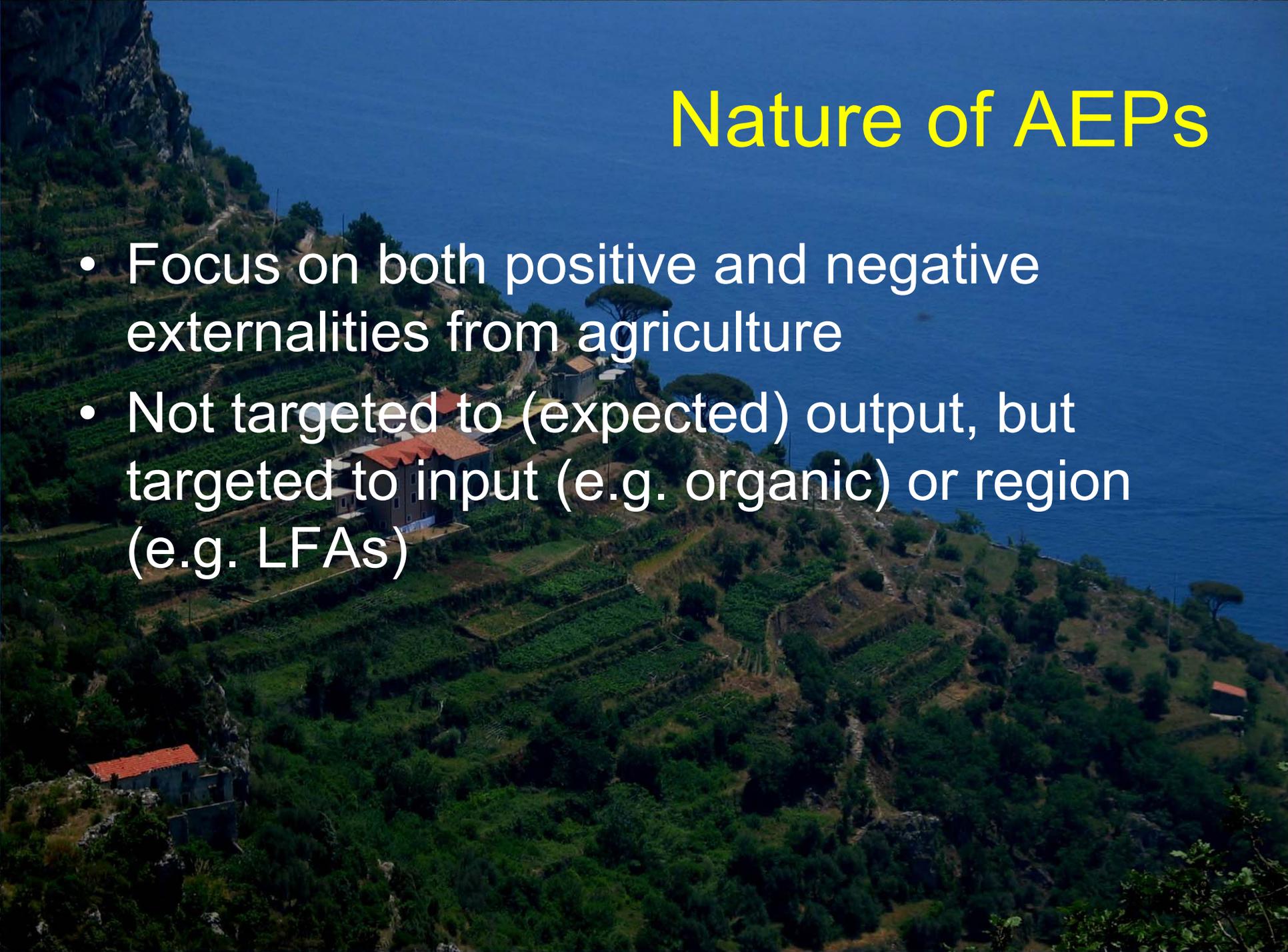


## AE as a % of total Ag



# Nature of AEPs

- Focus on both positive and negative externalities from agriculture
- Not targeted to (expected) output, but targeted to input (e.g. organic) or region (e.g. LFAs)



# AEMs by Member State, 2002

Type of measures	B	DK	D	Fin	F	GR	IRL	I	NL	AT	P	S	E	UK
1 meadows and pastures														
2 arable land														
3 reduced stocking rates														
4 rare breeds														
5 permanent crops/viticulture														
6 maint.. of abandoned land														
7 20-year set-aside														
8 loss of domest. plant species														
9 nature conservation														
10 organic farming														
11 demonstration projects														
12 education and training														
13 'basic' support														
14 access to land														

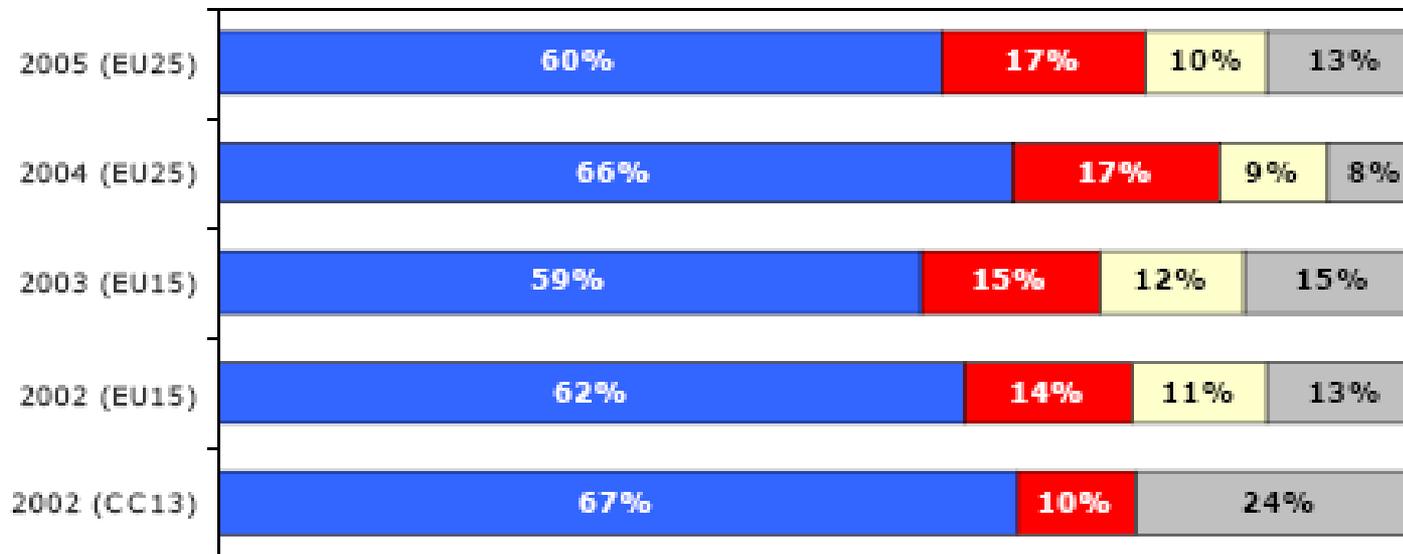
Source: DEFRA (2002)

# What do Europeans think of their AEPs?

- A clear majority of Europeans sees the CAP reform as being a good thing -

QB4 The European Union is subsidising agricultural products less and less. However, it is granting more funds for the protection and development of the overall rural economy and for direct support to farmers. Do you think that this development is...?

■ A good thing ■ A bad thing ■ Neither good nor bad thing (SPONTANEOUS) ■ DK



Source: Eurobarometer

# Key AEP Stakeholders

## Farmers

- Highly-capitalised intensive farming in northern countries (UK, France, Netherlands), but
- agriculture more economically important in southern countries (Portugal, Greece).

## Green Consumers/Environmentalists

- *consumptive* (use-value) and *non-consumptive* (environmentalists).
- Storybook ideal of farming

## Taxpayers/Consumers

- May want public goods
- But not at any cost
- Care about cost of food

# Farmer functions

- Assume farmers are profit-maximisers
- Tradeoff between purchased inputs and labour
- Pollution is a function of purchased inputs
- Land is heterogeneous
  - Productivity
  - Environmental sensitivity

# Nature of heterogeneity

- We do not know the relationship between productivity and environmental sensitivity
- Farmers for whom it is easy to adopt, adopt AEPs.
- Not necc. those with the largest environmental impact.

# Question

- Four “lenses” through which one can view these programs.
  - Neg. environmental externalities
  - Demand-led/Green Consumer
  - Budgetary bargain
  - Cynical lens
- Each lens is by itself a “straw man.”
- Goal of paper: assign weights to lenses.

# What each lens implies for influences on AEPs

	Green Demand	Pollution	Enviro Influence	Cross-Comp	Ag Influence	Same claimant group
Reducing pollution	0	+	+	+	-	?
Demand	+	0	+	+	0/+	-
Budget Bargain	0/+	0/-	0/+	-	-	+
Cynical	0	-	-	-	+	+

# Our hypotheses

1. AEPs address existing pollution.
2. AEPs address demand for environmental/rural amenities.
3. AEPs are converted price-supports.
4. AEPs are affected by access (lobby strength and effectiveness)

# Data

- LHS

EU AE expenditures/total Ag expenditure by member state from 1992 to 1998, 2000-2003.

- RHS

Pollution/Farm intensity:

- pesticide use per ha, N surplus
- % permanent pasture
- Farm size
- EAGGF

Demand for env. services:

- domestic tourism, measure of “Greenness”, Internet

# Data

## – RHS cont'd

- Env. Lobby strength:
  - Proportional Representation.
- Demand for farm support:
  - Past Ag. Subsidies, cross-compliance, farm employment, regional voting.
- Ag Lobby strength:
  - EU elections, employment in ag, rural pop (sort of...).

## AEPs % of EAGGF

	<u>Coef.</u>	<u>P&gt;z</u>
pesticide use per ha (t-1)	<b>-0.55</b>	0.02
nitrogen surplus (t-1)	<b>-0.07</b>	0.00
% permanent grassland (t-1)	<b>0.50</b>	0.00
Internet	<b>0.01</b>	0.00
tourism per capita	<b>0.3</b>	0.00
Green	<b>2.85</b>	0.00
farm size (t-1)	<b>-0.33</b>	0.00
% pop employed in ag (t-1)	<b>-1.12</b>	0.00
% pop rural (t-1)	<b>0.20</b>	0.00
EAGGF (t-1)	0.29	0.13
cross-compliance	<b>-1.74</b>	0.09
turnout for EU elections vs domestic	0.05	0.25
PR	<b>19.25</b>	0.00
regional	<b>-1.73</b>	0.53
# of obs	89	

# Results in words...

- Pollution
  - Those member states with the worst pollution problems do not spend the most to address these problems.
  - Those with the most intensive agriculture spend less to address pollution from ag.
  - Both results appear to vindicate the 'cynical' camp

# Results cont'd.

- Demand for Env. Services
  - more “green” member states spend a higher portion of Ag. Exp. on AE.  
Vindication for the ‘Green Consumer’
- Env. Lobby strength
  - PR seems to make a difference.

# Results cont'd

- Ag demand:
  - Evidence that strong ag. lobby prefers traditional Ag. Supports.
  - Mixed evidence that AE higher in member states with higher overall Ag. Exp. No clear winner.
  - Not (exclusively) going to same claimant group

# Back to the 'Lenses'

- Not much support for pollution reduction
- Some support for Demand/Green Consumer
- Some evidence for Budget Bargain
- Support for Cynical more mixed

# Trade implications

- Some evidence that AEPs (and RDR) has been a useful means to reduce production distorting subsidies.
  - Thus, restricting them may have negative consequences
  - However, AEPs may be at max (not so for RDRs)
  - Also, creation of new claimant group may be of concern
- Also evidence that general population is supportive of these payments.
  - May resent too many external restrictions
  - However, may be open to more targeting.
- EU using a broad definition of “green box”
  - Should Canada become interested in a similar programme, then the EU has set a useful precedent.
  - However, may be of concern if US follows suit in a large way...

# Production

- Likely not much production shift
- Perhaps in some niche production (e.g. organics)
- A much greater effect will come from the 2003 reforms which cut support levels in a number of important commodities. This is Pillar 1 activity.

# Conclusions

- AEPs do not appear to be highly trade-distorting
- They are likely meeting some demand in the EU
- There are some signs that Pillar 2 is at its maximum
- They serve as a useful precedent for other countries.
- They are a very necessary step along the way to trade liberalisation, especially for some of the EU's more agriculturally conservative members.

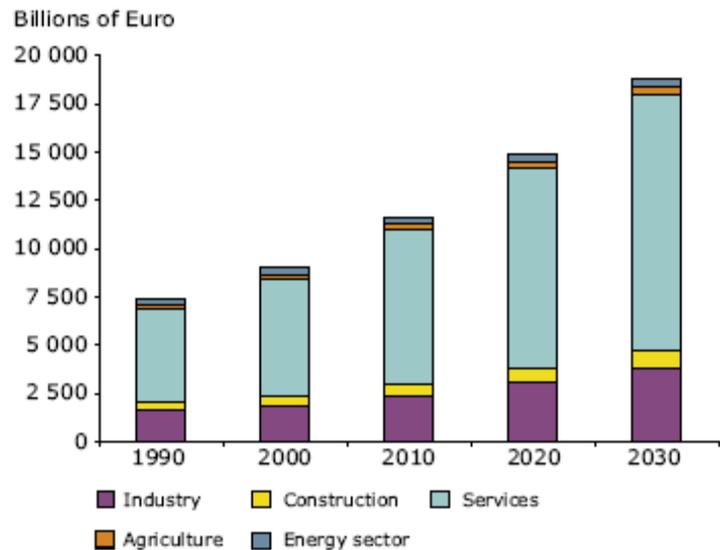
Following slides are spares



# Negotiability

- Farmers are not significant economically in most EU-15 countries but still carry political weight.
- AEPs are already a firmly fixed part of the EU process
- A retreat on AEPs would give the EU agricultural lobby even more influence.

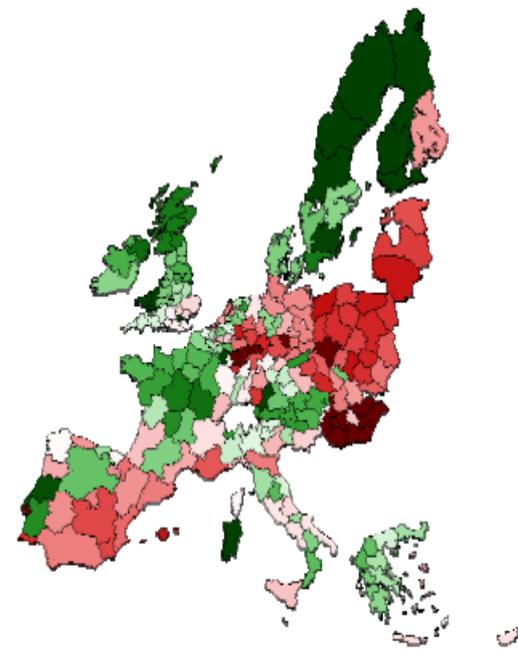
Figure 3.4 Gross value added by sectors 1990–2030



# The outlook for agricultural incomes in the EU is mixed

- The UK and France will have agricultural incomes smaller than the EU average
- Southern Spain and Southern France will have incomes greater than the EU average.
- The French Ministry of Agriculture still hasn't officially recognised 'decoupling': farmer income reduction is likely to lead to pressure to go back to the "old" CAP regime

Map 5: Regional variation of agricultural income in comparison to the average change of agricultural income in EU-25 from 2001 to 2012 (in %)



Note: From dark green to light green: between about -30 and < 0 %, white: 0% and from light red to dark red: between > 0 and about 40 % change of regional agricultural income development in comparison to the average income development in EU-25.