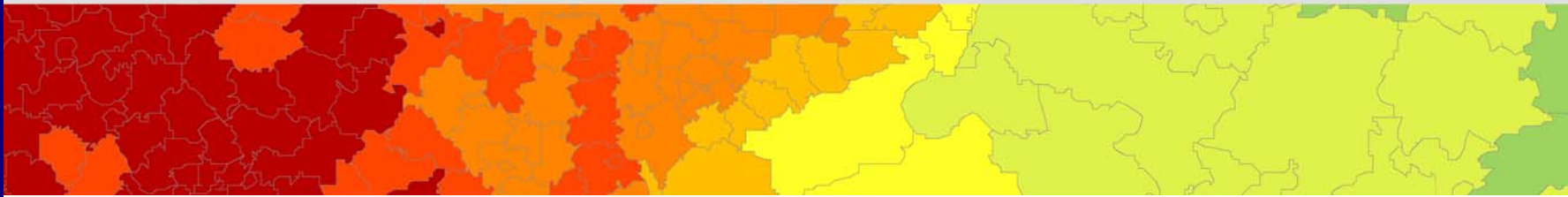




EUROPEAN SPATIAL PLANNING
OBSERVATION NETWORK



ESPON 2013 SEMINAR

Bordeaux, 10-11 december 2008

TIPTAP

Territorial Impact Package for Transport and Agricultural Policies

Structure and goals of the project

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The team

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1. The institutional engagement

"The development of a common concept for territorial impact assessment (TIA) is necessary to support spatial development policies. The concept shall be of a cross-sectoral nature and include socio-economic, environmental and cultural indicators for the territory in question" (ESDP Action Programme, Tampere, 1999)

Numerous attempts to devise an appropriate approach and methodology to TIA were carried out during ESPON 2006

Among others: The TEQUILA model developed inside ESPON 3.2. :

It constitutes the basis for the present TIPTAP project

1. The institutional engagement

TEQUILA (the theoretical model):

Territorial **E**fficiency, **Q**uality, **I**dentify
Layered **A**ssessment **M**odel"

and its **I**nteractive **S**imulation **P**ackage:

TEQUILA SIP



2. The ESPON request

- A. Providing a robust and fully operational TIA tool**, with a sound scientific and methodological basis
- B. Applying it to two main policies** of the Union:
Transportation Policies and **Agricultural Policies**
- C. Exploring four types of impacts:**
 - C1. Impacts on regional situation: econ/social/environ**
 - C2. Impacts on regional competitiveness (Lisbon strat.)**
 - C3. Impacts on climate change**
 - C4. Territorial impact**
- D. Exploring the possibility of considering also interregional spillover effects**
- E. Assessing impacts on specific typologies of regions**
- F. Conclusions, policy suggestions and dissemination**

3. Basic features retained of the TEQUILA 1 model

1. **The multi-criteria approach:** multiple dimensions implied by territorial impact (economic, social, physical, envir., cultural, ...): → a unique expression in monetary terms (as in CBA) impossible.
2. **The possibility of providing** at the same time a *single-dimensional impact* - on economy, competitiveness, climate change, – **and a summative impact**, namely a territorial impact (weighted summation)
3. **The possibility of combining qualitative and quantitative impact measures**
4. Impact assessment at **two different territorial levels:**
 - **1st level:** “*General Assessment*” (potential impact on EU territory)
 - **2nd level:** “*Territorial Assessment*” on each region (NUTs 3, where possible)

3. Basic features retained of the TEQUILA 1 model

5. The rationale for a territorialized assessment:

- the *intensity* of the policy may be different on different regions
- the *relevance* of the different “criteria” is likely to be different for different regions (territorial *utility function*)
- the *vulnerability* of the different regions to similar negative “potential” impacts is likely to be different
- the *receptivity* of the different regions to similar positive “potential” impacts is likely to be different

6. The symmetry with the risk assessment procedure

Risk assessment: $risk = hazard$ (potential risk) \times *vulnerability*

Here: territorial impact = *potential impact* (PIM) \times *sensitivity*

3. Basic features retained of the TEQUILA 1 model

$$\mathbf{TIM}_r = \sum_c \theta_c \cdot (\mathbf{PIM}_{r,c} \cdot \mathbf{S}_{r,c})$$

where "sensitivity" is:

$$\mathbf{S}_{r,c} = \mathbf{D}_{r,c} \cdot \mathbf{V}_{r,c}$$

$\mathbf{D}_{r,c}$ = *desirability* of criterion c for region r (territorial "*utility function*")

$\mathbf{V}_{r,c}$ = *vulnerability* of region c to impact on c (*receptivity* for positive impacts)

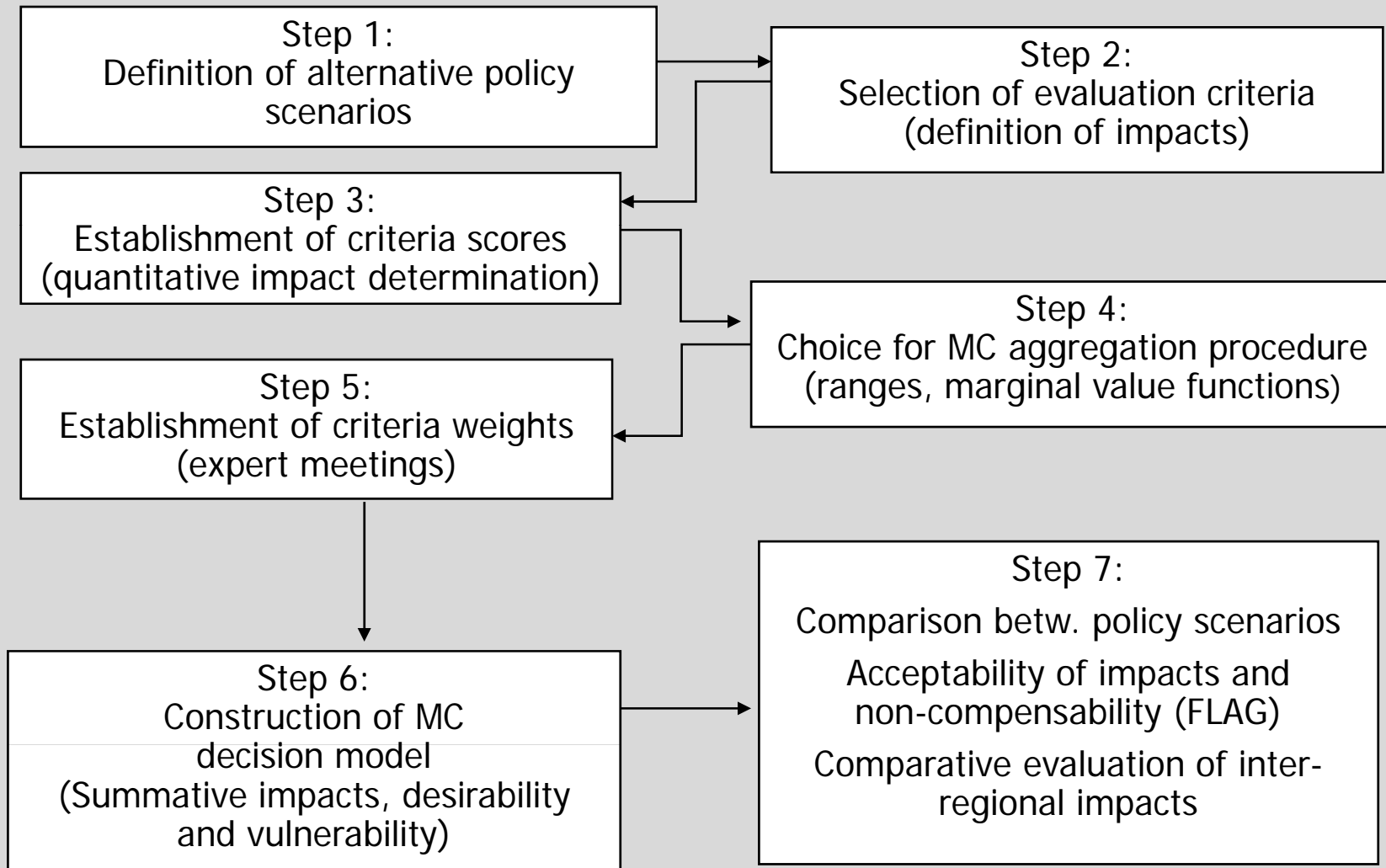
7. Territorial impact = impact on three complex dimensions:

- **territorial efficiency** (energy and resource efficiency, accessibility, competitiveness, attractiveness);
- **territorial quality**: quality of living and working conditions, fair access to services of general interest and to knowledge, envir. q.
- **territorial identity**: cultural specificities, landscape, productive "vocations", creativity, social and relational capital

4. Methodological improvements: towards TEQUILA 2

1. **Typology of impacts** (Single dimensional imp. and Summative imp.) and **variety of criteria and sub-criteria**
2. **More robust MC procedure (expert meetings):**
 - **in the definition of the range of scores** attributed to each region, with reference to the best and worst scores possible,
 - **in the assessment of weights** of the single criteria,
 - in the definition of the **territorial utility function**,
 - in the definition of the **territorial vulnerability function**
3. **Allowing limited compensation possibility among criteria: → the FLAG Model** (Vreeker, Nijkamp)
4. **Exploring possibility of simulating spatial spill-over effects** (**economic impacts**, through the MASST model, **environmental impacts**, thr. inter-regional pollution flows)

4. Methodological improvements: the MC method



4. Methodological improvements: impact assessm.

The logical steps, from policies to territorial impact:

- 1. Definition of Policy Scenarios: which policies assessed, which alternative scenarios**
- 2. Definition of impacts: which impacts considered**
- 3. Logical chain, from policy to impacts**
- 4. Definition of regionalised quantitative impacts:**
 - through **modelling** efforts: for transport policies
 - through **qualitative judgements coupled by quantitative indicators** (regional conditions, desirability, vulnerability): for CAP policy measures

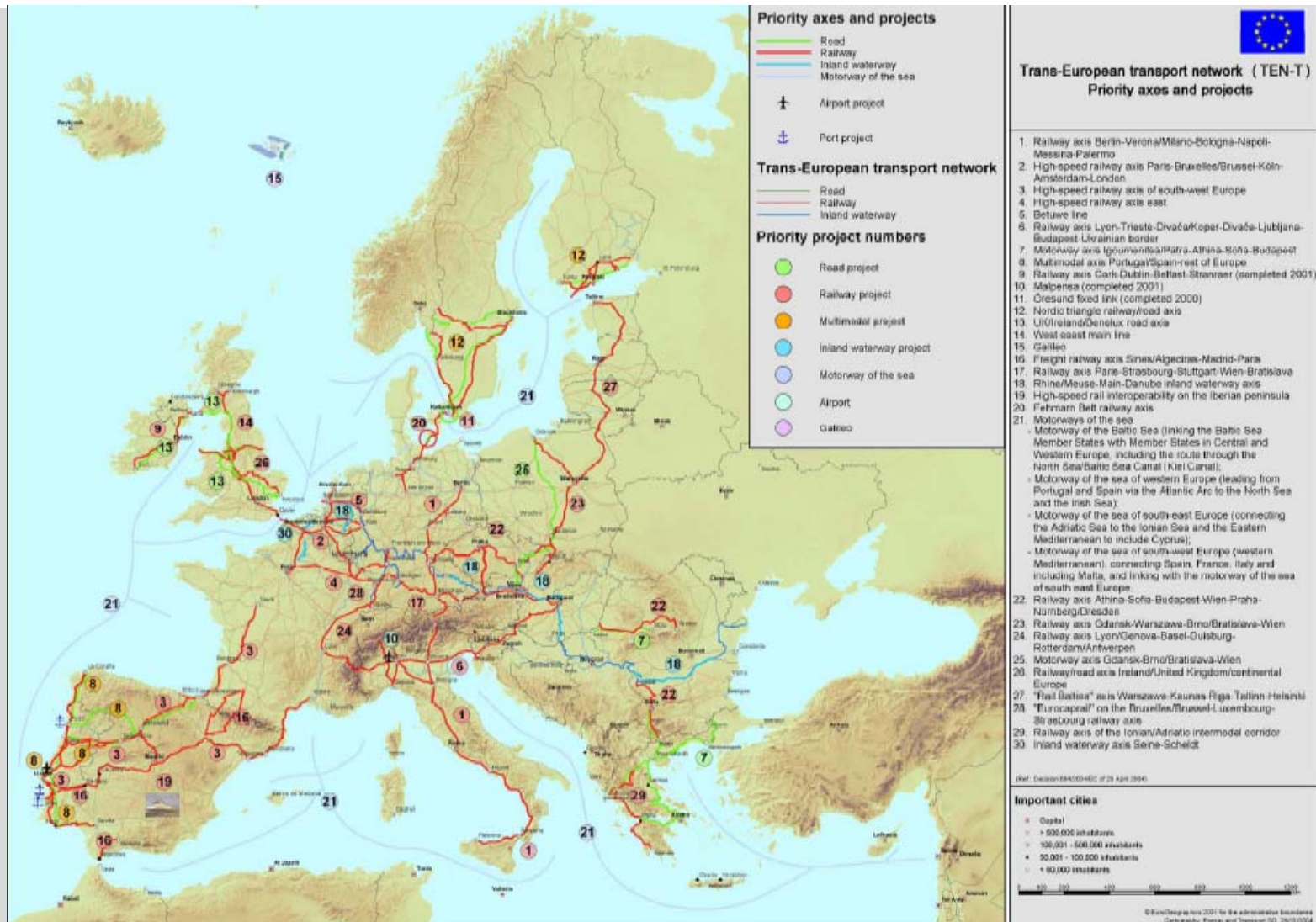
5. Impact of EU Transport Policies: SCENARIOS

DGTREN is in the process of reviewing the White Paper of Transport (2001-2010) for the period 2010-2020, discussing and assessing previous priorities. A “strategic evaluation” is underway, starting by historical choices.

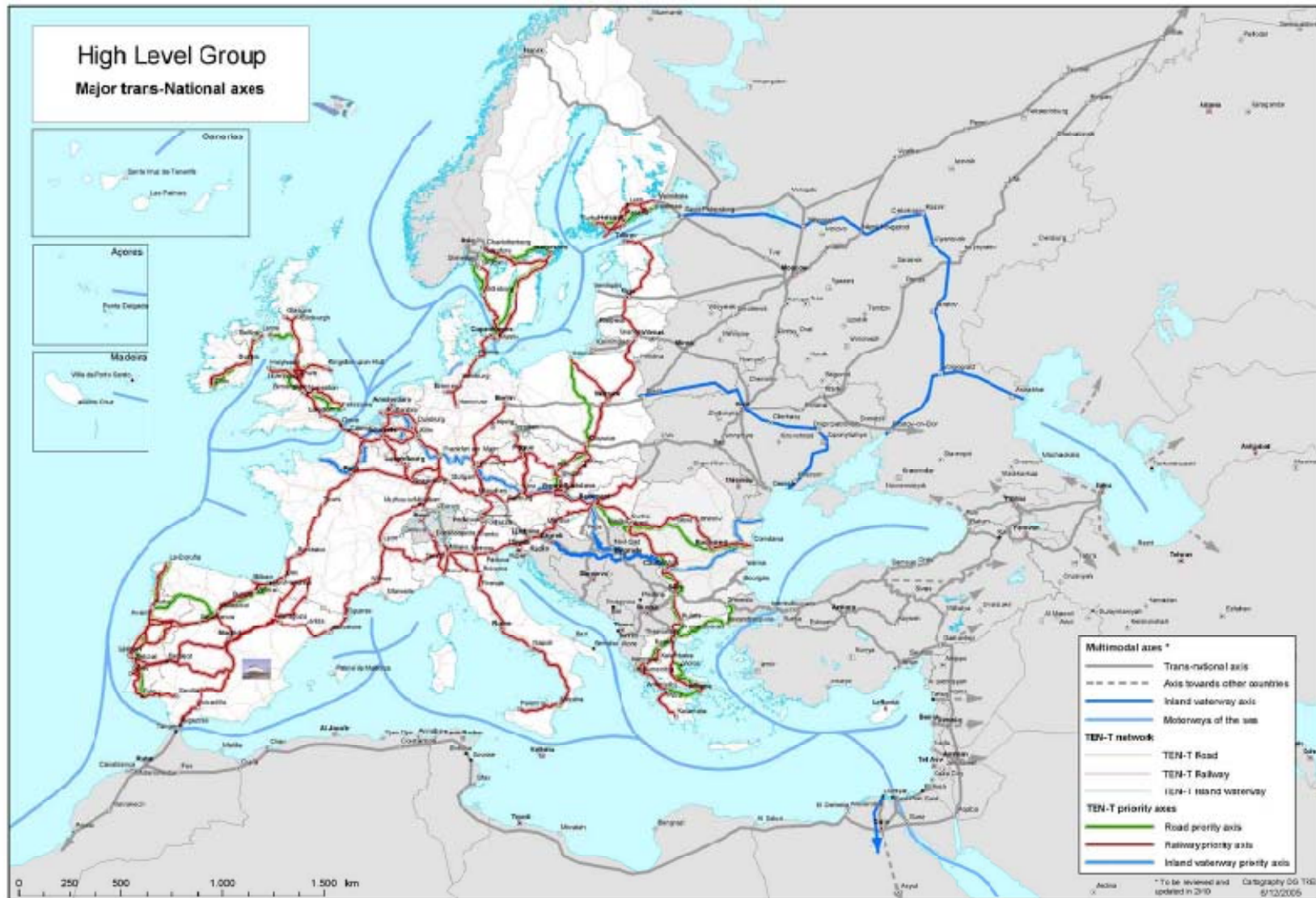
A number of issues are under discussion:

- **Infrastructure (TEN-T, Priority projects)**
- **Pricing** (cost recovery and internalisation of environmental costs)
- Technological innovation
- **Safety**
- **Behavioural policies to reduce transport demand**
- CO2 emissions due to transport

5. EU Transport Policies: present priorities (may08)



5. EU Transport Policies: present priorities (discus.)



5. EU Transport Policies: the model

KTEN was developed in ESPON for modelling the territorial impacts of transport policies (traffics, accessibility, congestion, emissions,....)

DGTREN has developed large transport-specialised models (TRANSTOOLS, TREMOVE...) providing 2005-2030 reference forecasts for most indicators, regionalised

KTEN+ will be upgraded with the outcomes of more recent modelling developments

KTEN+ is based on the **classic 4-step modelling paradigm**, applied to passengers and freight independently. In the new version, regional socioeconomic indicators will be integrated into KTEN+, and environmental impact indicators will be further developed: → **quantitative forecasts**

6. Impact of EU Agricultural Policies: SCENARIOS

Pillar 1: supports food production

Pillar 2: rural development (improving socio-economic conditions in rural areas; agri-environment schemes):

P2: Axis	Objective	Range
1	↑competitiveness of agric and forestry sectors	Ireland 10% Belgium 50%
2	Support for land management (to improve envir. and countryside)	Romania 26% Ireland (80%)
3	Enhance Q of life in rural areas; promote economic diversification	Ireland 10% Holland 36%
LEADER	Bottom-up approach which supports the 3 main objectives	

6. Impact of EU Agricultural Policies: SCENARIOS

Distribution of CAP spending:	2009 budget (preliminary) (Million euros)
Most to Pillar 1, then Pillar 2 (axis 2)	
Total	55.920
Decoupled direct aid	32.530
Other direct aid	5.990
Market support	3.460
Rural development, <i>of which: agri-env and LFAs</i>	13.400 9.830

6. Impact of EU Agricultural Policies: SCENARIOS

Latest CAP reform (CAP Health Check, November 2008)
increases modulation by 5 percentage points in EU-15.

By 2012, 10% of farmers' direct payments transferred to
Pillar 2 (Exemption if direct payments < €5.000)

Reduces farm income

Money spent in same Member State on Pillar 2 objectives

Estimated increase of 3 billion euros to Pillar 2 plus co-
financing from member states

6. Impact of EU Agricultural Policies: IMPACTS

- Farm revenue falls \Rightarrow Farmers adapt or cease trading
- Marginal farms stop farming if farm income $<$ threshold (FADN data to identify vulnerable types-sizes)
- Determine number, size and spatial distribution of marginal farms from DG AGRI data

Impacts on Farm Family Incomes if 10% decrease in direct payments :

- For 694.000 farms, FFI falls below €18.000 per year
- For 426.000 farms, FFI falls below €12.000 per year
- Unemployment of some ex-farmers if no alternative work
What % re-employed? What % unemployed?
- Long run, fewer jobs \Rightarrow depopulation
- Implications for age structure, viability of service provision by private sector, and cost of public sector provision, community sustainability

6. Impact of EU Agricultural Policies: IMPACTS

What happens to land under new management?

- Farmland transferred to new occupier
- Assume more intensive management
 - ↑ labour productivity
 - ↓ agricultural distinctiveness
- Estimate area with
 - ↓ field boundary features
 - ↓ species-richness
 - ↓ traditional crops

Where the biggest impact?

- Farm income highly dependent on direct payments
- Difficult to adapt
- Highly dependent on agriculture in labour market
- Recent history of depopulation

6. Impact of EU Agricultural Policies: IMPACTS

What impact from increased Pillar 2 expenditure?

- Scenario A: Variation between MS in distribution of funds between axes (past shares projected)
- Scenario B: all new funding to Axis 2

Impacts from support to Axis 2:

- ↑ entry to Agri-environment schemes
- Take-up rate critical
- Perceived need to diversify income (reducing risk, not increasing income)
- No change in farm income, unless able to sell as a higher quality product (branding)

6. Impact of EU Agricultural Policies: IMPACTS

Impacts on environment:

- ↑ area under environmentally-friendly management ⇒ biodiversity indicators
- Protection and enhancement of landscape features ⇒ regional distinctiveness, tourism potential
- Provide capital grants. Not retained by farmer, but paid out to advisers, contractors, buy materials

Impacts allocated to regions according to indicators and typology of impacts: SDI, SI

(Sources: ESPON, Eurostat, FADN – Farm Incomes, DG Agri Report)

7. Overall Results and Conclusions

- a. Regional impacts computed and mapped (at NUTs-3 if possible)
- b. Impacts weighted in Summative Impact
- c. FLAG: compensation among impacts stopped
- d. Impacts of different scenarios compared
- e. Spillover effects possibly computed
- f. Dissemination and interaction with stakeholders

THANKS!

Many Thanks for Attention!

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