

The effects of greening on specialised arable farms in Italy

Orlando Cimino, Roberto Henke, Francesco Vanni

Istituto Nazionale di Economia Agraria

3rd AIEAA Conference

**“FEEDING THE PLANET AND GREENING AGRICULTURE:
CHALLENGES AND OPPORTUNITIES FOR THE BIO-ECONOMY”**

25-27 June, 2014
Alghero, Italy

The *greening* requirements

Farmers entitled to receive direct payments must follow these rules:

1. CROP DIVERSIFICATION: at least 2 crops in farms where arable land exceeds 10 hectares and at least 3 crops where arable land exceeds 30 hectares. The main crop may cover at most 75% of arable land, and the two main crops at most 95% of the arable area;

2. PERMANENT GRASSLAND: maintenance in environmental sensitive areas; ratio of permanent grassland and agricultural areas cannot decrease by more than 5%;

3. ECOLOGICAL FOCUS AREAS: at least 5% of the arable area of the holding for farms with an arable land area larger than 15 hectares (excluding permanent grassland) – i.e. field margins, hedges, trees, fallow land, landscape features, biotopes, buffer strips, afforested area.

Green payments financed through the 30% of the annual national ceiling

The debate on *green payments*

Environmental benefits

- The *greening* rules have been largely criticised → “The EU lost an opportunity to design better guidelines to improve agricultural sustainability” (Pe’er et al. *Science*, 6 June 2014)

CAP structure and objectives

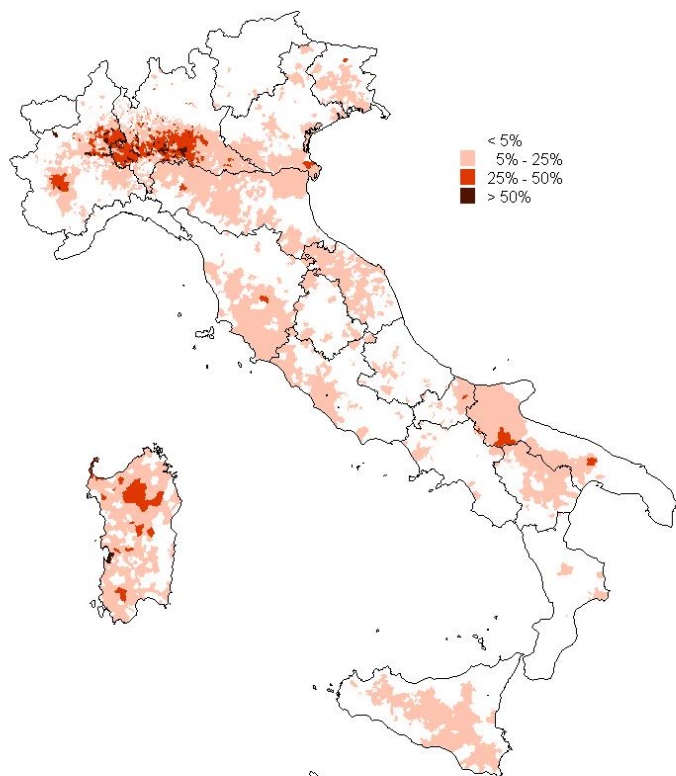
- Overlapping with existing measures (cross-compliance and agri-environment-climate measures), lack of flexibility and targeting

Impacts on farm income

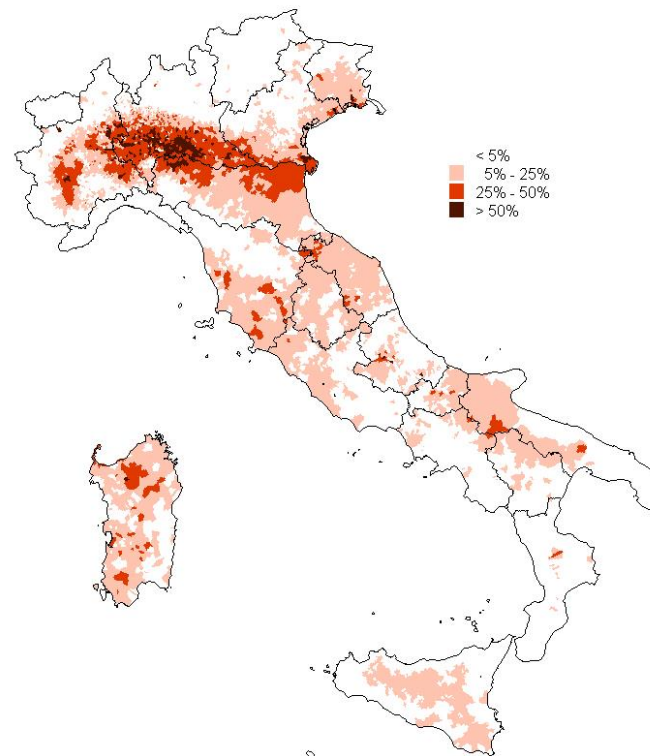
- **Average EU-27** (European Commission Impact Assessment) → - 43 €/ha
- **Poland** (Czeckay et al. 2013) → reduction of 3-4% of farm revenues
- **Germany** (de Witte and Latacz-Lohniann 2014) → - 10-100 €/ha
- **Italy - Emilia Romagna** (Arfini et al. 2013) → income foregone - 21 €/ha

Farms and areas affected in Italy

Crop diversification



Ecological Focus Areas



Farms

Arable land

n.	%	ha	%
60,982	3.8	1,947,850	27.8

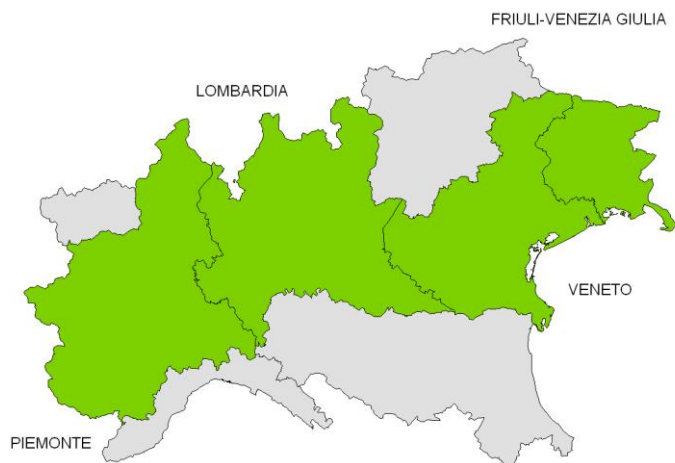
Farms

Arable land

n.	%	ha	%
81,980	5.1	3,393,081	48.4

Two specialised farming systems

MAIZE



WHEAT



Region	% maize/ arable land	% farms affected by greening	Of which: maize > 75% of arable land
Piemonte	34.0	21.8	53.7
Lombardia	47.5	34.8	61.4
Veneto	50.3	9.5	65.5
Friuli V. G.	49.1	13.6	61.5
Italy	16.0	13.0	18.0

Region	% wheat/ arable land	% farms affected by greening	Of which: wheat > 75% of arable land
Marche	39.8	16.4	46.6
Molise	40.3	22.2	46.4
Puglia	54.9	24.3	59.7
Basilicata	46.0	24.9	48.1
Italy	28.0	13.0	28.1

Research objectives

- What are the effects of **crop diversification** and **Ecological Focus Areas** on **Gross Margin (GM)** in these two specialised farming systems?
- Is the quota of **green payments** remunerating farmers for the **additional costs** due to *greening* rules?

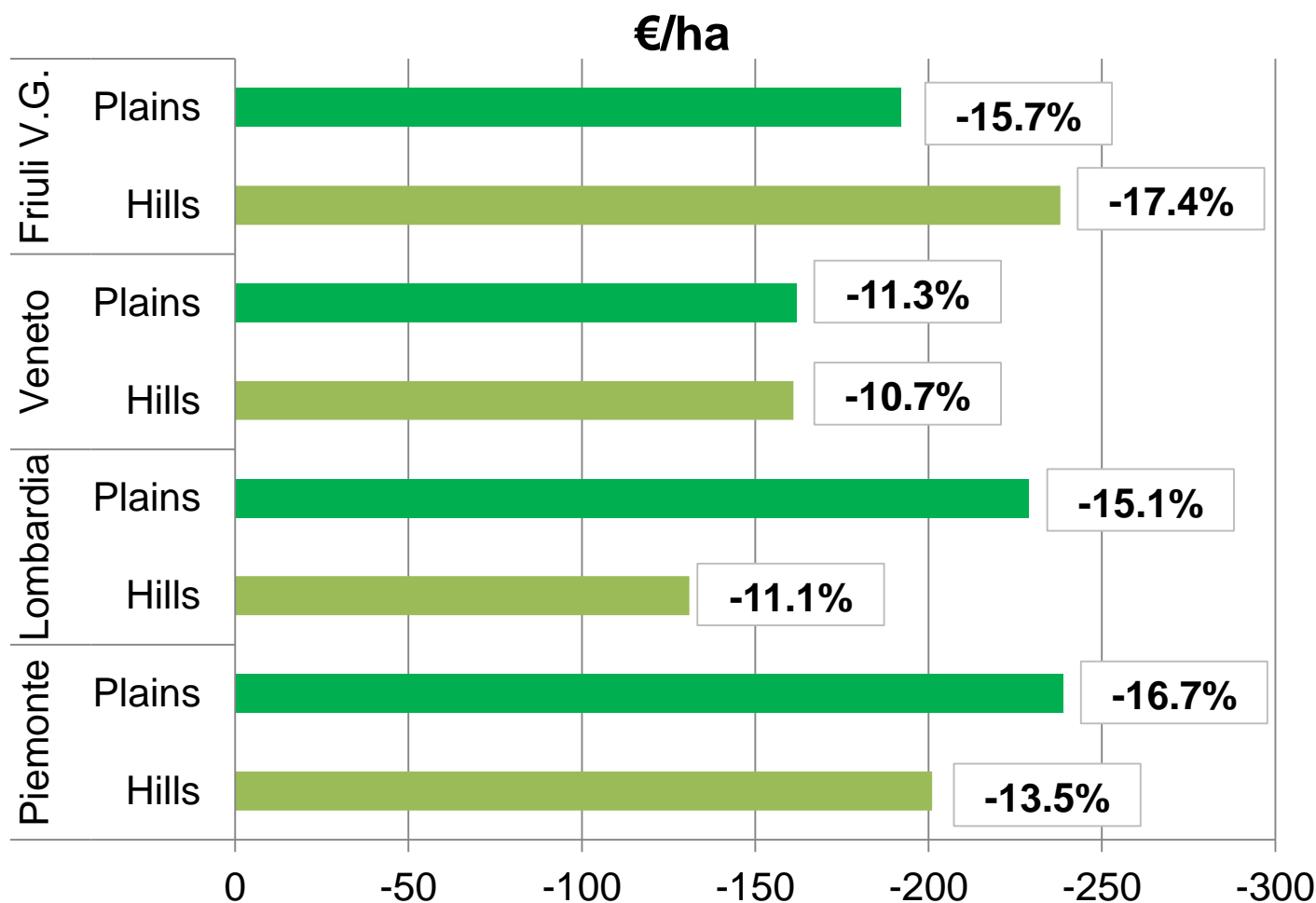
16 REPRESENTATIVE FARMS in 16 areas (region/altimetry)

- **Structural Data:** farms potentially affected by greening requirements in each area (region/altimetry), elaboration of micro-data of the 2010 Istat agricultural census (Vanni and Cardillo, 2013)
- **Economic data:** constant sample of 1,611 farms from Italian FADN database (average 2010-2011)

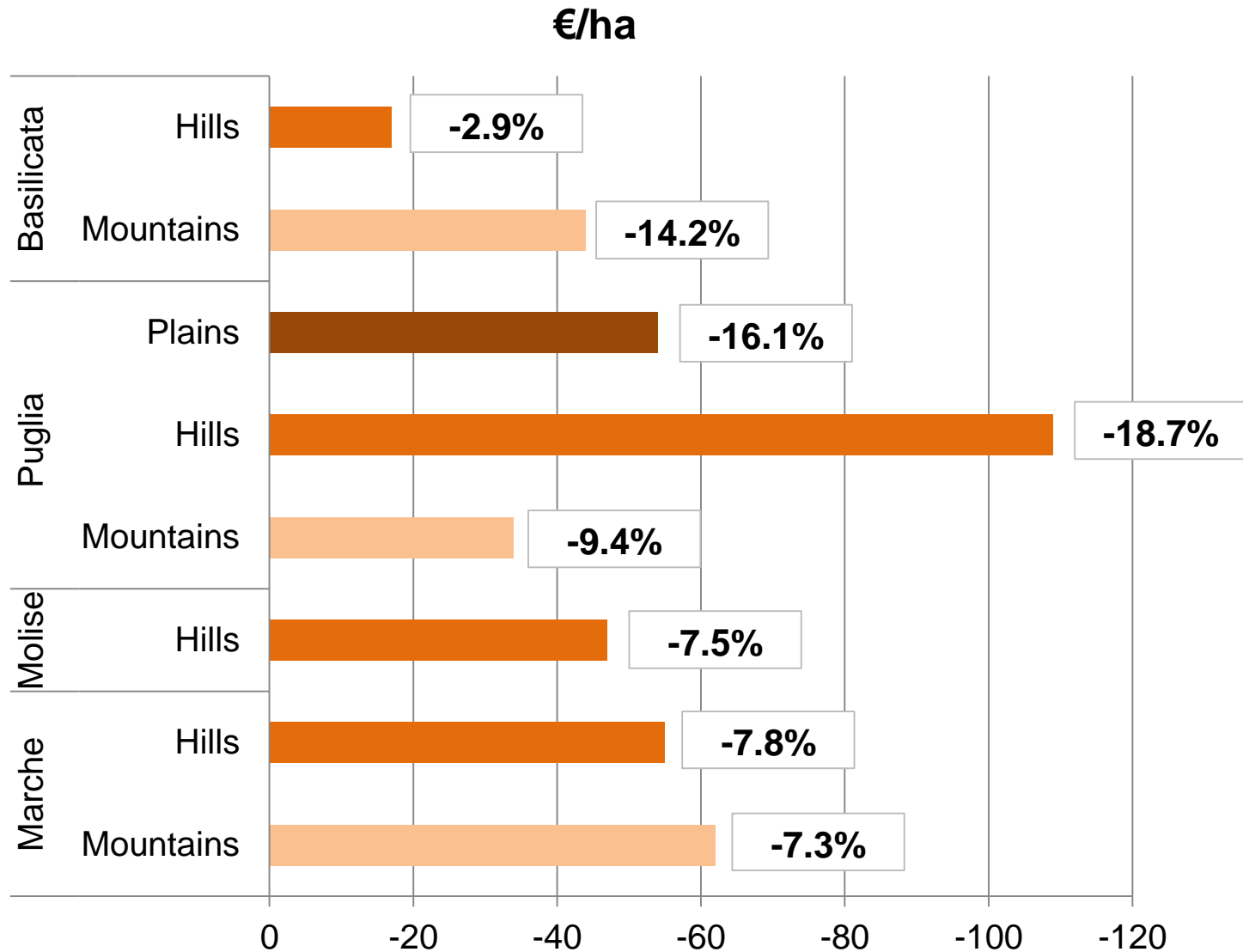
Methodology

	Pre-Reform scenario	Post-Reform scenario
Crop diversification	One crop (1): maize or wheat	Three crops: (1) maize or wheat 75% (2) 20% and (3) 5% of the UAA. The choice and order of (2) and (3) is based on the land use data in each area
EFA	0%	EFA Mountains: 0% UAA EFA Hills: 2.5% UAA EFA plains: 5% UAA
Farm area	Average UAA of farms potentially affected by <i>greening</i>	UAA - EFA (mountains; hills, plains)
Direct payments	FADN database	Estimates of regionalised DP
Green payments	-	30% of regionalised direct payments
Gross margin	GM of the main crop (1) (maize or wheat)	GM of crops (1) (2) and (3)

MAIZE: Effects on Gross Margin



WHEAT: Effects on Gross Margin



MAIZE: Green payments and costs

**Representative farms specialised in maize production localised in the
plains: compensation for additional costs (€/ha)**

REGION	A. Direct payments <i>(DP post reform)</i>	B. Green Payments <i>(30% DP post reform)</i>	C. Δ Gross Margin <i>(GM post reform- GM pre reform)</i>	B+C
Piemonte	312	94	-239	-146
Lombardia	447	134	-229	-95
Veneto	422	127	-162	-35
Friuli V.G.	308	93	-193	-100

WHEAT: Green payments and costs

**Representative farms specialised in wheat production localised in the
hills: compensation for additional costs (€/ha)**

REGION	A. Direct payments <i>(DP post reform)</i>	B. Green Payments <i>(30% DP post reform)</i>	C. Δ Gross Margin <i>(GM post reform- GM pre reform)</i>	B+C
Marche	296	89	-55	34
Molise	266	80	-47	33
Puglia	371	111	-109	2
Basilicata	236	71	-17	54

Differentiated impacts on farm Gross Margin

- Negative impacts on GM, but highly differentiated according to farm characteristics, location and crops patterns
- Higher impacts for farms specialised in maize production

Unfair remuneration for the additional costs

- Green payments sufficient to remunerate additional costs only for the representative farms specialised in wheat:
 - Different profitability of crops
 - Green payments based on the amount of DP
 - Member States may opt for a green payment calculated as percentage of the DP received by the single farmers

Overall objective of *green payments*: introducing mandatory practices that are beneficial for the environment and climate on most of the agricultural area

- In Italy only a small number of farms and areas will be affected
- Selective tool affecting large and specialised arable farms (mainly the two farming systems analysed here: maize and wheat)

... the limits of this approach are evident:

- Horizontal, prescriptive and rule-based approach not tailored to the local conditions, which does not incentivise a pro-active engagement of farmers
- Amount of payments related to the distribution of direct payments and not to the specific public goods provided and to the associated costs

Thank you for your attention

vanni@inea.it