

The Rural Development Policy and innovation. Which role for rural and remote EU regions?

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WELFARE, WEALTH AND WORK – A NEW GROWTH PATH FOR EUROPE

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1. Introduction

- ✓ Innovation as a key driver for growth of agricultural production: *research, education and extension* (OECD, 2012).
- ✓ The role of the public sector. EU main funding streams are: Horizon 2020 and Rural Development Policy.

BUT:

- funds are limited;
- allocation is uneven throughout the EU. Besides historical reasons, fund allocation depends on (Shucksmith *et al.*, 2005; Copus, 2010; Crescenzi *et al.*, 2011; Camaioni *et al.*, 2013; 2014):
 - top-down political choices: each Rural Development Programme (RDP) allocates funds to alternative purposes in different ways
 - bottom-up capacity of single regions to attract/spend EU funds

Research questions: which are the main territorial patterns in the allocation of funds aimed at supporting education and training within the agricultural sector? Which are their main drivers?

2. Data (I)

- Focus on Rural Development Policy (European Agricultural Fund for Rural Development, EAFRD)
- *Ex-post* expenditure as registered by EU bureaus, for years 2007-2011 (source: European Commission - DG AGRI Agriculture)
- Rural Development Policy is a 'basket of policies' (Sotte, 2009). Following Axis 1 measures support innovation & education:
 - ✓ measure 111 - *vocational training / information actions*
 - ✓ measure 114 - *use of advisory services*
 - ✓ measure 115 - *setting up of management, relief and advisory services*
 - ✓ measure 124 - *cooperation for development of new products, processes ...*

Although representing a key area within Rural Development Policy, they account for just a tiny share out of overall budget.

	Million €	Share out of Axis 1 Expenditure	Share out of total EAFRD
111	225.63	1.95%	0.58%
114	38.21	0.33%	0.10%
115	10.43	0.09%	0.03%
124	39.61	0.34%	0.10%
Total	313.89	2.71%	0.81%

2. Data (II)

- Territorial focus: NUTS 3 level, EU-27 (1288 regions).
- NUTS 3 regions differ in size. Indexes of expenditure intensity are computed (reducing heterogeneity/ heteroskedasticity):
 1. Expenditure per unit of utilized agricultural area (UAA in ha.)
 2. Expenditure per unit of agricultural workforce (expressed in AWU)
 3. Expenditure per unit of agricultural gross value added (in million €)
 4. Expenditure as a share out of total RDP expenditure

Indexes #1-#3 provide information about support 'intensity'. Index #4 focuses on 'importance' of the support to education & training. It is not affected by the amount of money a given region has received. It is a more reliable indicator.

3. Top-down allocation of funds

Ex ante allocation of funds among different objectives comes from some political choices. Decisions are taken at RDP level.

Most Member States adopt **national** programmes. Italy, Spain and Germany adopt **regional** programmes (either at NUTS 2 or at NUTS 1 level). Some Member States adopt **mixed schemes** (Belgium; Finland; France; Portugal; The UK).



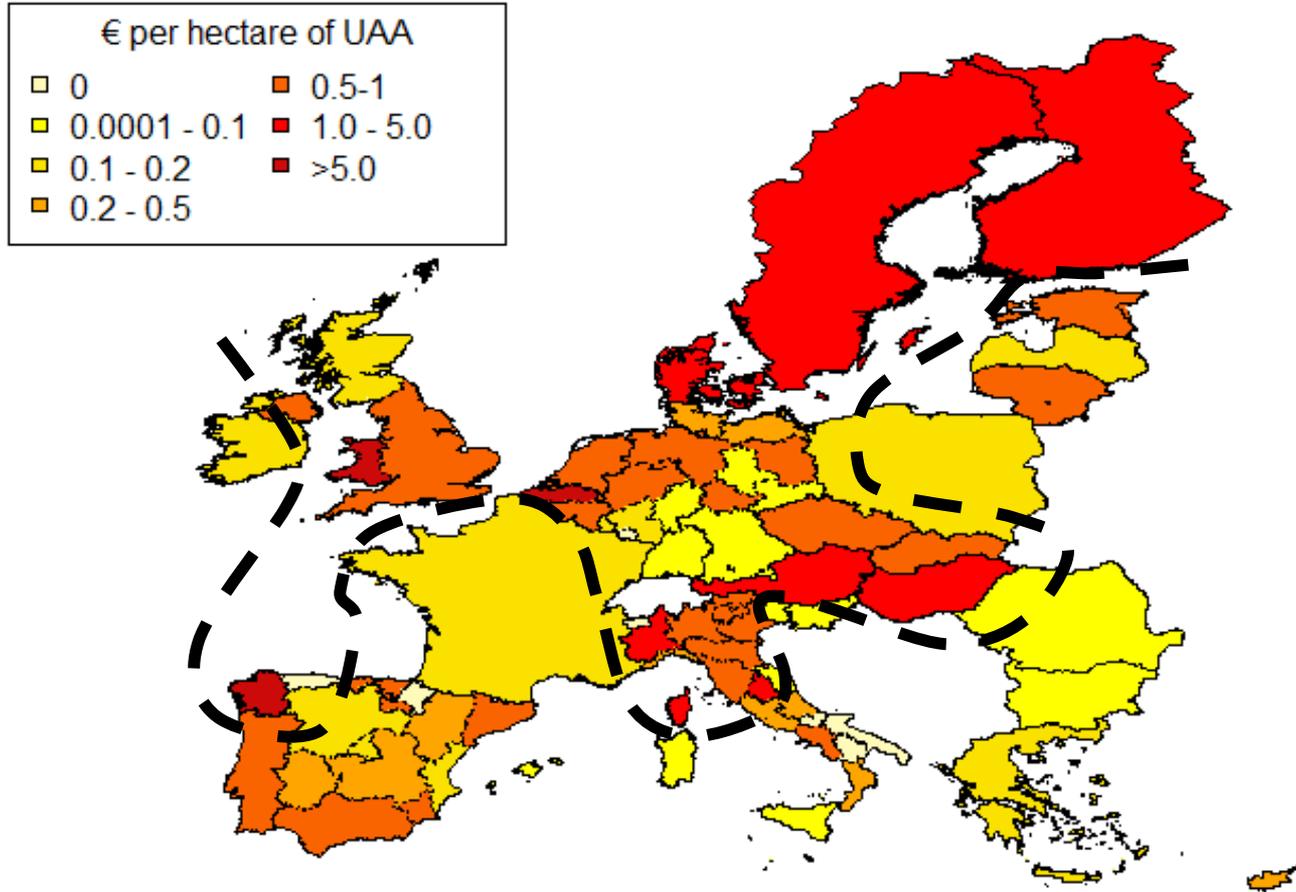
81 programmes, throughout the EU-27.

Some figures

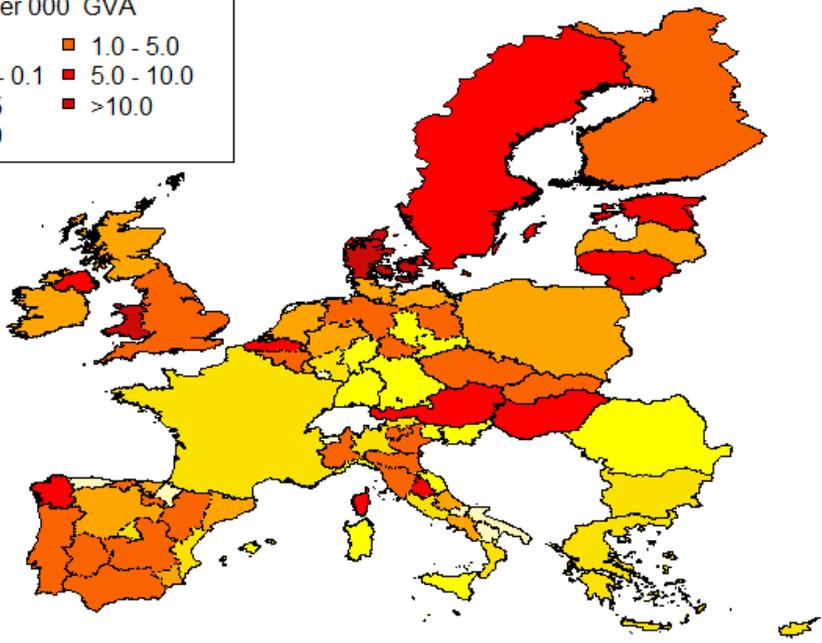
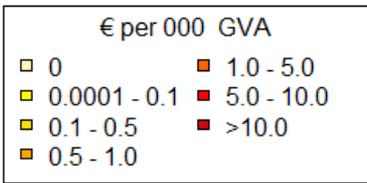
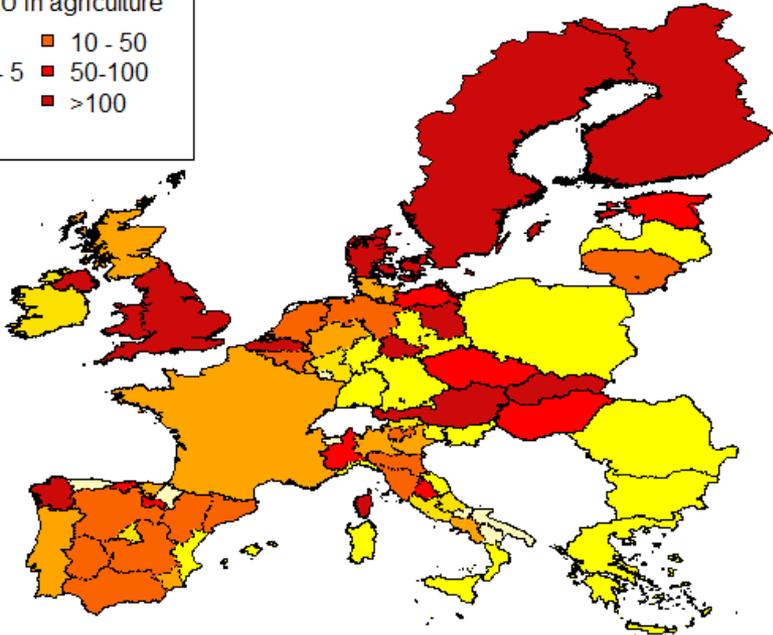
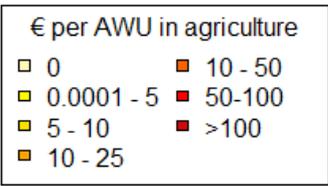
On average, each RDP allocated 3.88m € to measures 111,114,115 and 124 (2007-2011). But a great variance occurs (in 10 RDPs, >10m € allocated vs. In 8 RDPs, no funds allocated).

Raw data on absolute expenditure do not allow a proper representation. A quick overview on expenditure intensity...

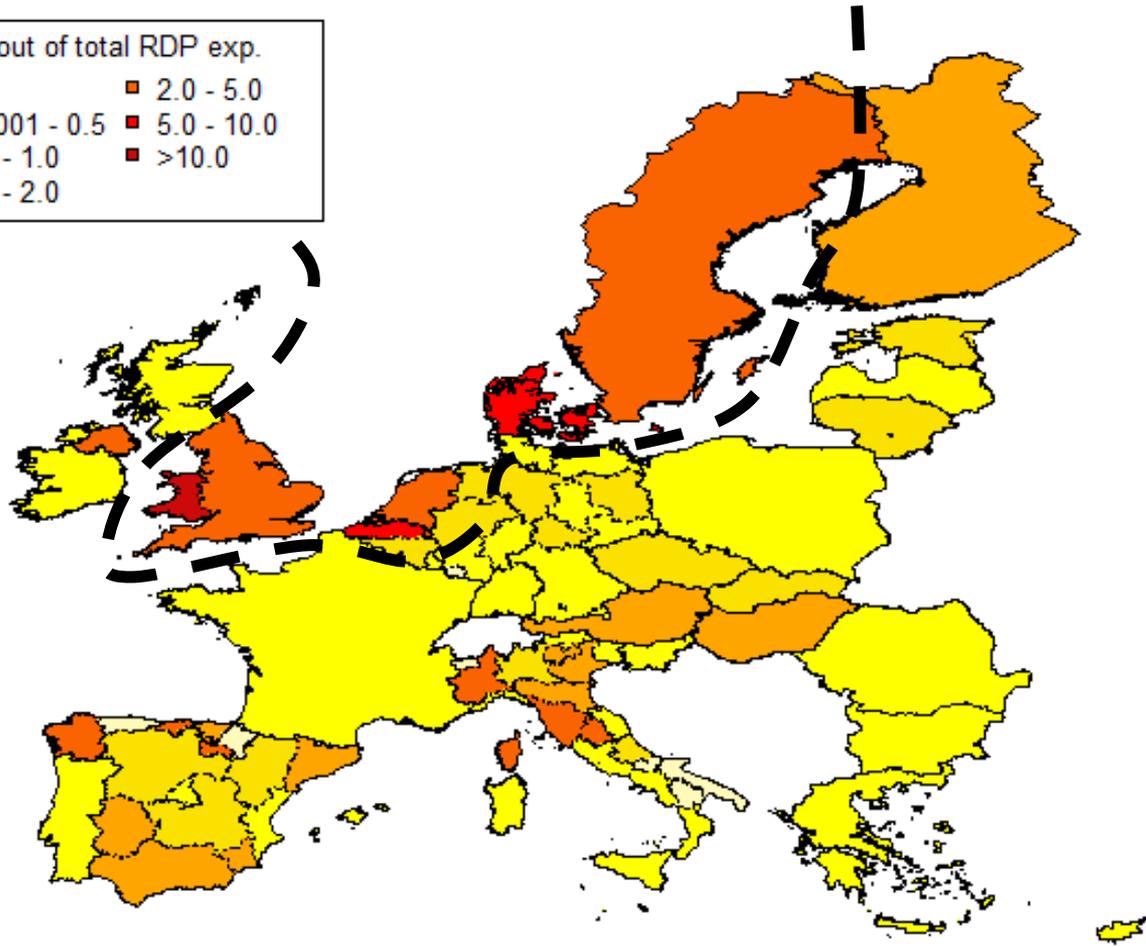
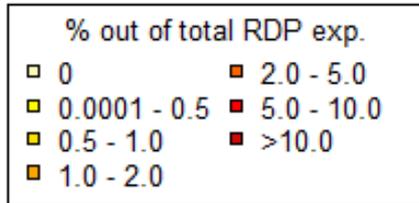
3. Top-down allocation of funds: € per ha. UAA



3. Top-down allocation of funds: € per AWU & € per agri GVA



3. Top-down allocation of funds: as a share out of RDP exp.



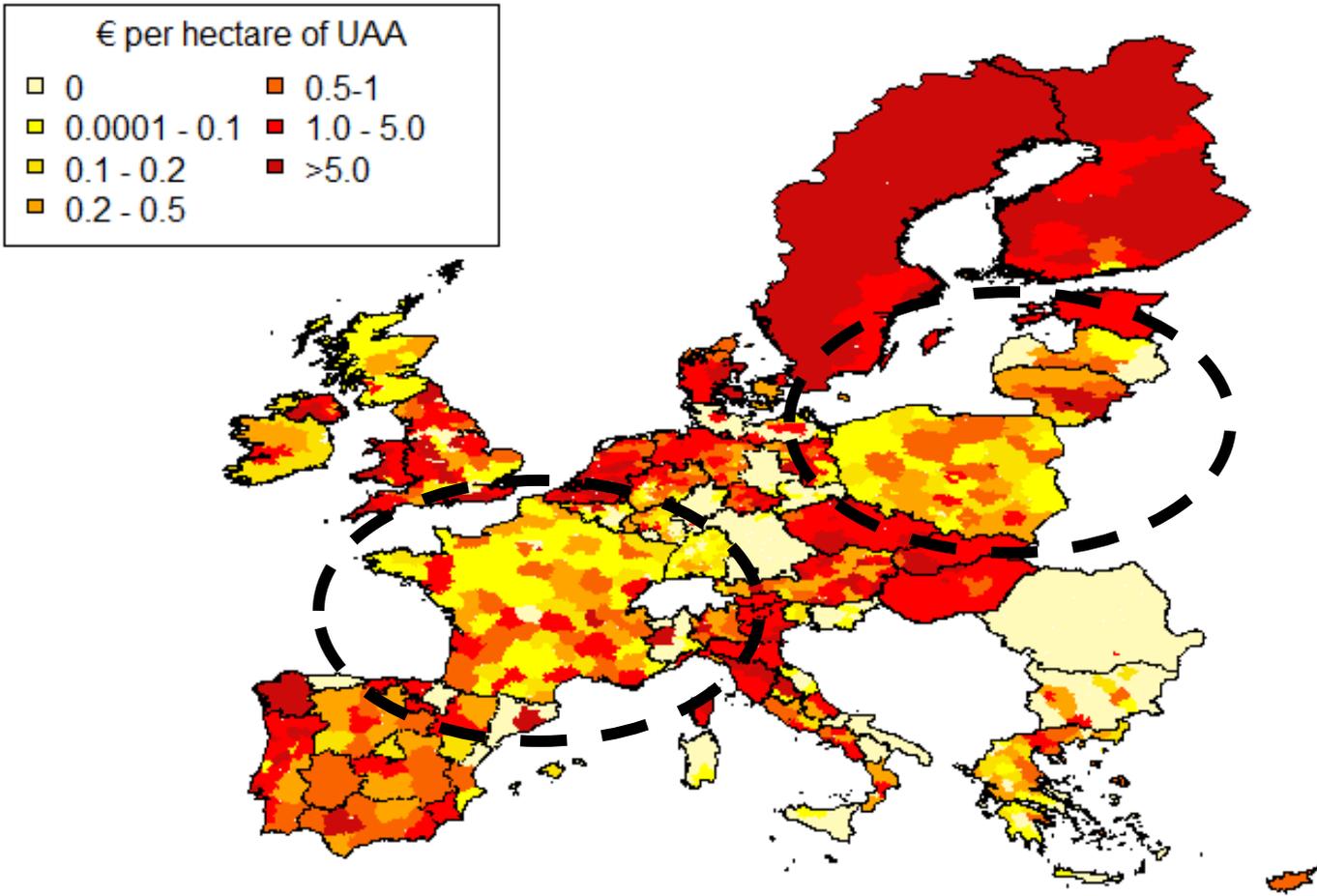
3. Bottom-up capacity to attract funds

- Differences in allocation of *ex-post* real EAFRD expenditure also depend on the way each given region is able to attract and spend EU funds (Camaioni et al., 2014a).

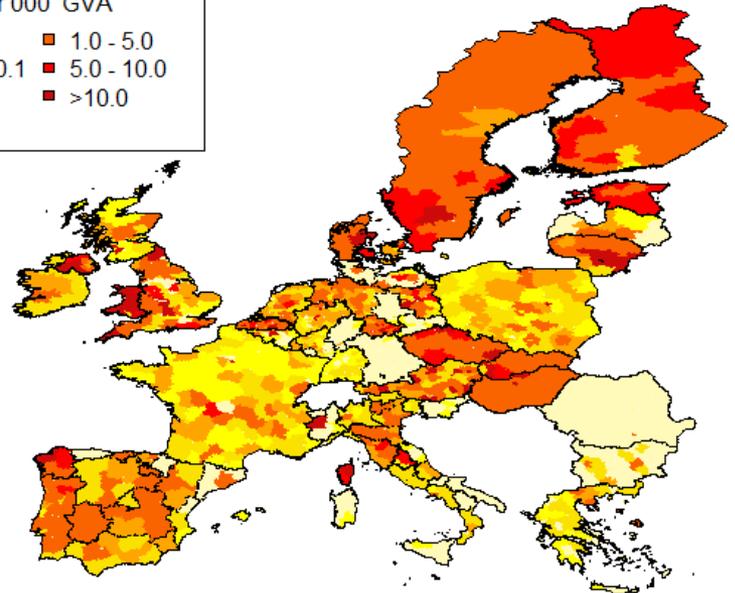
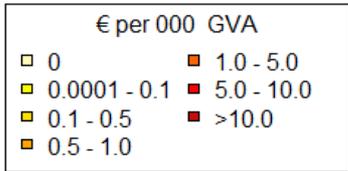
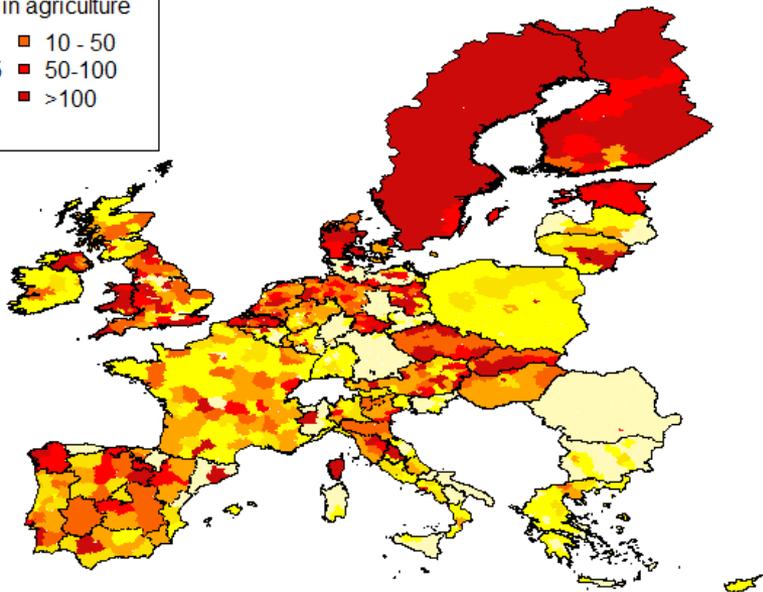
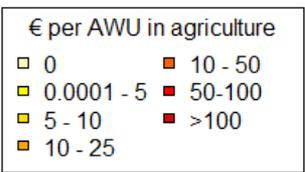
- Specific (i.e., structural) features at NUTS 3 level play a role:
 - urban-rural features;
 - structure of regional economy;
 - total labour productivity in the agricultural sector.

- Differences mostly follow RDP differences. Further heterogeneity occurs even across those regions under a same RDP (Camaioni et al., 2014)

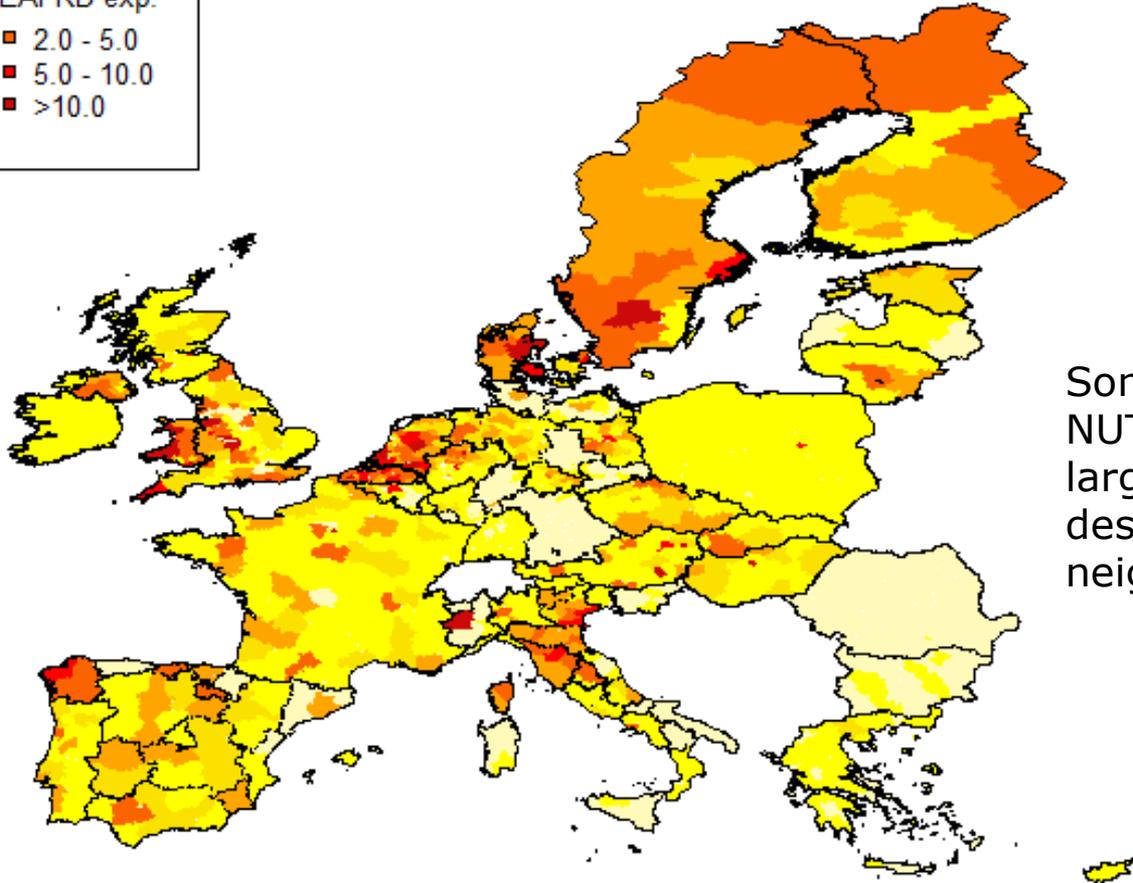
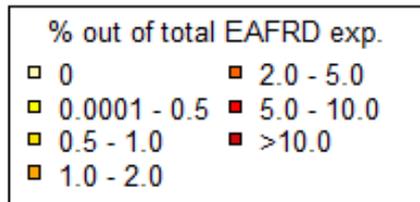
3. Bottom-up capacity to attract funds: € per ha. UAA



3. Bottom-up capacity to attract funds: € per AWU & € per agri GVA



3. Bottom-up capacity to attract funds: as a share out of RDP exp.



Some spatially isolated NUTS 3 regions show large support intensity, despite under-supported neighbouring regions.

3. Bottom-up capacity to attract funds: urban rural divides

- Regions' bottom-up capacity to attract funds for supporting education and training can be driven by structural features.
- Firstly, we focus on their degree of rurality. The issue is not new (Camaioni *et al.*, 2013): more urban and central EU regions tend to receive the largest support from EAFRD, at least on average.
- Same relation holds for expenditure under measures supporting education, training and technical assistance, as well.

Beneficiaries that provide technical assistance and implement learning programmes are located in cities.

Pearson correlation coefficients	Support under measures 111, 114, 115, 124			
	€/UAA	€/AWU	€ / 000 € GVA	% out of total EAFRD expenditure
PR	1.280	34.044	1.765	0.454
IR	11.557	3174.937	6.721	1.139
PU	72.884	764.614	5.647	2.673
Levene's Test	3.692* (0.025)	0.492 (0.709)	0.783 (0.457)	16.658* (0.000)
One-Way ANOVA	2.020 (0.134)	0.709 (0.492)	0.784 (0.457)	13.479* (0.000)
PRI (Camaioni <i>et al.</i> , 2013)	-0.183* (0.000)	-0.071* (0.011)	-0.106* (0.000)	-0.271* (0.000)
Density	0.257* (0.000)	0.107* (0.000)	0.112* (0.000)	0.244* (0.000)

3. Bottom-up capacity to attract funds:

economic development, role of agricultural sector,
labour productivity in agriculture

- EU regions differ in terms of other structural features, such as:
 - ✓ Economic development (per capita GDP and unemployment rate)
 - ✓ Structure of their economy (e.g., role of economic sectors)
 - ✓ Labour productivity in agriculture

- Economic development does not play the greatest role in explaining fund allocation at NUTS 3 level. Structure of the economy has a larger role.

Pearson correlation coefficients	Support under measures 111, 114, 115, 124			
	€/UAA	€/AWU	€ / 000 € GVA	% out of total EAFRD expenditure
Per capita GDP	0.174* (0.000)	-0.001 (0.972)	0.024 (0.385)	0.132* (0.000)
Unemployment Rate	-0.002 (0.943)	-0.001 (0.962)	-0.004 (0.890)	-0.038 (0.178)
Employment Agriculture (%)	-0.042 (0.136)	-0.025 (0.375)	-0.040 (0.156)	-0.112* (0.000)
Employment Manufacture (%)	-0.080* (0.004)	-0.022 (0.422)	-0.044 (0.119)	-0.120* (0.000)
Employment Services (%)	0.095* (0.001)	0.033 (0.228)	0.060* (0.031)	0.171* (0.000)
Labour productivity in agriculture (€ / AWU)	0.139* (0.000)	0.097* (0.000)	0.083* (0.003)	0.052 (0.063)

3. Concluding remarks

- Allocation of expenditure under EAFRD measures supporting education is uneven throughout the EU. Imbalances comes from:
 1. Top-down decisions: at RDP level, political choices cause a severe concentration in allocation of funds.
 2. Bottom-up capacity of regions to spend EU funds: the more urban a given region and the more service-based its local economy, the larger is the intensity of the EAFRD support in promoting education.
 3. Labour productivity in agriculture is positive linked to support intensity as well (no cause-effect considerations are drawn).
- Future researches on this topic will help shedding more light on the way policies supporting education in agriculture are targeted at local level. Rural and remote regions still play a marginal role, although Rural Development Policy should directly support them.
- Impressive changes can only be reached by a radical increase in the capacity of rural regions to attract EU funds.

Thanks for your attention

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