

The Territorial Dimension of R&D in an Enlarged Union

Adrian Healy

ERIK Conference

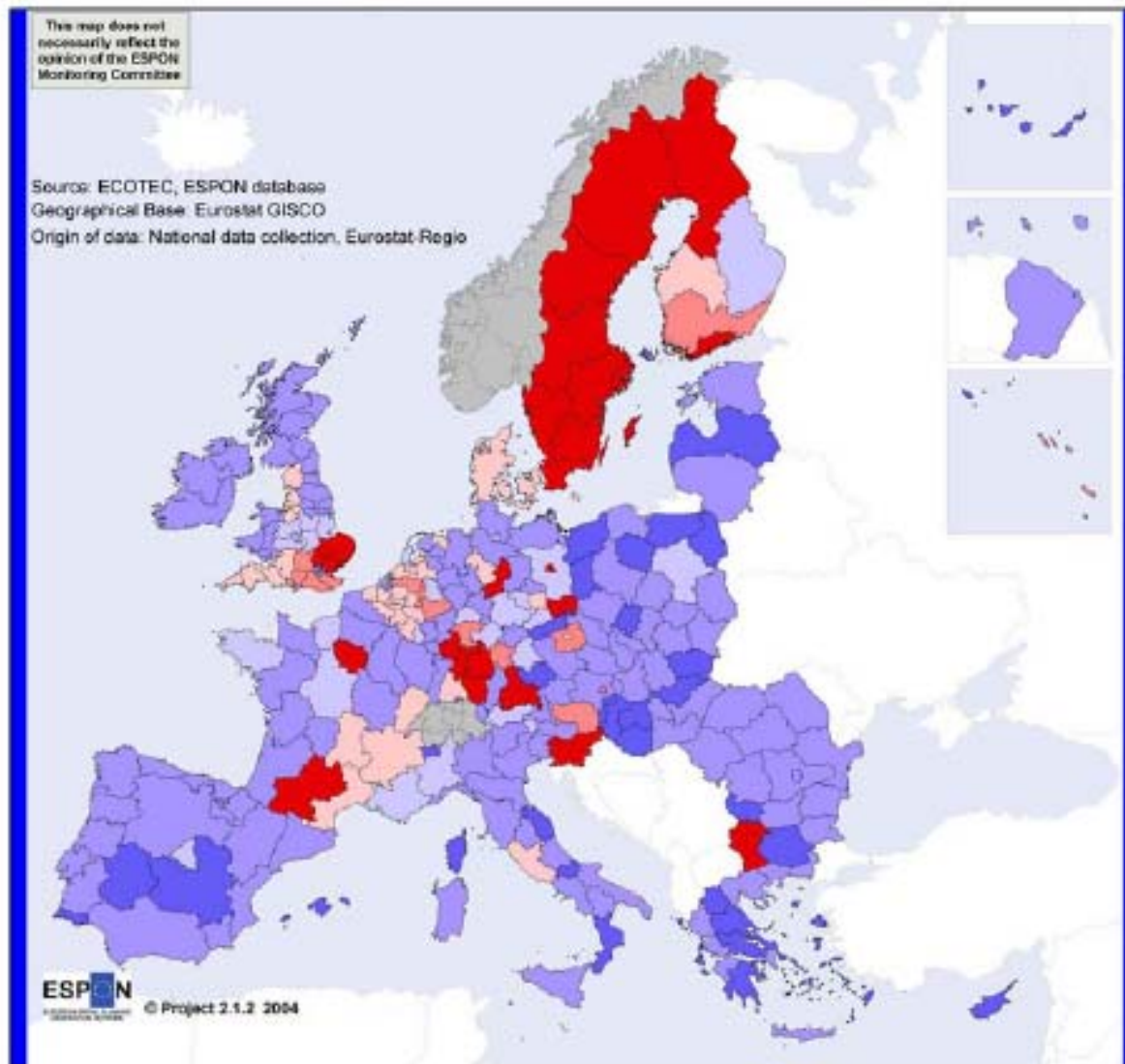
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Content

- Territorial strengths and weaknesses
- Territorial analysis of EU R&D policies
 - Macro scale (European level)
 - Meso scale (trans-regional level eg INTERREG)
 - Micro scale (regional level)
- Approach:
 - Distributional analysis of Framework Programme activity
 - Analysis of planned expenditure on R&D activities in SF programmes (2000-06)

Territorial strengths and weaknesses

- Research, innovation and high technology “hotspots” tend to be concentrated in core areas of North West Europe (D, NI and parts of the UK and Fr), with other strong performers in Scandinavia
- There is a long tail of less R&D and innovation-intensive areas, concentrated in Southern, Central and Eastern Europe.
- There is some evidence of regional “catch-up”, in that growth rates in lower performing regions tend to be higher.



R&D intensity across the EU27 against the EU average, 1999



*EU27 Average = 100, excluding Romania, Lithuania, Cyprus, Malta, and Estonia

Data for CZ, HU, SK and LU - year 2000
Data used for IE and SE are from NUTS 1
Data used for BE, CY, EE, LT, LV and RO are from NUTS 0
CH, MT and NO: no data

Innovation Capacity

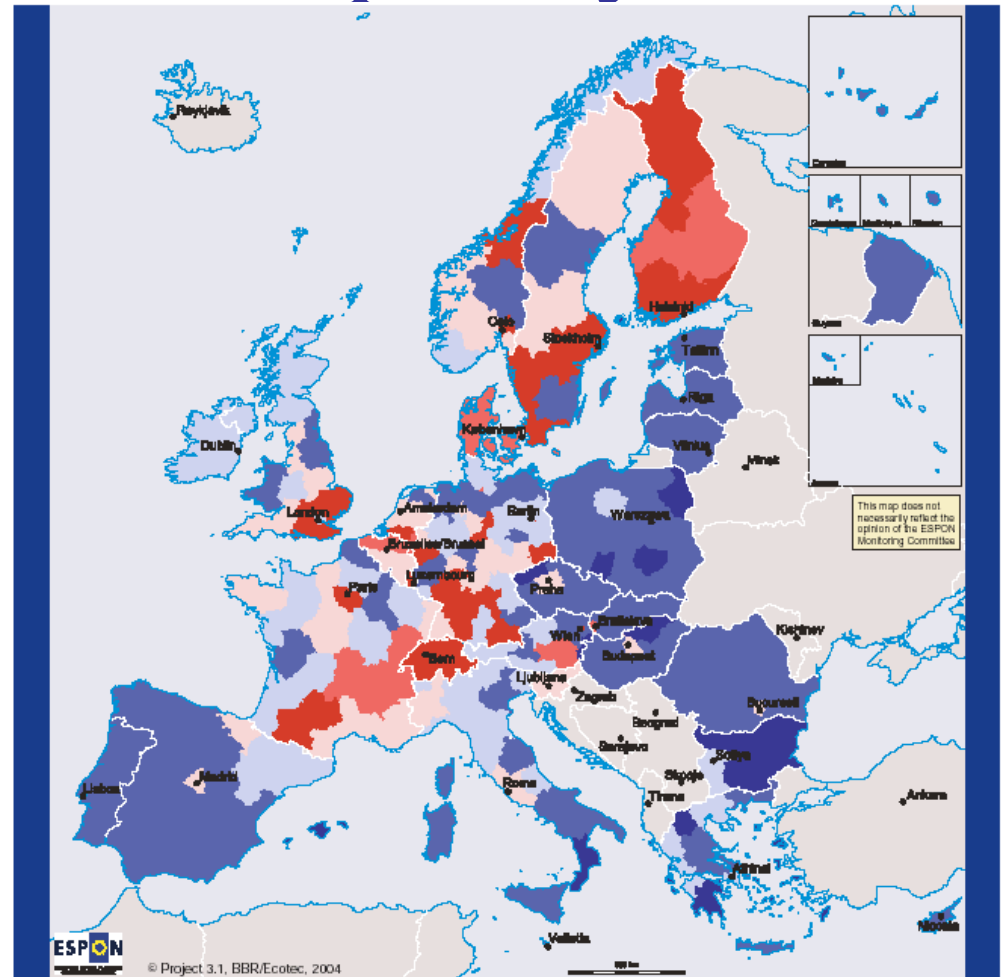
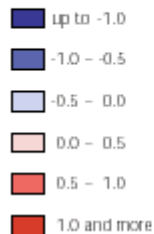
Innovation capacity varies through out Europe.

The peaks are in the Finland, Sweden, UK, France, Germany, Austria, Belgium and Switzerland.

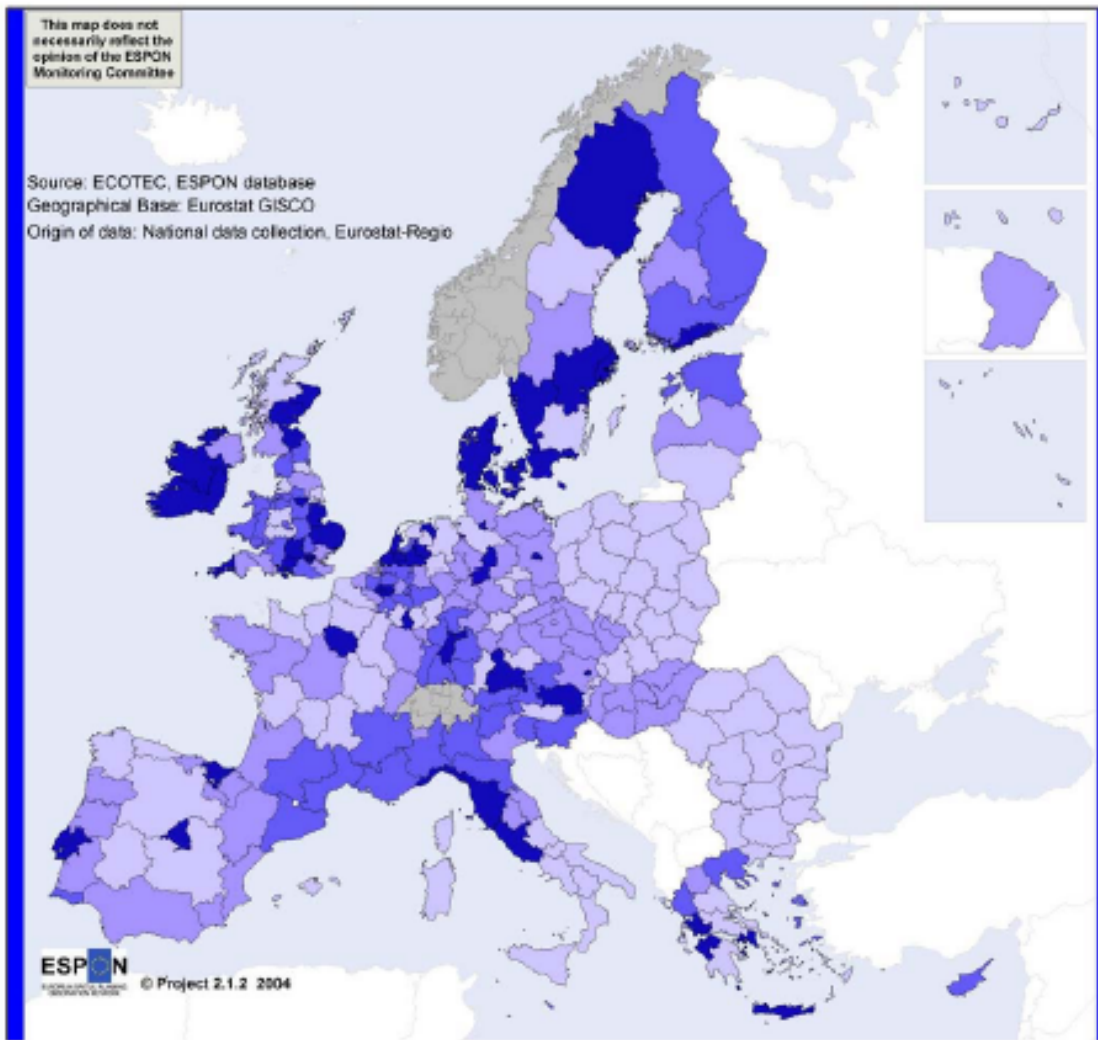
Areas with lowest capacity are outside the core of Europe, e.g. in Greece, Southern Italy, parts of Poland, Hungary and Czech Rep., plus all all of Bulgaria.

Outside the core, a strong NE-SW diagonal exists

Additive combination of standardised R&D-indicators: R&D personnel total, personnel in BES, expenditure on R&D (regional average of EU25 + N + CH + BG + RO = 0)



Framework Programme Participation



Total number of project participants in the Fifth Framework Programme weighted by population, 2000



Data Source: CORDIS Project Database.

Alternative weightings

- Allowing for GDP
 - distribution of Framework Programme partners is spread much more evenly across the European territory. This is particularly the case in FP 5 compared to FP 4.
- Allowing for R&D expenditure
 - Regions with low R&D expenditure have proportionately greater engagement

SF activity

Balance of R&D expenditure by objective (€m)			
	FOI Total SF	Total SF	%
Objective 1	8,149	101,433	8.03
Objective 2	2,329	21,544	10.81
Objective 3	9	4,487	0.20
Objective NA	193	3,551	5.46
Total	10,681	131,015	8.15
Source: adapted from DG Regional Policy records			

Spatial balance

Country	range	Regional average	Regional programmes containing FOI code 18	Total number of regional programmes	National % of relevant programmes	
Belgium	3.9%-19.5%	14.5	6	8	11.26%	
Denmark	na	14.0	1	1	13.98%	
Germany	2.6%-20.9%	6.8	15	17	9.53%	
Greece	0.6%-3.7%	1.3	11	13	4.16%	
Spain	0.5%-30.9%	4.5	17	19	8.86%	
France	0.7%-22.3%	5.8	27	27	5.82%	
Ireland	na	1.2	1	2	28.86%	
Italy	0.1%-8.7%	2.2	19	21	12.34%	
Luxembourg	na	22.0	1	1	22.00%	
Netherlands	1.5%-5.2%	2.6	4	4	2.54%	
Austria	7.8%-23.7%	14.5	9	9	14.52%	
Portugal	0.6%-2.0%	1.3	7	7	4.92%	
Finland	12.6%-16.4%	14.5	4	5	13.99%	
Sweden	2.0%-20.5%	13.5	5	6	13.45%	
United Kingdom	1.0%-10.7%	6.3	18	20	4.47%	

At a regional scale

- Beneficiaries of SF and FPs vary
- Focus of support differs
 - but some convergence
- Limited spillover through the FPs
- Extent of support for innovation understated
- The role of Regional Innovation Strategies

Spatial effects

	FP	SF
Macro	**	
Meso	**	*
Micro	*	**

	<i>Macro</i>	<i>meso</i>	<i>micro</i>
Infrastructure and equipment	*	*	***
Technological capacity	**	*	***
Networking	***	*	**
Human capital development	**		**
Employment			*
Governance and strategy			*

Spatial policy goals

- Currently EU R&D policy broadly supports convergence objectives
 - although FPs do so on a relative basis
- Strong performance against ESDP goals
 - networking amongst companies
 - establishment of innovation centres and co-operation arrangements
 - support for Objective 1 regions
 - expansion of strategic role of major metropolitan centres

- But less success in supporting development of larger zones of economic integration in the EU.

Spatial challenges for the future

- Development of Eastern European regions versus Southern European regions
- Focus on regions with strong HEI sectors
- Encouraging business engagement
- Developing integrated regional approaches