ESPON

Inspire policy making by territorial evidence

ESPON Seminar

South Europe at the crossroads

Are we making the right decisions about accessibility investments for the future?

Risks of territorial marginalization and policy design in the South

- why decision making is at the crossroads?

Rusu Alexandru, UAIC, Romania

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General plan

What is South?

What is South for the ESPON Projects?

Myths about the economic performance of the Southern States

Economic performance and accessibility

Spatial equity and access to the TEN corridors

Challenges to be addressed – new patterns of mobility

Conclusions

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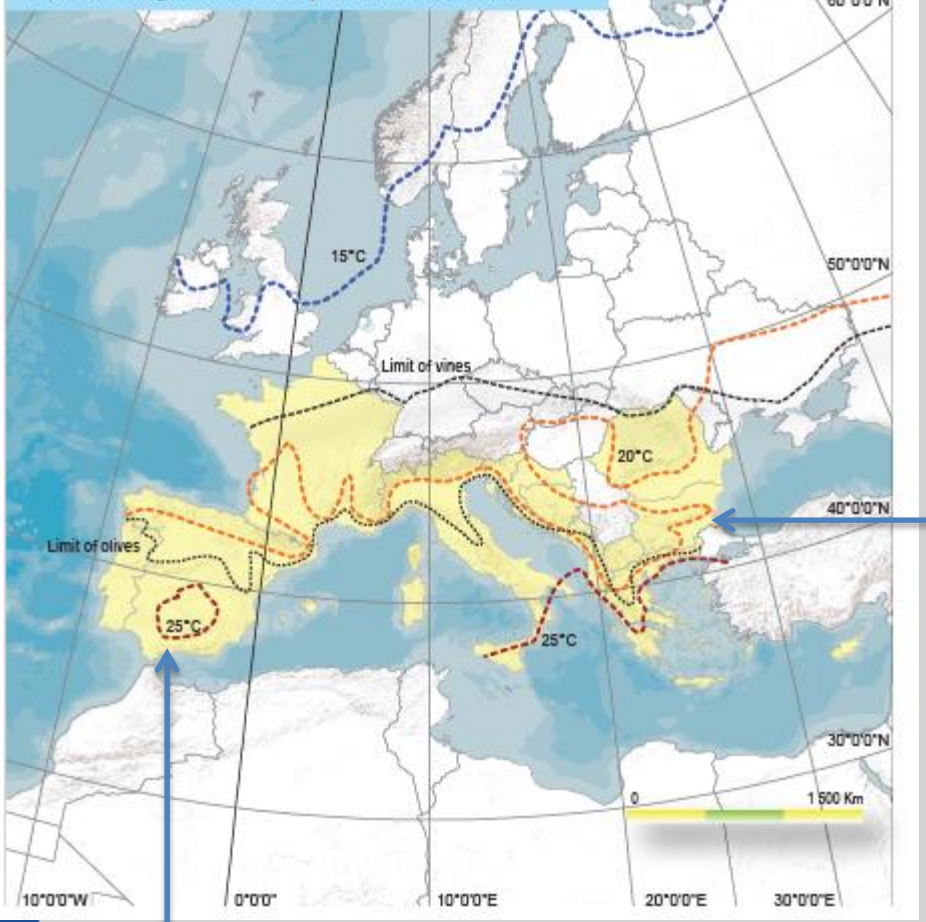
What is South? How could a geographer define its limits? Are there any natural borders to delineate a complex arrangement of states that might be named the South of Europe? Are these limits politically imposed? Patterns of agriculture should prevail over climatic regionalization? Sharing a common history and belonging to an undeniable model of civilization will make the definition easier? The answers to these questions are a stake because they imply different configurations of cooperation in the South.



25° C in July

CNTR	MEDIT	OLIVES	CIV	GEOSPECS	25°C	20°C	TOTAL
CY	1	1	1	1	1	1	6
ES	1	1	1	1	1	1	6
GR	1	1	1	1	1	1	6
IT	1	1	1	1	1	1	6
MT	1	1	1	1	1	1	6
FR	1	1	1	1	0	1	5
HR	1	1	1	1	0	1	5
AL	1	1	1	0.5	0	1	4.5
BA	1	1	1	0.5	0	1	4.5
ME	1	1	1	0.5	0	1	4.5
MK	0.5	1	1	0.5	0	1	4
SI	1	1	0.5	0.5	0	1	4
PT	0.25	1	0.5	0.5	0	1	3.25
BG	0.25	0	1	0.5	0	1	2.75
RO	0.25	0	1	0.5	0	1	2.75
AT	0	0	0.5	0.5	0	1	2
HU	0	0	0.5	0.5	0	1	2
RS	0	0	0.5	0.5	0	1	2
CH	0	0	0.5	0.5	0	0	1

1 2 3 4 5 6

20° C in July

TEMPERATURE CONTRAST IN THE SOUTH OF EUROPE
- ITALY VS. CYPRUS -
- TOP 10 HIGHEST TEMPERATURES RECORDED -
(average temperatures)

ITALY				CYPRUS			
Year	T°C	Month	Country	Year	T°C	Month	Country
2003	24.18	6	ITA	2003	28.90	7	CYP
2015	24.01	7	ITA	2015	28.95	7	CYP
2003	23.76	8	ITA	2003	28.98	7	CYP
2003	23.39	7	ITA	2003	28.99	8	CYP
2006	23.33	7	ITA	2006	29.19	8	CYP
2012	23.17	8	ITA	2012	29.22	8	CYP
1994	23.01	8	ITA	1994	29.26	7	CYP
2010	22.98	7	ITA	2010	29.40	7	CYP
2009	22.89	8	ITA	2009	29.85	8	CYP
1994	22.79	7	ITA	1994	29.98	8	CYP

Data source : www.worldbank.org

1 – access to the Mediterranean Sea
3 - both Greek and Roman civilization background
4 – geographical specificities

Territorial diversity

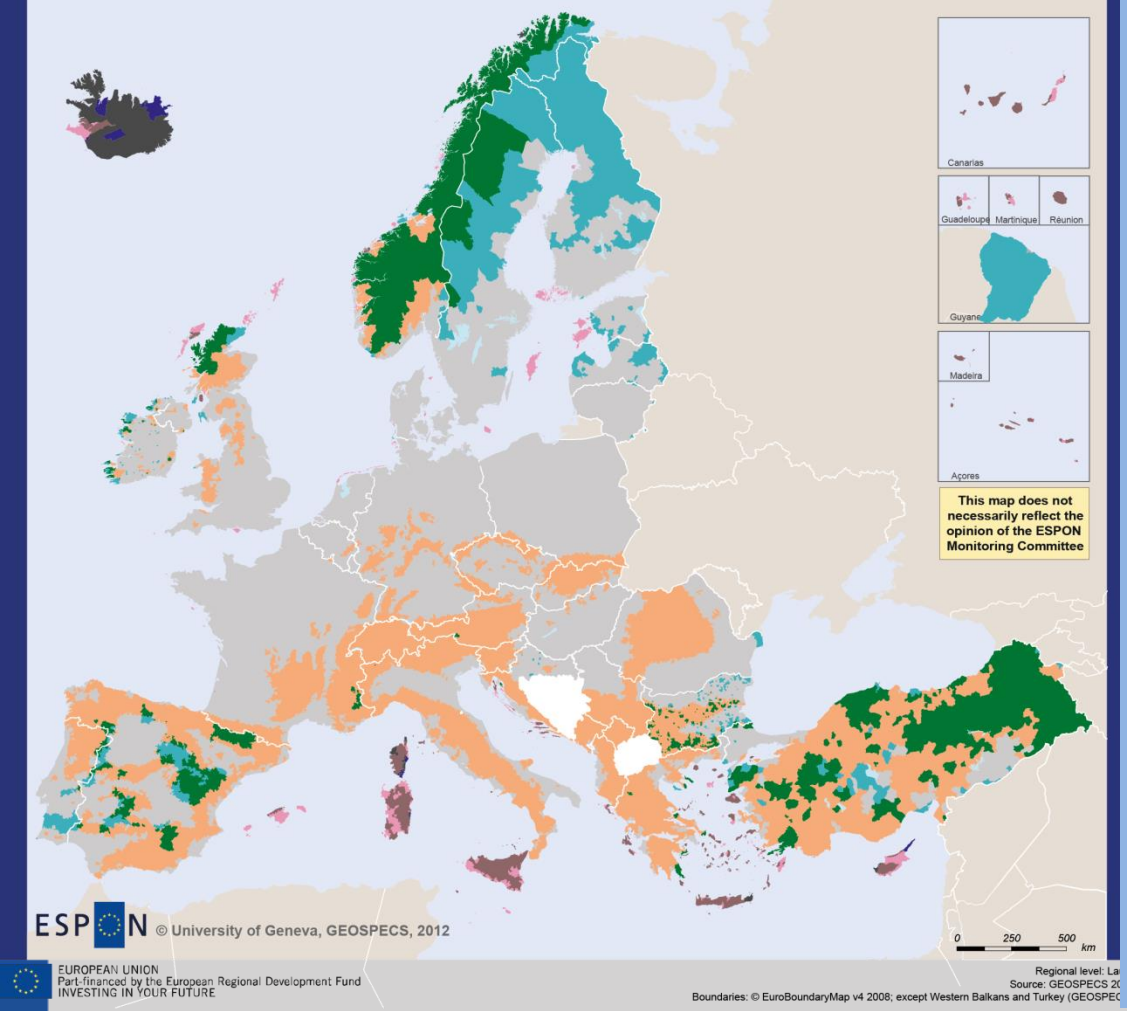
- multiple challenges
- multiple opportunities
- reactive&proactive planning

The geography as a *datum*

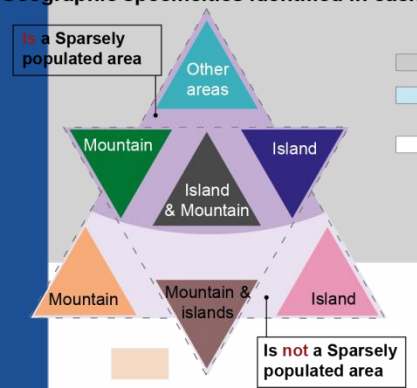
Focusing on the accessibility is a precondition for planning :

- islands
- mountain areas
- sparsely populated areas
- socio-economic problems

Priority: connecting territories



Geographic specificities identified in each LAU 2-unit



Other areas (ESPON Space)

Lakes

No data

In GEOSPECS, **Sparsely Populated Areas** have been delineated on the basis of population potentials, i.e. the number of persons that can be reached within a maximum generally accepted daily commuting or mobility area from each point in space. Two approaches were used, with a threshold of 100,000 persons (i.e. 12.7 persons/km² within 50 km) to: 1) to delineate SPAs, based on the isotropic distance, i.e., the possibility to commute 50 km from a point in all directions equally Islands with a fixed link to the continent have not been considered 2) to delineate "poorly connected areas" (PCAs), based on population potential using 45-minute travel times along road networks, as a proxy for the maximum generally accepted commuting distance. SPAs were clustered into 39 'Sparse territories

Islands with a fixed link to the continent have not been considered.

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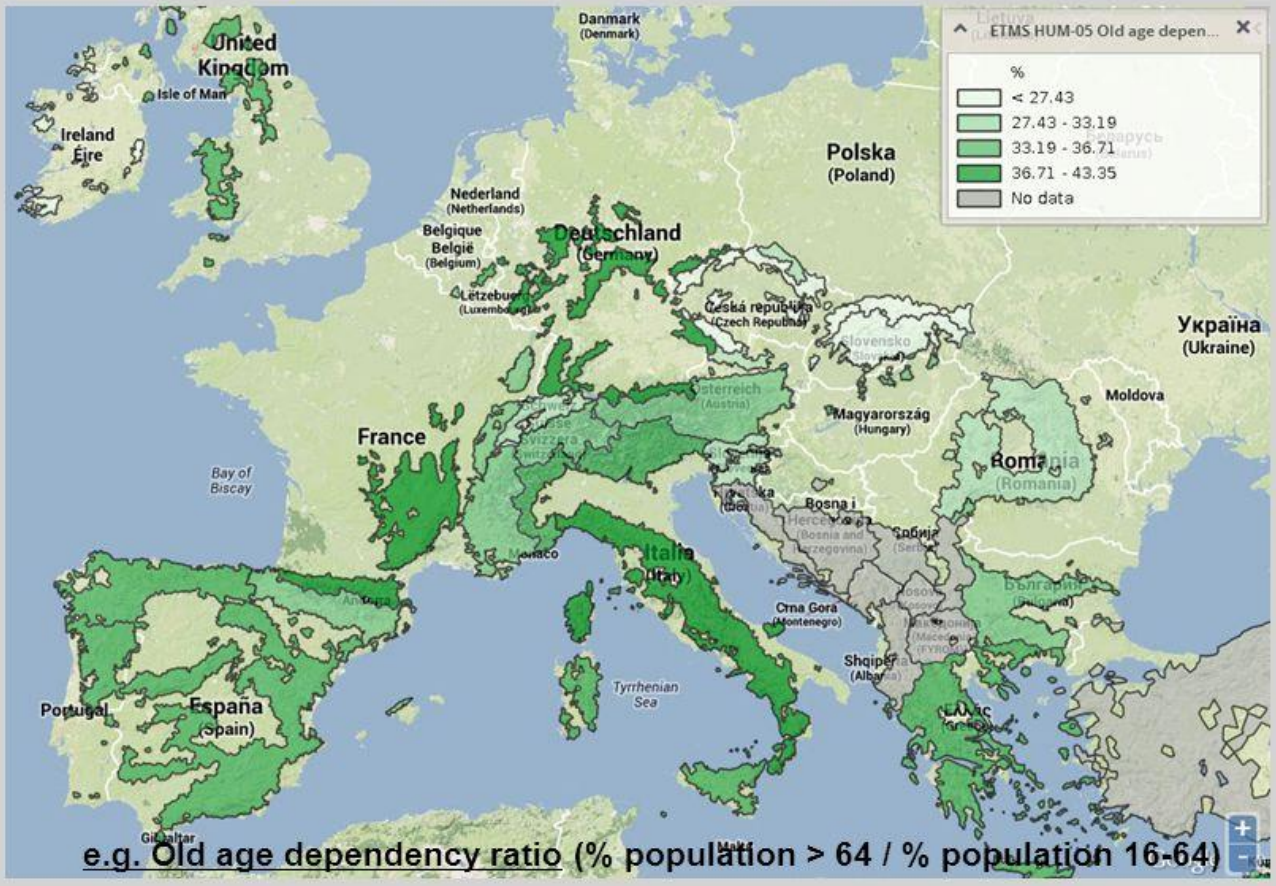
2. Maps for territories with regional specificities (based on LAU)

Mountain ranges as defined in ESPON GEOSPECS



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More specifically (1) : rough terrain + ageing population => accessibility to specific services

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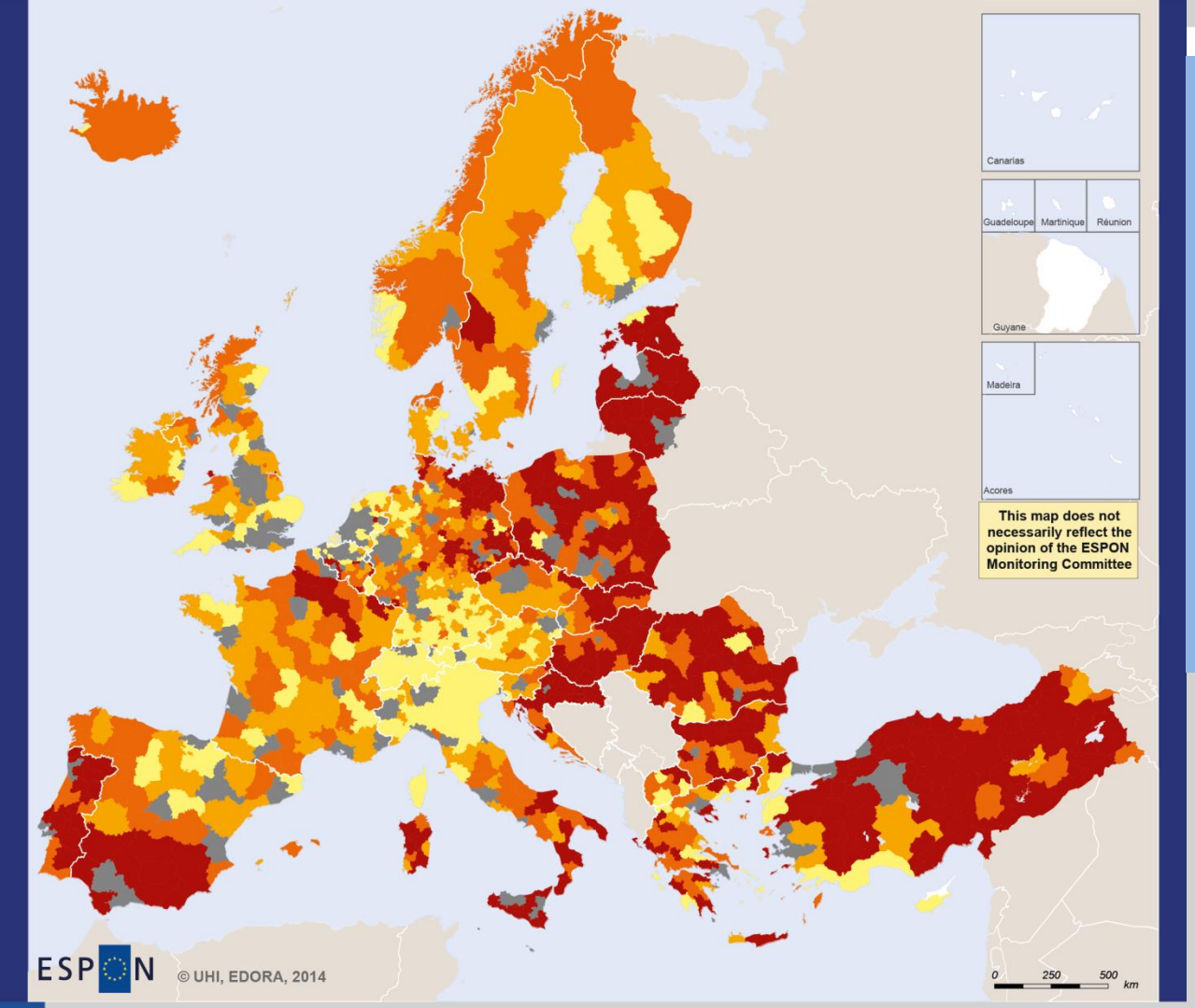

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Regional level: NUTS 3
Source: EDORA Database, 2010, updated in 2013
Origin of data: EUrostat, Regio Database, and other souces, various years (centred on 2006, updated in 2013)
© EuroGeographics Association for administrative boundaries

Performance of intermediate and predominantly rural regions, 2013

- Predominantly Urban Regions
- Depleting
- Below average
- Above average
- Accumulating
- No data

Five indicators were used in the calculation of a composite regional performance indicator : **net migration, GDP per capita, average annual change in GDP, average annual change in total employment, and unemployment rate.**

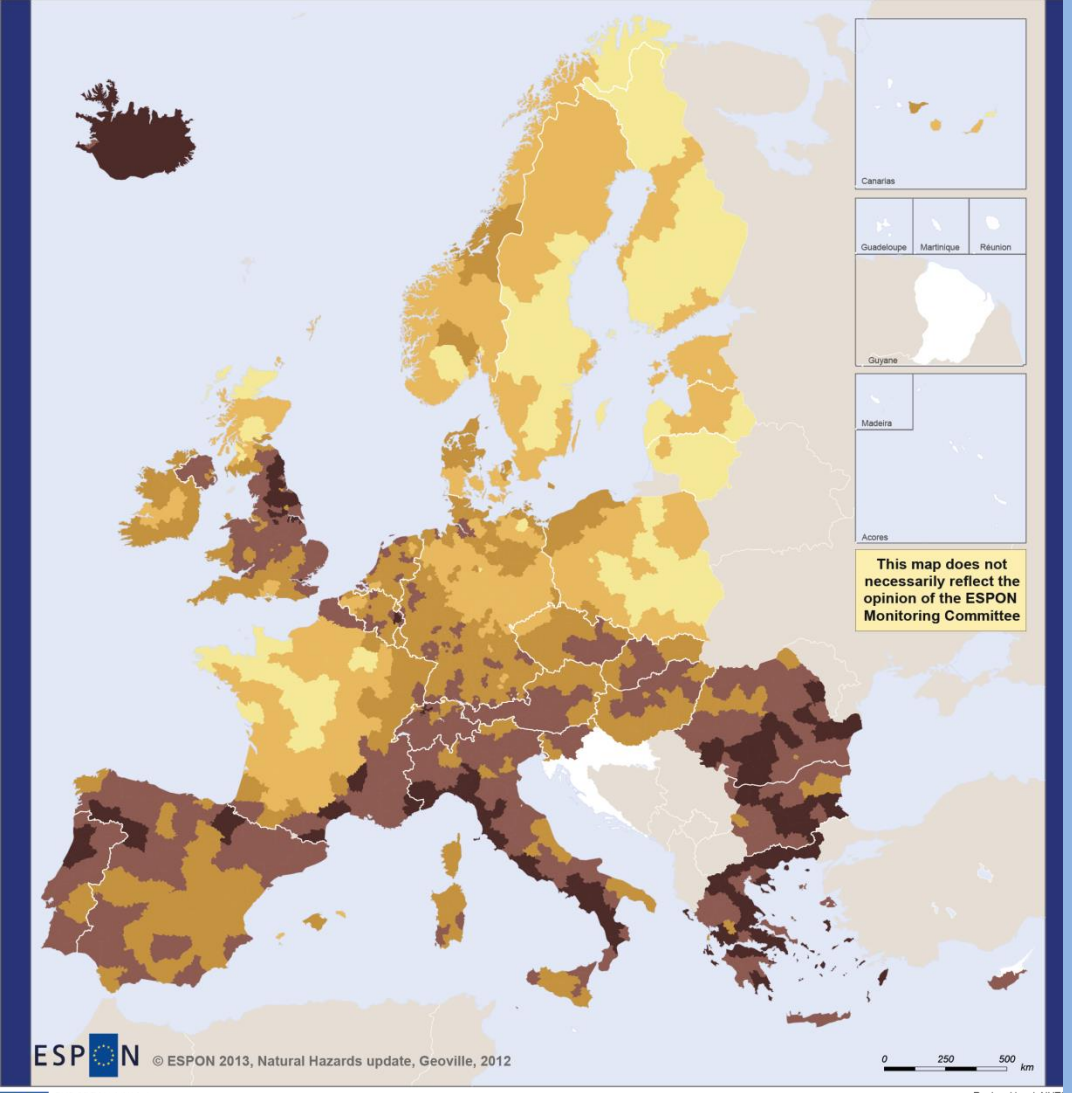
The composite indicator was simply calculated as the average of the normalised (Z) scores for the five indicators (In CH, and TR there are many gaps in the data. In CH the A-D score is based only upon Net Migration and Unemployment, whilst for TR on GDP per capita and GDP change are present. The A-D scores, ant typology codes for these countries are therefore not comparable with those for EU27 and NO.)

More specifically (2) :

- a South in the South

- policy against the gradients

-depleting = peripheral, *ergo* accessibility is a stake.



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Regional level: NUTS
Source: Territorial Observation on Natural Hazards and Climate chan
Origin of data: Geoville Environmental Services, 20
© EuroGeographics Association for administrative boundar

Natural hazard exposure potential

- Very low
- Low
- Moderate
- High
- Very high
- No data

To identify those regions under threat by more than one natural hazard, an aggregated hazard exposure potential can be used. This potential is based on a weighted **aggregate of single natural hazard exposures**.

1. Average **floods** per year/catchment, 1985 – 2011 (weight 19)
2. Observed **forest fires**; biogeographic regions, 1997 – 2012 (weight 14)
3. **Drought** frequency, 1991 – 2010 (weight 13)
4. Modelled **earthquake** hazard, 2010 (weight 12)
5. Occurrence of winter and tropical **storms**, 2006 (weight 10)
6. **Extreme temperatures** (Occurrence of warm and cold spells), 1981 – 2010 (weight 9)
7. **Landslide** occurrence, 2012 (weight 8)
8. **Storm surge** occurrence, 2012 (weight 7)
9. Potential **avalanche** occurrence, 2000-2011 (weight 3)
10. Occurrence of **volcanic eruptions**, 10.000 B.C. – 2012 (weight 3)
11. **Tsunami** occurrence, 2000 B.C. – 2012 (weight 2)

More specifically (3) :

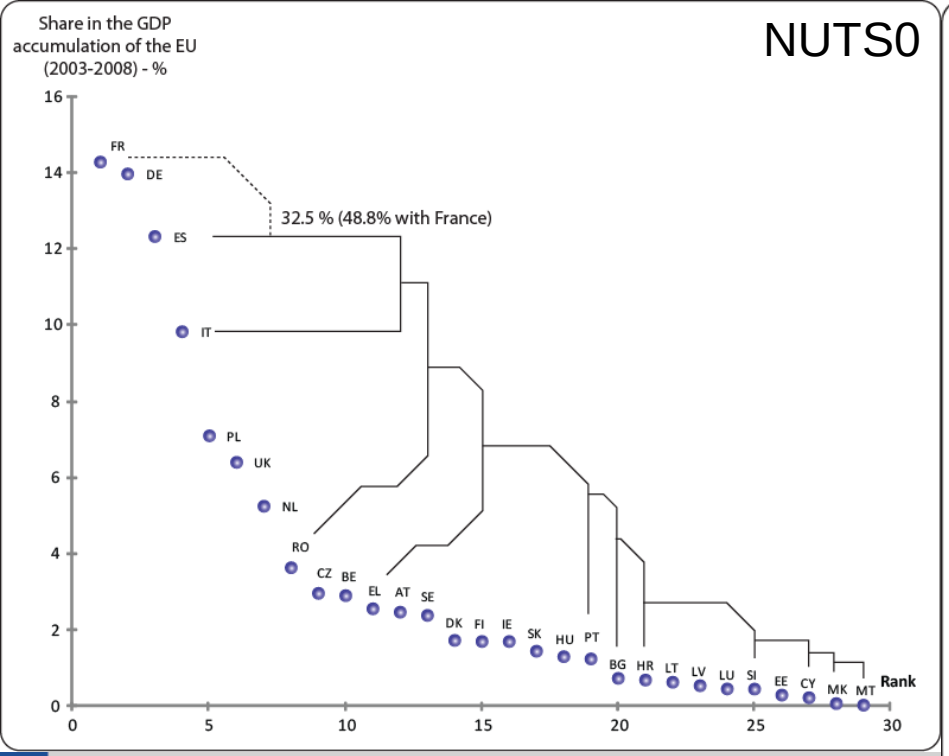
- the exposure to natural hazard is consistently higher in the South

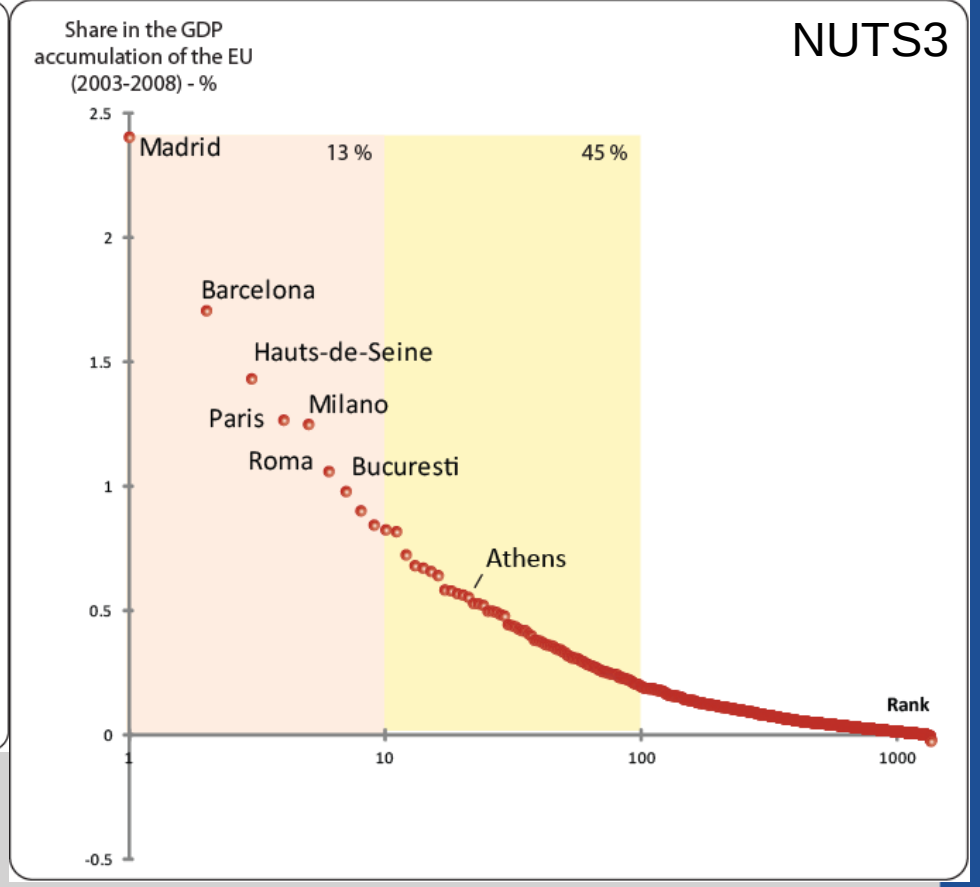
- the opposition between the rural and the metropolitan areas is no longer relevant

-what is the connection between exposure, accessibility and reactive policy decisions?
A logical one …

Profile of policy design :

- reactive
- proactive
- protective





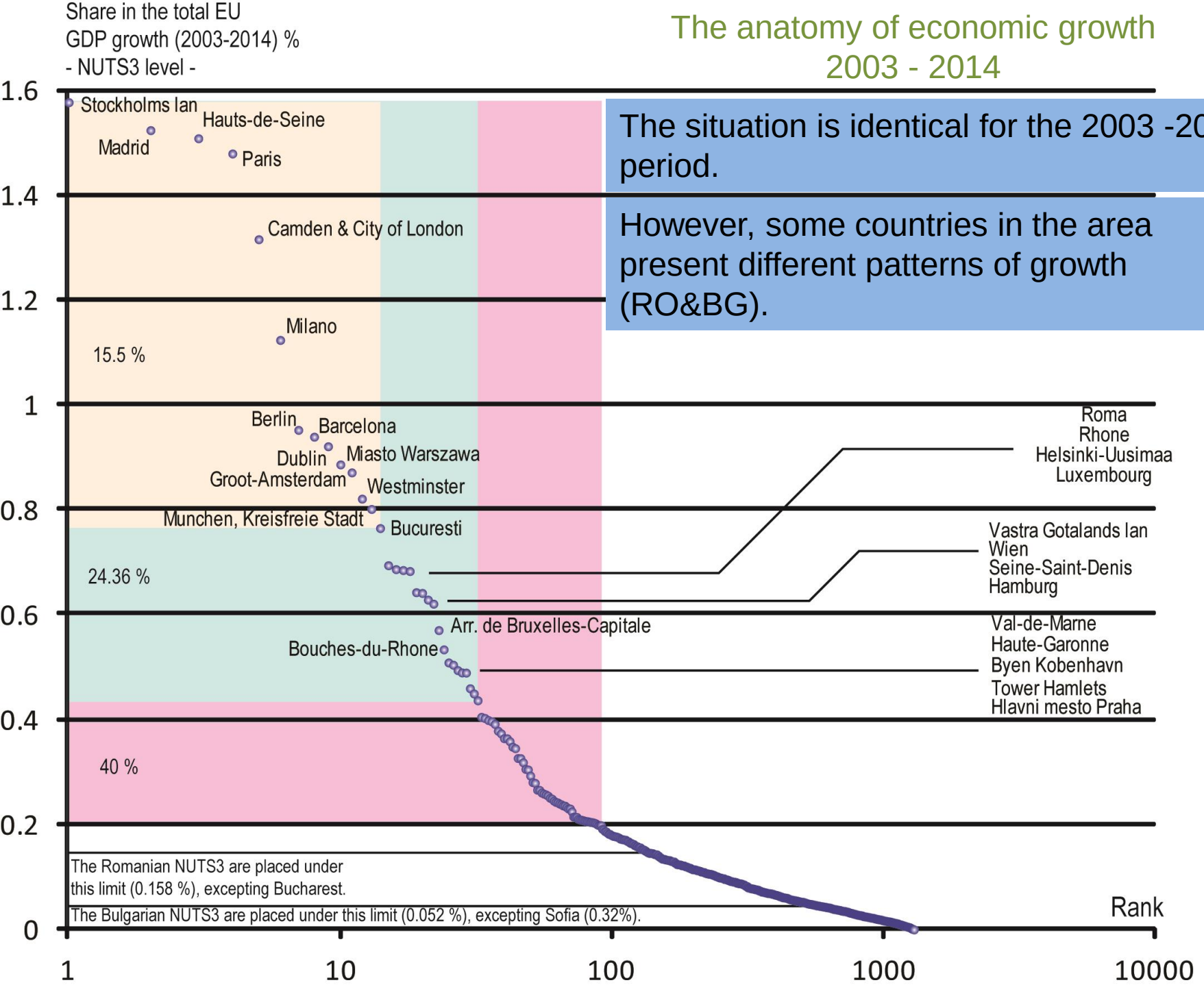
Common places about the South:

- the South is not an engine of economic growth

Reality:

- the Southern states are responsible for 33 % of the economic growth in the EU (2003-2008)
- the NUTS3 from the South are in the top of the hierarchy of GDP accumulation (2003-2008)

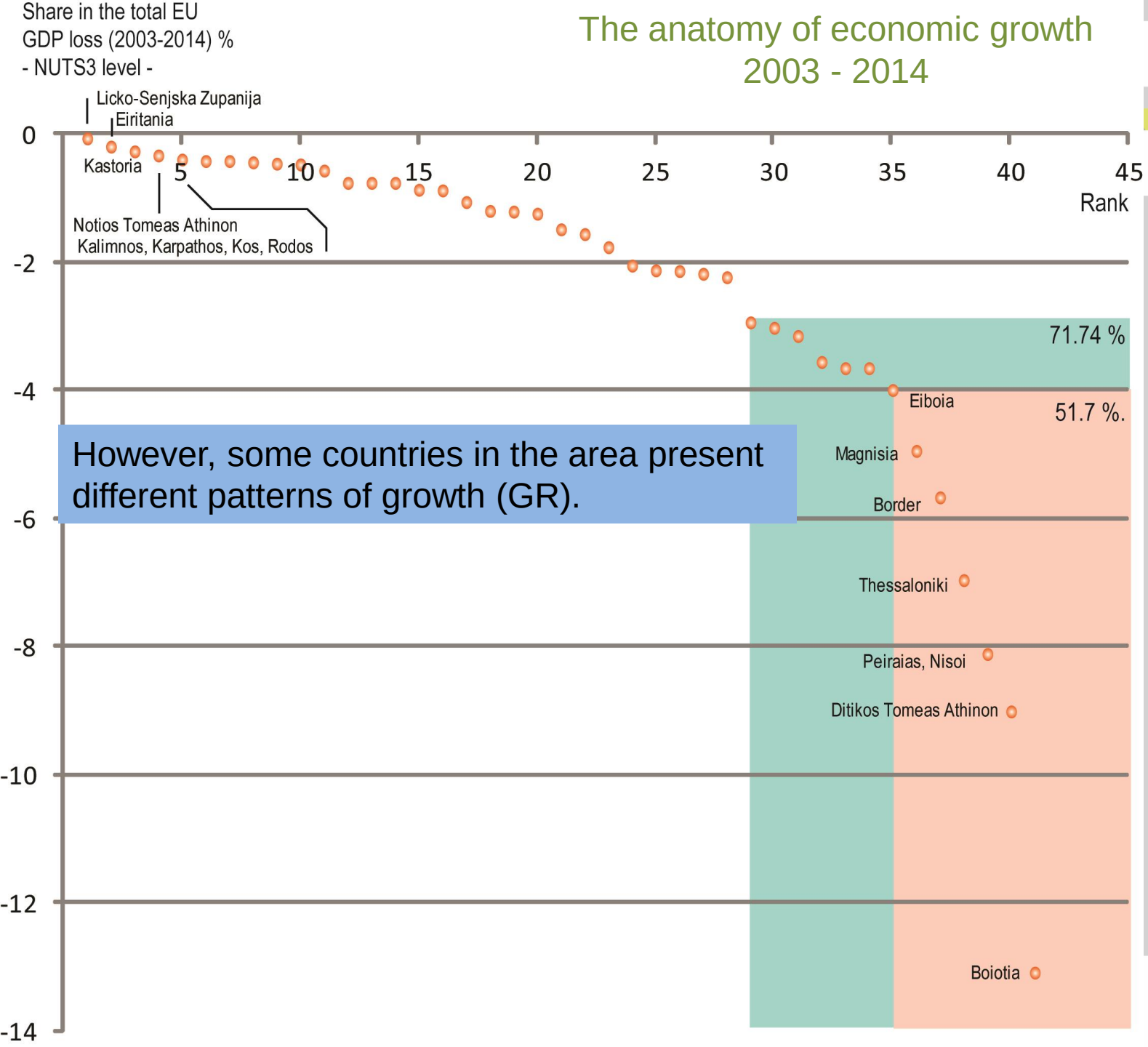
The anatomy of economic growth 2003 - 2014



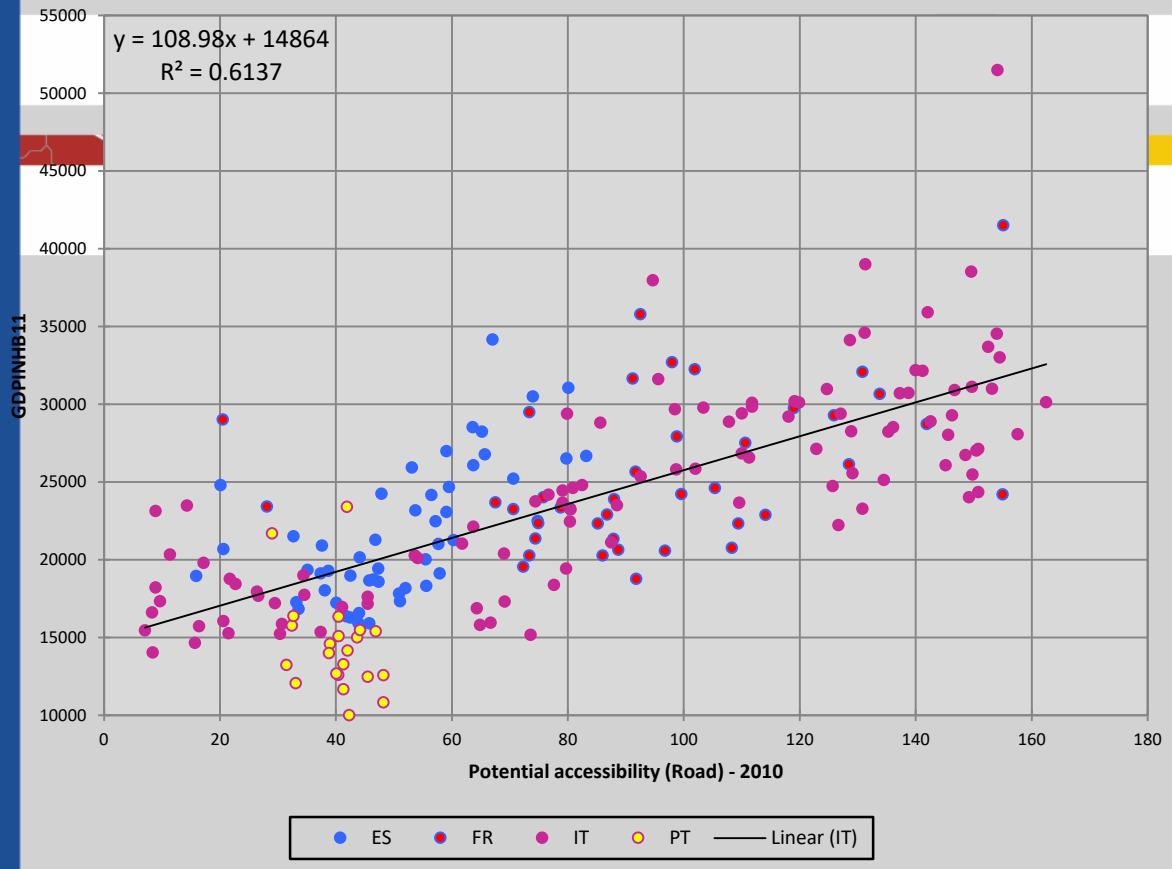
The situation is identical for the 2003 -2014 period.

However, some countries in the area present different patterns of growth (RO&BG).

The anatomy of economic growth 2003 - 2014



However, some countries in the area present different patterns of growth (GR).



Spain
y = *194.95*x + 11803
R² = 0.4241

France
y = *71.049*x + 18787
R² = 0.1629

Italy
y = *108.98*x + 14864
R² = 0.6137

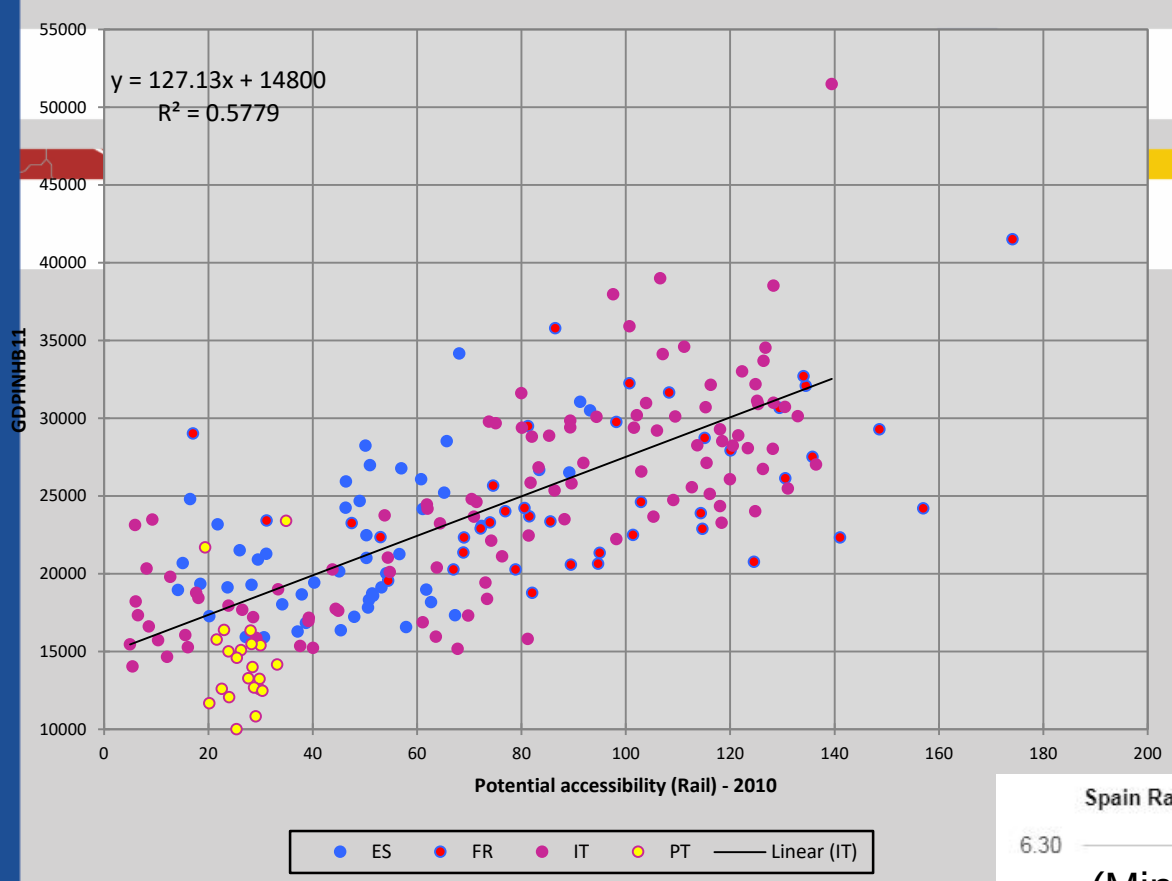
Portugal
y = *-191.86*x + 22180
R² = 0.109

Accessibility = a leverage for the economic performance

Different rhythms.

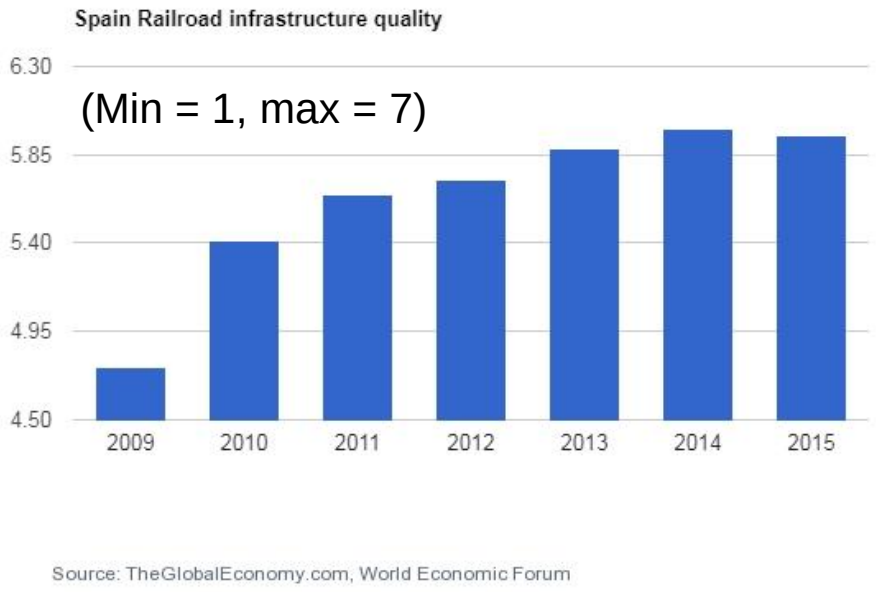
Road accessibility > rail accessibility > air accessibility

Data source : Eurostat and ESPON DB (TRACC)



Railroad lines, km - 2015

Italy : 16 724 km
Spain: 15 658 km
Portugal: 2599
Greece: 2240

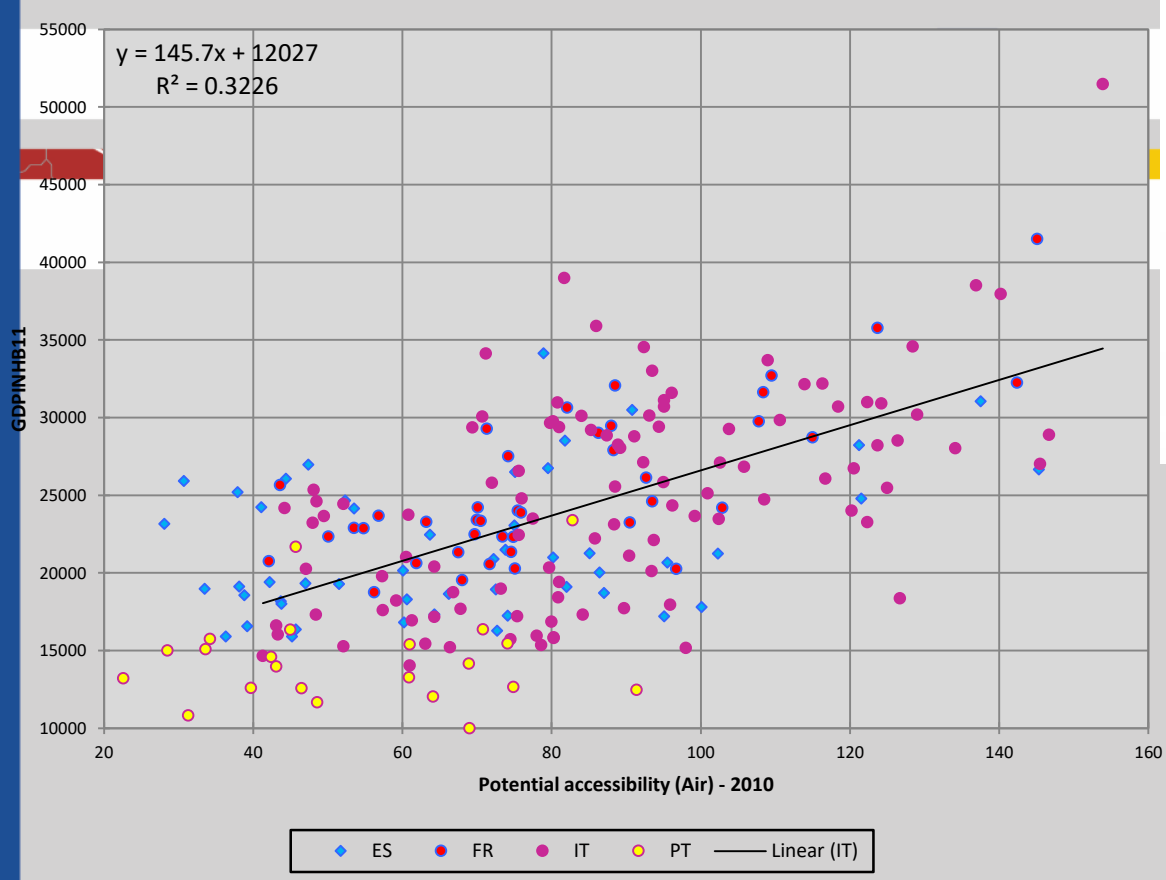


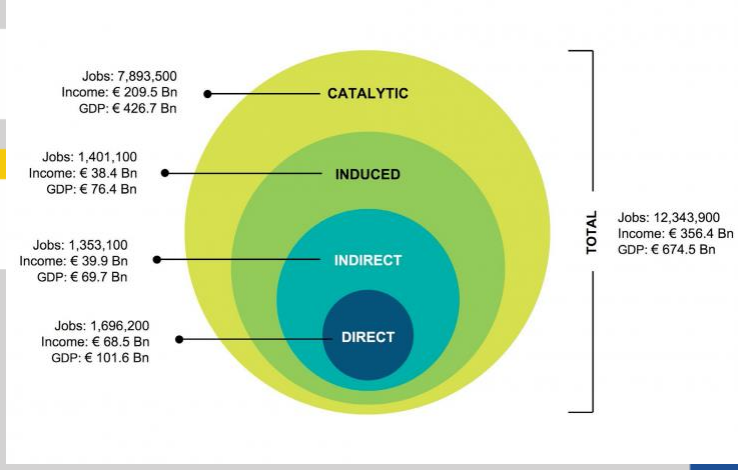
Accessibility = a leverage for the economic performance

Different rhythms.

Road accessibility > **rail accessibility** > air accessibility

Data source : Eurostat, ESPON DB (TRACC), WDB





Airport impact (ICA) - EU

"10.1 % of the economic performance in the Lazio Region is directly linked to the presence of airports. " (ICA, 2009)

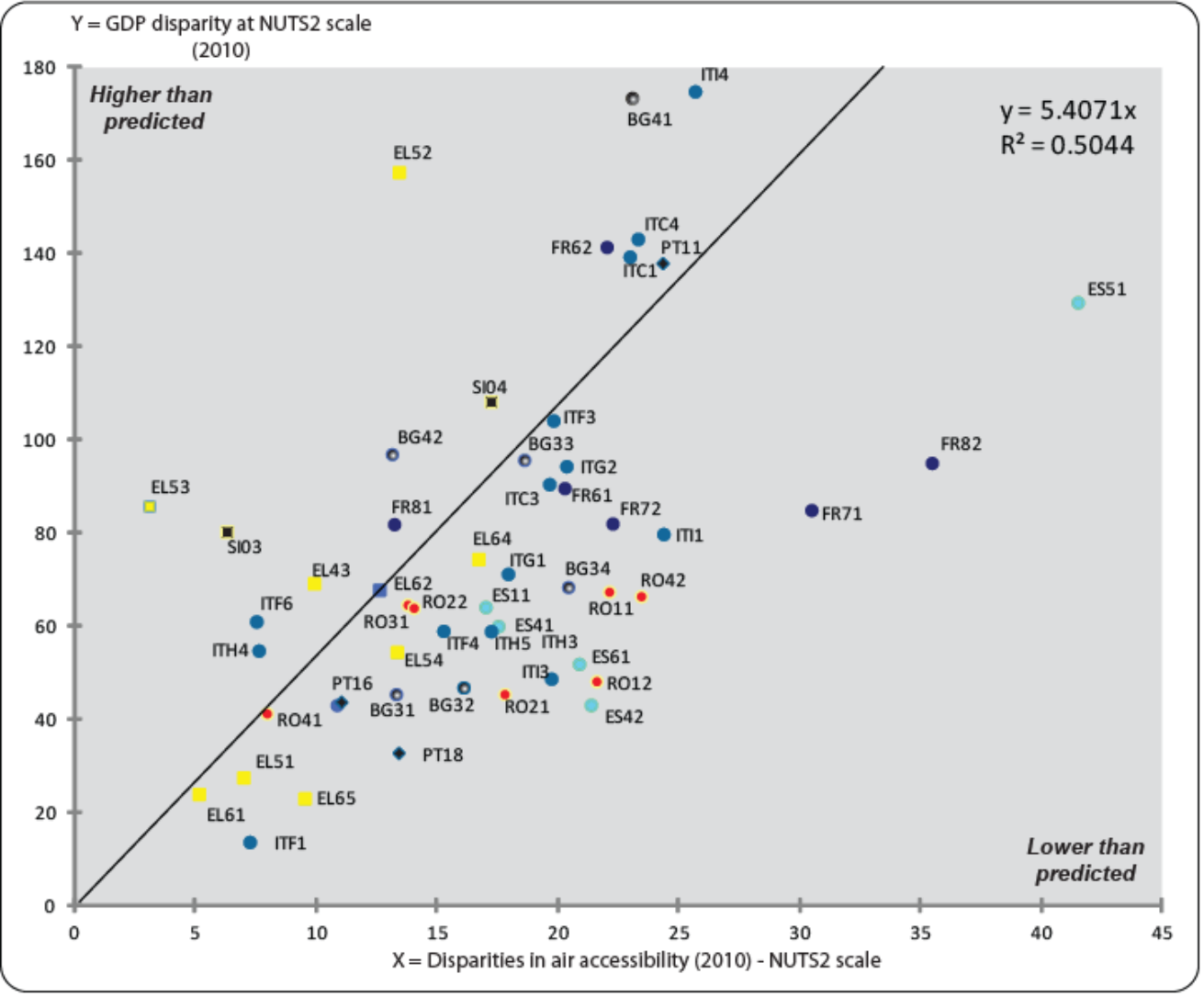
Accessibility = a leverage for the economic performance

Different rhythms.

Road accessibility > rail accessibility > ***air accessibility***

Data source : Eurostat, ESPON DB (TRACC), composite data providers

AIRP_NAME	CITY	PAX_1000K
Leonardo da Vinci–Fiumicino Airport	Rome	41.745
Malpensa Airport	Milan	19.421
Orio al Serio Airport	Bergamo/Milan	11.160
Linate Airport	Milan	9.682
Venice Marco Polo Airport	Venice	9.625
Catania-Fontanarossa Airport	Catania	7.914
Bologna Airport	Bologna	7.681
Naples Airport	Naples	6.776
Rome Ciampino Airport	Rome	5.396
Falcone–Borsellino Airport	Palermo	5.326
Galileo Galilei Airport	Pisa	4.989
		129.714



Similarity index

	BG	ES	FR	GR	IT	PT	RO	SI
BG	0.00	58.35	30.68	49.46	55.93	26.35	16.23	27.29
ES	58.35	0.00	28.36	12.56	15.11	32.05	42.21	68.13
FR	30.68	28.36	0.00	19.12	26.10	5.41	15.37	43.50
GR	49.46	12.56	19.12	0.00	8.22	23.78	33.87	57.34
IT	55.93	15.11	26.10	8.22	0.00	31.08	40.88	61.43
PT	26.35	32.05	5.41	23.78	31.08	0.00	10.49	41.07
RO	16.23	42.21	15.37	33.87	40.88	10.49	0.00	33.70
SI	27.29	68.13	43.50	57.34	61.43	41.07	33.70	0.00
AT	19.03	49.96	25.35	40.07	45.45	22.47	16.10	19.39
BE	19.34	65.19	39.16	54.82	59.74	36.07	27.56	8.12
CH	21.33	62.18	36.94	51.61	56.21	34.26	26.68	7.02
CZ	8.34	56.24	28.21	46.13	51.79	24.88	16.07	22.23
DE	17.34	49.53	23.11	38.80	43.88	20.85	14.95	20.69
DK	21.50	48.81	23.26	37.47	41.81	22.07	18.15	21.39
EE	26.89	41.29	22.19	37.46	45.47	18.00	17.35	49.91
FI	52.08	19.83	22.96	9.88	7.11	28.29	37.83	58.22
HU	14.24	44.70	16.73	35.30	41.69	12.95	5.19	30.54
IE	30.07	30.51	10.11	21.77	28.52	9.42	14.85	38.58
LT	11.29	49.38	22.95	40.62	47.19	18.49	8.63	26.32
LV	20.97	47.05	24.74	41.94	49.76	19.93	15.46	45.65
NL	7.34	54.86	26.93	45.02	50.92	23.33	14.14	23.14
NO	92.01	36.33	61.37	42.93	37.19	66.11	76.50	98.37
PL	24.07	35.82	7.68	25.78	31.99	6.75	10.50	36.70
SE	66.64	21.59	37.07	19.44	11.52	42.22	52.01	70.86
SK	19.88	38.96	11.20	29.60	36.17	7.62	5.63	33.92
UK	43.43	26.41	17.69	13.97	15.31	22.31	30.08	46.66

SI03 Vzhodna Slovenija
SI04 Zahodna Slovenija

PT11 Norte
PT16 Centro (PT)
PT18 Alentejo

ES11 Galicia
ES41 Castilla y Leon
ES42 Castilla-la Mancha
ES51 Cataluna
ES61 Andalucia

FR61 Aquitaine
FR62 Midi-Pyrennes
FR71 Rhone-Alpes
FR72 Auvergne
FR81 Languedoc-Roussillon
FR82 Provence-Alpes-Cote d'Azur

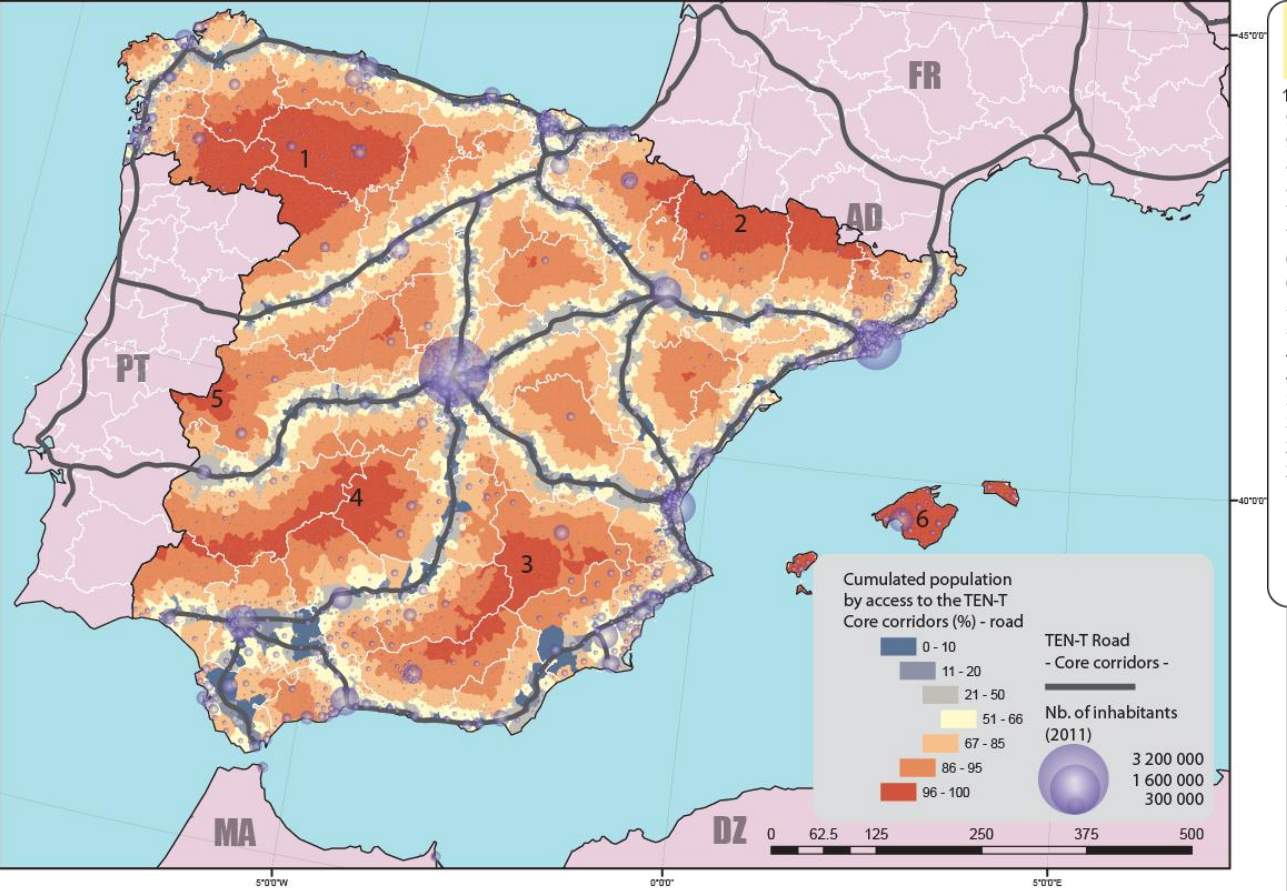
EL43 Kriti
EL51 Anatoliki Makedonia, Thraki
EL52 Kentriki Makedonia
EL53 Dytiki Makedonia
EL54 Ipeiros
EL61 Thessalia
EL62 Ionia Nisia
EL64 Sterea Ellada
EL65 Peloponnisos

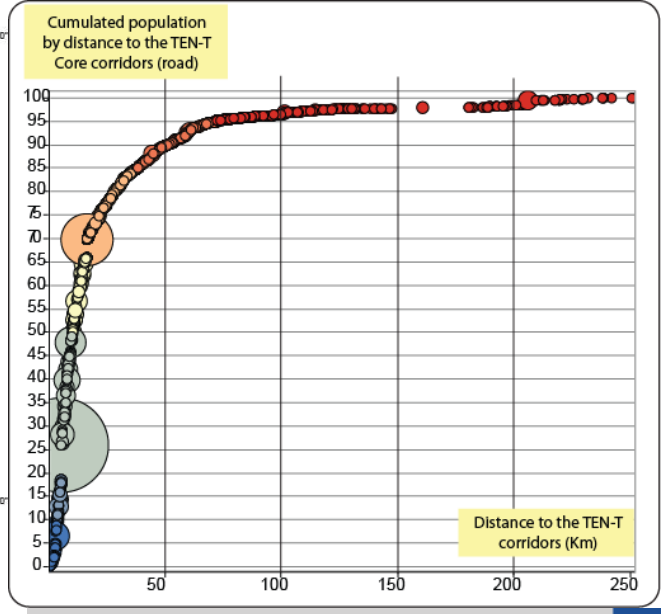
ITC1 Piemonte
ITC3 Liguria
ITC4 Lombardia
ITF1 Abruzzo
ITF3 Campania
ITF4 Puglia
ITF6 Calabria
ITG1 Sicilia
ITG2 Sardegna
ITH3 Veneto
ITH4 Friuli-Venezia Giulia
ITH5 Emilia-Romagna

ITI1 Toscana
ITI3 Marche
ITI4 Lazio

BG31 Severozapaden
BG32 Severen tsentralen
BG33 Severoiztochen
BG34 Yugoiztochen
BG41 Yugozapaden
BG42 Yuzhen tsentralen

RO11 Nord-Vest
RO12 Centru
RO21 Nord-Est
RO22 Sud-Est
RO31 Sud - Muntenia
RO41 Sud-Vest Oltenia
RO42 Vest





TEN-T and accessibility

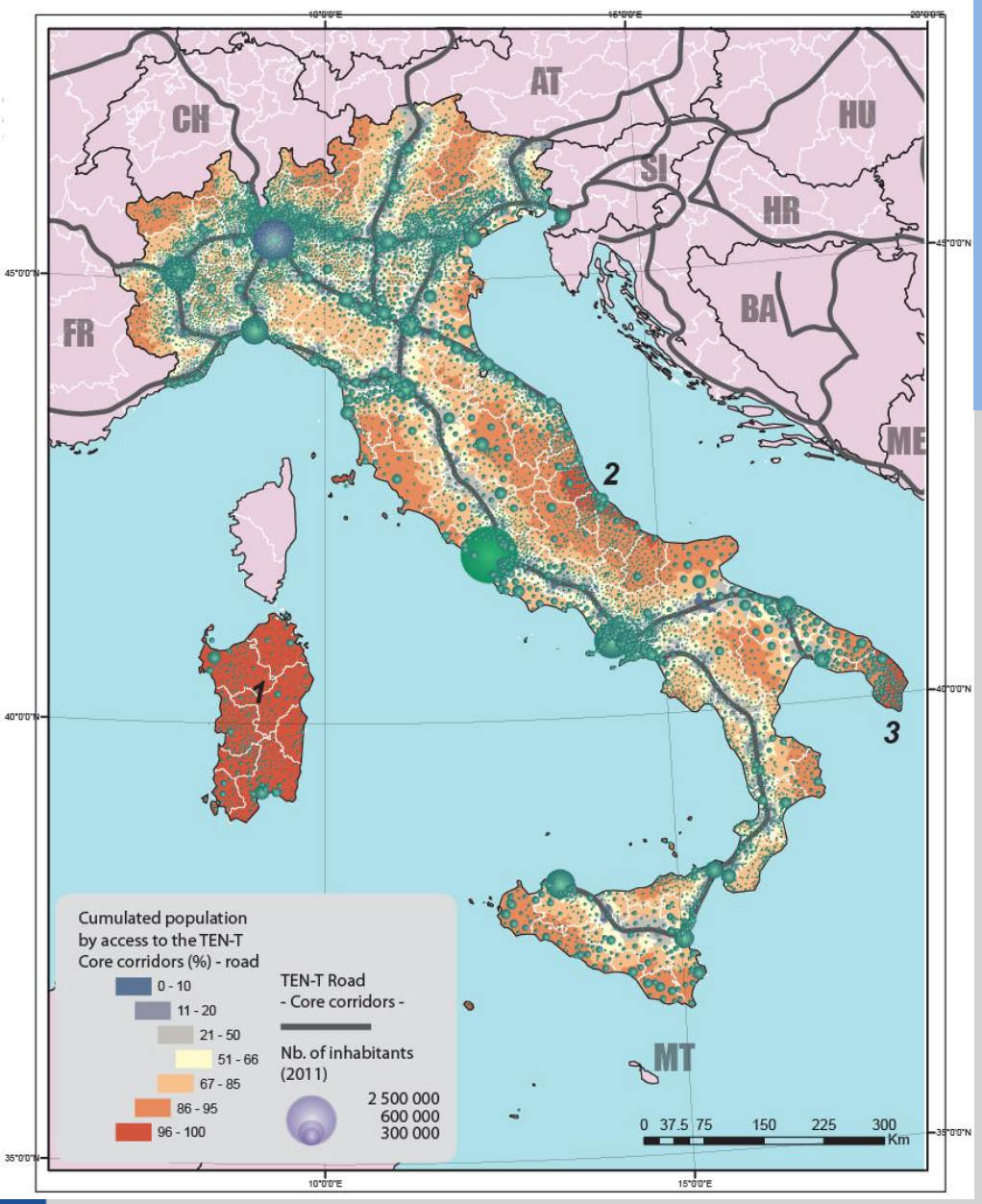
Good News :
-70% of the population is located at less than 20 km
- the void areas concern sparsely populated areas

Bad news:
- the void areas concern sparsely populated areas
- only 4.6 millions of inhabitants are located in the void areas (> 90 %)

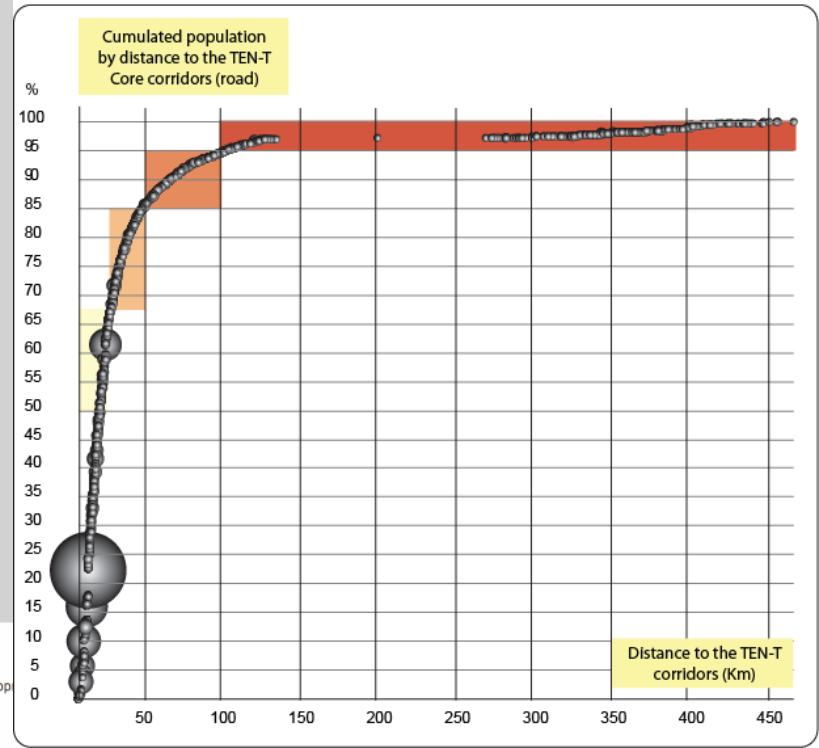
Almost 9 million Italians are located at more than 50 Km from a core corridor.

The large metropolitan areas are located at less than 25 Km from a corridor.

North vs. Centre vs. South



1. SARDINIA & OTHER ISLANDS
2. TERAMO, PESACARA, CHIETI, CAMPOBASSO
3. LECCE



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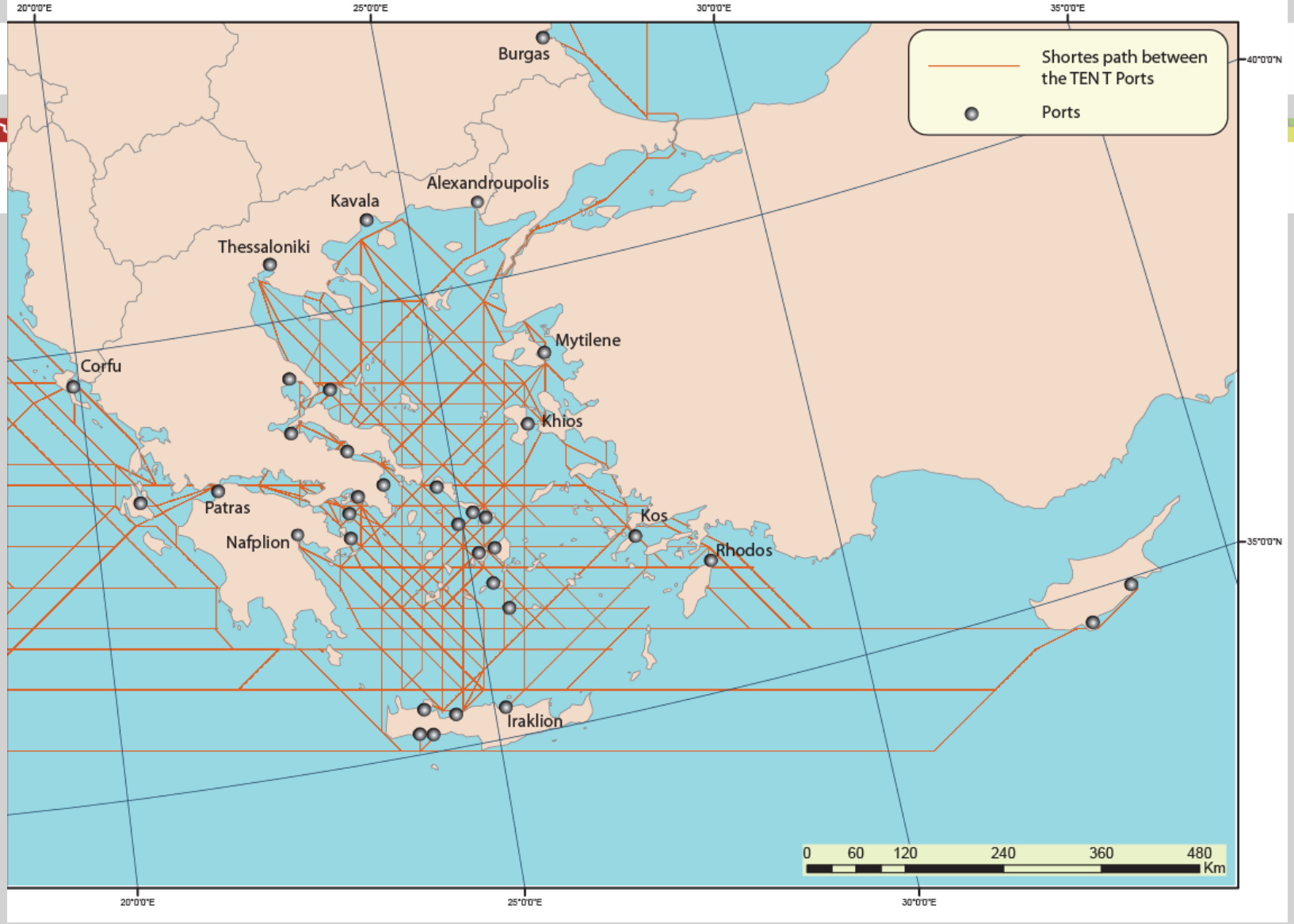

TEN – T is not only about the roads => void areas at sea?

Cyclades, Sporades&other islands have their own geography of transportation.

OUTPUT OF THE GRAVITY MODEL ANALYSIS OF THE EUROPEAN AIR TRAFFIC SYSTEM IN 2010
- POSITIVE RESIDUALS -

Standard residuals of the gravity model (only the exceptional positive values were retained)

2,00 - 2,50

2,51 - 3,00

3,01 - 3,74

Number of European destinations in 2010

183
73
5

Y = observed annual departures inversely weighted with the local and the destination potential of air traffic

X1 = estimated cost in Euro for a business trip in 2010

X2 = GDP at origin (2008)

X3 = GDP at destination (2008)

0 1000 Km

Data source : www.etisplus.eu; www.espondb.eu

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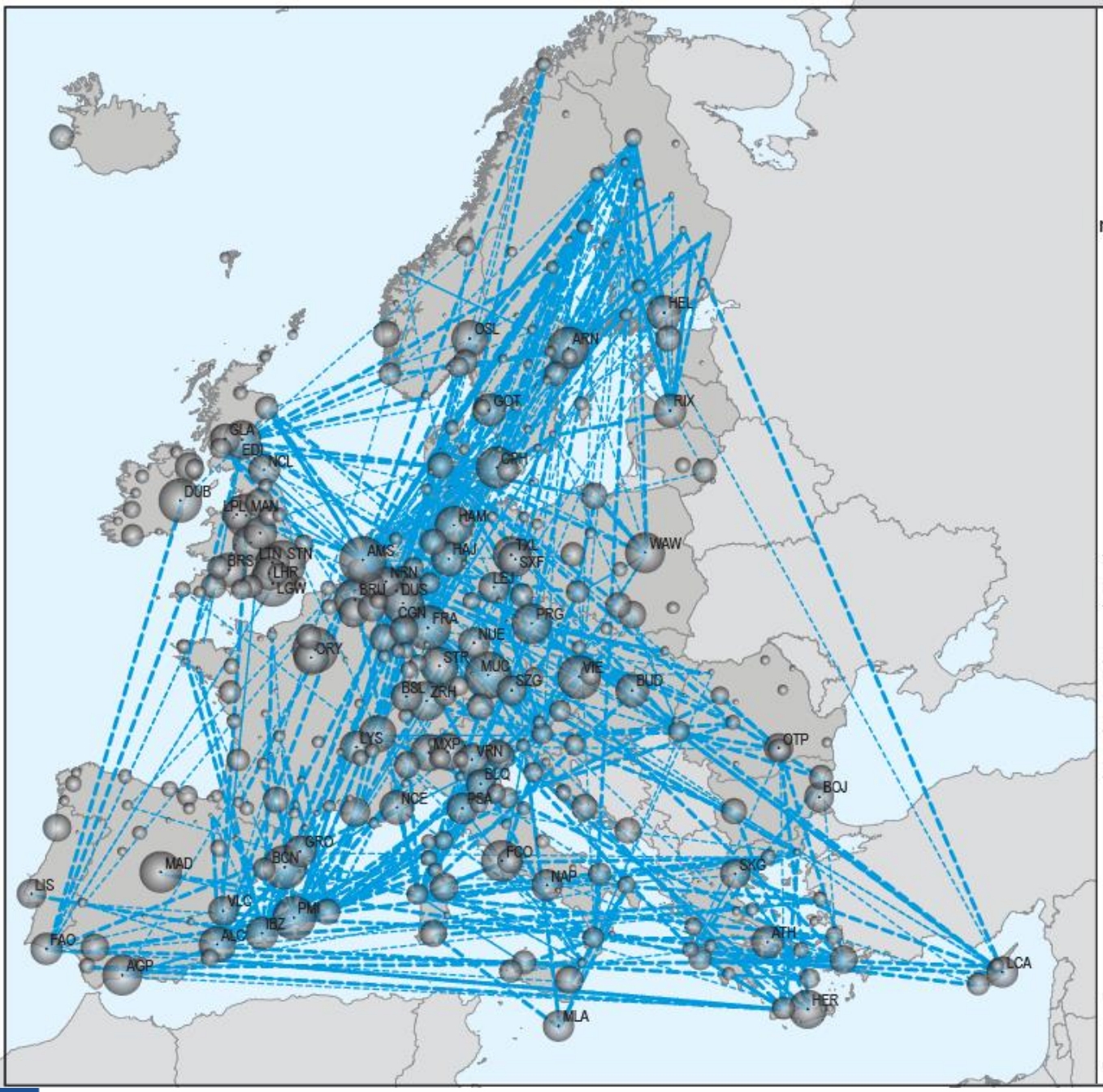

OUTPUT OF THE GRAVITY MODEL ANALYSIS OF THE EUROPEAN AIR TRAFFIC SYSTEM IN 2010
- NEGATIVE RESIDUALS -

Standard residuals of the gravity model (only the exceptional negative values were retained)

2,51 - 3,00

3,01 - 4,00

Number of European destinations in 2010

183
73
5

Y = observed annual departures inversely weighted with the local and the destination potential of air traffic

X1 = estimated cost in Euro for a business trip in 2010

X2 = GDP at origin (2008)

X3 = GDP at destination (2008)

0 1000 Km

Data source : www.etisplus.eu; www.espondb.eu
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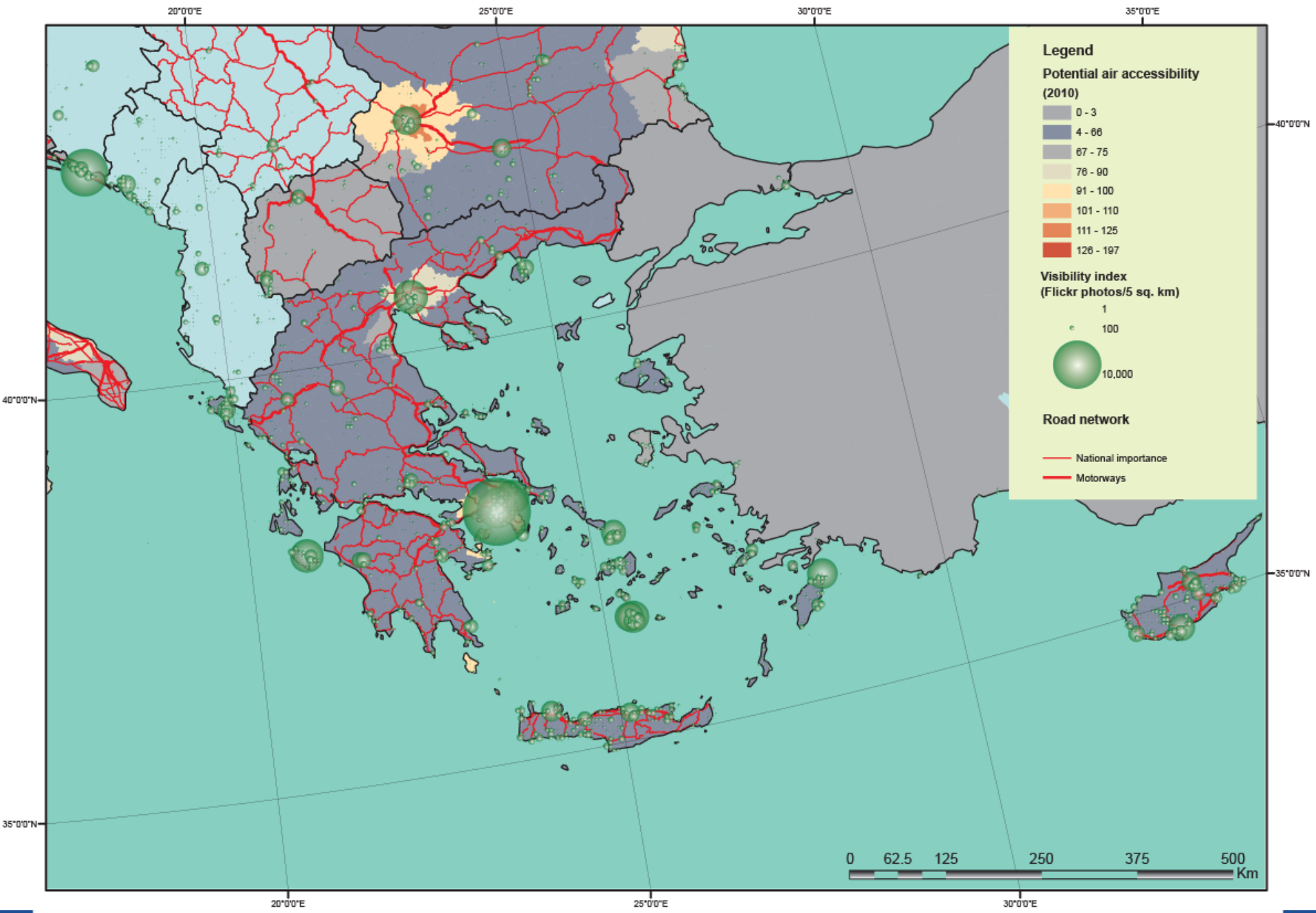
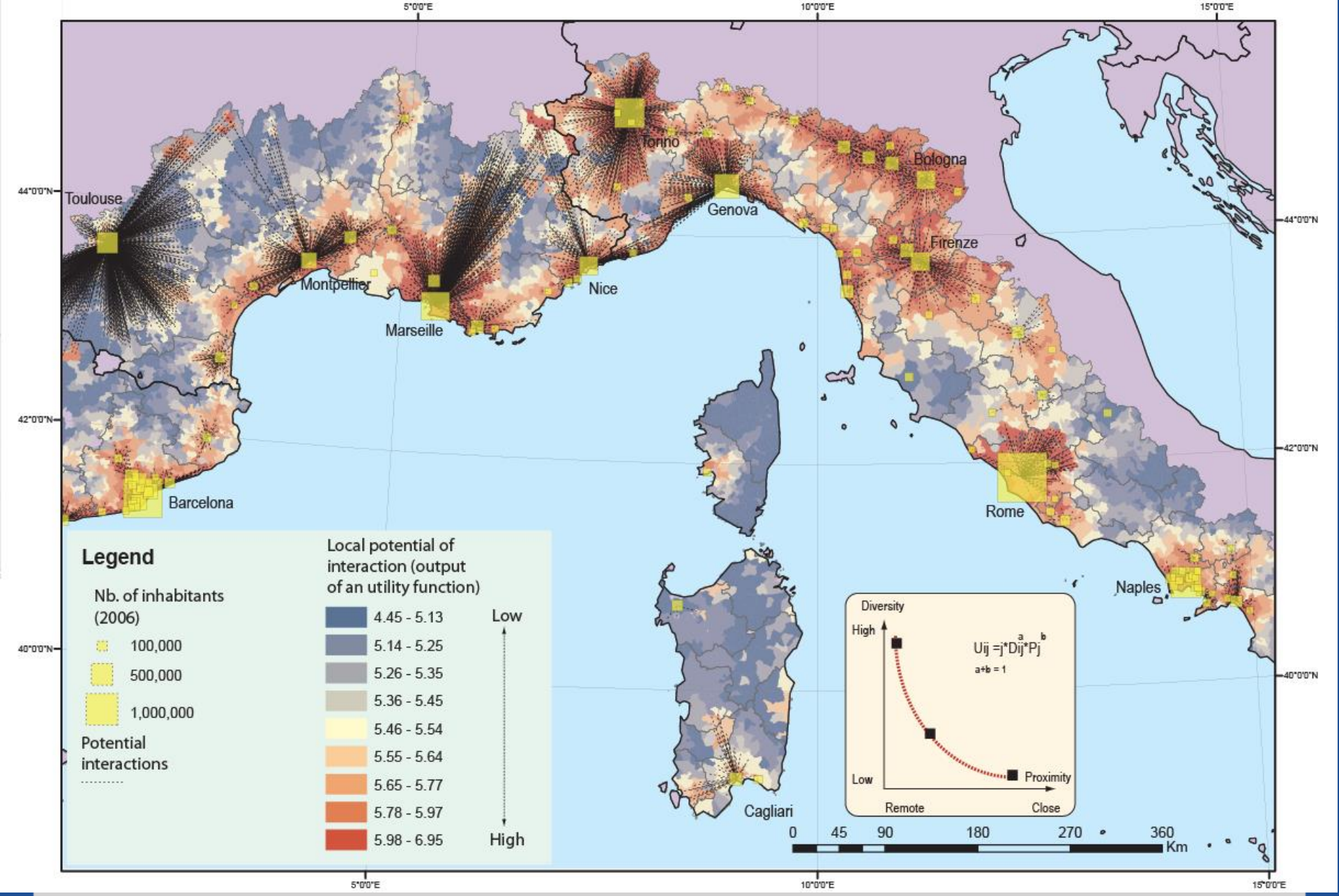


Connecting the accessibility planning with the mobility of population.



Local accessibility => towards new stakes.

Conclusions :

- more empirical studies at local level are needed

- access to data describing the flows system should become a priority in the ESPON studies

- **more accessibility is just a starting point in recovering some path dependency trends of economic growth**

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