



Communication Networks and Territorial Valorisation

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Stylised facts (1)

From an *economic perspective* territorial valorisation is the process of increasing competitiveness of a region by enhancing:

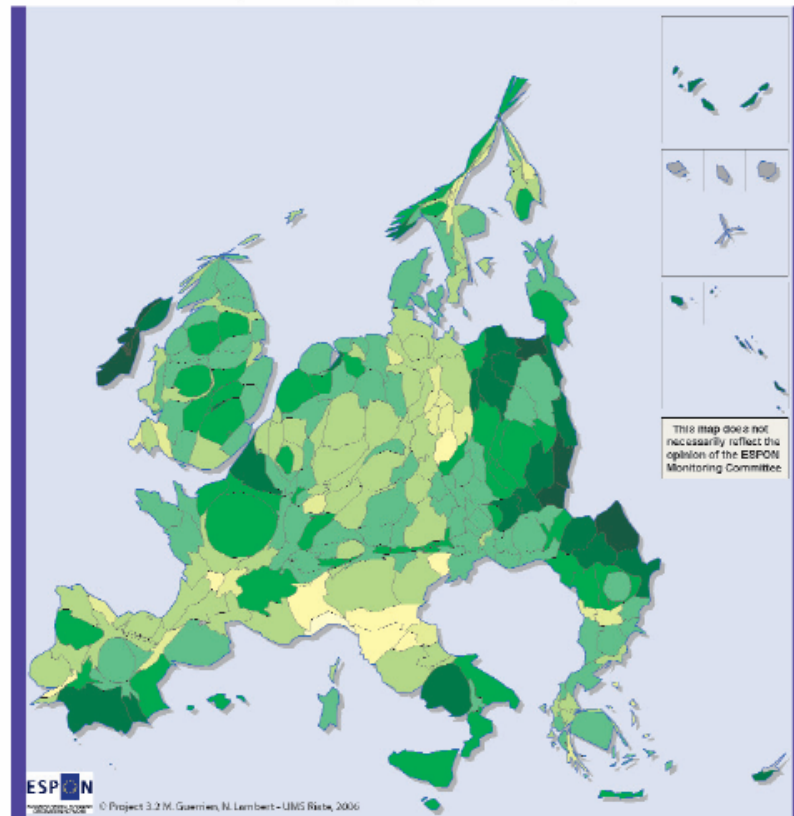
- its attractiveness;
- its accessibility;
- its local productive potentialities.

with the aim to decrease regional disparities and increase social and economic well-being.



Existing Disparities

Cartogram showing size of regions in terms of population



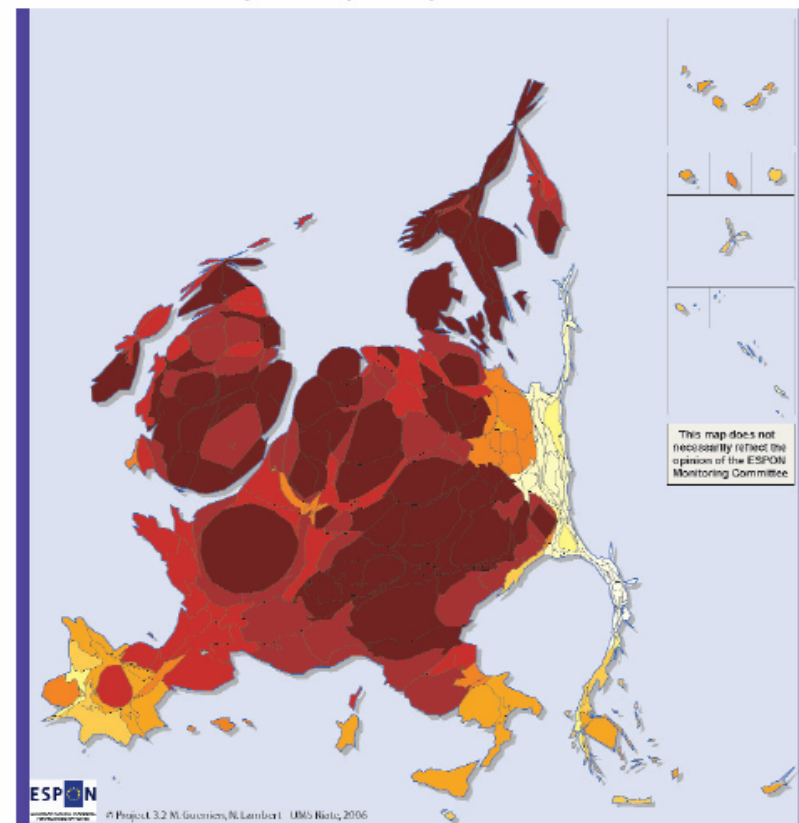
Areas are proportional to population at NUTS 2 level (in 2000)

MEDIAIN AGE in 2000 (years)

31.6	33	35	37	39	41	43	45	47.7	no data
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— 1 million inhabitants

Cartogram showing size of regions in terms of GDP



Areas are proportional to GDP at NUTS 2 level in 2000

GDP per capita in 2000 (€/inh)

1 357	3 000	6 000	9 000	12 000	15 000	18 000	21 000	24 000	62 797	no data
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— 20 millions euros



Stylised facts (2)

During the 1980s much emphasis was put on the role of ICTs as tools for increasing regional competitiveness and decreasing regional disparities.

During the 1990s and 2000s this emphasis was strongly reinforced by the widespread diffusion of Internet.



Elements defining competitiveness:

1. At the microeconomic level:
 - cost reduction (process innovation)
 - revenue increase (product innovation)

2. At the territorial level
 - accessibility (territorial valorisation)
 - attractiveness (territorial valorisation)



ICTs act on all these elements since:

1. At the microeconomic level

- cost reduction <--- efficiency effect
- revenue increase <--- effectiveness effect

2. At the territorial level

- accessibility <---- connectivity effect
- attractiveness <--- competitiveness effect



From all these positive effects regional economic development and new territorial valorisation of lagging regions are expected



However, empirical evidence has not always supported this logic conclusion:

- linkage between investments and productivity? (e.g. Solow, 1987, Bonifati, 2002)
- linkage between investment and use? (e.g. OECD, 2000)

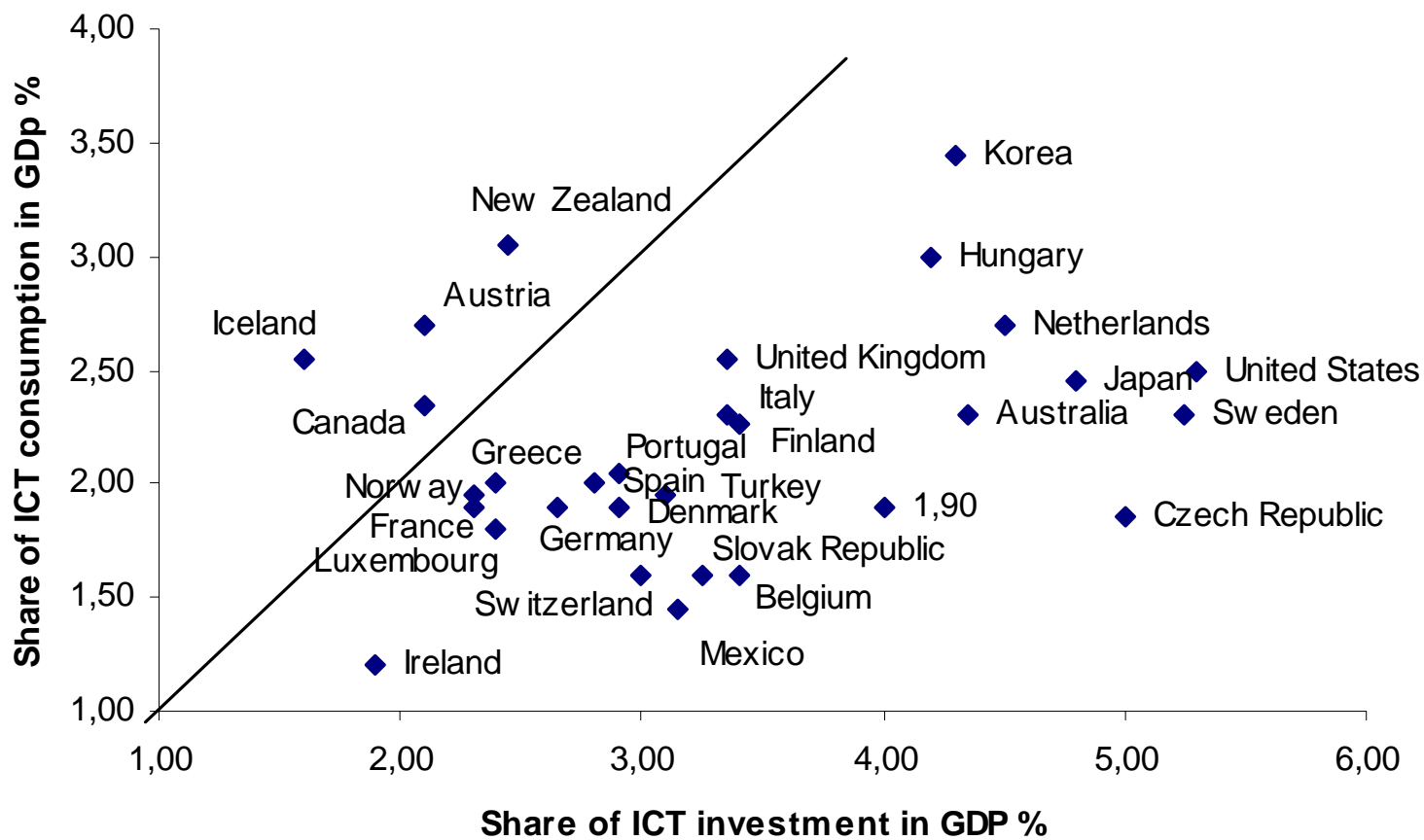


Total factor productivity by selected Countries

Countries	Periods	1960-73	1973-79	1979-97	1995-00	2000-05
USA		1.9	0.1	0.7	1.3	1.8
Japan		4.9	0.7	0.9	0.8	1.4
Germany		2.6	1.8	1.2	1.3	0.7
France		3.7	1.6	1.3	1.4	0.8
Italy		4.4	2	1.1	0.4	-0.8
Portugal		n.a.	n.a.	1.1	2.3	-0.4
Great Britain		2.6	0.5	-0.5	1.7	0.9
Canada		1.1	-0.1	-0.5	1.5	0.4
Total EU 15 Countries		3.4	1.2	1.2	n.a.	n.a.
Total OECD Countries		2.9	0.6	0.9	n.a.	n.a.



Investment in and consumption of ICTs as a share of GDP - 1999





Two main explanations for the mis-match between conceptual elements and empirical evidence:

- A. Statistical distortion effects (among others: Brynjolfsson, 1991; David, 1990; Triplett, 1998);
- B. Simplistic assumption in the conceptual framework.



A. Statistical distortion effects: open problems:

1. quality increase measurement;
2. effects of price decrease on “real” productivity measure.



B. Simplistic assumption:

“network availability
means productivity increase”



In reality:

- network availability does not necessarily mean use;
- use does not necessarily mean innovative use;
- innovative use (micro) does not necessarily mean productivity increase (macro);



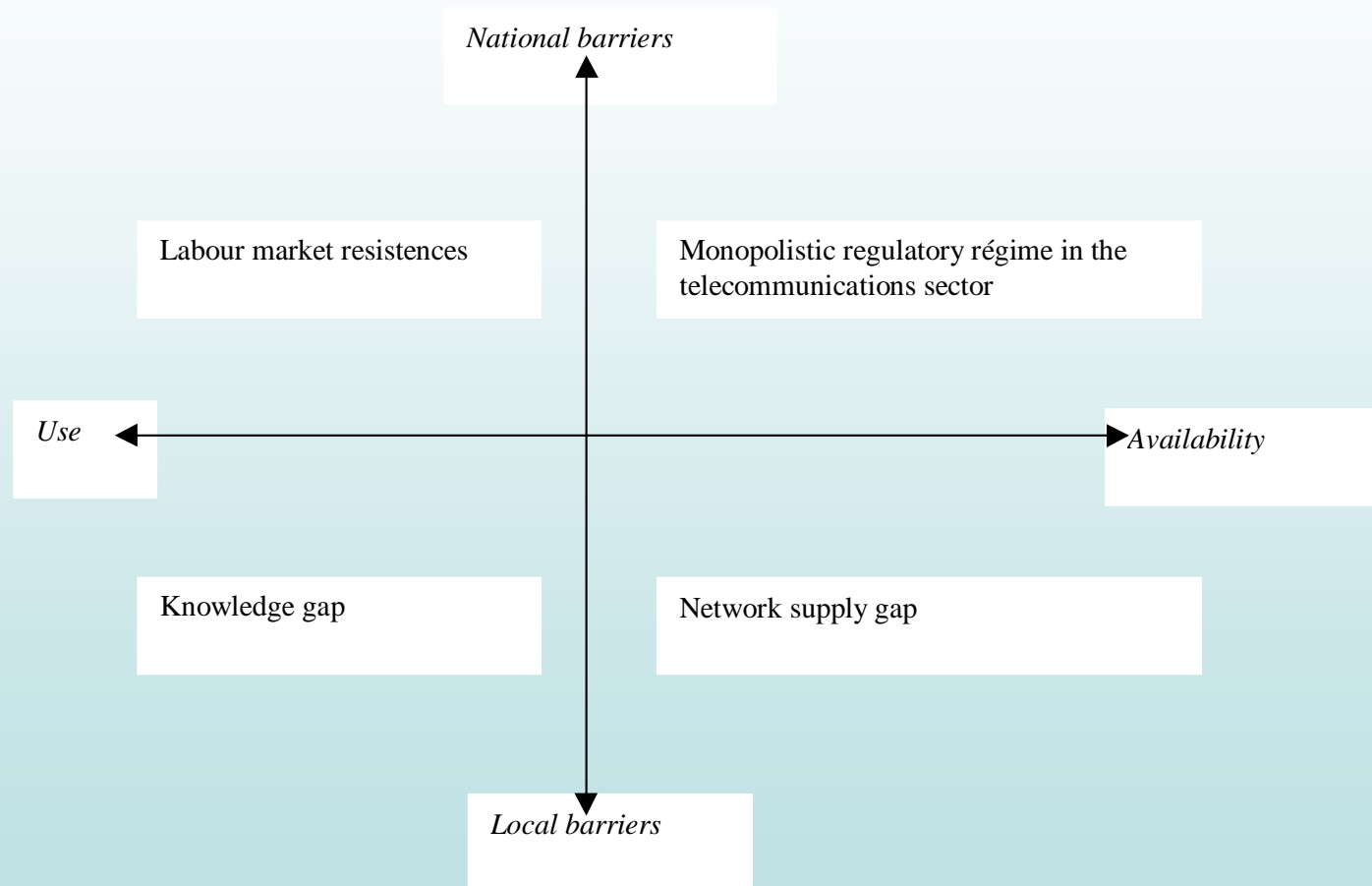
Why?

Relevant barriers have long since been pointed out between availability and use

(e.g. Gillespie and Williams, 1988; Gillespie et al., 1989; Camagni e Capello, 1991; Capello, 1994)

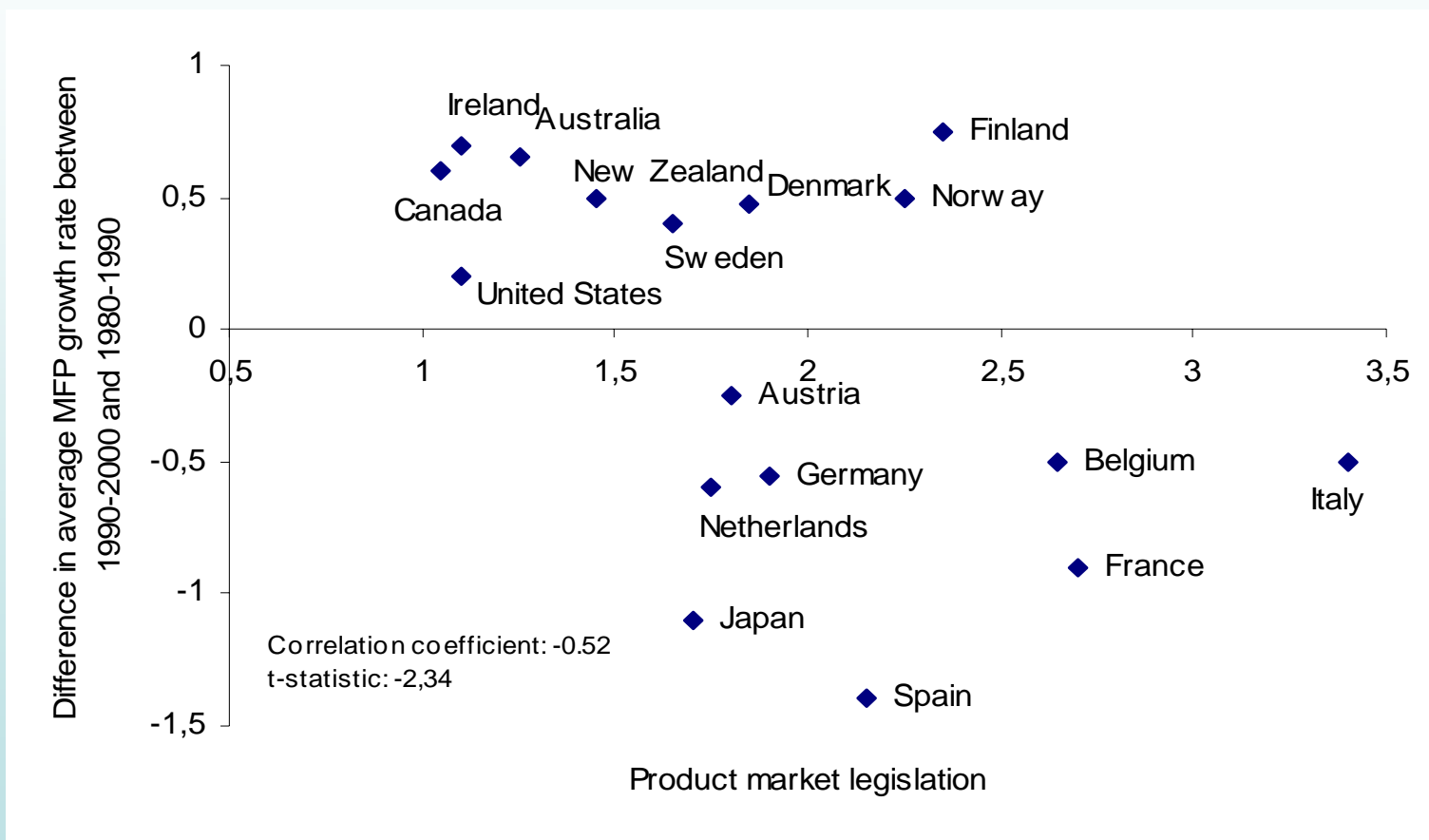


Barriers during the 1980s





Product market regulation and multi factor productivity (MFP)





Employment protection legislation and multi factor productivity (MFP)



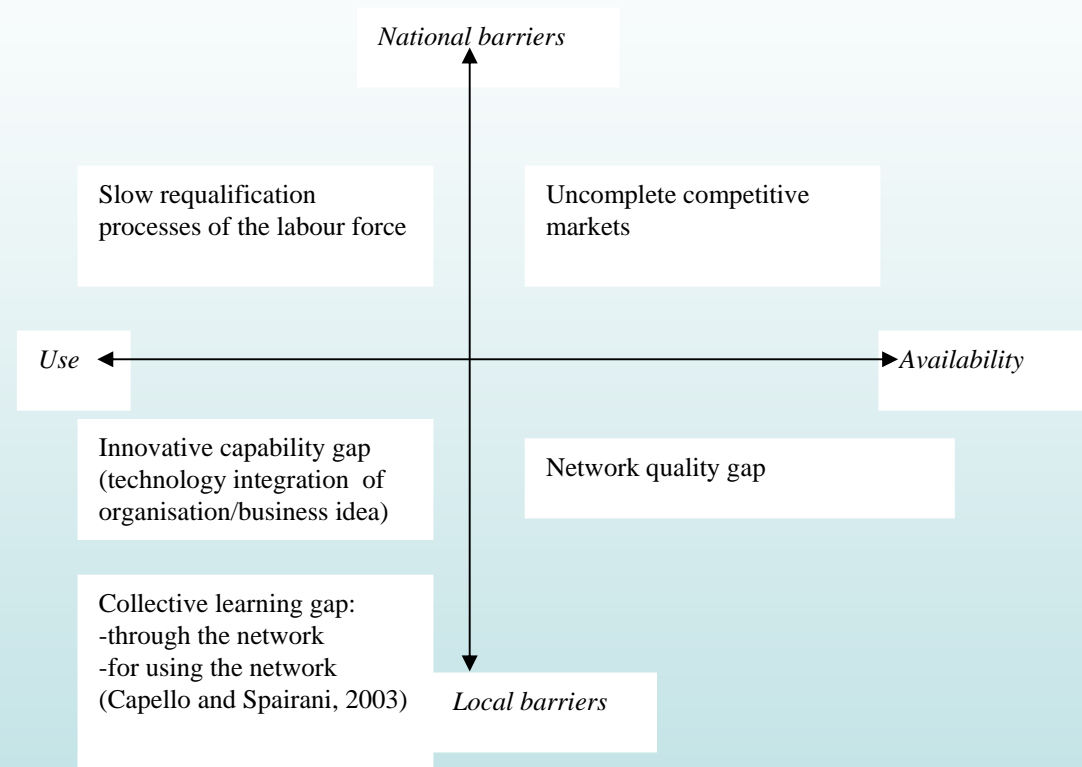


During the 1990s, these barriers have been overcome

- Privatisation of telecommunications carriers
- Labour market adjustment / flexibility
- Widespread diffusion of infrastructure (Internet phenomenon)
- Learning processes in the use of these technologies



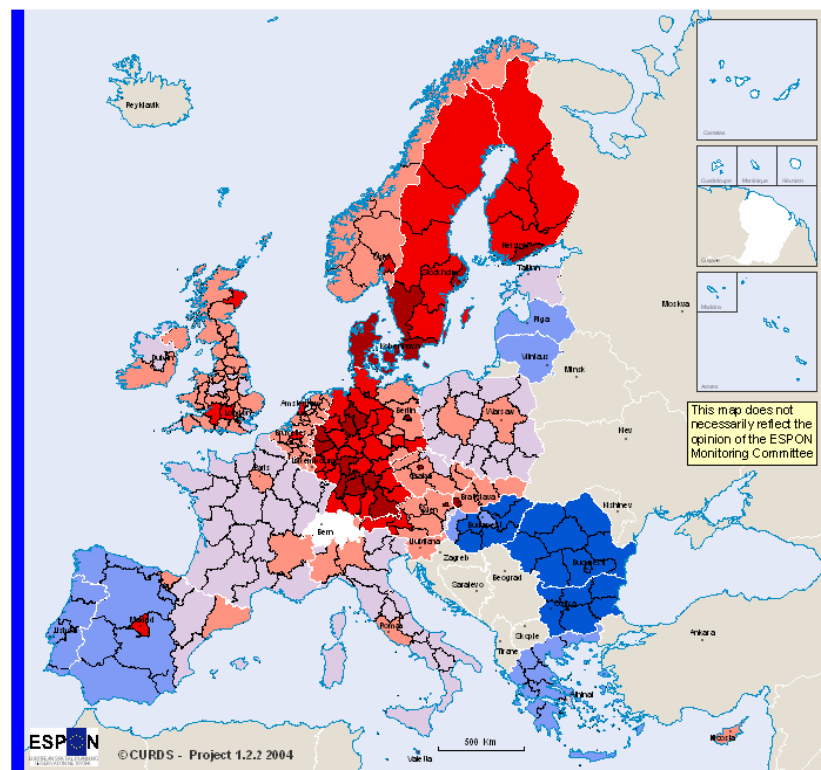
... but new barriers have appeared





A typology of estimated levels of business telecommunications access and uptake - 2002

A typology of estimated levels of business telecommunications access and uptake



Estimated level of business access and uptake

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

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Regional Level: NUTS 2

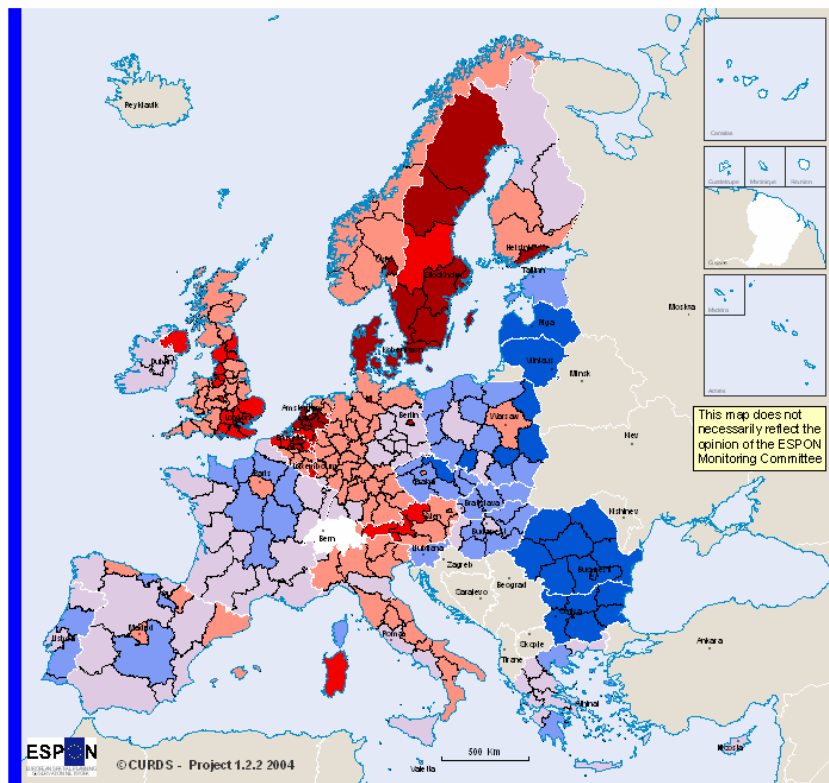
Origin of data: CURDS

Source: ESPON Data Base










A typology of estimated levels of business and household telecommunications development - 2002

An overall typology of combined household and business telecommunications development



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Regional Level: NUTS 2

Level of telecommunications development

-  Highly advanced
-  Advanced
-  Moderately advanced
-  Moderate
-  Lagging
-  Highly lagging
-  No available data

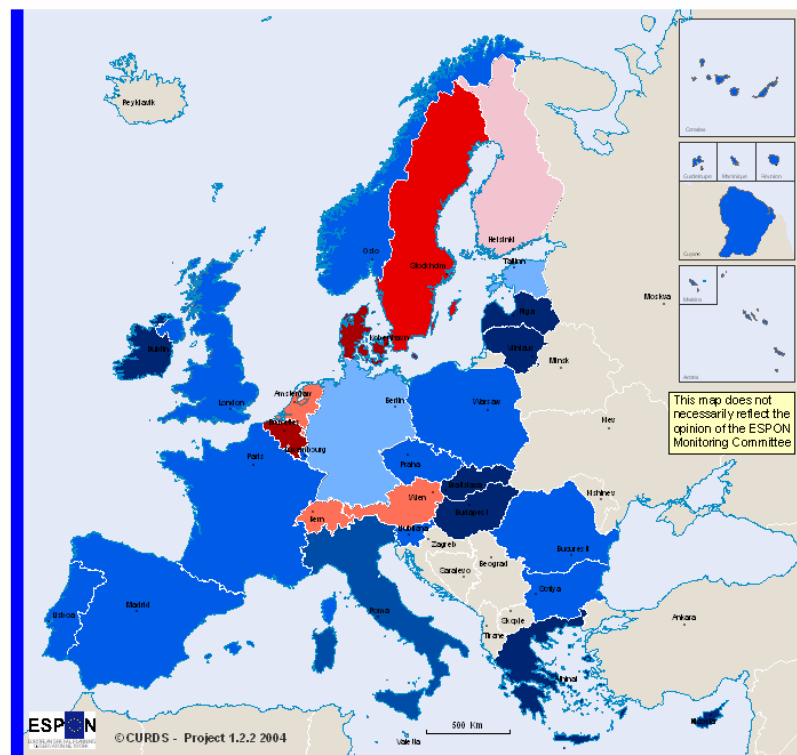
Origin of data: CURDS

Source: ESPON Data Base

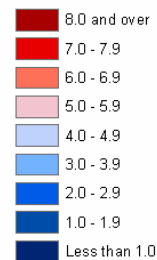


Broadband subscribers per 100 inhabitants - 2002

Broadband subscribers per 100 of population, 2002



Broadband subscribers per 100 of population, 2002



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Regional Level: NUTS 0

Origin of data: ITU

Source: ITU



... and once again we run the risk of oversimplifying the relationship between ICTs and regional competitiveness



Therefore a greater risk emerges:
heavy consequences on territorial
valorisation and regional disparities



Main reasons:

- Cumulative learning processes are uneven territorial processes;
- privatisation and deregulation reinforce regional disparities;
- network quality gap reinforces regional disparities



Conclusions: policy implications

Given the multiple dimensions of the ICTs/competitiveness relationship, policies should not only tackle national and local availability and endowment, but enhance creative use of ICTs through:

- stimuli to local cooperation, synergy, collective action;
- support to interactive/multipolar use of Internet;
- support to the e-governance of the innovation process at the firm level.