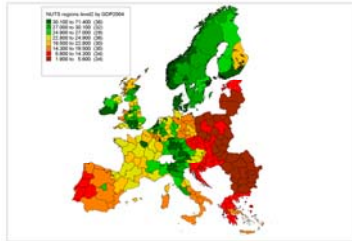


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### 2<sup>st</sup> Nordic Winter Conference



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### Cluster based regional development strategies – theoretical concepts and regional implementation – the case of the Baltic Sea Region

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#### Cluster based regional development strategies – theoretical concepts and regional implementation – the case of the Baltic Sea Region

##### Abstract:

Within the framework of the Baltic Council, the Baltic Sea Development Forum, and more recently the 2009 launched EU Strategy for the Baltic Sea Region, growing attention has been on economic development on an intermediate level, between the local / regional and the all European perspective

The EU Strategy for the Baltic Sea Region (BSR) aims at to contribute to more intensive cooperation between the Baltic Rim States, and is to some extent complementary to the first mentioned frameworks, also including non EU countries, and nations not directly located adjacent to the Baltic Sea. The EU strategy focuses on four areas: environment, economy, accessibility and security. Since the implementation of the strategy is financed from different EU funds in the area including the Baltic Sea Region Program, the strategy in many ways seems to be complementary and coordinating

The purpose of this analysis is to focus on the economic development aspects embedded in these programs with special attention on innovation and knowledge development in a regional perspective. Innovation and cluster stimulation policies are widely used in regional business development policy, national as well as international. The aim is to discuss the concepts in a theoretical perspective, and to investigate to what extent the concepts are visible in the BSR cooperation network for regional development and cooperation

The backbone of the paper is to discuss how clusters can reinforce innovation can contribute to economic growth within the context of new economic growth theory, focusing on 'non-linear' economic growth drivers. The analysis takes its point of departure in a brief assessment of the economic development of the BSR since the breakup of the Iron Curtain, and tries to assess the regional economic development strategies and programs with reference to new economic growth theories, concepts of national and regional innovation system, entrepreneurship and other growth drivers

Finally the paper discusses to what extent distinct regional clusters can be identified in the region, which sectors or functions they belong to, and how they may contribute to future development and economic growth

**Key Words:** 'non linear' growth drivers – cluster – regional innovation – BSR strategy – EU regional policy – spatial cooperation

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## Content:



### 1. Introduction

### 2. Conceptual framework:

- New economic growth & economic geography
- The clusters as an instrument of economic development policy

### 3. Clusters & innovation

### 4. Conclusion & perspectives

..... to what extent can distinct regional clusters be identified in the region, which sectors or functions they belong to, and how they may contribute to future development and economic growth

## 1. Introduction



The economic position of the Nordic countries and the Baltic Region has altered in the last two decades.

This is partly due to economics of transition and partly due to revitalized growth performance and political initiative, i.e. VASAB & EU programs

- The EU Strategy for the Baltic Sea Region (BSR) aims at to contribute to more intensive cooperation between the Baltic Rim States, and is to some extent complementary to the first mentioned frameworks, also including non EU countries, and nations not directly located adjacent to the Baltic Sea.
- The EU strategy focuses on four areas: environment, economy, accessibility and security. Since the implementation of the strategy is financed from different EU funds in the area including the Baltic Sea Region Program, the strategy in many ways seems to be complementary and coordinating.

## Topics and RQ's

- The purpose of this analysis is to focus on the economic development aspects embedded in these programs with special attention on innovation and knowledge development in a regional perspective.
- Innovation and cluster stimulation policies are widely used in regional business development policy, national as well as international – what are the international perspectives?
- The aim is to discuss the concepts in a theoretical perspective, and to investigate to what extent the concepts are visible in the BSR cooperation network for regional development and cooperation.

## Strategies: 2000 =>2010 and beyond

The recently launched new version of the Lisbon Strategy under the heading 'The Europe 2020 Strategy' of the EU Commission formally sketched a vision for 'Europe's social market economy' using a well-known expression from the economic history of Germany after the second world. Despite the good intentions seems there to be a risk [that the implementation – also on the national level - will strengthen rather than softening the diversity between center and periphery in Europe](#). In the next 10 years focus should be on three related and mutually reinforcing areas of priority (Commission of the European Communities 2010):

- **Smart growth, developing an economy based on knowledge and innovation;**
- **Sustainable growth, promoting a low-carbon, resource-efficient and competitive economy;**
- **Inclusive growth, fostering a high-employment economy delivering social and territorial cohesion.**



■ In the *Europe 2020* strategy the targets are similar, but the member states have to translate the indicators into national targets reflecting their respective point of departure.

- 75 % of the population 20-64 years should be employed
- 3 % of the EU's GDP should be invested in R&D
- The "20/20" climate/energy targets should be met
- The share of early school leavers should be under 10 %, and at least 40 % of the younger generation should have a degree or diploma
- 20 million less people should be at risk of poverty

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### **Regional cohesion and diversity**

Instruments and objectives of the EU structural policy

- The *convergence objective* aims to speed up the convergence of the least-developed member states and regions by improving conditions for economic growth and employment. i.e. by investment in physical and human capital. This objective is the priority of the Funds.
- The *regional competitiveness and employment objective* aims to strengthen the competitiveness and attractiveness as well as employment outside the areas supported according to the first objective.
- The *European territorial cooperation objective* aims at strengthening and encouraging cross border and transnational cooperation (European Union 2007, 51).

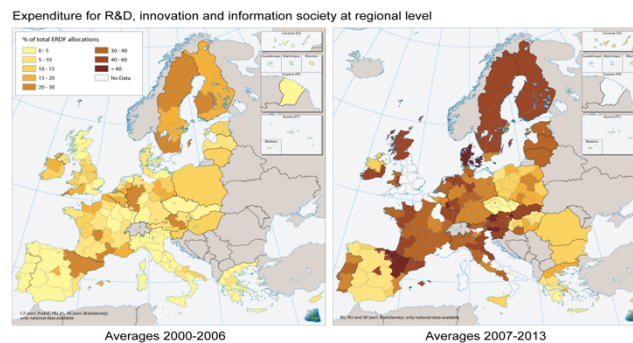
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## Convergence and Innovation in a European Perspective

- The Baltic performance to the Lisbon Indicators has been very diversified. Baltic West did very well whereas Baltic East did poor.
- In the "renewed process" the picture has been different:

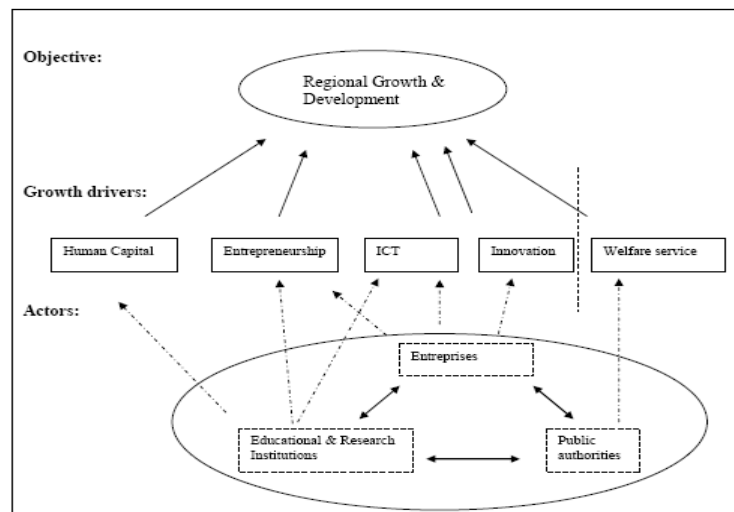


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## Figure : A Regional Growth Model

Source: Modified figure based on The Ministry of the Interior and Health, 2004, p. 28 and Etzkowitz & Leydesdorff, 2000.



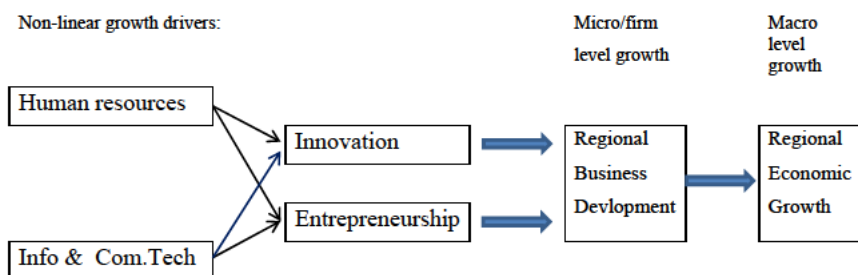
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## The regional growth process:

**Figure 1:** From growth driver to regional economic growth



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We have divided the Baltic region into two parts:

- *Baltic East:* Estonia, Latvia, Lithuania and Poland
- *Baltic West:* Denmark, Norway, Sweden, Finland and Germany
- Poland and Germany are large economies with many regions not related to the Baltic Rim. In order to concure this two additional aggregations has been set up:
  - *Poland Baltic:* The nine northern regions of Poland
  - *Germany Baltic:* The nine Baltic regions of Germany

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Results from 2010 (Cornett & Sørensen):

We observe that (on  $\beta$ -convergence):

- The rate of convergence is higher in Baltic East ( $-6.63$ ) than in Baltic West ( $-1.68$ )
- The rate of convergence is higher among the Baltic region ( $-2.46$ ) than for EU total ( $-1.97$ )
- For Poland, Finland and Sweden divergence is observed!
- For Poland Baltic, Germany Baltic, Denmark on pattern is found
- For Germany and Norway convergence is observed
  
- This is confirmed also from our calculations of  $\sigma$ -convergence

So the picture is very diversified!

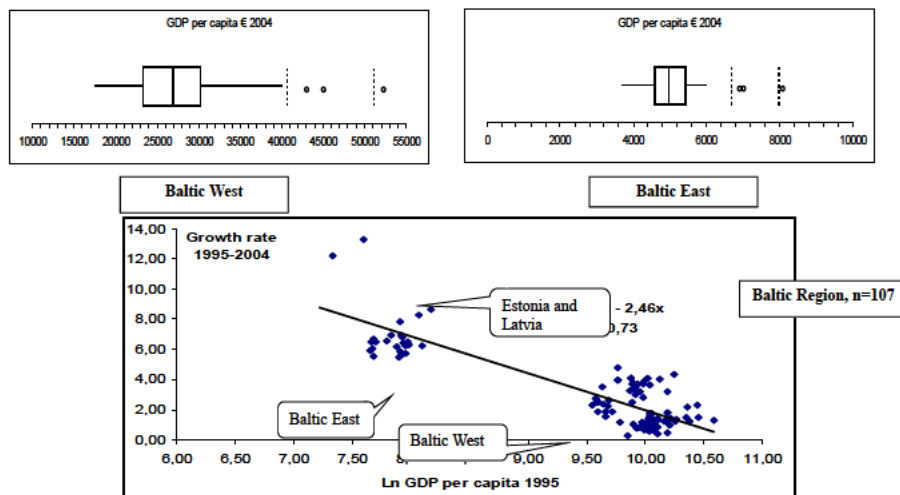
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The disparities can also be observed from the diagrams below

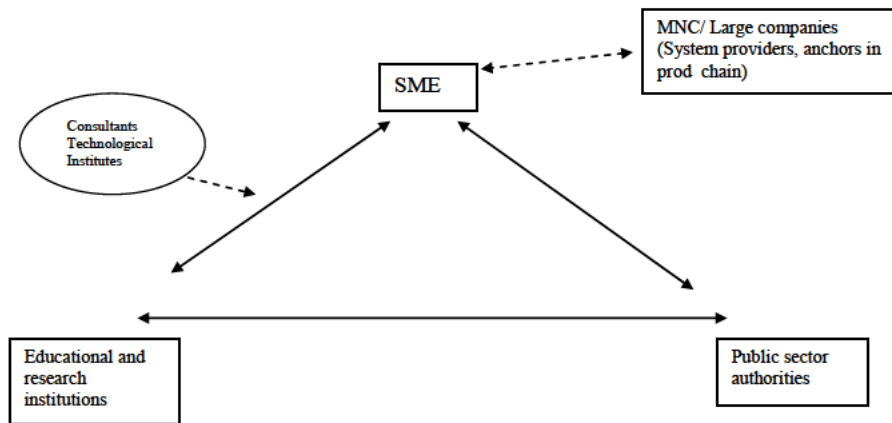


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## Development instrument: 'Triple Helix' ?



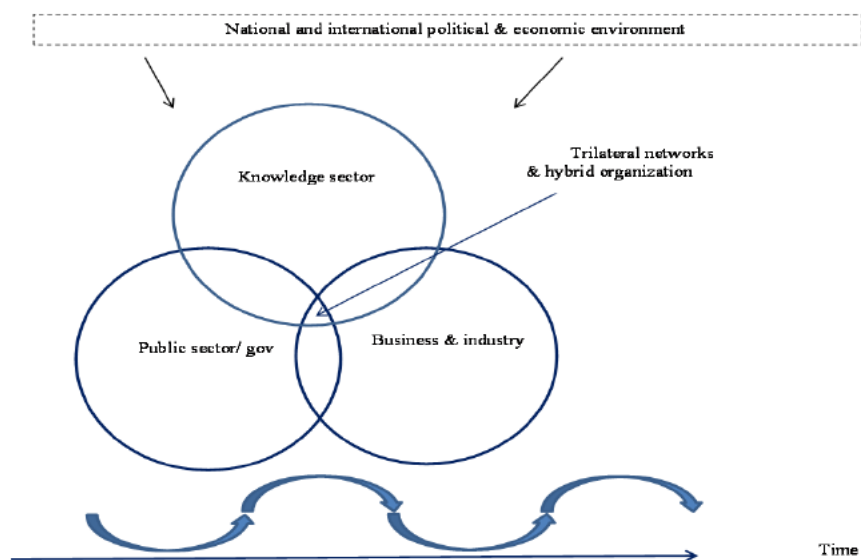
Source: Based on Etzkowitz & Leydesdorff 2000

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**Figure 1 Dynamic Triple Helix configuration**



Source: based on Etzkowitz & Leydesdorff (2000)

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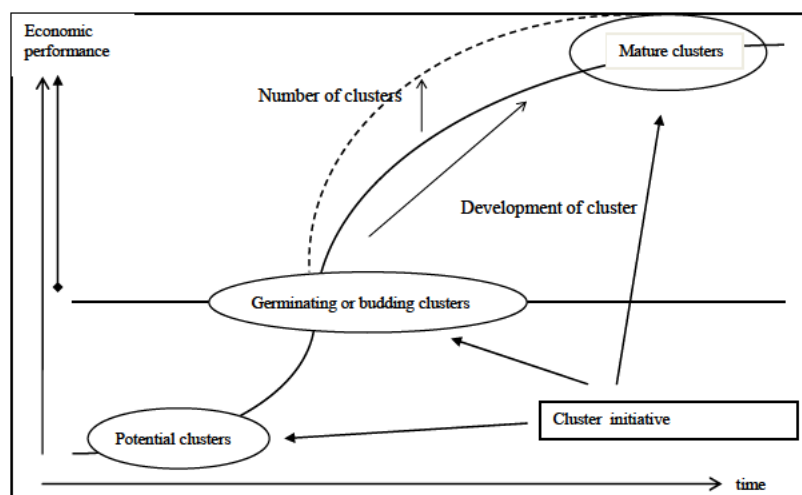



**Table 1:** Firm related non-linear growth and cluster-affiliation

	Clustered industries (c) / non-clustered (n-c)			
	Innovation		No innovation	
Entrepreneurship	++/c	++/ n-c	-+/c	-+/n-c
No entrepreneurship	+-/c	+-/n-c	--/c	--/n-c

Note: Cluster affiliation according to the broad cluster concept


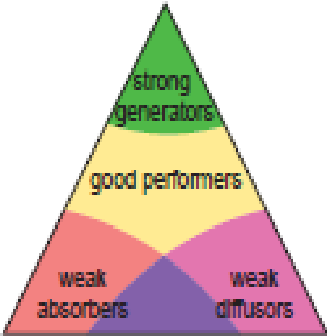
**Figure** Cluster development





# Regional Innovation Potentials


Source: Fiftths Cohesion Report (EU2010)



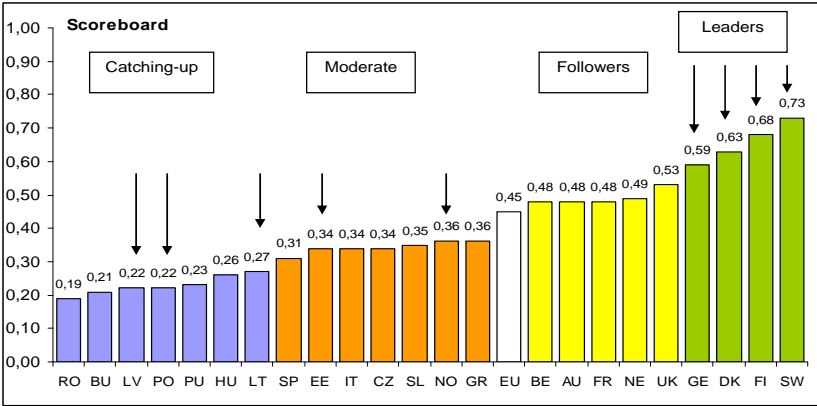
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## 3. Main Drivers of Growth and Innovation in the Baltic Region



Country	Score	Category
RO	0.19	Catching-up
BU	0.21	Catching-up
LV	0.22	Catching-up
PO	0.22	Catching-up
PU	0.23	Catching-up
HU	0.26	Catching-up
LT	0.27	Catching-up
SP	0.31	Moderate
EE	0.34	Moderate
IT	0.34	Moderate
CZ	0.34	Moderate
SL	0.35	Moderate
NO	0.36	Moderate
GR	0.36	Moderate
EU	0.45	Followers
BE	0.48	Followers
AU	0.48	Followers
FR	0.48	Followers
NE	0.49	Followers
UK	0.53	Followers
GE	0.59	Leaders
DK	0.63	Leaders
FI	0.68	Leaders
SW	0.73	Leaders

**Note:** Exclusive countries outside the Baltic Rim, where it not is possible to relate to the regional GDP statistics These are: Catching-up countries: Cyprus Moderate countries: Malta Followers: Ireland and Luxembourg A complete list of countries and abbreviations can be found in the Appendix 2

**Source:** Innometrics (2006, 2009), Annex D

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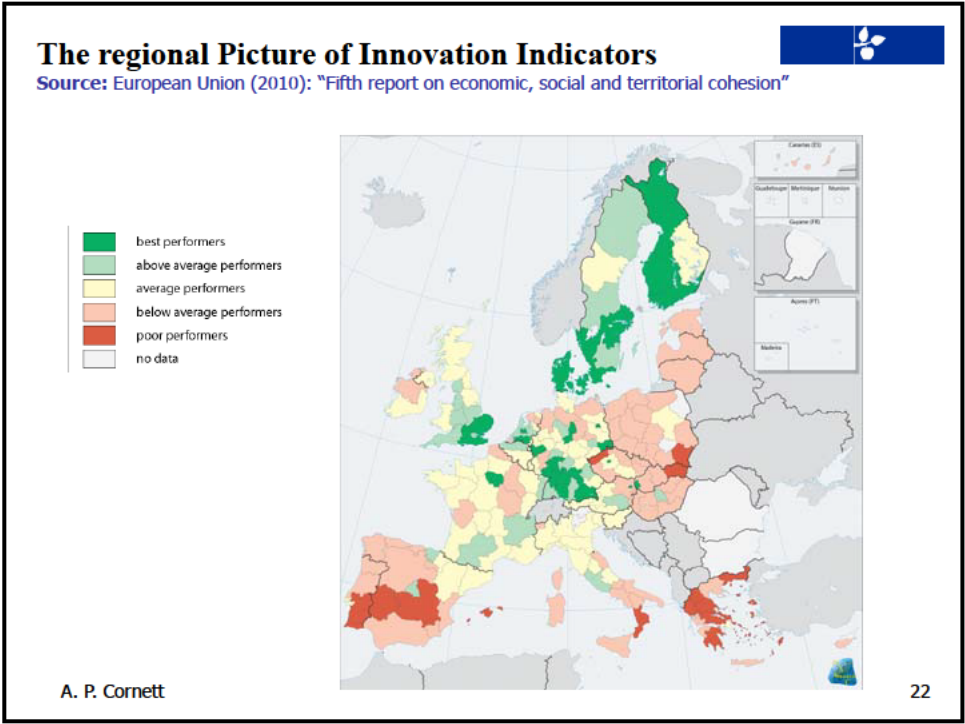
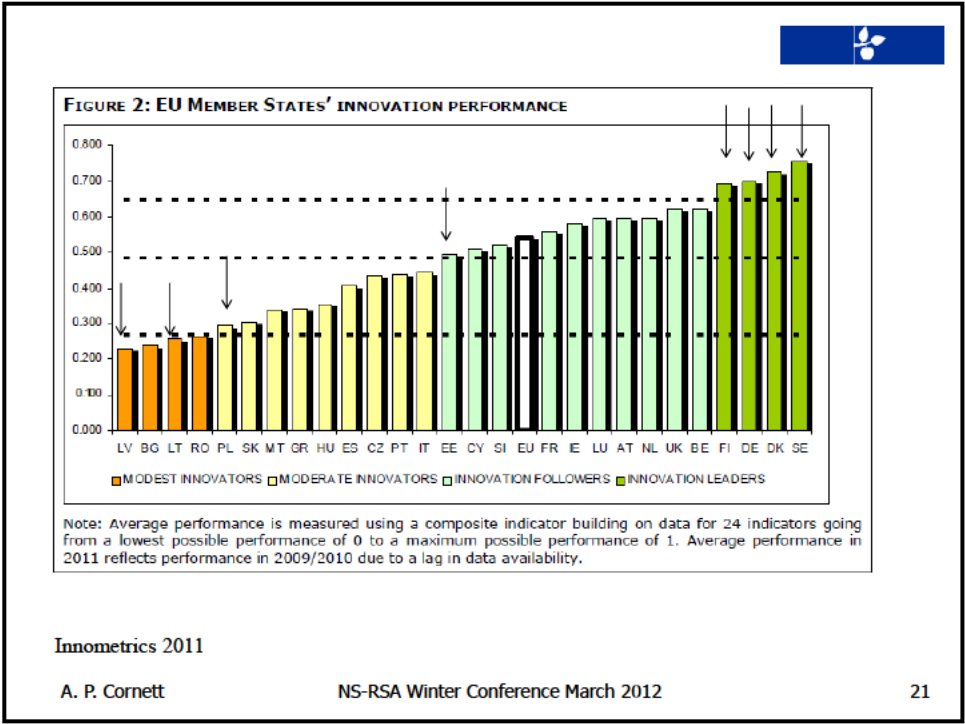




Table Ranked Innovation Performances by Indicators for the Baltic Rim

Indicators:	SW	FI	DK	GE	NO	PO	EE	LT	LV
Innovation drivers	2	1	3	19	6	25	14	15	22
Knowledge creation	1	2	11	5	18	24	31	25	28
Innovation & entrepreneurship	1	3	2	8	21	25	4	15	11
Applications	5	3	12	2	25	24	21	29	31
Intellectual property	5	4	6	2	18	26	25	30	28

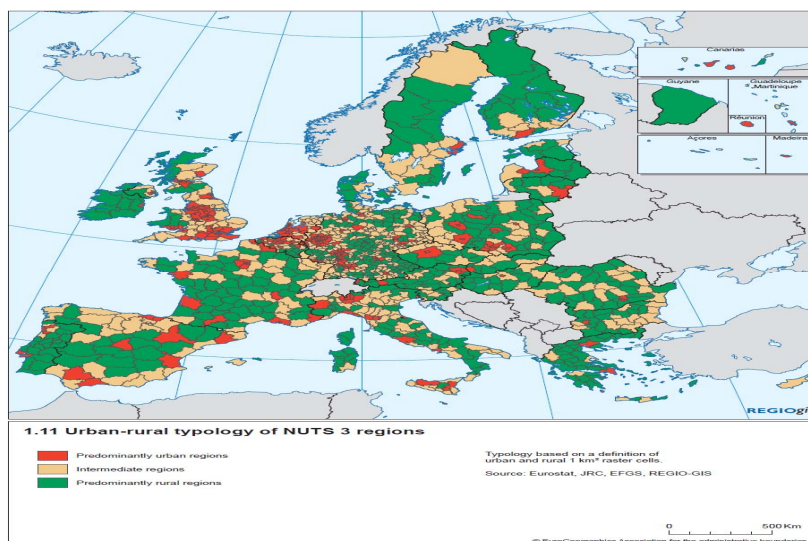
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## Urban-rural typology NUTS 3

Source: European Union (2010): "Fifth report on economic, social and territorial cohesion"



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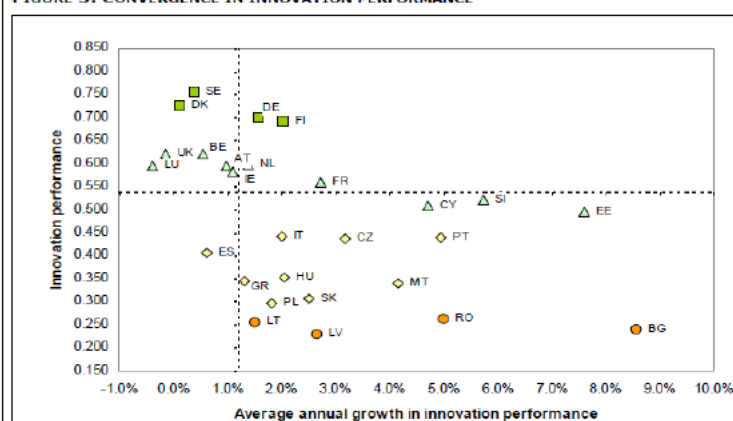
## Innovation and agglomeration:

**Table 5: Regional innovation potentials 2008 according to size of urban centers in the EU.**

Variable:	Urban Rank Size selection :		Non-Urban Regions
	cities	regions	
Strong generators	32	29	39
Good performers	17	17	91
Weak absorbers	6	6	22
Weak diffusers	10	8	20
Weak absorbers and diffusers	6	5	34
N	71	65	206

Note: city classification according to rank size rule, regions with cities with at least 1/4 of the largest city in country included. Classification based on NUTS 2 or NUTS 1 if no regional division available. No data available for Cyprus. Population data latest available, usual 2003-2006.  
Source: Inforegio database & European Union 2010

**FIGURE 5: CONVERGENCE IN INNOVATION PERFORMANCE**



Colour coding matches the groups of countries identified in Section 3.1. Average annual growth rates as calculated over a five-year period. Total growth can be derived by multiplying the average annual growth rate by 4. The dotted lines show EU27 performance and growth.



## Scoreboard variables & Economic Performance I

- Turning first to the model in levels, ie. the model in the left panel, the negative coefficients means that performance will *lower* the level of GDP per capita.
- Interestingly, R&D in the public sector does not have significant impact on GDP in both models.
- Besides from the dummy for Baltic East, the only significant variables are knowledge workers and patents with the latter having the largest effect.
- It is likely that the significance - if knowledge works - especially is visible for the countries in Baltic East.

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## Scoreboard variables & Economic Performance II

- All together, our finding suggests a division or specialization in the Baltic where development in the Baltic West is devoted to patents, and in the Baltic East to knowledge skills of the labor force.

The investigated periode proofs a catch up of BSR-East: it was observed that the growth rates in Baltic East far exceed the growth rates in the Baltic West.

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## Conclusion and Discussion I



- With regard to innovation drivers four of the five Western Baltic nations are innovations leaders, and three of the four former command economies are in the catch up category.
- Only Norway and Estonia are in the group of moderate innovators
- The four innovation leaders actually have very height weight with regard to the most important new growth drivers, innovation, knowledge entrepreneurship and application
- In a policy perspective, only the private sector do have significant impact on GDP

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## Conclusion and Discussion II



- The dichotomy of the overall innovation performance is quite heterogeneous and there for it is not possible to provide a specific answer for the aim of the study
- Our data indicate that the issue is general and not specifically linked to the Northern part of Europe or the division between old and new markets economies
- Rather it is an issue of rural vs. metropolitan dichotomy

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## Figure From innovation & entrepreneurship to growth



Level /Measures	Innovation/ Entrepreneur- ship	Transfer of knowledge dissemination	Adaptation/im plementation	External growth environment
EU/supranational	x	↓ →	↘	↓
National	x	↓ →	↘	↓
Regional/local	x	→	→	<i>Regional growth</i>

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