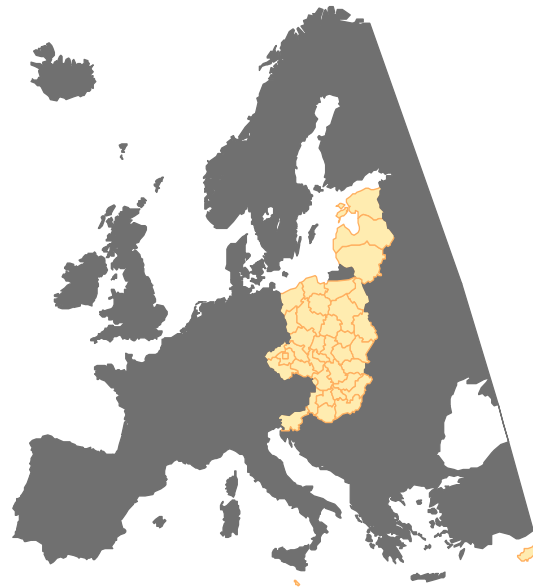


Clusters in the EU-10 New Member Countries

(Christian Ketels, Örjan Sölvell)



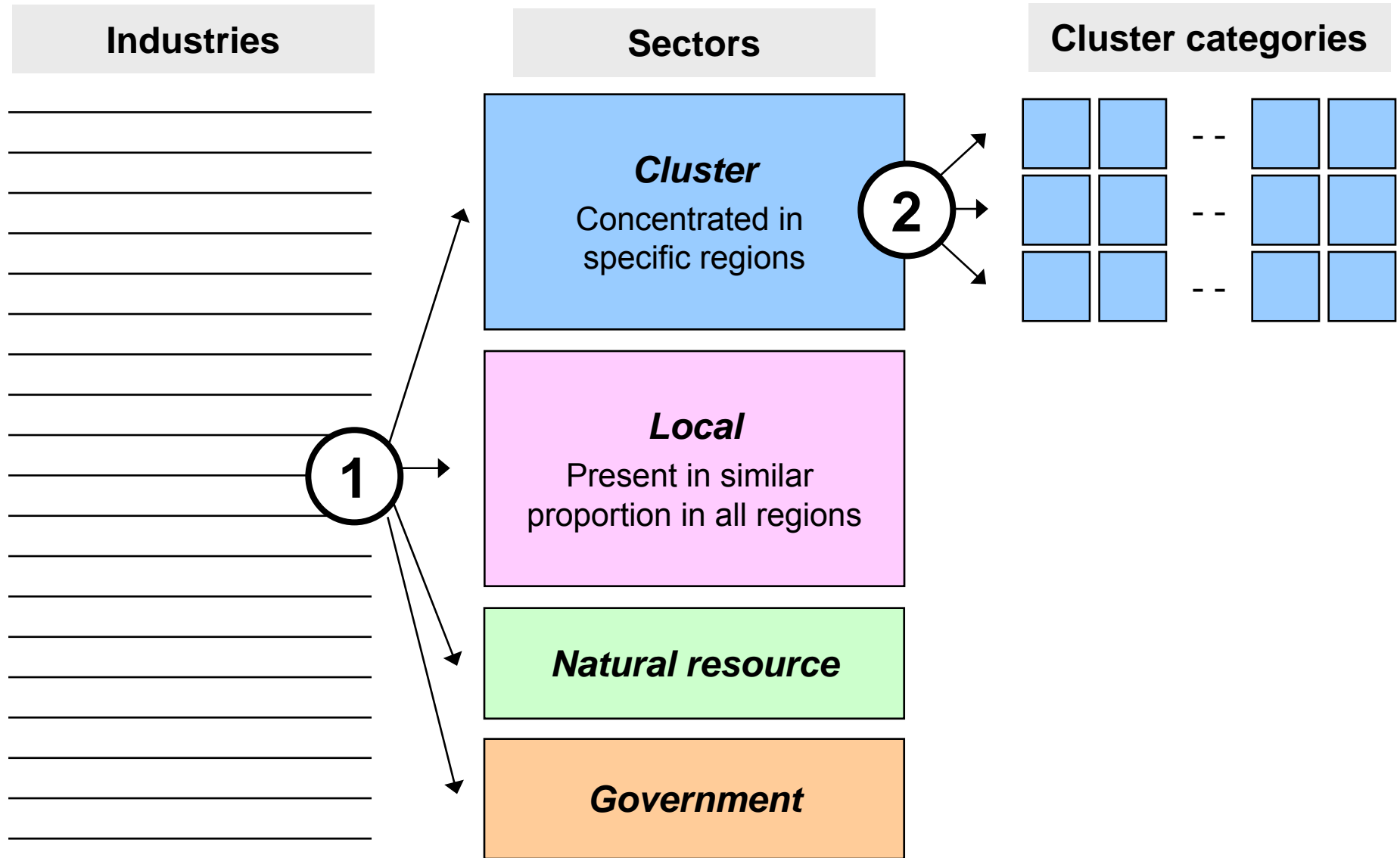
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27 November 2006
Valencia, Spain

Key Questions

- What is the impact of regional specialization patterns on **economic prosperity**?
- What is the particular profile of regional specialization across **regions of the EU-10**, and how is it changing?
- What are differences in regional specialization across **different parts of the economy**?
- What is the effect of different **economic policies** on regional specialization patterns?

Analytical Approach



1

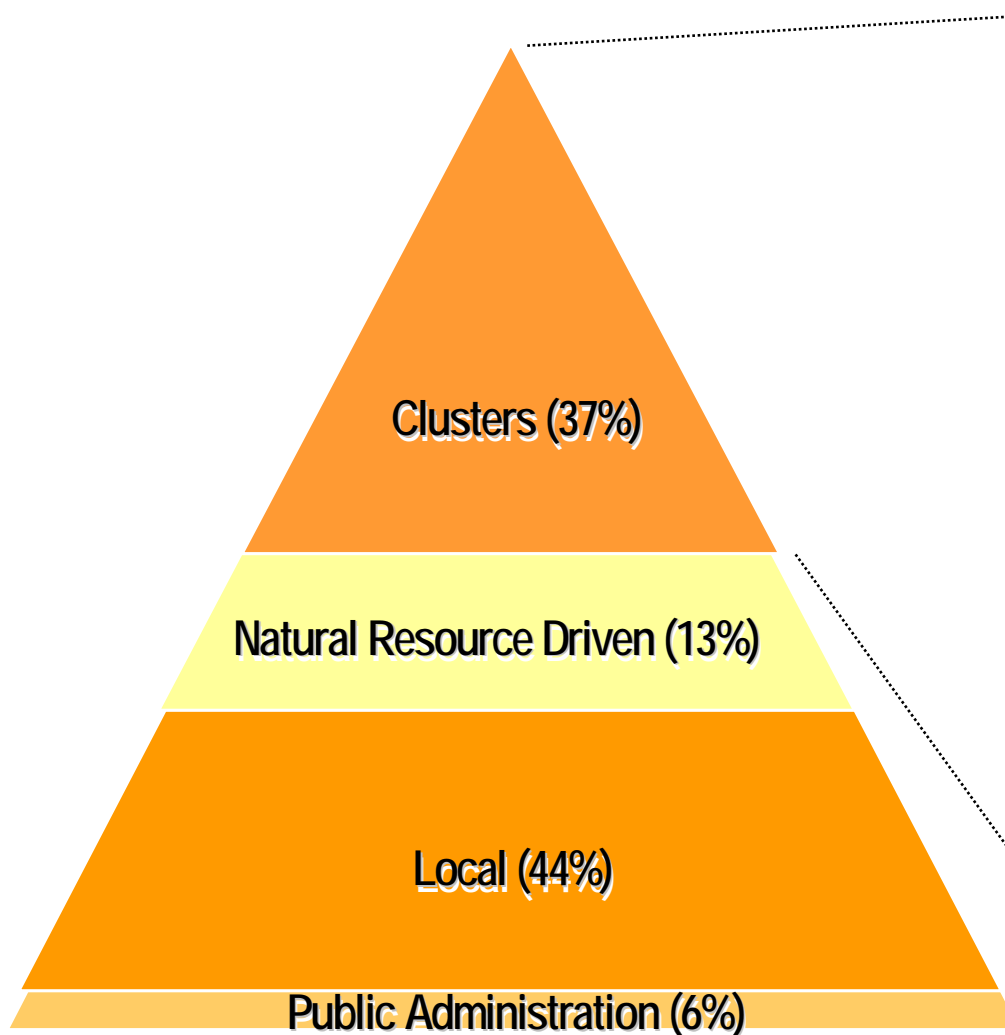
• Allocation of industries to sectors based on actual patterns of geographic concentration by employment (revealed cluster effects)

2

• Allocation of industries in the cluster sector to specific cluster categories based on co-location and linkages

Employment Share by Broad Sector

EU-10 Aggregate



EU-10 Regions

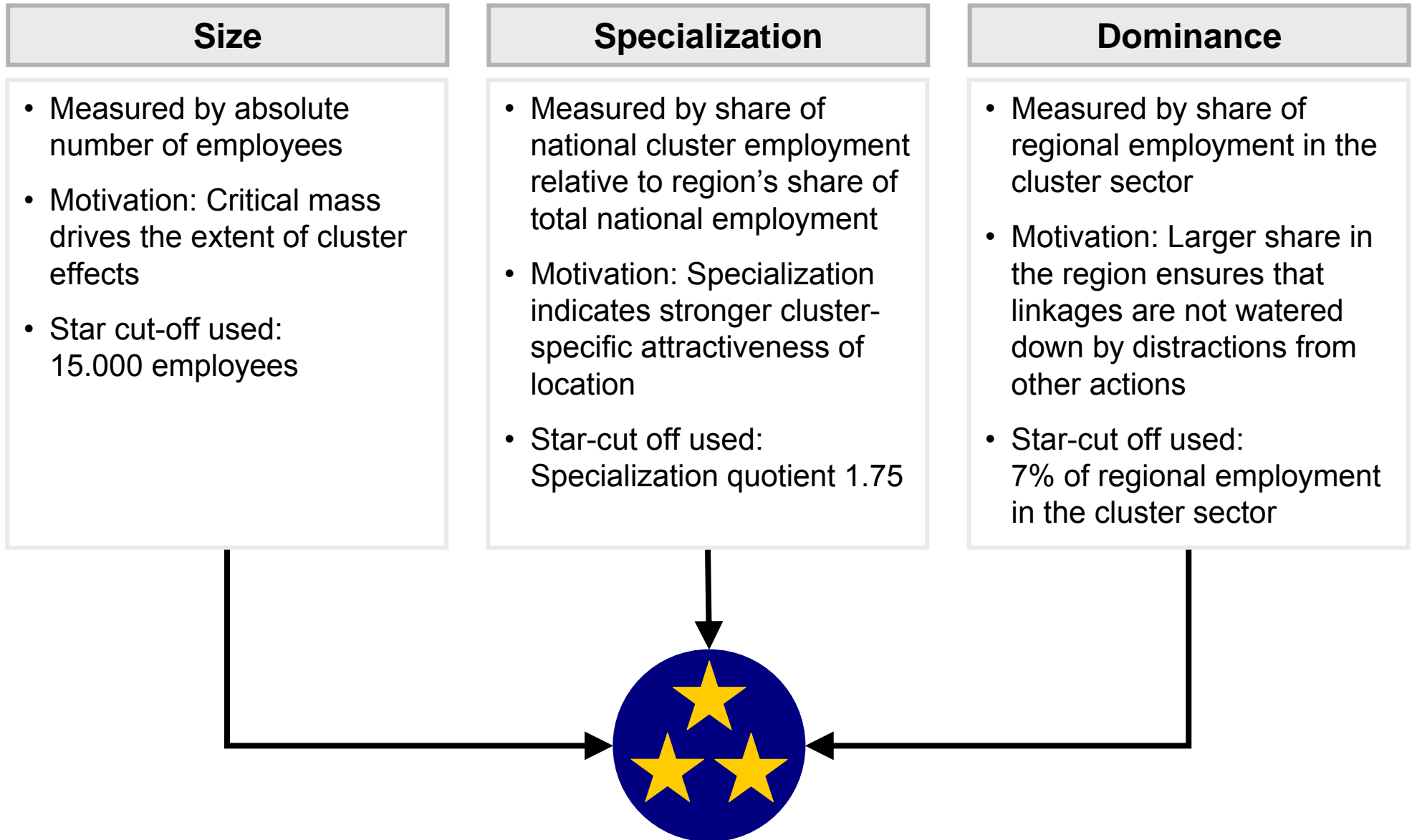
| | | |
|-----|----------------|--------|
| 1 | Slovenia | 47.61% |
| 2 | Liberec | 47.04% |
| 3 | Olomouc | 45.17% |
| 4 | Székestehérvár | 44.73% |
| 5 | Plzén | 44.24% |
| 6 | Brno | 44.08% |
| 7 | Estonia | 43.55% |
| 8 | Győr | 43.38% |
| 9 | Nitra | 43.09% |
| 10 | Malta | 41.96% |
| ... | | |
| 32 | Pécs | 34.00% |
| 33 | Wroclaw | 32.48% |
| 34 | Warszawa | 31.03% |
| 35 | Latvia | 30.13% |
| 36 | Lithuania | 30.01% |
| 37 | Rzeszów | 29.53% |
| 38 | Kraków | 29.28% |
| 39 | Białystok | 26.32% |
| 40 | Kielce | 23.64% |
| 41 | Lublin | 23.55% |

The Cluster Dimension: 38 Cluster Categories

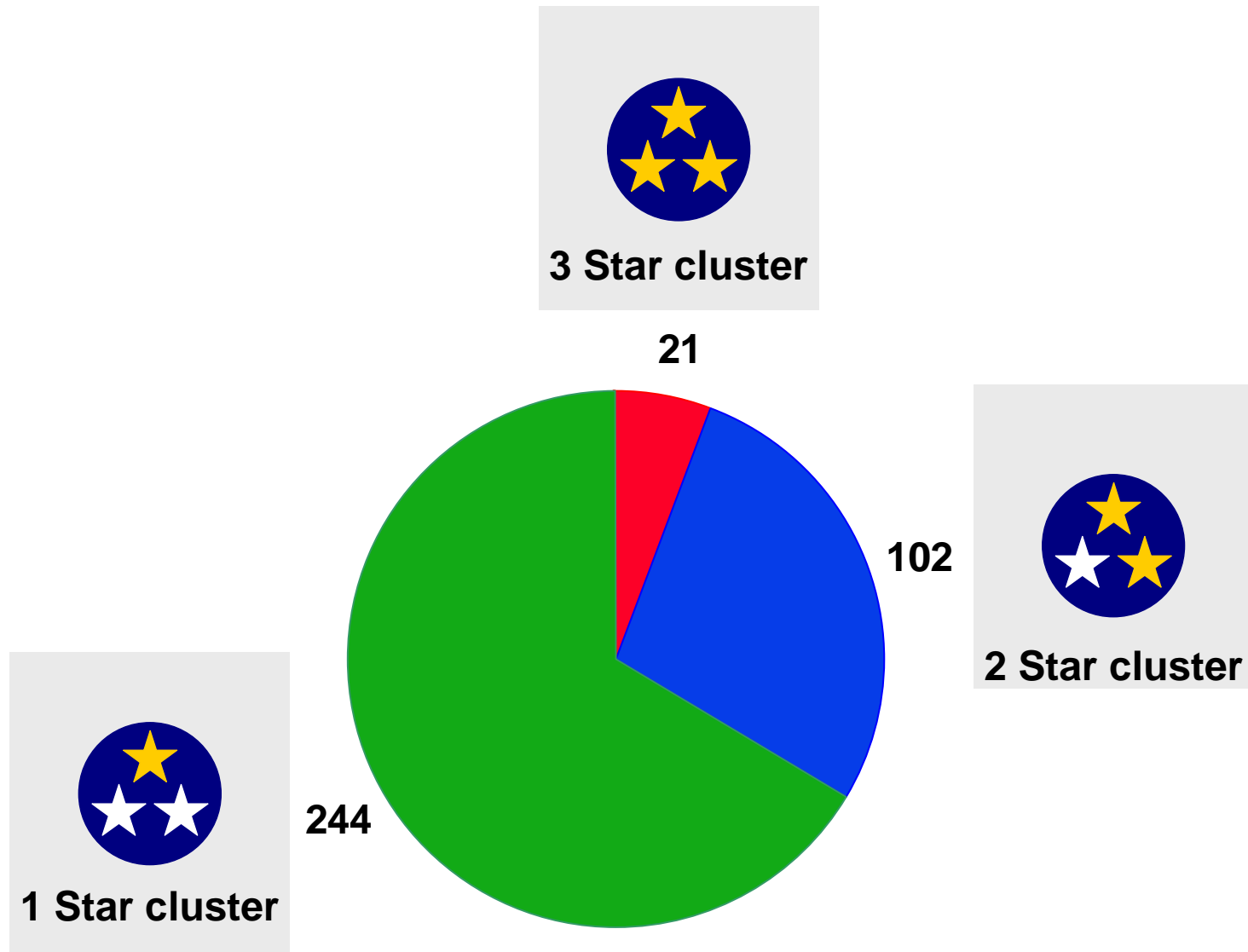
| Cluster category | Examples of industries | Cluster category | Examples of industries |
|--|--|--|---|
| Aerospace | Aerospace industry, aerospace engines | Heavy Construction Services | Construction businesses, rental of construction machineries |
| Analytical Instruments | Measurement instruments, process control | Hospitality & Tourism | Hotels, taxies, amusement parks |
| Apparel | Clothes | Information Technology | Electronic components, computer manufacturing |
| Automotive | Motor vehicles, components | Jewellery & Precious Metals | Jewellery, cutleries |
| Building Fixtures, Equipment & Services | Kitchen furnishing, plaster | Leather Products | Bags, furs |
| Business Services | Management consultancy, rental of office machinery | Lighting & Electrical Equipment | Lamps, electricity distribution's equipment |
| Chemical Products | Chemicals, nuclear fuels, industrial gases | Construction Materials | Scrap, ceramic sanity fixtures |
| Communications Equipment | TVs, Cable, telephony equipment | Medical Devices | Medical equipment, wheelchairs |
| Processed Food | Beer, dairies, glass packages/wrapping | Metal Manufacturing | Rolling mills, casting, tools, screws |
| Agricultural Products | Sugar, agricultural services, alcoholic drinks | Oil & Gas Products and Services | Refineries |
| Distribution Services | Mail order, wholesale trading | Biopharmaceuticals | Pharmaceuticals |
| Education & Knowledge Creation | Universities, libraries | Plastics | Plastics, colours |
| Entertainment | Video- and music recording, sport events | Power Generation and Transmission | Generators, isolators |
| Heavy Machinery | Forest machinery, tractors, locomotives | Production Technology | Bearings, tanks, machine tools |
| Financial Services | Banks, insurance companies | Publishing & Printing | Publishing services, printing |
| Fishing & Fishing Products | Fishing, hunting | Sporting, Recreational & Children's Goods | Bicycles, toys |
| Footwear | Shoes | Textiles | Fabrics |
| Forest Products | Paper machines, pulp | Tobacco | Cigarettes, snuff |
| Furniture | Furniture, laminated boards | Transportation & Logistics | Inventories, air transports |

Strength of Regional Clusters

The 3 Star-Concept

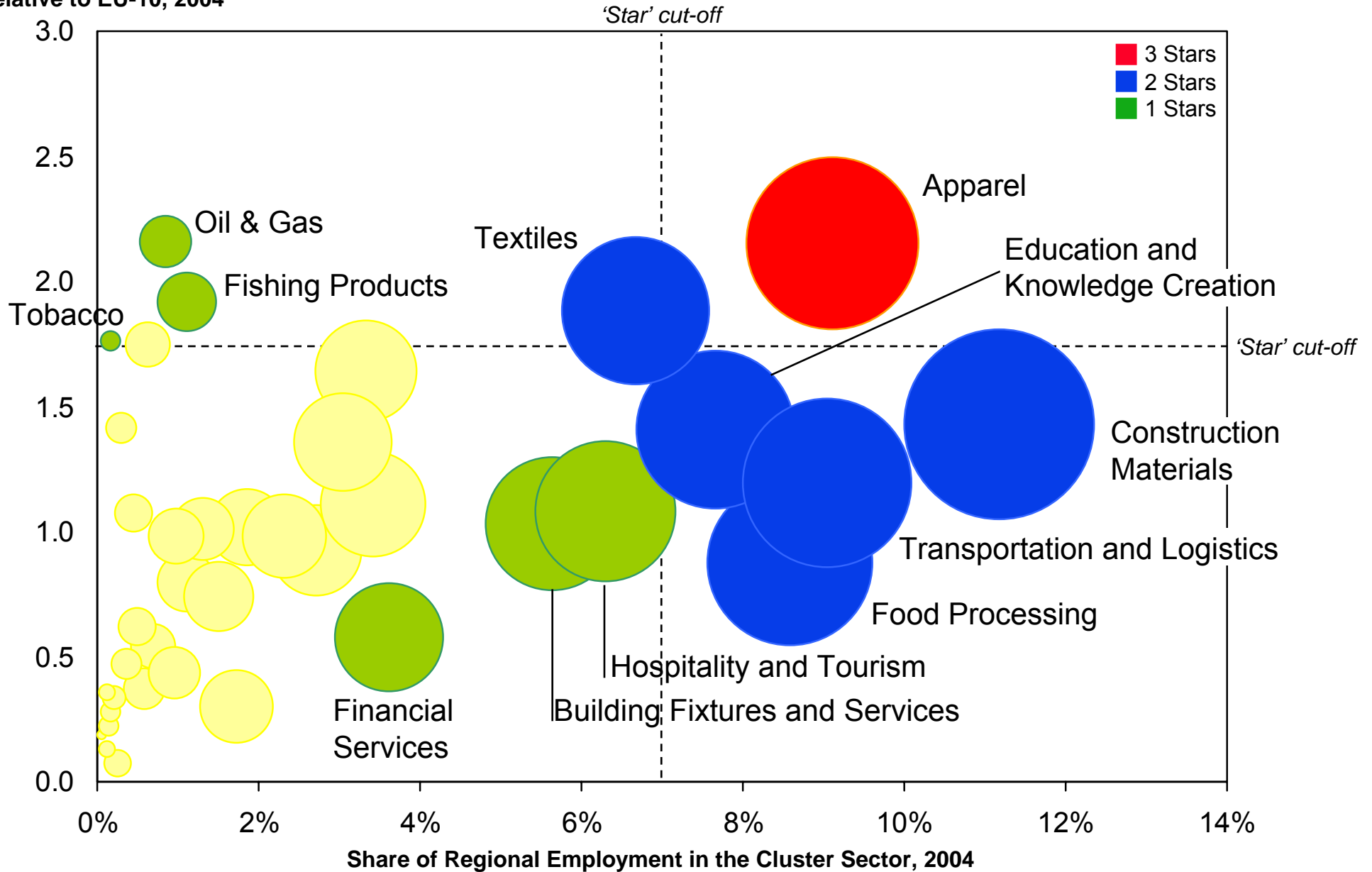


Regional Clusters in the EU-10 Cluster Sector

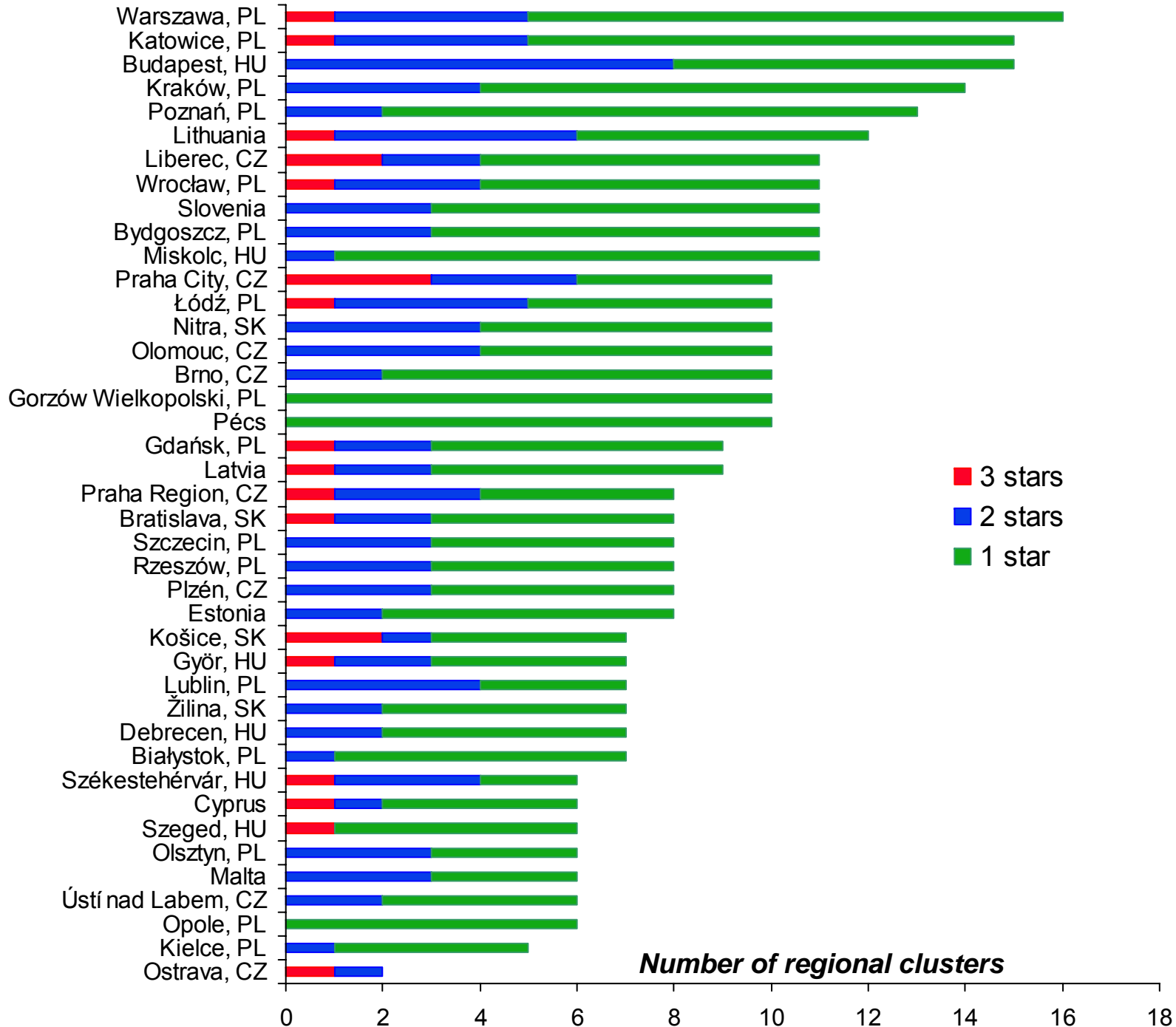


Regional Cluster Portfolios: Lithuania

Specialization Quotient
relative to EU-10, 2004



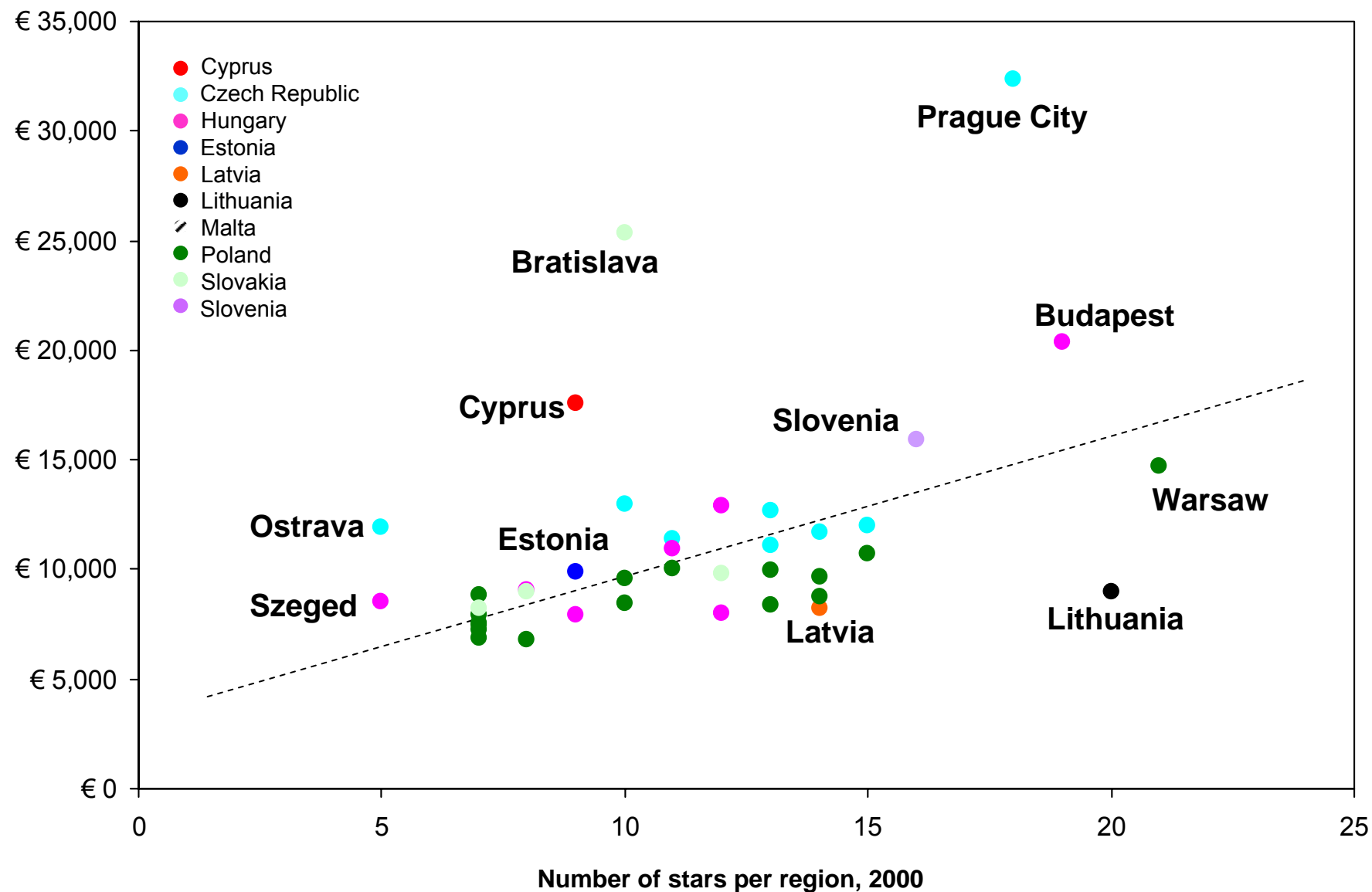
Star-Spangled Regions



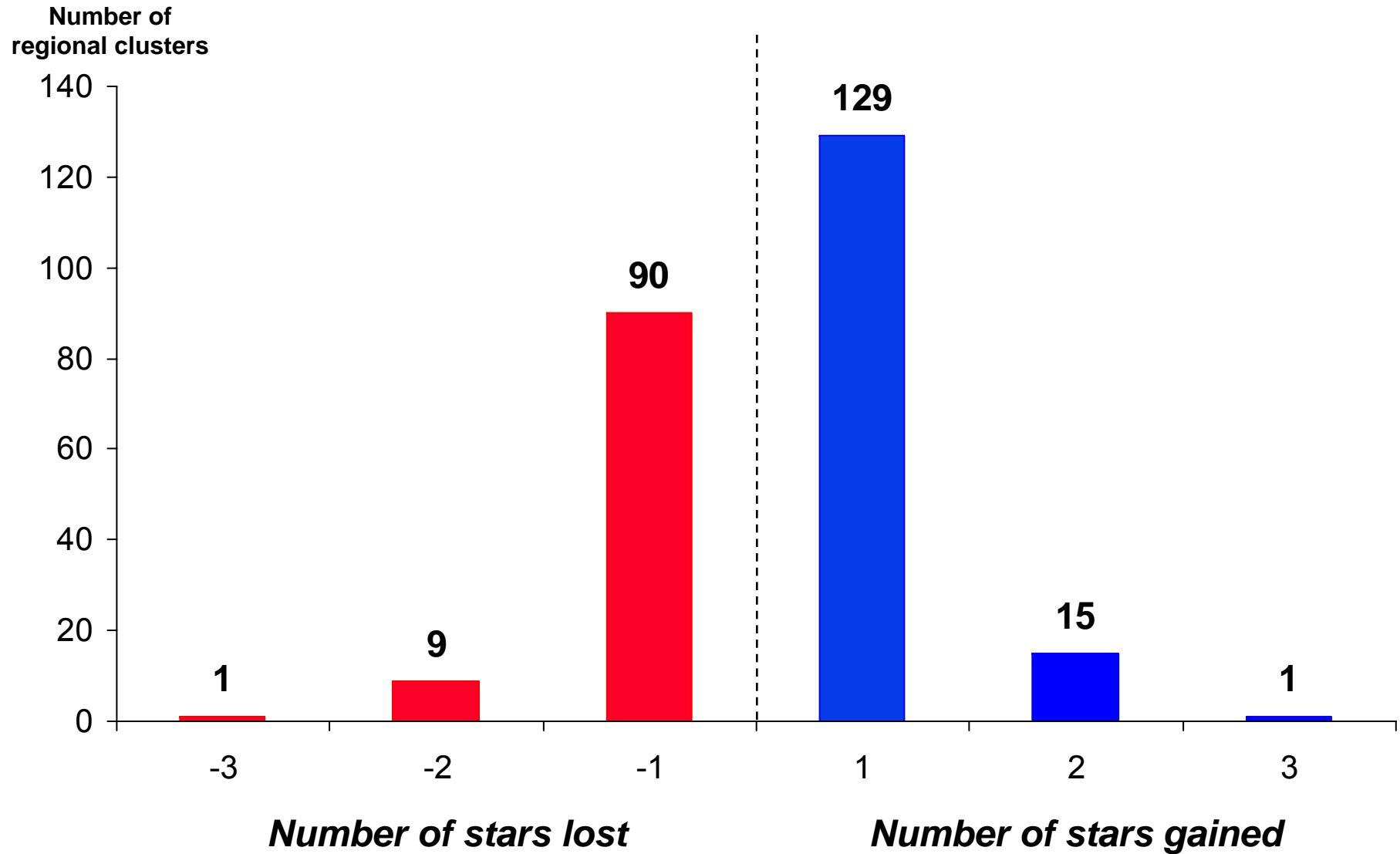
Cluster Portfolio Strength and Prosperity

Relationship with GDP Per Capita

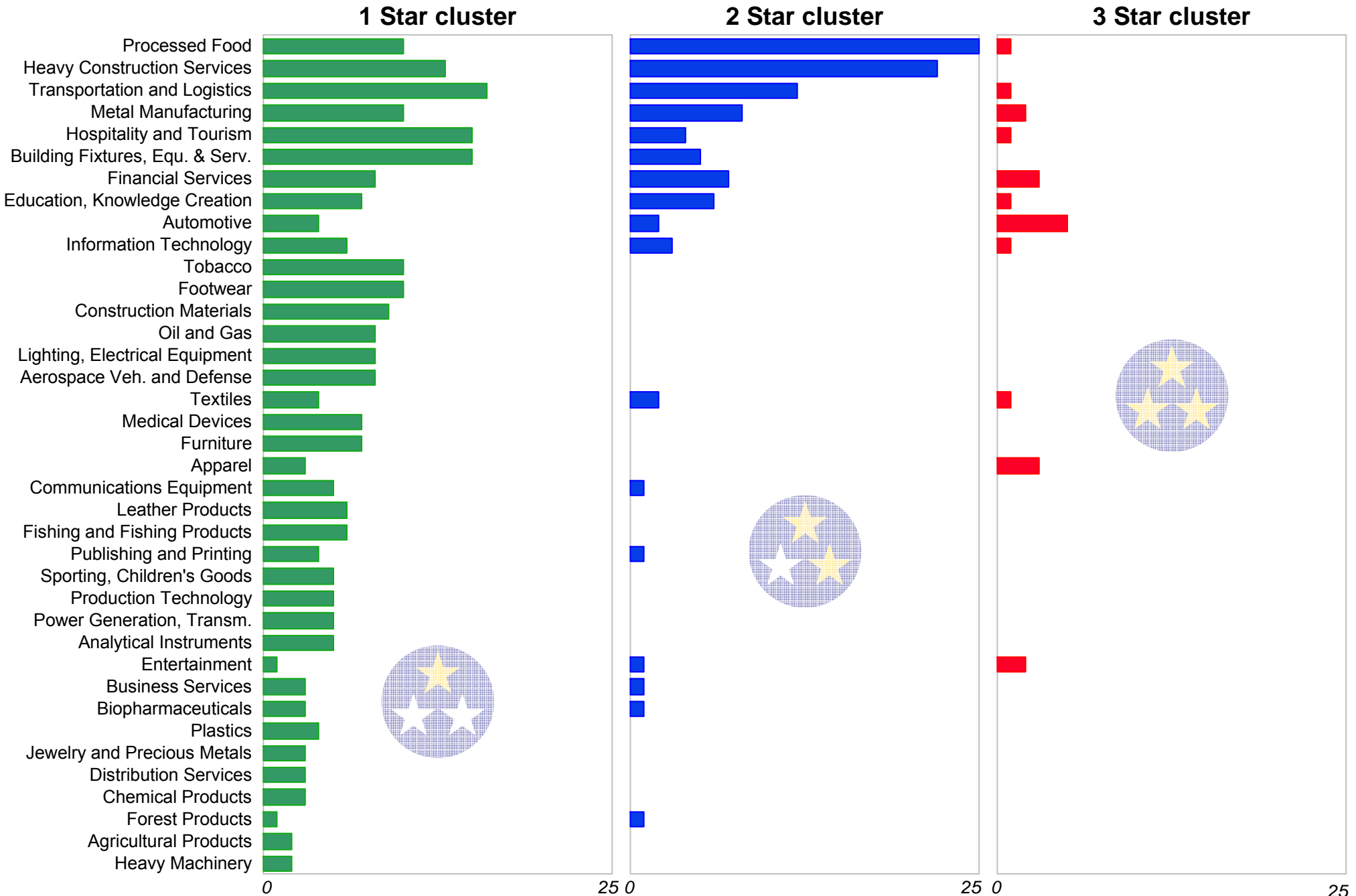
GDP per Capita, 2002



Dynamics of Structural Change

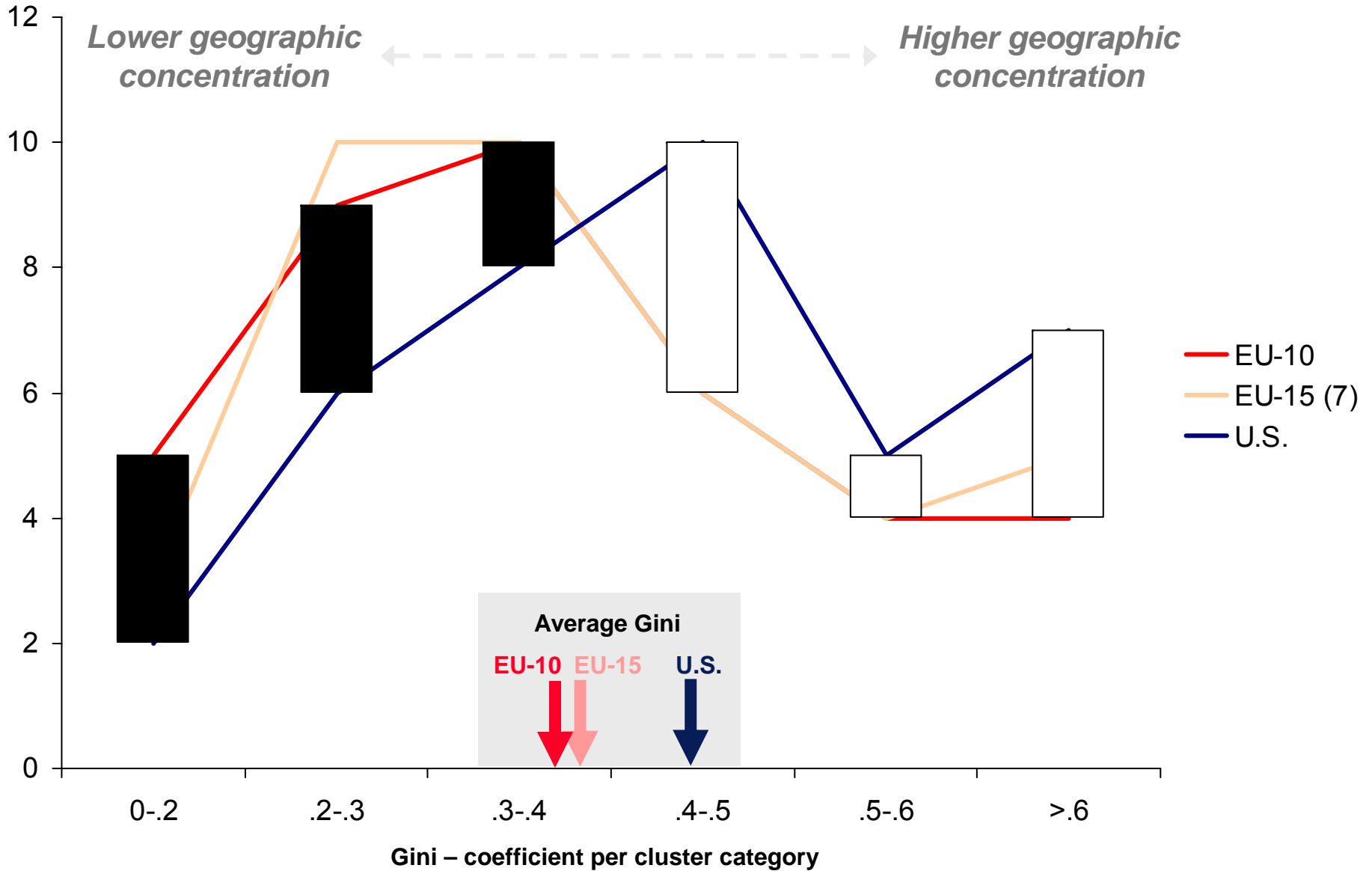


Regional Clusters per Cluster Category



Levels of Regional Concentration by Cluster Category: Europe vs. United States

Number of cluster categories



Observations on National Policies

| | Cluster Presence | Cluster-related Business Environment | Cluster Policies |
|-----------------------|------------------|--------------------------------------|---|
| Czech Republic | ~ | + | + |
| Hungary | + | ~ | + |
| Slovenia | + | ~ | + |
| | | | <ul style="list-style-type: none"> • National Cluster Policy since 2001; run by Czech Invest • Cluster policy since 2001; run by the Ministry of Economy • Cluster policy since 1999; run by Ministry of Economy |
| Latvia | + | ~ | ~ |
| Poland | ~ | + | ~ |
| | | | <ul style="list-style-type: none"> • Cluster program under PHARE in 2000 but not continued • Increasing cluster efforts on the regional and national level |
| Estonia | - | - | - |
| Lithuania | + | + | - |
| Slovakia | + | + | - |
| Cyprus | ~ | - | - |
| Malta | ~ | - | - |
| | | | <ul style="list-style-type: none"> • Strong general conditions • Science parks aim to be come cluster nuclei • Strong general conditions • Narrow positions • Narrow positions |

Key Observations: The Regional Dimension

- Specialization profile of the EU-10
 - Overrepresented natural resource-driven sector
 - Bias towards labour-intensive and manufacturing-driven cluster categories
 - Weak in advanced services and knowledge-intensive cluster categories
- Specialization profile across regions of the EU-10
 - Large differences across regions in terms of specialization
 - The absolute employment level in a region is one important driver
 - Strong indications that legacy, location, and specific business environment conditions, policies and institutions are important drivers as well
- Changes in specialization profile
 - Clear evidence of tremendous structural change in terms of regions' specialization
 - Initial conditions (total size, established position) do not guarantee success or predetermine failure
- Specialization and economic performance
 - Clear evidence of the strengths of regional cluster portfolios being an important determinants of economic performance

Key Observations: The Cluster Dimension

- Level of geographic concentration in the cluster sector
 - Significantly lower than in the U.S. but only slightly lower than in the EU-15
- Geographic concentration profile across cluster categories in the EU-10
 - Large differences across cluster categories in geographic concentration
 - Automotive, apparel, entertainment products, and textiles most concentrated
- Changes in specialization profile
 - Clear evidence of tremendous structural change in terms of geographic distribution of activities within cluster categories

Policy Recommendations: Enhancing Geographical Specialization

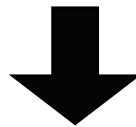
- Europe needs to create better conditions for **regional clusters** to develop



- Pursue further market integration in Europe
- Mobilize European policies to facilitate structural change
- Remove European policies that work against structural change

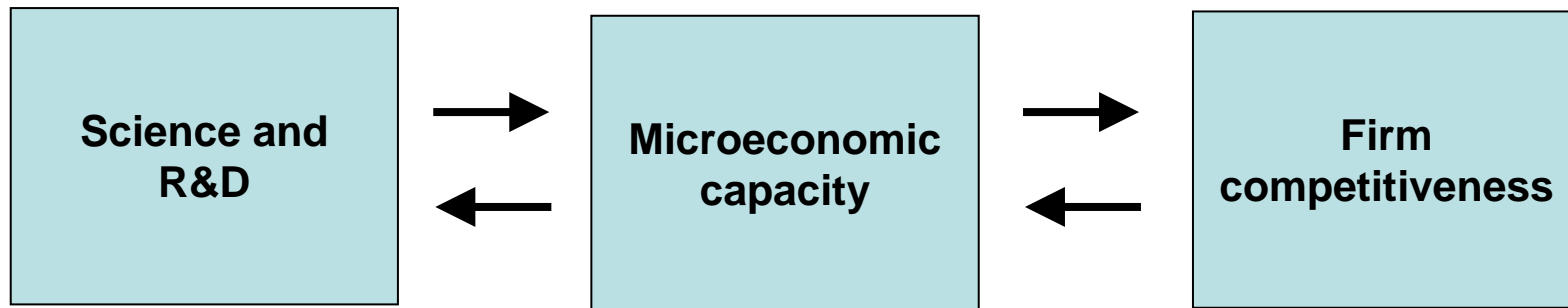
Policy Recommendations: Provide process support for regional cluster development initiatives

- Europe needs to create better conditions for **regional cluster initiatives** to increase the effectiveness of regional clusters

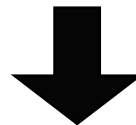


- Create a widely-available European cluster mapping database
- Invest in metrics and data to measure the impact of cluster policies
- Launch a European cluster initiative alliance to spread best practices
- Provide a methodology tool box available for cluster initiatives
- Support the creation of networks of regional clusters

Policy Recommendations: Improve the Effectiveness of EU Competitiveness Policies by Focussing on Microeconomic Capacity



- The European policy debate around innovation is based on **assumption** that more spending on R&D will deliver more competitive firms; the 3% GERD target is the result
- The analysis in this report indicates that clusters and the microeconomic environment that surrounds them are **critical** for innovation, not just R&D spending



- The EU competitiveness effort should be reoriented around improving **microeconomic capacity**

Research Recommendations: Creating a Data Architecture for Competitiveness

- **Cluster Mapping**

- Composition of regional economies
- Presence and profile of regional clusters

- **Competitiveness assessment**

- Profile of economic performance
- Quality of regional and cluster-specific business environments
- Sophistication of companies
- Institutional capacity

- **Impact assessment**

- Benchmarking of operational practices
- Cluster Competitiveness Report
 - Evaluation of programs and institutions
 - Assessment of changes in the business environment