Good Practice and Learning Experiences in Cluster Policy: Evidence from German Regions

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Outline
1) Best Practice and Policy Learning
2) Overview of Cluster Policies in Germany
3) Stylized Facts on Regional Cluster Policies
4) Opportunities and Pitfalls
Motivation

Silicon Valley

Silicon X

Y Valley

„Silicon Valley is probably the only place on earth not trying to copy Silicon Valley."
(Robert Metcalfe, inventor of Ethernet and founder of 3Com, 1998; quoted in Sternberg 2010: 295)

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Policy Transfer Through Best Practice Manuals

Creating Smart Systems
A guide to cluster strategies in less favoured regions
European Union-Regional Innovation Strategies

THE CLUSTER POLICIES WHITEBOOK

Cluster Building:
A Toolkit
A Practical Guide to Cluster Development

Policy Brief
Competitive Regional Clusters: National Policy Approaches

A Governor's Guide to Cluster-Based Economic Development

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Policy Transfer: Channels and Determinants

- **Channels**
  - Literature
    - Academic
    - Best practice case studies
  - Manuals
  - Mobility of personnel (dispositive/operative)
  - Consultants as transfer agents (Stone 2004)
  - Knowledge communities
    - Epistemic communities (Haas 1992)
    - Communities of practice (Brown/Duguid 1996)
  - Journeys of politicians and practitioners (policy tourism, Sheldon 2004)
  - Formal & informal communication (secondary)

- **Determinants** (cf. Lütz 2007: 139-141)
  - Endogenous = cultural, institutional, socio-economic proximity
  - Exogenous: frequency of interaction, networks, transfer agents
  - Transfer object: complexity, visibility, potential for conflict

Interregional vs. Path-dependent Institutional Learning

- **Cluster approach**
  - generic explicit
  - Regional cluster concept
  - accumulated experience, learning by doing
  - local-specific tacit

- **(Re-)Contextualisation**
  - Decodification
  - Decontextualisation

*Interregional learning is embedded in path-dependent local learning processes.*
Learning from Best Practice?

- **EU promotes identification & dissemination of best practice**
  - scoreboards, case studies and interregional benchmarks
  - “copycat behaviour in regional policy” (Hospers 2006)
  - e.g. European Cluster Excellence Initiative

- “Every cluster is unique”
  - Complexity and context-specificity
  - Success factors distilled from a selective set of cases difficult to transfer

⇒ Most practitioners rely on their own accumulated experiences.

- Good practice vs. poor practice
  - Learning from typical problems and cases of failure
  - Better transferability
  - Need to learn from a diverse set of experiences: “the good, the bad and the ugly”

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Clarifying Cluster Terminology

<table>
<thead>
<tr>
<th>Concept</th>
<th>Definition</th>
<th>Essence</th>
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<tbody>
<tr>
<td>Cluster</td>
<td>‘geographic concentrations’ of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions (for example, universities, standards agencies, and trade associations) in particular fields that compete but also cooperate”¹</td>
<td>Organic, evolutionary forces²</td>
</tr>
<tr>
<td>Cluster Initiative (CI)</td>
<td>“an organised effort to increase the growth and competitiveness of a cluster within a region, involving cluster firms, government and/or the research community”³</td>
<td>Organised, constructive forces²</td>
</tr>
</tbody>
</table>
| Cluster Policy  | • all efforts of government to develop and support clusters (in a particular region)⁴  
  • Public efforts to develop concentrations of industry or network structures into clusters, or to promote existing clusters⁵ | CI with substantial public sector involvement |

Cluster Policy as an Emergent Field

Regional, Industrial and Structural Policy

Technology & Innovation Policy

Regional & Local Economic Development

Science & Research Policy

…contributing to the convergence of hitherto unrelated established policies.

Cluster Policies as Multi-Level Governance

- Cluster policies on all levels of governance
  - Supranational (European Union)
  - National (Federal Government)
  - Subnational (16 State Governments)
  - Regional and Local (Cities, Municipalities)

- German federalism: competitive ⇒ co-operative (‘interdependence trap’)

- Division of labour between the levels

- Demonstration and learning effects
  - Horizontal (same level)
  - Vertical (across levels of governance); Bottom-up vs. Top-down
Supranational Level: European Union

- **2000-2010 Lisbon Agenda** for competitiveness
- Many clusters, but not enough **critical mass** for competitiveness
- **Subsidiarity** ⇒ cities and regions responsible for cluster development
- Commission responsible for
  - Cluster mapping (European Cluster Observatory)
  - SWOT analyses and comparisons
  - Identification & dissemination of **best practice**
  - Platforms for **knowledge exchange**
    - Europe INNOVA ⇒ Policymakers
    - PRO INNO Europe ⇒ Practitioners
  - **Link clusters** across boundaries
- Structural funds ⇒ **new Objective 2** `Regional Competitiveness and Employment` ⇒ regional Operational Programmes

National Level: German Federal Government

- Co-ordinated market economy
  - focus on **incremental innovation and diffusion**
  - Competitive advantages in automobiles, chemicals, mechanical engineering
  - **Lagging in commercialisation of radical breakthrough innovations** (IT, biotech) ⇒ popular `MP3 shock`
- Regional networks between science and industry (networks of competence, `clusters`) seen as solution
- Traditional regional policy (joint task federal-state) still pursuing spatial equity
- Reunification ⇒ special attention to lagging **new Länder**
- Federal division of labour ⇒ federal government restricted to incentives
Tidal Wave: Cluster Policies in Germany*

**Federal Government (for new Länder)**

<table>
<thead>
<tr>
<th>BioRegion</th>
<th>Networks of Competence Germany</th>
<th>Innovative Regional Growth Cores</th>
<th>Federal-State Joint Task Bio-Industry 2021</th>
<th>Biological</th>
<th>Strategic Partnerships</th>
</tr>
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<tbody>
<tr>
<td>Inno-Regio</td>
<td>Learning Bio-Regions Profile</td>
<td>Centres for Innovation Competence</td>
<td>Spitzencluster Contest BioPharma Contest</td>
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<tr>
<td>Bavaria</td>
<td>High-Tech Initiative</td>
<td>Saarland Innovation Strategy</td>
<td>Schleswig-Holstein Cluster Policy</td>
<td>Cluster Initiative Bavaria</td>
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<td>Fields of Competence for Ruhr Area (NRW)</td>
<td>Regional Growth Concepts</td>
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<td>Lower Saxony</td>
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<td>Berlin Innovation Strategy</td>
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**State Governments**

Federal Cluster Contests

**Rationales**

- regional networks for national technological **competitiveness**: biotech ⇒ open contest
- innovative capabilities in the new Länder ⇒ **convergence**

**Recent Spitzencluster Contest**

- leading-edge cluster contest
- 600 m € in three rounds for up to five cluster initiatives each
- Second round winners announced in January 2010
- Tender for third round drafts ending in March 2011

http://www.ideen-zuenden.de/de/468.php

Map: Kiese 2009: 42
Contest Winners: Germany’s Leading-Edge Clusters

1st round (2008)
- BioRN
- Co4 Silicon
- iL
- Luftfahrtcluster Metropolregion Hamburg
- SolAR Valley Mitteldeutschland

2nd round (2010)
- Software-Cluster
- m³
- Medical Valley
- MicroTec Südwest
- EffizientCluster LogistikRuhr

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National Level: Evaluation

- Contribution of localised assets to national competitiveness acknowledged
- Competitive federalism ⇒ cluster contests as a device for discovery and mobilisation
- Cumulative policy learning: BioRegio, InnoRegio ⇒ programme families
- Intraregional focus, neglects interregional networking and learning
- InnoRegio family trapped between conflicting aims of growth and spatial equity

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State Level: Länder Cluster Policies

- **Wide adoption**, mostly in technology/innovation policy
- Western Länder more active ⇒ Federal Gov’t focus on the East
- Considerable **variety**, esp. in maturity and coherence

### Clusters in Local Economic Development Policies

- Out of 144 cities > 50.000 inhabitants, 63 % claim to have coherent strategies to develop clusters, networks, or fields of technology or competence
- This share **increases with the size of the city**: While 32.4 % of all municipal ED offices regards cluster policy as one of their most important topics, this share is 71.4 % for cities > 500.000 inhabitants.

- **Objectives** of municipal cluster strategies are **diverse**: Out of 19 objectives, the most important are
  - Networking of firms and institutions (38.3 %)
  - Retention of firms (35.1 %)
  - Attraction of firms (34.0 %)
  - Stabilising and creating employment (29.8 % / 26.6 %)
Regional Cluster Policies: Selected Case Studies

- **Cluster Policies** of three Länder in West Germany
  - NRW – structural change (Ruhr area)
  - Bavaria – late industrialisation, high-tech state
  - Lower Saxony – ‘grey mass’ region

- Seven case studies at sub-state level
- 110 semi-structured interviews in 2006/2007 with 134 practitioners, consultants and independent observers, covering
  - understanding of clusters & role of cluster theory
  - methods of cluster identification
  - political & bureaucratic rationality
  - policy learning

Stylised Facts on Regional Cluster Policy in Germany

1. **Technocratic** understanding of clusters in policy & practice
2. For simplicity’s sake, clusters are understood as networks
3. **Spatial mismatch** between cluster and policy ⇒ over-/underbounding
4. Temporal mismatch (short-termism vs. cluster development)
5. **Herd behaviour** (ICT, bio, nano…)
6. From horizontal demonstration effects to top-down diffusion
7. **Inflationary use** of cluster term ⇒ meaning, credibility ↓
8. Lack of explicit theoretical foundation/reference
9. Sloppy identification of cluster potential
10. **Declining cluster focus** over time
Understanding of Clusters and Matching Problems

1. Technocratic understanding of clusters
   - “Let’s make a cluster!”
   - Dominance of bureaucratic rationality

2. No distinction between clusters and networks
   - Focus on co-operation, but neglect of competition
   - Neglect of spatial proximity in state-level cluster policies

3. Spatial mismatch
   - Densities and ranges of interaction vs. territorial egoism
   - Danger of over- and underbounding
   - Neglect of external cluster dimension

4. Temporal mismatch
   - Clusters develop over decades and generations
   - Politics demand ‘early wins’

Overbounding

- Manufacturing firm
- Knowledge-intensive business services
- University, research organisation
- Specialised infrastructure, supporting institutions
Inflation of Cluster Policy

5. Herd behaviour
   - Mega trends and key technologies (biotech, nanotech, ICT…)
   - Me too: demonstration effects
     ⇒ Convergence of cluster portfolios

6. Top-down diffusion of cluster policies
   - Diffusion initially bottom-up and horizontal
   - Increasingly vertical diffusion EU ⇒ (federal government ⇒)
     federal states (Länder) ⇒ regions, counties, municipalities
   - Professionalisation of economic development agencies and
     specialised consultants as transfer agents

7. Inflation
   - „Clusters“ as meaningless labels?!
   - Danger of arbitrariness
Convergence of Cluster Portfolios: Herd Behaviour?

<table>
<thead>
<tr>
<th>Number of clusters</th>
<th>Automotive, transport technology, materials</th>
<th>ICT, biotech, life sciences, biotech, medtech</th>
<th>Environmental technology</th>
<th>New materials</th>
<th>Consumer goods</th>
<th>Food processing</th>
<th>Financial services</th>
<th>Tourism, leisure &amp; entertainment</th>
<th>Transport &amp; logistics</th>
<th>Telecom, satellite reception</th>
<th>Media, computer hardware, software</th>
<th>Other</th>
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1) In Regional Growth Concepts, but focus in Technology Policy and state initiatives

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Danger of Conceptual Dilution

8. Lack of theoretical grounding
   • Porter’s cluster definition only link to literature
   • Incremental, cumulative, path-dependent learning by doing ⇒ practical know-how and implicit theories (Hofmann 1995)

9. Insufficient identification of cluster potential
   • Selective use of methodological toolbox
   • (Pre)selection reflecting political agendas and rationalities (vested interest, catering for all regions & spatial equity...)
   ⇒ Inflation, risk of promoting „wishful thinking“ clusters (Enright 2003, p. 104)

10. Declining cluster orientation during implementation
    • Targeting too many clusters with insufficient potential
    • Generic economic development projects easier to realise (⇒ early wins)
    • Self-interest of organisations charged with implementation

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Cluster Identification: Selective Use of Methodological Toolbox

<table>
<thead>
<tr>
<th>Method</th>
<th>NRW</th>
<th>LLax</th>
<th>Bavaria</th>
<th>Dortm</th>
<th>Berg</th>
<th>WOB</th>
<th>Hannov</th>
<th>Braun</th>
<th>CP-franc</th>
<th>R’burg</th>
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<tr>
<td>1. Expert opinion &amp; reports</td>
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<td>2. Moderation of regional stakeholders (e.g. workshops)</td>
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<td>3. Measures of concentration (absolute/relative, e.g. location quotients)</td>
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<td>4. Dynamic analysis, e.g. shift-share</td>
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<td>6. Functional analysis of value chains &amp; systems</td>
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<td>7. Social network analysis</td>
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<td>Long-term industry growth forecasts (Mega trends)</td>
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<td>Decision by regional politicians and other shareholders, sometimes pre-dating the analysis</td>
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Stylised Facts: Policy Implications

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
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<tbody>
<tr>
<td>• Understanding of Clusters</td>
<td>• State as moderator und initiator</td>
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<tr>
<td>• Need to balance evolutionary and constructive forces (Sölvell 2009)</td>
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<td>• Account for competition within and geographic scope of clusters</td>
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<tr>
<td>• Spatial &amp; temporal matching</td>
<td>• Overcome territorial egoism ⇒ clusters as engines of regionalisation</td>
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<td>• Efficient cluster promotion requires variable geometry</td>
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<td>• Impulsive action ⇒ shared long-term vision and strategy</td>
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<tr>
<td>• Inflation</td>
<td>• Boldness to support the unique and original, combine trends with tradition (Hospers 2004)</td>
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<td>• Open-ended cluster contests as discovery devices</td>
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<td>• Participatory processes, e.g. regional foresight (Koschatzky 2005)</td>
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<td>• Conceptual dilution</td>
<td>• Rigorous, multi-method and open-ended identification of cluster potential</td>
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<td>• Continuous monitoring and evaluation</td>
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<td>• Continuous strategy formulation, review and adaptation</td>
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Cluster Policies in Germany: What has been achieved?

- Lack of independent evaluations = main impediment to policy learning
  - Governed by politics and bureaucracy ⇒ traits of self-evaluation
  - Need for more scholarly cluster policy research
- Regional **employment targets** failed spectacularly in Hannover (45,000) and Dortmund (70,000) and were achieved only with the help of exceptional circumstances in Wolfsburg ⇒ discredited
- Main impacts are long-term and qualitative
  - Image, awareness & mobilisation
  - Culture of co-operation
  - Regionalisation
  - Process towards shared vision and strategy ⇒ organising capacity of a region (van den Berg et al. 1997)

Towards an Intelligent Use of Clusters

- Use clusters as an **analytic and strategic device**, not an end in itself.
- Applying **knowledge about cluster dynamics** does not necessarily mean building a cluster.

Schätzl/Kiese 2008: 273
Towards Methodological Plurality

If the only tool you have is a hammer, you tend to see every problem as a nail.

(Abraham H. Maslow)

Thank you for your kind attention!

References (1/3)


References (2/3)


References (3/3)


