Policy Lessons of Regional Research and Cluster Studies

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Questions Addressed

- How to identify clusters?
- How to differentiate clusters?
- How to support cluster development?
Context

Clusters are one of the major tools of regional economic development in the tool box of:

– Canada Innovation Strategy
– Québec Department of Industry and Commerce, and many other prov. dept.
– Strategic plans of a large number of regional economic development organizations
– And many others…
Practical Implications

As a consequence, policy makers at the federal, provincial and regional levels have to:

- Pick up winning clusters
- Prepare action plans to support cluster development
Knowledge Deficit in Matter of Picking up the Clusters to be Supported by Public Policies

• How to identify quantitatively and qualitatively clusters?
• How to differentiate winning from non-winning clusters?
Knowledge Deficit in Matter of Policies Supporting Cluster Development

• In what ways policy interventions supporting cluster development differ from traditional policy interventions supporting regional economic development?

• How do Canada compare to other countries in matter of policy interventions supporting cluster development?
A Short Version of the Intervention Theory of Cluster Development

1. Innovation depends on internal capabilities of firms
2. In addition, innovation depends more and more on interactions and exchanges of ideas and information with clients, suppliers, universities, etc.
A Short Version of the Intervention Theory of Cluster Development (Continued)

3. The exchanges are facilitated and increased through sector and geographic proximity

4. The exchanges are facilitated and increased through the support of an appropriate regional infrastructure related to training, research, services, support, capital, etc.
Policy Implications

• Traditional policy measures supporting innovation are still necessary but not sufficient.
• They must be complemented by policy measures supporting interactions (networking) and exchange of knowledge.
• The development of evidence-based policies requires data on interactions and linkages at the level of sectors and regions.
Picking up Winning Clusters

• Policy makers need measures of sectoral and spatial concentration to pick up winning clusters
• Researchers in economic geography measure such concentration by using the location quotient
• Usual applications: n. of firms, n. of employees, and patents
• Limits: such applications do not capture interactions and exchanges between firms thus leaving aside a crucial aspect of clusters
Measures of Interactions and Exchanges Are Also Needed:

• % of sales to local clients
• % of local suppliers
• Importance of local sources of information to develop and improve products and processes
• Importance of local collaborative research between public research inst. and firms
• Etc.
Measures of Interactions and Exchanges

• A paper recently prepared by Nabil Amara indicated that there is no statistical significant difference between most clusters regarding many indicators of interactions and exchanges

• … it complicates selection of clusters by policy makers
Qualitative Data Are Also Needed

• Not sufficient to have quantitative data
• Also necessary to identify additional conditions of success that refer to qualitative aspects of clusters
The Voyer-Proulx Conditions of Successful Clusters

1. Recognition of an opportunity by local leaders
2. Mobilization of local assets (research, local markets, qualified manpower, ...)
3. Influence of champions
4. Entrepreneurial drive
5. Various sources of financing
6. Diversified information networks
7. Strong research and training institutions
8. Staying in power during many years
9. Where clusters fit internationally
10. Intercluster linkages
How to Collect Data on Qualitative Aspects of Clusters

- Interviews
- Focus groups
Policy Monitoring of Clusters?

- A study prepared for the GATIQ-Technoregion (Québec-Chaudière-Appalaches) suggests:
  - Benchmarking as a tool to compare evolution of clusters
  - Regular evaluation of clusters
  - Updating regularly strategic vision of clusters
Policy Implementation of Clusters

The same study suggests that a mix of tools are used to develop clusters elsewhere:

- A significant grant from at least one government agency
- Strong implication of a local champion
- Provision of many services and activities because some with take more time to succeed
- Organizing the clusters around groups of local leaders from the private sector
- Implementation of clusters by intermediary organizations controlled by private sector
How Do Clusters Policies Compare to Other Policies?

• In « SME policy and the regional dimension of innovation : Towards a new for innovation policy?» Claire Nauwelaers et René Wintjes, develop a typology of policy interventions useful to distinguish policies aiming at developing clusters (cell D) from other categories of policies
Table 1: Classification of policy instruments studied in SMEPOL along two policy paradigm dimensions

<table>
<thead>
<tr>
<th>Form and focus of innovation support</th>
<th>Behavioural additionality</th>
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<tr>
<td><strong>Input resources</strong>&lt;br&gt;(reactive tools allocating inputs for innovation)</td>
<td><strong>Behavioural additionality</strong>&lt;br&gt;(proactive tools focusing on learning to innovate)</td>
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<td><strong>Target level of support</strong>&lt;br&gt;Firm-oriented</td>
<td><strong>Target level of support</strong>&lt;br&gt;(regional) system-oriented</td>
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<td><strong>Subsidy for hiring technicians in SMEs</strong></td>
<td><strong>Subsidy for hiring innovation managers in SMEs</strong></td>
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<td><strong>Traditional firms' R&amp;D subsidies &amp; loans</strong></td>
<td><strong>Loans for competence development</strong></td>
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<td><strong>Innovation grants</strong></td>
<td><strong>Management advice</strong></td>
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<td><strong>Risk capital</strong></td>
<td><strong>Risk capital with sparring partner function</strong></td>
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<td><strong>Training subsidies</strong></td>
<td><strong>Incubators with &quot;soft&quot; support</strong></td>
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<td><strong>Incubators with &quot;hard&quot; support</strong></td>
<td><strong>Business Innovation Centres, Innovation centres</strong></td>
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<td><strong>Research centres</strong></td>
<td><strong>&quot;Pro-active&quot; Technology centres</strong></td>
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<td><strong>Traditional &quot;reactive&quot; Technology centres</strong></td>
<td><strong>Audits, monitoring needs</strong></td>
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<td><strong>Transfer units in universities</strong></td>
<td><strong>Innovation Coach</strong></td>
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<td><strong>Technology transfer schemes</strong></td>
<td><strong>Innovation management training</strong></td>
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<td><strong>Techno-economic intelligence schemes</strong></td>
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<td><strong>SMART scheme</strong></td>
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<td><strong>C</strong></td>
<td><strong>D</strong></td>
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<tr>
<td><strong>Mobility schemes research-industry</strong></td>
<td><strong>Pro-active Brokers, match-makers</strong></td>
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<td><strong>Co-operative schemes HIF-industry</strong></td>
<td><strong>Cluster policies</strong></td>
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<tr>
<td><strong>Subsidy for co-operative R&amp;D projects</strong></td>
<td><strong>Support for firms networking</strong></td>
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<td><strong>Subsidy to promote use of business services</strong></td>
<td><strong>Umbrella schemes</strong></td>
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<td><strong>Collective, User-oriented Technology or Innovation centres</strong></td>
<td><strong>Local strategic plans</strong></td>
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<td><strong>Schemes acting on the culture of innovation</strong></td>
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<td><strong>RTP and RIS/RITTS kind of programmes</strong></td>
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<td>(fostering strategic capabilities of policy makers)</td>
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How Does Canada Compare to other Countries?

The study prepared for the GATIQ-Technorégion suggests that Canadian clusters are characterized by:

• Smaller start up grants from government agencies
• Weaker implication of local champions
• Implementation of clusters by government agencies instead of intermediary organizations controlled by private sector
Preliminary Conclusion

- There is more and more evidence on the significance of cluster to foster innovation
- The research knowledge available on clusters is still about general principles
- The needs of policy makers are about how to do things, how to support cluster development
- How to fill this knowledge gap? By forging stronger linkages of collaboration between researchers and policy-makers
Thank you for your attention