Cluster policy in Russia: similarity and uniqueness

Evgeniy Kutsenko

Institute for statistical studies and economics of knowledge
National Research University “Higher School of Economics”
1. Background of the cluster policy in Russia
2. The basic features, similar to the EU cluster programs
3. What are the differences?
1. Background of cluster policy in Russia
1. Problems

- Low level of innovation activities of companies: around 10%
- Low rate of innovation expenditures as a percent of sales: 1.5% (in Sweden - 5.4%, Germany - 3.4%)
- Stable share of innovative products in total sales (5%) in spite of growing expenditures on innovation

- Science (fundamental and applied) is traditionally isolated from the universities and enterprises
- Universities accumulate only about 7% of overall spending on science in Russia
- Almost ¾ of organizations performing R&D are state-owned ones

http://2020strategy.ru/data/2012/03/14/1214585998/1itog.pdf
2. Policy measures (last decade)

• Increasing funding for science (1.6 times for the period 2006-2008)

• Additional support for universities: development of innovation infrastructure, stimulation innovative start-ups appearance, attraction of world-renowned scientists, cooperation of universities with enterprises (overall budget more that 3 bn euro).

• Federal development institutions were formed (Russian Venture Company, JSC "RUSNANO", the Russian Foundation for Technological Development (RFTD), State Corporation “Bank for Development and Foreign Economic Affairs (Vnesheconombank)”, Skolkovo innovation center, etc.)

• Coercion of large state-owned enterprises to innovate (about 60 companies that are forced to spend a fixed percent of their earnings on innovation)
• Development of innovation infrastructure for SMEs in the regions (technology parks, business incubators, technology transfer centers, prototyping and design centers, etc.)

• Technology platform formation (32 platforms in one of the 12 spheres)

3. Demand for high-efficiency policy

Coordination of innovation policy measures for support different actors (universities, research organizations, large businesses, SMEs, venture capitalists and business angels, etc.)

Improving the efficiency of interaction between actors of the regional innovation systems, including trust building

Taking account of specific innovation profiles of the regions and the involvement of the regions in the drafting and implementation of federal policies
4. The first national cluster program in Russia

• The first stage of national cluster program - the selection of the pilot innovative clusters by the Ministry of Economic Development of the Russian Federation - started March 19, 2012

• In total, 94 applications were received

• Just 25 was selected due to their potential and the quality of the application
Specialization of the pilot clusters in Russia

<table>
<thead>
<tr>
<th>Specialization of a cluster</th>
<th>Number of pilot clusters*</th>
</tr>
</thead>
<tbody>
<tr>
<td>nuclear technology</td>
<td>5</td>
</tr>
<tr>
<td>aerospace and aviation</td>
<td>5</td>
</tr>
<tr>
<td>biotechnology, pharmaceutics, medical devices</td>
<td>6</td>
</tr>
<tr>
<td>information and telecommunication technology, electronics and lightning</td>
<td>6</td>
</tr>
<tr>
<td>new materials</td>
<td>3</td>
</tr>
<tr>
<td>chemical production including petrochemistry</td>
<td>4</td>
</tr>
</tbody>
</table>

*Some pilot clusters have broad specialization and are included in two specialization categories simultaneously*
Notation conventions:

- First group (14) of the pilot clusters that first of all are planned to get a special subsidy besides all other forms of government support.

- Second group of the pilot clusters that won't get the subsidy on the first stage of the cluster program but will be supported through all other instruments.
### Key indicators of the pilot clusters’ development

<table>
<thead>
<tr>
<th>Index</th>
<th>Present value (bn euros)</th>
<th>Predicted value (bn euros)</th>
<th>Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total sales (except natural resources)</td>
<td>47 (2011)</td>
<td>95 (2016)</td>
<td>105 (growth rate)</td>
</tr>
<tr>
<td>Private investment</td>
<td>16 (2009-2011)</td>
<td>39 (2012-2016)</td>
<td>146 (the ratio of the average annual private investment in 2012-2016 to average in 2009-2011)</td>
</tr>
</tbody>
</table>

Source: Ministry of Economic Development of Russia.
Planned structure of overall financial sources for development of the pilot clusters (first group) in Russia, 2012-2017 years

- Federal budget: 12 bn euros
- Regional budget: 5.3 bn euros
- Non-govermental sources: 16.5 bn euros
2. The basic features, similar to EU cluster programs
1. The concept of a cluster

- objective endowment and relatively significant allocation of labor force (turnover, investment) in specific industry and region
- variety of participants: large companies, SMEs, universities and scientific organizations, organisations for collaboration.
- self-identification, common strategy designing, organizational efforts and collaborative projects.
2. The key role of regional authorities

“Top-down-top” approach for the selection the pilot clusters

1. Federal authority hold a contest
2. Local actors, who want to apply, prepare a common strategy and collaboration projects
3. Regional government should confirm
4. The role of federal government is to select the best cluster projects
3. The contest

Competition stimulates cooperation among localized actors even if they loose

The data from Innoregio show that 40 percent of clusters, whose applications were rejected, nevertheless realized their project afterwards. And 61 percent of them received financial support from other government programs. Eickelpasch A., Fritsch M. (2005) Contests for cooperation – A new approach in German innovation policy // Research Policy. № 34. P. 1269–1282

Significant share of rejected applications. In Russia during one month 94 applications from the regions were submitted.

<table>
<thead>
<tr>
<th>Program</th>
<th>Share of rejected applications, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>BioRegio</td>
<td>76</td>
</tr>
<tr>
<td>InnoRegio</td>
<td>95</td>
</tr>
<tr>
<td>Competitiveness poles</td>
<td>32</td>
</tr>
<tr>
<td>Russian cluster program</td>
<td>85 (73 with the second group)</td>
</tr>
</tbody>
</table>
## 4. Comprehensive criteria for the selection

<table>
<thead>
<tr>
<th>Category</th>
<th>Current situation</th>
<th>Perspective (2017)</th>
<th>Quality of action plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific and educational potential</td>
<td>7 indicators (4 quantitative; 3 qualitative)</td>
<td>2 (1;1)</td>
<td>2 (0;2)</td>
</tr>
<tr>
<td>Production (sales) potential</td>
<td>12 (4;8)</td>
<td>6 (3;3)</td>
<td>4 (1;3)</td>
</tr>
<tr>
<td>Life quality, level of transport and logistic, power, engineering,</td>
<td>5 (4;1)</td>
<td>2 (1;1)</td>
<td>2 (1;1)</td>
</tr>
<tr>
<td>housing and social infrastructure on the territory of cluster location</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The level of organizational development</td>
<td>3 (0;3)</td>
<td>0</td>
<td>1 (0;1)</td>
</tr>
</tbody>
</table>

In total, there are 46 quantitative and qualitative indications for complex assessment of cluster development projects through established criteria.
5. Two-stage procedure for the selection

The 14 clusters (from 25 pilot ones) are first planned to get a special subsidy.

The applications that were selected through the process of presentation of each cluster, questions and discussions.

The applications that got the highest grades from the experts during on-line evaluation.

Total amount of received applications till 20 April (one-month period)
6. The volume of support is consistent with famous cluster programs in Germany and France

<table>
<thead>
<tr>
<th>The name of the cluster program</th>
<th>Budget (million euros)</th>
<th>Term of promotion</th>
<th>Budget support per cluster</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Russian cluster program</strong></td>
<td>532 (plan)</td>
<td>2013-2017</td>
<td>38.0</td>
</tr>
<tr>
<td>BioRegio (Germany)</td>
<td>90</td>
<td>1995-2002</td>
<td>22.5</td>
</tr>
<tr>
<td>BioProfile (Germany)</td>
<td>50</td>
<td>1999-2006</td>
<td>16.7</td>
</tr>
<tr>
<td>InnoRegio (Germany)</td>
<td>253</td>
<td>1999-2006</td>
<td>11.0</td>
</tr>
<tr>
<td>Les pôles de compétitivité (France)</td>
<td>3000</td>
<td>2005-2011</td>
<td>42.3</td>
</tr>
<tr>
<td>Spitzencluserwettbewerb (Germany)</td>
<td>200</td>
<td>2012-2016</td>
<td>40.0</td>
</tr>
</tbody>
</table>
Directions of federal government support for the pilot clusters in 2013:
• purchase of new equipment
• additional education and training
• cluster management activities and external consultancy
• consultancy for the preparation of investment projects in the sphere of innovation
• participation in international fairs, forums, round tables, etc.

Two main goals: Practice of collaboration + Success stories in the short-run (little quick wins).
8. First-priority support from current state programs and institutions

### Special subsidy from federal budget to regions’ budgets for financing the pilot clusters’ projects (first group) – 532M Euros for all 14 clusters for the period of 5 years

### First-priority support for all the 25 pilot clusters with current programs and federal institutions specialized in infrastructure development and fostering innovations

<table>
<thead>
<tr>
<th>Development of transport and logistic, power, housing and social infrastructure:</th>
</tr>
</thead>
<tbody>
<tr>
<td>— Federal special-purpose programs</td>
</tr>
<tr>
<td>— The bank for development and foreign economic affairs, Agency for housing mortgage lending, Russian Housing development foundation</td>
</tr>
<tr>
<td>— Investments plans of natural monopolies</td>
</tr>
<tr>
<td>— Innovation plans of the largest state-owned corporations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>R&amp;D and innovation support:</th>
</tr>
</thead>
<tbody>
<tr>
<td>— Program «Science and technology development», sectoral special-purpose programs, Russian foundation for basic research</td>
</tr>
<tr>
<td>— Rusnano, The foundation for technological development, Russian venture capital, Fund for Assistance to Small Innovative Enterprises in Science and Technology</td>
</tr>
<tr>
<td>— SME support program of the Minisrty of Economic Development of Russia</td>
</tr>
</tbody>
</table>

### Interaction with Skolkovo Foundation:
- Expansion of some of the instruments, developed for the Skolkovo, to pilot clusters’ participants
- FDI attraction through Skolkovo Foundation

---

---
9. Complex inter-governmental co-ordination

• Strong participation of regional authorities (co-finance, cluster management)
• High-level federal facilitation (inter-ministerial committee)
3. What are the differences?
The competitiveness of clusters is built on developed, diversified and open urban environment which provide high living standards and is attractive for talents and capita.

There is a number of pilot clusters formed in single specialisation cities with restricted access and decreasing quality of life.
2. In many cases there is a significant lack of private initiative

Very often the initiators of cluster initiative are government-financed organizations (state-owned companies, scientific or educational organizations, local authorities). But it doesn’t meet world practice:

Initiating and financing cluster initiatives

3. Insufficient internal competition

The theory of M. Porter: crucial role of internal competition, even rivalry

Russian SoE: Competition? Never heard about... Clusters are becoming very similar to the soviet territorial industrial complexes
4. There is no emphasis on SME, start-ups, growth of new companies

**European experience:**
More than 60% of BioRegio budget were directed to private companies, the majority of which were start-ups.

80% of Competitiveness poles program participants were SME. They received 54% of the program budget.

**Our program:**
The main goal is to develop existing large companies. Concerning SME, they are supported by regional cluster development centers (different services – depends on the region).

SMEs very often participate in cluster formally, in paper, but are not really engage in cluster projects.

In many cases SME are excluded from higher level of cluster administration.
5. Lack of internationalization

- Weak collective activity at the external markets
- Restricted access mode (in some clusters) blocks attraction of foreign staff, researchers, managers and investments
- Poor cluster management (lack of engagement in global professional networks like TCI)
- Poor benchmarking with EU clusters
Conclusions

There is a reason to be optimistic

- Appropriate concept of a cluster
- Crucial role of local actors and local/regional authorities
- Wise procedure of the selection of the clusters
- Comprehensive and significant support
- Complex inter-governmental co-ordination

But there is still a lot of work to be done!

- Poor urban infrastructure
- Lack of private initiative
- Insufficient internal competition
- No emphasis on SME, start-ups, growth of new companies
- Lack of internationalization