



Regional conditions, economic performance and quality of management as support factors for innovative clusters in Russia

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The program of Russian pilot innovative clusters support started 3 years ago

The results of pilot innovative clusters selection in 2012

25

Pilot innovative clusters, selected according to the results of their project presentations to the working group

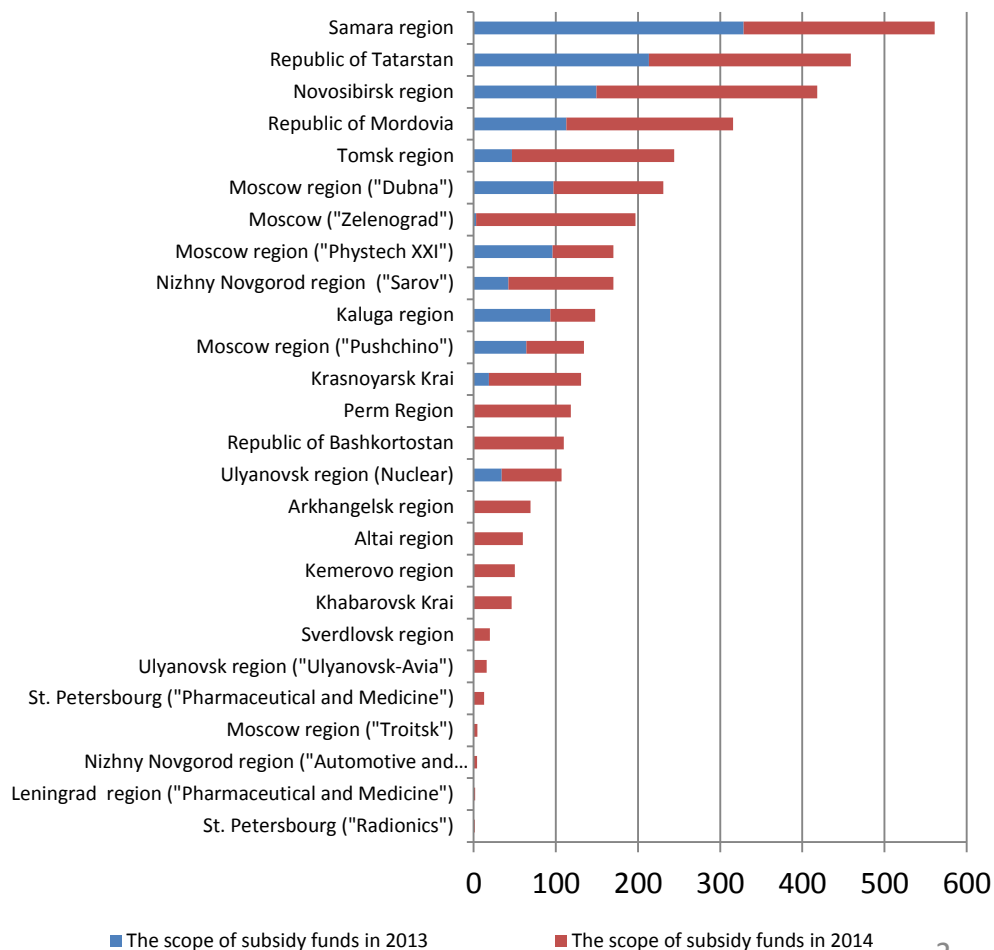
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Applications that received high expert estimations

94

The total number of cluster applications before April 20, 2012

Disbursements of federal subsidies for the implementation of the regional innovative cluster development programs in 2013 – 2014 (mln rubles)

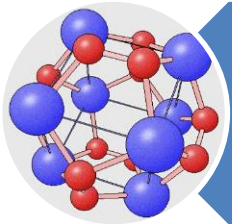




Cluster is a complicated object, which should be evaluated on different levels



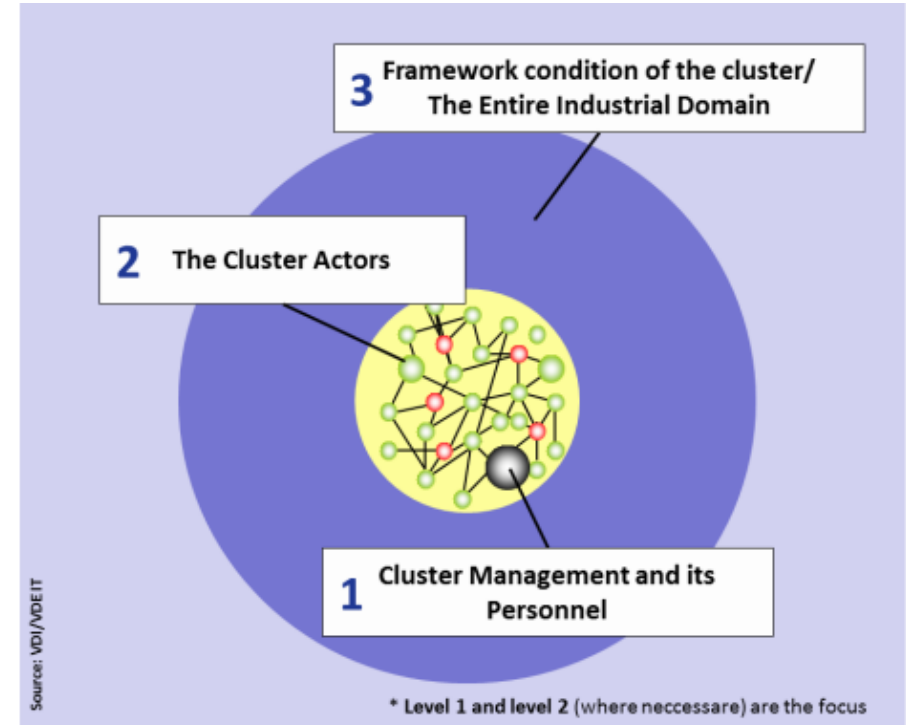
Evaluation of cluster framework conditions



Evaluation of cluster actors



Evaluation of cluster management and its personnel



??? To maximize the subsidy for regions from the federal budget it is necessary to answer the question about the support levels they should focus on



Hypotheses: which factors affect subsidy amount apart from projects quality?

- 1) Innovation development level of regions and particularly the quality of their innovation policy. In the framework of cluster policy the strongest regions and regional teams get support.
- 2) Cluster size (the number of participants, the total revenue, the number of employees, the volume of investments, R&D, etc.). Pilot innovative clusters are economic growth points and therefore play a pivotal role on a national scale.
- 3) The quality of cluster management. This factor can be influenced in the short-term period.
- 4) The quality of cluster governance (cluster members` satisfaction, growth, private funding, sustainability).
- 5) The federal authorities` confidence to the cluster project team.



The database of the research

94 innovative cluster development programs, 2012

Russian regional innovation development rating, issue 3, 2015

The report of Ministry for Economic Development of the Russian Federation and Higher School of Economics, 2015

Questionnaire of Ministry for Economic Development of the Russian Federation, AIRR, ASI, HSE (Cluster Excellence), 2015

The data of Ministry for Economic Development of the Russian Federation on innovative infrastructure for SMEs support in Russian regions, 2010 - 2014

Upcoming data on the participants of technology platforms

RVC, HSE, CSR, Management system for Russian cluster management organizations, 2014



Russian Regional Innovation Index

ВЫСШАЯ ШКОЛА ЭКОНОМИКИ
НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ УНИВЕРСИТЕТ

Институт статистических исследований
и экономики знаний

Российская кластерная обсерватория

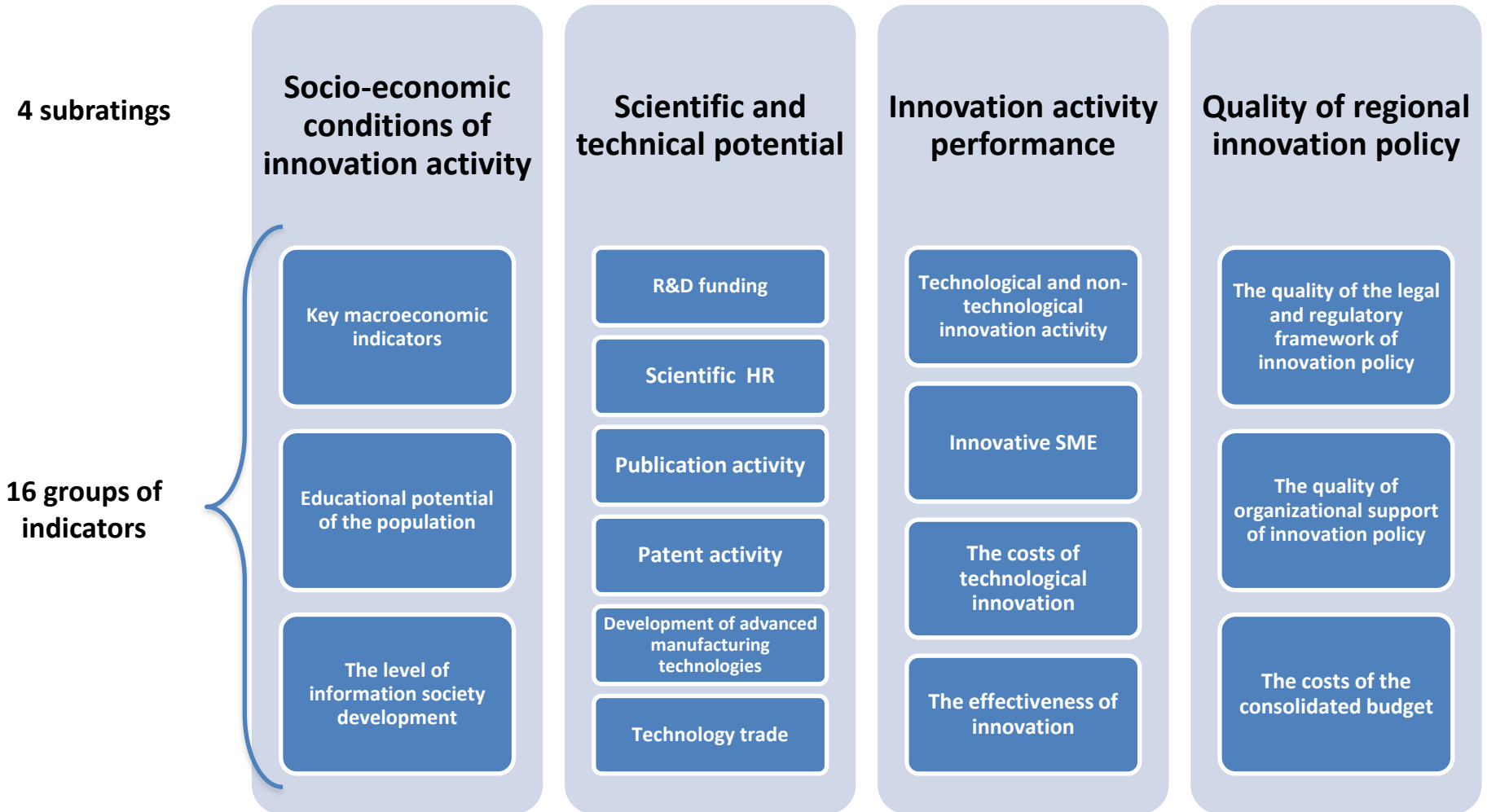
Рейтинг инновационного развития субъектов Российской Федерации

Выпуск 2

1. **Complex analysis of the innovation process and its factors:** socio-economic conditions of innovation activity; scientific and technical potential; innovation activity performance; quality of regional innovation policy.
2. **Openness:** transparent system of indicators, calculation algorithms and input data; provability.
3. **Scientific validity:** compliance with international statistical standards, the hierarchical structure of indicators, benchmarking
4. **Regular release of the rating,** which allows to assess the dynamics of regional development



Russian Regional Innovation Index



37 indicators



Indicators of “Quality of regional innovation policy” Index

The quality of the legal and regulatory framework of innovation policy

- The regional strategy (concept) of innovation development or a section on innovation development in the regional development strategy
- The regional scheme of territorial planning and its justification documents which include selected zones (areas) of innovation development
- The legislation defining the basic principles, directions and measures of state support of regional innovation
- The program or the set of measures for innovation support

The quality of organizational support of innovation policy

- Advisory bodies on innovation policy (innovation support) to the supreme regional executive body
- Specialized development institutions (funds, agencies, development corporations, etc.) , that have the resources for innovation support and the implementation of innovative projects

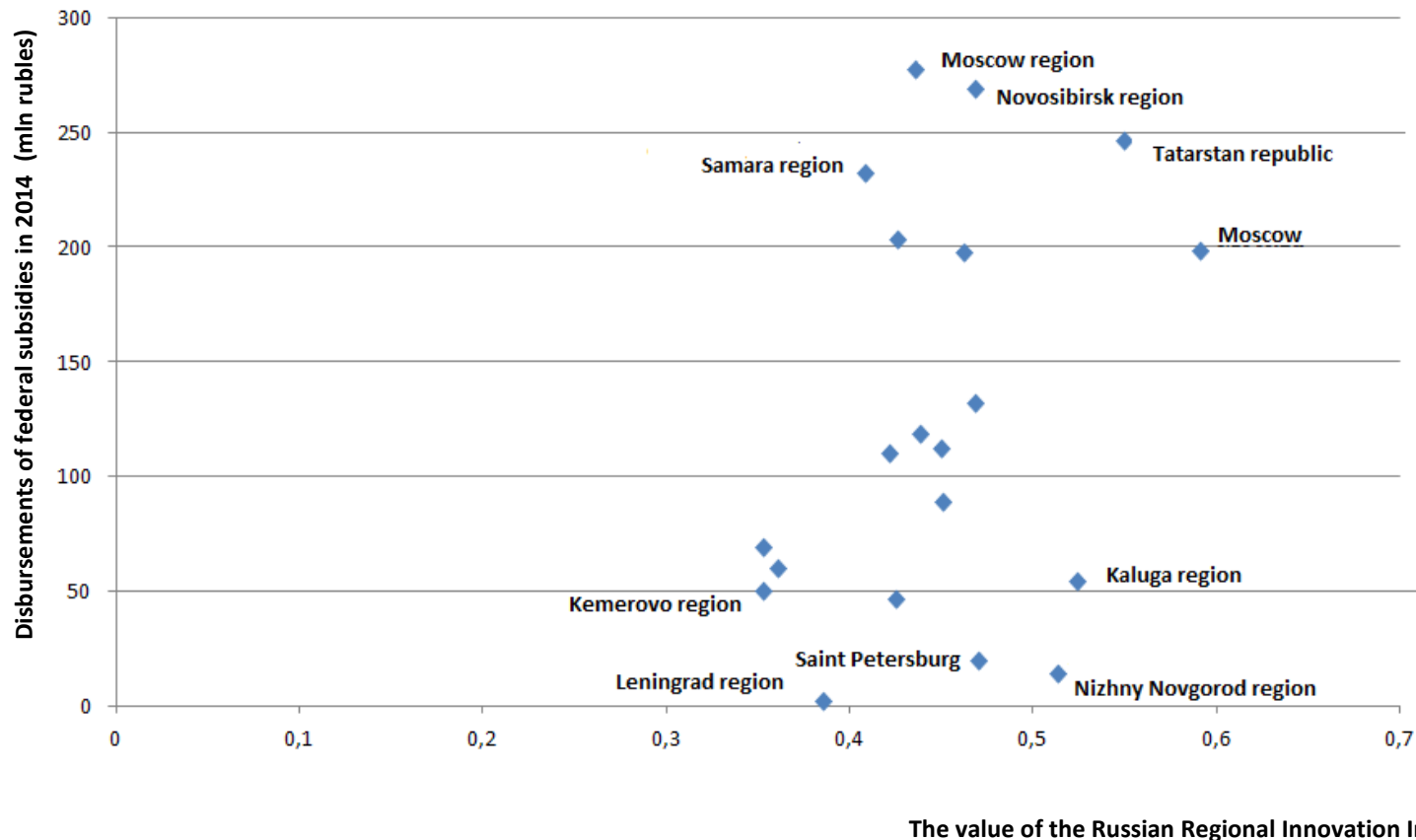
The costs of the consolidated budget

- The share of appropriations for civil science from the regional consolidated budget in total costs of the regional consolidated budget
- The share of costs on technological innovations from the budget of the Russian regions and local budgets in total
- The ratio of the federal budget subsidies on innovation infrastructure for SMEs to GRP (per 1 mln rubles GRP)



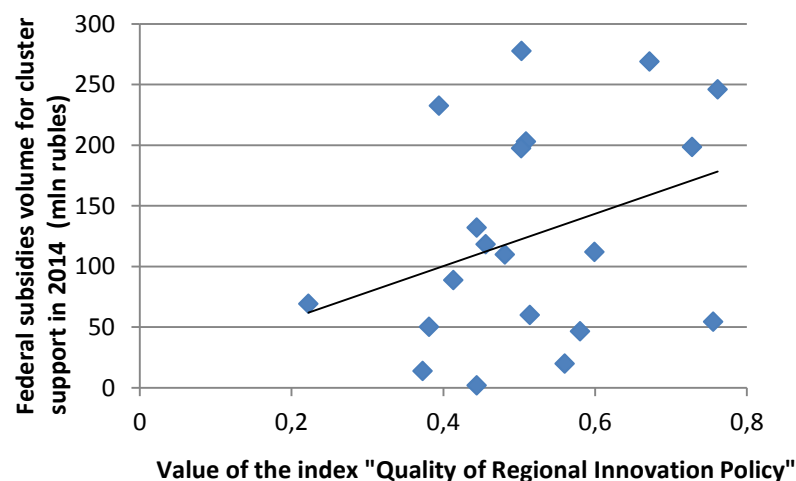
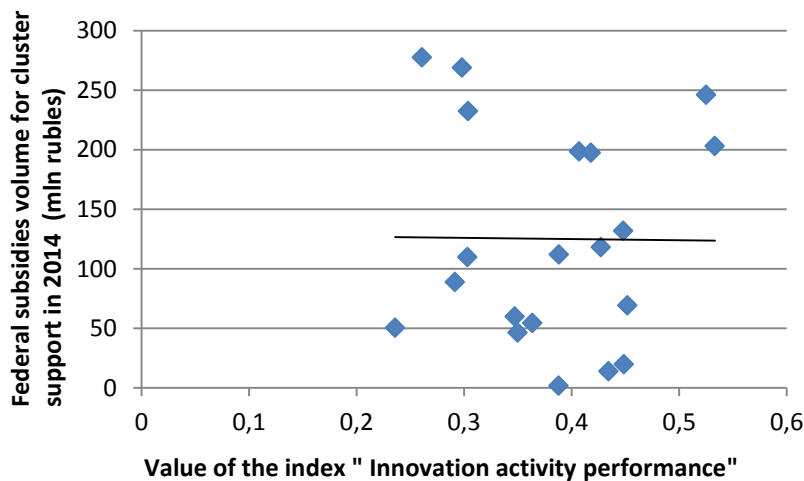
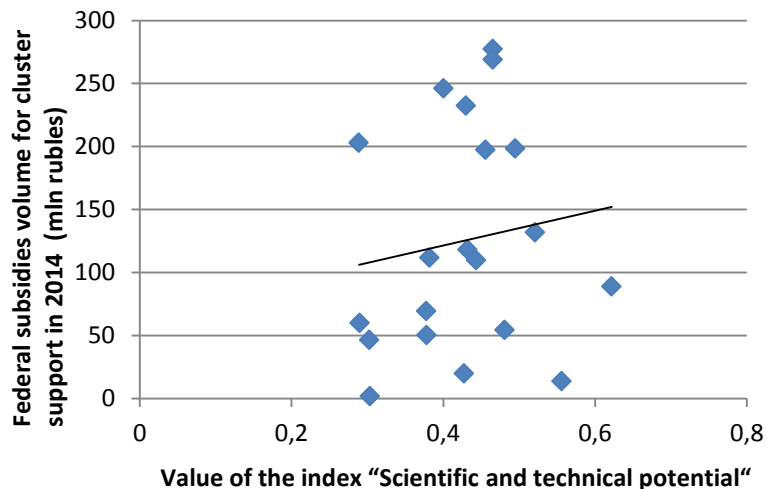
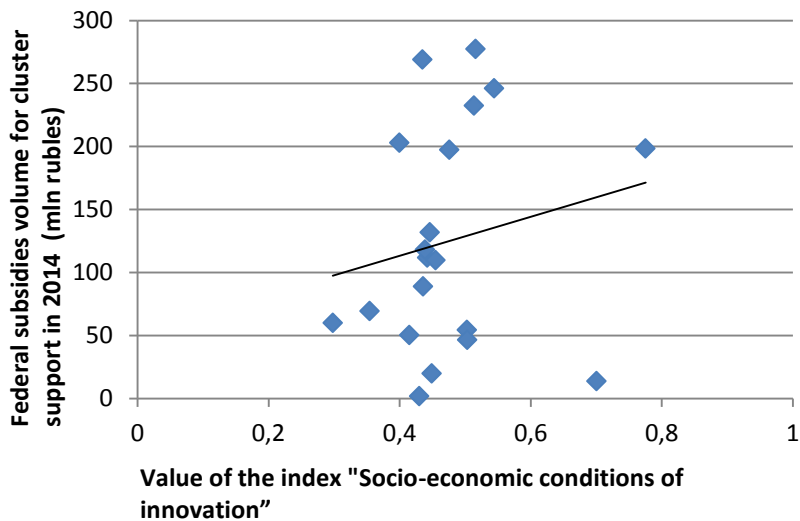
Hypothesis 1. The role of regional framework conditions. Leading regions of the Russian Regional Innovation Index have received more funds for innovative clusters support

Correlation between the scope of federal subsidies for innovative clusters support and their innovation development





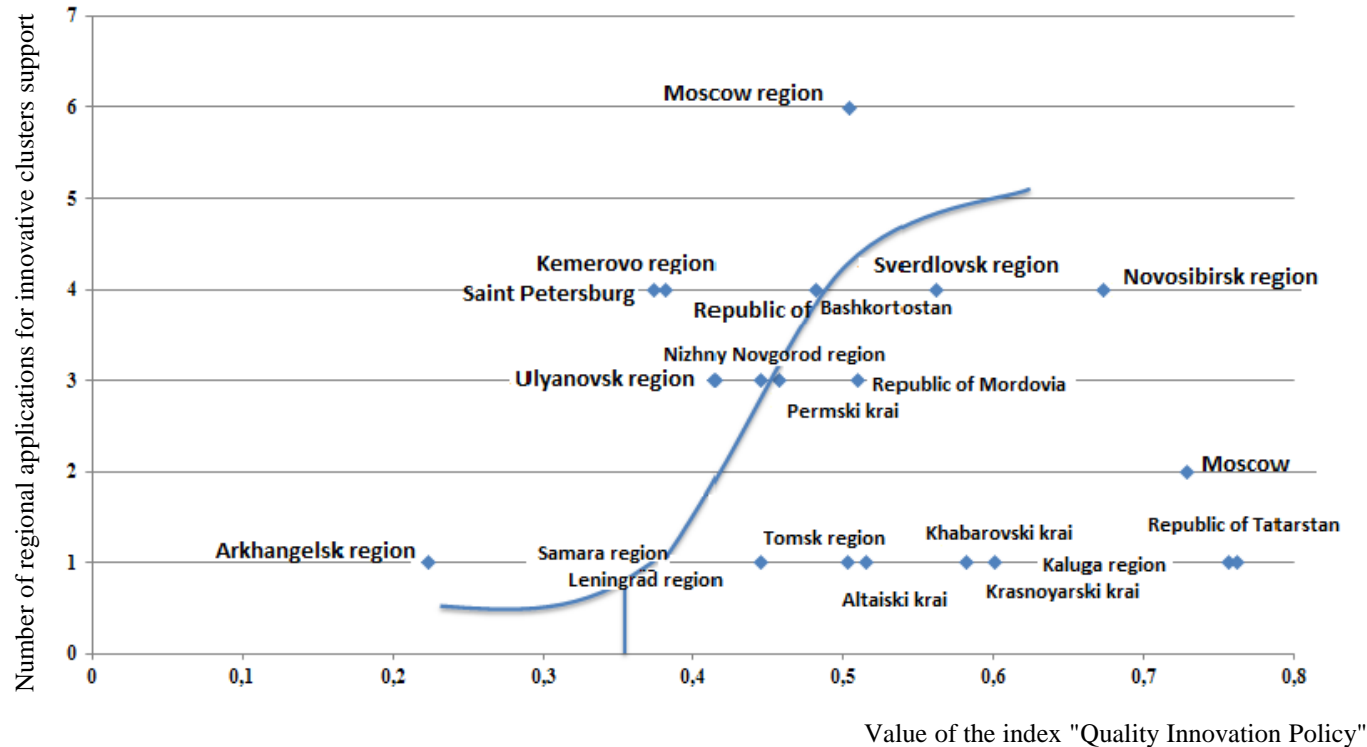
But: disbursement of federal subsidy does not depend on the level of innovative activity of firms in the region





Strategies of cluster policy in Russian regions

Correlation between number of regional applications for innovative cluster support and the quality of regional innovation policy



- 1) At a low level of regional innovation policy (value of the index "Quality of Innovation Policy" $< 0,35$) regions supported no more than 1 innovative cluster
- 2) As the Index goes up the regions:
 - either focus on the development of the strongest innovative cluster (Republic of Tatarstan, Kaluga region, Tomsk region);
 - or extend the number of supported clusters (Novosibirsk region, Moscow region).



Hypotheses 2 and 3. Importance of economic value of clusters and the quality of their management

Indicators used in the research

Indicator	Source
Cluster size	
The number of cluster members	Cluster development programs
The number of cluster members` employees, thousand pers.	Report of Ministry for Economic Development of the RF
Cluster revenue in 2011, bln. rubles	Cluster development programs
Expenditure on R&D by cluster members in 2007-2011, bln. rubles	Cluster development programs
The share of SME`s employees in total employment of the pilot innovative cluster members, %	Cluster development programs
The volume of cluster members` investment costs, bln. rubles	Report of Ministry for Economic Development of the RF
The volume of shipped innovative products, works and services of cluster members` own make, bln. rubles	Report of Ministry for Economic Development of the RF
The quality of cluster management	
How many people were employed in cluster management bodies last year to work on the key cluster development issues?	Questionnaire (Cluster Excellence, 2015)
How many new cluster members were registered within the last 2 years?	Questionnaire (Cluster Excellence, 2015)
How many strategic and current partnerships with development institutions were established?	Questionnaire (Cluster Excellence, 2015)
How many cluster members were involved into joint projects within the last two years?	Questionnaire (Cluster Excellence, 2015)
How often was the cluster mentioned in the media, on the Internet and in other sources of information at the regional / national and international levels last year ?	Questionnaire (Cluster Excellence, 2015)



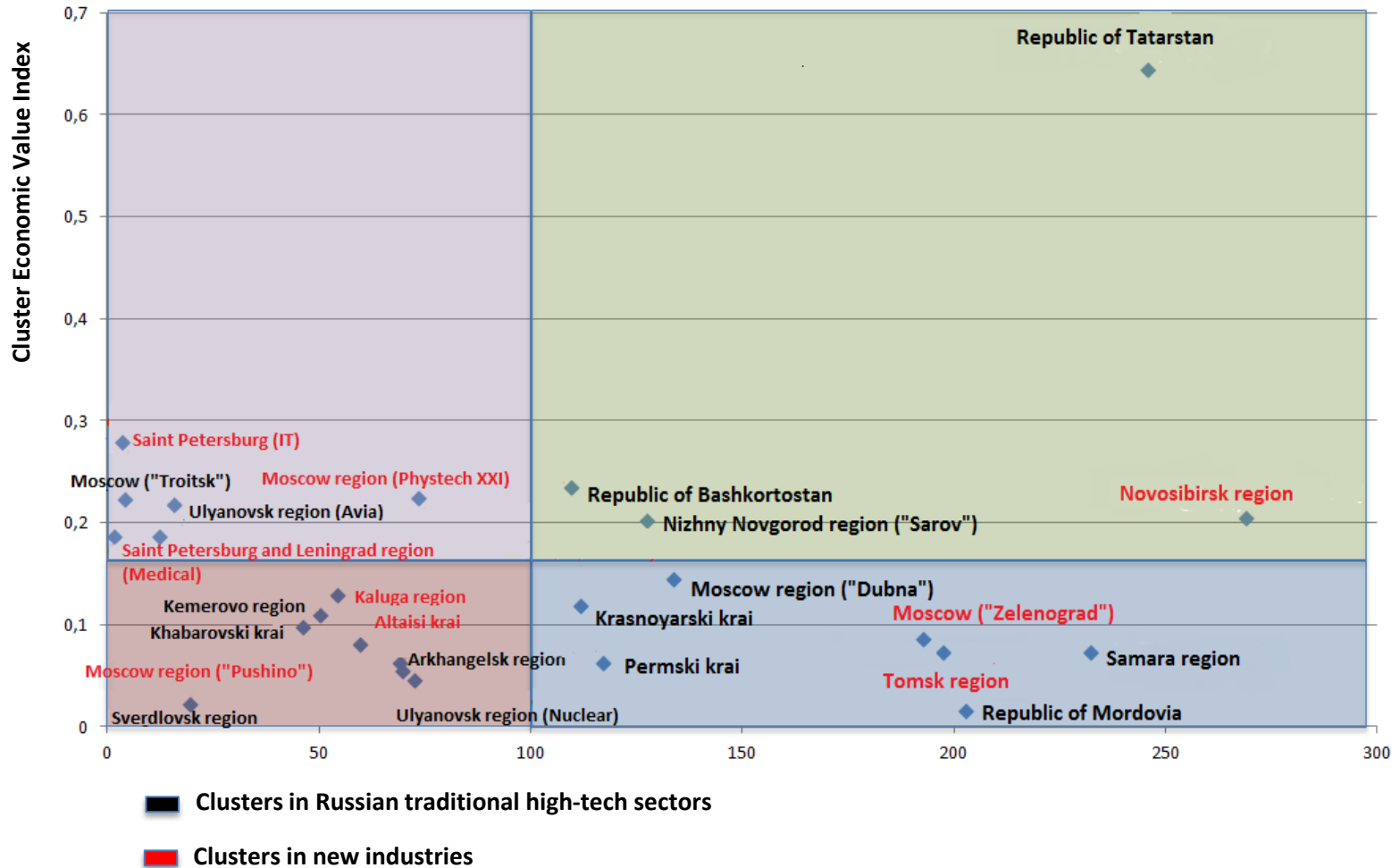
The average pilot innovative cluster

Indicator name	Value of the indicator
Cluster size	
The number of cluster members	46
The number of cluster members` employees, thousand pers.	36,08
Cluster revenue in 2011, bln. rubles	74,51
Expenditure on R&D by cluster members in 2007-2011, bln. rubles	44,39
The share of SME's employees in total employment of the pilot innovative cluster members, %	12
The volume of cluster members` investment costs, bln. rubles	11,68
The volume of shipped innovative products, works and services of cluster members` own make, bln. rubles	22,47
The quality of cluster management	
How many people were employed in cluster management bodies last year to work on the key cluster development issues?	5
How many new cluster members were registered within the last 2 years?	39
How many strategic and current partnerships with development institutions were established?	2
How many cluster members were involved into joint projects within the last two years?	27
How often was the cluster mentioned in the media, on the Internet and in other sources of information at the regional / national and international levels last year ?	37



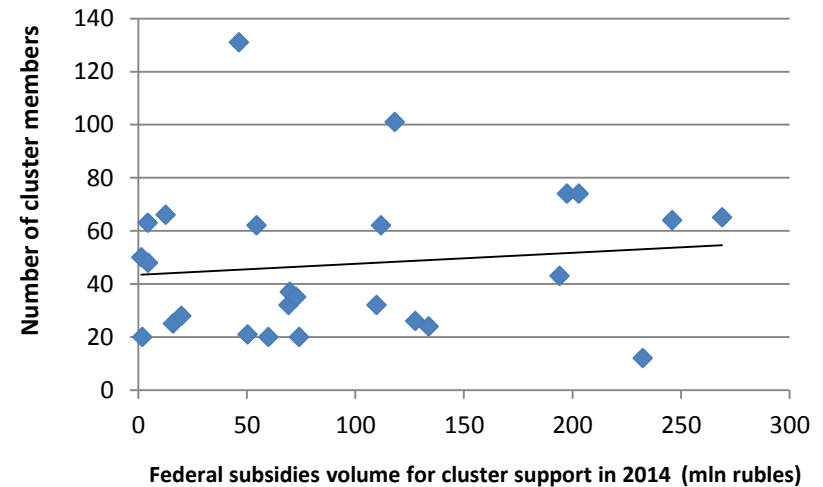
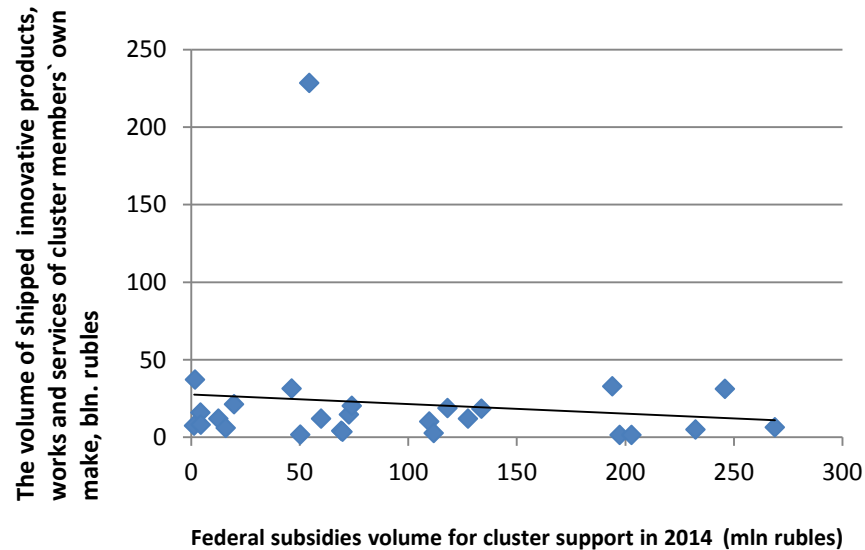
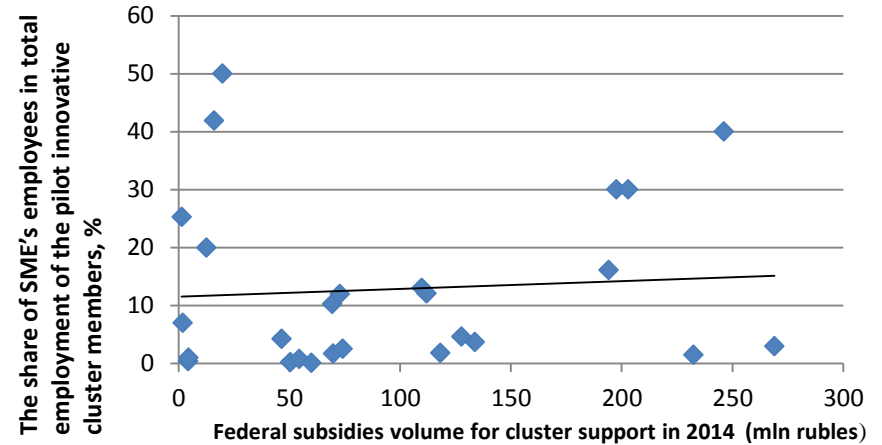
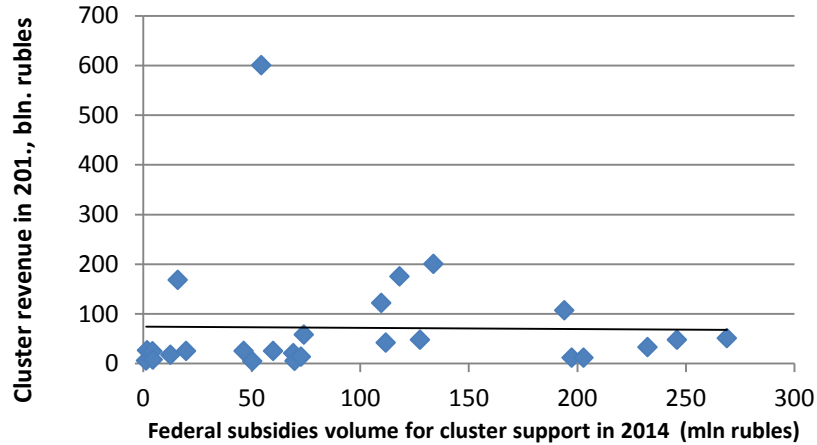
Federal support does not depend on economic value of clusters. However there is a preference for the traditional Russian high-tech against the development of new industries.

The correlation between Cluster Economic Value Index and disbursements of federal subsidies



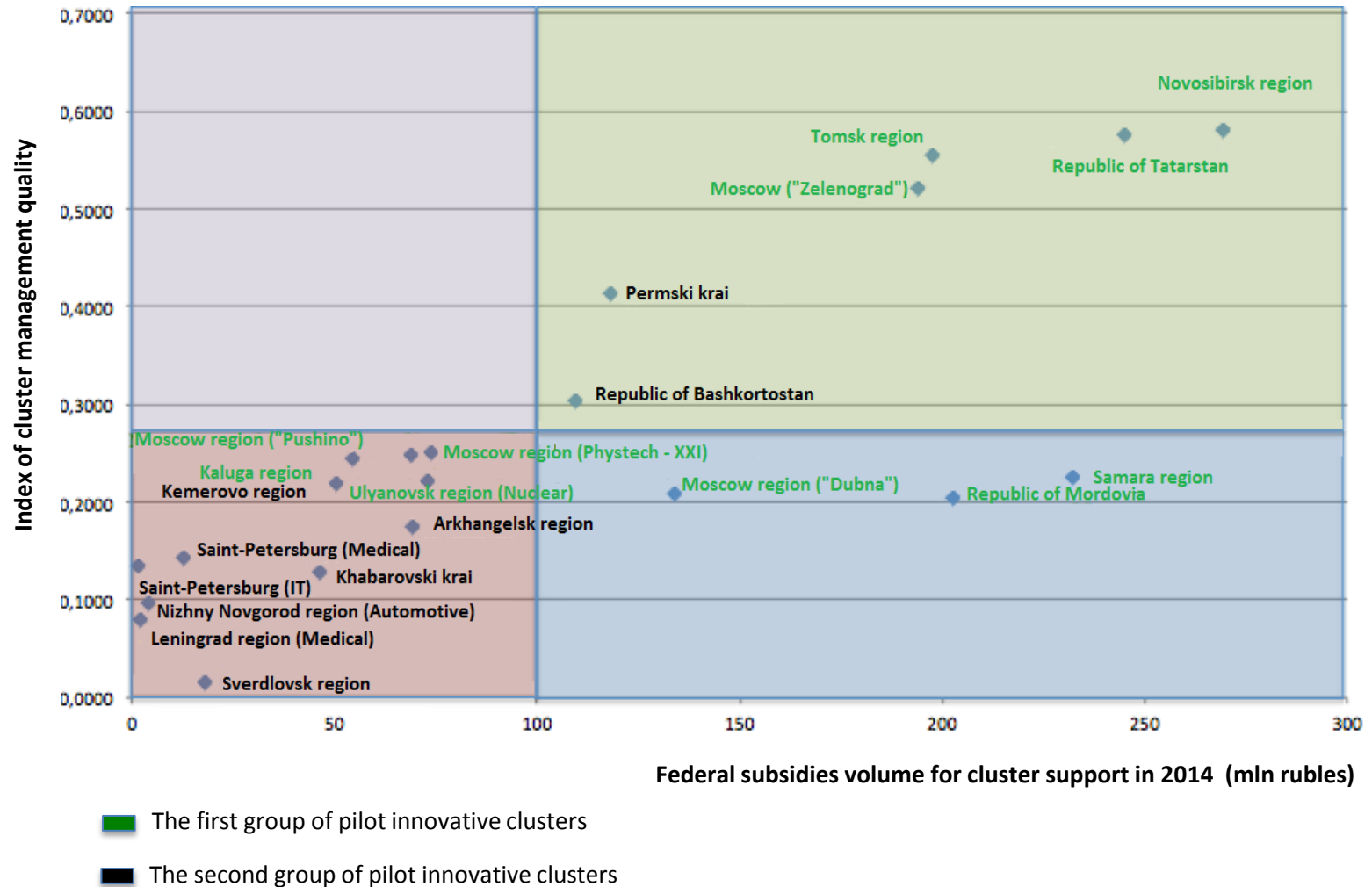


Correlation between the main indicators of cluster economic value index and disbursement of federal subsidies





The quality of cluster management teams is more important in terms of attractiveness for the federal government than cluster size



The first group of pilot innovative clusters (supported in 2013 and 2014) has more qualified cluster management than the second one (supported only in 2014). Clusters of the first group received greater amount of federal support



Hypothesis 4. The quality of clusters' governance

Management VS governance

Management is the coordination of employees to achieve organizational goals.

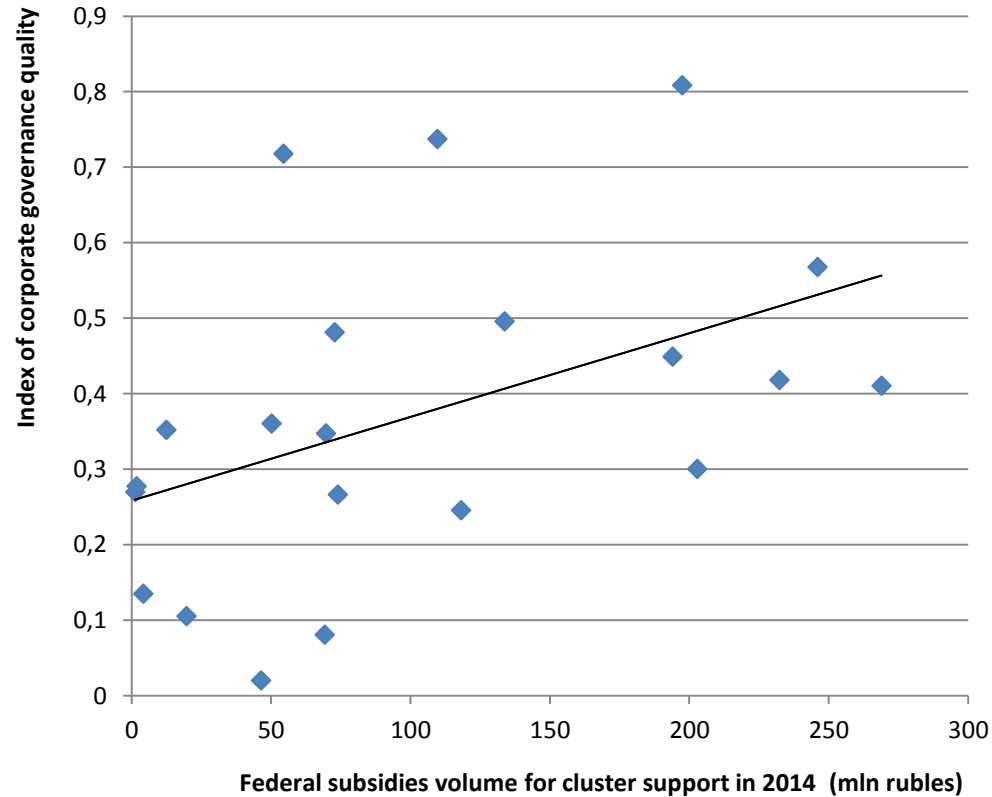
- management includes planning, organizing, directing, coordinating and monitoring;
- management is sometimes identified as an additional factor of production, along with labor and capital;
- management involves hierarchy and is implemented by the chief's instructions to the subordinates.

Governance is the system of interactions between participants of a cluster and its management, as well as with other stakeholders, by which the rights of shareholders are exercised; it is a set of tools that helps cluster participants control executives' activities and solve problems with other actors.



There are positive financial incentives to increase the quality of cluster governance

- Number of cluster members
- Quality of decision-making on cluster development
- Availability of cluster management assessment methodologies or quality control systems
- Availability of assessment system to measure cluster management performance satisfaction of cluster members
- The number of cluster members involved in joint projects in the past two years
- The share of private funding of cluster management organization (through membership fees, donations, sponsorship fees, etc.)



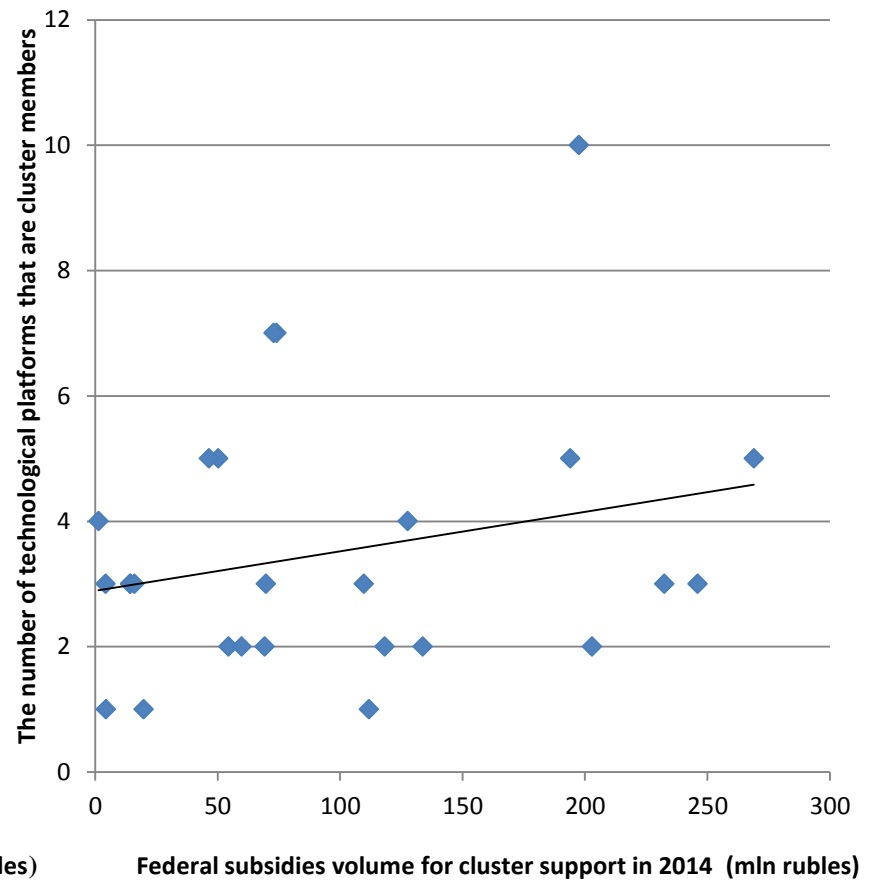
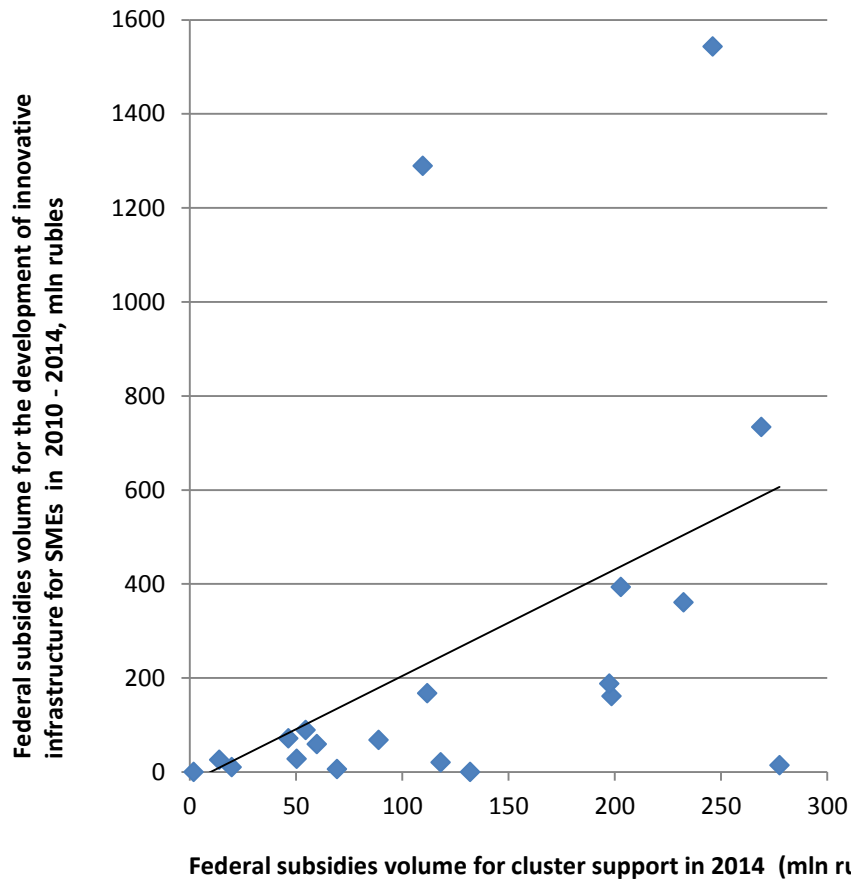


Hypothesis 5. The federal authorities` confidence to the cluster project team

- Hypothesis: government supports the teams that have proven their effectiveness.
 - The importance of trust: not only from region communities to the state but also from the state towards the project teams.
 - Clarification of the hypothesis: to what extent the federal subsidies* volume is related to the volume of financial support for cluster members from the previous programs
- * In this case the subsidies for the development of innovative infrastructure for SMEs and promotion of technological platforms are concerned



The hypothesis cannot be rejected. But the interrelation between the amount of subsidies received within the framework of various federal programs needs additional studies





Results of the research – recommendations for the optimal cluster strategy in the region (1)

1. Although the level of regional innovative development is related to the amount of allocated subsidies, the regions analyzed can be divided into 2 groups according to the amount of federal subsidy in 2014. Hypothesis: the sample is heterogeneous, there are other significant indicators.
2. Disbursements of federal subsidies for cluster support are more related to the level of regional socio-economic conditions and the quality of innovation policy than to innovation activity of enterprises.
3. Cluster policy is usually carried out in regions with sufficiently high level of innovation policy quality. It is possible to distinguish 2 strategies of such regions:
 - focusing on a single-cluster development;
 - establishing equal conditions for multi-cluster support.



Results of the research – recommendations for the optimal cluster strategy in the region (2)

5. Federal support does not depend on economic value of clusters. However there is a preference for the traditional Russian high-tech against the development of new industries.
6. Cluster management quality is more important than economic value of clusters for the federal subsidies attraction. The success story is cumulative: funding from the state allows to form a team and create a management structure that, in turn, improves the quality of applications from the cluster to the next round of funding.
7. Russian pilot innovative clusters have obvious issue of corporate governance quality. Perhaps, this is due to the problems of growth that are explained by centralization and weak horizontal links. At the same time, the Ministry for Economic Development of the Russian Federation creates positive financial incentives for Russian pilot clusters promotion to the EU level.
8. The hypothesis about significance of federal authorities confidence in regional project teams and therefore about correlation between disbursements of federal subsidies for cluster support and innovation infrastructure for SMEs can not be rejected.