



What clusters are supported by the state?

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Moscow, April 2015



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 projects' presentations for the working group

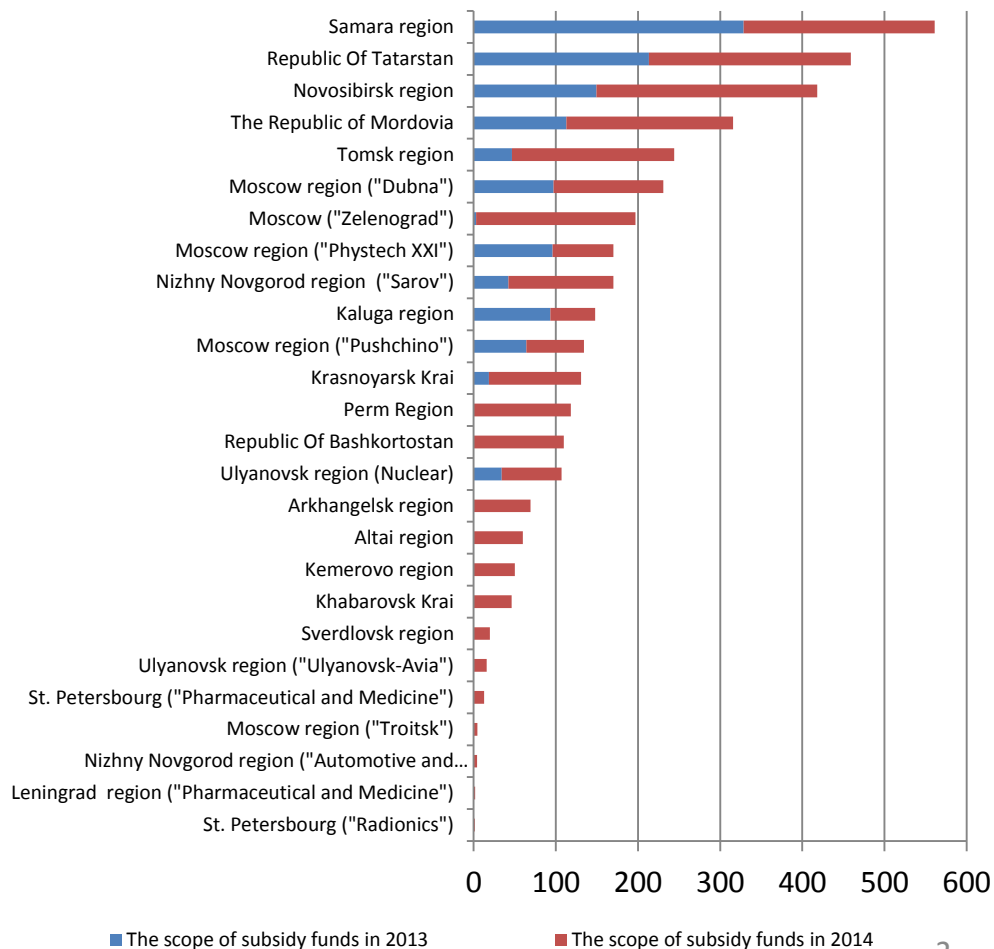
37

Applications that received high expert appraisal

94

The total number of clusters applications before April 20, 2012

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

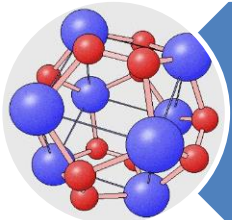




Cluster is a complicated object, which should be evaluated on different levels



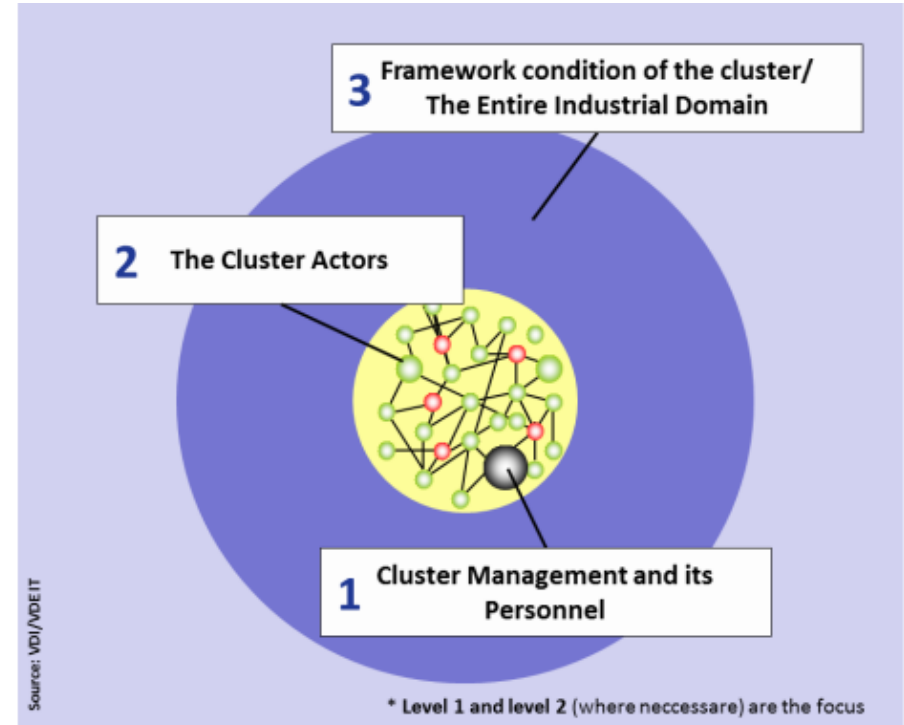
Evaluation of framework conditions of the clusters



Evaluation of clusters actors



Evaluation of cluster management and its personnel



To maximize subsidy for regions from the federal budget it is necessary to answer the question: how many clusters should regional authorities support and what kind of support should they focus on?



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

- 1) The level of innovation development of regions and in particular the quality of its innovation policy. In the framework of cluster policy the strongest regions and teams get support.
- 2) The size of clusters (the number of participants, the total revenue, the number of employees, the volume of investments, R&D, etc.) Pilot innovative clusters are points of economic growth 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.
- 4) The quality of clusters' governance (satisfaction, growth, private funding, sustainability).
- 5) The confidence of the federal authorities in the project team.



The database of the research

94 innovative clusters development programs, 2012

Rating of Russian regions innovative development, 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



The database of research is annual 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, scientific and technical potential, the impact of innovation; quality of regional innovation policy.
2. **Openness:** transparent system of indicators, publication of calculation algorithms and input data, the possibility of verification.
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

4 subratings

Socio-economic conditions of innovation

Key macroeconomic indicators

Educational potential of the population

The level of information society development

Scientific and technical potential

R&D funding

Scientific workers

Publication activity

Patent activity

Development of advanced manufacturing technologies

Technology trade

The impact of innovation

Activity in the field of technological and non-technological innovation

Innovative SME

The costs of technological innovation

The effectiveness of innovation

Quality of regional innovation policy

The quality of the legal and regulatory framework of innovation policy

The quality of organizational support of innovation policy

The costs of the consolidated budget

16 groups of indicators

37 indicators



The data sources

Federal Statistical
observation
(Rosstat)

Specialized
databases
(bibliometrics and
patent information)

Reports of the
Federal Treasury

Official web-sites
of Russian
regional authorities



Indicators of Index “Quality of regional innovation policy”

The quality of the legal and regulatory framework of innovation policy

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

The quality of organizational support of innovation policy

- Does the region have advisory bodies on innovation policy (innovation support) for the supreme regional executive body?
- Does the region have a specialized development institutions (funds, agencies, development corporations, etc.) , which have resources for innovation support and implementation of innovative projects?

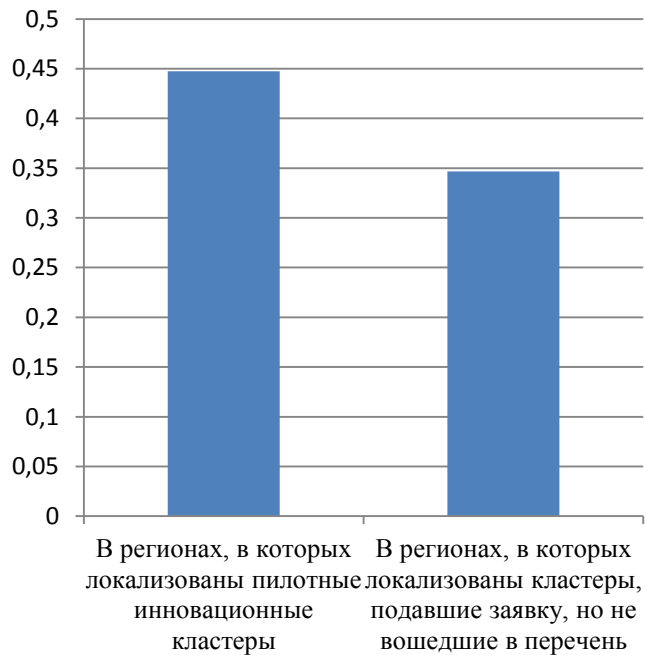
The costs of the consolidated budget

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

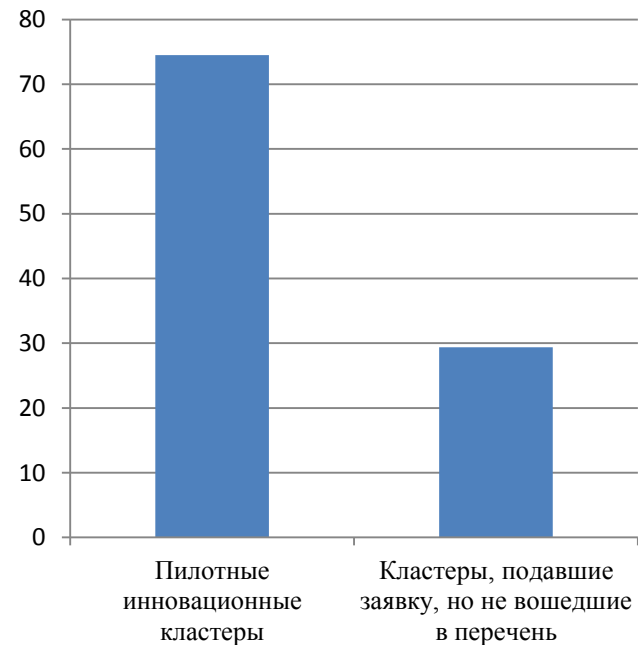


Pilot innovative clusters showed its superiority in terms of regional framework conditions for innovation and clusters revenue in comparison with clusters not included in the list

The average value of the Russian Regional Innovation Index 2013



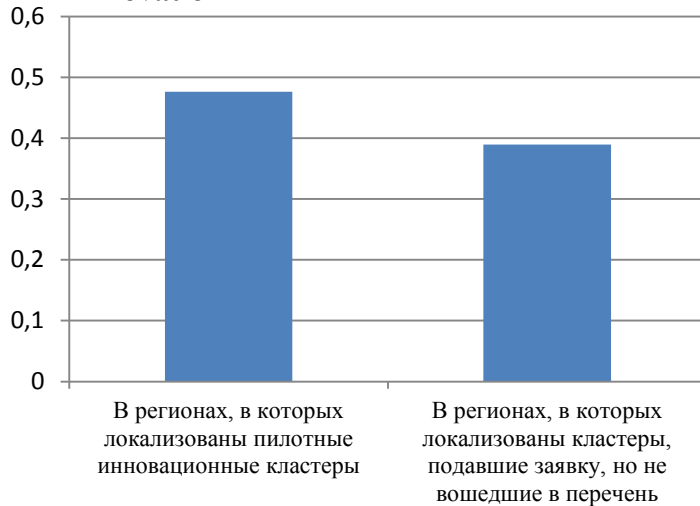
The average value of clusters revenue in 2011, bln. rubles





A comparison of the regional framework conditions of pilot innovative clusters and clusters that have not received federal support

Value of the index "Socio-economic conditions of innovation"



Value of the index "Scientific and technical potential"



Value of the index "Innovation activities"



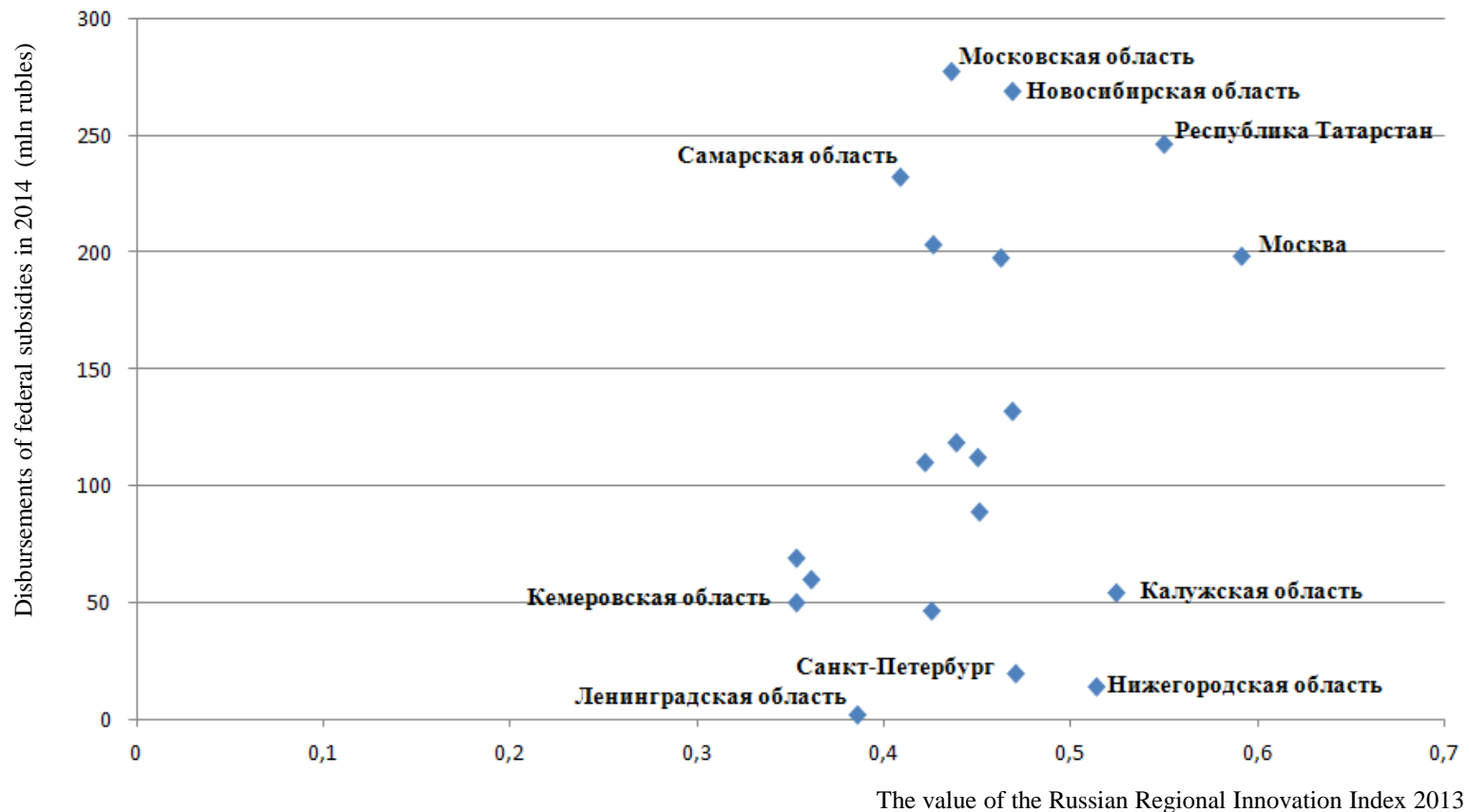
Value of the index "Quality Innovation Policy"





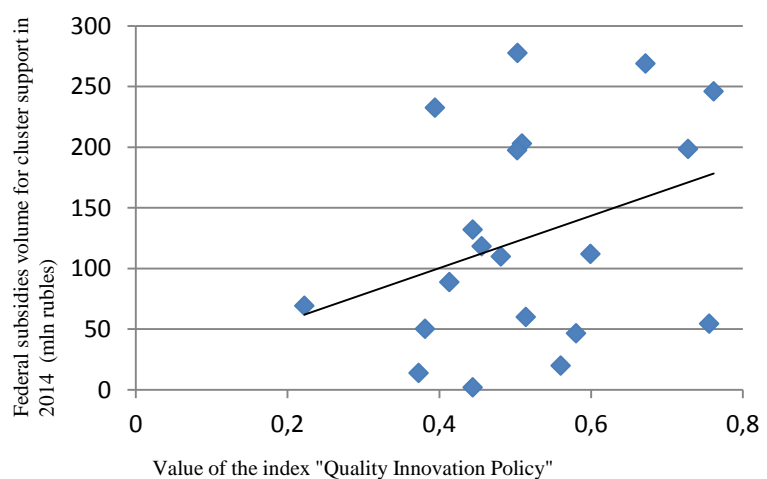
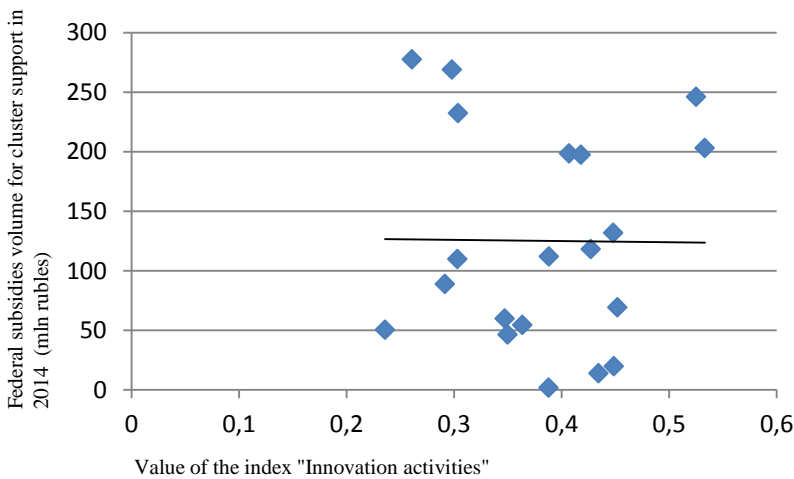
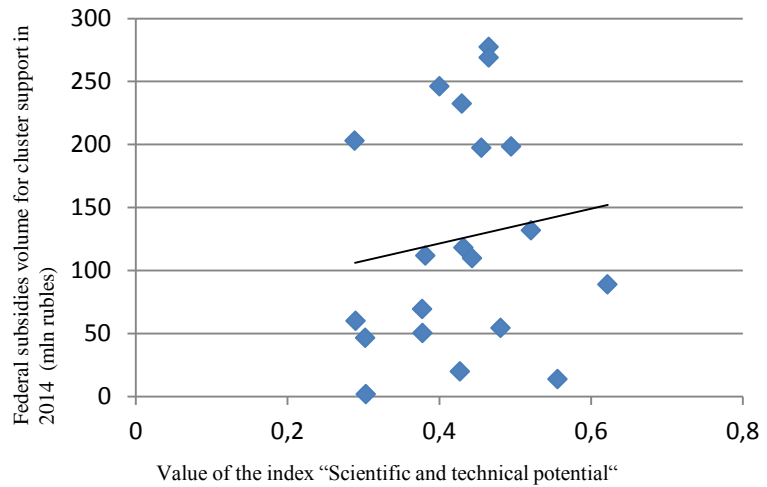
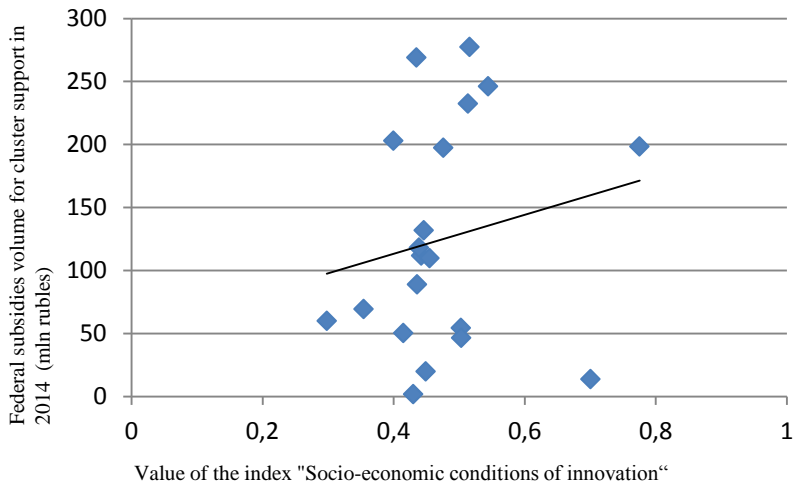
Hypothesis 1. The role of regional framework conditions. Leading regions of the Russian Regional Innovation Index have received more funds for innovative clusters support

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



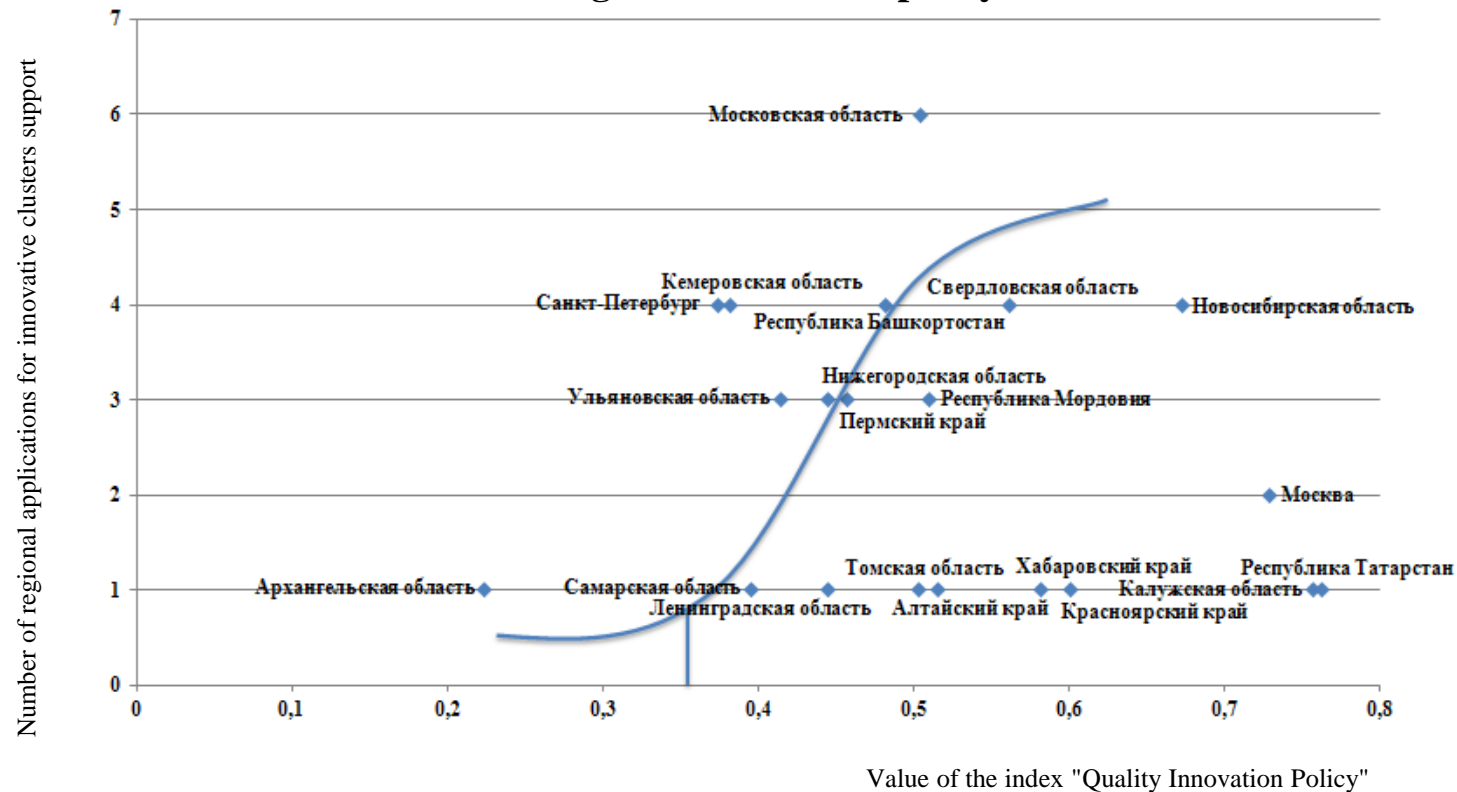


Disbursement of federal subsidy does not depend on the level of innovation in the region



Strategies of cluster policy in Russian regions

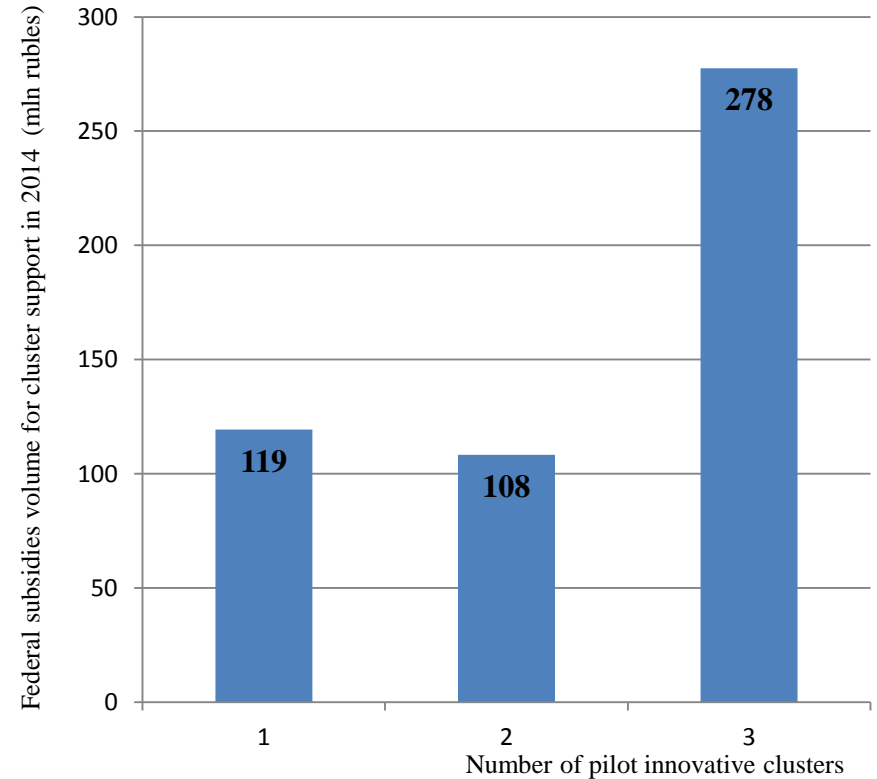
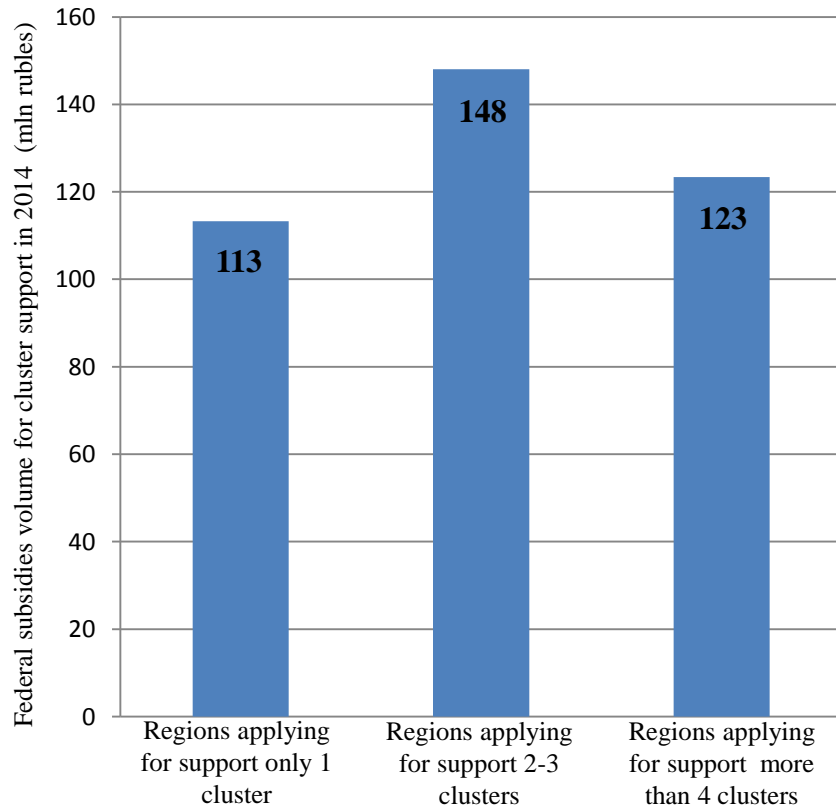
Correlation between number of regional applications for innovative clusters support and quality of regional innovation policy



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



The interconnection between the scope of federal subsidies for clusters support and the number of submitted and approved applications





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

Indicators used in the research

Source	Источник
Cluster value access	
Number of cluster participants	Cluster development programs
The number of participating organizations employees, thousand pers.	Report of Ministry for Economic Development of the RF
Cluster revenue in 2011 r., bn. rubles	Cluster development programs
Expenditure on R & D by cluster members in 2007-2011., bn. rubles	Cluster development programs
The share of SME's employees in total employment in organizations-participants of the pilot innovative clusters, %	Cluster development programs
The volume of cluster organizations investment costs, billion. rubles	Report of Ministry for Economic Development of the RF
The volume of shipped innovation products, works and services on cluster participants own, bn. rubles	Report of Ministry for Economic Development of the RF
Cluster management access	
How many people worked in cluster management bodies and solve key cluster development issues last year?	Questioner (Cluster Excellence)
How many new cluster members were registered last 2 years?	Questioner (Cluster Excellence)
How many strategic and operational partnerships were concluded with development institutions?	Questioner (Cluster Excellence)
How many cluster members were involved into joint projects during the last two years?	Questioner (Cluster Excellence)
How frequently was the cluster mentioned in the media, the Internet and other sources of information for the last year at the regional / national and international levels?	Questioner (Cluster Excellence)



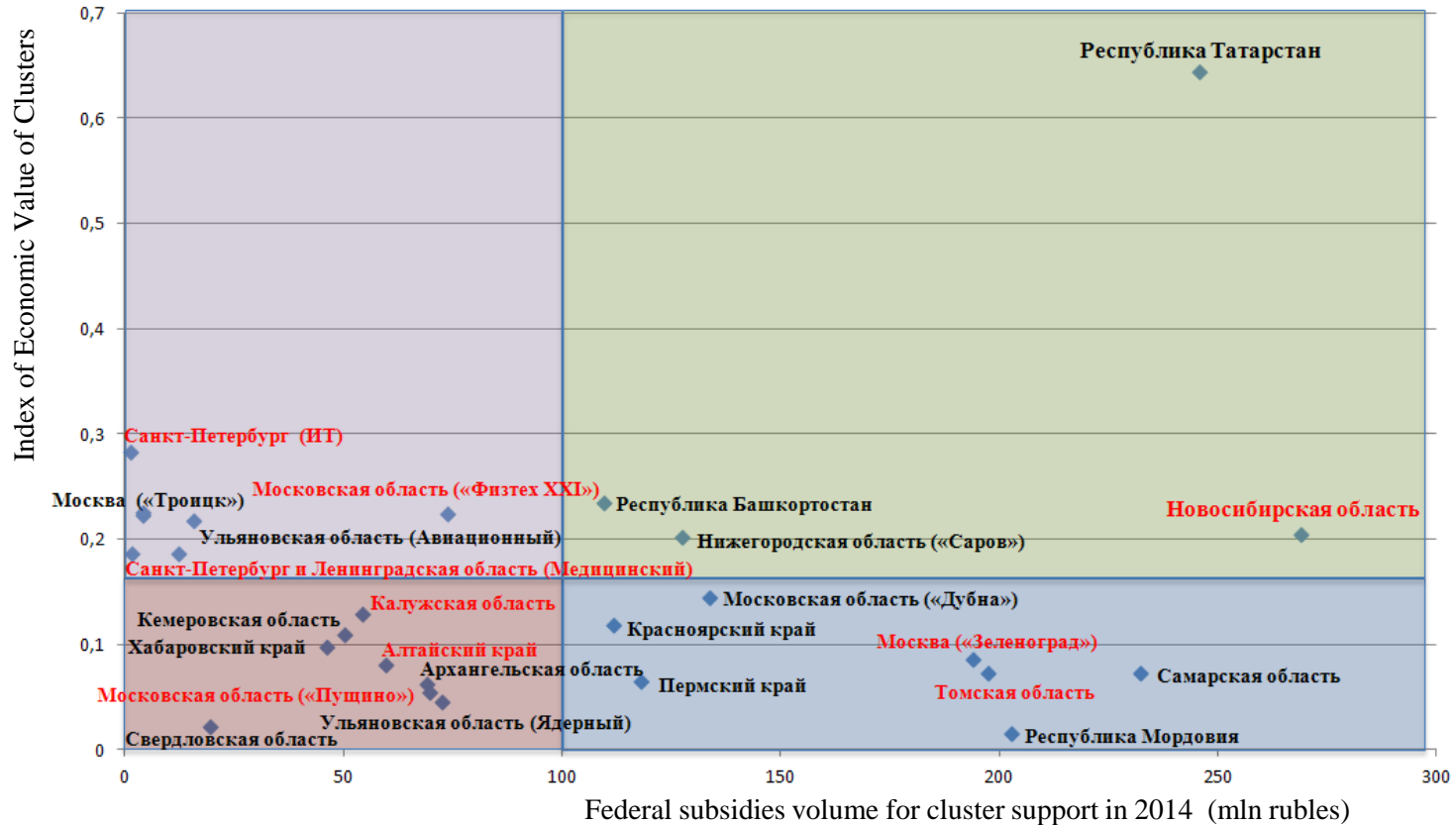
The average pilot innovative cluster

Indicator name	Value of the indicator
Cluster value access	
Number of cluster participants	46
The number of participating organizations employees, thousand pers.	36,08
Cluster revenue in 2011 r., bn. rubles	74,51
Expenditure on R & D by cluster members in 2007-2011., bn. rubles	44,39
The share of SME's employees in total employment in organizations-participants of the pilot innovative clusters, %	12
The volume of cluster organizations investment costs, billion. rubles	11,68
The volume of shipped innovation products, works and services on cluster participants own, bn. rubles	22,47
Cluster management access	
How many people did work in cluster management bodies and solve key cluster development issues last year?	5
How many new cluster members were registered last 2 years?	39
How many strategic and operational partnerships were concluded with development institutions?	2
How many cluster members were involved into joint projects during the last two years?	27
How frequently was the cluster mentioned in the media, the Internet and other sources of information for the last year at the regional / national and international levels?	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.

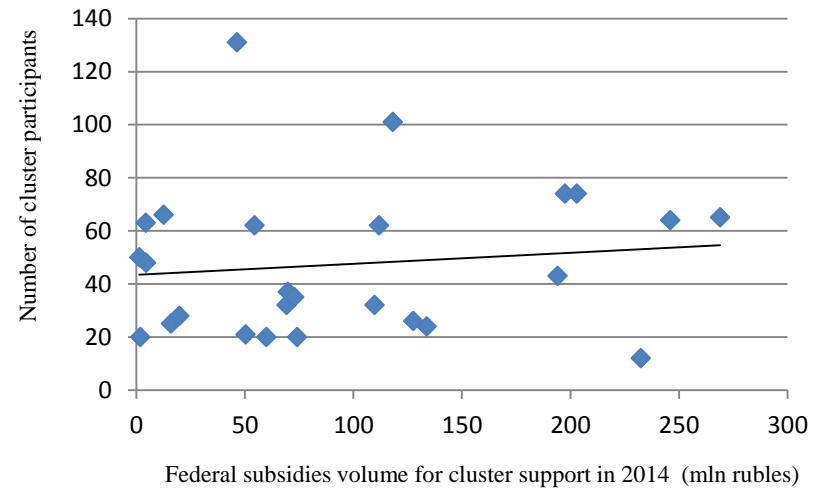
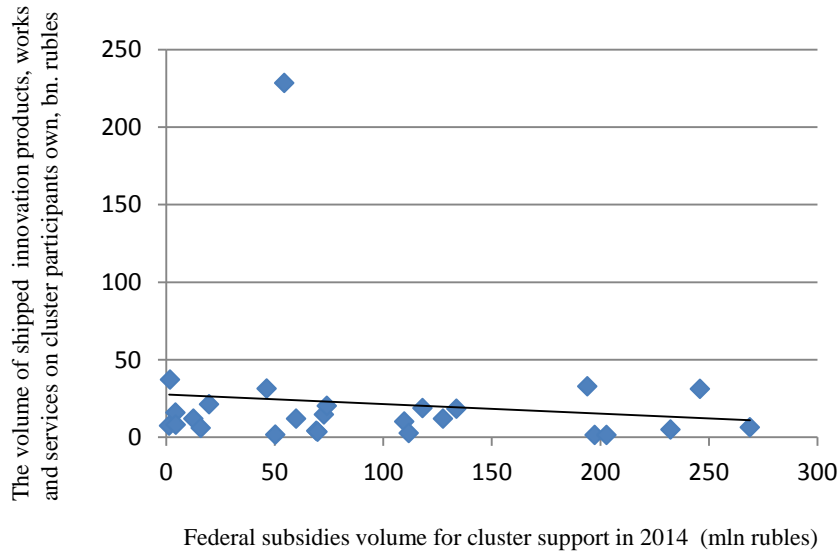
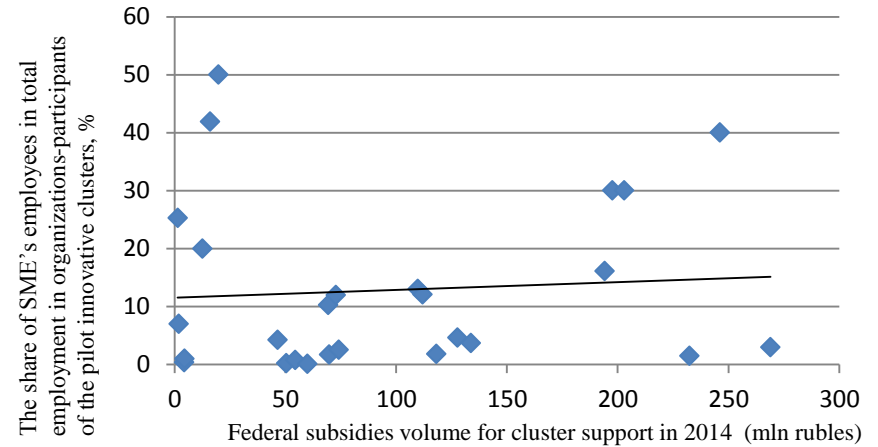
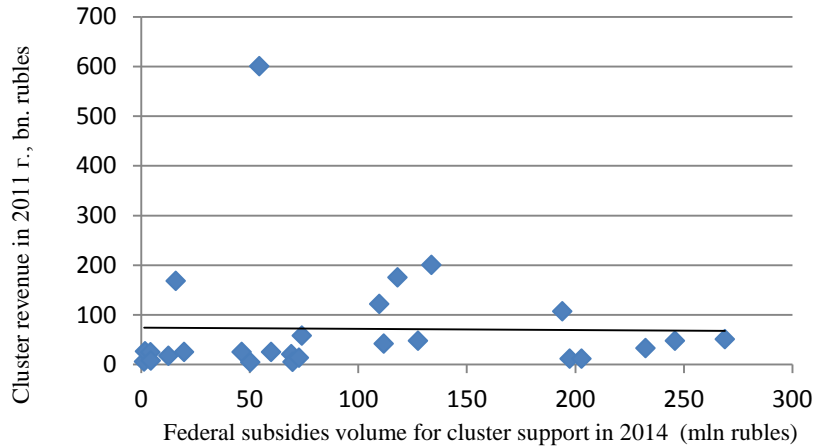
The correlation between Index of economic value of clusters and disbursements of federal subsidies



- Clusters of Russian traditional high-tech sectors
- Clusters of new industries

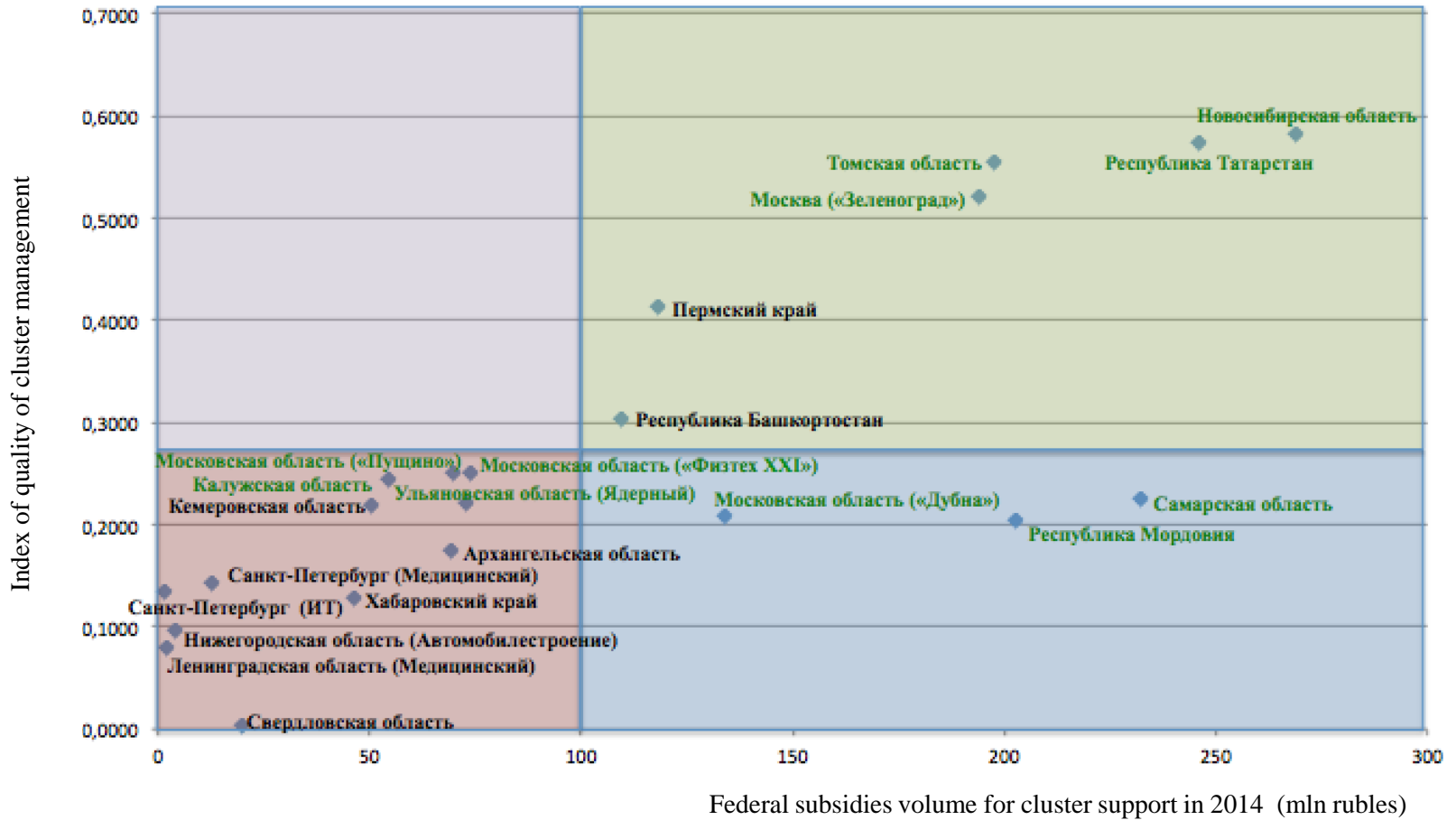


The correlation between the main indicators of Index of clusters' economic value and disbursement of federal subsidies





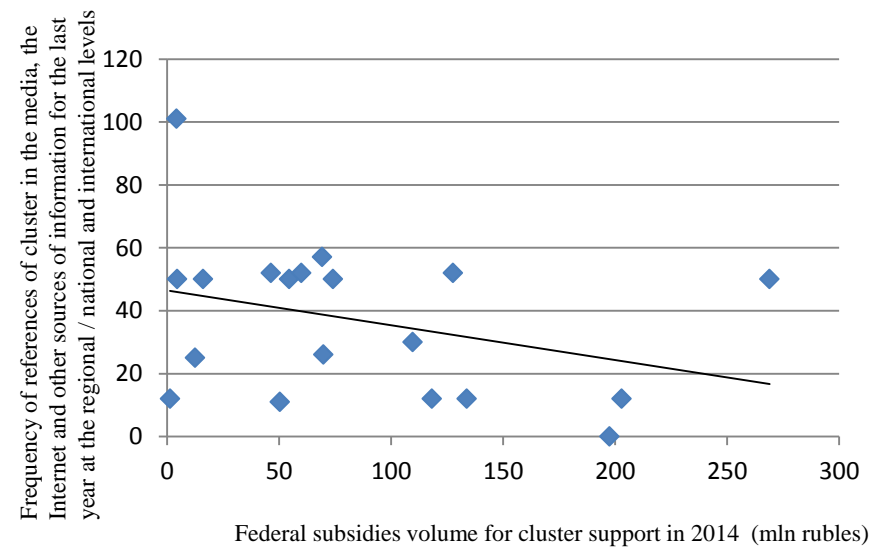
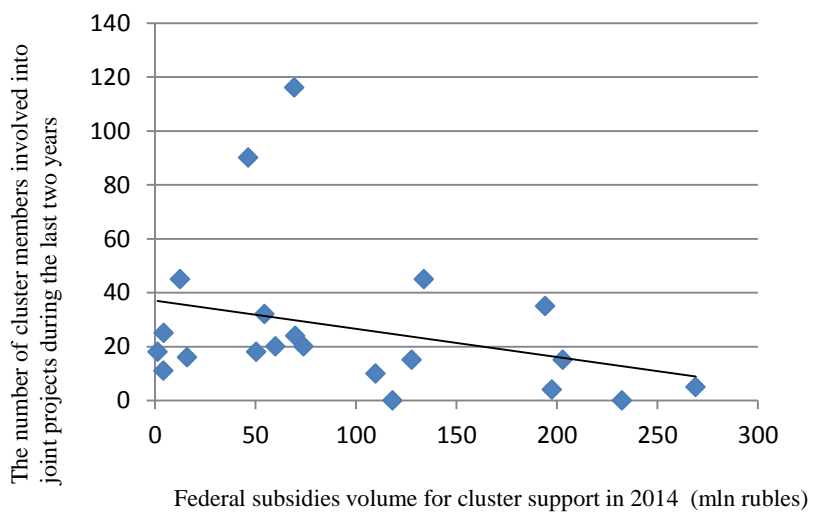
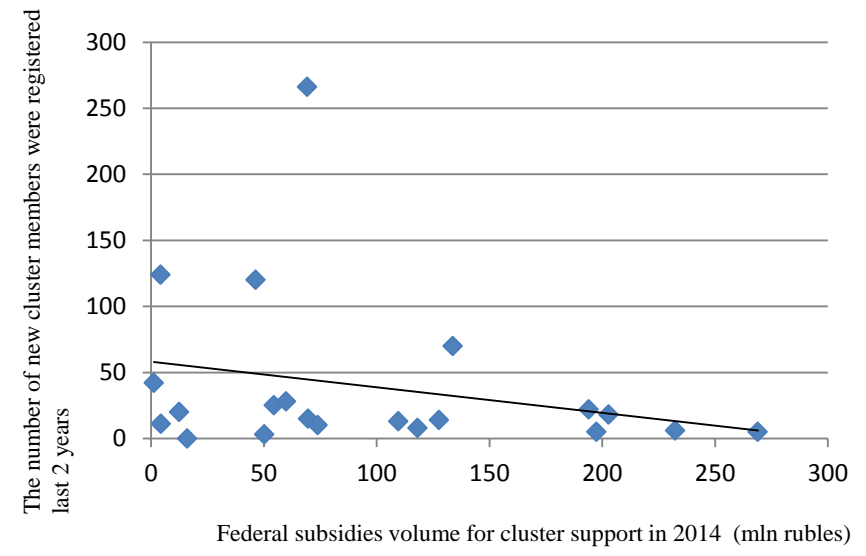
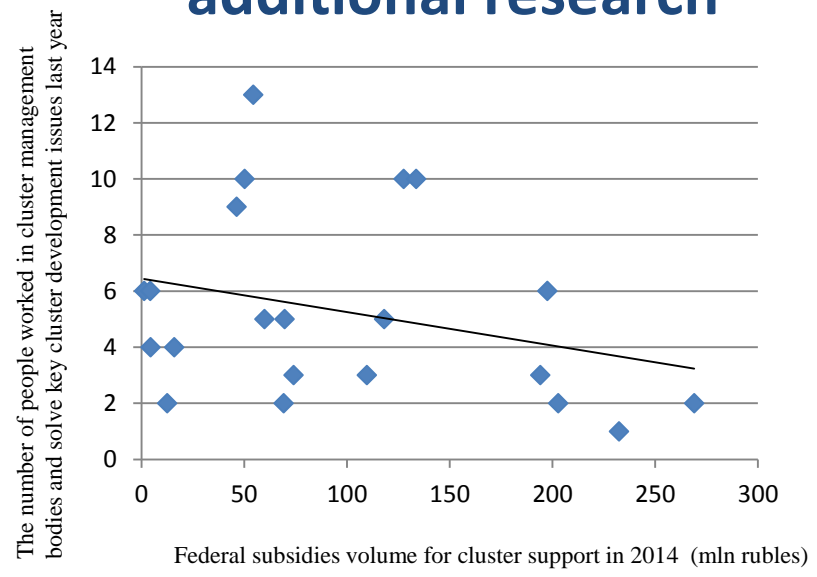
The first group of pilot innovative clusters has more qualified cluster management than the second one. Moreover, clusters of the first group received greater amount of federal support



- The first group of pilot innovative clusters
- The second group of pilot innovative clusters



Correlation between the level of cluster management and disbursement of federal subsidies for cluster support needs additional research





Hypothesis 4. The quality of clusters' governance

Management VS corporate governance

Management – employees' coordination for organizational goals achievement .

- management includes such processes as planning, organizing, directing, coordinating and monitoring;
- management sometimes is identified as an additional factor of production, along with labor and capital;
- Management involves hierarchy and is implemented by the head with subordinates.

Corporate Governance — system of interaction between shareholders and management of the company, as well as with other stakeholders, by which the rights of shareholders are exercised; set of tools, which help shareholders (investors) control executives activities and solve problems with other actors.



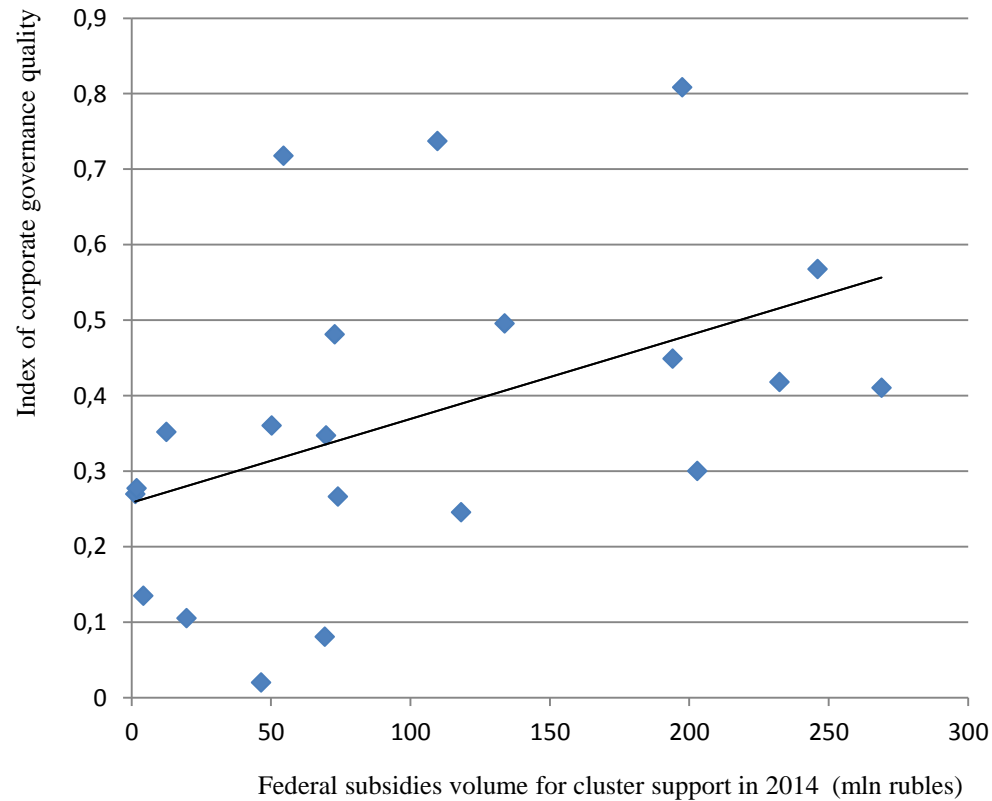
Cluster management assessment in 2013: the main results

- In general Russian cluster management corresponds to the European experience. In any case, technical skills are relatively easy to pick up by training, inclusion in international professional associations, compliance with quality standards.
- The most concerning issue is quality of cluster management. It depends on cluster members activities, attracting new members, the number and the quality of new innovative projects. At the same time, the management structures are harmonized with the existing practices and standards, and possess inertia.



There are positive financial incentives for increase of cluster management quality

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



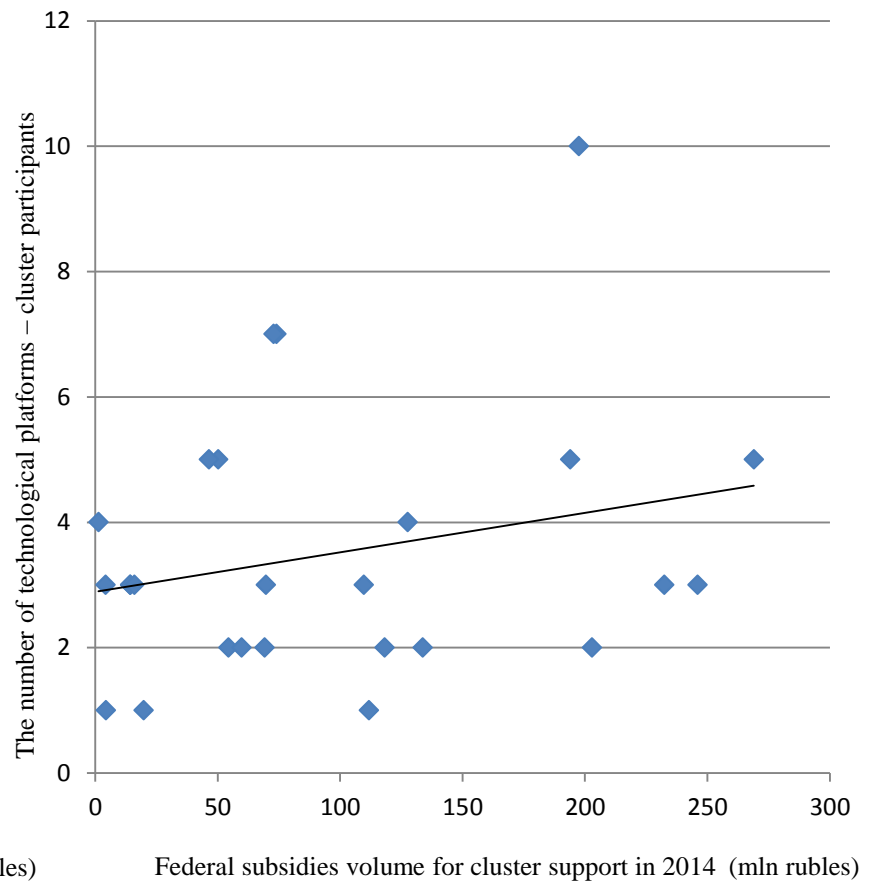
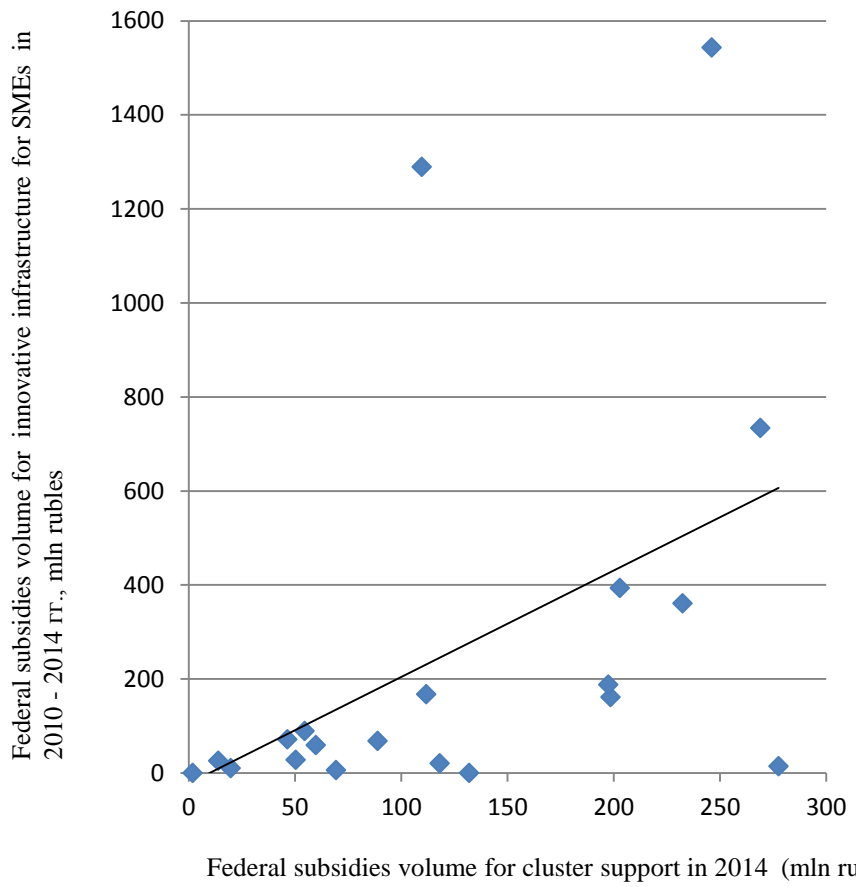


Hypothesis 5. Confidence of federal government in the project team

- 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 projects' teams.
- Clarification of hypothesis: to what extent the federal subsidies volume is related to the volume of financial support for participants of another programs (in this case the subsidies for cluster support, innovative infrastructure for SMEs and federal policy for promotion of technological platforms are compared).



Assessment of correlation between the amount of subsidies received from various federal programs needs additional studies





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

1. In general pilot innovative clusters showed its superiority in terms of regional framework conditions for innovation and clusters revenue in comparison with clusters not included in the list. However, since 2012 several hundred new clusters have emerged; part of them claim the status of pilot innovative clusters. Thus, the issue of integrated cluster monitoring is of high performance.
2. Although the level of regional innovative development is related to the amount of allocated subsidies, regions can be divided into 2 groups determined by the amount of federal subsidy in 2014. Hypothesis: the sample is heterogeneous, there are other significant indicators.
3. 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.
4. 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. They focus on the strongest cluster development and equal support of several developed clusters. In terms of attracting federal subsidies the most successful strategy is to support more than 1 but less than 4 innovative clusters. Moscow region is an exception (3 cluster and the maximum subsidy amount).



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 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 which 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.