A system of spatially connected federalism based on regional specialization

T I Buhtiyarova1*, N Yu Korotina1 and I V Hilinskaya1

1Chelyabinsk Branch of The Russian Presidential Academy of National Economy and Public Administration, 26 Komarova str, 454077, Chelyabinsk, Russian Federation

E-mail: fbn@chel.ranepa.ru

Abstract. The relevance of the article is due to the need to develop a model of federalism in Russia in the context of the existing problem of asymmetry of territorial development, which has not yet been eliminated by the current federal policy. The problem of the asymmetry of Russian regions is caused by a variety of natural, industrial, ethnic, social, and geographical conditions. This entails an asymmetry of economic and budgetary indicators: gross regional product, investments, revenues and expenditures of regional budgets. As a reason for the ineffectiveness of the pursued policy of federalism, the authors highlight a single universal approach in relations between the federal center and the regions. The article proposes a transition from a universal model to a model that considers the specialization of regions. This model is based on the principles of "smart specialization", in which each region is assigned a special role in the functioning of the state. The proposed model is called by the authors "spatially binding economic federalism" because it provides for the regulation of federalism relations along the horizontal state structure and allows increasing the spatial connectivity of regions. Thus, the proposed model of federalism is based on a differentiated approach to territories within a single federal state and makes it possible to overcome the significant disintegration of the country's economic space.

1. Introduction

The fundamental provisions of the theory of federalism originated in the 50s of the twentieth century. Within the framework of economic federalism, the delineation of powers and subjects of jurisdiction between the authorities of various levels for all types of state resources is carried out. The subject areas of economic federalism are the financial support of delimited powers, the establishment of schemes and mechanisms of economic relations between participants in federalism relations. Economic federalism based on the relationship between the center and the regions contributes to the expansion of the production capabilities of the regions in the form of an increase in the investment, material and technical, financial, innovation, labor, infrastructural potential of regions and municipalities and ultimately leads to the development of territories, contributing to the economic growth of both regions and the country generally. The existing approach to understanding federalism not allowed finding a comprehensive solution to all emerging economic problems of federal relations, in particular, unequal relations between the federal center and regions [1], and uneven regional development [2].

Many researchers agree that at present the territory of the Russian Federation is not a single economic space, and the unevenness in the economic development of the regions is increasing. The
federal policy pursued by the state has not found a comprehensive solution to the issue of removing the aggravation of uneven regional development.

In Russia, there is a high asymmetry of regional economic and budgetary indicators [3]. The gap between regions in terms of specific GRP is more than 50 times, in terms of investments in fixed assets per capita - more than 100 times, in terms of specific income more than 18 times, and specific expenses - more than 20 times. With the exclusion of the capital and resource-producing regions from the analysis, the gap remains significant: almost 15 times in specific GRP, over 20 times in specific investments, 8 and 9 times in specific budget revenues and expenditures, respectively.

Table 1 shows data showing the ratio of the maximum and minimum values of individual indicators of the economic development of Russian regions, indicating a significant gap between them.

**Table 1.** The ratio of the maximum and minimum values of economic development of Russian regions indicators, times.

| Indicator                                      | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018  |
|-----------------------------------------------|-------|-------|-------|-------|-------|-------|-------|
| GRP per capita                                 | 47.3  | 44.0  | 55.49 | 48.71 | 54.5  | no data | no data |
| GRP per capita*                                | 16.6  | 14.8  | 20.92 | 16.05 | 14.7  | no data | no data |
| Investment per capita                         | 50.6  | 55.6  | 208.6 | 163.2 | 90.0  | 122.66 | no data |
| Investment per capita*                        | 15.2  | 13.8  | 47.91 | 30.77 | 21.7  | 23.25  | no data |
| Consolidated budget revenues per capita       | 13.4  | 14.4  | 14.64 | 18.49 | 20.3  | 17.72  | 18.7  |
| Consolidated budget revenues per capita*      | 6.31  | 14.4  | 10.51 | 15.18 | 9.89  | 7.84   | 8.18  |
| Consolidated budget expenditures per capita   | 15.5  | 18.1  | 14.72 | 16.35 | 18.9  | 18.45  | 20.6  |
| Consolidated budget expenditures per capita*  | 6.30  | 14.5  | 8.70  | 13.82 | 10.2  | 8.24   | 9.57  |

*Data excluding subjects: Moscow, Nenets, Khanty-Mansi, Yamalo-Nenets Autonomous Okrugs

Source: the author’s calculation on the data: Regions of Russia. Socio-economic indicators. Access mode: https://www.gks.ru/bgd/regl/b19_14p/Main.htm; Consolidated budgets of constituent entities of the Russian Federation: https://roskazna.gov.ru/ispolnenie-byudzhetov/konsolidirovannye-byudzhety-subektov/; Analysis of the execution of regional budgets: https://minfin.gov.ru/ru/performance/regions/monitoring_results/analysis/.

Regional inequality is increasingly seen as a threat to economic performance, social cohesion and stability, despite being largely a logical process. Currently, there are growing tendencies to rethink the theoretical postulates of federalism in the light of the developing theory of institutional economics and the theory of spatial development. New terms appear, concerning to the types of federalism, clarifying the essence, making a semantic emphasis, such as "federalism that preserves the market" [4], "laboratory federalism" [5, 6], "self-developing (self-sufficient, self-sustaining) federalism" [7].

The existing approaches not allowed finding a comprehensive solution to all the economic problems of federal relations that arise in Russia [8]. In our opinion, the moment has come when a rethinking of the methodological approaches to understanding the essence federalism, its types and models. The need for rethinking is justified as follows. Modern approaches to federalism make it possible to successfully solve economic problems in a state with a multi-level structure in connection with the different roles of levels of authority and governance. For this, various fiscal, functional and political instruments are used. But to solve the problems of overcoming regional uneveness under current conditions, existing instruments are not enough.
In the context of the aggravation of the problem of uneven regional development, in our opinion, there is a need to switch to a model of federalism that would allow not only regulating relations across the entire spectrum of issues related to the vertical structure of the state structure, but also overcoming the disintegration of the economic space.

Thus, the author's position consists in the need for a transition to federalism, which can ensure the unification of regions into a single economic system, deepening their interaction, and developing ties between them. This will expand production and technical ties, deepen the joint use of resources, pool capital, create favorable conditions for the implementation of economic activity, and remove mutual barriers.

**Strengthening regional specialization for the advanced development of the economic development of the federal state.**

Regions have different meanings for the economic development of the country and have independent promising economic specialization.

The difference in regional functions is the reason for the asymmetry in regional development. This qualitative asymmetry is not a negative point, but is justified by the functionality of the regions.

The policy of "smart specialization" is aimed at rallying, ensuring the unity of development of different regions, each of which performs its own function [9].

The "smart specialization" approach assumes that each region in the country's economy should have its own place based on its competitive advantages and the alignment of its strengths with the interests of a single federal state, so that there is no unnecessary duplication of regional functions [10, 11].

Therefore, the task of the policy of federalism should be to ensure functional diversity for building an integral economic system. The Russian system of federalism implies the legal equal status of the subjects, but in the economy each subject has its own role and function.

The existence of regional specialization implies that different subjects in the system of federalism play different roles, subjects are linked by different types of ties, but have a common goal of economic development, which contributes to regional development. The "smart specialization" strategy points to the efficient use of regional potential [12].

This role of the region in the country's economy is called "promising state and economic specialization of the subject". Promising economic specialization of a subject is a set of enlarged types of economic activities (industries), due to a favorable combination of competitive advantages (spatial factors in the location of economic activities).

Perspective state specialization of a subject presupposes a special role in state functioning. For objective reasons, such a role cannot be played by other territories, for example, as a result of geographical location, climatic conditions, or the presence or absence of mineral deposits.

From a policy perspective, the "smart specialization" strategy has been put forward as a strategic response to the constraints of a one-size-fits-all model and to limit fragmentation and duplication of government support schemes.

The main features that distinguish the "smart specialization" approach from earlier and more traditional approaches to regional development are that its development is based on the so-called “regional potential development process”, which opens up the potential for developing new comparative advantages of the region. And also in the fact that its implementation, on the one hand, is not limited only to the creation of favorable general conditions, but, on the other hand, does not pose the problem of choosing promising industries.

In the context of a «smart specialization» approach, the process of unlocking regional potential mainly boils down to structured dialogue between public authorities and the business community, research institutions, and other stakeholders. These parties have the ampest opportunity to determine the directions in which the region could succeed, given its existing opportunities and productive assets. This process directly considers the opening of new areas that can transform the region, contribute to the evolution of territories.
The purpose of this dialogue is to identify the region's main strengths and opportunities, as well as to form a common understanding of the areas in which comparative advantage could be achieved in the future, building on existing strengths and opportunities. At its core, the smart specialization strategy is based on a bottom-up approach, as it entails a “vertical logic” prioritization logic, that is, it stimulates a “bottom-up” process by involving stakeholders in policy development with more directive regional governments and government bodies.

In accordance with the rules and regulations of "smart specialization", each region of Russia should have its own place in accordance with its competitive advantages and strengths in the interests of a single federative state.

Speaking about the role of the region in the life of the country, in principle, one can proceed from two main areas in which the significance and "usefulness" of the region for the country is realized: the political area and the economic (industrial) area.

2. Methods

The study used a wide range of theoretical methods for studying economic phenomena: critical analysis, generalization, systematization, comparison. The processing of the research results was carried out in the process of statistical analysis using the methods of mathematical statistics [13]. Special attention was paid to the comparability of indicators for synchronous comparison of indicators of economic development of Russian regions. For the analysis, data from Federal state statistics service, the Ministry of Finance of Russia, and the Federal Treasury of Russia were used.

The space connectivity of the regions is considered from the standpoint of economic, social and dynamic ties. The economic ties of regions are determined by the intensity of the exchange of goods and services, social - by the movement of the population between regions, dynamic - by the level of development of transport networks.

In this paper, the consideration is focussed on the transport connectivity of the regions. Transport networks are an essential element of the region's transport infrastructure. Their location, length, accessibility and location features determine the development of economic activity in the region. Considering transport connectivity, regional development programs are being formed. To assess transport connectivity, the indicator "density of railways and highways per 10000 square kilometers of territory" is used, the indicator is estimated at the end of the calendar year. To assess the nature of the distribution of the transport network throughout the country, statistical indicators are used: the coefficient of variation (the ratio of the standard deviation and the average value of the studied indicator in percent) as a measure of the spread of regional values from the average Russian value of the indicator; the range of asymmetry (the ratio of the maximum and minimum values of the indicator in the sample).

3. Results

The proposed technique has been tested in 85 regions of the Russian Federation. In this article we use the classification of regions according to their specialization [14]. In the economic specialization, agro-industrial, mineral-raw-material regions and regions with scientific-production and educational specialization are distinguished. All regions that have a state border with other countries are classified as regions of political importance. They highlight priority geostrategic territories and border geostrategic territories. There is also a separate group of regions that have not yet defined their promising specialization but are doing this work.

The results of the analysis of economic ties are presented in table 2.

Table 2. Assessment of economic connectivity in the context of specialization of Russian regions.

|                      | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------|------|------|------|------|------|------|------|------|------|
| Agro-industrial regions |      |      |      |      |      |      |      |      |      |
| the range of variation, times | 4.16 | 4.09 | 4.09 | 4.09 | 4.09 | 3.78 | 3.78 | 3.78 | 3.78 |
The analysis showed that the range of asymmetry for each of the groups of territories is lower than for the regions of the country as a whole. It should be noted that regions of the same specialization may have different levels of economic development. For example, the group of priority geostrategic territories includes regions with a high level of economic development, such as the Yamalo-Nenetskiy avtonomnyy okrug, Krasnoyarskiy kray, and regions with a low level of economic development (the Republic of Dagestan, Ingushetia, Chechnya, the Yevreyskaya avtonomnaya oblast'). The group of border geostrategic territories includes the economically developed Leningradskaya Oblast' and Krasnodarskiy Kray and the underdeveloped republics of Tyva and Altay; the developed KhMAO and YaNAO and the region with a low level of economic indicators of the Chukotkiy Autonomous Okrug belong to the mineral resource territories. The data presented in the table indicate less unevenness within each group than in the country as a whole, although the group of one specialization includes regions with different levels of regional economic development.

A similar situation is observed in the coefficient of variation, which indicates a greater stability of the analyzed indicators of one territory. Also, the data indicate a greater increase in the unevenness of development on average throughout the country than for each type of territory separately.

### 4. Discussion and summary

The novelty of the proposed approach to federalism based on the connected development of regions is to ensure the relationship of the federal center with a specific region to ensure its regional development. And, to ensure interregional integration and interregional cooperation, beneficial for each region, through the use of economic interaction of the subjects of the federation.

The approach of connected development of regions provides for the intensification of the socio-economic development of each region, contributing to the provision of territorial integrity, the unity of the economic space and the development of the country.

The economic goal of federalism is to resolve and remove contradictions between the Federation, its subjects and local government in order to achieve sustainable territorial development, sustainable
development of the country and ensuring the availability of consumption of public goods by the entire population, regardless of where people live.

Thus, the goal of the connected development of the regions and the goal of federalism coincide, focusing on the unity and economic development of both the country as a whole and the regional development of each of its subjects. In our opinion, the peculiarity of the connected development of territories within the framework of economic federalism lies in the differentiated choice of measures of state support for regions, considering their role in the socio-economic development of the country.

The proposed concept of "spatially binding economic federalism" is aimed at ensuring the integrity of the system, in which the federation does not waste its energy on overcoming the costs of competing among the subjects that form the federation. Since the regions have different meanings for the national economy of the country, they cannot be treated in the same way, and it is also impossible to use the same instruments of equalization and financial support in relation to them. The mechanisms of state support and equalization should apply out in accordance with the specifics of the specialization of regions, the functions they perform as part of a single state and future potential opportunities. The limited resources of the country require optimization of state support tools, refusal to use mechanisms of the same type for all regions.

Thus, this article proposes to apply various equalizing instruments of federalism, depending on their functional role. That is, to apply some equalizing approaches to geostrategic territories, others to mineral-raw material or agro-industrial territories. In fact, a transition will be made to such a model of federalism, which provides for the regulation of federalist relations not only along the vertical of the state structure, but also horizontally, which will make it possible to overcome the significant disintegration of the economic space. Of course, such an approach based on differentiating territories within a single federal state will not completely overcome regional unevenness but will significantly smooth it out.

5. References
[1] Kruglov V N, Tutin D V 2020 Model of interaction of the federal center and the region in the implementation of the poverty reduction program (Modern Economy Success) 3 119-123
[2] Bayanova O V 2020 On the issue of indicators of the living standard of the population of the Russian Federation (Russian Economic Bulletin) 3 (1) 152-155
[3] Minakov A V 202 Smart Specialisation Evaluation: Setting the Scene (JRC Policy Insights) https://ec.europa.eu/jrc/sites/jrcsh/files/jrc116110.pdf
[4] Ghani J, Grewal Bh, Ahmed D, Nor N 2019 Fiscal Decentralisation and Economic Growth in Malaysia: A Market Preserving Federalism Perspective (Jurnal Ekonomi Malaysia) 53(1) 153 - 170 http://dx.doi.org/10.17576/JEM-2019-5301-13
[5] Ana B, Ania & Andreas Wagener 2019 Laboratory Federalism with Public Funds Sharing (Vienna Economics) 1902, https://homepage.univie.ac.at/Papers.Econ/RePEc/vie/viennp/vie1902.pdf
[6] Garzarelli G, & Keeton L 2018 Laboratory federalism and intergovernmental grants (Journal of Institutional Economics) 14(5) 949-974 doi:10.1017/S1744137417000595
[7] Filippov M, Ordeshook P 2004 Designing Federalism: A Theory of Self-Sustainable Federal Institutions (Cambridge University Press) doi:10.1017/CBO9780511610875
[8] Lapin A E, Vuiiko M B 2019 Models of Regional Development in the Russian Federation and Investment Strategies (Regionology) 27(1) 10-29 DOI: https://doi.org/10.15507/2413-1407.106.027.201901.010-029
[9] Ballard P A 2019 Smart specialization policy in the European Union: relatedness, knowledge complexity and regional diversification (Regional Studies) 53 (9) 1252-1268
[10] Gianelle C, Guzzo F, Marinelli E 2019 Smart Specialisation Evaluation: Setting the Scene (JRC Policy Insights) https://ec.europa.eu/jrc/sites/jrcsh/files/jrc116110.pdf
[11] Gianelle C, Guzzo F, Mieszkowski K 2019 *Smart Specialisation: what gets lost in translation from concept to practice?* (Regional Studies) DOI: 10.1080/00343404.2019.1607970
[12] Vezzani A, Baccan M, Candu A, Castelli A, Dosso M, Gkotsis P 2017 *Smart Specialisation, seizing new industrial opportunities* (JRC Technical Report, European Commission)
[13] Fomina E E 2020 *Possibilities of the method of multiple correspondence analysis in sociological studies* (Russian Economic Bulletin) 3 (1) 259-267
[14] Korotina N Yu 2020 *Methodology of "smart specialization" in overcoming the spatial asymmetry of economic growth in Russia* (Journal of the New Economy) 21 (1) 107–121 DOI: 10.29141/2658-5081-202021-1-6