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ECONOMIC AND SOCIAL CHANGES: FACTS, TRENDS, FORECAST

A peer-reviewed scientific journal that covers issues of analysis and forecast of changes in the economy and social spheres in various countries, regions, and local territories.

The main purpose of the journal is to provide the scientific community and practitioners with an opportunity to publish socio-economic research findings, review different viewpoints on the topical issues of economic and social development, and participate in the discussion of these issues. The remit of the journal comprises development strategies of the territories, regional and sectoral economy, social development, budget revenues, streamlining expenditures, innovative economy, and economic theory.

Founder: Vologda Research Center of the Russian Academy of Sciences

Federal State Budgetary Institution of Science Vologda Research Center of the Russian Academy of Sciences (VolRC RAS) is the only unit of the Academy on the territory of the Vologda Oblast. The history of the Center started in 1990 from a Department of the Institute for Economic Studies of the Kola Science Centre of RAS on studying the problems of socio-economic development of the Vologda Oblast. Since then the Center has undergone manifold transformations. In 1993 it became an independent subdivision – the Vologda Scientific Coordinating Center of RAS. In 2009 it transformed into the Institute of Socio-Economic Development of Territories of RAS (ISEDT RAS).

In 2017 the socio-economic research was supplemented by agricultural issues. ISEDT RAS was joined by the Northwestern Dairy and Grassland Farming Research Institute, and was reorganized into the Vologda Research Center of the Russian Academy of Sciences.

In 2019 the Center continued expanding having launched the Laboratory of Bioeconomics and Sustainable Development within the framework of the national project "Science". The Laboratory is engaged in scientific research aimed at introducing biotechnologies into the practice of agriculture.

The VolRC RAS Director is Aleksandra A. Shabunova (Doctor of Economics). The Academic Leader of the Center is Vladimir A. Ilyin (RAS Corresponding Member, Doctor of Economics, Professor, Honored Worker of Science of the Russian Federation).

MAIN RESEARCH DIRECTIONS

In accordance with the Charter, the Vologda Research Center carries out fundamental, exploratory and applied research in the following fields:

- problems of economic growth, scientific basis of regional policy, sustainable development of territories and municipalities, and transformations of socio-economic space;
- regional integration into global economic and political processes, problems of economic security and competitiveness of territorial socio-economic systems;
- territorial characteristics of living standards and lifestyle, behavioral strategies and world view of different groups of the Russian society;
- development of regional socio-economic systems, implementation of new forms and methods concerning territorial organization of society and economy, development of territories' recreational area;
- socio-economic problems regarding scientific and innovative transformation activities of territories;
- elaboration of society's informatization problems, development of intellectual technologies in information territorial systems, science and education;
- development of scientifically based systems of dairy cattle breeding in the conditions of the North-Western region of Russia;
- development of new breeding methods, methods and programs for improving breeding work with cattle;
- development of scientifically based feed production systems, norms, rations and feeding systems for cattle in the conditions of the North-Western region of Russia;

- development of zonal technologies for the cultivation of agricultural crops;
- development of technologies for the creation, improvement and rational use of hayfields and pastures in the conditions of the North-Western region of Russia;
- development of technologies and technical means for agricultural production in the North-Western region of Russia;
- assessment of biodiversity in the North-Western region of Russia;
- development and implementation of biotechnologies in agricultural production;
- improvement of breeding methods and creation of new varieties of forage crops.

INTERNATIONAL TIES AND PROJECTS

VolRC RAS is actively developing its international activities. It is involved in joint international grant projects and regularly holds international conferences and workshops. The Center has Cooperation agreements and Memoranda of understanding with research organizations:

2007 – Cooperation agreement is signed with the Institute of Sociology of the National Academy of Sciences of Belarus , Center for Sociological and Marketing Investigations at the "International Institute of Humanities and Economics" (Belarus, 2008).

2008 – Memorandum of agreement is signed with Alexander's Institute at the Helsinki University (Finland, 2008).

2009 – Cooperation agreement is signed with Center for System Analysis of Strategic Investigations of NAS (Belarus, 2009).

2010 – Cooperation agreement is signed with the Institute of Economics of the National Academy of Sciences of Belarus (Minsk, Belarus, 2010).

2011 – Cooperation agreements are signed with National Institute of Oriental Languages and Civilizations (Paris, France, 2011), Institute of Business Economy at Eszterhazy Karoly College (Hungary, 2011), Republican research and production unitary enterprise "Energy Institute of NAS" (Belarus, 2011). Memoranda of understanding are signed with Jiangxi Academy of Social Sciences (China, 2011), Research and Development Center for Evaluation and Socio-Economic Development and the Science Foundation of Abruzzo region (Italy, 2011).

2012 – Cooperation agreement is signed with Center for Social Research at the Dortmund Technical University (Germany, 2012).

2013 – Memorandum of understanding is signed with Jiangxi Academy of Social Sciences (China, 2013). July 2013 – The application for research performance by international consortium involving ISEDT RAS within the 7th Framework Programme of European Community.

2014 – Cooperation agreement is signed with Center for System Analysis and Strategic Research of the National Academy of Sciences of Belarus (Belarus, 2014). Memoranda of understanding are signed with Jiangxi Academy of Social Sciences (Mao Zhiyong, China, 2014), National Institute for Oriental Studies INALCO (Julien Vercueil, France, 2014).

2015 – Memorandum of understanding is signed with Jiangxi Academy of Social Sciences (China, 2015). Cooperation agreement is signed with the Institute of Sociology of the National Academy of Sciences of Belarus (Belarus, 2015).

2016 – Cooperation agreements are signed with the Center for the Study of Industrialization Modes of the School of Advanced Studies in the Social Sciences (EHESS) (Paris, France, 2016); Institute of Philosophy, Sociology and Law of NAS RA (Yerevan, Armenia, 2016); Yerevan Northern University (Armenia, 2016), Yerevan State University (Armenia, 2016). Memoranda of understanding are signed with Jiangxi Academy of Social Sciences (China, 2016).

2018 – Cooperation agreements are signed with the Department of Agrarian Sciences of the National Academy of Sciences of Belarus (Belarus, 2018); the Republican Unitary Enterprise "Scientific and Practical Center of the National Academy of Sciences of Belarus for Agricultural Mechanization" (Belarus, 2018). Memorandum of understanding is signed with the European School of Social Innovation (ESSI) (Germany, 2018).

2019 – Memorandum of understanding is signed with Jiangxi Academy of Social Sciences (China, 2019).

2020 – Memorandum of understanding is signed with Jiangxi Academy of Social Sciences (China, 2020).

CONTENT

EDITORIAL

PUBLIC ADMINISTRATION

THEORETICAL AND METHODOLOGICAL ISSUES

REGIONAL ECONOMICS

SOCIAL AND ECONOMIC DEVELOPMENT

GLOBAL EXPERIENCE

SCIENTIFIC REVIEWS

MONITORING STUDIES

EDITORIAL

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Single Voting Day 2025: Another Test Passed, but Public Trust in the Political Elite Causes Great Concern

Vladimir A. ILYIN
Vologda Research Center, Russian Academy of Sciences
Vologda, Russian Federation
e-mail: ilin@vscc.ac.ru
ORCID: 0000-0003-4536-6287; ResearcherID: N-4615-2017

Mikhail V. MOREV
Vologda Research Center, Russian Academy of Sciences
Vologda, Russian Federation
e-mail: 379post@mail.ru
ORCID: 0000-0003-1396-8195; ResearcherID: I-9815-2016

Abstract. From September 12 to 14, 2025, Russia held its annual Single Voting Day, featuring elections at regional and municipal levels. This electoral campaign was widely seen as a "dress rehearsal" for the 2026 State Duma elections, and many experts concluded that this "test was passed successfully". However, for several years now, some analysts have pointed out that local elections are increasingly becoming a formality, losing their potential as a tool for diagnosing the relationship between society and the authorities. This article presents the key findings of a long-term monitoring project of regional election campaigns, conducted since 2018 as part of the Editorial column, which includes a comparative analysis of sociological data on public attitudes towards the country's main political parties. As a stage in this monitoring, an in-depth analysis of the 2025 Single Voting Day results is provided: using official data from the Russian Central Election Commission, voter turnout and support for United Russia across regions and regional capitals are analyzed; a review of expert opinions on the concluded campaign is

For citation: Ilyin V.A., Morev M.V. (2025). Single Voting Day 2025: Another test passed, but public trust in the political elite causes great concern. *Economic and Social Changes: Facts, Trends, Forecast*, 18(5), 9–46. DOI: 10.15838/esc.2025.5.101.1

presented; and its specific features in 2025 are examined, including in the context of the geopolitical and civilizational challenges Russia has faced throughout the 21st century and especially since the start of the special military operation. Furthermore, the article continues its monitoring of key managerial decisions made by the President, the State Duma, and the Government. Particular attention is paid to analyzing expert opinions, criminal statistics, and actual instances of detentions of representatives of the ruling "elites", which indicates a persistent and growing problem of their disconnect from the publicly declared, nationally-oriented development agenda of the Russian Federation, as articulated by the head of state. The authors highlight expert views that public trust in the political elite continues to raise significant and substantial questions. Despite the importance of internal political stability amid a tense international situation and ongoing hostilities within the framework of the SMO, the political system is not yet effective enough in fulfilling its role to meet the public demand for forming a Vision of Russia's Future and a new Social Contract that aligns with the President's stated goals of strengthening traditional values and the core principles of a genuine social state.

Key words: Single Voting Day, regional elections, monitoring, government effectiveness, public opinion, Social Contract.

On September 14, 2025, Russia concluded another Single Voting Day – widely regarded as the "year's largest electoral campaign"[1] and a "genuinely significant political event"[2].

The nationwide electoral process encompassed over five thousand campaigns, engaging nearly 55 million voters. Direct elections for top executive officials were held in 20 regions, while residents of 11 additional federal subjects voted for candidates to regional legislative bodies. Elections for deputies to representative bodies in regional administrative centers took place in 25 federal subjects.

The tradition of Single Voting Day in Russia now spans nearly two decades. The inaugural regional and municipal elections under this framework were held in 2006 on March 12 and October 8. During those elections, United Russia fielded party lists in all 17 federal subjects holding regional parliamentary elections, securing first place in every contest[3].

[1] Muratova A. Single Voting Day-2025: How will the government and the public agenda change? Available at: https://www.gazeta.ru/social/2025/09/16/21708806.shtml?ysclid=mgw4h8rqgj281911114

[2] Vasilyeva N. Pamfilova launched the Single Voting Day. Available at: https://www.pnp.ru/politics/pamfilova-dala-start-edinomu-dnyu-golosovaniya.html?ysclid=mgw4g5iejo163025078

[3] United Russia's results in the 2006 elections. Available at: https://www.kommersant.ru/doc/731844?ysclid=mgw4sm5p6o744883033

On July 21, 2005, Russian President Vladimir Putin signed the law "On Amendments to Legislative Acts of the Russian Federation Concerning Elections and Referendums and Other Legislative Acts of the Russian Federation". This document established two equal Single Voting Days for regional and local elections: the second Sunday of March and the second Sunday of October in the final year of the corresponding government body's term. If regional elections coincided with a federal election year (presidential or State Duma), they were held on the same day[4].

On October 2, 2012, the head of state signed amendments to the laws on political parties and on the basic guarantees of the electoral rights of Russian citizens. According to these amendments, the Single Voting Day became the second Sunday of September in the year when the terms of local and municipal government bodies expire, while during State Duma election years, it would coincide with the voting day for those elections.

Since 2018 (marking the beginning of a new political cycle and Vladimir Putin's fourth presidential term), monitoring Single Voting Day outcomes has become an integral component of government effectiveness research featured in the "From the Editor-in-Chief" section[5]. Annually, the fifth issue of the journal "Economic and Social Changes: Facts, Trends, Forecast" publishes official election results from the Central Election Commission of the Russian Federation, complemented by expert analysis evaluating both the voting outcomes and their broader significance within Russia's contemporary political landscape.

The monitoring methodology provides particularly comprehensive insights through extensive empirical data presentation that surpasses standard media coverage and official CEC statements. This includes detailed breakdowns by region and regional capitals, covering voter turnout and support for winning candidates through both relative (%) and absolute (number of people) metrics. The analysis further examines these figures as percentages of both total turnout and the overall electorate, while maintaining comparative continuity with previous electoral results from the same territories.

Fundamentally, we proceed from the understanding that regional and municipal elections serve not only as a **tool for assessing the effectiveness of the national development course implemented by the President of the Russian Federation and the direct performance of the Head of State as the guarantor of the Russian Constitution** – which states that "the supreme direct expression of the power of the people shall be referenda and free elections" (Article 3, Paragraph 3) – but also as a **barometer of public opinion regarding the effectiveness of the "grassroots," local level of the power vertical, which is closest to people's everyday concerns.** Consequently, voter motivation in local elections operates differently than in presidential

[4] The history of the Single Voting Day in Russia. Available at: https://tass.ru/info/18683417

[5] The main monitoring results are published in the following articles:

1. Ilyin V.A., Morev M.V. (2018). Revisiting the issue concerning the future of Russian statehood. Economic and Social Changes: Facts, Trends, Forecast, 11(5), 9–29.
2. Ilyin V.A., Morev M.V. (2019). The 2018–2019 regional election: Voters' trust in the authorities continues to decline. Economic and Social Changes: Facts, Trends, Forecast, 12(5), 9–24.
3. Ilyin V.A., Morev M.V. (2020). Announced in 2018, V. Putin's "decisive breakthrough" is now stuck. Economic and Social Changes: Facts, Trends, Forecast, 13(5), 22–54.
4. Ilyin V.A., Morev M.V. (2021). Voters supported the President: On the results of the election to the State Duma of the eighth convocation. Economic and Social Changes: Facts, Trends, Forecast, 14(5), 9–33.
5. Ilyin V.A., Morev M.V. (2022). The special military operation reveals new features of civil society. Economic and Social Changes: Facts, Trends, Forecast, 15(5), 9–32.
6. Ilyin V.A., Morev M.V. (2023). From "Munich 2007" to "Valdai 2023": Sixteen years that changed Russia and the world. Economic and Social Changes: Facts, Trends, Forecast, 16(5), 9–31.
7. Ilyin V.A., Morev M.V. (2024). Special military operation and the internal mobilization of society and elites. Economic and Social Changes: Facts, Trends, Forecast, 17(5), 9–39.

elections: people vote less for a particular national development course in abstract terms, and more for its practical implementation; they evaluate the authorities based on tangible changes in their region, municipality, and personal lives.

That said, it would be incorrect to claim that federal and international agendas have no bearing on local election outcomes. In essence, the Single Voting Day represents an assessment of the effectiveness of those local officials who implement the overarching national development course. The key tenets of this course are formulated at the highest level of power (by the President of Russia), taking into account numerous factors: history, national mentality, culture, vision for the country's future, and the current geopolitical landscape, among others.

For instance, the 2018 local elections were held against the backdrop of the pension reform. This reform, which contrasted with the "breakthrough agenda in preserving the people of Russia and ensuring the well-being of our citizens"[6]), previously outlined by the President in his Address to the Federal Assembly, sparked significant public debate and, as we noted in a previous article, "brought the question of the government's legitimacy to the forefront"[7].

"There are no reasonable demographic arguments for immediately raising the retirement age for men"[8].

"The thesis that increasing the retirement age will improve pensioners' welfare seems questionable. The situation for those who would have retired soon will worsen. These generations will be deprived of nearly 200 thousand rubles for each postponed year"[9].

"No reasons for implementing such a strictly timed reform of the retirement age are currently visible. Our analysis, which appears impartial, shows that the economy may not only gain nothing in this case but could even lose"[10].

"Usually, it is believed that in regional elections, it's important to discuss local issues. However, the discussion of the federal pension reform has raised a number of questions about the quality of life 'on the ground': **what is the state of healthcare accessibility after its 'optimization,' conditions and the legal labor market, social benefits, real household incomes in the provinces, where the perhaps modest but guaranteed pension of the older generation serves as an important source of cash and benefits** (it's no coincidence that banks report an increase in loans taken by pensioners). **In the advertising campaign for the pension law during its first month, these pressing societal questions seemed non-existent.** From this perspective, it's understandable why discontent in the regions overshadowed the agenda of constructive changes for regional infrastructure, which United Russia traditionally proposed"[11].

[6] Address of the President to the Federal Assembly of the Russian Federation, March 1, 2018 Available at: http://www.kremlin.ru/acts/bank/42902

[7] Ilyin V.A., Morev M.V. (2018). Pension reform and exacerbating issues of the legitimacy of the government. Economic and Social Changes: Facts, Trends, Forecast, 11(4), p. 9.

[8] Shirov A.A., Potapenko V.V. (2018). On a fair pension system. Ekspert, 24, June 11-17, p. 53.

[9] Bashkatova A. "NG" calculated how much pensioners will receive as a result of the reform. Available at: http://www.ng.ru/economics/2018-06-20/4_7248_minus.html

[10] Obukhova E., Pakhunov K., Ivanter A. (2018). It's a reform, baby! Ekspert, 26(1080), June 25.

[11] Skorobogaty P. (2018). The landmark is 2021. Ekspert, 41, October 8-14, p. 53.

Consequently, in the 2018 elections: in the gubernatorial elections held across 22 federal subjects, candidates from United Russia received 4.3 million fewer votes compared to the previous elections in 2013. In the elections for regional legislative bodies (held in 16 federal subjects), the party received 1.2 million fewer votes (*Tab. 1*).

A second round of voting was required to determine the winner in four regions (Khabarovsk Territory, Primorye Territory, Republic of Khakassia, Vladimir Region). As experts noted at the time, it was precisely the "public debate surrounding the federal pension reform that raised fundamental questions about the quality of life at the local level'"[12].

In 2019, no second round was required in any of the gubernatorial elections; in all federal subjects, victory went either to representatives of United Russia (in 10 regions) or to self-nominated candidates actively supported by the party (in 6 federal subjects).

However, the underlying negative trends persisted. In the gubernatorial elections held across 16 federal subjects, United Russia candidates received 2.9 million fewer votes than in 2018. Similarly, in the elections for regional legislative bodies held in 13 regions, the party received 1.7 million fewer votes compared to the previous year (*Tab. 2*).

Table 1. Results of the Single Voting Day, 2018

Party, turnout	Elections of the region's head*					
	million people			%		
	Fact		Dynamics 2018 to 2013	Fact		Dynamics 2018 to 2013
	2013	2018		2013	2018	
United Russia	11.82	7.54	-4.28	74.88	62.99	-16.53
CPRF	1.55	1.75	+0.20	16.29	19.58	+5.11
LDPR	0.77	1.82	+1.05	6.77	14.82	+9.28
Just Russia	0.49	0.88	+0.39	4.33	7.45	+2.89
Other parties	0.56	0.79	+0.23	7.96	5.70	+0.53
Self-nomination	0.00	0.42	+0.42	0	61.88	+61.88
Turnout	17.35	15.73	-1.62	44.79	42.95	-1.84
	Legislative elections**					
Party, turnout	million people			%		
	Fact		Dynamics 2018 to 2013	Fact		Dynamics 2018 to 2013
	2013	2018		2013	2018	
United Russia	4.96	3.74	-1.22	51.62	41.54	-10.07
CPRF	0.93	1.54	+0.62	13.78	23.14	+9.36
LDPR	0.58	0.96	+0.39	8.40	15.04	+6.64
Just Russia	0.44	0.60	+0.16	6.67	8.66	+1.99
Other parties	0.88	0.48	-0.40	16.27	7.79	-8.47
Turnout	7.90	7.62	-0.28	39.25	38.73	-0.85

* Total for 22 RF constituent entities: Republic of Sakha (Yakutia), Republic of Khakassia, Altai Territory, Krasnoyarsk Territory, Primorye Territory, Khabarovsk Territory, Amur Region, Vladimir Region, Voronezh Region, Ivanovo Region, Kemerovo Region, Magadan Region, Moscow Region, Nizhny Novgorod Region, Novosibirsk Region, Omsk Region, Oryol Region, Pskov Region, Samara Region, Tyumen Region, city of Moscow, and Chukotka Autonomous Area.

** Total for 16 RF constituent entities: Republic of Bashkortostan, Republic of Buryatia, Republic of Kalmykia, Republic of Sakha (Yakutia), Republic of Khakassia, Trans-Baikal Territory, Arkhangelsk Region, Vladimir Region, Ivanovo Region, Irkutsk Region, Kemerovo Region, Rostov Region, Smolensk Region, Ulyanovsk Region, Yaroslavl Region, and Nenets Autonomous Area.

Source: own calculations based on official data from the Central Election Commission of the Russian Federation. More detailed results are presented in the article: Ilyin V.A., Morev M.V. (2018). Revisiting the issue concerning the future of Russian statehood. Economic and Social Changes: Facts, Trends, Forecast, 11(5), 9–29.

[12] Skorobogaty P. (2018). The landmark is 2021. Ekspert, 41, October 8-14, p. 53.

Table 2. Results of the Single Voting Day, 2019

Party, turnout	Elections of the region's head*					
	million people			%		
	Fact		Dynamics 2019 to 2014	Fact		Dynamics 2019 to 2014
	2014	2019		2014	2019	
United Russia	7.78	4.88	-2.90	74.53	71.50	-3.04
CPRF	0.77	0.89	+0.12	11.47	14.79	+3.33
LDPR	0.36	0.50	+0.13	5.02	8.21	+3.19
Just Russia	0.12	0.38	+0.27	5.45	5.27	-0.18
Other parties	0.43	0.47	+0.04	5.31	3.91	-1.41
Self-nomination	0.06	2.30	+2.24	9.78	72.33	+62.55
Turnout	9.82	9.71	-0.11	43.97	44.58	+0.60
	Legislative elections**					
Party, turnout	million people			%		
	Fact		Dynamics 2019 to 2014	Fact		Dynamics 2019 to 2014
	2014	2019		2014	2019	
United Russia	5.01	3.31	-1.69	66.57	51.91	-14.65
CPRF	0.83	1.26	+0.43	10.29	17.06	+6.76
LDPR	0.46	0.81	+0.35	6.77	14.48	+8.17
Just Russia	0.41	0.50	+0.09	5.12	6.80	+1.57
Other parties	0.84	1.16	+0.32	9.13	9.34	+0.20
Turnout	7.82	7.28	-0.54	52.01	47.45	-4.56

* Total for 16 RF constituent entities (excluding the heads of subjects of the Russian Federation appointed by a vote in Parliament): Republic of Altai, Republic of Bashkortostan, Republic of Kalmykia, Trans-Baikal Territory, Stavropol Territory, Astrakhan Region, Volgograd Region, Vologda Region, Kurgan Region, Kursk Region, Lipetsk Region, Murmansk Region, Orenburg Region, Sakhalin Region, Chelyabinsk Region, Saint Petersburg.

** Total for 13 RF constituent entities: Altai Republic, Kabardino-Balkarian Republic, Karachay-Cherkess Republic, Republic of Crimea, Republic of Mari El, Republic of Tatarstan, Republic of Tyva, Khabarovsk Territory, Bryansk Region, Volgograd Region, Tula Region, Moscow, Sevastopol.

Source: own calculations based on the official data of the Central Election Commission of the Russian Federation. More detailed calculation results are presented in the article: Ilyin V.A., Morev M.V. (2019). The 2018–2019 regional election: Voters' trust in the authorities continues to decline. Economic and Social Changes: Facts, Trends, Forecast, 12(5), 9–24.

The elections held during the Single Voting Day from September 11 to 13, 2020, marked the first electoral campaign following the adoption of amendments to the Russian Constitution. The 2020 monitoring focused on territories hosting large, systemically important industrial enterprises[13]. According to calculations based on official CEC data, **support for the authorities in these territories decreased by 77 thousand people at the regional level (from 1.63 to 1.55 million) and by 27 thousand people in major cities (from 0.12 to 0.09 million). Concurrently, voter turnout (as a percentage of the**

[13] **In total, on September 13, 2020, elections of senior officials were held in 18 subjects of the Russian Federation** (Komi Republic, Republic of Tatarstan, Chuvash Republic, Kamchatka, Krasnodar, Perm territories, Arkhangelsk, Bryansk, Irkutsk, Kaluga, Kostroma, Leningrad, Penza, Rostov, Smolensk, Tambov regions, Sevastopol, and Jewish Autonomous Region).

Elections of deputies of legislative (representative) government bodies of the subjects of the Russian Federation were held in 11 regions (Komi Republic, Belgorod, Voronezh, Kaluga, Kostroma, Kurgan, Magadan, Novosibirsk, Ryazan, Chelyabinsk regions, Yamal-Nenets Autonomous Area).

Elections of deputies of representative bodies of municipalities of administrative centers were held in 22 regional capitals (Syktyvkar, Kazan, Izhevsk, Cheboksary, Krasnodar, Astrakhan, Vladimir, Voronezh, Ivanovo, Kaluga, Kostroma, Lipetsk, Magadan, Nizhny Novgorod, Novosibirsk, Orenburg, Orel, Rostov-on-Don, Smolensk, Tambov, Tomsk, and Ulyanovsk).

The sample of the monitoring stage in 2020 (which analyzed the results of voting on constitutional amendments) included 14 regions and 17 cities (their regional capitals and some large cities), on the territory of which large, systemically important companies for the Russian economy are located (such as Norilsk Nickel, NLMK, Kovatek, Severstal, Lukoil, Metalloinvest, MMK, Evraz, PhosAgro, Akron, Rusal, Severalmaz, Polymetal).

Of these territories, 6 regions and 3 cities participated in the Single Voting Day on September 13, 2020.

total electorate) decreased by 5 percentage points in the regions (from 30 to 25%) and by 3 percentage points in the cities (from 15 to 12%; *Tab. 3*).

Table 3. Number of votes for United Russia representatives in regional and municipal elections of 2015 and 2020 in selected federal subjects of Russia

Indicator	Single Voting Day		Dynamics, 2020 to 2015
	15 Sept. 2015	13 Sept. 2020	
Average for 7 regions*			
Turnout, million people	3.38	2.75	-0.63
Turnout, %	44.4	36.7	-7.7
Support for United Russia, million people	1.63	1.55	-0.08
% of turnout	48.2	56.5	+8.3
% of voters	21.4	20.7	-0.7
Average for 3 cities**			
Turnout, million people	0.24	0.20	-0.04
Turnout, %	30.4	25.6	-4.8
Support for United Russia, million people	0.12	0.09	-0.03
% of turnout	49.0	46.1	-2.9
% of voters	14.9	11.8	-3.1

* Belgorod Region, Lipetsk Region, Arkhangelsk Region, Yamal-Nenets Autonomous Area, Chelyabinsk Region, Irkutsk Region, Magadan Region
** Lipetsk, Magnitogorsk, Magadan.
Source: own calculations using the data of the Central Election Commission of the Russian Federation.

"Compared to the 'constitutional' vote of June 25 – July 1, voter turnout decreased significantly, despite the introduction of the 'three-day voting' period, allowing for early voting on Friday and Saturday, September 11–12, in addition to the 'main' Sunday vote on September 13. This can be partly explained by the 'local' nature of the elections, which traditionally generate much less interest among our citizens. However, the difference is so pronounced that the following conclusion suggests itself: **Russian society as a whole, and especially in certain regions of our country, is displaying growing political passivity, though this is less applicable to the 'national' republics within the Federation. This picture indicates not only a fundamental difference in the systems of governance between 'ordinary' regions and republics within the Russian Federation but also a process of, if not confrontation, then alienation, a distancing of our society from the current system of domestic political power"**[14].

As experts noted while analyzing the 2020 Single Voting Day results, "Russian society as a whole, and particularly in certain regions of our country, demonstrates growing political passivity". The voting outcomes indicate "a process of, if not confrontation, then alienation – a distancing of our society from the current system of domestic political power".

Summarizing the September 2020 Single Voting Day, Valery F. Fedorov, Director General of the Russian Public Opinion Research Center (VCIOM), emphasized that "the scenario for the upcoming federal campaign [the 2021 State Duma elections] is turning out to be exceptionally pessimistic for the authorities and their party"[15].

It should be noted that this prediction proved largely accurate. On the one hand, in 2021, voter turnout for the State Duma elections increased by 4 percentage points nationwide compared to 2016 (from 48% to 52%), representing an additional 3.8 million people. Furthermore, while turnout growth in 2016 was observed in only four Russian regions,

[14] Vinnikov V. Quiet backwater: on the results of a single political day. Available at: https://zavtra.ru/blogs/tihaya_zavod_?ysclid=mh94xw5qou614573335

[15] D. Garmonenko. United Russia will face seven risks in the State Duma elections. Available at: https://www.ng.ru/politics/2020-10-06/1_7982_elections.html (based on the materials of V.V. Fedorov's speech "The results of the UVD-2020 – Prospects for the State Duma elections 2021" at the meeting of the VCIOM Scientific Council "Russian Regional Elections 2020: Trends and Prospects" on September 23, 2020).

by 2021 it had expanded to 60 regions[16]. **However, over the past 14 years (from 2007 to 2021), the number of Russians participating in elections has decreased by 12 million people (turnout dropped from 64% to 52%; *Tab. 4*).**

Support for the ruling party decreased nationwide from 54% to 50% between 2016 and 2021 (a loss of 0.5 million people), with United Russia's position weakening compared to previous State Duma elections in 70 federal subjects. **Overall, from 2007 to 2021, the share of votes cast for the ruling party fell from 64 to 50%, meaning a loss of nearly 17 million voters**. It is difficult to disagree with expert assessments noting that "if the ruling party gains 50% of votes with a 50% turnout, this means that only a quarter of citizens actually support the authorities"[17].

Thus, a brief analysis of the monitoring results of local (regional and municipal) elections from 2018 to 2020, as well as the 2021 State Duma elections, demonstrated that despite maintaining dominant superiority on the political stage (specifically, a constitutional majority in the State Duma), United Russia's support dynamics showed consistently negative trends. **This is primarily evidenced by the ruling party's loss of 17 million votes in parliamentary elections between 2007 and 2021.**

Based on the empirical data from conducted research and expert assessments of all analyzed electoral campaigns from 2018 to 2021, a logical conclusion was that "the past elections to the 8th State Duma, on the one hand, demonstrated the growing dissatisfaction of Russians with how the current ruling party and the President are handling key issues concerning the population. On the other hand, society granted the head of state another 'credit of trust,' hoping that through gradual reforms and personal initiatives he would be able to bring the system of state governance to order..."[18]

The special military operation and the sharp escalation of national security threats that Russia faced after February 2022 gave these "gradual reforms and personal initiatives" by the head of state a qualitatively different, higher level of urgency.

Primarily, the SMO significantly influenced voter motivation. All electoral campaigns after February 2022 took place "amid **unprecedented societal consolidation, unification around the president and the flag**"[19], which inevitably affected voting outcomes. Furthermore, after the start of the SMO, many experts began arguing that under the force majeure circumstances, where the country is effectively waging a full-scale war with the Collective West and must reorganize according to the principle

Table 4. Changes in voting results in the elections to the State Duma of the 5th and 8th convocations (2007–2021)

Indicator		Year				Dynamics (+/-)		
		2007	2011	2016	2021	2021 to 2016	2021 to 2011	2021 to 2007
Turnout	Million people	69.61	65.77	52.70	56.48	+3.78	-9.28	-13.12
	%	63.78	60.21	47.88	51.72	+3.84	–8.49	–12.06
Support for United Russia	Million people	44.71	32.37	28.53	28.06	-0.46	-4.31	-16.65
	%	64.30	49.31	54.20	49.82	–4.38	+0.51	–14.48
Source: own calculations using the data of the Central Election Commission of the Russian Federation.								

[16] Detailed calculation results are presented in the article: Ilyin V.A., Morev M.V. (2021). Voters supported the President: On the results of the election to the State Duma of the eighth convocation. Economic and Social Changes: Facts, Trends, Forecast, 14(5), p. 32.

[17] Glazyev S.Yu. The future belongs to open voting. Available at: https://glazev.ru/articles/136-chelovek-i-obshhestvo/95065-sergey-glaz-ev-budushhee-za-otkrytym-golosovaniem

[18] Ilyin V.A., Morev M.V. (2021). Voters supported the President: On the results of the election to the State Duma of the eighth convocation. Economic and Social Changes: Facts, Trends, Forecast, 14(5), p. 32.

[19] Analysts at the Expert Institute for Social Research called the 2023 elections consolidating Russian society. Available at: https://lenta.ru/news/2023/09/12/analitiks

M. Delyagin (Deputy of the State Duma of the Russian Federation): "Under the conditions of the special military operation, the regime should not be 'Live as usual, pay no mind,' but rather 'Everything for the front, everything for victory.' And in this context, holding such elections looks somewhat strange"[20].

I. Grashchenkov (Political Analyst): "The idea of abolishing elections for regional heads is not new. Rumors about their cancellation circulated throughout the spring of this [2022] year. Back then, the argument was that under the conditions of the SMO, it would be wise to demonstrate domestic political unity and, at the same time, save budgetary funds"[21].

S. Mironov: "Why spend all this time and money on [gubernatorial elections] when it's already clear that an absolute majority supports the conduct of the special military operation and, in particular, the decisions of the President of Russia?"[22]

A. Gallyamov (Political Analyst): "People don't like to give up their right to choose their own leaders. It turns out that with one hand the authorities reassure the population – saying, everything is fine with us – while with the other they introduce a force majeure situation. This will reinforce the feeling that something is going wrong in the country"[23].

"everything for the front, everything for Victory", regional elections are essentially unnecessary.

Analyzing the results of the Single Voting Day held on September 11, 2022, K. Kostin, Chairman of the Board of the Civil Society Development Foundation, noted: "All incumbent governors won in the first round with good results, and United Russia achieved one of the best results in its history (if not the best) – 80 percent of all mandates. This indicates support for the president and the forces implementing his policy at various levels"[24].

"Incumbent governors who reconfirmed their mandates achieved higher results than last time. And this is the outcome of the consensus surrounding the president"[25].

However, it should be noted that compared to previous analogous elections (i.e., over the period from 2017 to 2022), the number of people who came to the polls decreased in many regions and regional capitals. According to some experts, this suggested that "the authorities have problems or lack full confidence"[26].

[20] Yentsov Yu. Instead of the call "Everything for the front!", fellow citizens hear "Everything is fine, beautiful Marquise" (interview with M. Delyagin, September 10, 2024. Available at: https://kprf-saratov.ru/2024/09/mihail-delyagin-vmesto-prizyva-vsyo-dlya-fronta-sograzhdane-slyshat-vsyo-horosho-prekrasnaya-markiza

[21] To elect or appoint. Why Russia may cancel gubernatorial elections in 2023. Available at: https://www.amic.ru/news/politika/izbirat-ili-naznachat-pochemu-v-rossii-v-2023-godu-mogut-otmenit-vybory-gubernatorov-510924?ysclid=m22xj5twjh750436221

[22] The discussion about the possible abandonment of direct elections in 2022 has generated intrigue. Available at: https://mskgazeta.ru/politika/diskussiya-o-vozmozhnom-otkaze-ot-pryamyh-vyborov-v-2022-godu-porodila-intrigu-10172.html?ysclid=m22xrnw0h9238697419

[23] Ibidem.

[24] Experts on the election results: The political system has successfully passed the UVD. Available at: https://rg.ru/2022/09/12/eksperty-ob-itogah-vyborov-politicheskaia-sistema-uspeshno-sdala-edg.html?ysclid=mh03nr5dur449008820

[25] Experts on the election results: The political system has successfully passed the UVD. Available at: https://rg.ru/2022/09/12/eksperty-ob-itogah-vyborov-politicheskaia-sistema-uspeshno-sdala-edg.html (opinion of E. Sokolova, head of the Department of Strategic Research and Forecasting at the Expert Institute for Social Research).

[26] D. Garmonenko. The government continues to win with any number of voters. Available at: https://www.ng.ru/politics/2022-09-11/1_8536_elections.html

Specifically, in the elections for regional heads from 2017 to 2022, average voter turnout across the regions decreased by 4 p.p. (from 40 to 36%, or from 6.2 to 5.5 million people; *Tab. 5*). Support for the ruling party decreased by 2 p.p. (from 29 to 27% of the total electorate), meaning United Russia lost 270 thousand votes.

Table 5. Results of the 2022 Single Voting Day for elections of regional heads in regions and regional capitals

Indicator	Single Voting Day		Dynamics, 2022 to 2017
	10 Sept. 2017	11 Sept. 2022	
Average for 14 regions*			
Turnout, million people	6.20	5.46	-0.74
Turnout, %	40.23	35.95	-4.3
Support for United Russia, million people	4.40	4.13	-0.27
% of turnout	71.07	75.65	+4.6
% of voters	28.60	27.20	-1.4
Average for 14 regional capitals**			
Turnout, million people	1.75	1.58	-0.17
Turnout, %	30.53	27.51	-3.0
Support for United Russia, million people	1.15	1.09	-0.06
% of turnout	65.80	68.70	+2.9
% of voters	20.09	18.90	-1.2

* Republic of Buryatia, Republic of Karelia, Republic of Mari El, Udmurt Republic, Vladimir Region, Kaliningrad Region, Kirov Region, Novgorod Region, Ryazan Region, Saratov Region, Sverdlovsk Region, Tambov Region Tomsk Region, Yaroslavl Region.
** Ulan-Ude, Petrozavodsk, Yoshkar-Ola, Izhevsk, Vladimir, Kaliningrad, Kirov, Veliky Novgorod, Ryazan, Saratov, Yekaterinburg, Tambov, Tomsk, Yaroslavl.
Source: own calculations using the data of the Central Election Commission of the Russian Federation.

In regional capitals, turnout decreased by 3 p.p. (from 30 to 27%, or from 1.8 to 1.6 million people), while support for the ruling party fell by 1.2 p.p. (from 20 to 19%, representing a loss of 60 thousand votes)[27].

The next Single Voting Day in Russia took place on September 10, 2023. Electoral campaigns and local referendums at various levels were held "in 85 out of 89 federal subjects"[28].

A key feature of the September 2023 elections was, firstly, that they were the "last before the 2024 presidential campaign"[29]. Secondly, they were conducted not only amidst ongoing military operations, as well as terrorist attacks and sabotage on Russian territory, but also following the armed mutiny attempt led by Wagner PMC head Yevgeny Prigozhin on June 24, 2023.

Against this backdrop, as noted by CEC Chairperson E. Pamfilova, "turnout reached a record high in ten years... All incumbent governors, as well as acting heads, retained their posts"[30].

However, an in-depth analysis of the CEC data revealed that a substantial increase in turnout compared to previous elections occurred in only a minor number of territories.

For example, in the elections for top regional officials, the proportion of voters participating increased significantly (by 10 p.p. or more) **in only 4 out of 21 federal subjects (on average by 16 p.p., from 44 to 60%, or by 3.2 million people). Meanwhile, turnout decreased in 9 regions (by 4 p.p., from 47 to 43%, or by 360 thousand people; *Tab. 6*).**

In the elections for regional legislative bodies, a noticeable increase in turnout in 2023 compared to 2018 was observed in only two regions – Kemerovo and Smolensk regions (by 12 p.p., from 45 to 57%, or by 0.3 million people). A decrease in turnout was recorded in 10 federal subjects (by 4 p.p., from 39 to 35%, or by 0.4 million people; *Tab. 7*).

[27] For more detailed research results, including elections to the legislative bodies of the subjects of the Russian Federation, see the article: Ilyin V.A., Morev M.V. (2022). The special military operation reveals new features of civil society. Economic and Social Changes: Facts, Trends, Forecast, 15(5), 9–32.

[28] The history of the Single Voting Day in Russia. Available at: https://tass.ru/info/18683417

[29] The 2023 regional campaign will be large-scale but predictable. Available at: https://www.kommersant.ru/doc/5758775

[30] Pamfilova called the record turnout at 46%. Available at: https://www.rbc.ru/politics/13/09/2023/6501c3fe9a7947ea85beaf37

Table 6. Dynamics of voter turnout in elections for top regional officials on September 10, 2023, compared to September 9, 2018, by federal subject

Federal subject	2018		2023		Dynamics (+/-)	
	thousand people	% of voters	thousand people	% of voters	thousand people	% of voters
Increase in turnout by 10 percentage points or more						
Moscow Region	2144.96	38.59	3682.45	60.53	+1537.49	+22
Nizhny Novgorod Region	1046.59	40.51	1401.66	56.01	+355.08	+16
Kemerovo Region – Kuzbass	1337.42	66.47	1549.24	81.01	+211.82	+15
City of Moscow	2259.08	30.94	3325.12	43.18	+1066.04	+12
TOTAL	**6788.05**	**44.13**	**9958.47**	**60.18**	**+3170.43**	**+16**
Increase in turnout by 1–9 percentage points / no changes						
Krasnoyarsk Region	593.49	28.94	730.88	35.55	+137.39	+7
Amur Region	194.75	31.25	233.42	38.74	+38.66	+7
Voronezh Region	831.09	44.83	928.81	51.08	+97.71	+6
Samara Region	1143.20	48	1296.99	53.79	+153.79	+6
Smolensk Region*	225.61	29.67	250.38	33.71	+24.77	+4
Novosibirsk Region	628.95	29.52	695.49	31.86	+66.55	+2
Tyumen Region	1241.45	49.09	1359.02	50.76	+117.57	+2
Ivanovo Region	265.77	32.9	261.61	33.92	-4.16	+1
Pskov Region	195.41	36.91	194.08	37.8	-1.33	+1
TOTAL	**5319.71**	**36.79**	**5950.67**	**40.80**	**+630.96**	**+4**
Decrease in turnout						
Primorye Territory**	680.10	46.35	655.23	45.58	-24.87	-1
Republic of Sakha (Yakutia)	321.54	50.69	314.93	48.41	-6.61	-2
Republic of Khakassia	160.09	41.88	155.82	39.54	-4.27	-2
Oryol Region	364.85	57.77	337.27	55.98	-27.58	-2
Magadan Region	38.74	39.58	33.95	35.09	-4.78	-4
Altai Territory	683.34	37.28	547.93	31.04	-135.41	-6
Chukotka Autonomous Area	17.99	60.19	15.97	53.48	-2.02	-7
Omsk Region	666.63	43.6	510.51	34.51	-156.11	-9
TOTAL	**2933.26**	**47.17**	**2571.61**	**42.95**	**-361.65**	**-4**

* The previous elections were held on September 13, 2020.
** The previous elections were held on December 16, 2018.
Source: own calculations using the data of the Central Election Commission of the Russian Federation.

Table 7. Dynamics of voter turnout in elections for regional legislative bodies on September 10, 2023, compared to September 9, 2018, by federal subject

Federal subject	2018 г.		2023 г.		Dynamics (+/-)	
	thousand people	% of voters	thousand people	% of voters	thousand people	% of voters
Increase in turnout by 10 percentage points or more						
Kemerovo Region – Kuzbass	1335.56	66.39	1549.10	81.01	+213.54	+15
Smolensk Region	182.06	23.67	250.32	33.70	+68.26	+10
TOTAL	**1517.62**	**45.03**	**1799.42**	**57.36**	**+281.80**	**+13**
Increase in turnout by 1–9 percentage points / no changes						
Trans-Baikal Territory	176.01	22.04	205.18	26.62	+29.17	+5
Republic of Bashkortostan	1498.02	49.08	1545.91	51.72	+47.89	+3
Nenets Autonomous Area	12.17	35.96	12.87	37.69	+0.70	+2
Ivanovo Region	265.80	32.91	261.56	33.92	-4.24	+1
TOTAL	**1951.99**	**35.00**	**2025.52**	**37.49**	**+73.53**	**+2**
Decrease in turnout						
Arkhangelsk Region	276.88	29.34	250.52	28.08	-26.35	-1
Republic of Khakassia	159.97	41.85	155.85	39.57	-4.12	-2
Republic of Sakha (Yakutia)	321.45	50.69	314.58	48.36	-6.87	-2
Irkutsk Region	491.58	26.33	443.84	24.22	-47.74	-2
Yaroslavl Region	296.69	29.27	271.96	27.41	-24.73	-2
Republic of Buryatia	270.19	39.55	254.76	36.3	-15.44	-3
Rostov Region	1447.33	45.43	1357.36	42.83	-89.97	-3
Ulyanovsk Region	404.48	40.31	330.84	34.68	-73.64	-6
Vladimir Region	372.65	32.92	268.45	24.77	-104.20	-8
Republic of Kalmykia	111.80	54.03	84.29	42.04	-27.51	-12
TOTAL	**4153.02**	**38.97**	**3732.47**	**34.83**	**-420.56**	**-4**

Source: own calculations using the data of the Central Election Commission of the Russian Federation.

Table 8. Comparison of election results on September 10, 2023, in the new regions and other federal subjects of Russia

Indicator	For new RF subjects	For other RF subjects	Dynamics (+/-) for new subjects of the Russian Federation in comparison with other regions
Legislative elections			
Turnout, % of voters	71.14	38.31	+33
Share of votes cast for United Russia, % of turnout	77.52	56.52	+21
Elections to representative bodies of municipalities of regional centers of RF subjects			
Turnout, % of voters	63.54	33.14	+30
Share of votes cast for United Russia, % of turnout	77,46	50,68	+27
Source: own calculations using the data of the Central Election Commission of the Russian Federation (http://www.vybory.izbirkom.ru).			

A similar situation was characteristic of regional capitals:

✓ in the elections for top regional officials, turnout increased substantially in only five municipal formations (from 36 to 48%, or by 1.4 million people), while it decreased in 9 regional capitals (by 5 p.p., from 35 to 30%, or by 1 million people).

✓ in the elections for legislative bodies, a noticeable turnout increase was observed in only three cities – Ufa, Kemerovo, and Smolensk (by 12 p.p., from 33 to 45%, or by 0.1 million people), while it decreased in 10 cities (by 5 p.p., from 33 to 28%, or by 0.2 million people)[31].

Furthermore, the 2023 regional elections marked the first participation of new Russian regions – the DPR, LPR, Kherson, and Zaporozhye regions – which demonstrated higher levels of turnout and support for United Russia compared to the average across other federal subjects and municipal formations of Russia (*Tab. 8*).

Thus, analyzing the results of the 2023 Single Voting Day, experts noted that it was a "far more complex phenomenon"[32], than simply a "rally-'round-the-flag" effect: "In a country that, within a single year, underwent mobilization, experienced high-profile failures at the front, saw a military mutiny collapse, and witnessed sharply rising prices for essential goods and food in the rear. There were many positive developments too, but it is precisely the listed phenomena that most often weigh on the voter and provoke a reassessment of the command-political echelon".

"The results of the Single Voting Day on September 10, 2023, signal that against the backdrop of the general consolidation of the majority of the population (quite naturally prompted by the urgency of the external and internal threats Russia faced after the start of the SMO), **a demand continues to accumulate in society for the authorities to align the behavior and concrete actions of the elites with the state's publicly declared rhetoric"**[34].

[31] Detailed results of the study are presented in the article: Ilyin V.A., Morev M.V. (2023). From "Munich 2007" to "Valdai 2023": Sixteen years that changed Russia and the world. Economic and Social Changes: Facts, Trends, Forecast, 16(5), 9–31.

[32] Ibidem.

[33] Ilyin V.A., Morev M.V. (2023). From "Munich 2007" to "Valdai 2023": Sixteen years that changed Russia and the world. Economic and Social Changes: Facts, Trends, Forecast, 16(5), 9–31.

[34] Skorobogaty P. Elections-2023: the effect of cohesion. Available at: http://vybor-naroda.org/stovyborah/248163-vybory-2023-jeffekt-splochenija.html

On September 8, 2024, the Single Voting Day took place against a backdrop not only of the increasing likelihood of missile strikes deep into Russian territory using NATO-produced long-range weapons but also, and more importantly, following the incursion of the Ukrainian Armed Forces into the Kursk Region (August 6, 2024).

Naturally, the persistence of the general context of a worsening external political situation globally and around Russia influenced the continuation of trends observed in the results of the 2024 Single Voting Day.

E. Pamfilova "rated the results of the 2024 Single Voting Day as maximally positive"[35]: as before, in all subjects where elections for regional heads were held, victory went either to acting heads appointed by the President or to incumbent governors. Furthermore, on average across the 21 regions holding direct elections for regional heads, turnout increased by 3.72% (from 46.8 to 50.5% of the total electorate), and support for representatives of the ruling party or acting heads appointed by the President increased by 3.64% (from 73.36 to 77.0%; *Tab. 9*).

An increase in turnout was recorded in the majority of federal subjects where voting took place (in 15 out of 21 subjects), although it should be noted that support for the ruling party in 2024 increased compared to the previous 2019 elections in only half of the regions (in 11 out of 21)[36].

Table 9. Results of the 2024 Single Voting Day
for elections of regional heads in regions and regional capitals

Indicator	Single Voting Day		Dynamics, 2024 to 2019
	8 Sept. 2019	8 Sept. 2024	
Average for 21 federal subjects*			
Turnout, million people	13.90	14.63	+0.73
Turnout, %	46.82	50.54	+3.72
Support for United Russia, million people	10.59	11.20	+0.61
% of turnout	73.36	77.00	+3.64
% of voters	34.87	38.98	+4.11
Average for 20 regional capitals**			
Turnout, million people	3.56	3.52	-0.04
Turnout, %	41.97	42.01	+0.04
Support for United Russia, million people	2.59	2.67	+0.08
% of turnout	69.59	73.96	+4.37
% of voters	29.62	31.41	+1.79

* Republic of Altai, Republic of Bashkortostan, Republic of Kalmykia, Trans-Baikal Territory, Stavropol Territory, Khabarovsk Territory, Astrakhan Region, Volgograd Region, Vologda Region, Kaliningrad Region, Kemerovo Region - Kuzbass, Kurgan Region, Kursk Region, Lipetsk Region, Murmansk Region, Orenburg Region, Samara Region, Sakhalin Region, Tula Region, Chelyabinsk Region, Saint Petersburg.
** Gorno-Altaysk, Ufa, Elista, Chita, Stavropol, Khabarovsk, Astrakhan, Volgograd, Vologda, Kaliningrad, Kemerovo, Kurgan, Kursk, Lipetsk, Murmansk, Orenburg, Samara, Yuzhno-Sakhalinsk, Tula, Chelyabinsk.
Source: own calculations using the data of the Central Election Commission of the Russian Federation.

[35] Rodin I. Pamfilova rejected anti-popular criticism of the elections. Available at: https://www.ng.ru/politics/2024-09-11/3_9091_campaign.html?ysclid=m1q4r67ynj13324465

[36] Detailed results of the study are presented in the article: Ilyin V.A., Morev M.V. (2024). Special military operation and the internal mobilization of society and elites. Economic and Social Changes: Facts, Trends, Forecast, 17(5), 9–39.

1. "Against the backdrop of progress in electoral technology, **the political system is degrading into archaism... [opposition parties] have finally turned into objects of the political process.** Its subjects are the regional authorities, linked into a single network through political deputy governors, which is centralized in the relevant departments of the presidential administration"[37].

2. **"In such a construct, one cannot expect elections to be a process of collective search for solutions to the most pressing problems of regions/cities/districts/the country.** Because a demand of metaphysical/existential importance is pushed to the forefront – the preservation of Russian statehood itself. And people's current problems seem minor, insignificant, selfish, philistine..."[38]

3. **"Elections are increasingly perceived as a political ritual that one is expected to participate in**... This might be sufficient here and now. **But it is hardly sufficient to effectively govern a large country in the long term, to sense the mood of the people"**[39].

4. **"The 'freezing' of political and public activity will continue. It can be assumed that under such conditions, the ruling party will continue its course of turning elections into a farce and maintaining legitimacy purely formally**. As experts are already saying, **the real political content of the elections does not relate to the will of the masses..."**[40]

5. "The 2024 Single Voting Day, in its formal characteristics, turned out to be a copy of last year's elections, **with the main competition compressed to the five parliamentary parties"**[41].

Analyzing the results of the 2024 Single Voting Day, many experts concluded that a significant portion of the population increasingly perceives elections as a "political ritual", whose "real political content does not relate to the will of the masses". They argue that Russia's political system is "regressing into archaism" due to the "constriction of political competition", where opposition parties are "turning into objects of the political process", thus leading to a "freezing of political and social activity".

In other words, experts pointed out that **alongside the "rally-'round-the-flag" process, a "routinization" and a de facto "atrophy" of the election institution itself is occurring**. The continuation of this trend was noted by them during the next local-level electoral campaign held on September 14, 2025.

[37] On the options of the emerging one-party system. Available at: https://www.ng.ru/editorial/2024-09-11/2_9091_red.html?ysclid=m1ov943beg112335220

[38] Remchukov K. Does our society want changes? Available at: https://www.ng.ru/politics/2024-09-09/2_9088_1427.html?ysclid=m1ouwv0945994401035

[39] About elections as a communication channel. Available at: https://www.ng.ru/editorial/2024-09-10/2_9090_red.html?ysclid=m1ov3swigc738886871

[40] D. Garmonenko, Party lists for the State Duma-2026 will be preserved to the politically necessary extent. Available at: https://www.ng.ru/politics/2024-09-17/1_9095_elections.html?ysclid=m1ow0bnrnr730662997 (opinion of the head of the Analytical Department of the Communist Party of the Russian Federation S. Obukhov).

[41] Kynev A. LDPR, New People and Social Revolutionaries claim the same electorate. Available at: http://club-rf.ru/detail/7425?ysclid=m1uf0lhmga649045765

"In the elections for the leadership of 20 Russian regions, 19 nominees from United Russia and one self-nominated candidate – the incumbent head of the Chuvash Republic, Oleg Nikolayev – emerged victorious. None of the winners received less than 60% of the votes. Eight newly elected regional leaders, including the new governor of the Kursk Region, Alexander Khinshtein, secured over 80% of the votes...

All this indicates that while the elections for regional heads featured formal competition, there was no real contest or any element of suspense. In the sterilized domestic political landscape, this is both expected and normal...

The overwhelming victories of pro-government candidates ostensibly suggest that the regions are entirely stable, with no cause for public discontent, let alone protest sentiments. Alternatively, it may indicate that the authorities are effectively monitoring the situation on the ground, promptly removing discredited leaders and replacing them with more effective ones (as seen in the Kursk Region). In other words, everything is orchestrated to ensure that elections remain little more than a ritualistic practice of endorsing the pre-approved candidate.

This is an opaque environment... This is politics in the shadows, which elections fail to illuminate in any way"[42].

The 2025 electoral campaign had several distinctive features worth noting separately.

[42]**First, the 2025 Single Voting Day served as a "dress rehearsal for the political system ahead of the 2026 State Duma elections**"[43]. This meant that for political parties, these were "model" elections... Their performance in this upcoming Single Voting Day would determine the balance of power ahead of the State Duma elections"[44]. For society, it meant a test of "demonstrating the stability"[45] of both the electoral process and the political system as a whole.

Second, the past elections showed that "the process of forming a new elite is already underway"[46]. As noted by CEC Chairperson E. Pamfilova, "the most significant distinction this year is the wave of participants in the special military operation running in the elections"[47].

E. Pamfilova: "...the most significant distinction is that this year we have seen a wave of participants in the special military operation running in elections, and with very strong results...

A total of 1,663 candidates were SMO participants, of whom 1,035 were elected... United Russia – 882 individuals, the Communist Party (CPRF) – 23, the Liberal Democratic Party (LDPR) – 20, A Just Russia — For Truth – 20, New People – six, Party of Pensioners – three. The Republican public movement 'Tatarstan – New Century' – two, Party of Growth – one, Civic Platform – one, and 77 self-nominated candidates.

This trend [emerged] also considering that You [the President], and this is very important, essentially set this direction, stating that a new wave in politics is needed"[48].

[42] On the election of regional heads and the costs of verticalization. Available at: https://www.ng.ru/editorial/2025-09-16/2_9339_red.html

[43] Minchenko consulting. XIX Rating of political stability of the heads of regions "Gossovet 2.0", March 2025. Available at: https://minchenko.ru/netcat_files/userfiles/Gossovet_2025_9_marta_NEW.pdf

[44] Daria Kislitsyna, Head of the EISI Department for Work with the Regions. Available at: https://vz.ru/news/2025/6/5/1336826.html?ysclid=mggi90nhwg519939165

[45] UVD-2025: Context, course of campaigns, alignment of forces, agendas and forecasts: An analytical note. Available at: https://cipkr.ru/2025/09/04/edg-2025-kontekst-hod-kampanij-rasstanovka-sil-povestki-i-prognozy/

[46] Isaichenko O. The elections opened up political opportunities for its participants. Available at: https://vz.ru/politics/2025/9/15/1359732.html

[47] The meeting of the President of the Russian Federation V. Putin with the Chair of the Central Election Commission of the Russian Federation E. Pamfilova, September 26, 2025. Available at: http://www.kremlin.ru/events/president/news/78076

[48] Ibidem.

According to State Duma Deputy O. Matveychev's estimates, "over 1.6 thousand individuals connected to the special military operation participated in elections at various levels this year... We must not forget those who provided various forms of assistance to the front. These people were also represented in the elections, having earned the trust of citizens... the spirit of the SMO will be felt in the upcoming 2026 State Duma elections as well"[49].

Third, the "voting demonstrated Russia's ability to maintain the independence and resilience of its electoral system under external pressure"[50]. As political analyst N. Lyakhovetsky emphasized, **"electoral sovereignty is one of the foundations of Russia's independence.** This refers to the protection of the electoral system from any forms of external interference, including information attacks and the spread of fakes and disinformation designed to undermine citizens' trust in elections... Particular effort was required from election commissions in border regions under constant shelling – such as the Bryansk, Kursk, and Rostov regions, and Krasnodar Territory"[51].

Regarding the direct changes in the party-political configuration, shortly before the elections, many experts predicted that the LDPR would, for the first time, overtake the CPRF and assume the status of the "main opposition party" in the country.

E. Pamfilova: "For the first time, we launched our own digital platform, as promised – an analogue of the State Automated System 'Elections'... it operated at 100 percent capacity without any backup, without failures, without any issues... This is entirely our own software, domestically produced".

K. Kostin: "The concluded campaign essentially marked the beginning of AI application in the electoral process. On one hand, this will make it more creative and interesting in the future, but on the other hand, it will also make it more complex and become a source of new challenges and threats to the transparency and legitimacy of electoral procedures"[52].

N. Lyakhovetsky: "During the voting days, the CEC portal was subjected to 290 thousand hacking attacks, with over 300 additional attacks targeting the remote electronic voting system".

O. Garmonenko: "The LDPR is openly referred to as the second state party..."[53]

K. Kalachev: "The situation is objectively developing in the LDPR's favor. The party is known and remembered in the regions, its ratings are growing, and it enjoys a regime of complete favorability. Apparently, the LDPR can count on support from the authorities, and in some places – even administrative support... The authorities clearly intend to assist it as United Russia's junior partner; apparently, the party is being elevated to second place this very year in preparation for the major federal campaign. It would have been suspicious if the LDPR was consistently third in 2025, and then suddenly became second in the State Duma elections"[54].

[49] Isaichenko O. The elections opened up political opportunities for its participants. Available at: https://vz.ru/politics/2025/9/15/1359732.html

[50] Ibidem.

[51] Isaichenko O. The elections opened up political opportunities for its participants. Available at: https://vz.ru/politics/2025/9/15/1359732.html

[52] Kostin K. Law and choice. Available at: https://iz.ru/1954805/konstantin-kostin/pravo-i-vybor

[53] D. Garmonenko, the LDPR is already being called the second state party. Available at: https://www.ng.ru/politics/2025-06-10/1_3_9271_ldpr.html?ysclid=mgj1hboh61970067801

[54] Ibidem (opinion of the head of the Political Expert Group K. Kalachev).

However, this prediction ultimately did not materialize. As experts noted after the voting, "the fate of second place remains undetermined... While communists more confidently secured second places in gubernatorial elections, the Liberal Democratic Party performed better in parliamentary campaigns"[55].

> K. Kostin: "We all said the Single Voting Day would determine the leader of this competition, but it hasn't. There is a leader – United Russia, while the situation in the middle of the 'tournament table' is becoming more crowded"[56].

Thus, the 2025 Single Voting Day had its distinctive features, **but the fundamentals remained unchanged:**

1. "Voter demands are shaped by the general political agenda and the information streams broadcast across the entire country"[57].

2. "Societal consolidation, the maximum 'rallying around the flag' – this is the contemporary political reality that determines the outcomes of all elections"[58].

3. "Most importantly, citizens have, in effect, as if in a referendum, approved of Vladimir Putin's policies, placing their trust in all his endorsed candidates for regional leadership positions and representatives of the United Russia party, which serves as the political instrument for the country's development course implemented by the president. The 2025 Single Voting Day once again confirmed and strengthened the trend of Russian society consolidating around the head of state"[59].

The specific results of the concluded electoral campaign (for elections of regional heads and deputies to legislative bodies) compared to previous elections held in 2020 and 2015 are presented in *Inserts 1–5*.

Here, we note the most general trends from the results of the regional head elections compared to previous analogous elections held in the same territories in 2020–2022[60]:

✓ firstly, aggregate voter turnout across all federal subjects and their regional capitals increased (by 1.6 million people in the regions and by 0.2 million people in the cities; *Tab. 10, Inserts 1, 3*);

✓ secondly, in aggregate across the regions, 1.5 million more people voted for the United Russia party compared to 2020, and 0.4 million more in the regional capitals. However, it can be said that the level of support for the ruling party remained virtually unchanged compared to past elections: on average across the federal subjects, it constituted 74% of the votes cast by participating voters; in the cities, it was 69% (*Tab. 10, Inserts 2, 4*);

✓ thirdly, it is important to note that the 69–75% of votes received by United Russia in the elections represents the will only of those who participated. As a percentage of the total number of registered voters residing in these territories (according to official CEC data), the level of support for the ruling party is significantly (almost halved) lower – averaging 40% in the regions and 29% in the regional capitals (*Tab. 10, Inserts 2, 4*).

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[55] Ibidem.

[56] Leiba G. Number off in ones and fourths! How will the results of the 2025 regional campaign affect the results of the State Duma elections. Available at: https://www.kommersant.ru/doc/8041559?ysclid=mgj0fzo0oq169180845

[57] Political scientists named the main expectations of voters: What parties should prepare for (opinion of political strategist S. Markelov). Available at: https://fedpress.ru/article/3405416

[58] Zamakhina T. "Uniting around the flag": political scientists have studied the pre-election scenario for 2025. Available at: https://rg.ru/2025/08/26/obedinenie-vokrug-flaga-politologi-izuchili-predvybornyj-rasklad-2025.html?ysclid=mgj1h9krpb340481599

[59] Kostin K. Law and choice. Available at: https://iz.ru/1954805/konstantin-kostin/pravo-i-vybor

[60] The 2020 SVD was held in 15 of the 20 analyzed subjects of the Russian Federation. The previous regional elections were held in 2020, but there are exceptions: in the Novgorod, Sverdlovsk and Tambov regions, the previous elections of the heads of regions were held in 2022; in the Kursk and Orenburg regions – in 2024.

Table 10. Results of the 2025 Single Voting Day for elections of regional heads in regions and regional capitals

Indicator	2015	2020	2025	Dynamics (+/-), 2025 to…	
				2015	2020
*Average for 20 federal subjects**					
Turnout, million people	13.11	13.80	15.41	+2.30	+1.61
Turnout, %	42.72	46.91	52.43	+9.71	+5.52
Support for United Russia, million people	10.14	10.52	12.01	+1.87	+1.49
% of turnout	72.32	74.89	74.37	+2.05	-0.52
% of voters	31.85	35.74	39.87	+8.02	+4.13
*Average for 20 regional capitals***					
Turnout, million people	2.97	2.85	3.07	+0.10	+0.23
Turnout, %	33.58	36.68	40.02	+6.44	+3.34
Support for United Russia, million people	2.13	1.93	2.28	+0.16	+0.35
% of turnout	64.95	69.08	69.07	+4.12	-0.01
% of voters	22.83	25.68	28.87	+6.03	+3.19

* Republic of Tatarstan, Jewish Autonomous Region, Krasnodar Territory, Sevastopol, Leningrad Region, Rostov Region, Chuvash Republic – Chuvashia, Bryansk Region, Kursk Region, Tambov Region, Orenburg Region, Perm Territory, Kamchatka Territory, Kaluga Region, Sverdlovsk Region, Kostroma Region, Komi Republic, Novgorod Region, Arkhangelsk Region, Irkutsk Region.
** Birobidzhan, Sevastopol, Kazan, Rostov-on-Don, Bryansk, Kursk, Krasnodar, Petropavlovsk-Kamchatsky, Tambov, Orenburg, Veliky Novgorod, Perm, Irkutsk, Arkhangelsk, Cheboksary, Kaluga, Syktyvkar, Yekaterinburg, Kostroma.
Source: own calculations using the data of the Central Election Commission of the Russian Federation.

We also note that compared to previous elections, turnout in the elections for top regional officials, as well as the share of votes for United Russia candidates, increased in 16 out of 20 regions (*Inserts 1, 2*).

The situation looks slightly less pronounced (though still convincing for the ruling party) in the regional capitals: here, turnout in the elections for regional heads increased in 11 out of 20 administrative centers (*Insert 3*), and support for United Russia representatives increased in 13 out of 20 cities (*Insert 4*).

Regarding the elections of deputies to regional legislative bodies, both voter turnout and support for the ruling party representatives increased in all 11 regions compared to the previous elections. Turnout rose *from 4 to 5 million people (on average from 36.5 to 44%)*, and support for the ruling party increased *from 2 to 3 million people (on average from 47.7 to 60.5%; Insert 5)*.

Thus, summarizing the course and results of the 2025 Single Voting Day, experts once again concluded that *"the system of political representation has demonstrated its maturity and functionality, having developed the capacity to respond to threats and the ability to operate in crisis situations, evolving towards greater thoroughness and 'maturity,' responding to the demands of citizens and the country's development trajectory. The test has been passed with dignity"*[61].

"In essence, we witnessed an informal 'referendum of trust' on the president's policies – all acting regional heads supported by him and incumbent candidates won in the first round with respectable results"[62].

"The excellent result of United Russia, **which serves as the instrument for implementing the president's policy,** is the main outcome"[63].

[61] Kostin K. Law and choice. Available at: https://iz.ru/1954805/konstantin-kostin/pravo-i-vybor

[62] Experts named the main results of SVD-2025 (K. Kostin's assessment). Available at: https://vz.ru/news/2025/9/16/1360120.html?ysclid=mggfnxs8t6352419574

[63] Ilyina V. Marker of normality: Experts discussed the results of the 2025 elections. Available at: https://rg.ru/2025/09/16/marker-normalnosti-eksperty-obsudili-itogi-vyborov-2025.html?ysclid=mh21x3xntc738372756 (K. Kostin's opinion).

Insert 1

Elections of top regional officials (turnout and total number of voters)*

Federal subject	Total number of voters, thousand people			Dynamics (+/-), 2025 to…				Turnout, people			Dynamics (+/-), 2025 to…				Turnout, %			Dynamics (+/-), 2025 to…	
				2015		2020					2015.		2020.					2015	2020
	2015	2020	2025	thousand people	%	thousand people	%	2015	2020	2025.	thousand people	%	thousand people	%	2015	2020	2025	%	%
Republic of Tatarstan	2906.6	2945.3	2940.2	+33.6	+1.2	-5.1	-0.2	2456.8	2320.4	2230.2	-226.6	-9.2	-90.1	-3.9	84.5	78.8	75.9	-8.7	-2.9
Chuvash Republic	944.1	921.4	908.7	-35.4	-3.7	-12.7	-1.4	553.3	511.4	531.6	-21.7	-3.9	+20.1	+3.9	58.6	55.5	58.5	-0.1	+3.0
Orenburg Region	1557.4	1501.1	1506.8	-50.6	-3.2	+5.7	+0.4	616.1	789.4	744.0	+127.9	+20.8	-45.4	-5.8	39.6	52.6	49.4	+9.8	-3.2
Perm Region	1971.9	1998.5	1972.7	+0.8	0.0	-25.8	-1.3	838.7	714.7	967.2	+128.5	+15.3	+252.5	+35.3	42.5	35.8	49.0	+6.5	+13.3
Volga FD	***1845.0***	***1841.6***	***1832.1***	***-12.9***	***-0.7***	***-9.5***	***-0.5***	***1116.2***	***1084.0***	***1118.3***	***+2.0***	***+0.2***	***+34.3***	***+3.2***	***56.3***	***55.7***	***58.2***	***+1.9***	***+2.5***
Jewish Autonomous Region	131.5	126.6	117.0	-14.5	-11.0	-9.6	-7.6	41.9	92.5	86.9	+45.0	+107.3	-5.6	-6.1	31.9	73.0	74.2	+42.4	+1.2
Kamchatka Territory	239.2	227.1	231.7	-7.4	-3.1	+4.6	+2.0	76.2	84.4	107.8	+31.6	+41.4	+23.4	+27.8	31.9	37.2	46.5	+14.6	+9.4
Far Eastern FD	***185.3***	***176.9***	***174.4***	***-11.0***	***-5.9***	***-2.5***	***-1.4***	***59.1***	***88.4***	***97.3***	***+38.3***	***+64.8***	***+8.9***	***+10.1***	***31.9***	***55.1***	***60.4***	***+28.5***	***+5.3***
Krasnodar Territory	3933.2	4219.2	4469.6	+536.5	+13.6	+250.4	+5.9	1810.9	2895.6	3069.3	+1258.5	+69.5	+173.7	+6.0	46.0	68.6	68.7	+22.6	0.0
Sevastopol	318.6	327.9	357.8	+39.2	+12.3	+29.9	+9.1	109.0	158.3	239.6	+130.6	+119.9	+81.3	+51.3	34.2	48.3	67.0	+32.8	+18.7
Rostov Region	3274.5	3196.9	3120.8	-153.7	-4.7	-76.2	-2.4	1590.0	1374.2	1902.2	+312.2	+19.6	+527.9	+38.4	48.6	43.0	61.0	+12.4	+18.0
Southern FD	***2508.7***	***2581.4***	***2649.4***	***+140.7***	***+5.6***	***+68.0***	***+2.6***	***1169.9***	***1476.1***	***1737.0***	***+567.1***	***+48.5***	***+261.0***	***+17.7***	***42.9***	***53.3***	***65.5***	***+22.6***	***+12.2***
Leningrad Region.	1296.5	1361.1	1431.5	+135.0	+10.4	+70.4	+5.2	577.1	701.2	899.5	+322.3	+55.8	+198.3	+28.3	44.5	51.5	62.8	+18.3	+11.3
Komi Republic	691.3	658.3	617.9	-73.4	-10.6	-40.4	-6.1	281.1	198.5	233.3	-47.9	-17.0	+34.7	+17.5	40.7	30.2	37.8	-2.9	+7.6
Novgorod Region.	505.4	477.2	467.5	-37.9	-7.5	-9.6	-2.0	143.3	156.6	176.3	+33.0	+23.0	+19.8	+12.6	28.4	32.8	37.7	+9.4	+4.9
Arkhangelsk Region	979.7	924.2	886.1	-93.6	-9.5	-38.0	-4.1	205.7	301.8	321.8	+116.1	+56.4	+20.0	+6.6	21.0	32.7	36.3	+15.3	+3.7
NWFD	***868.2***	***855.2***	***850.8***	***-17.5***	***-2.0***	***-4.4***	***-0.5***	***301.8***	***339.5***	***407.7***	***+105.9***	***+35.1***	***+68.2***	***+20.1***	***33.6***	***36.8***	***43.7***	***+10.0***	***+6.9***
Bryansk Region	1023.1	985.0	934.8	-88.3	-8.6	-50.1	-5.1	587.6	496.1	543.9	-43.7	-7.4	+47.8	+9.6	57.4	50.4	58.2	+0.8	+7.8
Kursk Region	922.5	874.2	865.5	-57.0	-6.2	-8.7	-1.0	383.4	538.1	468.2	+84.8	+22.1	-69.9	-13.0	41.6	61.6	54.1	+12.5	-7.5
Tambov Region	835.1	809.7	780.9	-54.2	-6.5	-28.9	-3.6	539.5	468.7	421.7	-117.8	-21.8	-47.0	-10.0	64.6	57.9	54.0	-10.6	-3.9
Kaluga Region	803.8	801.0	779.9	-23.9	-3.0	-21.1	-2.6	289.9	283.5	349.4	+59.5	+20.5	+65.9	+23.2	36.1	35.4	44.8	+8.7	+9.4
Kostroma Region	545.4	523.4	496.6	-48.8	-8.9	-26.8	-5.1	195.2	167.4	197.6	+2.5	+1.3	+30.3	+18.1	35.8	32.0	39.8	+4.0	+7.8
Central FD	***826.0***	***798.6***	***771.5***	***-54.5***	***-6.6***	***-27.1***	***-3.4***	***399.1***	***390.8***	***396.2***	***-3.0***	***-0.7***	***+5.4***	***+1.4***	***47.1***	***47.4***	***50.2***	***+3.1***	***+2.7***
Sverdlovsk Region	3401.7	3303.3	3295.3	-106.4	-3.1	-8.0	-0.2	1269.6	940.5	1315.2	+45.6	+3.6	+374.6	+39.8	37.3	28.5	39.9	+2.6	+11.4
Ural FD	***3401.7***	***3303.3***	***3295.3***	***-106.4***	***-3.1***	***-8.0***	***-0.2***	***1269.6***	***940.5***	***1315.2***	***+45.6***	***+3.6***	***+374.6***	***+39.8***	***37.3***	***28.5***	***39.9***	***+2.6***	***+11.4***
Irkutsk Region	1869.5	1864.9	1826.2	-43.2	-2.3	-38.7	-2.1	545.6	608.6	604.1	+58.5	+10.7	-4.5	-0.7	29.2	32.6	33.1	+3.9	+0.4
Siberian FD	***1869.5***	***1864.9***	***1826.2***	***-43.2***	***-2.3***	***-38.7***	***-2.1***	***545.6***	***608.6***	***604.1***	***+58.5***	***+10.7***	***-4.5***	***-0.7***	***29.2***	***32.6***	***33.1***	***+3.9***	***+0.4***
TOTAL FOR REGIONS**	**1407.5**	**1402.3**	**1400.4**	**-5.2**	**-0.4**	**-1.9**	**-0.1**	**655.5**	**690.1**	**770.5**	**+114.9**	**+17.5**	**+80.4**	**+11.6**	**42.7**	**46.9**	**52.4**	**+9.7**	**+5.5**

Source: database of the Central Election Commission of the Russian Federation. Ranked: within each federal district by the decrease in turnout in 2025 (in %).

* Methodological commentary on Inserts 1–2. The results of the Single Voting Day in 2025 were analyzed with the results of two previous elections of a similar level. In most regions of the Russian Federation, they were held in 2015 and 2020, but there are exceptions:

1) The Single Voting Day in 2015 was held in 12 of the 20 territories analyzed. In the remaining 8 regions of the Russian Federation – in other years:

- ✓ in the Komi Republic – in 2016;
- ✓ in the Perm Territory, Novgorod and Sverdlovsk regions, as well as in Sevastopol – in 2017;
- ✓ in the Kursk Region and Orenburg Region – in 2019;
- ✓ in the Tambov Region – in 2020.

2) The Single Voting Day in 2020 was held in 15 of the 20 analyzed subjects of the Russian Federation. In the remaining 5 territories:

- ✓ in the Novgorod, Sverdlovsk and Tambov regions – in 2022;
- ✓ in the Kursk and Orenburg regions – in 2024.

** In absolute terms (thousand people) – sum, in relative terms (%) – average.

Insert 2

Elections of top regional officials (support for elected regional heads)*

Federal subject	Total number of voters, thousand people			Dynamics (+/-), 2025 to…				Turnout, people			Dynamics (+/-), 2025 to…				Turnout, %			Dynamics (+/-), 2025 to…	
				2015		2020					2015		2020					2015	2020
	2015	2020	2025	thousand people	%	thousand people	%	2015	2020	2025	thousand people	%	thousand people	%	2015	2020	2025	%	%
Republic of Tatarstan	2306.8	1930.4	1963.6	-343.2	-14.9	+33.2	+1.7	94.40	83.27	88.09	-6.31	-6.7	+4.82	+5.8	79.37	65.54	66.78	-12.59	+1.24
Orenburg region.	406.2	616.6	622.0	+215.8	+53.1	+5.4	+0.9	65.94	78.14	83.85	+17.91	+27.2	+5.71	+7.3	26.08	41.07	41.28	+15.2	+0.21
Perm Region	687.9	540.3	685.6	-2.3	-0.3	+145.3	+26.9	82.06	75.69	70.94	-11.12	-13.6	-4.75	-6.3	34.89	27.04	34.75	-0.14	+7.71
Chuvash Republic	362.3	386.4	356.0	-6.3	-1.7	-30.4	-7.9	65.54	75.61	67.06	+1.52	+2.3	-8.55	-11.3	38.38	41.94	39.17	+0.79	-2.77
Volga FD	***940.8***	***868.425***	***3627.2***	***-34.0***	***+9.0***	***+38.4***	***+4.4***	***77.0***	***78.2***	***77.5***	***+0.5***	***+2.3***	***-0.7***	***-1.1***	***44.7***	***43.9***	***45.5***	***+0.8***	***+1.6***
Jewish Autonomous Region	31.6	76.3	72.1	+40.5	+128.2	-4.2	-5.5	75.42	82.50	83.02	+7.6	+10.1	+0.52	+0.6	24.02	60.23	61.62	+37.6	+1.39
Kamchatka Territory	57.5	67.9	67.8	+10.3	+17.9	-0.1	-0.1	75.48	80.51	62.97	-12.51	-16.6	-4.75	-5.9	24.05	29.90	29.27	+5.22	-0.63
Far Eastern FD	***44.6***	***72.1***	***70.0***	***+25.4***	***+73.0***	***-2.2***	-3.0	***75.5***	***81.5***	***73.0***	***-2.5***	***-3.2***	***-2.1***	***-2.6***	***24.0***	***45.1***	***45.4***	***+21.4***	***+0.4***
Krasnodar Territory	1512.2	2401.3	2551.6	+1039.4	+68.7	+150.3	+6.3	83.64	82.97	83.17	-0.47	-0.6	+0.2	+0.2	38.45	56.91	57.09	+18.64	+0.18
Sevastopol	77.4	135.1	195.0	+117.6	+151.9	+59.9	+44.3	71.05	85.72	81.73	+10.68	+15.0	-3.99	-4.7	24.30	41.21	54.50	+30.2	+13.29
Rostov Region	1241.3	899.2	1544.5	+303.2	+24.4	+645.3	+71.8	78.21	65.53	81.25	+3.04	+3.9	+15.72	+24.0	37.91	28.13	49.49	+11.58	+21.36
Southern FD	***943.6***	***1145.2***	***1430.4***	***+486.7***	***+51.6***	***+285.2***	***+40.8***	***77.6***	***78.1***	***82.1***	***+4.4***	***+6.1***	***+4.0***	***+6.5***	***33.6***	***42.1***	***53.7***	***+20.1***	***+11.6***
Leningrad Region.	471.1	585.8	756.9	+285.8	+60.7	+171.1	+29.2	82.10	83.61	84.21	+2.11	+2.6	+0.6	+0.7	36.34	43.04	52.87	+16.53	+9.83
Komi Republic	174.6	145.1	163.1	-11.5	-6.6	+18	+12.4	62.17	73.18	70.04	+7.87	+12.7	-3.14	-4.3	25.25	22.04	26.39	+1.14	+4.35
Novgorod Region.	109.5	210.1	216.4	+106.9	+97.6	+6.3	+3.0	53.25	69.63	67.32	+14.07	+26.4	-2.31	-3.3	11.18	22.73	24.42	+13.24	+1.69
Arkhangelsk Region	97.4	120.5	109.6	+12.2	+12.5	-10.9	-9.0	67.99	77.03	62.19	-5.8	-8.5	-14.84	-19.3	19.27	25.26	23.44	+4.17	-1.82
NWFD	***213.2***	***265.4***	***311.5***	***+98.4***	***+46.1***	***+46.1***	***+8.9***	***66.4***	***75.9***	***70.9***	***+4.6***	***+8.3***	***-4.9***	***-6.5***	***23.0***	***28.3***	***31.8***	***+8.8***	***+3.5***
Kursk Region	310.6	351.0	406.3	+95.7	+30.8	+55.3	+15.8	81.07	65.28	86.92	+5.85	+7.2	+21.64	+33.1	33.67	40.16	46.95	+13.28	+6.79
Bryansk Region	469.4	355.5	428.3	-41.1	-8.8	+72.8	+20.5	79.96	71.69	78.78	-1.18	-1.5	+7.09	+9.9	45.88	36.09	45.81	-0.07	+9.72
Tambov Region	427.3	398.1	311.0	-+116.3	-27.2	-87.1	-21.9	79.30	84.95	73.84	-5.46	-6.9	-11.11	-13.1	51.17	49.16	39.83	-11.34	-9.33
Kaluga Region	206.7	201.6	252.2	+45.5	+22.0	+50.6	+25.1	71.43	71.19	72.24	+0.81	+1.1	+1.05	+1.5	25.72	25.17	32.33	+6.61	+7.16
Kostroma Region	128.0	108.1	133.5	+5.5	+4.3	+25.4	+23.5	65.62	64.65	67.63	+2.01	+3.1	+2.98	+4.6	23.47	20.66	26.89	+3.42	+6.23
Central FD	***308.4***	***282.9***	***306.3***	***-2.1***	***-0.7***	***+23.4***	***+12.6***	***75.5***	***71.6***	***75.9***	***+0.4***	***+0.6***	***+4.3***	***+7.2***	***36.0***	***34.2***	***38.4***	***+2.4***	***+4.1***
Sverdlovsk Region	788.9	618.6	805.9	+16.9	+2.1	+187.3	+30.3	62.16	65.78	61.3	-0.86	-1.4	-4.48	-6.8	23.19	18.73	24.45	+1.26	+5.72
Ural FD	***788.9***	***618.6***	***805.9***	***+16.9***	***+2.1***	***+187.3***	***+30.3***	***62.16***	***65.78***	***61.3***	***-0.86***	***-1.4***	***-4.48***	***-6.8***	***23.19***	***18.73***	***24.45***	***+1.26***	***+5.72***
Irkutsk Region	270.5	369.8	367.1	+96.5	+35.7	-2.7	-0.7	49.60	60.79	60.79	+11.19	+22.6	0	0	14.47	19.83	20.10	+5.63	+0.27
Siberian FD	***270.5***	***369.8***	***367.1***	***+96.5***	***+35.7***	***-2.7***	***-0.7***	***49.60***	***60.79***	***60.79***	***+11.19***	***+22.6***	***0***	***0***	***14.47***	***19.83***	***20.10***	***+5.63***	***+0.27***
TOTAL FOR REGIONS**	**10137.2**	**10517.7**	**12008.5**	**+1871.1**	**+32.5**	**+1490.8**	**+13.3**	**72.3**	**74.9**	**74.4**	**+41.0**	**+3.9**	**+2.4**	**+0.6**	**31.9**	**35.7**	**39.9**	**+8.0**	**+4.1**

Source: database of the Central Election Commission of the Russian Federation. Ranked: within each federal district, in descending order of support for the head of the federal subject in 2025 (in % of turnout).

* Methodical commentary. The candidates from United Russia won all the elections. In addition to the heads of the Komi Republic, the Chuvash Republic, the Kamchatka and Perm territories, as well as the Irkutsk Region in 2020, as well as the heads of the Chuvash Republic in 2025 (self-nomination).

** In absolute terms (thousand people) – sum, in relative terms (%) – average.

Insert 3

Elections of top regional officials in regional capitals (turnout and total number of voters)*

Federal subjects in the context of federal districts	Total number of voters, thousand people					Turnout, thousand people					Turnout, %				
	2015	2020	2025	Dynamics (+/-), 2025 to…		2015	2020	2025	Dynamics (+/-), 2025 to…		2015	2020	2025	Dynamics (+/-), 2025 to…	
				2015	2020				2015	2020				2015	2020
Birobidzhan	58.2	57.4	56.6	-1.6	-0.8	15.9	36.3	39.8	+23.9	+3.5	27.40	63.26	70.30	+42.90	+7.04
Petropavlovsk-Kamchatsky	135.1	133.5	132.2	-2.9	-1.3	35.7	41.7	56.1	+20.4	+14.4	26.40	31.25	42.40	+16.00	+11.15
Far Eastern FD	***193.3***	***190.9***	***188.8***	***-4.5***	***-2.1***	***51.6***	***78***	***95.9***	***+44.3***	***+17.9***	***26.9***	***47.3***	***56.4***	***+29.5***	***+9.1***
Sevastopol	318.6	327.9	357.8	+39.2	+29.9	109.0	158.3	239.6	+130.6	+81.3	34.21	48.28	66.96	+32.75	+18.68
Rostov-on-Don	791.4	802.9	746.1	-45.3	-56.8	363.0	247.3	391.7	+28.7	+144.4	45.86	30.80	52.49	+6.63	+21.69
Krasnodar	674.1	659.5	506.5	-167.6	-153.0	210.4	185.7	225.6	+15.2	+39.9	31.22	28.16	44.54	+13.32	+16.38
Southern FD	***1784.1***	***1790.3***	***1610.4***	***-173.7***	***-179.9***	***682.4***	***591.3***	***856.9***	***+174.5***	***+265.6***	***37.1***	***35.7***	***54.7***	***+17.6***	***+18.9***
Kazan	913.9	930.4	949.2	+35.3	+18.8	657.4	578.7	532.0	-125.4	-46.7	71.93	62.20	56.05	-15.88	-6.15
Orenburg	424.5	437.9	448.5	+24	+10.6	141.4	179.4	164.7	+23.3	-14.7	33.32	40.98	36.72	+3.40	-4.26
Perm	669.4	682.4	703.9	+34.5	+21.5	255.0	192.8	214.9	-40.1	+22.1	38.09	28.25	30.53	-7.56	+2.28
Cheboksary	368.9	373.2	293.6	-75.3	-79.6	172.2	161.7	81.4	-90.8	-80.3	46.67	43.33	27.73	-18.94	-15.60
Volga FD	***2376.7***	***2423.9***	***2395.2***	***+18.5***	***-28.7***	***1226***	***1112.6***	***993***	***-233***	***-119.6***	***47.5***	***43.7***	***37.8***	***-9.7***	***-5.9***
Bryansk	358.3	350.3	344.5	-13.8	-5.8	180.2	149.6	169.8	-10.4	+20.2	50.30	42.72	49.30	-1.00	+6.58
Kursk	351.2	302.3	343.2	-8.0	+40.9	114.2	156.0	168.2	+54.0	+12.2	32.53	51.61	49.01	+16.48	-2.60
Tambov	245.3	243.0	270.7	+25.4	+27.7	82.7	78.2	112.5	+29.8	+34.3	33.72	32.19	41.56	+7.84	+9.37
Kaluga	289.3	296.1	267.7	-21.7	-28.4	78.9	76.6	73.5	-5.4	-3.1	27.27	25.88	27.48	+0.21	+1.60
Kostroma	218.7	98.7	192.7	-26.0	+94.0	11.9	28.0	48.6	+36.7	+20.6	5.43	28.33	25.23	+19.80	-3.10
Central FD	***1462.8***	***1290.4***	***1418.8***	***-44.1***	***128.4***	***467.9***	***488.4***	***572.6***	***+104.7***	***+84.2***	***29.9***	***36.1***	***38.5***	***+8.7***	***+2.4***
Veliky Novgorod	178.4	169.1	163.6	-14.8	-5.5	43.9	44.6	50.4	+6.5	+5.8	24.60	26.36	30.78	+6.18	+4.42
Arkhangelsk	280.3	260.6	229.8	-50.5	-30.8	52.6	79.6	63.8	+11.2	-15.8	18.75	30.55	27.76	+9.01	-2.79
Syktyvkar	150.0	148.3	131.4	-18.6	-16.9	60.6	40.7	34.7	-25.9	-6.0	40.39	27.43	26.38	-14.01	-1.05
Northwestern FD	***608.7***	***578***	***524.8***	***-83.9***	***-53.2***	***157.1***	***164.9***	***148.9***	***-8.2***	***-16.0***	***27.9***	***28.1***	***28.3***	***+0.4***	***+0.2***
Irkutsk	456.7	462.6	464.8	+8.1	+2.2	113.7	147.4	136.0	+22.3	-11.4	24.90	31.87	29.26	+4.36	-2.61
Siberian FD	***456.7***	***462.6***	***464.8***	***+8.1***	***+2.2***	***113.7***	***147.4***	***136.0***	***+22.3***	***-11.4***	***24.90***	***31.87***	***29.26***	***+4.36***	***-2.61***
Yekaterinburg	1086.6	1125.3	1039.9	-46.7	-85.4	271.6	264.1	269.7	-1.9	+5.6	25.00	23.47	25.94	+0.94	+2.47
Ural FD	***1086.6***	***1125.3***	***1039.9***	***-46.7***	***-85.4***	***271.6***	***264.1***	***269.7***	***-1.9***	***+5.6***	***25.00***	***23.47***	***25.94***	***+0.94***	***+2.47***
TOTAL FOR REGIONS**	**7968.9**	**7861.4**	**7642.7**	**-326.3**	**-218.7**	**2970.3**	**2846.7**	**3073**	**+102.7**	**226.3**	**33.6**	**36.7**	**40.0**	**6.4**	**3.3**

Source: database of the Central Election Commission of the Russian Federation.

* Ranked: within each federal district in descending order of support for the head of the subject of the Russian Federation in 2025 (in % of turnout).

** By absolute values (thousand people) – sum, by relative indicators (%) – average.

Insert 4

Elections of top regional officials in regional capitals (support for elected regional heads)*

Federal subjects in the context of federal districts	Total number of votes, thousand people					% of turnout					% of voters				
	2015	2020	2025	Dynamics (+/-), 2025 to…		2015	2020	2025	Dynamics (+/-), 2025 to…		2015	2020	2025	Dynamics (+/-), 2025 to…	
				2015	2020				2015	2020				2015	2020
Kursk	90.8	101.4	142.0	+51.2	+40.6	79.51	64.99	84.90	+5.39	+19.91	25.86	33.54	41.37	+15.51	+7.83
Bryansk	146.9	106.0	133.0	-13.9	+27.0	81.53	70.81	78.25	-3.28	+7.44	41.00	30.25	38.61	-2.39	+8.36
Tambov	32.9	61.6	73.3	+40.4	+11.7	39.81	78.81	65.45	+25.64	-13.36	13.42	25.36	27.09	+13.67	+1.73
Kaluga	49.2	49.8	45.9	-3.3	-3.9	62.37	65.02	62.32	-0.05	-2.70	17.01	16.83	17.13	+0.12	+0.30
Kostroma	8.0	16.9	29.1	+21.1	+12.2	67.19	60.34	60.00	-7.19	-0.34	3.65	17.10	15.10	+11.45	-2.00
Central FD	***327.8***	***335.7***	***423.3***	***+95.5***	***+87.6***	***66.1***	***68.0***	***70.2***	***+4.1***	***+2.2***	***20.2***	***24.6***	***27.9***	***+7.7***	***+3.2***
Kazan	605.0	417.6	448.7	-156.3	+31.1	92.04	72.16	84.39	-7.65	+12.23	66.20	44.88	47.27	-18.93	+2.39
Orenburg	90.5	129.1	133.7	+43.2	+4.6	63.99	71.93	80.21	+16.22	+8.28	21.32	29.48	29.81	+8.49	+0.33
Perm	201.2	138.2	152.9	-48.3	+14.7	78.93	71.66	71.21	-7.72	-0.45	30.06	20.25	21.72	-8.34	+1.47
Cheboksary	95.2	104.0	38.5	-56.7	-65.5	55.29	64.34	47.32	-7.97	-17.02	25.81	27.88	13.11	-12.70	-14.77
Volga FD	***991.9***	***788.9***	***773.8***	***-218.1***	***-15.1***	***72.6***	***70.0***	***70.8***	***-1.8***	***+0.8***	***35.8***	***30.6***	***28.0***	***-7.9***	***-2.6***
Rostov-on-Don	272.1	139.9	328.8	+56.7	+188.9	74.97	56.58	83.46	+8.49	+26.88	34.39	17.43	44.07	+9.68	+26.64
Sevastopol	77.4	135.1	195.0	+117.6	+59.9	71.03	85.35	81.73	+10.70	-3.62	24.30	41.21	54.50	+30.20	+13.29
Krasnodar	169.7	118.1	168.9	-0.8	+50.8	80.66	63.61	74.61	-6.05	+11.00	25.18	17.91	33.35	+8.17	+15.44
Southern FD	***519.2***	***393.1***	***692.7***	***+173.5***	***+299.6***	***75.6***	***68.5***	***79.9***	***+4.4***	***+11.4***	***28.0***	***25.5***	***44.0***	***+16.0***	***+18.5***
Birobidzhan	11.5	27.8	31.1	+19.6	+3.3	72.13	76.52	78.05	+5.92	+1.53	19.76	48.41	54.87	+35.11	+6.46
Petropavlovsk-Kamchatsky	26.7	34.0	34.8	+8.1	+0.8	74.98	81.39	62.22	-12.76	-19.17	19.80	25.44	26.35	+6.55	+0.91
Far Eastern FD	***38.2***	***61.8***	***65.9***	***+27.7***	***+4.1***	***73.6***	***79.0***	***70.1***	***-3.4***	***-8.8***	***19.8***	***36.9***	***40.6***	***+20.8***	***+3.7***
Arkhangelsk	21.7	59.1	46.4	+24.7	-12.7	41.35	74.22	70.95	+29.60	-3.27	7.75	22.67	20.20	+12.45	-2.47
Syktyvkar	35.7	26.9	21.1	-14.6	-5.8	58.91	66.18	61.01	+2.10	-5.17	23.79	18.15	16.08	-7.71	-2.07
Veliky Novgorod	26.9	34.3	26.7	-0.2	-7.6	61.25	77.09	53.07	-8.18	-24.02	15.07	20.32	16.33	+1.26	-3.99
Northwestern FD	***84.3***	***120.3***	***94.2***	***+9.9***	***-26.1***	***53.8***	***72.5***	***61.7***	***+7.8***	***-10.8***	***15.5***	***20.4***	***17.5***	***+2.0***	***-2.8***
Irkutsk	34.3	80.7	77.8	+43.5	-2.9	30.18	54.74	57.04	+26.86	+2.30	7.52	17.45	16.74	+9.22	-0.71
Siberian FD	***34.3***	***80.7***	***77.8***	***+43.5***	***-2.9***	***30.18***	***54.74***	***57.04***	***+26.86***	***+2.30***	***7.52***	***17.45***	***16.74***	***+9.22***	***-0.71***
Yekaterinburg	130.1	150.1	154.0	+23.9	+3.9	47.90	56.84	56.11	+8.21	-0.73	11.97	13.34	14.81	+2.84	+1.47
Ural FD	***130.1***	***150.1***	***154.0***	***+23.9***	***+3.9***	***47.90***	***56.84***	***56.11***	***+8.21***	***-0.73***	***11.97***	***13.34***	***14.81***	***+2.84***	***+1.47***
TOTAL FOR REGIONS**	**2125.8**	**1930.6**	**2281.7**	**+155.9**	**351.1**	**60.0**	**67.1**	**66.6**	**+6.6**	**-0.5**	**19.8**	**24.1**	**27.1**	**+7.2**	**+3.0**

Source: database of the Central Election Commission of the Russian Federation.

* Ranked: within each federal district in descending order of support for the head of the subject of the Russian Federation in 2025 (in % of turnout).

** By absolute values (thousand people) – sum, by relative indicators (%) – average.

Insert 5

ELECTIONS OF DEPUTIES TO REGIONAL LEGISLATIVE BODIES

Turnout and total number of voters*

Federal subjects in the context of federal districts	Total number of voters, thousand people					Turnout, thousand people					Turnout, %				
	2015	2020	2025	Dynamics (+/-), 2025 to…		2015	2020	2025	Dynamics (+/-), 2025 to…		2015	2020	2025	Dynamics (+/-), 2025 to…	
				2015	2020				2015	2020				2015	2020
Belgorod Region	1201.2	1229.2	1196.1	-5.1	-33.1	648.0	669.7	707.5	+59.5	+37.8	53.95	54.48	59.15	+5.20	+4.67
Voronezh Region	1875.8	1845.2	1798.2	-77.6	-47.0	945.7	814.5	985.9	+40.2	+171.4	50.42	44.14	54.83	+4.41	+10.69
Ryazan Region	942.8	903.1	869.0	-73.8	-34.1	352.8	293.4	394.8	+42.0	+101.4	37.42	32.49	45.43	+8.01	+12.94
Kaluga Region	803.8	800.9	779.0	-24.8	-21.9	289.7	283.2	348.5	+58.8	+65.3	36.05	35.36	44.74	+8.69	+9.38
Kostroma Region	546.5	523.4	496.4	-50.1	-27.0	195.3	167.3	197.4	+2.1	+30.1	35.74	31.97	39.77	+4.03	+7.80
Central FD	***5370.1***	***5301.8***	***5138.7***	***-231.4***	***-163.1***	***2431.5***	***2228.1***	***2634.1***	***+202.6***	***+406.0***	***42.7***	***39.7***	***48.8***	***+6.1***	***+9.1***
Yamal-Nenets Autonomous Area	341.4	365.2	353.6	+12.2	-11.6	236.8	172.0	174.5	-62.3	+2.5	69.37	47.11	49.35	-20.02	+2.24
Chelyabinsk Region	2693.2	2600.4	2571.5	-121.7	-28.9	1114.4	880.7	1028.0	-86.4	+147.3	41.38	33.87	39.98	-1.40	+6.11
Kurgan Region	730.6	686.7	639.1	-91.5	-47.6	221.9	213.3	245.2	+23.3	+31.9	30.38	31.05	38.37	+7.99	+7.32
Ural FD	***3765.2***	***3652.3***	***3564.2***	***-201.0***	***-88.1***	***1573.1***	***1266.0***	***1447.7***	***-125.4***	***+181.7***	***47.0***	***37.3***	***42.6***	***-4.5***	***+5.2***
Magadan Region	108.1	97.8	96.4	-11.7	-1.4	36.4	32.4	40.2	+3.8	+7.8	33.62	33.17	41.71	+8.09	+8.54
Far Eastern FD	***108.1***	***97.8***	***96.4***	***-11.7***	***-1.4***	***36.4***	***32.4***	***40.2***	***+3.8***	***+7.8***	***33.62***	***33.17***	***41.71***	***+8.09***	***+8.54***
Komi Republic	691.3	658.0	617.9	-73.4	-40.1	352.1	198.3	232.7	-119.4	+34.4	50.93	30.14	37.66	-13.27	+7.52
Northwestern FD	***691.3***	***658.0***	***617.9***	***-73.4***	***-40.1***	***352.1***	***198.3***	***232.7***	***-119.4***	***+34.4***	***50.93***	***30.14***	***37.66***	***-13.27***	***+7.52***
Novosibirsk Region	2138.0	2157.8	2189.9	+51.9	+32.1	656.7	609.6	723.8	+67.1	+114.2	30.71	28.25	33.05	+2.34	+4.80
Siberian FD	***2138.0***	***2157.8***	***2189.9***	***+51.9***	***+32.1***	***656.7***	***609.6***	***723.8***	***+67.1***	***+114.2***	***30.71***	***28.25***	***33.05***	***+2.34***	***+4.80***
TOTAL FOR REGIONS**	**12072.7**	**11867.7**	**11607.1**	**-465.6**	**-260.6**	**5049.8**	**4334.4**	**5078.5**	**+28.7**	**+744.1**	**42.7**	**36.5**	**44.0**	**+1.3**	**+7.5**

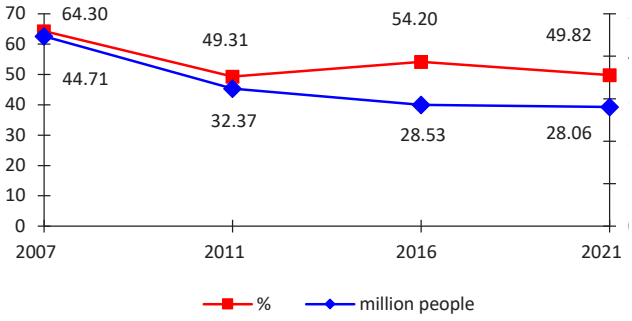
Support for the United Russia Party*

Federal subject*	Total number of votes, thousand					% of turnout					% of voters				
	2015	2020	2025	Dynamics (+/-), 2025 to…		2015	2020	2025	Dynamics (+/-), 2025 to…		2015	2020	2025	Dynamics (+/-), 2025 to…	
				2015	2020				2015	2020				2015	2020
Voronezh Region	698.0	499.1	728.1	+30.1	+229.0	73.84	61.52	73.88	+0.04	+12.36	37.21	27.05	40.49	+3.28	+13.44
Belgorod Region	404.0	428.1	515.4	+111.4	+87.3	62.36	63.95	72.98	+10.62	+9.03	33.63	34.83	43.09	+9.46	+8.26
Ryazan Region	220.9	139.8	287.1	+66.2	+147.3	62.73	47.65	72.85	+10.12	+25.20	23.43	15.47	33.04	+9.61	+17.57
Kaluga Region	164.8	120.1	203.8	+39.0	+83.7	56.99	42.43	58.56	+1.57	+16.13	20.51	14.99	26.16	+5.65	+11.17
Kostroma Region	99.5	53.4	99.1	-0.4	+45.7	50.96	31.92	50.26	-0.70	+18.34	18.20	10.20	19.96	+1.76	+9.76
Central FD	***1587.2***	***1240.5***	***1833.5***	***+246.3***	***+593.0***	***61.40***	***49.50***	***65.70***	***+4.3***	***+16.2***	***26.6***	***20.5***	***32.5***	***+6.0***	***+12.0***
Magadan Region	20.9	18.9	26.4	+5.5	+7.5	57.71	58.32	65.89	+8.18	+7.57	19.37	19.32	27.44	+8.07	+8.12
Far Eastern FD	***20.9***	***18.9***	***26.4***	***+5.5***	***+7.5***	***57.71***	***58.32***	***65.89***	***+8.18***	***+7.57***	***19.37***	***19.32***	***27.44***	***+8.07***	***+8.12***
Yamal-Nenets Autonomous Area	166.0	111.1	114.2	-51.8	+3.1	70.11	64.64	65.60	-4.51	+0.96	48.62	30.43	32.31	-16.31	+1.88
Kurgan Region	125.9	95.0	134.5	+8.6	+39.5	56.74	44.57	54.91	-1.83	+10.34	17.23	13.84	21.04	+3.81	+7.20
Chelyabinsk Region	624.9	374.3	558.9	-66	+184.6	56.16	42.58	54.48	-1.68	+11.90	23.20	14.39	21.74	-1.46	+7.35
Ural FD	***916.8***	***580.4***	***807.6***	***-109.2***	***+227.2***	***61.0***	***50.6***	***58.30***	***-2.7***	***+7.7***	***29.7***	***19.6***	***25.0***	***-4.7***	***+5.5***
Novosibirsk Region	291.7	231.7	375.4	+83.7	+143.7	44.56	38.13	51.91	+7.35	+13.78	13.65	10.74	17.14	+3.49	+6.40
Siberian FD	***291.7***	***231.7***	***375.4***	***+83.7***	***+143.7***	***44.56***	***38.13***	***51.91***	***+7.35***	***+13.78***	***13.65***	***10.74***	***17.14***	***+3.49***	***+6.40***
Komi Republic	204.0	56.6	103.3	-100.7	+46.7	58.05	28.61	44.50	-13.55	+15.89	29.51	8.60	16.71	-12.80	+8.11
Northwestern FD	***204.0***	***56.6***	***103.3***	***-100.7***	***+46.7***	***58.05***	***28.61***	***44.50***	***-13.55***	***+15.89***	***29.51***	***8.60***	***16.71***	***-12.80***	***+8.11***
TOTAL FOR REGIONS**	**3020.6**	**2128.1**	**3146.2**	**+125.6**	**+1018.1**	**59.1**	**47.7**	**60.5**	**+1.4**	**+12.9**	**25.9**	**18.2**	**27.2**	**+1.3**	**+9.0**

Source: database of the Central Election Commission of the Russian Federation.
*Ranked: within each federal district in descending order of turnout (in%) and support for the head of the subject of the Russian Federation (in% of turnout) in 2025.
** In absolute terms (thousand people) – sum, in relative terms (%) – average.

Of course, it is essential to acknowledge that the very fact of another calmly conducted electoral campaign is of key importance given the external political conditions the country has faced since the start of the SMO. **However, as the analysis of all monitoring data on regional and municipal elections from 2018 to 2025 shows, behind the façade of relatively smooth local electoral campaigns (expressed primarily in the non-alternative support for the ruling party by voters) lie latent and rather concerning trends.**

These trends, in particular, have already led to a tangible decline in support for United Russia at the federal level, where it lost nearly 17 million voters over 14 years (from 45 to 28 million; *Figure*) in State Duma elections. This essentially signifies a decrease in society's level of trust in the authorities.



Dynamics of Support for the United Russia Party in State Duma Elections, 2007–2021

Source: Calculated by the authors based on CEC of the Russian Federation data.

Both empirical data and expert assessments from elections at both local and federal levels indicate that simultaneously with the repeated credit of trust granted annually by Russian voters to the President, the ruling party, and the entire national development course implemented by the head of state, society demonstrates a growing demand for a qualitative increase in the effectiveness of state governance.

This is confirmed not only by official election results (for instance, when United Russia's convincing victory occurs against a backdrop of declining turnout; or when an overall increase in national turnout is achieved due to a small number of regions, while turnout decreases in most federal subjects; or when the ruling party wins across all territories but loses votes in many of them compared to previous elections...) but also by the results of long-term sociological surveys of the population.

The results of mass public opinion polls (both nationwide and regional) show that they objectively reflect the structure of citizens' party-political preferences, as demonstrated by the distribution of votes in elections: United Russia consistently holds first place in this structure, second and third are shared by the CPRF and the LDPR, with A Just Russia – For Truth and New People parties lagging significantly behind (*Insert 6*). At the same time, over the past 25 years (from 2000 to 2025), the share of people who believe that United Russia shares their interests has increased substantially:

- ✓ nationwide – by 20 p.p. (from 14 to 34%)[64];
- ✓ in the Vologda Region – by 24 p.p. (from 18 to 42%; Insert 6)[65].

However, the results of sociological research also indicate that the level of support for the ruling party is only 30–40% (which corresponds more closely to the election results as a percentage of the total electorate, rather than just those who actually participated). This is an indicator that allows United Russia to feel comfortable in electoral competition, **but it is not an indicator that would suggest the ruling party expresses the viewpoint of the majority of the country's citizens.**

[64] Data from the Federal Center for Theoretical and Applied Sociology (FCTAS RAS). Source: Levashov V.K., Velikaya N.M., Shushpanova I.S. et al. (2025). How are you, Russia? Express information. 55th stage of the All-Russian sociological monitoring, May 2025: Bulletin. Moscow: FCTAS RAS. 106 p.

[65] Public opinion monitoring data from Vologda Research Center of the Russian Academy of Sciences (VolRC RAS).

Furthermore, a significant portion of Russians does not see any political party in parliament that reflects their interests. On average over the past months of V. Putin's fifth presidential term (from 2024 to the present):

✓ according to nationwide surveys by FCTAS RAS, their share is 53%;

✓ according to surveys conducted by VolRC RAS in the Vologda Region, it is 36%.

That is, in essence, there are three substantial groups (according to VolRC RAS data for 2024–2025; *Insert 6*):

✓ 42% supporting United Russia,

✓ 23% supporting other parties,

✓ and 36% of people who do not see any political forces in parliament expressing their interests at all.

> **"We live in a society of three thirds.** Where one is always for the authorities, another is politicized and protest-oriented, and the final third wavers... although the politicized and protest-oriented third has shrunk in size, **it always remains a qualitative group..."**[66].

Thus, the data presented in Insert 6 indicate that from the standpoint of the electoral structure of the political system, United Russia's "lead" over other parties is colossal. **However, from the perspective of the tasks facing United Russia as the ruling party, the party of the majority, there are as yet no signs that it is consolidating Russian society.**

Moreover, there are specific facts pointing not merely to a growing public need for improved government effectiveness, **but to an objective historical necessity for it. Indeed, since February 2022, relatively calm elections and the non-alternative public support for the authorities have largely been determined by the fact that electoral campaigns occur under force majeure conditions, under the influence of "black swan" events:**

✓ in 2022, the SMO itself (the start of hostilities) and the retreat of Russian troops from the Kharkov Region served as such a "black swan"[67];

✓ in 2023 – the armed mutiny by the Wagner PMC;

✓ in 2024 – the incursion of the Ukrainian Armed Forces into the territory of the Kursk Region, as well as the exposure of massive corruption facts in the Russian Ministry of Defense[68];

✓ in 2025 – the exposure of a corruption scheme related to the activities of the Kursk Region "Development Corporation" (including the arrest of former Governor A. Smirnov on April 15, 2025), which became a cause for the incursion of the Ukrainian Armed Forces into the territory of the Russian Federation...

Each of these factors created a direct threat to national security, increasing voter anxiety and strengthening distrust towards the government bodies that allowed these "black swans" to emerge. As experts note, *"society's trust in the political elite, which is supposed to be a moral compass, the entity responsible for protecting sovereignty and consolidating society, raises serious questions..."*

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[66] Garmonenko D. The social structure of society is being depoliticized for elections. Available at: https://www.ng.ru/politics/2025-10-13/3_9358_parties.html (opinion of the head of the Analytical Department of the Communist Party of the Russian Federation S. Obukhov).

[67] Recall that Presidential Decree 647 "On the announcement of partial mobilization in the Russian Federation", dated September 21, 2022, as well as the retreat of the Armed Forces of the Russian Federation from Kherson on November 9, 2022, are events that can also be classified as "black swans", but they occurred after the Single Voting Day on September 11, 2022.

[68] The anti-corruption campaign in the Ministry of Defense of the Russian Federation intensified after the arrest of deputy minister T. Ivanov on April 24, 2024 and the resignation of defense minister S. Shoigu on May 12, 2024. According to open data, in total for 2024 there are 110 executives, managers, mayors, ministers, deputies, heads of state enterprises and officers who became involved in criminal cases because of bribes" (source: Smolentsev K. A year of purges. In 2024, 110 officials, military and security personnel were arrested. Available at: https://66.ru/news/politic/278122).

Insert 6

Level of support for political parties/movements by respondents (data from FCTAS RAS for the Russian Federation, % of respondents)

Party	1999	Vladimir Putin's first presidential term (2000–2003)	Vladimir Putin's second presidential term (2004–2007)	Dmitry Medvedev's presidential term (2008–2011)	Vladimir Putin's third presidential term (2012–2017)	Vladimir Putin's fourth presidential term (2018–2023)	Vladimir Putin's fifth presidential term (2024 – present)	Vladimir Putin's fourth presidential term (2018–2023) to Vladimir Putin's first presidential term (2000–2003)	Vladimir Putin's fifth presidential term (2024 – present) to Vladimir Putin's first presidential term (2000–2003)
United Russia	**5.0**	**13.9**	**18.4**	**34.9**	**24.1**	**16.7**	**33.5**	**+3**	**+20**
CPRF	20.0	13.6	7.4	9.6	9.3	8.3	6.0	-5	-8
LDPR	3.0	4.3	6.9	7.5	7.3	7.8	3.5	+4	-1
Just Russia – For the Truth			6.0	4.9	2.6	2.8	2.0	+3	+2
New People						1.3	1.5	+1	+2
CPRF, LDPR, Just Russia, New People, other	**23.0**	**17.9**	**20.3**	**22.0**	**19.3**	**20.1**	**13.0**	**+2**	**-5**
None		34.1	35.8	28.5	36.2	42.3	44.5	+8	+10
Difficult to answer	31.0	16.5	16.1	9.8	9.8	10.0	8.0	-7	-9
None, difficult to answer	**31.0**	**50.6**	**51.9**	**38.3**	**46.0**	**52.3**	**52.5**	**+2**	**+2**
Source: Levashov V.K., Velikaya N.M., Shushpanova I.S. et al. (2025). How are you, Russia? Express information. 55th stage of the All-Russian sociological monitoring, May 2025: Bulletin. Moscow: FCTAS RAS. 106 p.									

Which party expresses your interests? (data from VolRC RAS for the Vologda Region, % of respondents)

Party	1999	Vladimir Putin's first presidential term (2000–2003)	Vladimir Putin's second presidential term (2004–2007)	Dmitry Medvedev's presidential term (2008–2011)	Vladimir Putin's third presidential term (2012–2017)	Vladimir Putin's fourth presidential term (2018–2023)	Vladimir Putin's fifth presidential term (2024 – present)	Vladimir Putin's fourth presidential term (2018–2023) to Vladimir Putin's first presidential term (2000–2003)	Vladimir Putin's fifth presidential term (2024 – present) to Vladimir Putin's first presidential term (2000–2003)
United Russia	**10.1**	**17.8**	**23.5**	**35.2**	**33.4**	**34.9**	**41.9**	**+17**	**+24**
CPRF	12.7	10.7	7.9	8.4	9.1	9.3	9.2	-1	-2
LDPR	4.6	6.8	8.1	7.3	8.4	8.6	7.7	+2	+1
Just Russia – For the Truth			4.9	4.4	4.6	4.2	3.5		
New People						1.9	2.2		
Other	0.8	0.6	0.3	0.2	0.4	0.4	0.2	0	0
CPRF, LDPR, Just Russia, New People, other	**18.1**	**18.0**	**18.7**	**20.2**	**22.4**	**23.4**	**22.7**	**+5**	**+5**
None	27.1	31.2	27.4	28.3	31.8	31.2	25.7	0	-6
Difficult to answer	33.4	20.0	18.1	12.8	11.7	10.8	10.0	-9	-10
None, difficult to answer	**60.5**	**51.2**	**45.5**	**41.1**	**43.5**	**42.0**	**35.6**	**-9**	**-16**
Source: VolRC RAS public opinion monitoring data.									

"One of the effects of the special military operation (unexpected for the West, but completely logical for Russia) was the consolidation of society. Over 70% of Russians provide volunteer assistance to the front, and trust in the President of Russia remains stably high. **However, society's trust in the political elite, which is supposed to be a moral compass, the entity responsible for protecting sovereignty and consolidating society, raises serious questions…**

… In Russia, the elite is primarily considered to consist of individuals with high incomes, status-filled relatives, and great power. And when the degree of elitism is determined by income level – as Yuri Solomin rightly noted – this 'gives rise to stratification, and with it, the **savagery of souls**'. It is precisely this savagery of souls that we often observe among our 'elitists'. **Corruption, embezzlement of budget funds, irresponsibility, the priority of selfish interests, susceptibility to external influence, contempt for the interests of the people ('these losers'), and a firm intention to continue the 'feast during the plague' – stories dedicated to these themes, using examples from the political, military, and cultural elite, we see in almost every news broadcast"**[69].

Even as the state continues its active policy of organizing domestic life under the conditions of the SMO (*Insert 7*), **the system of state governance itself remains populated by individuals whose daily conduct is entirely opposite to the public national development agenda proclaimed by the head of state.**

This is confirmed by specific facts presented in *Inserts 8–9*:

Insert 8 reflects the **qualitative aspect** of such episodes of "savagery of souls" among individual representatives of the ruling elites. It presents expert assessments indicating that such individuals are found among representatives of all key parliamentary parties.

Insert 9 continues our monitoring of arrests and detentions of government officials. It largely reflects the **quantitative side (the high frequency)** of such episodes in our country, specifically those officially "exposed" as a result of actions by law enforcement agencies.

According to official data from the Russian Ministry of Internal Affairs for the period from 2018 to 2025 (data for January – August):

- ✓ the total number of corruption-related crimes in Russia increased **from 22.7 to 32.3 thousand (or from 1.4% to 15.1% of the total crime rate);**
- ✓ the number of crimes related to bribery increased from **9.3 to 20.1 thousand (or from 4.6% to 18.7%)**[70].

Thus, the results of monitoring electoral campaigns from 2018–2025, along with sociological measurements, expert assessments, and factual data characterizing the state of Russia's system of state governance, indicate that the election results after February 2022 – where Russian society annually grants a "credit of trust" to the authorities and personally to the President of the Russian Federation – are largely based on people's need for stability amidst the undoubtedly force majeure circumstances that have accompanied life in the country in recent years.

[69] Batchikov S. The time of the best. Available at: https://izborsk-club.ru/27211?ysclid=mgrm2zx2oc618569270

[70] Source: monthly reports of the Ministry of Internal Affairs of the Russian Federation "The state of crime in Russia". Available at: https://xn--b1aew.xn--p1ai/reports/1/

Insert 7

Monitoring of regulatory legal acts (laws, decrees) Signed by the President of the Russian Federation from August 19 to October 24, 2025[71]

MEASURES TO SUPPORT SMO PARTICIPANTS AND THEIR FAMILY MEMBERS, TO DEVELOP THE MILITARY-INDUSTRIAL COMPLEX, MEASURES RELATED TO MOBILIZATION, ORGANIZATION OF MARTIAL LAW, INCREASE IN THE ANTI-TERRORIST PROTECTION OF FACILITIES

September 18 – A list of Presidential instructions following the July 23 meeting with Cabinet members. The Government of the Russian Federation is instructed to submit proposals for a new procedure for providing social support measures to SMO participants in electronic form. This concerns assistance to combat veterans and their family members in the federal subjects. The plan is to provide social support measures electronically using the unified portal of public services and regional portals of state and municipal services, including on a no-application basis or in a proactive mode.

September 29 – Federal Law 364 "On Amending Articles 81 and 351 of the Labor Code of the Russian Federation." An employment contract will not be terminated after the completion of military service – it is now automatically extended for the period necessary for recovery and rehabilitation, even if treatment extends beyond three months. If an SMO participant falls ill after the completion of service but has not yet returned to work, the sick leave will be paid from the funds of the Social Fund of Russia. Protection against unlawful dismissal is guaranteed (the new rules will help avoid situations where employees needing rehabilitation lose their jobs). Thus, the previously established three-month period for returning to work is now supplemented by the possibility of extending the contract for the entire period of temporary disability. Similar changes apply to state civil servants participating in the SMO.

MEASURES TO PROTECT INFORMATION SECURITY, REGULATE THE ACTIVITIES OF FOREIGN AGENTS, AND UPBRING AND EDUCATE THE YOUNGER GENERATIONS

September 29 – Federal Law 368 "On Amending the Federal Law 'On Education in the Russian Federation'." It is established that additional professional education for individuals who are not teaching staff, and for teaching staff, for the purpose of enabling them to teach subjects, courses, disciplines (modules) aimed at gaining knowledge about the foundations of the spiritual and moral culture of the peoples of Russia, moral principles, historical and cultural traditions of world religion(s), or alternative subjects, courses, disciplines (modules), can also be provided by spiritual educational institutions and private educational institutions whose founders are centralized religious organizations.

October 6 – Decree 719 "On the Establishment of the Council for Culture and the Institution of the Presidential Prize in the Field of Culture for Works and Projects for Children and Youth." The previously existing Presidential Council for Culture and Art is abolished. The head of state remains the Chairperson of the Council, as before, the Deputy Chairperson is the head of the Mosfilm movie concern, K. Shakhnazarov, and the Secretary is the Assistant to the President of the Russian Federation, V. Medinsky. It is also established that three presidential prizes will be awarded annually, with the prize amount being 5 million rubles.

October 15 – Federal Law 378 "On Amending Article 330 of the Criminal Code of the Russian Federation." Establishes criminal liability for evading the fulfillment of duties stipulated by the legislation of the Russian Federation on foreign agents, committed by a person who has been held administratively liable for violating the procedure for the activities of a foreign agent or who has a previous conviction for evading such duties.

[71] The insert is a continuation of the monitoring of the most important regulatory legal acts signed by the President of the Russian Federation, which we have been conducting since June 2022 (the first issue of the monitoring is presented in the article: Ilyin V.A., Morev M.V. (2022). A difficult road after the Rubicon. Economic and Social Changes: Facts, Trends, Forecast, 15(3), 9–41).

According to the new version of Article 330.1 of the Criminal Code, liability will arise for evading the submission of documents for inclusion in the register of foreign agents or violating the procedure for their activities, if this act is committed by: someone who was previously subjected to administrative punishment for an offense under Article 19.34 of the Code of Administrative Offenses ("Violation of the procedure for the activities of a foreign agent"); someone with a previous conviction for a crime under Article 330.1 of the Criminal Code. The criminal penalties themselves remain unchanged. The changes only concern how quickly criminal liability is triggered.

The following measures are provided for evading the duties of a foreign agent: a fine of up to 300 thousand rubles or the amount of the salary/other income of the convicted person for a period of up to two years; compulsory labor for up to 480 hours; corrective labor for up to two years; imprisonment for up to two years.

October 15 – Decree 738 "On the Concept of the State Migration Policy of the Russian Federation for 2026–2030." The Concept proclaims the main goal of migration policy to be ensuring a balance of state, public, and private interests. The main activities of state authorities in the field of migration policy in the coming years will be aimed at:

- ✓ increasing the responsibility of employers hiring foreign citizens;
- ✓ reducing the burden on healthcare and the social sphere due to the presence in the Russian Federation of non-working and non-studying family members of foreigners;
- ✓ resolving the issue of taxation of foreign citizens; preventing the territorial isolation of foreigners who have come to the Russian Federation for permanent residence.
- ✓ It is also stated that the result of the migration policy should be the following:
- ✓ a marked decrease in the number of illegal migrants and crimes committed by them;
- ✓ the authorities will restrict the stay in the country of foreign citizens not engaged in work or study and their family members;
- ✓ creating conditions for the return to Russia of residents of the new regions who were forced to go abroad due to the SMO;
- ✓ the authorities will support the relocation to Russia of foreigners who share traditional Russian spiritual and moral values;
- ✓ taking measures against the formation of ethnic enclaves.

Insert 8

Specific examples of "egregious"[72] behavior by individual representatives of the ruling elites

1. July 24, 2025: M. Yegorov, a State Councillor of the Russian Federation, 1st class, was detained. On 04.10.2021, by decree of the President of the Russian Federation, he was appointed acting governor of the Tambov Region. He was a graduate of the fourth cohort of the "Governors' School." On 10.12.2021, he was elected secretary of the Tambov regional branch of the United Russia party. On 19.09.2022, he won the gubernatorial election, receiving 84.95% of the vote. He had been awarded honorary certificates from the President and the Government of the Russian Federation, among other accolades.

A criminal case has been initiated against Yegorov under Part 6 of Article 290 of the Criminal Code of the Russian Federation (receiving a bribe on an especially large scale). As experts noted, **"since December [2024], Yegorov is already the third detained former governor in the Central Federal District.** At the end of 2024, the former head of the Ryazan Region, Nikolay Lyubimov, was arrested, accused of receiving bribes totaling over 250 million rubles. And in April, the former governor of Kursk, Alexey Smirnov, was placed in a pre-trial detention center – in connection with a criminal case concerning 1 billion rubles in fraud during the construction of fortifications in the border area"[73].

2. October 11: S. Les, the head of Krymsky District in the Krasnodar Territory, was detained. He is suspected of misappropriating over a hundred land plots, with an estimated value of up to 2 billion rubles. **Les's detention is linked to the largest natural disaster in the history of the Krasnodar Territory – the 2012 flood, which resulted in 170 deaths and left tens of thousands homeless.** The investigation established that if local authorities had promptly informed residents about the flood, there could have been fewer casualties. Les was already the deputy head at that time. However, while the mayor of Krymsk and the district head were sent to prison, he managed to remain in power... **A few years later, Les began laying claim to lands belonging to the victims[74].**

Argumenty i Fakty newspaper: "Thirteen years have passed since the terrible emergency, its echoes are still heard – for instance, in 2023, the bridge over the Adagum River collapsed again after recent repairs; it was promised for completion in 2025, but at the time of publication, it had not yet been commissioned. **Interestingly, the construction cost of the bridge is just over 600 million rubles, while the value of the land plots the district head is accused of embezzling exceeds two billion.** Simple arithmetic – three such bridges could have been built with that money"[75].

Prior to his detention, S. Les was the secretary of the Krymsk local branch of the United Russia party.

3. July 29, 2025: I. Apostolevsky, leader of the CPRF faction in the Legislative Assembly of the Leningrad Region, was detained. The politician is charged with propaganda of the symbols of an extremist organization. According to RIA Novosti, an administrative case was initiated against him due to "publications posted in 2017 and not removed from social media in support of [Alexey] Navalny*." On July 30, he was sentenced to 7 days of administrative arrest[76].

[72] Besogon TV. The episode aired October 17, 2025. Fear the wrath of the patient. Available at: https://besogontv.ru/videos/boysya-gneva-terpelivykh/

[73] Ivanov A. The ex-governor of one of the Russian regions, the former chief housing inspector of the Russian Federation is detained. Available at: https://zavtra.ru/events/zaderzhan_eks-gubernator_odnogo_iz_rossijskih_regionov_bivshij_glavgoszhilinspektor_rf?ysclid=mgrk4hor5m745590504

[74] He felt like a prince: How the official Les pulled off a scam with land for 2 billion. Available at: https://ren.tv/longread/1374368-pochuvstvoval-sebia-kniazkom-kak-chinovnik-les-provernul-afery-s-zemlei-na-2-mlrd?ysclid=mgrjnbduob475947652

[75] Ivanov A. In Kuban, the head of the district tried to escape from the security forces with golden crutches and 105 million rubles. Available at: https://www.livekuban.ru/news/zhizn/glava-krymskogo-rayona-kubani-les-za-reshetkoy-kto-zhdet-ego-doma-semya-i-lichnaya-zhizn-chinovnika-vora?ysclid=mgrjn8207a192122244

* The activities of Navalny's headquarters were recognized as extremist and banned on the territory of the Russian Federation.

[76] Kondratiev A. "It is clear what the police were looking for": searches took place in the Lipetsk Regional Committee of the Communist Party of the Russian Federation. Available at: https://www.gazeta.ru/politics/2025/08/01/21462734.shtml?ysclid=mgqbey5xr0655886184

4. In September 2024, the General Prosecutor's Office identified violations of anti-corruption legislation in the actions of State Duma Deputy Yuri Napso. It was established that Yuri Napso had been a deputy since December 8, 2007. He held various positions, including deputy and first deputy chairman of the Committee on Civil, Criminal, and Arbitration Legislation, as well as first deputy chairman of the committee on state building and legislation. All these positions required him to fully and accurately declare his property and refrain from entrepreneurial activity. **However, an inspection revealed that while holding state positions, Yuri Napso was also the owner and manager of commercial organizations. He participated in their activities and received income from them… He illegally acquired expensive real estate objects, information about which he did not declare or report to regulatory bodies…**

April 4, 2025, the State Duma adopted a resolution on the early termination of his powers, as the parliamentarian was permanently residing in Dubai, where, according to press reports, he owns elite real estate. **The Commission on Regulations and Support of State Duma Activities found that starting from April 2023, Yuri Napso was periodically on sick leave, and on the days between – was absent from work. In total, he was not present in the State Duma for about two years, more than 200 days of which were without valid reason…**

321 deputies voted to strip Napso of his mandate; however, the LDPR faction did not vote on the resolution, abstaining in its entirety, which cannot be interpreted otherwise than as a coordinated position coming from the faction's leadership... The LDPR leadership certainly knew about Napso's illegal activities but did nothing about it"[77].

5. On September 23, the Prosecutor's Office reported that one of Russia's highest-ranking judges, Viktor Momotov, received remuneration from the "Pokrovskie" OCG (Organized Criminal Group). Since 2010, while serving as a judge, Momotov failed to comply with the restrictions stipulated by anti-corruption legislation. He held the positions of Secretary of the Plenum of the Supreme Court (since 2013), member of the Presidium of the Supreme Court (since 2019), and Head of the Council of Judges of Russia (re-elected in 2022), which, according to the oversight body, provided him with unlimited influence on judicial practice and the personnel policy of lower courts.

To develop and expand his own hotel business, Momotov collaborated with the organizers of the "Pokrovskie" OCG, A. Chebanov and A. Korovaiko. The Head of the Council of Judges also helped the owner of the Marton hotel chain, A. Marchenko, legalize 11 real estate properties through court decisions. Forty-four land plots and 51 real estate properties were registered in the name of Marchenko and individuals under his control, which were used to provide hotel services, house bath complexes, and hookah lounges. Based on these assets, Momotov and Marchenko created the Marton business hotel network, consisting of 40 complexes in the Krasnodar Territory, Rostov Region, Volgograd, Voronezh, Kaliningrad, Nizhny Novgorod, Vologda, and Moscow. **Their total value exceeds 9 billion rubles**.

According to the General Prosecutor's Office, Momotov used his status as a judge to legalize real estate, protect affiliated businesses in courts, and circumvent control by government authorities. Furthermore, according to the General Prosecutor's Office, a separate source of income for Momotov and Marchenko was tax evasion – the arrears exceed 500 million rubles[78].

[77] Ivanov A. A long-term deputy of the State Duma is suspected of raping a young assistant. Available at: https://zavtra.ru/events/mnogoletnego_deputata_gosudarstvennoj_dumi_podozrevayut_v_iznasilovanii_yunoj_pomoshnitci?ysclid=mgrmbw658c102524228

[78] Panteleev D., Zykina T., Sarsania N. "Organized criminal group and assets worth 9 billion rubles": what is known about the lawsuit against the head of the Council of Judges. Available at: https://www.rbc.ru/business/23/09/2025/68d26a509a79476cc45d7597

Insert 9

Facts of detentions and arrests of representatives of the ruling elites (August 19 – October 24, 2025)[79]

October 19 – The first deputy head of Nefteyugansk in the Khanty-Mansi Autonomous Area was charged with abuse of power.

October 19 – As part of an investigation into a case against administration officials accused of siphoning several million rubles from the budget, the deputy head of the city of Zheleznogorsk, R. Vychuzhanin, was detained.

October 18 – The deputy chairman of the committee for urban economy and construction of the Kaliningrad administration was detained. He is suspected of fraud.

October 11 – The head of the administration of Luzhsky Municipal District in the Leningrad Region was detained. According to the investigation, in August 2024 he received a bribe of 1 million rubles through an intermediary.

October 11 – The head of Krymsky District of the Krasnodar Territory, S. Les, was detained. He is suspected of embezzling state land plots.

October 5 – In the Stavropol Territory, the former Minister of Health of Dagestan, T. Belyaeva, was detained. She is accused of large-scale fraud, with damages estimated at at least one million rubles. Belyaeva served as the Minister of Health of Dagestan from February 2022 to August 2024.

September 30 – The acting head of the legal support, assessment, and personnel department of the territorial administration of Rosimushchestvo in the Rostov Region was arrested in a case involving a 13 million ruble bribe.

September 30 – The head of the Main Directorate of the Russian Ministry of Emergency Situations for Kabardino-Balkaria, M. Nadezhin, was detained on suspicion of receiving a 2 million ruble bribe.

September 30 – Former vice-mayor of Nizhny Novgorod, I. Shtokman, was charged with receiving a bribe on an especially large scale (55 million rubles).

September 30 – A. Vlasov, who on September 29 announced he was going to the front and leaving his post as acting deputy governor of the Krasnodar Territory, was detained on suspicion of large-scale embezzlement of humanitarian aid for the SMO.

September 29 – Former vice-governor of the Sverdlovsk Region, O. Chemezov, was detained. He was charged under Part 4 of Article 159 of the Russian Criminal Code (fraud committed by an organized group or on an especially large scale, or resulting in the deprivation of a citizen's right to residential premises).

September 29 – The head of the Rosgvardiya department for North Ossetia, V. Golota, was detained. Investigative actions are being conducted in a criminal case concerning bribe-taking.

September 22 – Former State Duma deputy and ex-deputy head of the Crimean government, R. Balbek, previously declared a federal fugitive, was detained. Criminal cases are being pursued against him for unlawful access to computer information and slander. The suspect has been remanded in custody.

September 17 – In Tatarstan, the deputy head of Zelenodolsky District was detained on suspicion of large-scale bribery involving ownership rights to four land plots.

August 27 – The mayor of Vladimir, D. Naumov, was detained. He is suspected of large-scale fraud. On the same day, the Vladimir regional branch of United Russia suspended his party membership.

August 25 – The acting deputy governor of the Kursk Region, V. Bazarov, was detained. He was charged with embezzlement. Bazarov's detention is linked to his work as deputy governor of the Belgorod Region and concerns the construction of defensive structures.

August 25 – Officials of the Belgorod Region government and the Region Capital Construction Directorate were detained on charges of embezzling funds allocated for defensive structures on the border with Ukraine. According to the investigation, the embezzlement was committed by the former head of the Region Capital Construction Directorate, A. Soshnikov, his deputies A. Reshetko and L. Streltskaya, and the deputy minister of construction of the region, V. Gubarev. "They stole more than 251 million rubles by inflating the cost and understating the technical characteristics of defensive structures – tetrahedrons installed on the border with Ukraine," reports the Ministry of Internal Affairs. All have been remanded in custody.

August 20 – Former deputy governor of the Chelyabinsk Region, A. Ufimtsev, was detained. According to the investigation, from 2009 to 2010, Ufimtsev, together with three accomplices, fraudulently acquired the right to use a forest plot in the protected zone of a natural monument in the Chelyabinsk Region on Lake Uvildy.

[79] Source: RT in Russian. The latest news about arrests. Available at: https://russian.rt.com/tag/zaderzhanie?ysclid=mdzkzlnnsn147444962

However, as V. Matviyenko, Chairwoman of the Federation Council of the Russian Federation, rightly notes, "**all current conflicts, including the Ukrainian one, have a chance of resolution only if their root causes are eliminated**"[80]. This thesis is often voiced concerning international conflicts, but, as the results of this study show, it is fully applicable to the country's internal life as well.

It is necessary to understand that under the conditions of the SMO, all events, phenomena, and processes occurring within the country should be viewed not only as part of internal daily life but also in the context of their potential external, geopolitical consequences. In this sense, the consolidating function of the ruling party as the "instrument for implementing the president's policy"[81] plays a crucial role in fulfilling one of the key tasks facing the country – the formation of a new Social Contract as a "basic, yet at the same time special state of relations between the state and the people, expressed in the philosophy of a common destiny"[82].

And although this task is not explicitly formulated by the head of state, numerous expert assessments testify to the growing need of Russian society for a new Social Contract.

1. "The conduct of the SMO, along with active and contradictory processes of socio-cultural turbulence within Russia and in Near Abroad states, **requires adjustments to the existing social contract**"[83].

2. "As a result of the global transformation of the geopolitical system in 2022, the problem of a **radical revision of the social contract emerged**... The initiated shifts signify a fundamental change in the country's governance regime – from a dependent (colonial) one to an independent (sovereign) one... **The need for forming a qualitatively different social contract between the supreme authority of Russia, represented by its president (and simultaneously the leader of the nation!), and the population has already ripened**"[84].

3. "...currently, solutions to specific state and societal problems in a significant number of cases lead to distorted processes and phenomena, which do not always embody the equal unity of the people and the political power, leading to various forms of tension reflecting the **deformation of the existing Social Contract**"[85].

4. "For many years, a discussion about the necessity of creating and introducing a common ideological platform into society has been intensifying in the country. This platform should serve as a guiding thread for state development...

At the current civilizational rupture experienced by the world, **we need such a guiding thread more than ever... A more or less clear outline, let alone one approved at the state level and purposefully, yet creatively (through discussions and probable corrections), proposed to broad elite circles and introduced into public consciousness, does not yet exist...**

[80] Matvienko: Current conflicts can be resolved only by eliminating the root causes. Available at: https://tass.ru/politika/24664489?ysclid=mh0emrycw3763429181

[81] Ilyina V. Marker of normality: experts discussed the results of the 2025 elections. Available at: https://rg.ru/2025/09/16/marker-normalnosti-eksperty-obsudili-itogi-vyborov-2025.html?ysclid=mh21x3xntc738372756 (K. Kostin's opinion).

[82] Toshchenko Zh.T. (2025). Social contract in modern Russia: Has a balance of interests been achieved? Sotsis, 2, p. 6.

[83] Nemirovskiy V.G. (2025). Social contract in modern Russia: Reality or illusion? Reflections of a sociologist on the monograph by Zh.T. Toshchenko "The fate of the social contract in Russia: The evolution of ideas and the lessons of implementation". Standard of Living of the Population of the Regions of Russia, 21(2), p. 303.

[84] Balatsky E.V., Ekimova N.A. (2022). Social contract in Russia: Before and after 2022. Journal of Institutional Studies, 14(3), 74–90.

[85] Toshchenko Zh.T. (2025). Social contract in modern Russia: Has a balance of interests been achieved? Sotsis, 2, p. 12.

The state's leadership stratum is still dominated by economist-technocrats, 'political technologists'. They are useful for current management, they do much that is necessary, **but they are incapable of leading the country and the people towards new horizons, of ensuring a deep, ideological unity between the people and the authorities in the difficult, fateful struggle which the country and the world have entered...** The above is not a call for a change of the supreme authority, especially during an acute foreign policy crisis, which will last for many more years. **But the renewal of the governing elites is a mandatory condition for success"**[86].

Nevertheless, as the research results show, the unconditional victory of the ruling party (70–75%) in regional and municipal elections is, in fact, secured by only about half (45–50%) of all eligible voters. The remaining portion of the population (judging by sociological survey data) either supports other parties or is fundamentally skeptical of the country's political system. **This solves the tactical task of ensuring the stability of the political system in the present but becomes ineffective in the context of the country's responses to future challenges.**

"Among analysts, who usually work precisely for the authorities, an apprehensive mood has recently begun to prevail... the essence is that **in the year of the upcoming State Duma elections, neither the people, nor the elites, nor, apparently, the political technologists themselves understand the future. And they cannot know or even attempt to predict what might happen in it"**[87].

Hence the conclusion – apparently, the electoral process requires adjustment, as it does not entirely accurately reflect the real situation in the country and the relationship between society and the authorities.

"In recent years, it has not been uncommon for governors to end up in the defendant's dock. And it seems rather unseemly when someone who showed a super-high result of over 80% ends up under investigation or on trial. Let's say, similar to what happened with the former governor of Kursk Region, Alexey Smirnov, although last year he did receive 65.3%. But ultimately, this situation still looks politically unacceptable"[88].

It should be noted that elections, like mass sociological surveys of society, are merely an indicator, a "litmus test," allowing for periodic "snapshots" of the relationship between the state and society. **The real "root causes" that lead to only 50, 40, or even 20% of voters participating in elections are much deeper and require not just "adjustments," but far more decisive actions to change the entire system of state governance and life in the country as a whole:**

✓ **overcoming the persistently high level of inequality and the most acute social contradictions;**

[86] Karaganov S. Russia's Living Idea-Dream, the Code of the Russian in the 21st Century: Report within the framework of the project "Russia's Idea-Dream and the Code of the Russian in the 21st Century" under the auspices of the Council on Foreign and Defense Policy and the Faculty of World Economics and World Politics of the National Research University Higher School of Economics. July 2025. P. 17.

[87] Rodin I. The factions examined the situation in the country from different angles. Available at: https://www.ng.ru/politics/2025-10-07/3_9354_fractions.html

[88] D. Garmonenko. In the conditions of the SMR, voter turnout has gained political significance. Available at: https://www.ng.ru/politics/2025-09-07/1_9332_elections.html?ysclid=mh4ko1wv2o202671700

"The Forbes list of the world's richest people continues to be replenished with Russian billionaires. In 2025, the number of Russians in the ranking of the wealthiest people increased by 21 individuals, reaching 146 people. Moreover, during the period of the SMO, each of them increased their annual income by 1.5–2 times"[89].

"...when our soldiers and commanders are dying on the fronts of the SMO, the issue of corruption takes on a special hue. If in peacetime the boundless theft by pampered clans simply slowed the country down, now it's a completely different story. The law of justice and the law of retribution demand that such crimes be paid for with blood"[92].

✓ **eliminating instances of the real, "egregious"** (as Nikita Mikhalkov noted in his TV show "Besogon"[90]), **behavior of elites as a systemic phenomenon; as part of ordinary, everyday life;**

✓ **resolving contradictions and disagreements (within the expert community and among broad segments of the population) in interpreting the national development course and understanding the Image of Russia's Future, which is impossible without a clear, unequivocal assessment of past and present events;**

✓ **not merely "adjusting," but creating a mechanism of state governance, or a system that would "filter out" people incapable of effectively performing their official duties while in "state service": either those unprepared due to their professional qualities, or those fundamentally not sharing the general vector of national development that Russia has been following for almost a quarter of a century now.**

As A. Shkolnikov writes, "There are many musicians, but virtuosos are few; yet they all must feel and hear the music. If an official does not understand these principles of work, it means they are in the wrong profession"[91].

Thus, decisive actions (primarily from the head of state) are required to address all those problems that have remained unresolved throughout virtually the entire post-Soviet period, have had (and continue to have) a cumulative nature, which has, among other things, led to the reduced effectiveness of elections as a diagnostic tool.

And what happens when diagnostic tools fail is quite well-known. The painful experience of the Ukrainian Armed Forces' incursion into the Kursk Region due to the seemingly banal embezzlement by officials through yet another "Development Corporation" serves as a highly instructive lesson in this regard, from which necessary conclusions must be drawn... – by the President, the State Duma, the Government, and entities within the state governance system at all levels of authority: federal, regional, and municipal.

This thesis, in our view, is largely confirmed by the expert assessment presented in the report by the Center for the Study of Russian Political Culture (CSPCR), prepared for the 34th anniversary of the GKChP putsch on August 19, 2025:

[89] Ilyin V.A., Morev M.V. (2025). What a 30-year absence of state ideology leads to: "Great nations are not built without great, guiding ideas, and having lost them, they collapse with a thunderous crash". Economic and Social Changes: Facts, Trends, Forecast, 18(4), 9–45.

[90] Besogon TV. The episode aired October 17, 2025. Fear the wrath of the patient. Available at: https://besogontv.ru/videos/boysya-gneva-terpelivykh/

[91] Shkolnikov A. The nature of bureaucratic alarmism. Available at: https://zavtra.ru/blogs/priroda_chinovnich_ego_alarmizma

[92] Goncharov A. The Kekhman case. Available at: https://zavtra.ru/blogs/delo_kehmana?ysclid=mgrp1uzvv4841221682

"We must be aware that the risks of a repetition of the August 1991 tragedy exist today. The modern risks are significant – history could repeat itself: after 30 years, the threat has not disappeared. The Western concept of the 'decolonization of Russia' explicitly aims to dismember the last large fragment of historical Russia – the Russian Federation. As during perestroika, part of the elites sees salvation in a deal with the West, hoping to return to the happy times for them of exchanging resources for the 'glass beads' of Western overconsumption, as under 'Grandfather Yeltsin'. But the price of such a deal today is 'decolonization,' meaning total dismemberment.

And the existing risks of another elite betrayal could very well materialize with the convergence of three 'factors'.

The first – a 'crisis of trust' in the authorities. But for now, this is offset by the president's 'super-high rating,' however, stability cannot hang on a single 'nail' indefinitely.

The second – the 'comprador psychology of the 'elites',' some of whom hope to return to the times of the happy exchange of the 'glass beads' of Western 'overconsumption' for the export of domestic resources, as it was under 'Grandfather Yeltsin'. But hopes to 'make peace' with the global 'hegemon,' which has decided to purge the 'overfed Russian oligarchy,' can now only be realized through the conditions of Russia's 'decolonization,' that is, its total dismemberment.

And the third – the 'absence of a sovereign ideology,' an alternative civilizational 'project.' And this is the risk that the rebellious province of global capitalism, in the form of Russia, will be neutralized, lacking its own civilizational identity and 'project'.

Today, these three threats are blocked by the tough stance of the security forces and the consolidation of society around the goals of the SMO, including 'Putin's statements' – about the impossibility of 'returning Russia to the pre-2022 situation,' and that 'capitalism has exhausted itself'. **However, 'pragmatic security officials and technocrats' have betrayed historical Russia more than once – both in February 1917 and in August 1991.** *Yes, history knows no subjunctive mood.* **But it demands to be studied and for the necessary lessons to be learned"**[93].

In conclusion, we note that on October 2, 2025, speaking at the plenary session of the Valdai International Discussion Club, Russian President V. Putin gave a comprehensive assessment of the situation in the country and the historical moment Russia is experiencing today: **"None of us, of course, are granted the ability to foresee the future in its entirety. However, this does not absolve us from the obligation to be prepared for anything that might happen. In practice, as both time and recent events show, one must be ready for absolutely anything. In such periods of history, everyone's responsibility is especially great – for their own fate, for the fate of the country, and for the fate of the entire world. And the stakes are extraordinarily high"**[94].

In our view, this is not only an assessment but also a call to action that must be heard and internalized by the ruling elites at all levels of power.

[93] Obukhov S.P. Perestroika, the Emergency Committee and the third destruction of historical Russia: Is it possible to repeat the betrayal of the elites? Available at: https://kprf-saratov.ru/2025/08/s-p-obuhov-perestrojka-gkchp-i-trete-razrushenie-istoricheskoj-rossii-vozmozhno-li-povtorenie-predatelstva-elit/

[94] Speech by the President of the Russian Federation Vladimir Putin at the plenary session of the Valdai International Discussion Club on October 2, 2025. Available at: http://www.kremlin.ru/events/president/transcripts/78134

Information about the Authors

Vladimir A. Ilyin – RAS Corresponding Member, Doctor of Sciences (Economics), Professor, Honored Scientist of the Russian Federation, scientific director, Vologda Research Center, Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russian Federation; e-mail: ilin@vscc.ac.ru)

Mikhail V. Morev – Candidate of Sciences (Economics), Leading Researcher, Vologda Research Center, Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russian Federation; e-mail: 379post@mail.ru)

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Thorny Paths of Modern Russian Higher Professional Education

Zhan T. TOSHCHENKO
Russian State University for the Humanities
Institute of Sociology FCTAS RAS
Moscow, Russian Federation
e-mail: zhantosch@mail.ru

Abstract. The article analyzes problem situations on the way to acquiring professions that require higher professional education. The main attention is paid to the fact that in society there is a real gap between personal (individual) goals in obtaining highly qualified professions and the socio-economic, socio-political and socio-cultural needs of society. In this regard, the reference points of acquiring and passing professional socialization are analyzed, which, in the author's opinion, consists of a consistent solution (algorithm) of interconnected, consistently implemented tasks – professional education, professional orientation, professional selection and professional adaptation. The author examines how these tasks are solved from the standpoint of: a) official state educational policy; b) actions and activities of schools and universities; c) behavior of schoolchildren and students; and d) their regional characteristics. Moreover, attention is paid not so much to the educational, methodological and organizational problems of mastering professions, as to the social aspects of the process of training and obtaining higher education.

Key words: higher professional education, professional socialization, professional enlightenment, professional orientation, professional selection, professional adaptation.

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Problem statement

The social significance of higher education is characterized primarily by such indicators as official decisions on its development and improvement, the number of higher education institutions, the number of students, faculty and support staff, as well as the condition of facilities and equipment.

Let us recall that currently (as of 2025) there are 724 higher education institutions (universities, institutes, academies, including 242 private ones) and 532 branches (427 public and 105 private) in Russia, where 4.33 million young men and women study; 89.2% of them studied in state and municipal organizations, 10.4% in private educational institutions. The distribution of students by specialty is as follows: 31.65% – engineering, technology and technical sciences, 28.85% – social sciences, 12% – healthcare and medical sciences, 9.3% – education and pedagogical sciences, 5.96% – mathematics and natural sciences, 5.21% – humanities, 3.79% – agricultural sciences, 3.25% – arts and culture[1].

In 2024, they were trained by 216.5 thousand full-time teaching staff – professors, assistants. Another 74.9 thousand were external part-timers. About 58,000 teachers worked under civil law contracts[2]. The number of full-time teachers has significantly decreased compared to the 2008/2009 academic year, when their number was 341.1 thousand people.

According to the Higher School of Economics, 32.4% of Russians aged 25 to 64 have higher education. For comparison: in Italy – 19.9%, in Japan – 34.2%, in the USA – 39.5%, in the UK – 41.3%. At the same time, the current situation regarding higher education causes reasonable concern and dissatisfaction with its results.

The contradictory policy in the field of higher professional education has led to a sharp decrease in the quality of specialist training as a result of ill-conceived and hasty reforms. The collapse of education in the new Russia went through several stages. In the early 1990s, attention was focused on numerous variations in the organization of higher education based on the dismantling of the Soviet system, its denial, and the abandonment of everything that was the heritage not only of the Soviet Union, but of the entire domestic experience in training highly skilled professionals. This was followed by steps to transform education into a service sector with the introduction of measures to commercialize universities. During this period, there was a massive increase in the number of higher education institutions, when university branches were often established even in large villages (for example, in the 2008/2009 academic year there were 1,134 universities and about 2,000 branches)[3]. At the next stage, a policy was implemented to switch to the model of "real education", which meant the Bologna model of education. Its apologists – former rector of the Higher School of Economics Ya. Kuzminov, former rector of the Russian Academy of National Economy and Public Administration V. Mau, together with the Minister of Education of the Russian Federation D. Livanov, enthusiastically and with great zeal promoted this "Western achievement" and secured its implementation. It is worth noting that their main argument was that persons who have bachelor's and master's degrees can freely and without any obstacles apply for jobs in all European countries. Moreover, Ya. Kuzminov stated in 2021 that, depending on the university and scientific direction, from 20 to 85% of students go abroad, on average more than 50%. However, opinion polls conducted by the Russian State University for the

[1] MIREA – Russian Technological University. Main Information and Computing Center. Information and analytical materials on the results of monitoring the activities of educational institutions of higher education (accessed: 26.05.2025).

[2] Vaplanova T.A., Gokhberg L.M. et al. (2023). Education in Figures: 2023: Concise Statistical Collection. Moscow: HSE.

[3] Russian Statistical Yearbook. 2010. Federal State Statistics Service (Rosstat). Moscow: Statistika Rossii, 2010.

Humanities have shown that such an intention (not even an action yet) is expressed by 1.4 to 8.3% of employees, depending on the branch of the economy and culture (The Life World ..., 2024, p. 436). In response to criticism, the proponents of the Bologna process constantly invented new proposals like two bachelor's degrees, dividing universities into categories worthy of support or third-degree (which included many regional universities). Together with A. Chubais they proposed to make all higher education paid, which led to the formation of another facet of social inequality – educational. We should note that these measures provoked protest and disagreement from the majority of the university intelligentsia, but they did not listen to its voice. Almost all the proposals of the Bologna supporters acquired the character of mandatory implementation, without taking into account the specifics of universities, their regional and national features. As a result, education was developed upon the ideas similar to Khrushchev's initiative to sow corn everywhere – from the northern circumpolar regions to deserts – when uniformity was recognized as the norm for everyone without exception.

At the same time, other problematic situations arose and multiplied. Here are some of them. In 2024, 823,000 people graduated from bachelor's, specialist's and master's degree programs[4]), of which 31% were lawyers and economists (35% in 2020). The number of university graduates in economic and legal fields is four times higher than the staffing requirement. Obviously, despite the importance of these professions, such a clear disparity did not correspond to the objective needs of society, although it correlated with the personal aspirations of young people and their parents. A very strange specialty "manager" has also appeared, which is not tied to any specific field of work; as a result, specialists are being trained who can manage everything they are assigned – from housing and communal services to an enterprise or cultural institution. At the same time, there was a sharp decrease in attention to the training of engineers, and after a while they began to be sorely missed. Thus, there is an imbalance in the labor market. According to the Ministry of Labor of the Russian Federation, in 2023 there were 12 vacancies per engineer, but 1 vacancy for trained 7–8 lawyers and economists, depending on the region.

Awe cannot but mention an outwardly good, but at the same time crafty figure: according to official data, from 80 to 90% of individuals find employment after graduation. However, a deeper analysis shows that, depending on the university and/or specialty, 40 to 60% of graduates start working in their specialty (or related one)[5]. But can they be considered employed in their specialty based on such examples? Thus, the training of a veterinarian to work in agricultural enterprises ends with his/her getting a job at a pet care in the city where he/she studied. Or can we consider employment in the specialty of medical care for a young doctor when he/she goes to work as a cosmetologist, or a teacher who gets a job at a government or other management service for preparing daily paperwork or collecting current information?

It is also important that the national education sector accounts for only 3.7% of GDP. According to this indicator, Russia ranks 125th in the world. For comparison: in Norway, Sweden, Denmark, Finland – from 7 to 8% of GDP, the USA – 6.1%, Canada – 5.5%, France – 5.4%[6].

At the same time, there has been an aging and feminization of the teaching staff, a doubling of the workload with low pay for teachers there, and students' scholarships are nominal. The outdated facilities and equipment and numerous economic and financial costs also hinder the high-quality training of specialists.

[4] The graduation rate of lawyers and economists in Russia has decreased by 15% in three years. Available at: 4ege.ru›novosti-vuzov/71965-vypusk-juristov-i-...

[5] Rosstat: A third of graduates of Russian universities do not work in their specialty. Available at: https://vsluh.ru/novosti/obshchestvo/rosstat-tret-vypusknikov-rossiyskikh-vuzov-ne-rabotayut-po-spetsialnosti_342862

[6] Available at: https://gtmarket.ru (accessed: 10.10.2025).

In this regard, we should also mention the flawed socio-cultural position of the mass media, which do not tire of promoting and advertising the forms of employment represented by celebrities, entertainers and athletes, marketers, businesspeople of all ranks and profiles, while almost completely ignoring the production professions. And such a policy has a significant impact on the preferences of young people.

By the 2020s, it became obvious that mindlessly copying other people's experience while completely ignoring domestic, including Soviet, achievements, without taking into account the opinion of the majority of the teaching staff, led to a real lag behind global indicators and a decrease in the quality of training skilled specialists. Therefore, it is not surprising that Russia currently ranks 34th in the world in terms of education, having lost the primacy that the Soviet Union possessed.

At present, the higher authorities have proclaimed not only the rejection of the Bologna principles that have complicated the activities of universities, but also the need to introduce fundamental changes to the existing structure of higher education, which, as the Ministry of Education and Science of the Russian Federation hopes, will allow for a complete transition to a new structure of education in 2027. As part of the new strategy, it is planned to integrate the experience gained over the past two centuries in the development and functioning of domestic education and meet the real needs of the upcoming Fifth Industrial Revolution.

Based on the review of the state of higher education in Russia, the article examines all stages of professional socialization, which includes professional education, professional orientation, professional selection and professional adaptation.

The empirical basis of the study covers 118 university websites, reflecting their involvement in the implementation of all stages of professional socialization of young people. In addition, in March – June 2023, an online survey "The role of career guidance in career choice" was conducted using the online questionnaire (CAWI) via the Google.Forms platform. Object of the study: high school students, applicants, university students and graduates. Sample size: N = 769. Sample type: targeted, unrepresentative. Method of selecting respondents is based on one of the target criteria – the status of a high school student, the status of a student in higher education programs, or the status of a graduate. We also used the data from the 2023 FCTAS RAS study, which contains the results of a survey of 4,000 young professionals (Gorshkov et al., 2023), VCIOM-2024[7]. Data from the sociological centers (HSE, FOM) and scientific publications on this topic for 2015–2024 were used. When researching individual groups such as doctors, teachers, and architects, in-depth interviews were conducted with experts, young professionals, and students. Successful work experience in the Republic of Tatarstan, the Sverdlovsk and Rostov regions was used in the analysis of the problems posed.

However, the improvement of higher education involves changes not only in itself, but also in the preparatory stages on which its implementation is based. Thus, we consider both pre-university and university and post-university stages of its development and functioning.

Consequently, the idea was realized to consider the path to the profession in a broader context, starting from the first attempts at professional self-determination to the first steps toward the actual application of acquired knowledge and competencies directly in production.

Let us look at each of these stages, paying special attention to what hinders their effective implementation, including such a specific problem as functional illiteracy (Toshchenko, 2025).

[7] The methodology is described in detail in: Career guidance: Good, but not enough! VCIOM. 2024. Available at: https://wciom.ru/analytical-reviews/analiticheskii-obzor/proforientacija-khorosho-no-malo (accessed: 11.09.2024).

Professional education as a starting point for socio-professional self-determination

There comes a time in every young person's life when they have to decide how and which profession to choose, how to determine their future career, i.e., assume the trajectory of their life path. According to the Constitution of the Russian Federation, every young person is given the right to choose a profession, occupation and job. However, as practice shows, this right is sometimes not easy to realize – there is a lack of knowledge about professions, about the requirements they impose on the personality of the employee and the ability to evaluate them, especially about which young people are aware by hearsay. Knowledge about the needs of society in certain professions is of considerable importance. To this should be added the influence of public perception, assessment of available or desired professions, when it is the orientation toward some of them that is determined not by the needs of the economy and culture, but by personal, family or group preferences[8].

In this regard, there arises an acute issue of implementing consistent, logically non-contradictory actions to organically combine the objective needs and subjective orientations of young people. Moreover, in most cases, the process of entering adulthood for young people is limited to career guidance, often taking into account only local interests. But, as real life shows, this is a process that is limited in its integrity, missing many aspects of acquiring professions, consolidating young people in their professional choice, preparing for productive work and remaining faithful to their chosen work path.

In our opinion, when talking about professional education, we should talk about its two important components, such as professional information and professional propaganda. But it is at this stage that a common mistake is made – instead of spreading comprehensive information about all possible professions and their relevance in economics and culture, they usually switch to career guidance, which is directly related to the production organizations and higher education institutions in the region.

Career guidance work involves conducting it with great pedagogical tact. By orienting students toward professions that are in demand in the country (region), it is necessary to observe such an important principle as connection with life, avoiding all kinds of pressure, pressure on the consciousness of a young person, stopping the impulses of fashion for certain professions. V. Shubkin brilliantly demonstrated this in his representative studies on the professional orientations of schoolchildren. He convincingly showed and proved that in the 1960s and 1970s, the desire and aspirations of young people and the needs of the national economy for personnel were mutually exclusive pyramids: figuratively speaking, the number of people who wanted to become astronauts and artists was hundreds to thousands of times higher than the number of people who wanted to work in production (Shubkin, 1970).

But real life demonstrated the discrepancy between the behavior of young people and the needs of society. This inadequate situation can be described as a discrepancy between dreams (even sincere ones) and the further choice of a work path, which inevitably led to a deformed social reaction to attitudes toward work, to disappointments, to a decrease in civic engagement and, consequently, to the fact that the potential inherent in nature and education was not tapped either for the benefit of society or for the benefit of the person themselves.

In the realization of awareness, the first place, of course, belongs to the school. But this activity is often limited to telling stories and meeting with representatives of those professions that are "at hand", i.e. using what is available in a given city, in a particular region. The efforts of schools are

[8] Savitskaya N. (2025). What to expect from the next educational reform. Nezavisimaya gazeta. May 22.

often complemented by the work of children's art houses (former pioneer palaces), which offer an introduction to a wide range of professional fields, including technical, artistic, natural science, physical culture, sports, and socio-pedagogical. We should note that in 1957, 2,153 pioneer palaces and houses were functioning in the USSR, but according to expert estimates (there are no official statistics), about 500 of them have been preserved in Russia.

The participation of children's and school periodicals in informing and promoting professions has not changed for the better. Instead of magazines that have lost their appeal and popularity, such as "Young Engineer", "Young Naturalist", "Quantum", "Chemistry and Life" and other educational publications aimed at the younger generation, entertainment magazines such as "Young Scrabble", "Toshka and Company", "Minecraft" or aimed at developing interest in business and entrepreneurship ("Think" and "Think Kids"), as well as building leadership skills and financial literacy (the magazine from the Lovely Beetle business school and the "I'm in Business" program). As a result, mass professions related to participation in productive labor in most sectors of the national economy and culture have dropped out of the information field. To be fair, it should be noted that intensive efforts are currently underway to restructure these labor-related orientations. This is exemplified by the sharply increased attention given to engineering and technical specialties: in the 2025 admission cycle, such fields have been allocated 41% of the total number of state-funded (budget) places at universities.

Thus, the restructuring of vocational education is an essential prerequisite for achieving nation-wide goals set out in national programs and projects aimed at increasing productive work.

In the meantime, we can conclude that vocational education needs to be radically restructured at all levels of work with youth, both in schools and in each region, and in the country as a whole, in the policy of the Ministry of Education and Science and the Ministry of Education of the Russian Federation.

Career guidance as a process of forming professional attitudes

The main purpose of career guidance is to prepare young people for a conscious choice of a future profession. In other words, on the basis of professional education, after familiarizing students with existing and possibly new professions, they will have to form their preliminary interest in future work options. It is assumed that at this stage schoolchildren focus on a more detailed assimilation of the essence and functions of the desired profession, the skills and abilities necessary for it, its social assessment, as well as obtaining information about educational institutions that train relevant personnel (Apostolov, 2011, p. 61). Sometimes students receive professional counseling; they undergo diagnostics – most often it is testing; they receive psychological support (for more information, see Pryazhnikova, 2010). However, this structure was dismantled in the 1990s.

Now this activity is being revived. Currently, such forms as meetings with representatives of the professions that young people intend to choose, specialized clubs in their chosen specialty, and in some cases specialized (engineering, medical, pedagogical, and economic) classes have become widely used in schools. Universities are organizing such new forms of interaction with schoolchildren as pre-university meetings, Olympiads and competitions; educational and practical associations are being created. In recent years, social media have joined the implementation of career guidance programs, which not only inform, but also organize classes in various specialties. However, as the analysis shows, many of these forms of work are rather poorly distributed, do not cover all participants, and are often conducted formally. In this situation, schoolchildren and their peers in small towns are excluded from many forms of

influence. And such forms as specialized classes have their own specifics, since they are organized at the request of parents and/ or students, and not based on the needs of the economy and culture. So, as of 2023, there were only 131 engineering classes in high school, which, in our opinion, is clearly insufficient; at the same time, economic, legal and medical classes are massively represented (Anisimov, 2024). Such a form as pre-universities exists only in large cities, their number is also insignificant.

In addition to these institutional efforts, serious contradictions of a socio-psychological nature, the time of professional self-determination, and the choice of a profession or direction of future activity that will form the basis of a life strategy lie on the path of career guidance (Leontiev, Shelobanova, 2001).

Real life has shown that significant discrepancies continue to exist on the path of career guidance between the instructions, recommendations and measures formulated in official documents and what young people are guided by before entering the university. According to the Institute of Sociology FCTAS RAS (a survey of 4,000 young professionals from 207 enterprises and institutions in 41 regions of the Russian Federation in 2021), the meaningful (ideal) aspirations of young people have a pronounced social significance: 57% said that they are focused on the desire to get their chosen specialty; 40.5% are attracted by the high demand for their profession, 30.6% by the prestige of their chosen profession; 29% by its social significance; 27.4% by high wages; 26.4% by career prospects. It is worth paying attention to the "family tradition" indicator, which is mentioned by 14.2% of respondents. But in reality, when choosing a place of study, other orientations often prevail, which torpedo the social significance of the chosen training. These instrumental means of studying at the chosen university include the availability of budget places (50.5% of respondents) and low competition (17%). Although there are rational and acceptable orientations: 37.3% mentioned the image of the university and 10.6% – job security, of considerable importance are practical considerations often related to the financial situation of the family: 18.1% of respondents consider proximity to home important and another 17% – the presence of a dormitory (Gorshkov et al., 2023, pp. 83–84, 87).

A comparison of these data shows that when finally choosing a university where the student wants to study, meaningful (ideal) goals and orientations often fade into the background, and practical expediency comes to the fore, which may not coincide with previous intentions. Here, in our opinion, lies one of the reasons for the discrepancy between the initial conviction of the advantages of the desired profession and the real decision to choose the profession that, due to a number of circumstances, had to be accepted. A young individual may never get used to their chosen profession, let alone fall in love with it, make it the meaning, the basis of their professional activity. This leads to frustration, discontent, doubt, or passive adherence to the chosen path, which really threatens to turn a person into a "commonplace" representative of low-quality work in the future (for more information, see: Toshchenko, 2023).

Also, one should not discount the selfish and even opportunistic preferences of young people when choosing a profession, which are often influenced by external circumstances: the fashion for professions, as in the case of lawyers, economists and managers, as well as studying only to get a diploma[9].

Professional selection in the learning process

First of all, we note that there are a wide variety of interpretations of professional selection in the literature – from the extremely broad (it includes professional information, career guidance, voca-

[9] VCIOM Analytical Review. Available at: https://wciom.ru/analytical-reviews/analiticheskii-obzor/bolshaya-zarplata-ili-rabota-po-speczialnosti-

tional training, and even employment) to a narrower and, in our opinion, more specific interpretation of it as the beginning of a real entry into future professional activity and consolidation in it in one's working life. It is from these positions that we will consider this phenomenon.

So, the young person became a student, i.e. out of the mass of possible professional offers and intentions, they chose the profession to be mastered, and they should start preparing for future work along this chosen path.

The first sign that indicates the success of mastering a future profession is academic performance. It is a clear focus on achieving positive grades that indicates a stable motivation to gain knowledge in a future profession, as well as the intention to work in this particular specialty. And even in the case when, for one reason or another, a young person switches to another profession (as a rule, after receiving a second education or special retraining courses), their orientation toward achieving new results on the basis of a solid science-based education is confirmed. As a rule, a contingent of students who are clearly focused on obtaining their chosen profession regularly replenish their knowledge and expand their competencies not only during their studies, but also through participation in scientific events, Olympiads and other competitions, grants, and various activities related to increasing intellectual baggage in their chosen specialty. Even forced or consciously carried out employment during studies, related to future work, strengthens their confidence in the correctness of the chosen professional activity.

Thus, the first and often crucial element of professional selection is the organization of the educational process. It has a leading role. A rationally and effectively formed educational process, with its constant updating and improvement, helps the student to accumulate knowledge in such a way as to apply it most successfully in future practical life. However, "the modern system of higher education is of a very low quality. There is a great loss of time, and this is in the presence of overload, lack of time. The time that a student spends in classrooms is not being used as effectively as possible"[10].

In other words, the educational process at universities faces fundamentally new challenges in the context of the ongoing industrial revolution. Now life puts forward different requirements for the training of specialists. A higher education institution, first of all a university, focusing on mastering science-intensive technologies, is designed to "give a young person not only solid fundamental knowledge, but also the opportunity to feel like a participant in real processes, to be able to quickly navigate the flow of information. It is important that a person is armed not with thousands of ready-made recipes, among which there may not be the right one, but with a method of obtaining them, both well-known and new" (Karelina, 2003, p. 3).

The traditional form of organizing the educational process can be characterized as contact, communicating learning, purposefully guided, based on a disciplinary and subject principle and complemented by such forms of improving the quality of training for future specialists as participation in various scientific and practical events, competitions, involvement in research, practical activities to introduce innovative ideas directly in production. This activity reinforces professional qualities already in the learning process and increases the likelihood of a student's final commitment to their chosen specialty.

But the actual learning process does not always happen or end successfully. According to both statistical and sociological data, from 15 to 25% or even 30% of students drop out, depending on the university and the profile of their chosen

[10] For more information, see: Zimnaya I.A. (2002). Pedagogical Psychology: Textbook for Universities. 2nd edition. Moscow: Logos. 384 p. P. 3.

profession, especially in engineering, agricultural and pedagogical universities. There are many reasons behind this, ranging from "untrainable" students who became disillusioned with their chosen profession to financial difficulties in continuing their studies (for more information, see: Ziyatdinova, 1999; Denisova-Schmidt, Leontieva, 2015; Bulanova, 2018).

However, on-the-job internship is of particular importance in the professional selection process as a criterion for the quality of professional selection, due to the fact that one of the acute problems of modern Russian higher education is the unpreparedness (and inability) of university graduates to fully integrate into the production process after graduation.

This problem is reflected in the fact that employers have constantly and for many years expressed complaints about the quality of training of the majority of university graduates, their lack of initial skills to fully engage in work in production (Antonova, 2020). Workers also criticize the level of training of young professionals for practical work, as evidenced by the data of sociological research (Ariskin et al., 2015).

These data correlate with the opinion of 38.7% of students that one of the main trends in modern education is poorly observed – the combination of learning with practice, one of the key points in the necessary improvement of their preparation for future professional life (Toshchenko, 2023).

This situation regarding the professional and labor training of university graduates largely rests on the unresolved most important task – the organization of on-the-job internship.

Of course, there are examples of its worthy organization that deserve not only approval, but also the widest possible application. Thus, Rosneft ensured the organization of regular activities for university teachers and permanent and continuous internship for students, which, as experience shows, is one of the most effective ways to develop responsibility and build professional competencies[11]. ITMO University (formerly the Leningrad Institute of Fine Mechanics and Optics) has announced the transformation of the university into a scientific and educational corporation, whose goals include creating a unique environment for self-realization.

But these examples remind us of the well-known "lighthouses" in Soviet times – highly efficient enterprises (factories, state farms and collective farms), as well as the outstanding achievements of individual workers who stubbornly refused to become a reality for such organizations or relevant professions in all sectors and spheres of economy and culture.

Experts, teachers and students evaluate the effectiveness and efficiency of university graduates' training for industrial activities very critically. If we carefully analyze their arguments, we will come to the need to talk not only about the principles of its organization, but also about its aspects such as preliminary planning, actual implementation and its effectiveness in terms of preparing students for productive work. The analysis shows that a very strange and even paradoxical situation has developed: currently, on the one hand, there is a lot of talk about improving the educational process itself, about various forms of information transmission and assimilation; on the other hand, there is not enough discussion of the problems faced by a young specialist when he/she has to start performing production tasks. In this regard, there is no answer to the question of what connects or should connect the two processes – academic activity and preparation for future work, in order to minimize collisions during the student's transition from study to professional activity. This raises the question of on-the-job internship, which, in our opinion, can and should be considered as a criterion for the optimal entry of a young specialist into a

[11] Krapchatova E. (2023). Rosneft helps to provide the industry with young professionals. Nezavisimaya gazeta. January 16.

full-fledged working life. The students themselves are talking about this. A survey of Orenburg State University students showed that they placed the opportunity to get an internship at a well-known company in the third place in terms of career development (42%), while the second place (48%) was given to the practice during which, in their opinion, additional competencies can be obtained (Miroshnikov et al., 2022, pp. 104–105).

Thus, an analysis of the state of on-the-job internship leads to a disappointing conclusion: this form of training for future specialists needs to be radically revised and a fundamentally different approach to its organization and implementation (for more information, see: Toshchenko, 2024).

An analysis of the practice shows that there are many reasons that give rise to student complaints (that are very different depending on the profile of the university). But they have one thing in common – so far there is a vice inherent in production practice, we can call this vice imitation. Overcoming it is one of the most important indicators that must be taken into account in the upcoming reform of higher education if society, economy and culture want to get skilled specialists.

So, we came to the conclusion that the state of affairs regarding on-the-job internship needs to be significantly reconfigured; it should get rid of such vices as embellishing individual results, reducing the importance of negative aspects, and suppressing information undesirable to the organizers for one reason or another (Fedorova, 2013).

Professional adaptation: will the educational goals be impemented

Sociological research data (Institute of Sociology FCTAS RAS, HSE, RGGU, USU, etc.) show that at present the transition from study to work is largely a spontaneous process. This is complemented by the fact that the professional training of many graduates does not meet the needs of a particular labor market, as a result of which graduates are not ready for the real challenges they face when starting work. As a result, the employment picture looks like this. Currently, according to the Ministry of Education and Science, graduates of engineering fields of study most often find jobs in their specialty: 97% of those who start working immediately after graduation find jobs in industries directly or indirectly related to solving engineering problems. Doctors rank second: 74% of them find work in the healthcare sector. Representatives of pedagogical specialties occupy the third place: 60% are employed in their field, while another 17% are employed in areas indirectly related to education[12].

Opinion polls show that 29% of graduates got a job with the help of friends, 23% used information from the Internet and the media, 22% were helped by relatives (Gorshkov et al., 2023).

Organized assistance is insignificant – 8% of graduates indicated the assistance of the university's employment service (career centers), 2% indicated the support of city and district employment services. About 2% said they were trying to start their own business and become individual entrepreneurs (Gorshkov et al., 2023). Let us note a new aspect of employment – the participation of recruiting firms. Currently, 162 universities have established contacts with them. This condition allows us to conclude that, on the one hand, the employment of graduates occurs in accordance with the laws of a market economy, rather spontaneously; on the other hand, it leads to an irrational use of the intellectual potential of young professionals due to the influence of a significant number of situational and random factors on this process. Graduates of provincial universities find themselves in particularly unfavorable conditions, since they have significantly fewer such opportunities than their peers in metropolitan and large industrial and socio-cultural centers (for more information, see Druzhinina, 2023).

[12] Available at: https://media.foxford.ru/news/prof-vypuskniki-kakih-vuzov-chasche-rabotaut-po-specialnosti

The position of employers remains contradictory. They want trained and skilled specialists, but the majority of employers do not actually participate in the training of possible candidates, and reduce their involvement to expressing wishes and recommendations. Even such a form of participation as targeted recruitment in universities is characterized rather ambiguously and needs significant changes.

But these employment paths also have a negative side, which can be indicated by the question: what did university graduates have to face after they got a job, since employers complain about the poor preparedness of university graduates to fully perform their duties within the framework of the position they are applying for. Therefore, according to the Russian Technological University (MIREA), the majority of managers (56.8%) pay more attention to whether the applicant has work experience. Only 27.9% of managers take into account the compliance of the specialty in the diploma with the proposed vacancy. This once again underlines that education itself, even if the proposed job is appropriate, plays an insignificant role[13]. Distrust of the diploma is also indicated by the fact that applicants are often offered jobs that require lower skills, with the promise to consider transferring to the position they are applying for after successfully completing the probation period. At the same time, we should note that 52% of company managers, according to Superjob, organize retraining or additional training for young professionals due to the fact that many of them do not know the latest advances in technology and/or decision-making methods (Ariskin et al., 2015).

When applying for a job and taking the first steps to adapt to the work environment, there are significant differences in the views of the three groups involved in this process: employers, teachers and students. According to the HSE, graduates and early-career professionals were evaluated according to 11 criteria. The opinion of all these groups coincided only on five supra-professional competencies: "partnership/cooperation", "information analysis and decision-making", "communication literacy", "planning and organization", "self-development". At the same time, the opinions of teachers and students did not coincide on a number of important competencies for employers: "customer orientation", "result orientation", "following rules and procedures". Competencies such as "stress tolerance", "leadership", "influencing", and "strategic thinking" were significantly overestimated by students and/or teachers when compared with the opinion of employers. Although teachers and students agree with employers on a number of competencies, however, there are competencies that they overestimate or underestimate, which creates a dangerous discrepancy for the labor market between what requirements employers place on young professionals and what non-professional skills universities and students pay attention to (for more information, see: Stepashkina et al., 2022, p . 20).

Finally, the following socio-psychological circumstance is very important for professional adaptation: how clear and obvious the prospects for career growth and career opportunities in future working life are.

Conclusion

Summing up the analysis of all the stages of preparing future specialists for productive work: professional enlightenment, professional orientation, professional selection and professional adaptation, in our opinion, it can be argued that all the suggestions and judgments made by experts, students and young professionals show that each of these stages needs significant, and sometimes drastic improvement.

Professional enlightenment should be considered as an independent, separate link in preparing young people to choose not just a profession, but one related to the needs of society, its economy

[13] Bashkatova A. (2024). Higher education still needs to be finalized. Nezavisimaya gazeta. May 17.

and culture. In our opinion, the Ministry of Education of the Russian Federation is not paying enough attention to this so far: in its Order 370, dated May 18, 2023 on approval of the federal educational program for basic general education does not separate professional enlightenment and professional orientation, but, sensing this contradiction, introduces the concept of "early career guidance". In the meantime, we can argue that there is no effective system that would provide relevant information and make it possible to compare the personal needs and aspirations of young people with the needs of both the country and the region in which they live. These requirements apply not only to the school itself, but also to broader awareness, from the efforts of local and regional authorities to systematic propaganda and clarification in the media of the needs of the spheres of life that are most significant and relevant for a rational combination of personal and public interests.

The career guidance stage is no less important for more concretization of the intentions of young people and the preliminary and often final choice of profession. Here, it is of great importance to organize a specialized network for the additional acquisition of knowledge on the chosen profession, for a deeper understanding of its specifics and essence, as well as the efforts that must be made on the way to mastering it. Three factors are important in achieving this goal: a) universities should organize various forms of explanation, including through social media, with the chosen form of education and subsequent work; b) the work of extracurricular children's organizations such as children's art houses, voluntary professional communities, periodicals aimed at youth; c) regular meetings with representatives of the chosen profession, along with visits to their places of work. The latter factor is especially important for those who focus on regional and local interests. We should note that the regional aspect of this problem has recently become more acute. Through the efforts of the minions of the Bologna process, metropolitan and promising universities accounted for the majority of student enrollment, thus compromising the educational field of many republics, territories and regions. Therefore, it is quite natural that this bias was realized – the share of students from regional universities reached 73% of the total number of students enrolled in the first year[14].

Especially difficult tasks are at the stage of professional selection, when it is finally determined to what extent the chosen profession becomes the lot of future work. The main efforts to achieve this goal are concentrated in the organization of the educational process. Almost no one doubts that studying at a university is the key to determining a future profession. Doubts arise about how this is done. Comprehensive reform of all levels of education, including higher education, has now begun. At the same time, the fundamentality of education in combination with practice orientation is becoming increasingly important. Therefore, the urgent question is how, in the process of upcoming transformations, to select those resources and reserves that exist in Russian society, but have not yet been fully realized. We should especially note that the widely used paid education is evaluated ambiguously – its economic results are obvious, which cannot be said about its social and cultural costs. There are many noteworthy initiatives in the country, but they remain the focus of individual specific universities.

Finally, it is necessary to achieve a certain harmony and consistency in the work that relates to professional adaptation. So far, entry into working life is carried out "of its own accord", often spontaneously, based on the characteristics and traditions of the organization in which the young individual begins to work. The need for such a coordinated and scientifically based entry into

[14] Poisk. 2025. Issue 26.

the circle of their professional and at the same time clearly defined responsibilities, depending on the requirements of a particular organization, is confirmed by the data: from 20 to 40% of those who changed their profession and place of work are young professionals in the first three years of work.

All this allows us to conclude that only the consistent provision of all stages of a young specialist's entry into working life guarantees their full-fledged professional socialization, ensures the desired interaction with the real needs of the economy and culture.

References

Anisimov R.I. (2024). Professional selection at the university as a means for improving the quality of engineers training. *Vestnik Rossiiskogo universiteta druzhby narodov. Seriya: Sotsiologiya*, 24(1), 204–216 (in Russian).

Antonova G.V., Mirzabalaeva F.I., Bondarchuk A.G. (2020). Problems of graduates employment in the context of the coronavirus pandemic. *Ekonomika truda=Russian Journal of Labor Economics*, 7(1), 1247–1268. DOI: 10.18334/et7.12.111230 (in Russian).

Apostolov O.P. (2011). *Professional'naya orientatsiya v Rossii (opyt, problemy, perspektivy)* [Professional Orientation in Russia (Experience, Problems, Prospects)]. Moscow: Izd. IP Tatarinov M.V.

Ariskin M.V., Medvedeva L.M., Nemova E.Yu. (2015). University graduates and employers: a sociological aspect. *Molodoi uchenyi*, 9(89), 981–983. Available at: https://moluch.ru/archive/89/18228/ (accessed: 05.09.2023; in Russian).

Bulanova M.B. (2018). NEET-youth. The experience of international diagnostics. *Vestnik RGGU. Seriya "Filosofiya. Sotsiologiya. Iskusstvovedenie"=RSUH/RGGU Bulletin. Series Philosophy. Social Studies. Art Studies*, 3(13), 54–62 (in Russian).

Denisova-Shmidt E.V., Leontieva E.O. (2015). 'Un-teachable' students as a social phenomenon in universities: Far Eastern case. *Sotsiologicheskie issledovaniya=Sociological Studies*, 9, 86–93 (in Russian).

Druzhinina E.S. (2023). The employment of university graduates as an indicator of the compliance of their level of training with the needs of the labor market. *Trud i sotsial'nye otnosheniya*, 6, 67–77 (in Russian).

Fedorova A.V. (2013). Integration of universities and innovative enterprises: Aspects of knowledge management. *Ekonomika i menedzhment innovatsionnykh tekhnologii=Economics and Innovations Management*, 12. Available at: https://ekonomika.snauka.ru/2013/12/3598 (accessed: 17.03.2025; in Russian).

Gorshkov M.K., Sheregi F.E., Tyurina I.O. (2023). *Vosproizvodstvo spetsialistov intellektual'nogo truda: sotsiologicheskii analiz* [Reproduction of Intellectual Labor Specialists: A Sociological Analysis]. Moscow: FNISTs RAN.

Karelina I.G. (2003). Means of organizing the process of higher education. *Vestnik Voronezhskogo gosudarstvennogo universiteta. Seriya: Problemy vysshego obrazovaniya*, 2, 47–53 (in Russian).

Leontiev D.A., Shelobanova E.V. (2001). Vocational choice as anticipation of images of possible future. *Voprosy psikhologii*, 1, 57–65 (in Russian).

Miroshnikov S.A., Notova S.V., Nikulina Yu.N. (2022). Personnel cooperation between university and industrial partners in the context of youth career development. *Vysshee obrazovanie v Rossii*, 1(8-9), 99–115 (in Russian).

Pryazhnikova E.Yu. (2010). *Proforientatsiya* [Professional Orientation]. Moscow: Akademiya.

Shubkin V.N. (1970). *Sotsiologicheskie opyty: Metodologicheskie voprosy sotsiologicheskikh issledovanii* [Sociological Experiments: Methodological Issues of Sociological Research]. Moscow: Mysl'.

Stepashkina E.A., Sukhodoev A.K., Guzhelya D.Yu. (2022). *Issledovanie profilya nadprofessional'nykh kompetentsii, vostrebovannykh vedushchimi rabotodatelyami pri prieme na rabotu studentov i vypusknikov universitetov i molodykh spetsialistov* [A Study of the Profile of Supra-Professional Competencies Demanded by Leading Employers when Hiring University Students and Graduates, and Early-Career Professionals]. Moscow: NIU VShE.

Toshchenko Zh.T. (2023). Production practice. Imitation? *Vestnik RGGU. Seriya "Filosofiya. Sotsiologiya. Iskusstvovedenie"=RSUH/RGGU Bulletin. Series Philosophy. Social Studies. Art Studies*, 3, 67–75. DOI: https://doi.org/10.28995/2073-6401-2023-3-67-75 (in Russian).

Toshchenko Zh.T. (2024). Forms of the higher education participation in ensuring labor productivity. *Vestnik RUDN. Seriya: Sotsiologiya=RUDN Journal of Sociology*, 24(1), 28–42 (in Russian).

Toshchenko Zh.T. (2025). Functional illiteracy as a problem of modern education. In: *BRIKS kak novoe prostranstvo dialoga kul'tur i tsivilizatsii: XXII Mezhdunarodnye Likhachevskie nauchnye chteniya. 12-13 aprelya 2024 g.* [BRICS as a New Space for the Dialogue of Cultures and Civilizations: 22nd International Likhachev Scientific Readings. April 12–13, 2024]. Saint Petersburg: SPbGUP (in Russian).

Toshchenko Zh.T. (Ed.). (2024). *Zhiznennyi mir rabotnikov: ustoichivost' versus prekarnost': kollektivnaya monografiya* [The Life World of Workers: Sustainability versus Precarity: Collective Monograph]. Moscow: Izdatel'stvo "Ves' Mir".

Ziyatdinova F.G. (1999). *Sotsial'nye problemy obrazovaniya* [Social Problems of Education]. Moscow: RGGU.

Information about the Author

Zhan T. Toshchenko – RAS Corresponding Member, Doctor of Sciences (Philosophy), Professor, scientific director, Sociology Department, Institute of Social and Economic Sciences, Russian State University for the Humanities (6, Miusskaya Square, Moscow, 125047, Russian Federation); Chief Researcher, Institute of Sociology FCTAS RAS (5, building 1, Bolshaya Andronevskaya Street, Moscow, 109544, Russian Federation; e-mail: zhantosch@mail.ru)

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Economic Reforms, Modernization and the "Special Path" Ideology in Russia

Vyacheslav V. VOLCHIK
Southern Federal University
Rostov-on-Don, Russian Federation
e-mail: volchik@sfedu.ru
ORCID: 0000-0002-0027-3442; ResearcherID: K-7832-2012

Elena V. FURSA
Southern Federal University
Rostov-on-Don, Russian Federation
e-mail: efursa@sfedu.ru
ORCID: 0000-0001-7295-9876; ResearcherID: F-9101-2018

Elena V. MASLYUKOVA
Southern Federal University
Rostov-on-Don, Russian Federation
e-mail: maslyukova@sfedu.ru
ORCID: 0000-0002-9918-3040; ResearcherID: K-7143-2016

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Abstract. The article explores the "special path" ideology as a significant factor in Russia's economic modernization and development in the constructive context. The concept of the special path is considered within the perspective of the evolution of economics, emphasizing its differences from radical denial of universal laws. The special path is presented as a strategy for adapting institutions and policies to unique national and historical conditions, closely related to sovereignty and national interests. Research methods are based on the use of bidirectional LSTM neural networks for classifying texts of scientific articles by their ideological color and analyzing representation of bigrams in publications categorized as "special path" with the Lekta software product. The authors substantiate four main characteristics of the special path: economic sovereignty, historicism, adaptability and pragmatism. The special path is not considered to be a denial of universal laws, but rather as a way to adapt the institutional structure to national particularities. The study emphasizes the importance of considering historical context and practical experience when shaping economic policy, while criticizing attempts to mechanically adopt foreign models without consideration of national specifics. The "special path" ideology does not reject the achievements of science or the experience of reforms in other countries, but instead emphasizes the need to adapt them to the specific circumstances of Russia, including historical, institutional, and geopolitical factors. The synergy of sovereignty, historicism, flexibility, and pragmatism is seen as the foundation for developing a strategy for modernization that can ensure sustainable development in an uncertain world. China's success in implementing this approach demonstrates its feasibility.

Key words: economic ideology, special path, sovereignty, adaptability, historicism, pragmatism, institutions.

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Introduction

In Russia, intellectual movements periodically emerge that are associated with conceptualizing a "new modernization" affecting all spheres of public life. In such projects, a significant, if not central, role is assigned to economic modernization. In this article, we demonstrate how the ideology of a "special path" is connected to the development of domestic economic science and how its concepts can contribute to contemporary progressive economic development.

Economic science has achieved very significant successes over the past century. Sometimes there are assertions that among the social sciences, economics has become the most influential, representing a de-ideologized and politically neutral scientific method that allows us to think clearly and arrive at correct answers (Rodrik, 2015, p. 197). The 2008 economic crisis became a reason for doubting the scientific reliability of modern economic theory (Krugman, 2009). Certainly, even before the "Great Recession", works on the crisis in economic science were periodically published, but it was this event that drew significant attention to the fact that the "scientific method" used by economists is not always valid. Moreover, it became obvious that the universal prescriptions of modern economic theory work poorly for ensuring economic well-being in many countries. Therefore, theories that view economic systems as non-ergodic (North, 2005) and in which a special role is assigned to specific institutions and development trajectories (Reinert, 2016) are gaining increasing relevance and significance.

What is the special path as an economic ideology?

Research on ideological currents in economic science is associated with difficulties in the ambiguous interpretation of the very concept of "ideology". Within the framework of this study, we use an approach that combines the Schumpeterian tradition, interpreting ideology as a "pre-scientific cognitive act" (Schumpeter, 2012), and North's concept of an "aggregate of mental models" (North, 1994). Therefore, we follow the scientific tradition developing the approaches of J. Schumpeter and D. North, which is most concisely presented in V. Tambovtsev's interpretation of ideology as a "vision of the economy when building models" (Tambovtsev, 2024, pp. 15–18). Hereafter, we will use the following definition: "Ideology is the general mental models shared by groups of individuals. With the help of these models, groups of individuals explain the supposed and real connections between the means and results of policies aimed at transforming society. Key importance belongs to groups of individuals (scientific schools, political organizations) and their actions to establish and promote a supposed or real connection between means and results" (Volchik, 2024, p. 28).

In previous articles within this project, we investigated ideal types of ideologies, such as neoliberalism and socialism (Volchik, Shiryaev, 2024) and ecologism (Maskaev et al., 2024). In this work, we focus on the ideology of the special path in order to show the possibilities and directions for the constructive use of this concept in modern economic science.

In the history of economic science, there exist and evolve schools that emphasize the national characteristics of the development of economic orders. The German Historical School can be considered the most influential. The famous "Methodenstreit" (dispute over methods) between G. Schmoller and C. Menger, in the context of the rivalry between universalist and nationally oriented approaches, retains its significance and relevance in modern conditions (Efimov, 2007; Schmoller, 2011).

The ideology of a special path in economics possesses its own specificity and undeniable differences from similar political or sociological concepts. Here, the unique development path of the People's Republic of China serves as an excellent example. Indeed, it was the creation of the concept of a "socialist market economy" that allowed for the formation of a "constellation" of theoretical narratives, models, and economic policy measures which contributed to phenomenal economic progress.

The special path ideology does not always constitute a radical denial of universal economic laws and theories. The special path can be viewed as a way of adapting the institutional structure of the economic order to national and historical characteristics.

The special path ideology can combine with or complement other ideological tenets. However, it is precisely within the "special path" that institutional specificity is reflected to the greatest degree, and the importance of national interests is emphasized.

It is also necessary to consider that universal entities associated with "economic laws" and "widely recognized models" may or may not align with national interests. Therefore, the special path ideology is closely linked to concepts such as sovereignty and national interests.

Special path ideologies: the empirical research base for Russia

In Russian public discourse, the special path ideology has become quite widespread. The significance of the "special path" concept for the population of the Russian Federation is indirectly demonstrated by data from the sociological monitoring project "How are you, Russia?"[1] ("Kak

[1] Levashov V.K., Velikaya N.M., Shushpanova I.S. et al. (2024). "How are you, Russia?". Express information. 54th stage of the sociological monitoring, April 2024: Bulletin. FCTAS RAS. Moscow. P. 57.

Table 1. Respondents' opinions on the most acceptable path of economic development for Russia, % of respondents

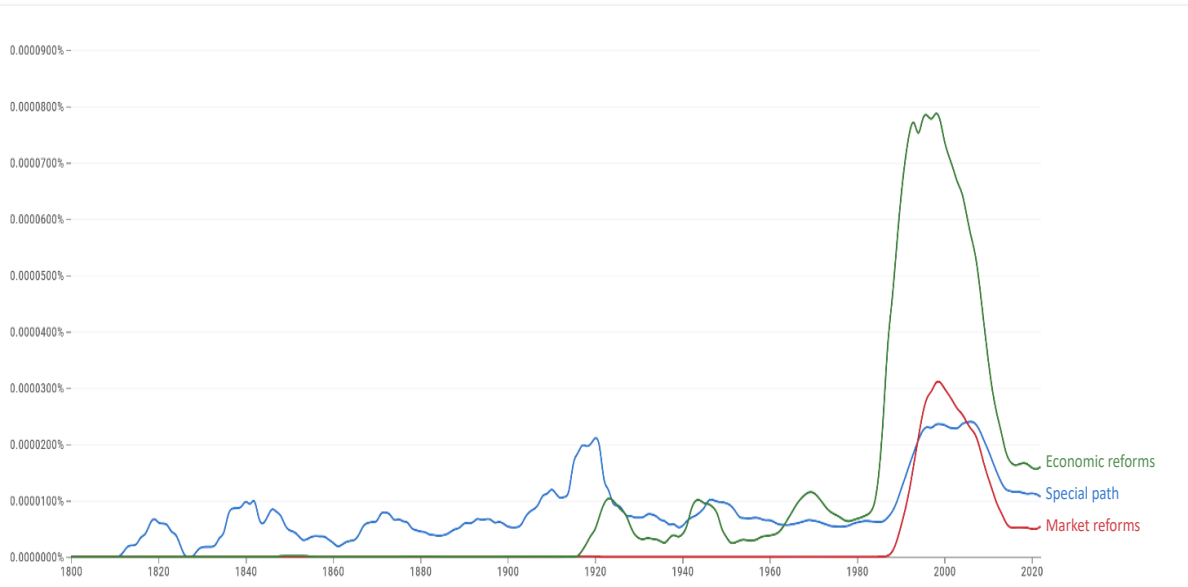
Response option	1992, VIII	1996, V	2004, VII	2009, VI	2010, XII	2011, VI	2017, VI	2020, XII	2023, VI	2024, IV
Russia should have its own special path of development	52	53	44	48	45	45	42	33	52	51
Socially-oriented economy like Sweden's	8	11	14	13	12	16	13	17	10	13
Free market economy like in the USA, UK, Germany, France	11	7	9	11	12	8	9	9	4	4
Economy with predominance of state ownership following China's model	5	8	9	11	10	11	10	11	15	19
Difficult to answer	24	21	24	18	21	20	26	30	18	13

Source: Levashov V.K., Velikaya N.M., Shushpanova I.S. et al. (2024). "How are you, Russia?". Express information. 54th stage of the sociological monitoring, April 2024: Bulletin. FCTAS RAS. Moscow. P. 57.

zhivesh, Rossiya?"). According to the 54th stage of this monitoring in the fourth quarter of 2024, 51% of respondents, when asked "Which path of economic development is most acceptable for Russia?", chose the answer "Russia should have its own special path of development". It is noteworthy that the second most popular answer was "An economy with a predominance of state ownership, following China's model" (19%; *Tab. 1*).

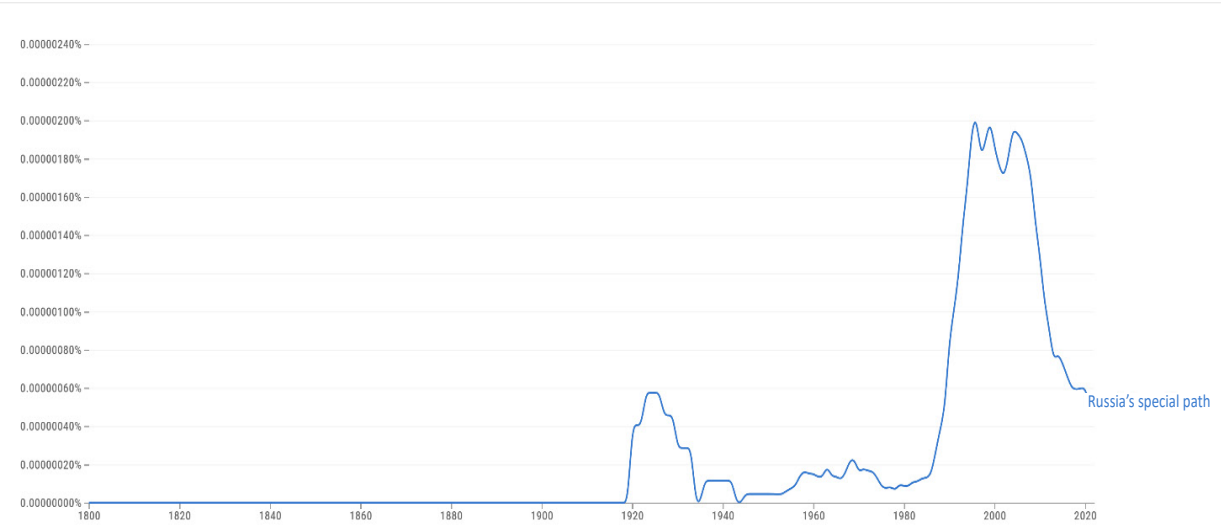
Data from Google Ngram Viewer (*Fig. 1 and 2*) serves as an important illustration of the significance of the "special path" concept. According to this data, changes in the frequency of mentions of "special path" in texts of books and articles published in Russian correlate with changes in the frequency of usage of the compound phrases "economic reforms" and "market reforms." The increased use of phrases like "Russia's special path"

Figure 1. Analysis of the frequency of bigrams "special path," "market reforms," "economic reforms"



Source: own compilation.

Figure 2. Analysis of the frequency of the phrase "Russia's special path"



Source: own compilation.

or simply "special path" began from the late 1980s to early 1990s, peaking in the first decade of the 21st century (2004–2006). These data show that when conceptualizing economic reforms, issues related to understanding the importance of the unique historical, institutional, and cultural characteristics of the Russian economic order occupy an important place.

Within our work, the primary data source for researching the evolution of ideologies in Russian economic science was materials from scholarly articles. The empirical base consisted of 134,124 scientific publications from 165 journals, covering the period 1992–2023. To study the ideological leaning, five categories were identified through expert assessment: neoliberalism, dirigisme, socialism, special path, and ecologism. A training sample of 1,487 articles (5% of the data) was formed. The initial processing involved vectorization using the SciRus-tiny model, followed by the application of a bidirectional LSTM neural network (32 units per layer + Softmax) for classifying texts based on their ideological leaning. The distribution of articles into groups according to their ideological orientation is presented in *Table 2*.

Table 2. Distribution of articles by ideological orientation

Ideology	Number of articles	Share, %
Neoliberalism	19489	14,53
Socialism	16312	12,16
Dirigisme	40045	29,86
Special path	22264	16,60
Ecologism	25283	18,85
Undetermined	10731	8,00
Total	134124	100
Source: own elaboration using machine analysis of scientific article texts (Volchik et al., 2024, p. 49).		

The distribution of articles by ideology across time periods is reflected in *Table 3*.

Following text preprocessing (removal of non-Cyrillic characters, tokenization, lemmatization using the re and PyMystem3 libraries), a frequency analysis of the representation of various n-grams within each ideology was performed using the Lekta software product. For substantive analysis, all n-grams were divided by expert assessment into "general" (frequent but neutral) and "characteristic" (ideologically significant) ones.

The analysis of the representation of bigrams in publications classified under the "Special path" group allowed for the identification of the main scientific problems discussed in each time period (*Tab. 4*).

Table 3. Distribution of articles by ideology across time periods, %

Period	Neoliberalism	Socialism	Dirigisme	Special path	Ecologism	Undetermined
1992–1997	26.63	20.20	14.69	19.83	8.26	10.38
1998–2002	28.53	14.59	16.28	19.69	9.27	11.64
2003–2007	19.54	12.11	33.81	14.89	10.81	8.85
2008–2012	15.07	12.32	35.39	17.16	11.69	8.36
2013–2017	12.35	11.60	32.34	17.10	18.80	7.80
2018–2023	13.39	12.23	23.97	16.09	26.91	7.40
Source: own elaboration using machine analysis of scientific article texts (Volchik, 2025).						

Table 4. Top-20 Bigrams in articles classified under the "Special path" ideology

Period	Bigrams
1992–1997	«Former USSR»; «economic growth»; «economic security»; «securities»; «Central Bank»; «money supply»; «Russian economy»; «economy of Russia»; «market economy»; «structural adjustment»; «foreign investments»; «economic policy»; «national economy»; «economic reform»; «commercial banks»; «state regulation»; «industrial policy»; «foreign policy»; «federal budget»; «Reform strategy»
1998–2002	«Securities»; «economic growth»; «exchange rate»; «real sector»; «Central Bank»; «commercial banks»; «Russian economy»; «banking system»; «economic policy»; «money supply»; «ruble exchange rate»; «interest rate»; «developed countries»; «economic development»; «foreign investments»; «growth rate»; «CIS countries»; «monetary policy»; «world economy»; «Western Europe»
2003–2007	«Economic growth»; «Russian economy»; «developed countries»; «economic development»; «money supply»; «foreign investments»; «federal budget»; «Bank of Russia»; «world market»; «securities»; «fixed capital»; «wages/salaries»; «Central Bank»; «higher education»; «economic development»; «socio-economic development»; «exchange rate»; «banking system»; «interest rate»; «investment policy»
2008–2012	«Economic growth»; «Russian economy»; «global crisis»; «world economy»; «economic development»; «banking system»; «financial market»; «securities»; «Bank of Russia»; «innovative development»; «socio-economic development»; «financial crisis»; «world market»; «innovation activity»; «higher education»; «economic development»; «foreign investments»; «interest rate»; «national economy»; «Central Bank»
2013–1017	«Economic growth»; «Russian economy»; «world economy»; «economic development»; «innovative development»; «Bank of Russia»; «socio-economic development»; «quality assessment»; «federal budget»; «Central Bank»; «developed countries»; «economic development»; «national economy»; «international relations»; «wages/salaries»; «economic policy»; «financial market»; «securities»; «developing countries»; «social responsibility»
2018–2023	«World economy»; «economic growth»; «economic development»; «Bank of Russia»; «developed countries»; «human capital»; «public administration»; «Central Bank»; «higher education»; «socio-economic development»; «financial market»; «Russian economy»; «developing countries»; «e-commerce»; «innovative development»; «labor market»; «national economy»; «interest rate»; «federal budget»; «state policy»
Source: own compilation.	

Publications from 1992–1997 focus on the transformation of the Russian economy following the collapse of the USSR. The most frequent phrase in this period is "former USSR", which corresponds to the historical context, as many publications began with a reference to the past. This is followed by a large body of economic vocabulary related to market reforms: "economic growth," "economic security", "securities", "Central Bank", "market economy". A significant portion consists of bigrams related to public administration and the role of the state: "state regulation", "federal budget", "industrial policy". Bigrams such as "commercial banks" and "private property" also appear frequently, indicating increased attention to the development of the non-state sector, while phrases like "money supply" and "ruble exchange rate" recall the hyperinflation of those years. Note should be taken of terms specific to the transition period – "structural adjustment", "transition economy" (63). Social aspects are relatively underrepresented: only the phrases "wages/salaries" and "civil society" made it into the top 50.

During the 1998–2002 period, financial themes dominate as a reaction to the financial turmoil of the late 1990s – hyperinflation and the ruble's collapse: "securities", "exchange rate", "interest rate", "monetary policy". The bigram "economic security", which was in the top 3 of the previous period, did not even make the top 100, while bigrams like "natural monopolies" and "Tax Code" appear in the top 50, indicating an interest in systemic regulation. Attention to the role of human capital is also noted, evidenced by the bigrams "vocational education" and "higher education" appearing in the top 20. During this time, the bigram "information technologies" appears for the first time (in 60th place). This period is characterized by a decrease in the frequency of reform-related terms and the emergence of bigrams like "world economy", "developed countries", "CIS countries", and "European Union", pointing to a trend of globalization in research topics.

The dominant themes of the 2003–2007 period are economic growth and economic development in both national ("Russian economy", "economic development", "national economy") and global ("developed countries", "world economy", "developing countries") contexts. Phrases reflecting an interest in regional development ("development of regions", "regional development"), the financial system, investments ("foreign investments", "investment policy", "investment project"), state regulation ("state support", "state regulation", "state policy"), the social sphere, and human capital ("standard of living", "population incomes", "socio-economic development", "social policy", "quality of life") are also popular. We should also note the strengthening role of the state in regulation (budget, taxes, support), the emergence of new priorities: innovations, high technologies, modernization of industry, and the expansion of the global agenda – not only the CIS and Europe but also Asia ("East Asia"), and world markets.

In the subsequent period (2008–2012), the theme of economic growth, its sources, and sustainable development remains dominant. The emergence of new terms related to the global crisis should be noted: "global crisis", "financial crisis", "anti-crisis measures"; the strengthening of the innovation theme, accompanied by a sharp increase in the number of relevant terms ("innovative development", "innovation activity", "innovation system"); the popularity of social topics ("human capital", "quality of life", "wages/salaries"); as well as increased attention to integration processes and foreign economic orientation ("Customs Union", "CIS countries", "European Union"). Overall, significant attention is paid to the role of the state, with the emphasis shifting from institution-building (1990s) to strategic management (2000s) and anti-crisis regulation (2008–2012). The social sphere, a secondary theme in the 1990s, moves to the forefront in 2008–2012 ("human capital", "education", "quality of life").

The period 2013–2017 is characterized by increased interest in macroeconomic processes and Russia's role in the global context. The following thematic blocks clearly stand out: macroeconomics ("economic growth", "economic development", "development of the economy", "national economy", "GDP growth"); the financial sector ("financial crisis", "economic crisis", "sustainable development"); the social sphere ("quality of life", "social policy", "standard of living", "higher education", "human capital", "scientific research", "healthcare"); foreign economic relations ("world economy", "international relations", "foreign trade", "international cooperation", "economic integration", "foreign economic activity"); public administration and regional economics ("state policy", "tax system", "state regulation"); innovations and technologies ("innovative development", "new technologies", "innovation infrastructure").

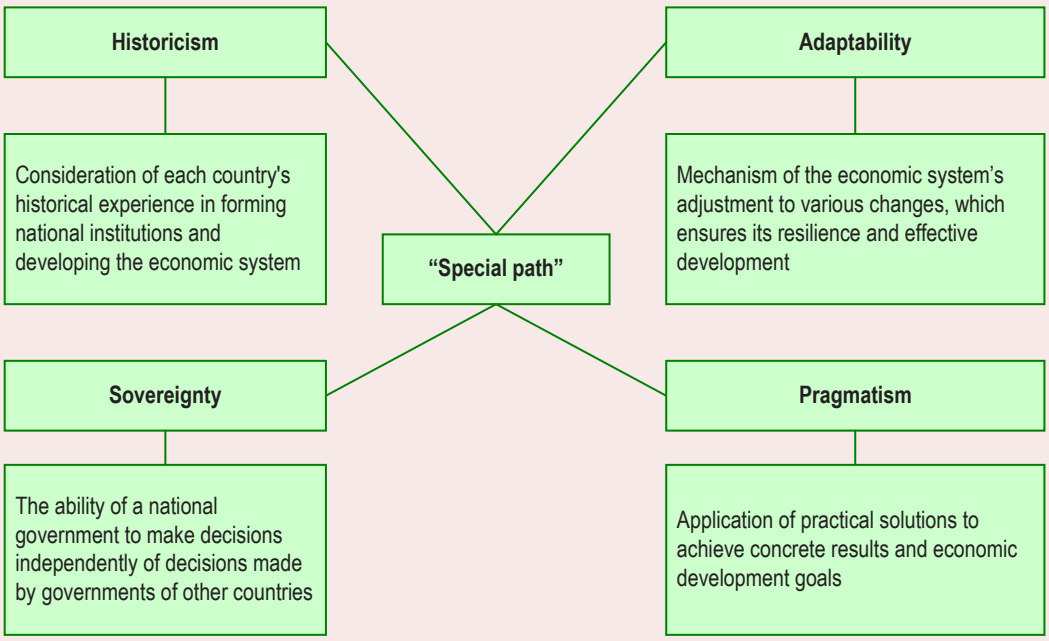
In publications from 2018–2023, the main thematic cluster is still associated with economic growth and development; however, new bigrams appear, related to the COVID-19 pandemic, sanctions, digitalization, and the development of artificial intelligence (e.g., "coronavirus pandemic", "digital transformation", "anti-Russian sanctions", etc.), which were absent in previous periods. Themes related to researching the financial system and banking sector ("Bank of Russia", "central bank", "key rate", "financial market") and the re-evaluation of human capital with new emphases on psychological aspects and the development of digital skills ("quality of life", "distance learning", "level of trust", "emotional intelligence", "psychological health", "digital literacy", "professional competencies") are also relevant. A noticeable focus on the Asian direction should be noted (decreased frequency of mentions of "European Union" alongside growing bigrams like "BRICS countries", "EAEU countries", "Chinese investments", "Chinese economy").

The conducted analysis of bigrams vividly reflects the evolution of Russian economic thought in the analyzed publications. The concept of sovereignty evolved from defense during the transition period, through a temporary weakening, to renewed relevance in the last decade against the backdrop of geopolitical tensions. Historicity was extremely significant only at the very beginning of the transition period (1992–1997) as a basis for understanding the ongoing transformations. Subsequently, the research focus shifted to current challenges and future development, rather than interpreting the Soviet past.

A cross-cutting and strengthening concept is adaptability. The publications clearly reflect reactions to internal crises, global shocks (financial crisis, pandemic, sanctions), and technological trends. The research focus gradually restructures itself ("anti-crisis measures", "innovation", "digitalization"). Furthermore, a dominant concept throughout the entire period is pragmatism. The works consistently focus on solving pressing practical tasks: building market institutions, overcoming crises, stimulating growth, attracting investments, implementing technologies, improving the efficiency of public administration, and developing specific competencies.

The use of this empirical base in the article helped trace the evolution of research interests and problem areas within the body of texts identified as pertaining to the "special path". This allowed for an analysis of which challenges and problems this ideological paradigm responded to in different periods (the collapse of the USSR, financial crises, sanctions). We should clarify that the specificity of the special development path is revealed not through the frequency of the words, but through their context and semantic connections: how the same phenomena are interpreted, what cause-and-effect relationships are built, and what policy measures are proposed.

Figure 3. Fundamental characteristics of the "special path" of development



Source: own compilation.

Sovereignty, historicity, adaptability, and pragmatism in the context of the "special path" ideology

Amid the intensification of the geopolitical situation, large-scale sanctions, and economic isolation, the Russian economy is experiencing severe external pressure and undergoing a significant transformation of the traditional market-based management system. Disappointment with the experience of reforming the Russian economy, specifically the implementation of successful institutions borrowed from developed countries without considering the features of the national institutional structure formed over a long period, contributed to the development of a discourse on finding alternative paths for modernizing the economy (Pliskevich, 2019, pp. 44–45). In Russian economic science, such an alternative became the special path of economic development, based on national identity and interests when developing a new strategy aimed at modernizing the Russian economy under conditions of geopolitical turbulence.

The special path of economic development must account for the historical, economic, geographical, social, and other characteristics of the country's development, while also ensuring a balance and the reproduction of the fundamental conditions for economic development (economic resilience, entrepreneurial initiative, increasing returns) (Volchik, 2022). In contemporary realities, achieving these goals requires the special path of economic development to be based on four fundamental characteristics: sovereignty, historicism, adaptability, and pragmatism (*Fig. 3*).

The achievement and preservation of sovereignty form the foundation for implementing a country's special path of economic development and its further modernization. As E.V. Balatsky notes, considering sovereignty can be the first step "in building renewed social knowledge capable of systematically explaining events of the present

and future. Ignoring the category of sovereignty in economic research impedes a relevant description and assessment of the majority of modern processes in the world economic system" (Balatsky, 2025, p. 63).

Considering the sovereignty factor is especially important in the long term, as "the effectiveness of managing internal processes in a country directly depends on the government's freedom in making appropriate decisions. External influence from other states can limit many options for effective domestic policy" (Balatsky, 2025, p. 61). Thus, the lack of sovereignty for over 30 years led to Russia being "a classic example of a country whose development was under external management, and with a clearly expressed vector towards containment" (Balatsky, 2024, p. 55).

The term "economic sovereignty", which denotes the ability of a national government to make decisions independently of decisions made by other governments, is also often used in political and public discourse when discussing the topic of economic patriotism (Sapir, 2020, p. 3). According to E.V. Balatsky, economic patriotism reflects "a surge of patriotic and quasi-patriotic feelings among the peoples of states experiencing pressure from a hegemonic country, including in the form of economic sanctions" (Balatsky, 2025, p. 60). According to data from VCIOM (Russian Public Opinion Research Center), in 2024, 94% of Russians considered themselves patriots, with 62% being unconditional patriots. This indicator increased by 10 percentage points compared to 2014 (84%) and is the maximum for the entire observation period, thereby reflecting a surge in patriotic sentiment among the Russian population[2].

Under conditions of geopolitical turbulence and large-scale sanction pressure on the Russian economy, research concerning the achievement and preservation of sovereignty has acquired particular relevance and significance in Russian economic science. Various works are dedicated to this issue, ranging from those of neoclassical economists, who view the concept of sovereignty as a factor interfering with the optimization process to which standard macroeconomic policy tools from traditional economic growth theories cannot be applied, to institutionalists, who, conversely, emphasize the importance of sovereignty in economic research (Sapir, 2020, p. 5). For example, the representative of original institutionalism, J. Commons, in his work "The Legal Foundations of Capitalism", identified three types of sovereignty: state sovereignty (based on fear of physical power), corporate or business sovereignty (based on fear of economic power), and the sovereignty of religious and moral institutions (based on fear of public opinion) (Commons, 2011, p. 77; Sapir, 2020, p. 5).

Currently, Russian economic science features various research directions on economic sovereignty. For example, M.N. Dudin, S.V. Shkodinsky, and I.A. Prodchenko analyzed four approaches to considering economic sovereignty: "from the perspective of legal rights and the independence of the state as a political and economic actor (N. Machiavelli, T. Hobbes, and J. Bodin), from the perspective of realizing citizens' property rights to the national wealth of the state (A. Smith, D. Ricardo, T. Sandler), from the perspective of exercising market rights to influence international economic relations (C. Schmitt, J. Bordo, D. Rosenberg), from the perspective of the resilience of the socio-economic system to external political and economic challenges and threats (J. Westermann, V. Dhar, J. Perritt, J. Rauhouter, C. Bowden)" (Dudin et al., 2022, pp. 61–63).

S.A. Afontsev analyzed four research directions on economic sovereignty: "1) the contribution of economic factors to ensuring national sovereignty;

[2] On modern patriotism. Available at: https://wciom.ru/analytical-reviews/analiticheskii-obzor/o-sovremennom-rossiiskom-patriotizme (accessed: 24.05.2025).

2) autonomy of national economic policy; 3) high degree of independence in achieving economic development goals ('sovereign development'); 4) the ability to successfully withstand negative external shocks" (Afontsev, 2024). At the same time, according to S.A. Afontsev, there is currently a lack of a "theoretical basis" for analyzing economic sovereignty, which could serve as an impetus for further research in this area.

After the collapse of the USSR, various knowledge-intensive sectors in science and industry, such as mechanical engineering, microelectronics, instrument making, shipbuilding, pharmaceuticals, and others, were destroyed during the radical economic reforms. This led to the loss of technological sovereignty in the Russian economy, a problem that became particularly acute after 2022. Issues related to technological sovereignty began to be actively discussed in Russian economic research. Thus, E.V. Balatsky and N.A. Ekimova emphasize the importance of achieving technological sovereignty as the "ability to ensure, in close interaction with the progressive development of human potential, the creation of one's own technologies and infrastructure on one's own territory" (Balatsky, Ekimova, 2023).

It should also be taken into account that to achieve technological sovereignty in Russia, "it is not enough to focus only on the latest technologies. The relationships between old and new industries do not boil down to competition for resources. It is necessary to identify bottlenecks in the development not only of the latest widely applicable technologies but also in traditional industries based on previously mastered technologies, which determine the country's economic potential. The effectiveness of the Russian strategy for developing digital technologies, and artificial intelligence in particular, can be discussed if its implementation allows for equal cooperation with foreign partners in global value chains and a real claim to innovation rent" (Dementiev, 2023, p. 16).

Iran can be cited as an example of a country that, despite prolonged international pressure and numerous sanctions, has managed to preserve its sovereignty and achieve significant success in developing a national innovation system (Volchik et al., 2023). Therefore, in the context of globalization and growing interdependence among states, it is crucial for countries implementing a special path of economic development to preserve their national sovereignty.

Thus, in current conditions, it is very important for the government to be able to make decisions based on national interests and economic patriotism. This does not preclude international cooperation but limits those areas which, in the medium term, may clearly be associated with negative consequences for economic development.

One of the core values underpinning the special path ideology is national identity, which is directly linked to historicism – a methodological approach based on the historical experience of each country in forming its national institutions. This experience largely determines the specifics of the institutional structure of the economic order. Here, it is important to understand that comprehending one's own unique experience, on the one hand, and considering the general patterns of economic system development, on the other, are important conditions for formulating and implementing economic policies that contribute to achieving national interests. China serves as a good example in understanding the features of socio-economic development: "China's socio-political system represents a unique combination of two-thousand-year-old traditions with the revolutionary legacy of the Communist Party – a model that cannot be replicated anywhere else. The Chinese leadership and elites understand perfectly well: their system, for all its effectiveness domestically, is not for export. Moreover, this very system requires China to focus on solving internal tasks while gaining respect from the international community" (Li, 2025, p. 15).

When forming a special path of economic development, it is necessary to consider various historical processes and events that have shaped a specific national code, characterized by a particular institutional structure, population mentality, traditions, and values. Past failures and successes, features of the country's socio-economic and political structure, serve as the basis for developing future economic policies aimed at modernizing the economy. At the same time, ignoring the historical context can lead to serious errors in planning long-term economic development strategies. For example, during the transition from a socialist economy to a market one in the 1990s, Russia should have taken into account its strong traditions of state economic regulation and could have chosen a development trajectory close to dirigiste ideology, which incorporates mechanisms of state control, planning, and partnership. Considering this historical context would have made it possible to avoid past mistakes and develop new priority areas of development that take into account the strengths and weaknesses of the Russian economy at that time. As D. North notes: "History matters. It matters not just because we can learn from the past, but because the present and the future are connected to the past by the continuity of a society's institutions. The choices we make today or tomorrow are shaped by the past. And the past can only be understood by us as a process of institutional development. To integrate the concept of 'institutions' into economic theory and economic history is to take an important step in the development of that theory and history" (North, 1997, p. 12).

The use of historicism as a methodological approach in implementing a special development path is connected to the concept in economic science known as "path dependence", or the terms "dependence on prior development", "the rut effect", which are accepted in domestic literature. This theory reflects how future development depends on choices made much earlier. Thus, P. David, one of the first to point out this dependence using the example of the QWERTY keyboard, gave the following characterization of "path dependence": "the sequence of economic changes is an example of how events far removed in time, including situations caused more by chance circumstances than by the action of systemic forces, can have a significant impact on the final outcome" (David, 2007, p. 139).

At the same time, dependence on prior development can manifest at two levels: that of individual institutions (e.g., legal, political, economic, organizational) and that of institutional systems, i.e., national economic systems (Nureev, 2010, p. 27).

The analysis of the historical context within the ideology of a special development path is the very tool that allows identifying the influence of both formal (laws, rules) and informal institutions (customs, traditions) on contemporary economic development. This makes it possible to analyze the opportunity costs of prior development and to choose a more effective strategy that considers national characteristics. Attempts to implement institutions that function successfully in other countries, without taking historical context into account, can lead to institutional incompatibility (where introducing institutions leads to destabilization and inefficiency of the economic system), social resistance (new institutions contradict national interests, values, and traditions), dependence on developed countries (loss of sovereignty), and ultimately, failure.

Thus, evaluating the effectiveness of past economic development strategies helps to avoid repeating past mistakes and allows for the adaptation of modern successful practices within the national economy.

In conditions of geopolitical instability, global challenges, economic crises, rapid technological transformations, and environmental problems, adaptability becomes one of the main conditions

for the success of a special development path. The importance of adaptability, which is most evident in economic activity, was noted by F. Hayek in his works: "The structure of human activity constantly adapts (and functions by adapting) to millions of facts which, in their totality, are unknown to anyone. The significance of this process is most obvious in the economic sphere, where it was first noticed" (Hayek, 2006, p. 32).

Adaptability as a property inherent to all economic systems can vary depending on the opportunities, capabilities, and speed of response to external and internal transformations through the development of a specific mechanism, thanks to which the economic system can acquire new characteristics and subsequently be stable and develop effectively (Markovskaya, 2013, pp. 7–8).

The economic essence of adaptability, implying the adjustment of the economic system to various changes, fits very well into the concept of adaptive efficiency by D. North, who links it to institutional features and defines it as the "ability of some societies to cope with shocks, flexibly adapt to them, and form institutions that work effectively with the altered reality" (North, 2010, p. 21). He also notes that institutions must conform to certain principles according to which the political order will be preserved, despite any economic changes (North, 2010, p. 155). D. North also considers adaptive efficiency as a rule that shapes the direction of development of the entire economic system over time and is "associated with a society's desire for learning and knowledge acquisition, for encouraging innovation, risk-taking, and various forms of creative activity, as well as for solving problems and eliminating 'bottlenecks' that hinder the development of society" (North, 1997, p. 106). It is innovations and experiments that are adaptively efficient; therefore, the economy and society must develop and facilitate their dissemination. Innovations and experiments as incentives embedded in the institutional system promote "the development of a body of knowledge that pushes decision-making individuals to gradually change the system compared to the state of the system they initially dealt with" (North, 1997, p. 106). Thus, according to D. North's concept, when implementing the special path ideology in the economy, it is necessary to develop the adaptive efficiency of the economic system, as it "creates incentives for the development of a decentralized decision-making process that allows societies to maximize efforts towards possible alternative ways of solving problems and to learn from mistakes and failures" (North, 1997, pp. 106–107).

Thus, under conditions of uncertainty and rapid changes in global trends, for the successful implementation of a special development path, the economic system must respond promptly and adapt to new challenges and opportunities through the flexibility of economic policy, institutional structure, and the development of innovations and technologies to avoid economic stagnation, social and political instability, and loss of sovereignty. For example, China, which through reforms managed to integrate market elements into a socialist economy, is a vivid example of a high degree of adaptability in an economic system.

The adaptability of economic systems to external and internal changes in the modern world is dictated primarily by the pragmatism of governments' actions in different countries to maintain the stability of the state's economic and political system, as well as to ensure further economic growth. Countries that were based not only on the institution of private property but were also guided by a pragmatic approach achieved greater success than Russia, which relied on neoclassical principles for building its national economy (Porokhovskiy, 2017, pp. 100–101).

The concept of pragmatism is one of the most important in original institutional economic theory. Pragmatism as a philosophical and methodological school is based on the practical application of

knowledge aimed at achieving specific results and goals. It emphasizes the importance of practical experience and the ability to adapt to changes, offering an alternative perspective on economic theories and their application.

The foundations of pragmatism as a philosophical direction and its subsequent theoretical development are reflected in the works of W. James, C. Peirce, J. Dewey, and others. Later, the principles of pragmatism were linked to postmodernism in the works of R. Rorty.

Currently, issues related to pragmatism are very rarely studied in the Russian economic community; moreover, "the research principles of the pragmatists were pushed out of the economic discipline" (Kurysheva, 2022, p. 98). However, primarily in institutional economics, pragmatism traditionally persists as a methodological principle: "Pragmatism has repeatedly been of use to economists. Even A. Marshall's synthesis, which laid the foundations of the mainstream with its theoretical-applied character, had a pragmatic hue. A. Smith, J. Mill, and J. Keynes also respected practice and solving various specific tasks" (Oleinik, 2021, p. 47).

Scientific discourse also includes the concept of "new pragmatism" by G. Kolodko, who notes that economic science and policy should be oriented toward practical results and use an interdisciplinary approach to analyzing economic processes (Kolodko, 2015). This illustrates the fact that the concept of pragmatism is used by representatives of various scientific schools and ideologies in the context of implementing economic reforms. It is very important to note here that the pragmatism discussed by G. Kolodko opposes the ideology of neoliberalism, which uses simple and attractive economic concepts. However, neoliberalism, which uses the "achievements of world economic thought", is: "...not only economic doctrinairism and ideological dogmatism. It is primarily an effective method of enriching the few at the expense of the many. That is its essence" (Kolodko, 2016, p. 167). New pragmatism thus represents an adaptive strategy that considers cultural, historical, and institutional characteristics during the systemic transformation of the economy (Kolodko, 2016, p. 170).

When analyzing Russian economic reforms, it is also important to maintain pragmatism that considers specific institutional characteristics and long-term development trajectories. For example, the French economist H. Clément-Pitiot notes that the long-term development strategy of the Russian economy should be based on new theoretical approaches such as viability and pragmatism, which can "ensure the possibility of authentic formalization of dynamic processes in the economy, taking into account external circumstances and challenges" (Clément-Pitiot, 2014, p. 16). It is precisely the "pragmatic concept that emphasizes that a simple but adequate and timely decision is preferable to an optimal solution made without considering the time factor" (Clément-Pitiot, 2014, p. 6). To modernize the economy, it is necessary to propose and implement pragmatic solutions to support small and midsize enterprises in various sectors of the Russian economy (Clément-Pitiot, 2014, p. 24). Applying a pragmatic approach when implementing policies aimed at modernizing the economy also allows the economic system to adapt quickly, taking into account the characteristics of national institutions, which subsequently contributes to the country's sustainable economic development.

Pragmatism occupies an important place in the ideology of the special development path, as it is based on the search for practical solutions and the achievement of concrete results in conditions of variability and uncertainty in the economic environment. Currently, the People's Republic of China demonstrates a distinctly pragmatic approach in implementing economic policy. Thus, one of the directions of China's economic policy is the principle of "Seeking Truth from Facts"

(orientation toward practical effectiveness), which was initially put forward by Mao Zedong and subsequently became one of the main tenets of Chinese socialist ideology thanks to Deng Xiaoping (Xiangping, 2017, pp. 54–55). This principle implies that economic decisions should be based not on abstract theories and dogmas but on the analysis of empirical data and the real conditions of the economic system's functioning. At the same time, Chinese economic policy is flexible and quickly adapts to changing conditions, is not afraid to admit mistakes and correct them, using various pilot projects and experiments to assess the effectiveness of implemented economic measures and mechanisms. National scientific discourse notes the influence of pragmatism on theory in the implementation of economic policy: "The spirit of pragmatism requires that theories, especially those related to modernization, be rooted in social reality. When a discrepancy arises between theory and reality, there is no doubt that theory should conform to reality, not the other way around. Any theory that is detached from reality cannot be used to manage the real process of modernization, as this will inevitably lead to serious errors" (Wu, 2025, p. 304).

In Chinese practice, the principles of the special path are implemented through the development of sovereign economic policy that considers the country's real specific conditions: "Deng Xiaoping's conclusion about the need to 'emancipate the mind, think independently, and develop policy based on one's own real conditions' (Deng, 1994, p. 328) is commendable. Systems and strategies most favorable for development must be developed through trials, practice, and research; subjective justifications are unacceptable. This is one of the most important experiences of China's economic reform" (Li, 2024). Such a reform policy is both adaptive and pragmatic. The adaptability of Chinese economic policy during reforms was fully demonstrated during the gradual transition to a market economy, which allowed for avoiding shock therapy (Weber, 2021).

The special path means not moving along the track of, for example, the "Washington Consensus" toward building a normal country, but rather, by adapting to economic realities, pragmatically choosing not some "capitalism" from a proposed menu, but, for instance, building a specific effective economic order – a socialist market economy", as in China (Shleifer, Treisman, 2004). Certainly, any "special path" is associated with a complex set of various factors influencing development. But it is precisely the four characteristics taken together that allow us to see that the "special path" concept implies not only "developmental dead ends" and "native science", but also reindustrialization, a green economy, and an advanced national innovation system.

In scientific literature, there are two opposing approaches to the special path. One conventionally relies on sovereignty as the starting point of the special path (Balatsky, Ekimova, 2022). The other appeals to universalism and universal values, which, based on a "truly scientific approach", lead to the triumph of progress. This second approach to analyzing the "special path" concept has strong negative connotations (Mamedov, 2011; Travin, 2018). This article attempts to move away from unequivocally negative connotations regarding the concept of the "special path". Therefore, we propose a constructive approach to analyzing the "special path", which focuses on four fundamental characteristics: sovereignty, historicism, adaptability, and pragmatism. A comprehensive analysis of the special path through the lens of these characteristics is both novel and constructive, aimed at identifying the sources and opportunities for progressive and balanced economic development in the modern world.

Conclusion

Any economic ideology can be viewed from two perspectives: first, as a pre-scientific cognitive act or a vision of economic processes for building theories; second, as an aggregate of theories themselves that fit within one or another "fundamental scientific paradigm" (Samuels, 1992, p. 239). In this work, we analyze the special path ideology within the context of a grand narrative based on simple principles that can lead to progressive changes during reforms. Such a narrative of the special path is connected to the concepts of sovereignty in designing and implementing reforms, historicism, adaptability, and pragmatism. The negative connotations typically associated with the special path ideology complicate the understanding of the fact that modernization in countries claiming sovereignty and representing distinct civilizations (e.g., Russia, China) is inherently linked to the creation and gradual promotion of a concept of a unique development path. However, the special path ideology does not mean that the achievements of social sciences and the experience of other countries should be disregarded during modernization.

In contemporary conditions, economic and innovative development is associated with fulfilling three fundamental conditions: political stability, entrepreneurial initiative, and increasing returns (Volchik, 2022). However, achieving each condition is possible in various forms: for example, political resilience can be achieved through mechanisms of liberal democracy (the West) and democratic centralism (China); entrepreneurial initiative can be successfully realized within the framework of liberal capitalism (the West) or a socialist market economy (China). Therefore, the special path ideology emphasizes those specific features that must be considered to ensure the prerequisites for dynamic growth during reforms.

The four fundamental characteristics of the special path ideology in economic development discussed above – sovereignty, historicism, adaptability, and pragmatism – not only complement each other in the implementation of economic policy but also create a synergistic effect that will contribute to Russia's successful economic development under conditions of variability and uncertainty.

References

Afontsev S.A. (2024). Theoretical dimensions of economic sovereignty. *Zhurnal Novoi ekonomicheskoi assotsiatsii=Journal of the New Economic Association*, 3(64), 218–224. DOI: 10.31737/22212264_2024_3_218-224 (in Russian).

Balatsky E.V. (2024). The phenomenon of strategic advantages in the 21st century. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecas*t, 17(4), 39–57. DOI: 10.15838/esc.2024.4.94.2 (in Russian).

Balatsky E.V. (2025). Evolution of colonial and neocolonial models in geopolitical dominance. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 18(1), 46–65. DOI: 10.15838/esc.2025.1.97.2

Balatsky E.V., Ekimova N.A. (2022). Social contract phenomenon: Evolution of concepts and modern interpretations. *Journal of Applied Economic Research*, 21(3), 604–636. DOI: 10.15826/vestnik.2022.21.3.021 (in Russian).

Balatsky E.V., Ekimova N.A. (2023). The problem of technological sovereignty and the new mission of the central scientific department of Russia. *Ekonomika. Nalogi. Pravo=Economics, Taxes & Law*, 16(2), 28–36. DOI: 10.26794/1999-849X 2023-16-2-28-36 (in Russian).

Clément-Pitiot H. (2014). Long-term strategy for the development of the Russian economy: A choice in favor of pragmatism? *Zapiski Analiticheskogo tsentra Observo*, 6, 8–38 (in Russian).

David P. (2007). *Klio i ekonomicheskaya teoriya QWERTY. Istoki: iz opyta izucheniya ekonomiki kak struktury i protsessa* [Clio and the Economics of QWERTY]. Moscow: Izdatel'skii dom GU-VShE.

Dementiev V.E. (2023). Technological sovereignty and priorities of localization of production. *Terra Economicus*, 21(1), 6–18. DOI: 10.18522/2073-6606-2023-21-1-6-18 (in Russian).

Dudin M.N., Shkodinskiy S.V., Prodchenko I.A. (2022). Economic and infrastructural instruments for ensuring state economic sovereignty in the digital economy: The experience of Russia and the world. *Voprosy innovatsionnoi ekonomiki=Russian Journal of Innovation Economics*, 12(1), 57–80. DOI: 10.18334/vinec.12.1.114254 (in Russian).

Efimov V.M. (2007). Discussion on methods and the institutional economics. *Terra Economicus*, 5(3), 18–36 (in Russian).

Khaiek F.A. fon (2006). *Pravo, zakonodatel'stvo i svoboda: Sovremennoe ponimanie liberal'nykh printsipov spravedlivosti i politik*i [Law, Legislation and Liberty. A New Statement of the Liberal Principles of Justice and Political Economy]. Moscow: IRISEN.

Kolodko G.V. (2016). *25 let transformatsii: ot neoliberal'nykh provalov k pragmatichnomu rostu* [25 Years of Transformation: From Neoliberal Failures to Pragmatic Growth]. Moscow: Magistr.

Kolodko G. (2015). The pragmatism or the economy of the future. *Finance: Theory and Practice*, 1, 69–82. DOI: https://doi.org/10.26794/2587-5671-2015-0-1-69-82

Kommons Dzh.R. (2011). *Pravovye osnovaniya kapitalizma* [The Legal Foundations of Capitalism]. Moscow: Izd. dom Vysshei shkoly ekonomiki.

Krugman P.R. (2009). How did economics get it so wrong? *New York Times Magazine*, 9 September, 36–44.

Kurysheva A.A. (2022). Institutional economics: Adopting pragmatist approach. *Voprosy teoreticheskoi ekonomiki*, 1, 89–101 (in Russian).

Li D. (2025). *Kitaiskii vzglyad na mir. Razvenchanie mifov o Kitae dlya predotvrashcheniya global'nogo konflikta* [China's World View: Demystifying China to Prevent Global Conflict]. Yerevan: Fortis Press.

Mamedov O.Yu. (2011). Three imperatives of civilized economy. *Terra Economicus, 9(4), 5–8 (in Russian).*

Markovskaya E.I. (2013). Theoretical and practical aspects of adapting models of behavior of economic entities. Vestnik Baltiiskoi pedagogicheskoi akademii, 111, 6–16 (in Russian).

Maskaev A.I., Shiriaev I.M., Tsygankov S.S., Grischenko, I.V. (2024). Environmentalism as an economic ideology: From Malthus to sustainable development. *Vestnik Tomskogo gosudarstvennogo universiteta. Ekonomika=Tomsk State University Journal of Economics*, 68, 40–61 (in Russian).

North D. (1994). Economic performance through time. *American Economic Review*, 84(3), 359–368.

North D. (1997). *Instituty, institutsional'nye izmeneniya i funktsionirovanie ekonomiki* [Institutions, Institutional Change and Economic Performance]. Moscow: Fond ekonomicheskoi knigi "Nachala".

North D. (2010). *Ponimanie protsessa ekonomicheskikh izmenenii* [Understanding the Process of Economic Change]. Moscow: Izd. dom Gos. un-ta Vysshei shkoly ekonomiki.

North D.C. (2005). *Understanding the Process of Economic Change*. Princeton University Press. DOI: https://doi.org/10.1515/9781400829484

Nureev R.M. (2010). The institutional environment of Russian business – the rut effect. In: *Ekonomika i instituty* [Economics and Institutions]. Saint Petersburg: MTsSEI "Leont'evskii tsentr" (in Russian).

Oleinik A.N. (2021). On possible methodological foundations of pragmatic economic theory: T. Bayes and J. Dewey. *Voprosy teoreticheskoi ekonomiki=Theoretical Economics*, 3, 34–51. DOI: 10.52342/2587-7666VTE_2021_3_34_51

Pliskevich N.M. (2019) Sonderweg: Myths, reality and the search for a way out. *Mir Rossii=Universe of Russia*, 28(2), 42–62. DOI: 10.17323/1811-038X-2019-28-2-42-62 (in Russian).

Porokhovskiy A.A. (2017). Systemic restructuring of the Russian economy: the possibilities of a "market track". *Filosofiya khozyaistva*, 1(109), 93–100 (in Russian).

Reinert E.S. (2016). *Kak bogatye strany stali bogatymi, i pochemu bednye strany ostayutsya bednymi* [How Rich Countries Got Rich and Why Poor Countries Stay Poor]. Moscow: Izdatel'stvo dom Vysshei shkoly ekonomiki.

Rodrik D. (2015). *Economics Rules: Why Economics Works, When It Fails, and How to Tell the Difference*. New York: Oxford University Press.

Samuels W.J. (1992). *Ideology in Economics. Essays on the Methodology and Discourse of Economics*. London: Palgrave Macmillan. DOI: https://doi.org/10.1007/978-1-349-12371-1_12

Sapir J. (2020). Fundamentals of economic sovereignty and the question of the forms of its implementation. *Problemy prognozirovaniya=Studies on Russian Economic Development,* 2(179), 3–12 (in Russian).

Schmoller G. (2011). Towards the methodology of socio-political and social sciences. *Terra Economicus*, 9(3), 31–49 (in Russian).

Shleifer A., Treisman D. (2004). A normal country. *Foreign Affairs,* 84(2), 20–38.

Shumpeter J. (2012). Science and ideology. In: *Filosofiya ekonomiki. Antologiya* [The Philosophy of Economics: An Anthology]. Moscow: Izd. Instituta Gaidara (in Russian).

Tambovtsev V.L. (2024). Economic ideology: Versions of the concept's acceptations and application. *Voprosy ekonomiki,* 10, 5–27. Available at: https://doi.org/10.32609/0042-8736-2024-10-5-27

Travin D.Ya. (2018). "*Osobyi put'" Rossii: ot Dostoevskogo do Konchalovskogo* [Russia's "Special Path": From Dostoevsky to Konchalovsky]. Saint Petersburg: Izdatel'stvo Evropeiskogo universiteta v Sankt-Peterburge.

Volchik V.V. (2022). Fundamental conditions for innovative development of the economy. *Journal of Economic Regulation,* 13(2), 6–21. DOI: 10.17835/2078-5429.2022.13.2.006-021 (in Russian).

Volchik V.V. (2024). Ideology and narrative economics. *Terra Economicus,* 22(3), 21–33. DOI: 10.18522/2073-6606-2024-22-3-21-33 (in Russian).

Volchik V.V. (2025). Ideological drift in Russian economic science. *Journal of Institutional Studies,* 17(2), 133–145. DOI: 10.17835/2076-6297.2025.17.2.133-145 (in Russian).

Volchik V.V., Maslyukova E.V., Marian P.A., Skryabin M.V. (2024). An empirical study of the ideological component in Russian economic science. *Journal of Institutional Studies*, 16(4), 42–59. DOI: 10.17835/2076-6297.2024.16.4.042-059 (in Russian).

Volchik V.V., Shiryaev I.M. (2024). Ideological narratives of liberalism and socialism. *Russian Journal of Economics and Law,* 18(3), 577–592. Available at: https://doi.org/10.21202/2782-2923.2024.3.577-592 (in Russian).

Volchik V.V., Tsygankov S.S., Maskaev A.I. (2023). Evolution of the national innovation systems of the United States, the United Kingdom, China and Iran. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 16(3), 284–301. DOI: 10.15838/esc.2023.3.87.15 (in Russian).

Weber I.M. (2021). *How China Escaped Shock Therapy: The Market Reform Debate*. London and New York: Routledge.

Wu Z. (2025). *The Theory of Chinese Modernization*. Singapore: Springer Nature. DOI: 10.1007/978-981-97-8066-2

Xiangping S. (2017). The philosophical universe of Deng Xiaoping. *Svobodnaya mysl',* 4(1664), 41–64 (in Russian).

Information about the Authors

Vyacheslav V. Volchik – Doctor of Sciences (Economics), Professor, head of department, Southern Federal University (105/42, Bolshaya Sadovaya Street, Rostov-on-Don, 344006, Russian Federation; e-mail: volchik@sfedu.ru)

Elena V. Fursa – Candidate of Sciences (Economics), Associate Professor, Southern Federal University (105/42, Bolshaya Sadovaya Street, Rostov-on-Don, 344006, Russian Federation; e-mail: efursa@sfedu.ru)

Elena V. Maslyukova – Candidate of Sciences (Economics), Associate Professor, head of department, Southern Federal University (105/42, Bolshaya Sadovaya Street, Rostov-on-Don, 344006, Russian Federation; e-mail: maslyukova@sfedu.ru)

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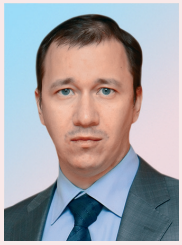
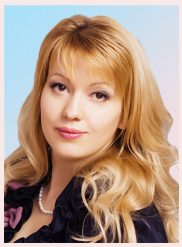
Agent-Based Epidemic Models: International Trends and Implementation in Russian Practice



Albert R. BAKHTIZIN
Central Economics and Mathematics Institute, Russian Academy of Sciences
Moscow, Russian Federation
e-mail: albert.bakhtizin@gmail.com
ORCID: 0000-0002-9649-0168; ResearcherID: S-6203-2016

Valery L. MAKAROV
Central Economics and Mathematics Institute, Russian Academy of Sciences
Moscow, Russian Federation
e-mail: makarov@cemi.rssi.ru
ORCID: 0000-0002-2802-2100; ResearcherID: I-9022-2016



Yulia S. OTMAKHOVA
Central Economics and Mathematics Institute, Russian Academy of Sciences
Moscow, Russian Federation
e-mail: otmakhovajs@yandex.ru
ORCID: 0000-0001-8157-0029; ResearcherID: AAD-8988-2019

Elena D. SUSHKO
Central Economics and Mathematics Institute, Russian Academy of Sciences
Moscow, Russian Federation
e-mail: sushko_e@mail.ru
ORCID: 0000-0003-3565-5210; ResearcherID: E-4911-2015

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Abstract. The article presents an analysis of developments in the modeling of epidemiological processes, primarily conducted using a modern mapping the scientific research landscape. The authors identify the world's leading research centers and groups that have been actively working in this field in recent years, as well as the key approaches used in modeling epidemiological processes that have been tested in practice and proven their adequacy. It is noted that alongside classical compartmental models, which describe epidemiological dynamics as the transition of a population segment from one category (associated with a specific stage of an infectious disease) to another, agent-based models are becoming increasingly widespread. These models simulate the processes of person-to-person infection transmission. The advantages of the agent-based approach include the ability to reproduce population heterogeneity within an artificial society, which significantly influences infection spread processes, and to simulate direct and feedback loops between various processes, including the agents' capacity to adapt their behavior based on the current epidemiological situation. The paper presents the concept of an agent-based epidemiological model for Russia, designed for testing and evaluating the effectiveness of planned anti-epidemic measures. The concept involves simulating the spread of an epidemic through agent interactions: the population of agents replicates the real socio-demographic structure of the population, accounting for all individual characteristics that influence people's involvement in infection spread, including their social connections, spatial distribution, and regional specifics; the progression of each agent through all stages of the disease is simulated according to the features of the infectious disease causing the epidemic; a realistic picture of population movement across Russia's transport infrastructure is reproduced, represented as a graph where vertices are transport hubs and edges are the connecting routes.

Key words: epidemic modeling, scientific landscape, agent-based models, recreation of social and spatial structure in an artificial society, behavior, virus transmission, computational experiments on social process models, intelligent decision support information technologies.

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Introduction

Contemporary challenges associated with globalization, urbanization, and the constant variability of pathogens spreading within human communities require fundamentally new approaches to forecasting epidemics. Under these conditions, at the national level, a modern toolkit is needed for modeling pandemic scenarios that accounts for population mobility. This toolkit should enable forecasting the dynamics of the healthcare system's load and allow for preliminary assessment of the effectiveness of planned containment measures (e.g., quarantine, vaccination, etc.) through computer experiments. When developing such a toolkit, it is essential to consider the achievements of global leaders in creating infection spread models, as well as the most successful examples of the practical application of modern approaches in this field to reduce the scale of epidemic outbreaks and associated negative social and economic consequences.

The aim of our research is to develop a modern toolkit for practical use within a decision support system in the context of potential new global biological threats, taking into account advanced experience and global trends in creating epidemiological models. The research objectives are:

identifying modern approaches and models, using scientific landscape mapping methods, applied in modeling epidemiological processes; determining global centers, research groups, and leading specialists in the field of epidemic modeling; designing a model based on the identified most promising epidemic modeling methods, which will ensure flexible adaptation to various (both existing and new) types of infections, transparency regarding the influence of the model's control parameters on the simulation results; and user-friendly setup of model experiments.

In both international and domestic practice, mathematical modeling methods are widely used for forecasting the spread of viral epidemics and assessing their consequences, taking into account spatial and temporal relationships. These methods are constantly being improved and developed. The main challenges facing developers of large-scale infection spread models are primarily related to selecting an adequate mathematical framework that allows for the incorporation of numerous heterogeneous factors. These factors influence both the speed of infection spread and the severity of the disease for individuals, as well as the social and socio-economic consequences of the epidemic for society as a whole and its specific groups. To achieve this, modeling must account for population heterogeneity based on age, social, and geographical differences, as well as the specifics of virus transmission in various environments (households, transport, workplaces). A separate set of problems that developers must address involves providing the model with the informational base necessary for its debugging, verification, and calibration, given that complete empirical data might be unavailable for various reasons. Finally, creating software to implement the developed mathematical model is a complex technical task. Scaling it to the level of a country, macro-regions consisting of multiple countries, or even the global level requires not only solving problems of integrating regional data but also optimizing computational algorithms, including transitioning to parallel computing using supercomputers.

Solving such an interdisciplinary set of theoretical and practical tasks typically occurs within the framework of large scientific centers and/or large scientific projects, which define the main current trends in the field of modeling epidemiological processes. An understanding of these trends can be obtained using methods for mapping the scientific research landscape.

Building and analyzing the scientific landscape in the field of epidemiological process modeling

The process of collecting scientific and technical documents on the topic of "Infection spread modeling" was carried out in several stages. In the first stage, a set of key vocabulary in Russian and English was formed to create search queries. To compile this set of key terms, a semantic search of scientific and technical documents was conducted based on the titles and key words of the analyzed epidemiological models and methods for modeling human-to-human infection spread. Subsequently, lists of key vocabulary were built from the relevant documents found in the databases.

In the second stage, the authors of the study identified databases suitable for analysis under current conditions of restricted access to international publication databases like Web of Science and Scopus for Russian scientific organizations. All accessible publication databases were analyzed, considering characteristics such as the availability of full-text collections of foreign open-access medical journals and journals in the field of "computer science" research, sets of filters for forming database queries, limitations on the number of rows when exporting search results, and specific features of the formats for downloading the found data.

In the third stage, the search query was formulated based on the identified key vocabulary. Within the document collections, two types of scientific and technical documents were considered:

scientific articles and scientific reviews. The obtained sample was expertly checked for the relevance of the article titles, key words, and abstracts.

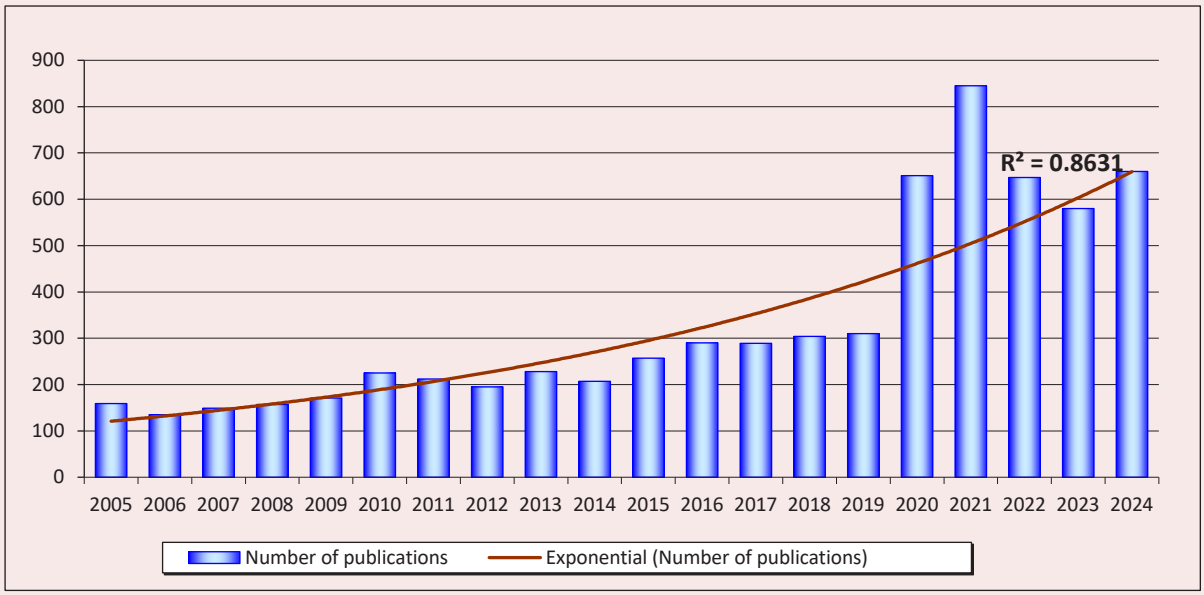
For scientific articles and reviews, the authors used The Lens publication database[1], the flagship project of the social enterprise Cambia, built on the open web platform Lens.org and comprising 272 million scientific publications of various types, as well as global public resources such as PubMed, Microsoft Academic, CrossRef, ORCID, OpenAlex, and others.

When forming the search query, after numerous test runs of the sample of scientific and technical documents, the following combination was determined: epidemic, model, agent, virus, transmission, which allowed for the selection of a manageable number of relevant scientific documents. The research period covered 2005–2024.

As a result of applying the methodology described above, the authors of the study formed an information base of documents in English on the topic of "Infection spread modeling," which included 7,021 scientific and technical documents, comprising 6,997 scientific articles and 24 scientific reviews. The information base in Russian included collections of open full-text documents from Russian scientific journals, including those on medical topics, formed using the Russian intellectual digital platform for aggregating and analyzing scientific and technical information, SciApp[2] (used to identify the scientific groundwork of leading organizations in the field of epidemiological modeling, taking into account actually created models).

During the study period, a growth close to exponential is observed in the number of publications related to methods and models of epidemiological modeling, indicating increasing

Figure 1. Dynamics of publication activity on the topic of "epidemic modeling" for 2005–2024, number of publications



Compiled from: The Lens publication database data, data current as of July 15, 2025.

[1] The Lens. Available at: https://www.lens.org (accessed: 17.07.2025).

[2] An intelligent digital platform for the aggregation and analysis of scientific and technical information. Available at: https://sciapp.ru (accessed: 17.07.2025).

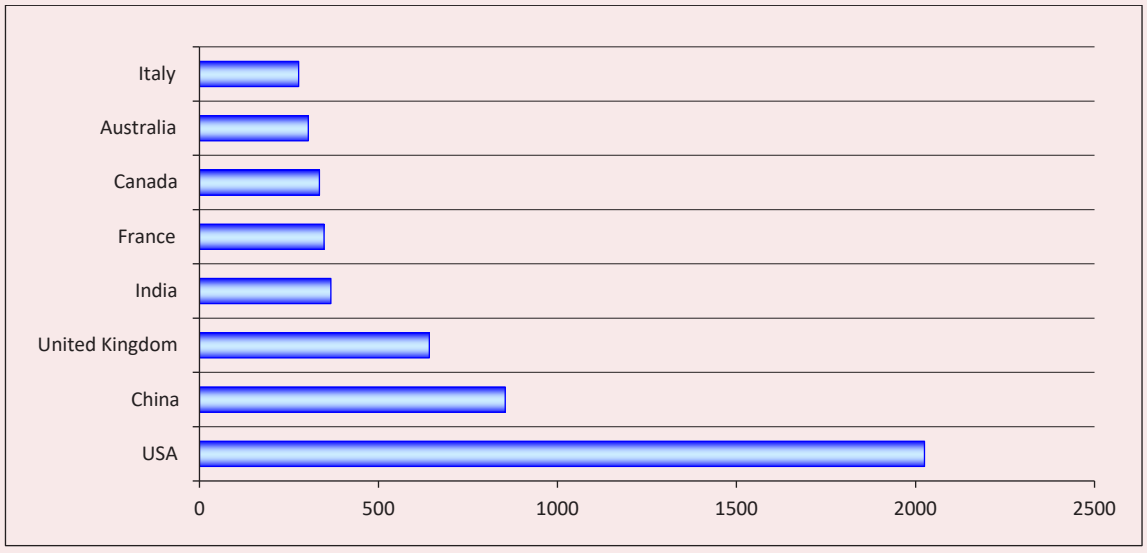
interest from the global scientific community in studying this research topic. *Figure 1* clearly shows a surge in publication activity in 2020–2021, associated with the COVID-19 pandemic. Furthermore, methods for modeling epidemics and their consequences continue to be constantly refined and developed, which explains the significant number of publications on the topic in 2023–2025.

To identify the countries where the most active research on epidemic modeling is conducted, the authors analyzed the structure and compared the volumes of national publication portfolios for 2005–2025. According to the conducted analysis, the combined contribution of countries such as the USA, the UK, China, France, Germany, India, Italy, Canada, and Australia amounted to over 73% of the global publication volume. Among these, the USA demonstrates the highest level of publication activity and the largest contribution to the study of this topic (29% of the global publication volume; *Fig. 2*).

An analysis of author affiliations with global centers of competence revealed the leading universities and research centers in the USA, China, the UK, and France that are flagships in terms of the number of publications in the field of infection spread modeling: National Institutes of Health, USA; Centers of Disease Control and Prevention, USA; Harvard University, USA; Chinese Academy of Science, China; French Institute of Health and Medical Research, France; Johns Hopkins University, USA; University of Oxford, UK; Imperial College London, UK; University of London, UK; University of Washington, USA. The results of the publication activity analysis for the identified organizations are presented in *Figure 3*.

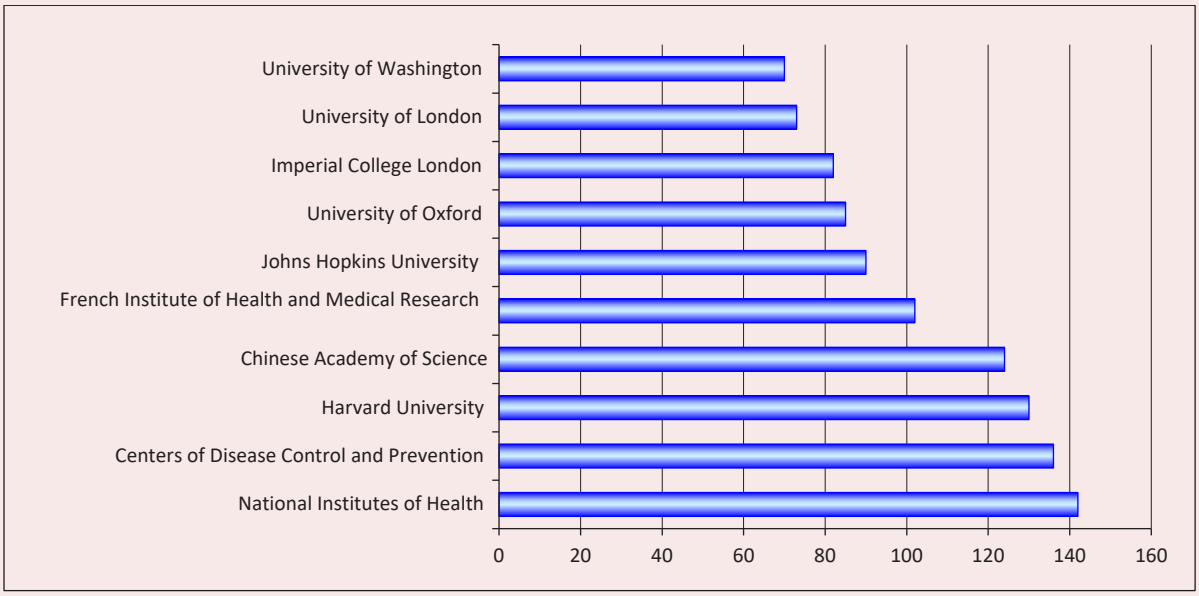
The analysis showed that a substantial proportion of highly cited publications on epidemic modeling (especially concerning the COVID-19 pandemic) include a significant number of authors (11–83 people), and the number of author affiliations can reach up to 49, as seen, for example, in the article (Howerton et al., 2023) published in the prestigious journal "Nature Communications".

Figure 2. Volume of national publication portfolios of leading countries in epidemic modeling research for 2005–2025, number of publications



Compiled from: The Lens publication database data, data current as of July 15, 2025.

Figure 3. Top 10 leading organizations by number of publications on epidemic modeling for 2005–2025, number of publications



Compiled from: The Lens publication database data, data current as of July 15, 2025.

A clearly discernible increased interest in applying the agent-based approach to designing models for the spread of various viruses is evident starting from 2009, for example, for the Dengue virus (Kang, Aldstadt, 2019); the Measles virus (Perez, Dragicevic, 2009); and the COVID-19 virus (Silva et al., 2020; Truszkowska et al., 2021; Zhu et al., 2024).

The prospects of using computer modeling capabilities for forecasting the spread of infections are discussed in leading global science journals from the "Nature" publishing group (Syrowatka et al., 2021).

Publications by Russian authors are also represented in the obtained article sample, indicating the integration of this research direction into Russia's national research agenda. Within the sample with Russian affiliation from The Lens database, a joint article "Agent-based modeling of COVID-19 outbreaks in New York state and the United Kingdom: parameter identification algorithm" (Krivorotko et al., 2022) by Russian researchers from the Institute of Computational Mathematics and Mathematical Geophysics of the Siberian Branch of the Russian Academy of Sciences and Novosibirsk State University, in collaboration with scientists from the USA and the UK, stands out with the highest citation level. In this article, the authors used the Covasim agent-based model to assess and develop epidemic spread scenarios.

To identify Russian research teams with competencies in this thematic area, in addition to the body of domestic works indexed in The Lens, data from the Russian Science Citation Index (RSCI) and a database of Russian medical journals (678 scientific articles) were additionally considered, using SciApp, the Russian intellectual digital platform for aggregating and analyzing scientific and technical information.

Based on the analysis of publications in foreign and Russian journals using the method of author affiliations, considering contextual search of full-text publications and key words for the period

2005–2025, we identified the main research centers that develop infection spread models. For a detailed examination of such experience, taking into account the characteristics of infection spread in Russia, a fairly wide range of domestic research teams was identified. Taking into account a comprehensive analysis of the relevance of the contextual search results, the citation level of articles and journals, and the quality of the models, we singled out three foreign and five Russian research groups.

As a result, the leading organizations in the field of epidemic modeling, leading researchers, and the most interesting works were identified:

1) Imperial College London (UK), Neil Ferguson, agent-based modeling methods (Ferguson et al., 2006; Kraemer et al., 2025);

2) Johns Hopkins University (USA), Joshua M. Epstein, agent-based modeling methods (Parker, Epstein, 2011; McCabe et al., 2021; Bedson et al., 2021; Epstein, 2023);

3) University of Oxford (UK), Christophe Fraser, agent-based modeling methods, OpenABM-Covid19 project (Pellis et al., 2020; Hinch et al., 2021; Ferretti et al., 2024).

Among Russian organizations, the leaders in the field of epidemiological modeling, considering actually created human-to-human virus transmission models, are:

1) Institute for Information Transmission Problems of the Russian Academy of Sciences (IITP RAS) and Skolkovo Institute of Science and Technology (Skoltech), G.A. Bazykin, methods of genomic epidemiology (Komissarov et al., 2021; Matsvay et al., 2023);

2) Russian Federal Nuclear Center – All-Russian Research Institute of Technical Physics (RFNC-VNIITF), V.V. Vlasov, O.V. Zatsypin, S.N. Lebedev, agent-based modeling methods (Vlasov et al., 2023; Taranik et al., 2023);

3) Central Economics and Mathematics Institute of the Russian Academy of Sciences (CEMI RAS), A.R. Bakhtizin, V.L. Makarov, E.D. Sushko, agent-based modeling methods (Makarov et al., 2020);

4) Institute of Computational Mathematics and Mathematical Geophysics of the Siberian Branch of the Russian Academy of Sciences and Novosibirsk State University, O.I. Krivorotko, S.N. Kabanikhin, agent-based modeling methods (Krivorotko et al., 2022; Krivorotko, Kabanikhin, 2024);

5) Keldysh Institute of Applied Mathematics of the Russian Academy of Sciences and Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS), V.I. Baluta, V.P. Osipov, agent-based modeling methods (Baluta et al., 2020; Baluta et al., 2022).

As noted above, recent years have seen increased interest in applying the agent-based approach when designing models for the spread of various viruses. Let us consider the advantages of this approach that contribute to its growing popularity.

Analysis of the application of the agent-based approach in modeling epidemiological processes

In classical compartmental epidemiological models, based on the SIR model (Susceptible – Infected – Recovered) by A. McKendrick and W. Kermack (Kermack, McKendrick, 1927), where the population is divided into corresponding groups ("susceptible", "infected," and "recovered"), the mathematical apparatus of differential equations is used to describe how these groups change. This implies population homogeneity regarding its participation in the spread of epidemics. To account for the real existing population heterogeneity and increase the realism of these models (and the estimates of epidemiological process development obtained with their help), developers of practically used models are forced to divide the population into groups (for example, by age categories) (Noll et al., 2020). Unlike classical models, in agent-based epidemiological models (ABM), the processes of epidemic development are simulated "from the bottom up" by simulating the movement of

individuals in an artificial society, their contacts with sick people, infection, and the subsequent course of the disease in those who fall ill as a change of states over time. Thus, the agent-based approach allows for the creation of adequate models of epidemiological processes, relying on expert knowledge about the progression of a particular disease and its modes of transmission, even in the absence of reliable data on the dynamics of the state of society as a whole. This was observed, for example, during epidemics caused by the spread of a new infection, particularly during the COVID-19 pandemic.

Time in ABM is discrete, and the simulation of changes occurring with each human agent is carried out in stages (step-by-step), where the step duration corresponds to the chosen unit of model time. At the end of a simulation step, changes in agent states are recorded, and statistics are collected for the population of agents, similar to how it is done in real life. This reflects the dynamics of epidemiological indicators at the level of the entire population and at the level of its individual groups. This approach allows for the natural incorporation of all aspects of population differentiation into groups based on any combination of properties affecting epidemiological processes, up to and including accounting for individual characteristics of specific people.

Due to the advantages of the agent-based approach, its growing popularity in modeling many processes that are formed at the individual level – such as, for example, natural population movement, migration, and the spread of infection – is natural. Therefore, the number of epidemiological ABMs and their representing publications has recently been growing exponentially, with the COVID-19 pandemic causing a particularly vigorous surge. Simultaneously, the number of publications dedicated to reviewing these models, their design features, and application areas is increasing. Thus, the work (Hunter et al., 2017) lists the main constructive blocks that should be implemented in an ABM to simulate the development of epidemics (possibly with varying degrees of detail):

– simulation of infection transmission and the progression through stages of the disease caused by the infection in agents;

– simulation of the population of agents (society), including recreating the structure of this society;

– simulation of agent movement in space, considering the transport component;

– simulation of the environment as the space for agent interaction.

Among the most successful review works, the publication in the leading journal on modeling artificial societies – "Journal of Artificial Societies and Social Simulation (JASSS)" (Lorig et al., 2021) – should be primarily noted. It presents a large-scale and detailed study of 126 agent-based models dedicated to the COVID-19 epidemic and published during the height of the pandemic. A strength of the sample of these models is that they were filtered by specialists from over 500 ABMs found by the search engine COVIDScholar.org, which model the spread of infection through agent interaction (the search query included the words "simulation", "agent", and "transmission"). The selection considered both the quality of the models themselves and the quality of their presentation according to the following criteria:

– works are published in a journal or conference proceedings, or are available as a preprint in a recognized archive (e.g., PubMed[3], arXiv[4], medRxiv[5]);

– the work uses the Agent-based Social Simulation (ABSS) approach, allowing for the

[3] PubMed® contains over 38 million links to biomedical literature from MEDLINE, natural sciences journals, and online books (available at: https://pubmed.ncbi.nlm.nih.gov).

[4] arXiv – is an electronic archive with open access to scientific articles and preprints in physics, mathematics, astronomy, computer science, biology, electrical engineering, statistics, financial mathematics and economics (available at: https://arxiv.org).

[5] medRxiv – is an archive of free distributed articles in the field of medicine and clinical research (available at: https://www.medrxiv.org).

investigation of COVID-19 spread, meaning it is a micro-level model where the identity and status of each person can be tracked throughout the entire simulation period;

– the work describes the implemented mechanisms for simulating infection transmission processes and disease progression.

At the same time, the sample was significantly limited by conditions that prevent it from being considered fully representative in terms of assessing the participation of scientific centers from different countries in the development of this field. This is because only works published in English and only before October 1, 2020, were considered. The latter circumstance also affects the representativeness of the model sample, which is related to the labor-intensive nature of developing agent-based models. In practice, primarily scientific teams that already possessed previously developed epidemiological ABMs, which could be adapted to the characteristics of the new epidemic, were able to create such models, test them, and, moreover, publish the results within such tight deadlines. However, this very circumstance ensured a sufficiently high quality of the models selected for the review, although there is at least one regrettable exception: the ABM developed under the guidance of epidemiologist and professor of mathematical biology from Imperial College London, Neil Ferguson (Ferguson et al., 2020), which was subsequently subjected to severe criticism by specialists[6]. However, the criticism mainly related to the software implementation of the model and the resulting overestimated assessments of the epidemic's consequences[7], rather than the substantive part of the problem statement, which in Ferguson's model is quite realistic. Despite the limitations of the ABM sample, we, like the authors of the work (Lorig et al., 2021), believe that this study provides a general overview of existing approaches to modeling epidemiological processes through the simulation of social interactions.

The presented study examined in detail the purpose of each model, the managed parameters (including pharmaceutical and non-pharmaceutical intervention measures), input and output data, mechanisms for simulating infection transmission from agent to agent, mechanisms for simulating state changes (disease stages) of an infected agent, etc. – a total of 72 attributes were identified and analyzed for each model. This allowed for the classification of the sample models from the perspective of approaches to implementing the main blocks of epidemiological ABMs listed above.

The common goal of all models in the sample was to assess the spread of COVID-19 over time and the impact of implemented intervention measures on this process. At the same time, the vast majority of models considered one or two types of non-pharmaceutical interventions (119.9%), which included quarantine (in 60% of articles), isolation of (potentially) infected individuals (47.6%), social distancing (44.4%), and the closure of various facilities such as schools, workplaces, recreational venues, and shops (in 25% of articles, the closure of at least one type of such facilities is analyzed).

Let us consider the classification of ABMs in the sample from the perspective of the methods for implementing the main constructive blocks within them.

1. Simulation of infection transmission and disease progression stages in agents.

In agent-based modeling, probabilities are used to simulate agent infection. In 29.4% of the models in the sample, either a single probability, equal for all people and contacts, is used, or this mechanism is not described. In the remaining models, the

[6] Magness P. The failure of imperial college modeling is far worse than we knew. Available at: https://thedailyeconomy.org/article/the-failure-of-imperial-college-modeling-is-far-worse-than-we-knew/.

[7] Chalmers V., May L. Computer code for Prof Lockdown's model which predicted 500,000 would die from Covid-19 and inspired Britain's 'Stay Home' plan is a 'mess which would get you fired in private industry' say data experts. Available at: https://www.dailymail.co.uk/news/article-8327641/Coronavirus-modelling-Professor-Neil-Ferguson-branded-mess-experts.html.

calculation of individual probabilities of infection transmission may consider personal characteristics or circumstances such as the health status of the recipient (27%), their age (17.5%), population density (13.5%), and others. Furthermore, most models simulate people's social connections or gathering places to model interactions between them.

To simulate disease progression at the agent level, the transition of each agent from one state related to the infection in question to another is modeled. In the vast majority of models, the list of states corresponds to the classical SIR model. However, various extensions of the classical model with additional states are also encountered, allowing for a more detailed representation of disease development. For example, 63.5% of models account for an incubation period after contact with the virus (stage E – Exposed); 23% of models account for a critical state of ill patients requiring treatment in a hospital or intensive care unit (C – Critical ill); and 40.5% of models include a separate state for deceased individuals (D – Dead).

2. Simulation of the agent population (society), including recreating the structure of this society.

In 43.7% of the models in the sample, real statistical data are used to create an artificial society whose socio-demographic characteristics correspond to the characteristics of the population of the modeled region or country.

To make the agent population more realistic, models most often assign the following individual characteristics to agents: age or age group (44.4%); household affiliation (42.1%); workplace (35.7%); current location of the person (35.7%). Some models define specific sets of other people with whom an agent can or will have contacts (39.7%), sometimes subdivided into contacts at home, at work, or chance encounters.

Approaches to modeling agent behavior vary significantly – ranging from homogeneous models of reactive behavior based on rules, to complex decision-making processes based on individual needs or the perceived utility of possible actions (Russell, Norvig, 2020), although such complex models constitute less than 5% of the sample. In most models (75.4%), individual behavior is modeled using either social networks (37.3%), spatial networks (16.7%), or both (7.1%), meaning agents can only infect other people when meeting within the framework of social relationships.

Another element of agent behavior is their compliance or non-compliance with various intervention measures – both pharmaceutical and non-pharmaceutical. In most simulations, it is assumed that all people without exception will comply with any given control measure.

It is also worth noting successful later developments dedicated to the COVID-19 pandemic that were not included in the reviewed analysis. For instance, the publication (Kerr et al., 2021) details the aforementioned Covasim ABM, which includes demographic information on age structure and population size, realistic transmission networks within various social groups (households, schools, workplaces, etc.), age-specific disease progression characteristics, and the dynamics of the virus within the body, including susceptibility to infection depending on viral load. Covasim also supports a wide range of measures: non-pharmaceutical, such as physical distancing and the use of protective equipment; pharmaceutical measures, including vaccination; as well as testing (symptomatic and asymptomatic), isolation, contact tracing, and quarantine. The work (Zhang et al., 2025) is interesting for us because it presents a simulation of the connection between the epidemiological situation, individual risk assessment by people, and the level of human interaction activity. In this model, human agents can change their decisions about movement within a densely populated city based on perceived risks associated with the probability of infection or death.

Among domestic developments, the most interesting for us are those mentioned above (Vlasov et al., 2023; Taranik et al., 2023) and (Baluta et al., 2022).

Analysis of author experience in the general context of agent-based modeling of epidemiological processes

The authors of the present study also have experience in developing an agent-based epidemiological model, using the development of the COVID-19 epidemic in Moscow as an example (Makarov et al., 2020). The goal of the modeling was to create a tool for forecasting the epidemiological dynamics in the city depending on quarantine measures, with an assessment of peak loads on the healthcare system, based on a plausible simulation of the processes of individual people becoming infected and progressing through disease stages. For the further development of this direction, it was important to compare our approach with the identified trends in the development of agent-based modeling as applied to epidemiological processes in general and to the COVID-19 pandemic in particular.

Let us note the main design features of this model:

– model parameters: initial number of infected individuals; initial basic reproduction number R0; proportion of cases with a mild form of the disease; minimum and maximum duration of the incubation period; minimum and maximum duration of the illness; two scenarios of restrictive measures: a) self-isolation of agents aged over 65 for a specified period; b) additional self-isolation of other agents, as well as the strictness of compliance with restrictive regimes by agents of the respective age groups;

– based on official statistical data, the model recreates the real age and gender structure of the population of the modeled city on the agent population; agent characteristics include: age, gender, health status, family ties, disease stage, disease severity, number of potential infections (depends on the reproduction number R0 for this infection);

– infection transmission from an infected agent, not in isolation, who has not yet infected the predetermined number of agents, occurs randomly to any other healthy agent (except family members) with a probability equal to the ratio of the number of possible infections to the length of the period during which they are considered contagious;

– formation of families (households), as well as accounting for family ties in the infection transmission simulation mechanism, represented as an increased probability of infection;

– the model simulates each agent progressing through all disease stages according to the SEIRD scheme, based on an individual disease progression plan generated probabilistically at the moment of infection; this plan includes disease severity (including the need for hospitalization) and its outcome (recovery or death), as well as a schedule for transitioning from one stage to another, measured in days; the simulation time step corresponds to one day;

– implementation of a mechanism linking disease severity to the agent's baseline health status, as well as a mechanism for the deterioration of overall health with increasing age.

– during experiments, the following indicators were estimated at each step: the number of agent groups at different disease stages, the number of required hospital beds (including ICU beds), and the number of deceased individuals.

Thus, it can be noted that the approach we used in developing the COVID-19 epidemic model for Moscow generally corresponds to the mainstream. As for model verification, at that time there was insufficient data to conduct it thoroughly. However, this can be done now. For instance, experiments with two scenarios for introducing restrictive measures indicate that the model adequately simulates the response of the epidemiological

situation, demonstrating an effect of reducing the values of all output indicators. At the same time, the obtained absolute values for the number of severely ill individuals requiring hospitalization, as well as the number of deceased, were clearly overestimated. This is related to the exaggerated assessments of the disease's danger provided by medical specialists[8] at that time, which were used in the model to calculate probabilities.

Since then, the situation has changed significantly, allowing not only for a return to modeling the COVID-19 epidemic at a new level of knowledge but also for verifying and calibrating the model based on a large body of information accumulated over these years regarding the impact of this infection on the human body, the course of the epidemic, and its consequences. For example, as is now known, individuals who have recovered from a coronavirus infection acquire immunity for some time but can later fall ill again, which increases the number of people potentially susceptible to the infection. Furthermore, numerous studies have emerged on the possible long-term consequences for those who have recovered from this infection, such as an increased risk of developing or exacerbating serious chronic diseases like hypertension (Goldhaber-Fiebert et al., 2025), diabetes (Goldhaber-Fiebert et al., 2025), cognitive impairment (Amer et al., 2025), and post-COVID syndrome (Lewnard et al., 2025), with the risk of severe complications increasing in cases of severe illness. Finally, the work (Gaudet et al., 2025) systematizes research conducted to date on assessing the health consequences of SARS-CoV-2 for those who have recovered.

Here it is appropriate to note another advantage of agent-based models, which can play a significant role in modeling this specific situation – the ability to simulate both direct and feedback links between various processes occurring in reality (Marshall, Galea, 2015). This is possible because connections in ABMs are implemented through specific model actors participating in several processes, and step-by-step simulation allows for accounting in agent actions of the states of the agent itself and its entire environment, including the system as a whole, established in the previous step. In real life, processes occurring both in society and in the lives of individuals, particularly everything related to the spread of infectious diseases, are interconnected. For example, a person's susceptibility to infection with a particular disease increases if they have pre-existing health problems, as well as with an increase in the number of their contacts with other people and/or with their active movement in space, which may also be related to their profession. Conversely, the presence of a high level of collective immunity in society – natural (due to an increase in the proportion of people who have recovered from the infection) or artificial (due to vaccination) – reduces the probability of infection given the same properties of the infection itself and the same lifestyle of people. The results of the aforementioned studies on the increased risk of subsequent health impairments in those who have recovered indicate the presence of not only a direct but also a feedback link between a person's health status before infection, the severity of the illness, and their general health status after recovery, which can also be simulated in an agent-based model at the level of individuals.

Summarizing the above, we define the goal of the present research: to develop a concept for an agent-based epidemiological model of Russia, which will be configured to simulate processes occurring during an epidemic at the level of society as a whole, at the level of its various groups, as well

[8] Prevention, diagnosis and treatment of the new coronavirus infection (COVID-19), version 5 (April 8, 2020): interim guidelines of the Ministry of Health of the Russian Federation. Ministry of Health of the Russian Federation. 2020. P. 122. Available at: https://xn--80aesfpebagmfblc0a.xn--p1ai/ai/doc/114/attach/vremennie_mr_COVID-19_versiya_5.pdf

as individual members, taking into account their spatial (regional) distribution, and also considering direct and feedback links between various processes.

Concept of an agent-based epidemiological model for Russia as a decision support tool for departmental and regional situation centers

In developing the concept, the experience of testing the epidemiological ABM for the city of Moscow (Makarov et al., 2020) has been taken into account. Some constructs from this model will become part of the new model, and the functionality of each of the main blocks will be expanded.

Let us formulate the conceptual provisions on the basis of which the large agent-based epidemiological model SFECTR (System for Forecasting and Epidemiological Control of Territories of Russia) will be developed.

Purpose and general characteristics of the SFECTR model

1. The ABM will be sufficiently universal to be used for modeling the development of epidemics caused by various types of human-to-human airborne infections. For this purpose, a database of such types of infections will be created, containing information about all properties characterizing each infection that are important for simulating its spread, the course of the disease it causes, and its outcome for the infected agent, including possible long-term complications.

2. The model will provide the capability to use, during computer experiments, a wide range of anti-epidemic control measures, both pharmaceutical (e.g., vaccination) and non-pharmaceutical (e.g., quarantine), for the preliminary assessment of the advisability of their practical application.

3. The model's design will reproduce all functional relationships between the specified model parameters, the current state of the agent environment, and the state and actions of the agents in the population. Based on this, the tracked simulation results are formed, which will allow for observing the effect of the chosen model parameters.

4. The simulation results will reflect aggregated information on the step-by-step change in the state of the agent population both for Russia as a whole and broken down by regions, including the level of collective immunity, morbidity and mortality rates, and indicators of the load on the healthcare system. Output indicators will be exported to external files for subsequent statistical processing, visualization, and analysis.

5. The model will be implemented as a user software product with a developed interface. Regarding experiment management, it will allow setting the time of appearance of infected individuals, their number and spatial distribution, as well as the level of collective immunity; selecting the type of infection from the database, as well as control measures and their combinations, specifying the criteria for selecting agents to which each measure applies, indicating the start and end of each intervention during the forecast period; and providing a clear representation of simulation results at each moment and dynamically throughout the simulation period, including displaying resultant indicators on a map of Russia broken down by its regions.

Main structural blocks of the SFECTR model

1. Simulation of infection transmission between agents and progression of disease stages in agents.

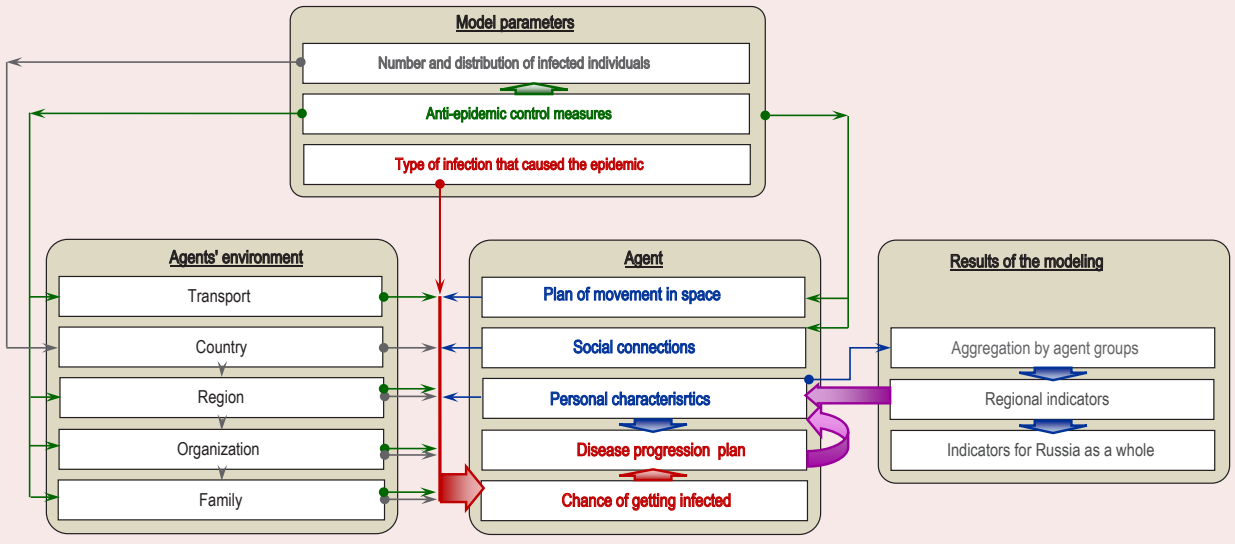
Key characteristics of model agents: age, gender, health status; place of residence; family ties; workplace/educational institution; travel schedule; disease plan; possible number of infections; compliance (willingness to adhere to implemented anti-epidemic measures). Infection transmission occurs randomly from an infected agent to a healthy, non-immune agent if they are not in isolation. The probability of infection for a recipient agent upon contact depends on the possible number of infections from the infected agent (related to the properties of the infection) and varies depending on the category of the recipient:

family member, work colleague, fellow resident, or if their meeting occurs at a transport hub. Agents progress through all disease stages according to the TSEIHCRUD scheme, where added stages are: T – period of temporary immunity (Transient); H – hospitalization period (Hospitalized); C – period in critical condition (Critical ill); U – subsequent complications (Unhealthy). The disease progression plan is generated probabilistically at the moment of infection and includes the severity of the disease (including the need for hospitalization) and its outcome (including future health deterioration or death), as well as a schedule for transitioning from one stage to another, measured in days. The severity of the disease depends on the agent's current health level. The agent's compliance depends on their awareness of the disease's danger level (which increases with the number of severely ill agents in their environment). Thus, complex agent behavior is simulated, with agents dynamically assessing risks. The simulation time step corresponds to one day.

2. Simulation of the agent population (society), including recreating the structure of this society.

Based on official statistical data, the real age-gender structure of the Russian population, broken down by regions, is recreated in the agent population at the initial time point. Based on data on the distribution of employment by industry, the employment structure is recreated. Families are formed based on data on the distribution of births by mother's age. Initially, the probability of having immunity is calculated based on data about collective immunity at the start time. Differentiation of agents by health status (presence of chronic diseases) is carried out based on data on the actual prevalence of serious chronic diseases among different age cohorts of the population, similar to the model (Megiddo et al., 2014). Agent compliance at the initial time is distributed randomly and then recalculated at each simulation step. Also, at each step, a timer is checked, which counts down the time allocated for the current disease stage, allowing for the simulation of the transition to the next stage at the appropriate moment.

Figure 4. Generalized diagram of direct and feedback functional relationships ensuring the influence of the SFECTR agent-based epidemiological model parameters on the simulated processes and output indicators



Source: own compilation.

3. Simulation of agent movement in space, considering the transport component.

Given Russia's vast territory, the model must explicitly simulate agent movement in space to imitate the spread of infection. A trip from an agent's place of residence to another region is assigned randomly to the agent based on interregional passenger flow data. Subsequently, a trip schedule is generated, including: the trip start date; the mode of transport and route; the list of the agent's family members traveling with them; as well as the arrival date at the destination (considering the number of days required to complete the route) and the return date. Based on these trip schedules, agent movement is simulated, and their temporary groups, finding themselves at each transport hub on the same day, are determined. These groups correspond to a distinct category in terms of infection probability.

4. Simulation of the environment as the space for agent interaction.

At the initial time point, the model reproduces not only the structure of society but also the structure of Russia's transport network in the form of a graph linking regions through transport hubs (vertices of the graph) and the links between them (edges of the graph). The network is characterized by a list of transport modes for each hub, and for each transport mode at a hub – a list of neighboring vertices (i.e., vertices with a direct connection), the throughput capacity of individual hubs and links, and the time required to travel from one vertex to another. To simulate the spread of an epidemic through human interaction, it is important to ensure a realistic picture of human flows moving along the edges of the transport graph to its vertices – populated areas. Russia's transport network is not closed – infection can enter from outside (as observed, for example, during the COVID-19 pandemic). Among the inhabitants of the populated areas themselves, the infection will spread within the agents' contact groups. This two-level approach is analogous to the approach implemented in the global model developed for simulating pandemics (Ajelli et al., 2010), which used data on the importation of infected individuals from international travel. *Figure 4* presents a generalized diagram of the functional relationships, established in the SFECTR model concept, between the specified model parameters, the current state of the agent environment, the state and actions of the agents in the population, and the tracked simulation results. These relationships ensure the simulation of the effect of the anti-epidemic measures chosen in the experiment under given conditions. The wide purple arrows in Figure 4 denote feedback loops – the influence of the disease course on the subsequent overall health of the agent, as well as the influence of information about the current epidemiological situation on the agent's compliance with the implemented control measures.

Technical characteristics of the SFECTR model

Recreating the social structure of society in the ABM, as well as simulating the behavior of agents as individual members of this society, is based on the use of probabilistic processes. Consequently, for the stable operation of an agent-based model with such a large number of parameters and complex organization of the agents themselves, their number should be as large as possible. The desirable option is the creation of a full-scale ABM where the number of agents equals the population of Russia. Here, the ABMs developed under the guidance of Joshua Epstein serve as our benchmark: the global-scale GSAM model with 6.5 billion agents and its national sub-model for the USA with 300 million agents (Epstein, 2009; Parker, Epstein, 2011). Therefore, the software implementation of the presented SFECTR agent-based epidemiological model will be based on a supercomputer demographic model of Russia previously created by the authors, which includes 146 million human agents and simulates demographic processes in

detail (including family formation), taking into account the spatial distribution of the population and regional characteristics (Makarov et al., 2022). Testing of the model is planned using the example of simulating the COVID-19 epidemic during the 2020 period with a simulation time step of one day, which allows for the consideration of disease progression specifics.

Conclusion

The analysis of publications on the topic of epidemic modeling has shown that modern models are evolving toward interdisciplinary platforms that can integrate areas such as epidemiology, behavioral sciences, and computer modeling. Thus, in addition to the now commonplace agent-based models, the authors of the article have identified the following trends observed during the 2005–2025 period: hybrid ABMs with Machine Learning; models based on Artificial Intelligence (using Deep Reinforcement Learning methods and Transformers); multi-scale models combining data at various territorial levels (city, region, country, continent); platform models operating in real-time for instant parameter updates based on Internet of Things (IoT) integration data; and models assessing the impact of socio-economic factors on compliance with quarantine measures. The application of each of these methods can be promising for solving tasks related to managing the epidemiological situation.

In developing their own approach to formulating the concept for a full-scale agent-based epidemiological model of Russia, the authors relied on the use of advanced scientific knowledge and promising models of infection spread through human interaction, while also proceeding from considerations of "reasonable sufficiency". Since the creation of such models requires solving a complex of not only methodological but also technological tasks, it is important to consider the existing limitations of the information base and available computational power. In our view, the necessary degree of detail for the simulated processes primarily depends on the scale of the modeled object and is determined iteratively based on model validation, as the main criterion is the model's adequacy for the assigned task. This also applies to the model's implementation complexity: it should be defined as the minimum required to ensure adequacy.

Given the tense epidemiological situation worldwide, we believe that the identified frontiers of global science, uncovered within this research, should be more actively utilized in shaping the national research agenda. This would enable Russian researchers to create the most adequate toolkit for modeling epidemics based on the agent-based approach. The obtained results can form the foundation for a socio-economic multi-agent model to support evidence-based decision-making in the field of public health and subsequent implementation in the country's situation centers, aiming to enhance Russia's preparedness for potential pandemic threats.

References

Ajelli M. et al. (2010). Comparing large-scale computational approaches to epidemic modeling: Agent-based versus structured metapopulation models. *BMC Infectious Diseases*, 10(1), 190. DOI:10.1186/1471-2334-10-190

Amer H.M. et al. (2025). AI-based decoding of long COVID cognitive impairments in mice using automated behavioral system and comparative transcriptomic analysis. *BioRxiv*, 2025-05. DOI: 10.1101/2025.05.14.654036

Baluta V.I., Berberova M.A., Sudakov V.A., Milaev A.V. (2022). A variant of a multi-agent model of the urban environment for the study of epidemic processes. *Tsifrovaya ekonomika*, 3(19), 77–87. DOI: 10.34706/DE-2022-03-10 (in Russian).

Baluta V.I., Osipov V.P., Sivakova T.V. (2020). Title Technology for comprehensive modeling of the epidemiological situation. *Nauchnyi servis v seti Internet*, 22, 68–79. DOI: 10.20948/abrau-2020-51 (in Russian).

Bedson J. et al. (2021). A review and agenda for integrated disease models including social and behavioural factors. *Nature Human Behaviour*, 5(7), 834–846. DOI: 10.1038/s41562-021-01136-2

Epstein J.M. (2009). Modelling to contain pandemics. *Nature*, 460(7256), 687–687. DOI:10.1038/460687a

Epstein J.M. (2023). Inverse generative social science: Backward to the future. *Journal of Artificial Societies and Social Simulation: JASSS*, 26(2), 9. DOI: 10.18564/jasss.5083

Ferguson N. et al. (2020). Impact of non-pharmaceutical interventions (NPIs) to reduce COVID-19 mortality and healthcare demand. Imperial College London, 2020. *The International Arabic Journal of Antimicrobial Agents*. DOI: 10.25561/77482

Ferguson N.M. et al. (2006). Strategies for mitigating an influenza pandemic. *Nature*, 442(7101), 448–452. DOI: 10.1038/nature04795

Ferretti L. et al. 2024. Digital measurement of SARS-CoV-2 transmission risk from 7 million contacts. *Nature*, 626(7997), 145–150. DOI: 10.1038/s41586-023-06952-2

Gaudet L.A. et al. (2025). Risk of new diagnoses and exacerbations of chronic conditions after SARS-CoV-2 infection: A systematic review update. *MedRxiv*, 2025-05. DOI: 10.1101/2025.05.13.25326692.

Goldhaber-Fiebert J.D. et al. (2025). COVID-19 increases the rate of incident hypertension: A case-control cohort time-to-event study. *MedRxiv*, 2025-06. DOI: 10.1101/2025.06.09.25329275

Goldhaber-Fiebert J.D. et al. (2025). COVID-19 increases the rate of incident diabetes: A case-control cohort time-to-event study. *MedRxiv*, 2025-06. DOI:10.1101/2025.06.09.25329289

Hinch R. et al. (2021). OpenABM-Covid19 – An agent-based model for non-pharmaceutical interventions against COVID-19 including contact tracing. *PLoS Computational Biology*, 17(7), e1009146. DOI: 10.1371/journal.pcbi.1009146

Howerton E. et al. (2023). Evaluation of the US COVID-19 Scenario Modeling Hub for informing pandemic response under uncertainty. *Nature Communications*, 14(1), 7260. DOI: 10.1038/s41467-023-42680-x

Hunter E., Mac Namee B., Kelleher J.D. (2017). A taxonomy for agent-based models in human infectious disease epidemiology. *Journal of Artificial Societies and Social Simulation*, 20(3). DOI: 10.18564/jasss.3414

Kang J. Y., Aldstadt J. (2019). Using multiple scale space-time patterns in variance-based global sensitivity analysis for spatially explicit agent-based models. *Computers, Environment and Urban Systems*, 75, 170–183. DOI: 10.1016/j.compenvurbsys.2019.02.006

Kermack W.O., McKendrick A.G. (1927). A contribution to the mathematical theory of epidemics. *Proceedings of the Royal Society of London. Series A, Containing papers of a Mathematical and Physical Character*, 115(772), 700–721. DOI: 10.1098/rspa.1927.0118

Kerr C.C. et al. (2021). Covasim: An agent-based model of COVID-19 dynamics and interventions. *PLOS Computational Biology*, 17(7), e1009149. DOI: 10.1371/journal.pcbi.1009149

Komissarov A. B. et al. (2021). Genomic epidemiology of the early stages of the SARS-CoV-2 outbreak in Russia. *Nature Communications*, 12(1), 649. DOI 10.1038/s41467-020-20880-z

Kraemer M.U. et al. (2025). Artificial intelligence for modelling infectious disease epidemics. *Nature*, 638(8051), 623–635. DOI: 10.1038/s41586-024-08564-w

Krivorotko O. et al. (2022). Agent-based modeling of COVID-19 outbreaks for New York state and UK: Parameter identification algorithm. *Infectious Disease Modelling*, 7(1), 30–44. DOI: 10.1016/j.idm.2021.11.004

Krivorotko O., Kabanikhin S. (2024). Artificial intelligence for COVID-19 spread modeling. *Journal of Inverse and Ill-posed Problems*, 32(2), 297–332. DOI 10.1515/jiip-2024-0013

Lewnard J.A. et al. (2025). Long-term risk of post-acute sequelae among adults following SARS-CoV-2 or influenza virus infection: A retrospective cohort study in a large, integrated healthcare system. *MedRxiv*, 2025-05. DOI: 10.1101/2025.05.30.25328674

Lorig F., Johansson E., Davidsson P. (2021). Agent-based social simulation of the COVID-19 pandemic: A systematic review. *JASSS: Journal of Artificial Societies and Social Simulatio*n, 24(3). DOI: 10.18564/jasss.4601

Makarov V.L., Bakhtizin A.R., Sushko E.D., Ageeva A.F. (2020). COVID-19 epidemic modeling – advantages of an agent-based approach. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 13(4), 58–73. DOI: 10.15838/esc.2020.4.70.3 (in Russian).

Makarov V.L., Bakhtizin A.R., Sushko E.D., Sushko G.B. (2022). Creation and testing of a supercomputer simulation of a society with active agents of various types. *Vestnik Rossiiskoi akademii nauk*, 92(5), 458–466. DOI: 10.31857/S0869587322050115

Marshall B.D., Galea S. (2015). Formalizing the role of agent-based modeling in causal inference and epidemiology. *American Journal of Epidemiology*, 181(2), 92–99. DOI: 0.1093/aje/kwu274

Matsvay A. et al. (2023). Genomic epidemiology of SARS-CoV-2 in Russia reveals recurring cross-border transmission throughout 2020. *Plos One*, 18(5), e0285664. DOI 10.1371/journal.pone.0285664

McCabe R. et al. (2021). Communicating uncertainty in epidemic models. *Epidemics*, 37, 100520. DOI: 10.1016/j.epidem.2021.100520

Megiddo I. et al. (2014). Analysis of the Universal Immunization Programme and introduction of a rotavirus vaccine in India with IndiaSim. *Vaccine*, 32, A151–A161. DOI: 10.1016/j.vaccine.2014.04.080

Noll N.B. et al. (2020). COVID-19 Scenarios: An interactive tool to explore the spread and associated morbidity and mortality of SARS-CoV-2. *MedRxiv*, 2020–05. DOI: 10.1101/2020.05.05.20091363

Parker J., Epstein J.M. (2011). A distributed platform for global-scale agent-based models of disease transmission. *ACM Transactions on Modeling and Computer Simulation (TOMACS)*, 22(1), 1–25. DOI: 10.1145/2043635.2043637

Pellis L., Cauchemez S., Ferguson N.M., Fraser C. (2020). Systematic selection between age and household structure for models aimed at emerging epidemic predictions. *Nature Communications*, 11(1), 906. DOI: 10.1038/s41467-019-14229-4

Perez L., Dragicevic S. (2009). An agent-based approach for modeling dynamics of contagious disease spread. *International Journal of Health Geographics*, 8(1), 50. DOI: 10.1186/1476-072X-8-50

Russell S.J., Norvig P. (2020). *Artificial Intelligence: A Modern Approach*. 4th edition. Prentice Hall.

Silva P. C. et al. (2020). COVID-ABS: An agent-based model of COVID-19 epidemic to simulate health and economic effects of social distancing interventions. *Chaos, Solitons & Fractals*, 139, 110088. DOI: 10.1016/j.chaos.2020.110088

Syrowatka A. et al. (2021). Leveraging artificial intelligence for pandemic preparedness and response: a scoping review to identify key use cases. *NPJ Digital Medicine*, 4(1), 96. DOI: 10.1038/s41746-021-00459-8

Taranik A.V. et al. (2023). Forecast of the development of the COVID-19 epidemic situation in Moscow in 2022–2023. *International Journal of Open Information Technologies*, 11(2), 8–15 (in Russian).

Truszkowska A. et al. (2021). High-resolution agent-based modeling of COVID-19 spreading in a small town. *Advanced Theory and Simulations*, 4(3), 2000277. DOI: 10.1002/adts.202000277

Vlasov V.V., Deryabin A.M., Zatsepin O.V. (2023). Mathematical modeling of COVID-19 incidence in Moscow using an agent-based model. *Diskretnyi analiz i issledovanie operatsii*, 30(2), 15–47. DOI: 10.33048/daio.2023.30.761 (in Russian).

Zhang Z., Jalali M.S., Ghaffarzadegan N. (2025). Behavioral dynamics of epidemic trajectories and vaccination strategies: A simulation-based analysis. *Journal of Artificial Societies and Social Simulation*, 28(1). DOI: 10.18564/jasss.5583

Zhu K. et al. (2024). Generating synthetic population for simulating the spatiotemporal dynamics of epidemics. *PLOS Computational Biology*, 20(2), p.e1011810. DOI: 10.1371/journal.pcbi.1011810

Information about the Authors

Albert R. Bakhtizin – Doctor of Sciences (Economics), RAS Corresponding Member, director, Central Economics and Mathematics Institute, Russian Academy of Sciences (47, Nakhimovsky Avenue, Moscow, 117418, Russian Federation; e-mail: albert.bakhtizin@gmail.com)

Valery L. Makarov – Doctor of Sciences (Physics and Mathematics), Academician RAS, scientific director, Central Economics and Mathematics Institute, Russian Academy of Sciences (47, Nakhimovsky Avenue, Moscow, 117418, Russian Federation; e-mail: makarov@cemi.rssi.ru)

Yulia S. Otmakhova – Candidate of Sciences (Economics), Leading Researcher, Central Economics and Mathematics Institute, Russian Academy of Sciences (47, Nakhimovsky Avenue, Moscow, 117418, Russian Federation; e-mail: otmakhovajs@yandex.ru)

Elena D. Sushko – Candidate of Sciences (Economics), Leading Researcher, Central Economics and Mathematics Institute, Russian Academy of Sciences (47, Nakhimovsky Avenue, Moscow, 117418, Russian Federation; e-mail: sushko_e@mail.ru)

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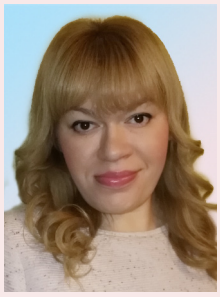
Development Institutions in Small and Medium-Sized Cities of the Northwestern Federal District



Irina A. SEKUSHINA
Vologda Research Center, Russian Academy of Sciences
Vologda, Russian Federation
e-mail: sekushina.isekushina@yandex.ru
ORCID: 0000-0002-4216-4850; ResearcherID: Q-4989-2017

Abstract. In current realities, the formation of development institutions is one of the tools for ensuring stable socio-economic development of regions and municipalities. The activities of such institutions are aimed not only at enhancing the competitiveness of territories but also at improving the quality of life of the population. Without their effective operation, achieving sustainable progress in this direction under conditions of global uncertainty seems extremely difficult. The study aims to assess the presence and scale of development institutions for the economy and social sphere in small and medium-sized cities of the Northwestern Federal District. The paper discusses theoretical and methodological foundations of the formation and functioning of territorial development institutions and proposes a methodological approach for their typology. The study analyzes economic development institutions operating in small and medium-sized cities of the Northwestern Federal District. It was found that their activities are currently primarily focused on supporting settlements with a mono-profile economy. Twenty-six out of 138 cities in the district have the status of a single-industry town (monogorod), yet only seven of them are classified as territories of advanced socio-economic development (TOR). Industrial and technology parks are present in only four small and medium-sized cities across two regions (Leningrad and Vologda), and special economic zones are found only in the Kaliningrad Region. It was also found that entrepreneurship support centers "My Business" (Moy Biznes) are open in seven small and medium-sized cities of the Northwestern Federal District. Among the institutions for housing and urban development, the activities of the DOM.RF Fund were examined, whose effectiveness is evidenced by the growth of the urban

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environment quality index in all small and medium-sized cities of the federal district. Furthermore, the study explores social development institutions such as territorial public self-government and non-profit organizations.

Key words: small and medium-sized cities, development institutions, Northwestern Federal District, single-industry town, territory of advanced socio-economic development (TOR), special economic zone, territorial self-government, non-profit organizations.

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Introduction

Ensuring sustainable socio-economic development of territories is becoming one of the most urgent tasks of any state in the context of geopolitical turbulence and instability of the global economy. Among the key tools for achieving this goal are development institutions, specialized organizations designed to stimulate progress at all levels: from municipal to national. Development institutions are a catalyst for the comprehensive transformation of the economic and social sphere, actively involved in the development of public infrastructure, including improving the functioning of energy systems, modernizing transport networks, improving housing and utility services, expanding access to quality education and healthcare because it is impossible to talk about dynamic economic development and improving the quality of life without effective infrastructure. In addition, development institutions play an important role in stimulating innovation, creating a favorable environment for the introduction of new technologies and the development of knowledge-intensive industries. Moreover, they are actively working to eliminate imbalances in the economy, contributing to its diversification and reducing dependence on individual industries. This makes the economy more resilient to external shocks and changes in market conditions.

The modern scientific literature contains a large number of works devoted to the study of territorial development institutions. At the same time, most of them address the functioning of institutions at the federal or regional level, which are usually focused on large territories, which is understandable due to their wider representation and high importance in the development of national and regional economies.

The scientific community does not pay much attention to the problems of the formation and functioning of development institutions in smaller territories, especially in small and medium-sized cities. At the same time, 85% of Russian cities belong to this category of settlements, and every fifth Russian lives in a small or medium-sized city (Uskova, Sekushina, 2021). These settlements are important elements of the territorial structure of the state, since in many ways they form the basic framework of settlement and ensure the territorial integrity of the country. Small and medium-sized cities act as a link between large urban agglomerations and rural settlements (Rastvortseva, Manaeva, 2022; Servillo et al., 2017). The sustainable development of such cities contributes to creating conditions for the even development of regions, preserving cultural and historical heritage, and ensuring the availability of social services to the population, including adjacent rural areas (Sekushina, Voroshilov, 2020; Vaz, Leeuwen, 2013).

Taking into account the difficult demographic situation prevailing in most Russian small and medium-sized cities, as well as a number of existing socio-economic problems, assessing the institutional environment as one of the key factors for the sustainable development of these settlements is an urgent task in modern realities. The scientific problem lies in the lack of a holistic view of the institutions for the development of the socio-economic sphere operating in small and medium-sized cities, which creates serious obstacles to the effective management of territorial development.

In this regard, the aim of the work is to assess the availability and extent of the spread of economic and social development institutions in small and medium-sized cities of the Northwestern Federal District (NWFD).

We solved the following tasks to achieve it: 1) studying the theoretical and methodological foundations of the formation and functioning of development institutions; 2) working out a methodological approach to the typology of development institutions of small and medium-sized cities; 3) analyzing socio-economic development institutions operating in small and medium-sized cities of the Northwestern Federal District; 4) identifying problems and directions of development of the institutional environment in small and medium-sized cities.

Small and medium-sized cities of the Northwestern Federal District were chosen as the research object. The subject of the study is development institutions operating in these localities. The novelty of the work consists in designing a typology of institutions for the development of small and medium-sized cities, as well as diagnosing the institutional field for managing the development of these settlements and identifying existing problems in this area.

Theoretical and methodological foundations of the research

The rise of institutionalism as a trend of economic thought is closely related to the development of economic theory in the United States in the 1920s. The leading scientists and founders of this scientific field were Thorstein Veblen, John Commons and Wesley K. Mitchell, whose work, in fact, laid the foundation for the further development of the institutional approach. At the same time, in world economics, the term "institute" itself is interpreted in different ways. Veblen considered institutions as, on the one hand, "a habitual way of thinking that people follow in their daily lives", on the other, as specific ways of society's existence that form a special system of social relations that determine the structure and functioning of society as a whole (Veblen, 1919). J. Commons interpreted the institution as a collective action, designed to control individual activity (Commons, 1970).

Modern institutionalism, represented by figures such as Douglas North, focuses on the ability of institutions to create "basic structures through which people throughout history have sought order and reduced their insecurity" (North, 1993). Institutions in this context are seen as the rules of the game that determine the incentives and constraints for economic activity.

In general, we can conclude that institutions represent a complex system of norms and rules governing public relations in specific sectors of the economy. The problem of their regulation affects many related fields of knowledge, including industrial organization theory, public sector economics, public administration theory, and many other disciplines (Ergunova et al., 2017).

In Russian science, the research of G.B. Kleiner (Kleiner, 2004), V.M. Polterovich (Polterovich, 2016), A.I. Tatarkin (Tatarkin, Kotlyarova, 2013) and other scientists is devoted to this problem. The theoretical foundations of institutional development are based on an understanding of two key aspects: institutions as norms and rules, and institutions as organizations. The former is a set of formal and informal rules governing the interaction of economic agents, while the latter represents specific structures that are subjects of economic activity and influence

the formation and change of the institutional environment. The relationship between them is two-way: the institutional environment creates conditions for the development of organizations, and those, in turn, become catalysts for institutional change, contributing to the improvement of rules and regulations in accordance with the needs of socio-economic development.

Currently, there is a wide variety of approaches to classifying development institutions. The key criteria are the nature of regulation (formal and informal institutions); scope (economic, social, political and environmental); geographical scope (determining the scope of action at the enterprise, industry or entire country level); territorial affiliation (municipal, regional, national or international level); industry specifics (transport, energy, housing and utility services, social sphere); the nature of influence (restraining and stimulating institutions; having a direct or indirect impact) (Semyachkov, 2020). The choice of specific criteria for the typology of development institutions is determined by the objectives of each particular study. Let us look at some of them.

Scientists at RAS Institute of Economics identify four levels in the current set of development institutions: federal, regional branches of federal institutions, regional and municipal institutions1. Researchers pay special attention to the typology of federal development institutions. For instance, there are institutions of general economic orientation (Vnesheconombank, state corporations, etc.), sectoral (federal science cities, federal SEZs, Industrial Development Fund, etc.) and territorial (PSEDA – priority social and economic development area, Far East Development Fund, etc.). The work of E.M. Bukhval'd and A.V. Vilenskii presents a retrospective analysis of the formation of territorial development institutions in Russian practice since the late 1980s. The authors consider development institutions primarily as instruments of the federal policy of regional development and regulation of the spatial structure of the Russian economy (Bukhval'd, Vilenskii, 2017).

Researchers at Vologda Research Center of RAS focus on the study of territorial public self-government and inter-municipal cooperation as institutions for the development of territories (Chekavinskii et al., 2017). It is of interest the methodological approaches proposed by the authors to assess their contribution to the socio-economic development of a region or municipality.

Modern works include extensive research on the study of regional development institutions (Ergunova et al., 2017; Ekimova, 2020; Idziev, 2021; Malkina, Vinogradova, 2024), including the analysis of regional strategies (Vol'chik et al., 2022), cluster policy institutions (Frolov et al., 2021; Hsu et al. al., 2013; Argüelles et al., 2014), the functioning of special economic zones (Karavaeva, 2024; Schweinberger, 2003). The paper (Ekimova, 2020) examines the foreign experience of the functioning of regional development agencies based on the materials of three regions of Great Britain (England, Wales and Scotland). The key conclusion reached by the author is that the use of such development institutions requires a thorough analysis of regional characteristics, since their effectiveness varies significantly depending on the territory.

Considerable attention is also paid to the study of urban development institutions, but this mainly concerns large cities. In particular, the work of scientists from the Institute of Economics of the Ural Branch of RAS (Popov et al., 2019) is devoted to the assessment of institutional support for the socio-innovative activities of large cities.

I.A. Bondarenko uses a problem-based approach: institutions for the development of Russian cities are considered from the point of view of problems relevant to specific localities. At the same time, attention is focused on the importance of developing the social, economic, institutional,

[1] Development institutions as a tool of regional policy: Scientific report. 2015. Moscow. Available at: https://inecon.org/docs/Vilensky_paper_20151222.pdf?ysclid=md8ib2vui4893141869 (accessed: 10.06.2025).

intellectual and natural infrastructure of the city (Bondarenko, 2020).

There are not many works in the scientific literature devoted to the study of development institutions specifically for small or medium-sized cities. One study analyzed the institutional factors determining the effectiveness of economic and social development tools in small cities (Bondarskaya, 2013).

The article by M.S. Oborin and co-authors examines the formation of institutions to support the innovative development of small cities, including single-industry ones. The authors assessed the institutional support of innovation activities using the example of three Russian regions. In particular, such institutions as technoparks, business incubators, industrial parks, as well as the Fund for the Development of Single-Industry Towns, which is currently no longer functioning, are being considered (Oborin et al., 2018).

Yu.G. Lavrikova and S.G. P'yankova focus on the development of single-industry towns and propose to introduce the concept of "the institute of strategic development of single-industry territories", as well as the mechanism of their formation (Lavrikova, P'yankova, 2014).

The work of A.M. Turabayeva names the Institute of social entrepreneurship as one of the factors concerning the development of small cities. The researcher presents the primary classification of formal institutions supporting social entrepreneurship, while identifying several levels: 1) international institutions; 2) federal legislation and government programs; 3) state and quasi-state institutions, as well as private foundations and accelerators. In our opinion, this area is really of interest, since the social sphere of most Russian small and medium-sized cities is characterized by the presence of a number of problems, the solution to which may be the development of social entrepreneurship (Turabayeva, 2022).

Researchers at the Institute of Demographic Research of RAS rightly point out that at present, for many small cities, the problem of municipalities' dependence on decisions of the state authorities of the country and the region is relevant. In conditions when a significant part of significant taxes is under the jurisdiction of the federal level, and the distribution of budget transfers is controlled by the state, small and medium-sized cities, in fact, are deprived of any economic and political tools for the qualitative disclosure of their economic potential (Smirnov, Bezverbny, 2022).

In this context, it is important that the development policy of these settlements is aimed at stimulating independent development and carrying out activities primarily based on their own capabilities. The formation of development institutions in small and medium-sized cities can contribute to solving this issue.

In our opinion, conditionally all institutions for the development of small and medium-sized cities can be divided into economic and non-economic (*Tab. 1*). The activities of the former are mainly

Table 1. Typology of institutions for the development of small and medium-sized cities

Management level	Field of activity	
	Economic	Non-economic
Federal	Industrial parks, technology parks, PSEDA, SEZ, VEB, etc.	AO "DOM.RF", public ot-for-profit organization "Territorial Development Fund", FAU "Glavgosekspertiza of Russia"
Regional	Centers "My Business" (Moy Biznes), Development Corporation, Business Incubators, etc.	Capital Repair Fund for apartment buildings
Municipal	Investment commissioners in city administrations	NPO, territorial self-government, social entrepreneurship
Source: own compilation.		

aimed at developing the economy of the settlement, while the tasks of the latter are to support the functioning of social and housing and utility services, as well as the formation of a comfortable urban environment.

The second important criterion for the typologization of development institutions is the managerial level. According to it, all institutions can be conditionally divided into federal, regional and municipal ones.

The list of small and medium-sized city development institutions listed in table 1 is not exhaustive, especially at the regional and municipal levels. At the same time, the institutions we have cited are most widely represented in most Russian small and medium-sized cities. In the framework of this work, in accordance with this typology, the institutes of development of small and medium-sized cities in the regions of the Northwestern Federal District were analyzed.

Research results and discussion

There are 138 small and medium-sized cities located in the Northwestern Federal District (excluding cities located in the federal city of Saint Petersburg), while most of them are concentrated in the southwest of the district, while the northern part is characterized by a more dispersed location.

The majority of the considered settlements in the post-Soviet period faced a massive migration outflow, mainly of working-age population. Currently, natural population decline is an equally serious problem. Together, this leads to a reduction in social infrastructure – the closure of schools, hospitals, and a decrease in the number of jobs, which naturally leads to a decrease in tax revenues to local budgets. The lack of financing, in turn, limits investment opportunities in the development and modernization of transport and engineering infrastructure, which creates a vicious circle that exacerbates an already difficult situation.

For the successful development of small and medium-sized cities in the Northwestern Federal District, comprehensive government support measures are needed to create new jobs, stimulate investment inflows, and create attractive living and working conditions for the population. One of the tools for solving these problems is the institutions for the development of the economy, social and housing and utility services of small and medium-sized cities.

Economic development institutions in small and medium-sized cities of the Northwestern Federal District

The problem of single-industry economics is relevant for many small and medium-sized cities of the Northwestern Federal District. It definitely carries risks, including high vulnerability to economic crises and changes in market conditions, limited employment opportunities for the population, a decrease in the investment attractiveness of the city, which leads to the emergence of social problems such as the outflow of young people and specialists, increased social tension, a decrease in the quality of life, and degradation of the urban environment.

The issues of supporting single-industry towns have been repeatedly considered at the state level. In 2014, on behalf of the President of the Russian Federation, the Fund for the Development of Single-Industry Towns was established, and in 2016 the program "Integrated Development of Single-Industry Towns" was adopted. However, these tools cannot be fully described as effective. For instance, the Program was declared ineffective by the Accounts Chamber of the Russian Federation and ended ahead of schedule in 2019, the Fund was liquidated in 2021, and its powers were transferred to the state corporation VEB.RF.

In the Northwestern Federal District, 26 small and medium-sized cities have the status of single-

Table 2. Economic development institutions in small and medium-sized cities of the Northwestern Federal District

RF constituent entity	Single-industry town status	PSEDA	Industrial and technology parks	SEZ	Centers "My Business"
Republic of Karelia	Kondopoga Pudozhe Suoyarvi Pitkyaranta Kostomuksha Lahdenpohja Segezha	Kondopoga Kostomuksha	no	no	no
Komi Republic	Vorkuta Inta Emva	Emva	no	no	Vorkuta
Arkhangelsk Region	Onega Novodvinsk Koryazhma	Onega		no	Kotlas
Nenets Autonomous Area	no	no	no	no	Naryan-Mar
Vologda Region	Krasavino Sokol	no	no	no	no
Murmansk Region	Kirovsk Kovdor Olenegorsk Monchegorsk Zapolyarny	Kirovsk	no	no	Kandalaksha
Leningrad Region	Pikalevo Syasstroi Slatsy	Pikalevo	Kirishi (IE Levoberezhnyi) Gatchina (Northwest Nanotechnology Center) Pikalevo (IE Pikalevo)	no	Vyborg
Novgorod Region	Pestovo Borovichi	Borovichi	no	no	no
Pskov Rgion	Pechory	no	no	no	no
Kaliningrad Region	no	no	no	All cities of the region (Kaliningrad SEZ)	Sovetsk Baltiysk
Source: own compilation.					

industry towns (*Tab. 2*). The Republic of Karelia (7 cities) and the Murmansk Region (5 cities) are the leaders in their number. There are three single-industry towns in the Komi Republic, Arkhangelsk and Leningrad regions, two in Vologda and Novgorod, and one in Pskov. There are no small and medium-sized cities with this status in the Kaliningrad Region and the Nenets Autonomous Area.

Accordingly, VEB.RF is potentially the most important institution for the development of single-industry towns. Currently, the state corporation implements both financial and non-financial support measures. Among the financial instruments, the key is the provision of debt financing for the implementation of an investment project in the city, both under the guarantee of the SME Corporation and/or a bank guarantee (from 5 million to 1 billion rubles at 1% per annum for a period of 15 years), and under other collateral in accordance with the requirements of VEB.RF (from 250 million to 1 billion rubles at 5% per annum for up to 15 years). The organization also provides special products for single-industry towns with a federal emergency regime[2].

[2] Official website of VEB.RF. Available at: https://вэб.рф/podderzhka-monogorodov/finansovaya-podderzhka/ (accessed: 14.07.2025).

Non-financial support measures for VEB.RF includes various areas: training seminars for local governments, organization of festivals and sports events, development of concepts for the creation of event centers in single-industry towns.

However, in our opinion, it is important to note some nuances. First, not all municipalities included in the list of single-industry towns actually have a single-industry economy (Sekushina, 2024). Second, based on the data presented in open sources on the implemented VEB.RF in the context of measures aimed at the development of single-industry towns, it is difficult to assess how much funding was allocated for the implementation of projects in small and medium-sized cities, in particular in the regions of the Northwestern Federal District.

Another development institution is the priority social and economic development areas (PSEDAs) – economic zones with a special legal regime for doing business and preferential tax conditions. PSEDAs are mainly focused on supporting single-industry territories, since they are created in single-industry towns for a period of 10 years with the possibility of extension by decision of the Government of the Russian Federation for 5 years, as well as in closed administrative-territorial unit (CATU) for a period of 70 years.

The key objective of this institute is to create favorable conditions for attracting investments, ensuring accelerated socio-economic development and creating comfortable living conditions. In particular, organizations operating on the PSEDA are granted tax benefits on profits (to the federal budget – 0% for 5 years, to the regional budget – no more than 5% for 5 years, for the next 5 years to the regional budget – no less than 10%), on property and land (0% for 5 years).

Among the small and medium-sized towns of the Northwestern Federal District classified as single-industry, only seven settlements have the status of PSEDA: Kondopoga, Kostomuksha (Republic of Karelia), Emba (Komi Republic), Onega (Arkhangelsk Region), Kirovsk (Murmansk Region), Pikalevo (Leningrad Region), Borovichi (Novgorod Region)[3].

The practice of creating industrial and technology parks as an institution of economic development of territories is used in the Leningrad, Novgorod, Kaliningrad, Vologda regions and the Komi Republic. At the same time, it is in small or medium-sized cities that these development institutions operate only in the Leningrad (Pikalevo Industrial Parks, Pikalevo; Levoberezhny, Kirishi; Northwestern Nanotechnology Center, Gatchina)[4] and Vologda (Sokol Industrial Park, Sokol) regions.

Special Economic Zones (SEZ). As a development institution, they are also rarely established on the territory of small and medium-sized cities. Here we can only mention the Kaliningrad Region, the entire territory of which has the SEZ status. As of the end of June 2025, 327 residents were registered on its territory, of which 100 are legally functioning in small and medium-sized cities. The cities of Svetly, Chernyakhovsk and Gusev are the leaders in their number – 24, 17 and 10 residents, respectively. However, there are cities in the region where no SEZ resident (Neman, Primorsk) or only one (Krasnoznamensk, Ozersk, Polessk) is registered[5].

At the same time, in our opinion, even if the city is not located on the SEZ territory, but in close proximity to it, there will still be positive effects for its development. In particular, the Ust-Luga industrial and production SEZ has been established in the Leningrad Region, located within an hour's distance by road from the city of Kingisepp (50 km).

[3] Official website of the Ministry of Economic Development of the Russian Federation. Available at: https://invest.economy.gov.ru/territorii-operezhayushchego-socialno-ehkonomicheskogo-razvitiya/main (accessed: 14.07.2025).

[4] Register of industrial (technology parks). GISP. Available at: https://gisp.gov.ru/gisip/reg_ind_parks (accessed: 14.06.2025).

[5] Administration of the Special Economic Zone in the Kaliningrad Region. Available at: https://oez.gov39.ru/reestr (accessed: 14.07.2025).

Special economic zones of the Novgorodskaya and Moglino industrial production types have been created in the Novgorod and Pskov regions, respectively. However, they are geographically located near large cities such as Veliky Novgorod and Pskov, at a distance from small and medium-sized cities. Also in 2025, the Vologda SEZ was opened in the Vologda Region, 17 km from the administrative center (Vologda).

Centers "My Business" (Moy Biznes) represent one more institution for the economic development of territories. Currently, they operate in 88 regions of the Russian Federation[6]. They are mainly aimed at helping small and medium-sized businesses, as well as the self-employed, to open and develop their businesses. As a rule, these development institutions are opened in the administrative centers of the regions, but there are examples of their functioning in small and medium-sized cities. For example, in the Northwestern Federal District, centers "My Business" are open in Vorkuta, Kotlas, Kandalaksha, Vyborg, Sovetsk, Baltiysk and Naryan-Mar, which belongs to the category of small towns and is the regional capital.

Institutions for the development of social and housing and utility services in small and medium-sized cities of the Northwestern Federal District

Institutions for the development of the non-economic sphere of small and medium-sized cities are represented in small numbers. One of the main institutions for the development of the housing sector in Russian cities is currently the DOM.RF Fund, which was established in 2016 on the basis of directives from the Government of the Russian Federation to implement programs aimed at creating a favorable environment for human activity and society. Currently, the Fund has implemented about 400 projects for the development of the urban environment. Its key tasks are to design urban development concepts, create master plans, develop design codes for the urban environment, etc. In addition, the Fund implements large-scale projects for the improvement of public spaces and the creation of socio-cultural facilities.

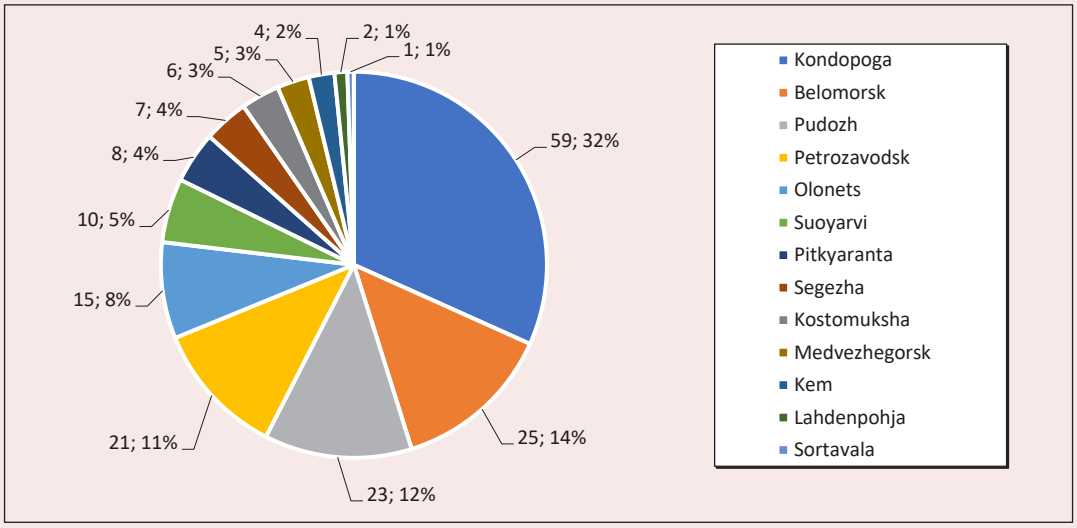
The effectiveness of this urban development institution can be judged to a certain extent based on the results of an analysis of the dynamics of the urban environment quality index (UEQI) in small and medium-sized cities of the Northwestern Federal District, calculated annually by the Ministry of Construction of the Russian Federation.

One of the positive trends is the improvement of their landscaping. Currently, 112 out of 138 small and medium-sized cities have a favorable urban environment. In the period from 2018 to 2024, particularly noticeable changes occurred in the Novgorod, Kaliningrad and Leningrad regions: the average value of UEQI in small and medium-sized cities in these regions increased by 73, 61 and 57 points, respectively. The leaders in the quality of the urban environment are the small towns of Zelenogradsk (291 points, Kaliningrad Region), Kudrovo (285 points, Leningrad Region) and Staraya Russa (278 points, Novgorod Region). The UEQI values in these settlements even exceed those of large cities in the Northwestern Federal District.

Based on the results of data analysis in the context of the NWFD subjects, we can conclude that the best situation with the urban environment quality is in the Novgorod Region, where the average UEQI in small and medium-sized cities is 247 points. This is the highest indicator among the regions of the Northwestern Federal District. The growth rate of this indicator is also the highest: the UEQI increased by 73 points in 2018–2024. According to the data for 2024, the highest UEQI is in the cities of Staraya Russa (278 points), Borovichi (260 points) and Valdai (259 points), which, nevertheless, is lower than the indicators of the administrative center – Veliky Novgorod (288 points).

[6] MoyBiznes.RF. Available at: https://мойбизнес.рф/about/?ysclid=md4jb4ujvz678898450 (accessed: 14.07.2025).

Number of TSG operating in the cities of the Republic of Karelia in 2025



Source: Register of territorial self-governments of the Republic of Karelia as of June 6, 2025. Available at: https://xn----7sbbupjjdsxf1p.xn--p1ai/tos/reestr/?ysclid=md5piowcxw229608522

However, the problem of an unfavorable urban environment is still relevant for small and medium-sized cities in the Vologda and Arkhangelsk regions. In the cities of Babaevo, Krasavino, Nikolsk, Velsk, Kargopol, Nyandoma, Onega, Solvychegodsk, the UEQI values are less than 180 points.

The institution of territorial self-government (TSG), although not a formal tool for the development of territories, however, in our opinion, plays an important role in solving issues of urban improvement. It is important to note that, unfortunately, there is currently no well-established accounting system for TSG work. This significantly complicates the analysis of the prevalence of this institution and the assessment of its effectiveness. In the Arkhangelsk, Kaliningrad and Novgorod regions, lists of existing TSG are publicly available, but the information in them is presented only in the context of urban districts or municipal districts, which does not allow analyzing data on their number specifically in small and medium-sized cities. Among all the subjects of the Northwestern Federal District under consideration, the most complete information is provided for only one region – the Republic of Karelia.

As of the beginning of June 2025, 601 TSG units are operating in the region, with less than 1/3 (186 units) in cities (Figure). This territorial development institution is more widespread in small towns than in the regional center of Petrozavodsk. The leader in the TSG number is Kondopoga, where 59 such organizations are currently established. TSG is also actively used in Belomorsk (25 units) and Pudozhe (23 units), however, in the cities of Sortavala (1 unit) and Lahdenpohja (2 units), on the contrary, its popularity is extremely low.

The analysis of the effectiveness of the TSG results is beyond the scope of this study, moreover, information about their activities is presented in fragments. It is difficult to assess the contribution of territorial self-government to the socio-economic development of the city. Existing methods for evaluating the effectiveness of state and municipal structures are simply not suitable for analyzing the activities of organizations such as TSG. Unlike enterprises, whose effectiveness is easily assessed by financial indicators, the TSG success is measured by more complex and qualitative characteristics.

It is difficult to determine how effectively one or another TSG solves such problems as road repairs, playground improvements, landscaping, ensuring safety and accessibility of social services. All these factors are difficult to quantify, but they are critically important for assessing the real impact of TSG.

At the same time, in our opinion, the TSG activities in general as an institution for urban development can be assessed positively, mainly due to the use of such a tool as proactive budgeting.

Non-profit organizations (NPOs) are another institution for the development of local territories. As part of the study, we analyzed the number of NPOs registered in small and medium-sized cities of the Northwestern Federal District (*Tab. 3*). It is natural that the Leningrad Region is the leader in this indicator, in which almost half of the organizations (1,154 units) operate in small or medium-sized cities, since there is only one large city in the region – Murino.

Table 3. Number of NPOs registered in small and medium-sized cities of the NWFD

City	Number of NPOs, units	Share of NPOs number in the region, %	City	Number of NPOs, units	Share of NPOs number in the region, %	City	Number of NPOs, units	Share of NPOs number in the region, %
Kaliningrad Region	**2,048**	**100**	**Leningrad Region**	**2,433**	**100**	**Arkhangelsk Region**	**1,730**	**100**
Chernyakhovsk	59	2.88	Gatchina	184	7.56	Kotlas	83	4.80
Sovetsk	46	2.25	Vyborg	123	5.06	Novodvinsk	46	2.66
Svetly	39	1.90	Vsevolozhsk	96	3.95	Koryazhma	38	2.20
Svetlogorsk	36	1.76	Sosnovy Bor	74	3.04	Velsk	36	2.08
Gusev	35	1.71	Kingisepp	64	2.63	Nyandoma	23	1.33
Baltiysk	34	1.66	Tosno	58	2.38	Mirny	22	1.27
Zelenogradsk	32	1.56	Kirishi	57	2.34	Kargopol	17	0.98
Gurievsk	30	1.46	Tikhvin	51	2.10	Onega	11	0.64
Pionersky	25	1.22	Luga	48	1.97	Shenkursk	7	0.40
Gvardeysk	21	1.03	Volkhov	45	1.85	Mezen	5	0.29
Neman	16	0.78	Kudrovo	33	1.36	Solvychegodsk	3	0.17
Mamonovo	15	0.73	Kirovsk	30	1.23	***Total NPOs in SMSC***	291	16.82
Nesterov	14	0.68	Sertolovo	28	1.15	**NAA**	81	100
Ozersk	14	0.68	Priozersk	26	1.07	Naryan-Mar	60	74.07
Pravdinsk	13	0.63	Slantsy	23	0.95	**Novgorod Region**	863	100
Bagrationovsk	9	0.44	Podporozhie	22	0.90	Borovichi	50	5.79
Polessk	9	0.44	Nikolskoye	21	0.86	Staraya Russa	20	2.32
Slavsk	9	0.44	Lodeynoye Pole	20	0.82	Valdai	16	1.85
Ladushkin	8	0.39	Boksitogorsk	18	0.74	Pestovo	15	1.74
Krasnoznamensk	5	0.24	Volosovo	18	0.74	Chudovo	11	1.27
Primorsk	1	0.05	Kommunar	18	0.74	Okulovka	8	0.93
Total NPOs in SMSC	470	22.95	Otradnoe	16	0.66	Soltsy	4	0.46
Vologda Region	1,649	100	Pikalevo	15	0.62	Malaya Vishera	3	0.35
Veliky Ustyug	30	1.82	Ivangorod	14	0.58	Kholm	1	0.12
Sokol	29	1.76	Schlisselburg	14	0.58	***Total NPOs in SMSC***	128	14.83
Totma	26	1.58	Svetogorsk	10	0.41	**Pskov Region**	1,117	100
Belozersk	18	1.09	Novaya Ladoga	7	0.29	Velikiye Luki	93	8.33

End of Table 3

City	Number of NPOs, units	Share of NPOs number in the region, %	City	Number of NPOs, units	Share of NPOs number in the region, %	City	Number of NPOs, units	Share of NPOs number in the region, %
Gryazovets	18	1.09	Kamennogorsk	6	0.25	Ostrov	23	2.06
Ustyuzhna	15	0.91	Primorsk	5	0.21	Pechory	19	1.70
Babaevo	14	0.85	Luban	4	0.16	Nevel	14	1.25
Kirillov	12	0.73	Syasstroy	3	0.12	Porkhov	14	1.25
Nikolsk	11	0.67	Vysotsk	2	0.08	Dno	12	1.07
Kharovsk	7	0.42	Koltushi	1	0.04	Opochka	12	1.07
Vytegra	5	0.30	***Total NPOs in SMSC***	1,154	47.4	Sebezh	10	0.90
Kadnikov	3	0.18	**Murmansk Region**	1,063	100	Novosokolniki	7	0.63
Krasavino	2	0.12	Monchegorsk	75	7.06	Pytalovo	6	0.54
Total NPOs in SMSC	190	11.52	Apatity	58	5.46	Gdov	4	0.36
Republic of Karelia	1322	100	Severomorsk	58	5.46	Pustoshka	4	0.36
Sortavala	52	3.93	Polyarnye Zori	34	3.20	Novorzhev	3	0.27
Kostomuksha	40	3.03	Kandalaksha	32	3.01	***Total NPOs in SMSC***	221	19.79
Kondopoga	33	2.50	Kirovsk	30	2.82	**Komi Republic**	1,280	100
Segezha	26	1.97	Kola	23	2.16	Ukhta	144	11.25
Olonets	21	1.59	Olenegorsk	18	1.69	Vorkuta	74	5.78
Lahdenpohja	19	1.44	Zapolyarny	17	1.60	Usinsk	47	3.67
Belomorsk	18	1.36	Kovdor	15	1.41	Pechora	35	2.73
Medvezhegorsk	13	0.98	Snezhnogorsk	15	1.41	Sosnogorsk	30	2.34
Pudozh	12	0.91	Polyarny	10	0.94	Inta	19	1.48
Pitkyaranta	11	0.83	Gadzhievo	5	0.47	Emva	10	0.78
Suoyarvi	7	0.53	Zaozersk	4	0.38	Mikun	8	0.63
Kem	6	0.45	Ostrovnoy	1	0.09	Vuktyl	5	0.39
Total NPOs in SMSC	258	19.52	***Total NPOs in SMSC***	395	37.16	***Total NPOs in SMSC***	372	29.06

Note: SMSC – small and medium-sized cities.
According to: data from the Ministry of Justice of the Russian Federation. Available at: https://www.minjust.gov.ru/ru/pages/reestr-nekommercheskih-organizacij (accessed: 10.07.2025).

The Kaliningrad Region ranks second, with 470 non-profit organizations registered in the localities under consideration. However, in terms of the share of the total number of NPOs in the region, it is inferior to the Murmansk Region, where 395 out of 1,063 NPOs (37%) are established in small and medium-sized cities. The lowest number of NPOs is in the Novgorod and Vologda regions – 128 units (14.8% of the total value in the region) and 190 units (11.5%), respectively, which is primarily due to the higher proportion of the rural population compared, for example, with the Murmansk Region.

It is quite logical that in the context of the cities under consideration, the leaders are medium–sized cities – Gatchina (184 units), Ukhta (144 units), Vyborg (123 units), Vsevolozhsk (96 units), Velikiye Luki (93 units), since they are larger in terms of territory, population, and number of organizations. We should also note that in almost all regions there are cities where the potential of NPOs as a

development institution is practically not used: in Primorsk, Kadnikov, Krasavino, Lyuban, Syasstroy, Vysotsk, Koltushi, Zaozersk, Ostrovny, Solvychegodsk, Soltsy, Malaya Vishera, Holm, Gdov, Pustoshka, Novorzhev, less than five such organizations are registered.

In general, in our opinion, at present non-profit organizations for small and medium-sized cities can be considered not only as an element of civil society, but also as an institution of development. NPOs have significant potential to implement projects for which local governments have neither financial nor human resources. The activities of NPOs are more focused on solving problems in the social sphere, primarily due to the possibility of obtaining grant funding from the federal, regional budget or private foundations. Due to the limited budgets of local governments in small and medium-sized cities, this is sometimes almost the only opportunity to implement projects in the field of education, culture, tourism and sports.

However, based on the results of the analysis, we can conclude that the degree of prevalence of NPOs as a development institution in small and medium-sized cities of the Northwestern Federal District varies. In addition, the presence of registered NPOs and the effectiveness of their work for the development of the city are different concepts. The latter requires a deeper analysis, which may become the subject of further research on this topic.

Conclusions

Thus, based on the results of the study, we can draw a number of conclusions about the presence and activities of development institutions in small and medium-sized cities of the Northwestern Federal District.

1. Currently, there is an imbalance in the system of economic institutions for the development of small and medium-sized cities in the Northwestern Federal District, since most of them are aimed at supporting settlements with a single-industry economy. If a municipality is not formally included in the list of single-industry towns, then it potentially cannot receive support of VEB.RF. In addition, PSEDA cannot be established on its territory. At the same time, the status of a single-industry town provides a number of economic advantages related to attracting investment, developing new industries and, as a result, creating new jobs, reducing unemployment, and in the long term, increasing tax revenues. In addition, the emergence of new enterprises is accompanied by a number of social effects: reducing the outflow of young people due to new employment opportunities, improving the well-being of the population, and modernizing local infrastructure in the case of municipal-private partnership projects.

2. Special economic zones, industrial and technology parks as economic development institutions are rarely found in small and medium-sized cities of the Northwestern Federal District. At the same time, the presence of a special status in a city does not always attract business, as evidenced, for example, by the fact that in some small and medium-sized cities of the Kaliningrad Region, very few or no SEZ residents are registered.

3. Centers "My Business" as an institution for entrepreneurship support have been opened in six medium-sized cities of the Northwestern Federal District (Vorkuta, Kotlas, Kandalaksha, Vyborg, Sovetsk, Baltiysk). In general, their activities contribute to the formation of a favorable environment for the development of small and medium businesses by providing consulting assistance to potential entrepreneurs in matters of business registration, taxation, promotion of goods and services on the market, etc. At the same time, it is difficult to give an accurate assessment of the effectiveness of this development institution, based, for example, only on information about the number of registered individual entrepreneurs, since this indicator is influenced by more significant factors: the economic situation, the state of the competitive environment, the availability of state support measures, etc.

4. Among the institutions for the development of the social and housing and utility services, the foundation DOM.RF can be identified as one of the most effective, as evidenced by the growth of the urban environment quality index in all small and medium-sized cities of the Northwestern Federal District. In addition, in some cities (Zelenogradsk, Kudrovo, Staraya Russa) The level of comfort of living is currently even higher than in regional centers.

5. TSG activities are also aimed at solving urban improvement issues. At the same time, it is difficult to assess the effectiveness of this institute, since there is currently no well-established system for monitoring the TSG activities. At the same time, in our opinion, it is important to take into account not only quantitative indicators, such as the number of projects implemented or the amount of investments attracted, but also qualitative aspects related to the level of civic engagement, the degree of satisfaction of the population with living conditions, the effectiveness of solving local problems and the overall improvement of the social environment. Developing such a monitoring system is a difficult but essential task. Without an adequate assessment, it is difficult to plan further financing and support for TSG, as well as encourage them to work more effectively for the benefit of the population.

6. Non-profit organizations can also be considered as one of the few institutions for the development of the social sphere in small and medium-sized cities. They are able to effectively solve the tasks of improving the quality of life, developing infrastructure and attracting investments. However, the analysis showed that in some small and medium-sized cities of the Northwestern Federal District, the opportunities of NPOs are practically not used due to insufficient funding and excessive administrative barriers. The solution to the problem is seen in the development of tools to stimulate the activities of NPOs, the development of public-private partnership mechanisms, and the expansion of opportunities to attract private investment.

The theoretical significance of the conducted research lies in the expansion and systematization of scientific knowledge about the mechanisms of functioning and interaction of institutions that ensure the development of small and medium-sized cities, which contributes to the formation of a more complete theoretical framework in the field of urbanism and regional development. The results obtained in the course of the work form the basis for further empirical research and practical recommendations on the development of the institutional environment in small and medium-sized cities.

From a practical point of view, the research results can be used by representatives of both the state authorities of the constituent entities of the Russian Federation and local governments of small and medium-sized cities in improving the implemented policy regarding economic development institutions and the social sphere of municipalities.

References

Argüelles M., Benavides C., Fernández I. (2014). A new approach to the identification of regional clusters: Hierarchical clustering on principal components. *Applied Economics*, 46(21), 2511–2519.

Bondarenko I.A. (2020). Institutes of development of Russian cities in the context of their economic problems. *Estestvenno-gumanitarnye issledovaniya*, 28(2), 75–79. DOI: 10.24411/2309-4788-2020-10079 (in Russian).

Bondarskaya O.V. (2013). Institutional factors for improving the tools of socio-economic development of small towns. *Sotsial'no-ekonomicheskie yavleniya i protsessy*, 10(56), 21–27 (in Russian).

Bukhval'd E.M., Vilenskii A.V. (2017). Development institutions in the strategic planning of the spatial structure of the Russian economy. *Regional'naya ekonomika. Yug Rossii=Regional Economy. South of Russia*, 1(15), 77–86. DOI: 10.15688/re.volsu.2017.1.8 (in Russian).

Chekavinskii A.N., Kozhevnikov S.A., Voroshilov N.V. (2017). *Instituty razvitiya na mestnom urovne* [Development Institutions at the Local Level]. Vologda: ISERT RAN.

Commons J. (1970). *The Economics of Collective Action Madison*. University of Wisconsin Press.

Ekimova N.A. (2020). Regional development agencies of the United Kingdom. *Journal of Institutional Studies*, 12(3), 42–59. DOI: 10.17835/2076-6297.2020.12.3.042-059 (in Russian).

Ergunova O.T., Plakhin A.E., Fominyh K.A. (2017). Regional development institutions and their role in the modernizing the economy of the constituent entities of the Russian Federation. *Voprosy innovatsionnoi ekonomiki=Russian Journal of Innovation Economics*, 7(4), 323–338. DOI: 10.18334/vinec.7.4.38567 (in Russian).

Frolov D.P., Dmitriev A.S., Yelsukov L.A. (2021). The role of cluster policy institutions in the transformation of the socio-economic environment of the old industrial region. *Teoreticheskaya ekonomika=Theoretical Economy*, 10(82), 117–124. DOI: 10.52957/22213260_2021_10_117 (in Russian).

Hsu M.-S., Lai Y.-L., Lin F.-J. (2013). Effects of industry clusters on company competitiveness: Special economic zones in Taiwan. *Review of Pacific Basin Financial Markets and Policies*, 16(3). DOI: https://doi.org/10.1142/S0219091513500173

Idziev G.I. (2021). Development institutions as a tool modernization of the regional economy. *Regional'nye problemy preobrazovaniya ekonomiki*, 2, 75–82. DOI: 10.26726/1812-7096-2021-2-75-82 (in Russian).

Karavaeva T.I. (2024). Special economic zones: Interregional and inter-municipal aspects. *Regional'naya ekonomika. Yug Rossii=Regional Economy. South of Russia*, 3, 53–61. DOI: 10.15688/re.volsu.2024.3.6 (in Russian).

Kleiner G.B. (2004). *Evolyutsiya institutsional'nykh sistem* [The Evolution of Institutional Systems]. Moscow: Nauka.

Lavrikova Yu.G., P'yankova S.G. (2014). Institutes of strategic development of a single-industry territory. *Ekonomicheskie strategii*, 6–7, 92–101 (in Russian).

Malkina M.Yu., Vinogradova A.V. (2024). The effectiveness of state support institutions for the economy of Russia and its regions. *Journal of Institutional Studies*, 16(4), 97–112. DOI: 10.17835/2076-6297.2024.16.4.097-112 (in Russian).

Nort D. (1993). Institutions and economic growth: A historical introduction. *THESIS*, 1(2), 69–93 (in Russian).

Oborin M.S., Sheresheva M.Yu., Ivanova S.A. (2018). Analysis of institutions supporting the innovative development of small and single-industry towns. *Vestnik Moskovskogo universiteta. Seriya 21: Upravlenie (gosudarstvo i obshchestvo)*, 2, 3–31 (in Russian).

Polterovich V.M. (2016). Institutions of catching-up development (on the project of a new model for economic development of Russia). *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast,* 5, 34–56. DOI: 10.15838/esc/2016.5.47 (in Russian).

Popov E.V., Veretennikova A.Yu., Safronova A.A. (2019). Institutional support for social and innovation activity in the large city. *Terra Economicus*, 17(3), 48–63. DOI: 10.23683/2073-6606-2019-17-3-48-63 (in Russian).

Rastvortseva S.N., Manaeva I.V. (2022). Modern development of small and medium-sized cities: Trends and drivers. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast,* 15(1), 110–127. DOI: 10.15838/esc.2022.1.79.6 (in Russian).

Schweinberger A.G. (2003). Special economic zones and quotas on imported intermediate goods: A policy proposal. *Oxford Economic Papers*, 4, 696–715.

Sekushina I.A. (2024). Small and medium-sized single-industry towns of the European North of Russia in the context of socio-economic challenges of 2020–2023. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast,* 17(5), 74–94. DOI: 10.15838/esc.2024.5.95.4 (in Russian).

Sekushina I.A., Voroshilov N.V. (2020). Interaction of small and medium towns and rural territories in the region. *Problemy razvitiya territorii=Problems of Territory's Development,* 6(110), 121–137. DOI: 10.15838/ptd.2020.6.110.8 (in Russian).

Semyachkov K.A. (2020). Institutional mechanism for smart cities development. *Kreativnaya ekonomika=Creative Economy*, 8, 1607–1624. DOI: 10.18334/ce.14.8.110685 (in Russian).

Servillo L., Atkinson R., Hamdouch A. (2017). Small and medium-sized towns in Europe: Conceptual, methodological and policy issues. *Tijds. voor Econ. En Soc. Geog.*, 108, 365–379. DOI: https://doi.org/10.1111/tesg.12252_

Smirnov O.O., Bezverbny V.A. (2022). Potential for developing sectors of the economy of small cities in Russia: Modern trends. *Sotsium i vlast'*, 1(91), 62–74. DOI: 10.22394/1996-0522-2022-1-62-74 (in Russian).

Tatarkin A.I., Kotlyarova S.N. (2013). Regional development institutions as an economic growth factors. *Ekonomika regiona*, 3, 9–18 (in Russian).

Turabaeva A.M. (2022). The institute of social entrepreneurship as a factor in the development of small towns. *Vestnik Omskogo universiteta. Seriya: Ekonomika*, 2, 74–83. DOI: 10.24147/1812-3988.2022.20(2).74-83 (in Russian).

Uskova T.V., Sekushina I.A. (2021). Strategic priorities of small and medium towns' development. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast,* 1(14), 56–70. DOI: 10.15838/esc.2021.1.73.5 (in Russian).

Vaz T.D.N., Leeuwen E.V. (2013). *Towns in a Rural World (1st Ed.)*. Routledge. DOI: https://doi.org/10.4324/9781315550466_

Veblen T. (1919). *The Place of Science in Modem Civilization and Other Essays*. Available at: https://archive.org/details/placeofsciencein00vebl/page/n5/mode/2up

Vol'chik V.V., Panteeva S.A., Shiryaev I.M. (2022). Institute of regional strategies in the Russian innovation system. *Journal of Institutional Studies*, 14(3), 6–30. DOI: 10.17835/2076-6297.2022.14.3.006-030 (in Russian).

Information about the Author

Irina A. Sekushina – Candidate of Sciences (Economics), Senior Researcher, Vologda Research Center, Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russian Federation; e-mail: sekushina.isekushina@yandex.ru)

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Tourism as a Potential Driver of Regional Economic Growth: Assessment of Multiplier Effects and Scenario Modeling

Ekaterina G. LEONIDOVA
Vologda Research Center, Russian Academy of Sciences
Vologda, Russian Federation
e-mail: eg_leonidova@mail.ru
ORCID: 0000-0002-9206-6810; ResearcherID: I-8400-2016

Abstract. The sustainable development of tourism in Russia requires expanding the supply and increasing tourism infrastructure facilities in the country's regions. Many constituent entities of the Russian Federation have significant but unrealized tourism potential. The Vologda Region is among them, where tourism is a promising economic specialization. The multiplier effects generated by the tourism industry require appropriate measurement for national and regional economies. In this regard, assessing the economic effects of tourism development in the region and substantiating its role as a factor in regional economic growth become relevant. This necessitated the development of methodological tools for identifying promising projects, calculating their effects on the regional economy, and formulating practical recommendations based on the assessment. The methodological basis of the research was the input-output balance toolkit, including the development of authorial input-output tables. The information base consisted of official data from Rosstat and the Unified Interdepartmental Information and Statistical System (EMISS), relevant analytical and expert materials, as well as intermediate tables of resources and uses of the Russian economy. The theoretical foundation included scientific works by domestic and foreign authors on tourism infrastructure development, assessment methodology, scenario modeling, and forecasting of economic processes. The scientific novelty of the work lies in the development of a methodological approach that integrates input-output analysis and scenario modeling, adapted to the modern conditions of Russian statistics, for assessing the multiplier effects of tourism on the regional

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economy. Using multipliers, the multiplicative effects of realizing the resource potential of the tourism industry were assessed, and ways to unlock this potential are proposed.

Key words: tourism, investments, multiplicative effect, scenario modeling, region.

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Introduction

Tourism in the Russian Federation continues actively developing and is considered by the government as a promising economic growth factor: the national project "Tourism and the Hospitality Industry" has been extended until 2030. The strategic documents for the socio-economic development of the Russian Federation for the period up to 2030 set ambitious goals for the transformation of the tourism industry[1] into a significant sector of the national economy, including increasing the share of tourism in the country's GDP to 5% (from 2.8% in 2023) and a threefold increase in exports of tourism services[2]. These targets underline the recognition of tourism as one of the key drivers of economic diversification and import substitution in the service sector. The tourism industry, unlike traditional raw materials industries such as the oil and gas sector and mining, which have limited influence on related industries and often operate on the principle of "point-based" economic returns, has a high multiplier effect (Artal-Tur et al., 2020). In the study, it is understood as an increase in one of the macroeconomic indicators: gross output, GDP, and budget revenues, which is caused by the spread of the initial impulse through the system of intersectoral relations – an increase in output in one of the sectors (Ksenofontov et al., 2018). Researchers identify several types of multiplicative effects:

– direct effects: an increase in output in the industry in which the initial impulse occurs (an increase in final demand);

– indirect effects: an increase in output in related sectors, as a result of an increase in current demand in the source industry;

– induced effects: an increase in economic output as a result of an additional increase in final demand for domestic products due to the expenditure of additional income received in the form of wages, taxes, and profits.

The multiplier effect is manifested in job creation, the development of related infrastructure (Dogru et al., 2020), stimulating innovation and reducing dependence on resource exports (Khalil et al., 2007; Kruja et al., 2012), which makes the tourism industry one of the stable sources of economic growth. In addition, tourism (especially domestic tourism) is less susceptible to external crises, and even under the conditions of sanctions restrictions, the demand for tourist services within the country remains stable. For instance, according to Rosstat, the number of Russians staying in the country's collective accommodation facilities increased by 9.8%, amounting to 81.3 million people in 2023–2024. The tourism industry creates a value chain that extends far beyond the tourism services themselves, affecting the hotel business, transport infrastructure, catering, retail, cultural

[1] In this study, the concepts of "tourism" and "tourism industry" and "travel industry" are used synonymously.

[2] On the national development goals of the Russian Federation for the period up to 2030 and for the future up to 2036: Presidential Decree 309, dated 05/07/2024. Available at: http://www.kremlin.ru/events/president/news/73986

institutions and local souvenir production. Tourism stimulates local manufacturing and creative industries, creating significant added value based on the goods and services they produce. Through the organization of unique leisure activities and the production of authentic local goods, the tourism industry stimulates the development of small businesses and crafts. As a result, the more interesting and unique the local tourist offer becomes, the more tourists it attracts, which in turn supports and develops the local economy. For example, local cheese made according to an old recipe, or beer from a local brewery, honey from a certain highland – all this becomes not just a meal, but part of a journey. Their value increases due to their uniqueness and the history that the manufacturer passes on to the buyer. A tourist is willing to pay more for such a product because it carries the memory of the place and reflects the specifics of the territory.

Thus, the integration of local industries into the tourism value chain contributes to the diversification of the tourist supply, stimulates the development of small and medium-sized enterprises and forms a stable link between tourist consumption and the regional economy, where each product acts as an "ambassador" destination.

Many Russian regions have significant but unrealized tourism potential. Investments in tourism infrastructure can become a catalyst for the growth of territories, creating new jobs and attracting private investment. Unlike the oil and gas sector, where most of the added value is generated through production and exports, tourism distributes income along the entire chain, involving small and medium businesses[3]. According to the Ministry of Economic Development of the Russian Federation, 74.8 thousand small and medium enterprises were registered in the field of hotel business and tourism in 2024. In tourism (hotels, tour operators, transport), there are 1.5 jobs per workplace in related industries (construction, agriculture, retail, etc.)[4]. Thus, the multiplicative effects generated by the tourism industry require appropriate measurement for national and regional economies. Recently, new leisure formats have been developing in Russia (glamping, modular hotels, multifunctional road services, etc.), which are investment objects. Insufficient knowledge of the impact of tourism on the development of the RF territories leads to underestimation of its role as an economic growth factor. According to the researchers, the reasons for this are the complex component composition of the industry, as well as the imperfection of the statistical base. The analysis of publications revealed a shortage of works devoted to assessing the multiplier effects of tourism development in Russia's regions, as well as insufficient knowledge of the issues of forecasting economic effects from the implementation of specialized investment projects.

The above led to the aim of the study, which is to assess the multiplicative effects of tourism development in the region and substantiate its role as a factor in the regional economy growth, which required solving the following tasks: developing a methodological approach to identifying promising investment tourism projects in the region, analyzing key trends determining the development of the industry at the global and Russian levels, forecasting and determining scenarios of tourism production and its impact on the regional economy.

The object of the study is the Vologda Region, a region in which the tourism development is receiving close attention from the authorities. In addition, tourism in the Vologda Region is one of

[3] SMEs in tourism have received 30 billion rubles in government support in nine months. Available at: https://www.vedomosti.ru/economics/news/2024/11/15/1075377-msp-poluchili?from=copy_text

[4] International Tourism Highlights, 2019 Edition. Available at: https://www.e-unwto.org/doi/book/10.18111/9789284421152

the promising economic specializations that can boost the region's economic growth in the long term (Rumyantsev, 2023).

The information base of the research uses data from official statistics of Rosstat and the Unified Interdepartmental Information and Statistical System (EMISS), specialized analytical and expert materials, as well as intermediate tables of resources and use of the Russian economy. The theoretical basis of the work consists of scientific works by Russian and foreign authors devoted to the development of tourism infrastructure, the methodology of its assessment, scenario modeling and forecasting of economic processes. The scientific novelty of the work consists in the development of a methodological approach to assessing the multiplicative effects of tourism on the region's economy, integrating tools of intersectoral balance and scenario modeling adapted to modern conditions of Russian statistics.

Theoretical aspects of the research

Tourism plays a significant role in the economy of many territories (Khalil et al., 2007), acting as a catalyst for employment growth (Dogru et al., 2020), infrastructure development (Hadzik, Grabara, 2014; Nguyen, 2021) and increasing budget revenues. Its impact on the regional economy can be direct (through tourist spending), indirect (through a multiplier effect in related industries) and induced (through an increase in household incomes). Additional attention is paid in the works of Russian (Leonidova, 2021; Donskova et al., 2022) and foreign (Jones, Comfort, 2020; Wu et al., 2022), scientists are paying attention to domestic tourism, especially during the coronavirus pandemic, as it has made a significant contribution to the recovery of both the industry and economic dynamics in general.

Tourism development is based on tourism infrastructure, investments in which contribute to an increase in the tourist flow to the region and ensure the long-term dynamics of the industry's development, meeting people's needs for quality holidays (Nguyen, 2021). The works of scientists reveal a special role of the hotel sector in this process. Investments in it represent a key component in the value creation process in the industry (Mitchell et al., 2015). It has been empirically established that an increase in investment in the hotel sector entails an increase in employment not only in this industry, but also in related economic sectors (Dogru et al., 2020), and also helps to solve the social problems of the territory by creating jobs, increasing incomes of the population due to growth in tourist flow both within the country and abroad. from abroad (Nikolskaya et al., 2019). The researchers note that the development of tourism infrastructure provides a comprehensive effect beneficial to all participants in the process. Scientific works (Stepanova, 2015) have proved that, in addition to meeting the needs of tourists, new hotels, transport routes and recreational areas contribute to the modernization of urban infrastructure, increase the attractiveness of the region for investment, and improve the quality of services available to local residents.

Thus, we can conclude that the issues concerning the tourism impact on the territories' economy are in the focus of attention of Russian and foreign scientists, who are focused on the need to solve primarily infrastructural problems to unlock the full potential of the industry. At the same time, approaches to identifying promising tourist infrastructure facilities, as well as issues of quantifying their impact on the economy in the future, remain insufficiently explored. This makes it important to further study this aspect to deepen and explore the economic contribution of tourism. An analysis of scientific papers proved that the input-output balance is an effective tool for assessing the economic consequences of changes in tourism demand, which is confirmed by an analysis of scientific papers (Artal-Tur et al., 2020; Kronenberg, Fuchs, 2021; Pratt, 2015; Wu et al., 2022). For example, the work (Artal-Tur et al., 2020)

revealed significant differences in the magnitude of the calculated economic effects when using country and regional approaches based on the input-output balance. Other authors used the intersectoral balance toolkit to assess the impact of tourism on employment and income in specific professional communities in Sweden (Kronenberg, Fuchs, 2021).

Based on the input-output balance, the paper (Pratt, 2015) studied the economic contribution of tourism in the provinces of China; it determined that due to the higher multiplier effect, economically developed provinces will benefit more from the further development of tourism. Using the input-output tables, scientists determined the impact of the COVID-19 outbreak on the economic contribution of domestic tourism (Wu et al., 2022).

Thus, this method is widely used abroad, especially in countries that are actively developing input-output tables, such as Spain, Sweden, Indonesia, and China. In Russia, input-output balance is rarely used to assess the impact of the growth of individual industries due to the lack of regional tables. However, the available Rosstat data allow for a macrostructural analysis of intersectoral relationships (Shirov, 2024). Research indicates the need to adapt the input-output methodology to the specifics of the Russian tourism industry, which highlights the potential of this tool (Leonidova, Sidorov, 2023). Thus, the use of the input-output balance methodology allows scenario modeling of the multiplicative effects of the development of the tourism industry for the region's economy and performing predictive calculations.

Among the Russian studies devoted to assessing the tourism impact on the economy of territories, there is a lack of works that propose a methodological approach to assessing the multiplicative effects of tourism development on the region's economy using input-output balance toolkit and scenario modeling adapted to the conditions of Russian statistics, taking into account the specifics of the sectoral structure of the region's economy and clarifying the importance of the tourism industry for the Russian economy.

Methodological aspects of the study

At the first stage of the study, scenario modeling of the Vologda Region's production and resource potential is carried out based on hypotheses about the future dynamics of key areas of the regional economy that are crucial for saturating the domestic market and realizing export potential. Production forecasts were calculated depending on the scenario based on the extrapolation of retrospective trends in 2017–2023. The forecast estimates are given until 2040, which corresponds to the strategic plans of the Vologda Region regional authorities.

Under the inertial scenario, the growth rates of key sectors of the Vologda Region's promising economic specialization are stagnating, the dynamics of the economy is deteriorating, and the production of low-value-added products is increasing.

Within the framework of the target scenario, dynamic economic development is envisaged – accelerated development of key sectors of the Vologda Region's promising economic specialization, based on a strong investment spurt (up to 15–20% investment growth per year).

Forecasting the effects of tourism support as a promising type of economic activity (TEA) is carried out using a regional intersectoral model that includes economic parameters for 32 sectors of the economy (Leonidova, Sidorov, 2019). The model is based on the input-output balance of production and distribution of products in the Vologda Region economy, which is not developed by official statistical authorities[5]. Our methodology makes it possible to form regional balances based on official statistics and other sources by regionalizing country input-output tables based on an analysis of the structure of production costs.

[5] The intersectoral balance of production and distribution of products in the Vologda Region. Certificate of state registration of the database 2020621875.

The volume of tourist output in the Russian Federation was determined based on an algorithm that was tested in the work of researchers (Leonidova, Rumyantsev, 2023) and proved its suitability for solving research problems. One of the limitations of this approach is that the calculations do not take into account the share of tourists' expenses that are accommodated in individual accommodation facilities, including rental apartments and apartments.

Then, based on the input-output tables and the theory of production multipliers (Ksenofontov et al., 2018), the specific and absolute total effects on gross output and the Vologda Region GRP from the development of production in the tourism industry were calculated.

Further, the analysis of key structural and cyclical trends determining the development of the industry at the global and Russian levels in the medium term was carried out, which is important for further substantiation of the development of promising tourism projects in the region. The criteria for their selection are the ability to complete and develop regional value chains in accordance with the strategic plans of the government and major players in the industry, the availability of resource potential and a fast-growing market for products, as well as training opportunities for the industry in the region. These tasks were implemented earlier during the prioritization and elaboration of project initiatives within the framework of strategic sessions, which were attended as experts by representatives of the tourism industry, industry departments and ministries of the region (Structural and Technological Drivers ..., 2025).

This methodological approach, unlike the existing ones, makes it possible to assess the macroeconomic effects of realizing the resource potential of tourism in the region based on adapted tools of the input-output balance for building regional input-output tables, scenario modeling of multiplicative effects and criterion selection of promising investment projects, which makes it possible to more fully and objectively determine the tourism contribution to the region's economy in the absence of the necessary statistics of input-output balance.

Main results of the study

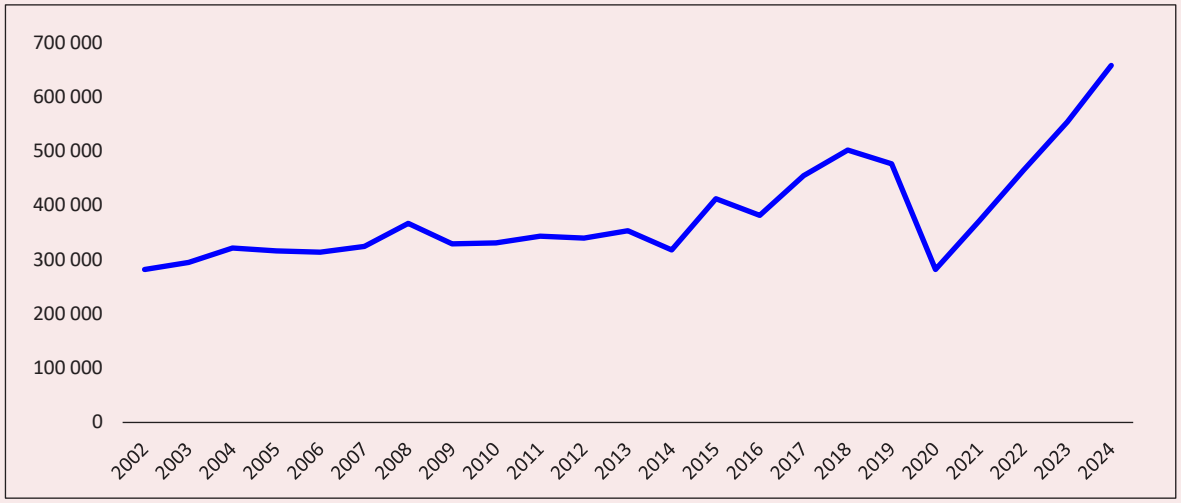
Scenario modeling and calculation of the multiplicative effects of tourism for the Vologda Region economy

Currently, the Vologda Region is not a key tourist region in Russia. According to the 2024 results, the region took 43rd place in the national tourism ranking[6], dropping by 5 positions over the year. In 2024, 658 thousand people accepted collective accommodation facilities in the region, which is more than in 2023 (554 thousand people; *Figure*). In general, a steady trend of tourist flow growth was noted in 2002–2024: the indicator doubled.

Tourism in the region has been actively developing since 1998, due to the implementation of the federal tourism project "Veliky Ustyug – the birthplace of Father the Frost". Since then, the industry has been considered by regional authorities as one of the priority economic areas. The Vologda Region is attractive for creating a variety of tourism products and is important for the Russian and, in the future, the global tourism market. The region is part of the interregional historical, cultural and tourist project "Silver Necklace of Russia", which unites all the subjects of the Northwestern Federal District. The national route "Pearls of the Russian North" (connecting the cities of Vologda and Kirillov) operates on its territory, meeting the high standards of service required by federal experts. In 2024, the Vologda Region joined the national tourism project "Imperial Route", which unites places associated with the Romanov dynasty, becoming the 30th participating region.

[6] National tourism rating (2024 results). Available at: https://rustur.ru/nacionalnyj-turisticheskij-rejting-itogi-2024-goda

Dynamics of the Vologda Region tourist flow in 2002–2024, people



Source: Rosstat data.

According to Rosstat, as of 2023[7], the share of gross value added (GVA) of the tourism industry in the gross regional product (GRP) of the Vologda Region was 1.9% (for comparison, the indicator for the Republic of Karelia is 3.7%). At the same time, the estimated indicator does not reflect the real contribution of the industry to the economy due to the features of the calculation and does not take into account its multiplicative effects.

We carried out scenario modeling and calculation of the multiplicative effects of tourism for the economy of the Vologda Region based on an approach based on the methodology of intersectoral balance and the theory of production multipliers.

Table 1 presents the calculation of the growth rate of tourism output in the Vologda Region. The target scenario assumes an active growth in the tourist flow and output of the tourist complex, whose economic activities have one of the highest values of GRP production multipliers for the sectors of the Vologda Region economy (for TEA "Transportation and storage" the indicator value is 1.055; for TEA "Provision of other types of personal services" – 1.0164; for TEA "Activities of hotels and catering establishments" – 0.898) (Lukin, 2025).

In the framework of the inertial scenario, the growth rate of tourism as an industry of promising economic specialization in the Vologda Region is stagnating, and the dynamics of the economy is deteriorating.

Investments in fixed assets, which are necessary to ensure an increase in the production of tourism complex products, can be calculated based on estimates of the increase in the physical volume of

Table 1. Forecast of the production of tourism complex industries as a promising economic specialization of the Vologda Region (in 2023 prices), billion rubles

Tourist complex	2023	2030	2040	2030 to 2023, %	2040 to 2023, %
Inertial scenario	11	13	18	125	172
Target scenario	11	15	25	142	235
Source: own compilation.					

[7] The data has not been updated by Rosstat since 2023.

domestic production in inertia and target scenarios, as well as the average capital intensity of output in economic sectors. To ensure the projected increase in production, it will be necessary to attract 28 billion rubles of investments in fixed assets in the period 2025–2030 and 60 billion rubles in the period 2031–2040 under the inertia scenario and, respectively, 31 and 78 billion rubles under the target scenario (*Tab. 2*).

The implementation of new investment projects and the resulting incomes of businesses, the state and the population generate additional effects for the service sector, the production of consumer and investment products, infrastructure sectors, as well as for related sectors. One of the most convenient and widely used approaches to assessing such macroeconomic effects is an approach based on the methodology of intersectoral balance and the theory of production multipliers.

Table 3 presents the calculation of production multipliers for the branches of the Vologda Region tourism complex.

The calculations show that each ruble of gross output in the field of accommodation and catering services generates an additional economic effect in the amount of 2,032 rubles of gross output throughout the regional economy, and also contributes to an increase in gross value added by 0.893 rubles. The largest contribution to the creation of gross value added is observed in the transport sector (2,301 rubles of gross output and 1,042 rubles of GVA for each invested ruble). Similar indicators for the sphere of other personal services amount to 1,967 rubles of GVA with a gross output coefficient of 1,006 rubles for each invested ruble.

These data clearly demonstrate the multiplicative potential of the tourist complex, with the most pronounced effect observed in segments directly related to the transport sector. The obtained coefficient values indicate that investments in the development of tourism infrastructure have a stimulating effect on the economy of the region as a whole, creating a synergistic effect due to intersectoral links and secondary consumption.

Table 2. Investments in fixed assets required to ensure the projected growth of production in the Vologda Region (in 2023 prices), billion rubles

Tourist complex	2025	2030	2040	2025–2030	2031–2040
Inertial scenario	4	5	7	28	60
Target scenario	5	6	10	31	78
Source: own compilation.					

Table 3. Production multipliers for the Vologda Region tourism industry in 2020

Indicator	Activities of hotels and catering establishments	Transportation and storage	Provision of other types of personal services
Direct effect on gross output	1.000	1.000	1.000
Indirect effect on gross output	0.568	0.758	0.411
Induced effect on gross output	0.464	0.543	0.556
Full effect on gross output	**2.032**	**2.301**	**1.967**
Direct effect on GRP	0.415	0.432	0.525
Indirect effect on GRP	0.249	0.343	0.201
Induced effect on GRP	0.229	0.267	0.280
Full effect on GRP	**0.893**	**1.042**	**1.006**
Note: the values of the multipliers are obtained under the assumption that the required amount of unloaded production capacity is available. According to: data from the input–output table of the Vologda Region for 2020.			

It is especially important to note that the maximum contribution to gross value added is provided by services that are directly targeted at the end user, which underlines the importance of developing a high-quality service component of a tourist product.

The calculations of the absolute total economic effects on the Vologda Region GRP demonstrate the impact of the projected increase in production in the tourism sector in the long term. According to the data obtained, the absolute total effects on GRP from the development of the tourist complex in the future until 2040 range from 3 billion rubles in the inertial scenario and up to 6 billion rubles in the target scenario (*Tab. 4*).

Table 4. Total absolute effects on GRP from the development of production in the Vologda Region tourist complex (in 2023 prices), billion rubles

Tourist complex	2023–2030	2031–2040	2023–2040
Inertial scenario	1	2	3
Target scenario	2	4	6
Source: own compilation.			

The research results confirm the need for an active policy of developing tourism infrastructure and an import substitution strategy to stimulate positive economic dynamics.

Promising investment projects in tourism in the Vologda Region

Analytical reports and expert materials led to the conclusion that the following trends will influence the development of the global tourism market.

The defining trend in the near future will be the *growth of tourist spending*, which by 2033 will more than double the 2019 level. Its driver will be the growth in the number of solvent households in China, India and Indonesia, as well as in the Persian Gulf countries[8]. *Climate change* will have a significant impact on the development of the global and Russian tourism industry. As extreme weather conditions become more likely in the future, the traditional choice of travel times and locations will also change. Experts assess the vulnerability of the tourism sector in Russia to the impact of climate change as high[9]. Research shows that by the middle of the 21st century, summer recreation activities will develop in regions that have traditionally been viewed as climatically uncomfortable for summer tourism. This will cause a geographical redistribution of tourist demand and will require adaptation both for resorts that may lose their tourist appeal and for those who are expected to receive opportunities for tourism development[10].

The trend toward *immersiveness* is gaining momentum – a form of travel that allows fully immersing yourself in the local culture, history, and atmosphere. For instance, in China, immersive tourist facilities receive priority development within the framework of government programs of "smart tourism". There are 5 types of such objects: light shows, night tours, VR objects, attractions and immersive theatrical performances. A successful project requires an original idea, technical equipment, a script, working with an audience, and visual impact.

As a result of the impact of the global coronavirus pandemic, tourism has experienced a period of change, including an increasing interest in sustainable forms of travel, which has led to a trend toward *sustainable tourism*. It lies in the fact that tourists are aware of the role of tourism in the socio-economic life of the local community and are increasingly choosing trips of a natural orientation. The tourism industry is witnessing an increase in the popularity of environmentally-oriented forms of travel, such as ecotourism, cycling, hiking and

[8] WTM Global Travel Report. Available at: https://www.wtm.com/content/dam/sitebuilder/rxuk/wtmkt/ documents/WTM-Global-Travel-Report-v4.pdf

[9] Kattsov V.M. (Ed.). (2022). The third assessment report on climate change and its consequences on the territory of the Russian Federation. Saint Petersburg: High-tech technologies. 676 p.

[10] Ibidem.

trips to nature. These forms of recreation not only contribute to the preservation of the environment, but also allow tourists to immerse themselves more deeply into the cultural environment and the natural landscape of the visited countries.

The demand for unique, unparalleled experiences will continue growing. Travelers will increasingly seek out unique experiences at destinations around the world, spending more money on them. This could create new opportunities for virtual and augmented reality, as physical experiences are enhanced by technology, which could also spark new demand from consumers[11].

The following trends will influence the development of the Russian tourism market.

The trend toward independent travel is fixed after the pandemic year 2020. In 2024, almost every second resident of Russia (48%) has the experience of such trips, with the majority preferring to buy tickets and book hotels exclusively on their own (39%), and one in ten alternates between self-organization of travel and purchase of tours (9%)[12]. Over 2019–2024, the share of independent travelers increased by 11 percentage points, whereas in 2019, slightly more than a third of the population (37%) reported such an experience. Independent travelers are more common among women, Russians over 35 years old, residents of rural areas who do not work and have middle and low incomes.

The trend for short weekend trips is due to the relative cheapness compared to the more expensive long vacation. In 2023, the demand for weekend tours increased by 15–20% compared to the previous year[13]. The dynamics of sales of short tours is growing faster than long-term sightseeing programs. Russians prefer to make short trips within their region at a distance of no more than 300 km for a period of 1–2 days[14].

The trend toward bleisure tourism involves combining business trips with leisure (business and leisure). In 2023, 36% of business travel orders included weekends. The average length of stay of tourists was 4 days, which is more than the usual business trip (2 days[15]). Bleisure travel destinations differ from regular business trips (Moscow, Saint Petersburg), most often these are the Black Sea coast, Sochi, as well as the Sea of Japan, Vladivostok.

Car traveling in Russia is becoming popular. According to sociological surveys[16], during 2023, a third of Russians (32%) made tourist trips around the country in their own or rented car. Every second Russian declares an interest in autotourism ("I didn't travel, but I would like to" – 48%), which indirectly indicates the high potential of such a travel format in the country. Every fifth respondent lacks not only the experience of such a holiday, but also the desire to acquire it (20%). Recently, there has been a trend toward multi-format car travel among Russians[17]: two thirds of our fellow citizens, going on a tourist trip by car, would choose a combination of natural and urban recreation (68%). Since most tourists prefer combined routes, regions should be offered packages of services or special offers that include excursions and activities both in the city and in nature, and therefore cooperation with local tour operators and guides is necessary. About half

[11] WTM Global Travel Report. Available at: https://www.wtm.com/content/dam/sitebuilder/rxuk/wtmkt/ documents/WTM-Global-Travel-Report-v4.pdf

[12] The trend toward independent travel has noticeably intensified in five years. Available at: https://nafi.ru/analytics/trend-na-samostoyatelnye-puteshestviya-zametno-usililsya-za-pyat-let

[13] Weekend tours: top 5 most booked destinations in Russia. Available at: https://www.atorus.ru/node/53250

[14] Experts: Russians have become more likely to travel to regions and go on short trips. Available at: https://tass.ru/obschestvo/15310225

[15] The number of Russians who combine business trips with tourism is named. Available at: https://ria.ru/20240427/puteshestviya-1942498096.html

[16] Autotourism – 2024. Available at: https://wciom.ru/analytical-reviews/analiticheskii-obzor/avtoturizm-2024

[17] Perfect road trip. Available at: https://wciom.ru/analytical-reviews/analiticheskii-obzor/idealnoe-avtoputeshestvie

of Russians want to see a highly developed roadside infrastructure in road travel: multifunctional gas stations with places for overnight stays and meals, car service stations, medical centers (46%). A third of the respondents would be satisfied with the average level of infrastructure: gas stations with toilets, food and recreation points (32%); 15% turned out to be less demanding, ready to be satisfied with the minimum number of road service facilities (gas stations, toilets). In this regard, the regions should pay attention to how to improve the accessibility of tourist facilities for cars, including the availability of sufficient parking spaces, charging stations for electric vehicles, as well as cooperation with local car service stations and gas stations to provide discounts or bonuses. Knowing the preferences of car tourists help to more accurately target ads. Using social media, travel websites, and apps to promote services to car travelers can significantly increase the flow of future customers.

The *interest of Russians in traveling based on the values of a healthy lifestyle, such as sports, wellness and ecotourism*, was noted. The turnover of the sanatorium and resort services market in Russia in 2023 amounted to only 186.4 billion rubles[18]. In 2024, experts from the Businessstat[19] research company expected the figure to rise to 221.7 billion rubles, and in 2027 to 254.1 billion rubles. The projected weak growth is explained by the fact that out of 1,743 sanatoriums in the Russian Federation, only 28 have modern infrastructure, but with its modernization, this area has great potential for further development of the tourist market.

Based on the trends considered and the criteria for prioritization given earlier, the following can be considered as the most promising investment tourism projects for implementation in the Vologda Region.

1. High-tech roadside service that provides for the construction of roadside complexes with self-service services, including a hotel, supermarket, food and leisure facilities, a car wash with service stations, pharmacy, as well as modular self-service gas stations.

There is a shortage of recreational areas, motels and charging stations for electric vehicles on Russian roads, as well as gas stations and toilets, which are currently located at a considerable distance from each other. The Vologda Region is no exception. Promising areas for the project are the federal and regional highways M-8, A-119, A-114, which are characterized by a significant traffic flow, including due to truck drivers. The placement of modular stations to reduce customer service time and increase the flow of consumers is most effective in large cities such as Vologda and Cherepovets. It is advisable to implement projects on local roads where the traffic flow is small, but the station performs an important social function for residents of rural settlements. Also, the expansion of the geographical location of the stations will increase the transport accessibility of roadside service facilities for motorists and activate the development of autotourism in municipalities.

2. High-tech amusement and recreation park in Vologda.

Due to the growing demand and a free market niche, the creation of a children's theme park for entertainment and recreation in Vologda seems promising. The location of the park is due to the fact that the city is located at the intersection of tourist and logistics flows of the region, which will allow the project to provide the largest number of tourists. There are no examples of large high-tech parks with VR and AR technologies in Russia, so the Vologda Region can take the lead in this niche. The working out of virtual roller coasters, guided tours, and games based on everyday life of Russian heroes, Russian fairy tales, cartoons, etc. is able to

[18] Rosstat data.

[19] Analysis of the sanatorium and resort services market in Russia in 2019–2023. Available at: https://businesstat.ru/catalog/id1966

interest modern children. Such technologies can be adapted for educational programs. The development of indoor areas with VR attractions allows the park to function all year round, regardless of weather conditions. This can significantly increase attendance during the cold seasons. Technology can help in collecting data about visitors, their preferences and behavior, which makes it possible to better manage the park and offer relevant services.

The assessment of the potential demand for travel services in the Vologda Region is optimistic: according to a realistic scenario[20], the increase in the number of domestic trips by 2035 will amount to 954,000, which is 60% higher than in 2021. The increase in the number of inbound trips by 2035 is projected to be at least 2.8 thousand, which will amount to 7.2 thousand units. Moreover, the car will become the most used mode of transport by travelers.

The volume of investments for the implementation of the proposed project initiatives is estimated at 5.2 billion rubles. The share of the proposed projects in the total investment volume required to ensure the projected increase in production will amount to only 16.7% for 2025–2030, which makes it important to regularly carry out systematic work to substantiate projects in the region's thermal power plant industries and attract investment resources.

Possible sources of financing for these projects may be private businesses (for example, Tatneft and Gazprom Neft, with which regional authorities have negotiated to expand the market for roadside services, trade, gas stations, catering, etc.), as well as the regional and federal budgets (for example, as part of participation in programs for granting preferential loans for the implementation of investment facilities for tourism infrastructure under the national project "Tourism and the Hospitality Industry").

[20] Data from the Federal Tourism Interregional Territorial and Spatial Planning Scheme of the Russian Federation. Available at: https://вэб.рф/turisticheskie-skhemy

Currently, a special economic zone of the tourist and recreational type "Theme Park of Father the Frost" is being created in Velikoustyugsky District of the Vologda Region. Upon completion of the project, Veliky Ustyug is expected to become the flagship of the country's tourism development with a tourist flow of about 1 million people per year. One of the major investors in the project is AFK "Sistema", which is engaged in the reconstruction of the patrimony of Father the Frost, the construction of new hotels and the improvement of the center of Veliky Ustyug.

Thus, we developed promising investment projects for the development of the region's tourism infrastructure, which will make it possible to tap into the tourist and recreational potential of the Vologda Region, as well as increase the tourist consumption volume. They correspond to the industry trends discussed above and criteria reflecting the ability to complete and develop regional tourism value chains.

Conclusions

The estimates of the economic effects resulting from increased consumption in the tourism sector indicate the importance of the industry for the regional economy. The Vologda Region has all the prerequisites for becoming one of the leading tourist regions of the Northwest. The implementation of investment projects will require an integrated approach, including infrastructure development, marketing and government support. Successful implementation of the initiatives will not only increase the tourist flow, but also diversify the region's economy.

To achieve the target scenario by 2040, it is necessary to take into account the risks, which include rising inflation, since the high cost of living may force travelers to abandon plans to make tourist trips. The lack of tourism and transport infrastructure greatly reduces the use of the region's tourism potential. Of particular concern is the dependence of investment activity on the Central

Bank's credit policy: the increase in interest rates makes the existing mechanisms for subsidizing the construction of hotels excessively costly for the budget[21].

The implementation of demand in the tourism market will depend on the availability of labor resources. According to some estimates, the shortage of personnel reaches 30–40%, due to the low prestige of service professions, a high proportion of unskilled labor, lack of educational centers and low salaries[22]. It is predicted that by 2030, the tourism industry will need at least 400,000 new employees (which corresponds to our estimates). In particular, only for investment projects implemented by the Corporation "Tourism. RF", by this time more than 20 thousand trained personnel will be needed[23].

One of the key risks is the seasonality of the tourist flow. Most tourists visit the region in the summer and during the New Year holidays, which creates an imbalance in the utilization of infrastructure and profitability of projects. The introduction of year-round tourism programs and the development of event tourism may partially offset this problem, but it will require additional marketing efforts and investments.

The implementation of these measures will give an impetus to achieving the planned results in the development of tourism in the Vologda Region, which will help increase the profitability of the industry and, due to the multiplier effect, stimulate the country's economy as a whole.

The research results are of practical value for government agencies. They make it possible to quantify the contribution of the tourism industry to economic growth through the prism of consumer demand, which is especially important when developing measures to support and stimulate domestic tourism. In the future, it is planned to comprehensively study the factors that can ensure a steady growth in the domestic tourist flow.

References

Aleksandrova A.Yu. (2017). Construction of the integrated tourism statistic system in the Russian Federation. *Vestnik Moskovskogo universiteta. Seriya: Ekonomika=Moscow University Economics Bulletin*, 1, 41–61. Available at: https://doi.org/10.38050/01300105201713 (in Russian).

Donskova L.I., Barannikov A.L., Makovetsky M.Yu. (2022). The state of domestic tourism in Russia in the modern period: Quantitative and qualitative analysis. *Vestnik akademii znani*i, 52(5), 127–136 (in Russian).

Ksenofontov M.Yu., Shirov A.A., Polzikov D.A., Yantovskii A.A. (2018). Estimation of multiplicative effects in the Russian economy based on input – output tables. *Problemy prognozirovaniya=Studies on Russian Economic Development*, 2(167), 3–13 (in Russian).

Leonidova E.G. (2021). Russian tourism during the COVID-19: Assessing effect of stimulating domestic demand for the country and regions' economy. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 14(2), 59–74. DOI: 10.15838/esc.2021.2.74.4 (in Russian).

Leonidova E.G., Rumyantsev N.M. (2023). Scenario modeling of tourist services consumption in Russia. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 16(2), 35–51. DOI: 10.15838/esc.2023.2.86.2 (in Russian).

[21] The hotel boom in the "feat" mode. Available at: https://monocle.ru/monocle/2024/09/gostinichniy-bum-v-rezhime-podvig

[22] Search spread: why there are not enough tourist staff in Russia. Available at: https://iz.ru/1676562/kseniia-nabatkina-valeriia-mishina/poiskovyi-razbros-pochemu-v-rossii-ne-khvataet-turisticheskikh-kadrov

[23] By 2030, 400,000 new employees will be in demand in the Russian tourism industry. Available at: https://regnum.ru/news/3835417

Leonidova E.G., Sidorov M.A. (2019). Structural changes in the economy: Searching for sectoral drivers of growth. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecas*t, 12(6), 166–181. DOI: 10.15838/esc.2019.6.66.9 (in Russian).

Leonidova E.G., Sidorov M.A. (2023). Assessment and forecast of domestic tourist consumption in Russia. *Problemy prognozirovaniya=Studies on Russian Economic Development*, 1(196), 193–205. DOI: 10.47711/0868-6351-196-193-205 (in Russian)

Lukin E.V. (2025). Structural restructuring of the regional economy in the context of the development of national value chains. *Problemy prognozirovaniya=Studies on Russian Economic Development*, 4(211), 70–84. DOI: 10.47711/0868-6351-211-70-84 (in Russian).

Rumyantsev N.M. (2023). Promising economic specializations within a macroregion (the case of the Northwestern Federal District). *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecas*t, 16(6), 74–90. DOI: 10.15838/esc.2023.6.90.4 (in Russian).

Stepanova S.V. (2015). Development of tourist infrastructure in the northern border regions of Russia. *Problemy razvitiya territorii=Problems of Territory's Development*, 6, 214–225 (in Russian).

Glazyev S.Yu., Ilyin V.A., Shabunova A.A. (2025). *Strukturno-tekhnologicheskie draivery strategicheskogo razvitiya regiona: monografiya* [Structural and Technological Drivers of the Strategic Development of the Region: Monograph]. Moscow: Prospekt.

Shirov A.A. (2024). Household consumption in the mirror of input–output tables. *Problemy prognozirovaniya=Studies on Russian Economic Development*, 3(204), 6–17. DOI: 10.47711/0868-6351-204-6-17 (in Russian).

Artal-Tur A., Navarro-Azorín J.M., Ramos-Parreño J.M. (2020). Measuring the economic contribution of tourism to destinations within an input-output framework: Some methodological issues. *Portuguese Economic Journal,* 19, 243–265 DOI: https://doi.org/10.1007/s10258-019-00167-y

Dogru T., McGinley S., Kim W.G. (2020). The effect of hotel investments on employment in the tourism, leisure and hospitality industries. *International Journal of Contemporary Hospitality Management*, 32(5), 1941–1965. DOI: https://doi.org/10.1108/IJCHM-11-2019-0913

Hadzik A., Grabara M. (2014). Investments in recreational and sports infrastructure as a basis for the development of sports tourism on the example of spa municipalities. *Polish Journal of Sport and Tourism,* 21(2), 97–106. DOI: https://doi.org/10.2478/pjst-2014-0010

Jones P., Comfort D. (2020). The COVID-19 crisis and sustainability in the hospitality industry. *International Journal of Contemporary Hospitality Management,* 32(10), 3037–3050. DOI: 10.1108/ IJCHM-04-2020-0357

Khalil S., Kakar M.K., Malik A. (2007). Role of tourism in economic growth: Empirical evidence from Pakistan economy. *The Pakistan Development Review*, 46(4), 985–995.

Kronenberg K., Fuchs M. (2021). The socio-economic impact of regional tourism: An occupation-based modelling perspective from Sweden. *Journal of Sustainable Tourism*, 30(12), 2785–2805. DOI: https://doi.org/10.1080/09669582.2021.1924757

Kruja D., Lufi M., Kruja I. (2012). The role of tourism in developing countries: The case of Albania. *European Scientific Journal*, 8(19), 129–141.

Mitchell J. et al. (2015). What is the impact of hotels on local economic development? Applying value chain analysis to individual businesses. *Anatolia,* 26, 347–358.

Nguyen Q.H. (2021). Impact of investment in tourism infrastructure development on attracting international visitors: A nonlinear panel ARDL approach using Vietnam's data. *Economies,* 9(3), 131. DOI: https://doi.org/10.3390/economies9030131

Nikolskaya E., Pasko O., Anikina E., Dekhtyar G., Lebedev K. (2019). The hotel sector as an important component of regional economic infrastructure. *Journal of Environmental Management and Tourism*, 9(6), 1178–1182. DOI: 10.14505//jemt.v9.6(30).06

Pratt S. (2015). Potential economic contribution of regional tourism development in China: A comparative analysis. *International Journal of Tourism Research,* 17(3), 303–312.

Widaningrum, D.L., Surjandari, I., Sudiana, D., (2020). Analyzing land-use changes in tourism development area: A case study of cultural world heritage sites in Java Island, Indonesia. *International Journal of Technology*, 11(4), 688–697.

Wu D.C., Cao C., Liu W., Chen J.L. (2022). Impact of domestic tourism on economy under COVID-19: The perspective of tourism satellite accounts. *Annals of Tourism Research Empirical Insights*, 3(2), 100055. Available at: https://doi.org/10.1016/j.annale.2022.100055

Information about the Author

Ekaterina G. Leonidova – PhD in Economics, Senior Researcher, Vologda Research Center, Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russian Federation; e-mail: eg_leonidova @mail.ru)

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Level and Quality of Employment of Households with Children: (Non)Sustainability and Dynamics in the New Conditions of Russia's Development

Yelena V. ODINTSOVA
Institute of Economics, Russian Academy of Sciences
Moscow, Russian Federation
e-mail: odin_ev@mail.ru
ORCID: 0000-0002-7906-8520; ResearcherID: U-7061-2019

Abstract. The work is devoted to the study of the labor situation of households with children, as well as its dynamics in the new conditions of Russia's development after 2022. The information base for the research was formed by data from a specially organized survey conducted in 2024 among representatives of households with children using telephone interviews. The paper revealed the actual characteristics of households with children, which make up their socio-demographic and labor potential, determine the employment status of households and their (non-)sustainability, and set objective limits on the rate and quality of employment in households, some of which are beyond economic activity and working age. We carried out the identification of households with children belonging to different groups as the stability of their employment situation decreases, based on a comprehensive assessment. The criteria used for identification were: (I) realization of the household's labor potential, (II) stability and sustainability of employment in the household, and (III) employment potential to ensure the economic sustainability of the household. We determined the scale of these groups among households with children in general and by their types (as of 2024) – with stable, with relatively stable, with partially unstable, and with unstable employment status. The article revealed that the scale of groups among households with children increases with the "transition" from a stable to an unstable employment situation. The research proved

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that the prevalence of stable employment status reaches the highest values among households with one child (4.6%), unstable employment status among large households (78.8%).

Key words: households with children, employment status of households, sustainability of households' employment status, employment rate, employment quality, income from employment, economic sustainability of households.

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Introduction

Increasing the well-being of families with children belonging to vulnerable groups is one of the priorities of Russia's agenda. The national project "Family" has been implemented since 2025, it includes five federal projects: "Family support", "Large family", "Protection of motherhood and childhood", "Older generation", "Family values and cultural infrastructure"[1]. In December 2024, the Presidential Council for the Implementation of State Demographic and Family Policy was established[2]. In March 2025, the Action Strategy for the implementation of family and demographic policy, support for large families in the Russian Federation until 2036 has been approved. The strategy is aimed, in particular, at supporting and protecting families as the basis of Russian society[3].

The situation of households with children is determined by a complex of factors, among which those related with employment are significant. The level and quality of employment in households determine the financial situation of households, the degree of their financial resilience without using social support tools (Rzhanitsyna, 2019; Gulyugina, Odintsova, 2024; etc.). The level of employment in the household is determined by various circumstances, including the presence of objective constraints on employment among household members (for example, health, education), work-family balance, the distribution of family responsibilities among household members, women's difficulties returning to work after maternity leave (Pishnyak, Nadezhdina, 2020; Chernykh et al., 2023; Odintsova et al., 2023).

Childbirth affects the level of employment, transforms the employment strategies of parents (Cools et al., 2017; Aguilar-Gomez et al., 2019; etc.), and can lead to a decrease in the quality of employment (lower wages, transition to informal employment, etc.) (Berniell et al., 2023; Eberhard et al., 2023). Women are more vulnerable in terms of their employment (Querejeta, Bucheli, 2021), as well as parents with many children (Shakhmatova, 2013; Smoleva, 2019; Grishina, 2024). Parental employment also has specific features in terms of children's age (the situation is worse in families with children under 7 years old) and household composition (parents' relatives, their age) (Chen et al., 2023).

The specifics of household employment cannot help affecting their financial situation, which is the result of the "efforts" of household members, determined by the specifics of their employment

[1] National project "Family". Minister of Labor and Social Protection of the Russian Federation. Available at: https://mintrud.gov.ru/ministry/programms/nacproekt_semya (accessed: May 12, 2025).

[2] Presidential Decree 1047, dated December 09, 2024. Available at: http://www.kremlin.ru/acts/bank/51398 (accessed: May 12, 2025).

[3] RF Government Resolution 615-r, dated March 15, 2025. Available at: http://static.government.ru/media/files/r10o4FJgcqMhYx2bGAJRxMNNS2m7pmN4.pdf (accessed: May 12, 2025).

and the level of income from it[4] (Sinitsa, 2019; Temnitskiy, 2020; Odintsova et al., 2023; etc.). Households with the unemployed have higher risks of monetary poverty or deprivation (de Graaf-Zijl, Nolan, 2011; Korchagina, Prokofieva, 2023). Insecure, temporary and precarious employment also have negative consequences for households (Lewchuk et al., 2015; Auguste et al., 2023; Mussida, Sciulli, 2024; Pérez-Corral et al., 2024). Families where the primary breadwinner is a woman, including single-parent families, are more vulnerable (Calegari et al., 2024; McErlean, Glass, 2024).

We consider the features of involvement in employment and its quality within the integrated assessment of the situation of households with children. The research perspective chosen in this paper when assessing the employment situation of households with children is associated with security. In modern research, it is studied mainly in one of the corresponding areas: economic resilience (Rzhanitsyna, 2019; Bobkov, 2019a; Gulyugina, Odintsova, 2024), financial resilience[5], housing precarity (Debrunner et al., 2024), employment precarity (Bobkov, 2019b; Toshchenko, 2022) and others. This work allows us to develop a more comprehensive view of the situation of households with children, which is assessed taking into account households' employment security (precarity) and their economic resilience (vulnerability).

The object of the study is households with a child (children) (hereinafter referred to as households with children, households). The subject of the study is the employment of households with children. The aim is to identify the employment security (precarity) of Russian households with children and its dynamics compared to 2022, which marked the beginning of a new stage in Russia's development.

The scientific novelty of the work lies in the consideration of employment as an integral characteristic of households within the paradigm of "security" – "precarity", qualitative and quantitative identification of groups of households with children, differing in employment security.

The significance of the study lies in identifying the criteria determining employment security (precarity) of households with children in general and depending on the number of children. The findings have practical significance in the context of the development of public policy aimed at improving the situation of families with children, in the field of employment and increasing real incomes of the population.

Theoretical and methodological foundations of the research

The employment situation of a household with children was considered in this work as an integral, general characteristic reflecting the employment status and its quality for the household members. The employment situation was assessed in the "security – precarity" paradigm.

The issue of employment security has been most elaborated in terms of identifying precarious employment (Bobkov, 2019b; Toshchenko, 2022; Kreshpaj et al., 2020; Padrosa et al., 2021; etc.), its identification is based on an assessment at the individual level. The topic of security (precarity) is also being explored in terms of financial situation (Gulyugina, Odintsova, 2024), housing conditions (affordability, safety of housing, etc.) (Clair et al., 2019; Debrunner et al., 2024; etc.),

[4] Aptekar' P. Wage growth is a task for all Russian ministries. HSEdaily. Available at: https://daily.hse.ru/post/rost-zarabotnoi-platy-eto-zadaca-na-kotoruyu-dolzny-rabotat-vse-ministerstva-nasei-strany (accessed: May 5, 2025).

[5] See, for instance: Clark R., Mitchell O.S. (2024). Financial fragility, financial resilience, and pension distributions. TIAA Institute Research Paper Series Forthcoming. Available at: https://ssrn.com/abstract=4811266 (accessed: August 22, 2025); Kuzina O.E., Moiseeva D.V. Methods for measuring and assessing the level of financial resilience (fragility) of households in Russia: Report. HSE University. Available at: https://daily.hse.ru/post/bednyi-ne-znacit-finansovo-neustoicivyi (accessed: August 22, 2025).

while measurement is carried out at the household or population level. In this study, the issue of security (precarity) was considered at the level of households with children as part of an assessment of their employment situation resulting from the "contribution" of all household members to it.

Household's employment security (precarity) indicates the (in)ability to ensure economic resilience by employment, considering the employment status of economically active members of the household and the dependent-care responsibility of the employed. The assessment of the household's employment situation regarding its security (precarity) was based on the following criteria.

I. Achievement of the household's labor potential. This criterion allows us to consider the involvement of household members in employment. In other studies, it can be measured, for example, using work intensity – how much all working-age household members actually worked compared to their potential[6]. In our study, the situation was considered in more detail. The assessment based on this criterion took into account the ratio of the employed to the unemployed in the household among people aged 15 and over, the presence of the employed not achieving their labor potential (for example, having part-time job or overqualified for their job), the presence of the unemployed aged 15 and over not achieving their labor potential and/or with objective employment restrictions (permanent or temporary)[7].

II. Stability, security of employment in the household. This criterion reflects the quality of employment in the household, which can also affect the situation of households (Lewchuk et al., 2015; Pérez-Corral et al., 2024; etc.). In our assessment, we considered the presence of the employed aged 15 years and over in the household, whose employment has (two or more) manifestations of precarity[8] verified in previous studies[9].

III. The labor potential to ensure the economic resilience of the household. Within the framework of this criterion, the possibilities of ensuring the economic resilience of the household living on income from employment were taken into account. Household well-being is an important indicator of the effectiveness of the employment behavior of its members (Temnitskiy, 2020). In our study, the threshold for the economic resilience of households was the socially acceptable consumer budget (SACB), reflecting a higher quality of life relative to the living wage due to a broader list of socially significant needs. The SACB takes into account the principle of self-sufficiency, which provides for payments for accommodation and utilities without external subsidies. Financial self-insurance is also provided through the targeted savings aimed at maintaining well-being in unexpected or unfavorable circumstances by creating a financial

[6] See, for instance: Moving from welfare to work: Low work intensity households and the quality of supportive services. National Economic and Social Council. Available at: http://files.nesc.ie/nesc_reports/en/146_Low_Work_Intensity_Households.pdf (accessed: May 12, 2025); Persons living in households with very low work intensity by age and sex (population aged 0 to 64 years old). Eurostat. Available at: https://ec.europa.eu/eurostat/databrowser/view/ilc_lvhl11n/default/table?lang=en (accessed: May 12, 2025).

[7] The presence of unemployed adults not achieving their labor potential (the unemployed, those not working and not looking for a job); the presence of unemployed adults with objective temporary employment restrictions (education, child care, temporary disability); the presence of unemployed adults with objective permanent employment restrictions (household management, private subsidiary plot, care for the elderly and disabled people, disability, pension).

[8] Among them, the following were considered: informal employment, employment based on a contract for up to 1 year, employment based on a civil law contract, unreported employment based on an oral agreement, fake self-employment, informal self-employment, reduction of wages or working hours not based on employee's initiative, forced unpaid leave, lack of paid leave, delayed wages, unofficial wages.

[9] See, for instance: Bobkov V.N., Odintsova E.V. Precarious employment. Bol'shaya rossiiskaya entsiklopediya. Available at: https://bigenc.ru/c/neustoichivaia-prekarizovannaia-zaniatost-b9460d (accessed: May 05, 2025).

reserve, purchasing passenger transport (a car) and improving housing. At the household level, the SACB value varies depending on the type and composition of the household[10] (Gulyugina, Odintsova, 2024).

The employment situation of households with children and its security (precarity) are determined by the actual characteristics of the household, which constitute its socio-demographic and labor potential and which "set" objective limits on the level and quality of employment in households, where some people are not economically active and out of working age. Within the framework of this study, the following characteristics of the socio-demographic and labor potential of the household were considered: the number of people in the household aged 15 to 18 years old, 18 and over; the number of people in the household with secondary vocational or higher education, including an academic degree; the presence of people with objective employment "restrictions" (disability, serious health problems that limit employment) in the household; the presence of people doing multiple jobs among household members; students; pensioners.

The highlighted characteristics, considering the data available for the analysis, allow studying the involvement of household members in employment, including members who have objective reasons for being unemployed. In other words, to identify how much household resources are "exhausted" to provide income through employment, as well as to determine employment opportunities in jobs requiring different skill levels, leading to discrepancies between incomes from employment.

In addition to assessing the current employment situation of households with children through the lens of its security (precarity), this study also revealed changes which caused the current situation. Changes in the number of people working in the household, in the quality of employment, in the general level of income from employment in the household, etc. were considered. The "reference point" for identifying changes was February 2022, which marked the beginning of a new stage in Russia's development with new constituent entities in its composition, the beginning of a special military operation, and increased external sanctions pressure.

Data and methods

The information base of the study includes data collected during a survey of representatives of households with children, specially organized as part of the scientific project 23-18-00537 of the Russian Science Foundation[11]. The survey was conducted in the summer of 2024 using telephone interviews based on a random probability sample of landline and mobile phone numbers among the Russian population of 18 years old and over living in households with children aged 15 years old and younger. The sample size is 842 effective interviews.

Due to the absence of a set of data necessary for the study in open sources (statistical observations, non-governmental monitoring), the survey provided a real time assessment of the situation for 2024, as well as the dynamics compared to February 2022.

The information collected in the survey provides a comprehensive picture of the characteristics of the social and labor situation of households with children, including those missing from official statistics and publicly available databases of household monitoring surveys: quality of employment and its security (precarity), (in) security of income and its sources, (in)security of expenditure and consumption, needs and opportunities to improve housing, financial and saving strategies, changes in characteristics of the employment situation and standard of living in the

[10] The average per capita SACB in relation to the living wage is 3.5 living wages.

[11] The survey was conducted by the Institute for Comparative Social Research (CESSI) under the supervision of Doctor of Sciences (Sociology) A.V. Andreenkova.

period after February 2022. The work focuses on characteristics affecting the employment status of households with children. The survey results were processed and analyzed using SPSS and Excel.

The results of an earlier expert survey conducted with our participation were also used for the analysis, it discussed current risks for the social and labor situation of households with children, including employment risks (Odintsova, 2024).

Findings

Socio-demographic and labor potential of households with children as a basis for the development of employment security. The ratio of adults to children determines the potential dependent-care responsibility in households, which is important in terms of building their security. As follows from the collected data (*Tab. 1*), in families with one child, the number of adults corresponds to (25.8%) or exceeds the number of children (74.2%). In households with two children, the number of adults most often corresponds to the number of children (68.4%), in a significant group of households it is less than the number of children (22.1%), in few households it exceeds their number (9.5%). In large families, the number of adults is usually less than the number of children (83.0%), in some households it exceeds or corresponds to the number of children (17.0%). The age of children (in most cases it does not exceed 15 years) is also important as it influences the amount of time spent on caring for them, has impact on work-family balance and can result in a decrease in adult employment, as well as change prospects (considering future employment of grown-up children).

Table 1. Socio-demographic and labor potential of households with children, % of households of the corresponding type

Indicator	Types of households with a child (children) (under the age of 18)		
	With one child	With two children	With three or more children
Number of people aged 18 years old and over in the household			
1	25.8	22.1	16.3
2	61.1	68.4	66.7
3 or more	13.1	9.5	17.0
Number of people aged 15–18 years old in the household			
1	8.8	29.4	30.2
2	0.0	1.2	6.9
3 or more	0.0	0.0	0.0
Number of people with secondary vocational or higher education in the household, including an academic degree			
No	5.0	6.2	14.6
1	33.0	30.7	22.2
2	56.0	56.7	53.7
3 or more	6.0	6.4	9.5
Presence of people with objective employment restrictions (disability, serious health problems that limit employment) in the household	22.7	17.5	23.3
Presence of … in the household			
people working at more than one job	15.9	16.9	18.2
working students	4.3	4.3	8.2
people working with disability, serious health problems that limit employment	13.4	10.7	12.6
working pensioners	2.6	3.7	3.8
Source: estimated based on the survey conducted in the summer of 2024.			

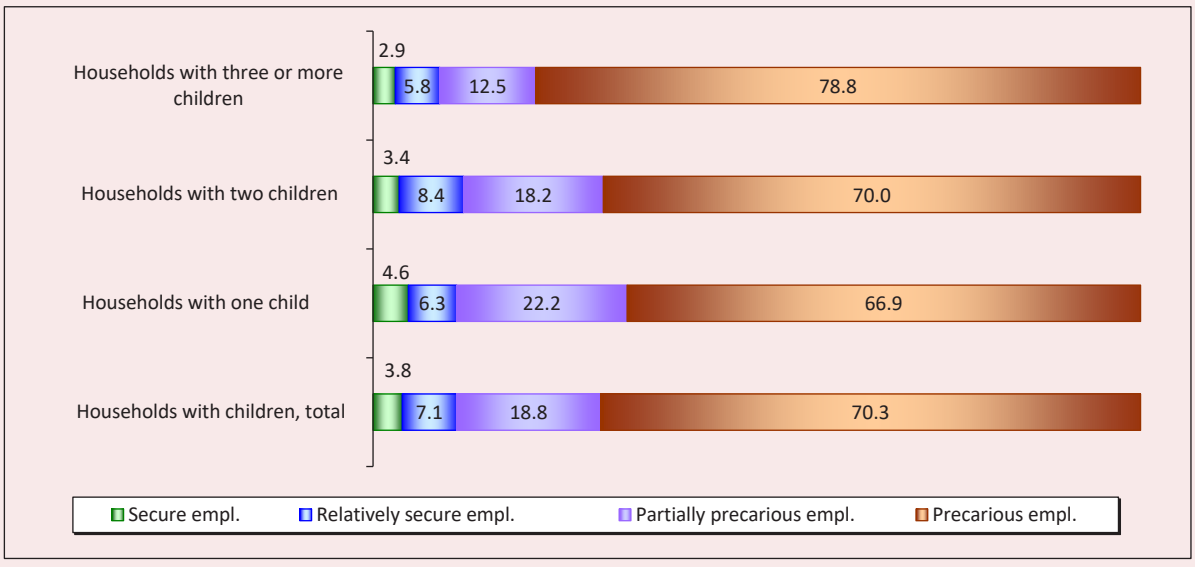
The labor potential of households with children is characterized by the fact that the majority (more than 80%) of them have at least 1 person with secondary vocational or higher education, and more than half of the households have 2 people with this level of education. The level of education is important as it influences job opportunities and, consequently, the potential level of income from employment, which is important for the development of security of the household.

In some households, there are people with objective employment restrictions (disability, serious health problems that limit employment). There are 22.7% such households among families with one child them, 17.5% among families with two children, and 23.3% among large families. However, in some households, people worked despite the presence of objective reasons for being unemployed: students (from 4.3 to 8.2%); disabled people or those with serious health problems that limit employment (from 10.7 to 13.4%); pensioners (from 2.6 to 3.8%). In addition, there is a double employment – the presence of a primary and additional job (a second permanent or regular job, additional casual earnings). It was detected in 15.9% of families with one child, in 16.9% of families with two children and in 18.2% of large families.

Household employment and its security (precarity): an assessment of the current state. Considering the period when the survey was conducted, the assessment of the actual employment situation of households was carried out for 2024 (summer). It has been revealed that the obtained characteristics of the socio-demographic and labor potential of households with children have influenced an employment situation so that it has the following features in terms of security (precarity).

Secure employment distinguishes households with fulfilled labor potential, in which all members aged 15 years old and over are working, while jobs are secure, which ensures economic resilience of households. Their share among households with children in general is only 3.8% (*Fig. 1*). When considered by household type, the proportion of those characterized by secure employment

Figure 1. Distribution of households with children according to the security (precarity) of their employment situation, % of households of the corresponding type



Source: estimated based on the survey conducted in the summer of 2024.

decreases with an increase in the number of children in the household: 4.6% among households with one child, 3.4% among households with two children, 2.9% among large families.

Relatively secure employment distinguishes households where labor potential may be underachieved, and work may be insecure, but income from it can ensure economic resilience of households. Such an employment situation was found in 7.1% of households with children in general, in 6.3% of families with one child, in 8.4% of families with two children, and in 5.8% of large families.

Partially precarious employment characterizes households with fulfilled labor potential, in which all members aged 15 and over are employed, whose work is secure, but income from it does not allow households to ensure economic resilience even if there are other sources of income (social benefits, etc.). In general, 18.8% of households with children have such an employment situation, 22.2% of families with one child, 18.2% of families with two children, and 12.5% of large families.

Precarious employment distinguishes households where labor potential may be underachieved, and employees may have insecure jobs. Moreover, income from employment does not allow households to ensure economic resilience even if there are other sources of income (social benefits, etc.). Precarious employment is typical for 70.3% of households with children in general, 66.9% of families with one child, 70.0% of families with two children, and it is even more common among large families (78.8%).

Changes in the employment situation of households with children in 2022–2024. The actual employment situation of households is a consequence of previous processes reflecting changes in the labor market and employment sectors of household members. The analysis of the data obtained during the survey showed that in the period after February 2022, both negative and positive changes took place in the employment situation of households with children. In some households, job loss for various reasons was recorded (*Tab. 2*). In particular, in 6.9% of households, one of the family members has lost his or her job or business. There are 6.3% of such households with one child, 7.4% with two children, and 7.6% among large families. In 1.4% of families with one child, someone has stopped working due to disability.

In 10.2% of households, one of its members has quit the job to take care of household members. Household members of both below working age (for

Table 2. Changes in the employment situation of households with children (February 2022 – summer 2024), % of households of the corresponding type

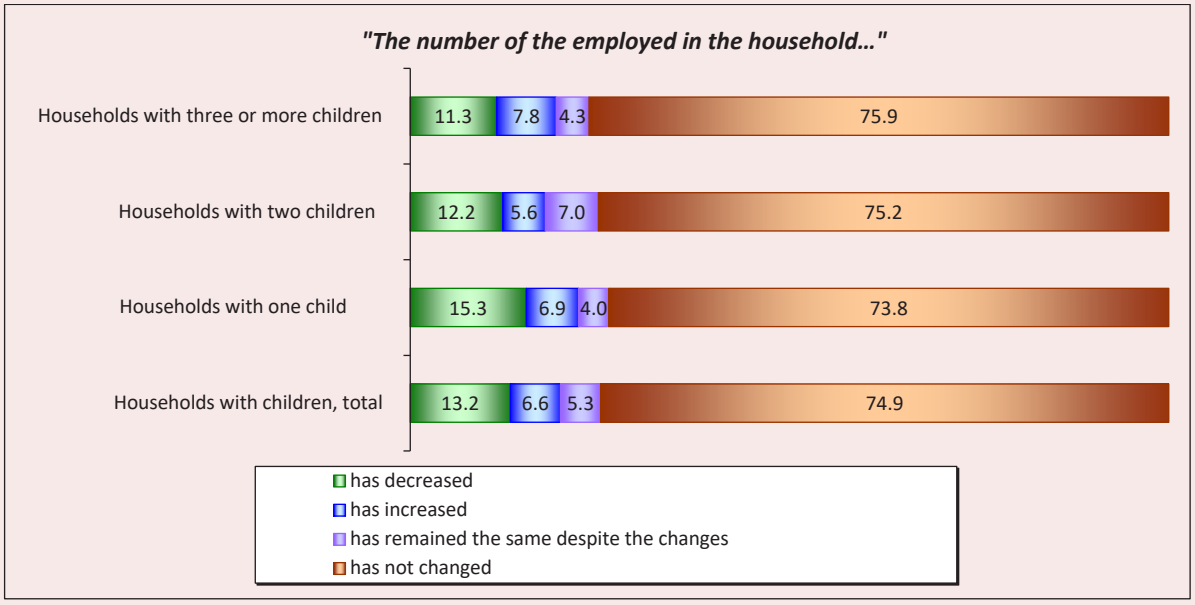
Indicator	Households with children, total	Including households		
		with one child	with two children	with three or more children
Someone of the household members:				
has lost the job	6.9	6.3	7.4	7.6
has been registered as a disabled person and quit the job	0.6	1.4	0.0	0.0
has quit the job to take care of household members	10.2	8.5	11.3	11.4
has retired and stopped working	4.2	5.7	3.1	3.1
has got a new job, has started business	9.8	10.2	7.4	13.9
has been promoted	10.0	8.8	11.7	9.5
has been demoted	4.3	4.8	4.6	2.5
has got an increase in pay	32.4	32.4	32.5	32.1
has got a decrease in pay	17.6	15.1	20.6	17.0
Source: estimated based on the survey conducted in the summer of 2024.				

example, a newborn child) and working age (for example, a disabled person) could require care. These changes in the employment situation have occurred in 8.5% of households with one child, in 11.3% of families with two children, and in 11.4% of large families. In some households (9.8%), the opposite situation was observed – one of the household members has got a job or started business. The largest number of such households are among large families (13.9%), among families with one child their share is 10.2%, and among families with two children – 7.4%.

The changes have also affected people who were already employed in 2022–2024 or started working during this period. For them, there was downward/upward occupational mobility. In 10.0% of households, someone has been promoted, in 4.3% of households, on the opposite, someone has been demoted. These changes were recorded, respectively, in 8.8 and 4.8% of families with one child, in 11.7 and 4.6% of families with two children, in 9.5 and 2.5% of large families. In addition, the level of labor income has changed in households. In general, in 32.4% of households with children, some people among the employed have managed to increase earnings, while incomes decreased in 17.6% of families. Among families with one child, the corresponding changes were recorded in 32.4 and 15.1% of households, among families with two children – in 32.5 and 20.6% of households, among large families – in 32.1 and 17.0% of households.

In general, the changes that occurred in 2022–2024 led to the decrease in the number of the employed in 13.2% of households, to its increase in 6.6% of households, while in the rest (80.2%) nothing has changed or the number of the employed, despite the changes, remained the same (*Fig. 2*). The number of workers has decreased/increased, respectively, in 15.3/6.9% of households with one child, in 12.2/5.6% of households with two children, in 11.3/7.8% of large families.

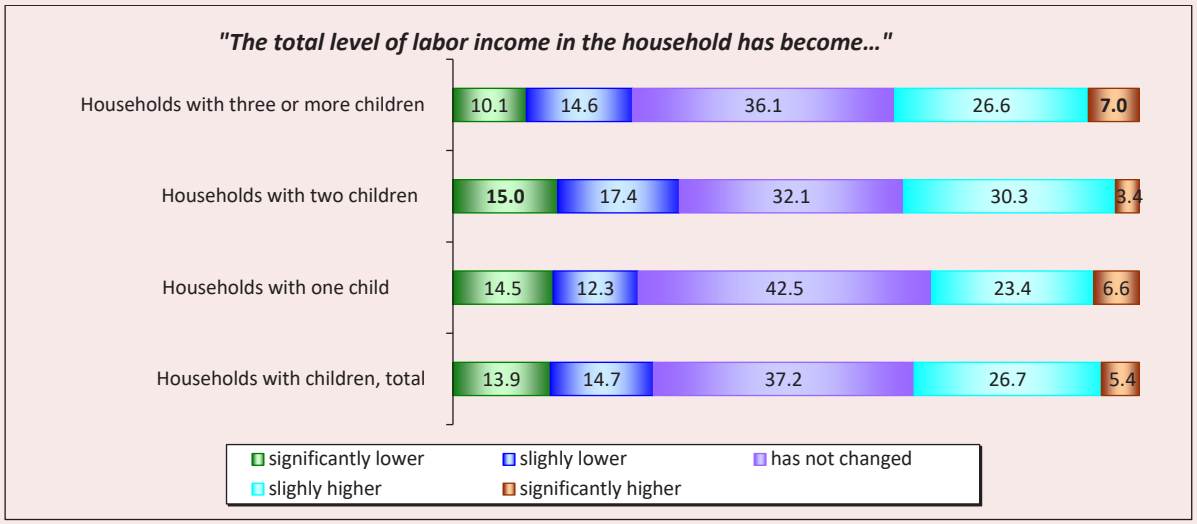
Figure 2. Change in the number of the employed in households with children (February 2022 – summer 2024), % of households of the corresponding type*



*The figure does not show the percentage of those who answered "I don't know".

Source: estimated based on the survey conducted in the summer of 2024.

Figure 3. Change in the total level of income from employment in households with children (February 2022 – summer 2024), % of households of the corresponding type*



*The figure does not show the percentage of those who refused to answer or answered "I don't know".

Source: estimated based on the survey conducted in the summer of 2024.

As a result, the total labor incomes of households have become significantly lower for 13.9% of households, slightly lower for 14.7%, slightly higher for 26.7%, significantly higher for 5.4%, and unchanged for the rest (37.2%) (*Fig. 3*). Among families with one child, the ratio of those with the decreased/increased labor income was, respectively, 26.8/30.0%, among families with two children – 32.4/33.7%, among large families – 24.7/33.6%.

Discussion

The findings indicate that households with children have overcome the initial stage (2022–2024) of a new phase in Russia's development with varying degrees of success. The experience of households was both negative, associated with a decrease in employment security, and positive, expressed in the improvement of the employment situation and increased stability.

The findings of the survey regarding representatives of households with children allow us to make an assumption about the materialization of employment risks during the period under review and their impact on the employment situation of households. The collected data can be interpreted in the context of the results of an earlier study conducted on the basis of an expert survey aimed at identifying significant and relevant employment risks for households with children in the new conditions of Russia's development after 2022 (Odintsova, 2024). Among them, the risks of involvement in non-standard, insecure forms of employment, a decrease in labor income, as well as the risks of "entering" the job market (issues of getting employed) and "exiting" from it (job loss) were identified. As the survey data showed, for some households with children in the period under review, the risks of job loss and/or retirement were relevant and significant. In households, some of the employed lost their jobs (about 7% of households faced these employment risks), retired due to disability (0.6% of households), or stopped working "voluntarily" to care for household members (10.2% of households).

More than a quarter of households with children faced risks of a decrease in their total labor income: 13.9% of households – with a significant decrease, 14.7% – with a slight decrease. This could be the result of a reduction in the number of the employed in the household (13.2% of households), downward labor mobility (4.3%), and/or income decrease experienced by someone among the employed in the household (17.6%).

Some of the households with children were not affected by employment risks during the period under review. On the contrary, the changes were positive: someone from the household has got a job, started his or her own business (about 10.0% of households), has been promoted (10.0% of households), someone's labor income has increased (about a third of households). As a result, the number of the employed in 6.6% of households has increased, and a third of households have increased their total income from employment (slightly – 26.7%, significantly – 5.4%).

In general, an additional analysis showed that 20.6% of households with children went through negative changes in their employment situation during the period under review (they experienced at least one negative change in their employment situation from those listed in Table 2). In contrast, 31.2% of households had positive changes (at least one positive indicator from those listed in Table 2). Also, 8.2% of households had both negative and positive changes.

40.0% of households with children were not affected by any changes related to their employment situation during the period under review. Thus, we can assume that the existing secure (precarious) employment of these households, unlike other social groups, did not develop in 2022–2024, but is prior to this period.

The findings indicate that for some households (about 11%), the level of income from employment allows it to reach the threshold of economic resilience (3.5 living wages per capita or more), even in the case of underachieved household labor potential, experienced insecurity/instability of employment among workers in the household (7.1%). In the majority of households with children (more than 80%), incomes are not sufficient to ensure economic resilience, including with the fulfilled labor potential and secure employment (18.8%).

An additional analysis showed that employment security of households with children is primarily undermined by the level of labor incomes. Given the current level of employment in the household and its quality, income from it does not allow the household to ensure economic resilience. This confirms the need to move to new guidelines in the field of income policy (Rzhanitsyna, 2019; Bobkov, Odintsova, 2024). The level of labor income is a consequence of the involvement of household members in it and the characteristics of its quality other than those connected with income (type, conditions of employment) (Korchagina, Prokofieva, 2023; Auguste et al., 2023). As the findings of the study showed, the second most common criterion leading to a decrease in the security of the household's employment situation is their underachieved labor potential. Problems with the fulfillment of labor potential can be caused by the underachieved labor potential of workers (overqualification, etc.), the presence of people with objective employment restrictions in the household, and insufficient involvement of people without such restrictions in employment. Precarious and unstable employment is more rarely experienced by households with children than the other two reasons for decreased employment security.

The findings complement the accumulated results of other studies focused on the specifics of strategies for family workers' participation in employment (Pishnyak, Nadezhdina, 2020; Chernykh et al., 2023; Cools et al., 2017; Chen et al., 2023), the issues of identifying the quality of

employment and its precarity (Lewchuk et al., 2015; Padrosa et al., 2021), financial situation (Grishina, 2024). Combining several analysis vectors – the level and quality of employment in households and their "outcome" in the form of households' (in)ability to achieve certain standards of living – allowed us to obtain new data arguing the importance of studying the relationship between employment and standards of living. In this study, the labor outcomes of household members are not considered in the context of monetary and non-monetary poverty (Calegari et al., 2024; Pérez-Corral et al., 2024), but at a qualitatively different level: through the lens of security – precarity, delimited by the threshold of economic resilience of households, which is based on a socially acceptable consumer budget (SACB). Consideration of employment security (precarity), integrating different aspects of security, allowed for an appropriate classification of households with children, complementing a multidimensional approach to studying household security (Lain et al., 2020).

The findings of the study lead to the conclusion that it is important to continue research on the employment situation and its quality in households. The directions of further study on employment may include elaboration of strategies for the participation of household members with children in employment, which lead to the security (precarity) of their employment situation. During the study, the implementation of this task was limited by the capabilities of the tools: given the limited length of interviews, it was necessary to collect data not only on the household's employment situation, but also on the household's standard of living and their dynamics.

Conclusion

The study allowed classifying households with children in terms of their employment security measured using the household level of labor potential fulfillment, job security of workers, as well as the labor potential of workers to ensure the economic resilience of households. It was revealed that 3.8% of households with children have secure employment situation, 7.1% – relatively secure situation, 18.8% – partially precarious situation, and 70.3% – precarious situation. In about 30% of households, the security (precarity) of the employment situation was developed as a result of the "accumulation" of risks in the field of employment in the period 2022–2024, while in about 40% of households the current situation developed earlier.

Our findings expand the research field of the quality and standard of living of households with children, the factors in the development of these indicators; contribute to scientific knowledge about the relationship between the level and quality of employment in households and their economic resilience, supplementing it with new data on the features of secure (precarious) employment of different types of households with children; confirm that in order to improve the situation of households with children and increase its security, public policy should not only develop measures of social support for families with children, but also work on promoting employment, improving its quality and real labor income. The findings of the study may be in demand in the implementation of the national project "Family", the Action Strategy for the implementation of family and demographic policy, support for large families in the Russian Federation.

References

Aguilar-Gomez S., Arceo-Gomez E., De la Cruz Toledo E. (2019). Inside the black box of child penalties: Unpaid work and household structure. *SSRN Electronic Journal*. DOI: http://dx.doi.org/10.2139/ssrn.3497089

Auguste D., Roll S., Despard M. (2023). The precarity of self-employment among low- and moderate-income households. *Social Forces*, 101(3), 1081–1115. DOI: https://doi.org/10.1093/sf/soab171

Berniell I., Berniell L., Mata D.D.L., Edo M., Marchionni M. (2023). Motherhood and flexible jobs: Evidence from Latin American countries. *World Development*, 167, 106225. DOI: https://doi.org/10.1016/j.worlddev.2023.106225

Bobkov V.N. (2019a). Improvement of the targeted social support of low-income families with children: Vologda pilot project. *Narodonaselenie=Population*, 22(1), 106–121. DOI: https://doi.org/10.19181/1561-7785-2019-00008 (in Russian).

Bobkov V.N. (2019b). Precarious employment in the Russian Federation: The state and directions of reduction. *Narodonaselenie=Population*, 22(2), 91–104. DOI: https://doi.org/10.19181/1561-7785-2019-00018 (in Russian).

Bobkov V.N., Odintsova E.V. (2024). The impact of wage levels on the quality of employment and economic sustainability of households. *Federalizm=Federalism*, 29(1), 77–95. DOI: https://doi.org/10.21686/2073-1051-2024-1-77-95 (in Russian).

Calegari E., Fabrizi E., Mussida C. (2024). State dependence in material and social deprivation in European single-parent households. *Social Indicators Research*, 172, 481–498. DOI: https://doi.org/10.1007/s11205-024-03317-8

Chen C., Kuo Y.-M., Zhao W. (2023). Family size, labor supply, and job prestige: Evidence from three decennial censuses in China. *China Economic Review*, 80, 101986.

Chernykh E.A., Nazarova U.A., Loktyukhina N.V. (2023). Women with family responsibilities in the Russian labor market: Features of labor behavior and improvement of employment policy. *Zhenshchina v rossiiskom obshchestve=Woman in Russian Society*, 2, 14–36 (in Russian).

Clair A., Reeves A., McKee M., Stuckler D. (2019). Constructing a housing precariousness measure for Europe. *Journal of European Social Policy*, 29(1), 13–28. DOI: https://doi.org/10.1177/0958928718768334

Cools S., Markussen S., Strøm M. (2017). Children and careers: How family size affects parents' labor market outcomes in the long run. *Demography*, 54(5), 1773–1793. DOI: https://doi.org/10.1007/s13524-017-0612-0

De Graaf-Zijl M., Nolan B. (2011). Household joblessness and its impact on poverty and deprivation in Europe. *Journal of European Social Policy*, 21(5), 413–431. DOI: https://doi.org/10.1177/0958928711418854

Debrunner G., Hofer K., Wicki M., Kauer F., Kaufmann D. (2024). Housing precarity in six European and North American cities: Threatened by the loss of a safe, stable, and affordable home. *Journal of the American Planning Association*, 90(4), 610–626. DOI: https://doi.org/10.1080/01944363.2023.2291148

Eberhard J.P., Fernandez J., Lauer C. (2023). Effects of maternity on labor outcomes and employment quality for women in Chile. *Journal of Applied Economics*, 26(1). DOI: https://doi.org/10.1080/15140326.2023.2232965

Grishina E.E. (2024). Financial situation of large families and factors of their income growth. *Finansovyi zhurnal=Financial Journal*, 16(1), 45–60. DOI: https://doi.org/10.31107/2075-1990-2024-1-45-60 (in Russian).

Gulyugina A., Odintsova E. (2024). On the economic sustainability of Russian households at a socially acceptable level. *Stanovnistvo*, 62(2), 267–291. DOI: https://doi.org/10.59954/stnv.646

Korchagina I.I., Prokofieva L.M. (2023). Unemployment of parents – one of the poverty causes in families with children. *Narodonaselenie=Population*, 26(2), 40–51. DOI: https://doi.org/10.19181/population.2023.26.2.4 (in Russian).

Kreshpaj B., Orellana C., Burström B. et al. (2020). What is precarious employment? A systematic review of definitions and operationalizations from quantitative and qualitative studies. *Scandinavian Journal of Work, Environment & Health*, 46(3), 235–247.

Lain D., Airey L., Loretto W., Vickerstaff S. (2020). Older workers and ontological precarity: Between precarious employment, precarious welfare and precarious households. In: Grenier A., Phillipson C., Settersten Jr. (Eds). *Precarity and Ageing: Understanding Insecurity and Risk in Later Life*. Bristol University Press.

Lewchuk W., Laflèche M., Procyk S., Cook Ch., Dyson D., Goldring L. (2015). *The Precarity Penalty: The Impact of Precarious Employment on Individuals, Households and Communities – And What to Do About It*. Toronto: PEPSO, McMaster University, United Way Toronto. Available at: https://pepso.ca/documents/precarity-penalty.pdf

McErlean K., Glass J.L. (2024). How do households fare economically when mothers become their primary financial support? *Journal of Family and Economic Issues*, 45, 395–409. DOI: https://doi.org/10.1007/s10834-023-09922-y

Mussida C., Sciulli D. (2024). Poverty and temporary employment in Italy. *Italian Economic Journal*. DOI: https://doi.org/10.1007/s40797-024-00297-z

Odintsova E.V. (2024). Employment risks for households with children: Expert assessments in the new conditions of Russia's development. *Economic and Social Changes: Facts, Trends, Forecast*, 17(4), 231–246. DOI: 10.15838/esc.2024.4.94.13

Odintsova E.V., Chashchina T.V., Mochalov D.A. (2023). Features of the standard of living and labor situation in households with children and without them. *Economic and Social Changes: Facts, Trends, Forecast*, 16(5), 155–171. DOI: 10.15838/esc.2023.5.89.9

Padrosa E., Bolíbar M., Julià M., Benach J. (2021). Comparing precarious employment across countries: Measurement invariance of the employment precariousness scale for Europe (EPRES-E). *Social Indicators Research*, 154, 893–915. DOI: https://doi.org/10.1007/s11205-020-02539-w

Pérez-Corral A.L., Bastos A., Casaca S.F. (2024). Employment insecurity and material deprivation in families with children in the Post-Great Recession period: An analysis for Spain and Portugal. *Journal of Family and Economic Issues*, 45, 444–457. DOI: https://doi.org/10.1007/s10834-023-09905-z

Pishnyak A.I., Nadezhdina E.V. (2020). Employment of Russian women after childbirth: Incentives and barriers. *The Journal of Social Policy Studies*, 18(2), 221–238. DOI: https://doi.org/10.17323/727-0634-2020-18-2-221-238 (in Russian).

Querejeta M., Bucheli M. (2021). Motherhood penalties: The effect of childbirth on women's employment dynamics in a developing country. *Universidad de La República – Documentos de Trabajo 2021/1*. DOI: https://hdl.handle.net/20.500.12008/26530

Rzhanitsyna L.S. (2019). Standard of economic sustainability of family – a new orientation of income policy. *Narodonaselenie=Population*, 22(1), 122–127. DOI: https://doi.org/10.19181/1561-7785-2019-00009 (in Russian).

Shakhmatova N.V. (2013). Large family's way of life: A sociological aspect of studying. *Izvestiya Saratovskogo universiteta. Novaya seriya. Seriya: Sotsiologiya. Politologiya=Izvestiya of Saratov University. Sociology. Politology*, 13(3), 6–8. DOI: https://doi.org/10.18500/1818-9601-2013-13-3-6-8 (in Russian).

Sinitsa A.L. (2019). The salaries as a factor of the family size of the pedagogical employees in general education. *Nauchnye trudy INP RAN=Scientific Articles – Institute of Economic Forecasting Russian Academy of Sciences*, 415–435. DOI: https://doi.org/10.29003/m828.sp_ief_ras2019/415-435 (in Russian).

Smoleva E.O. (2019). Large families in regions: Mechanisms of exclusion and stereotypes. *Sotsiologicheskii zhurnal=Sociological Journal*, 25(2), 116–137. DOI: https://doi.org/10.19181/socjour.2019.25.2.6389 (in Russian).

Temnitskiy A.L. (2020). The labor productivity of household members in the context of transforming property relations and employment conditions. *Mir Rossii=Universe of Russia*, 29(2), 134–155. DOI: 10.17323/1811-038X-2020-29-2-134-155 (in Russian).

Toshchenko Zh.T. (Ed.). (2022). *Ot prekarnoi zanyatosti k prekarizatsii zhizni. Kollektivnaya monografiya* [From Precarious Employment to Precarious Quality of Life. Collective Monograph]. Moscow: Ves Mir Publishing House. DOI: 10.55604/9785777708861

Information about the Author

Yelena V. Odintsova – Candidate of Sciences (Economics), head of scientific project, Institute of Economics, Russian Academy of Sciences (32, Nakhimovsky Avenue, Moscow, 117218, Russian Federation; e-mail: odin_ev@mail.ru)

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Current State of Food Security in the Regions of the European North of Russia

Svetlana S. PATRAKOVA
Vologda Research Center, Russian Academy of Sciences
Vologda, Russian Federation
e-mail: sspatrakova@bk.ru
ORCID: 0000-0002-4834-3083; ResearcherID: B-5054-2019

Ekaterina D. KOPYTOVA
Vologda Research Center, Russian Academy of Sciences
Vologda, Russian Federation
e-mail: ekaterina-razgylina@yandex.ru
ORCID: 0000-0001-6406-3148; ResearcherID: I-8190-2016

Abstract. Ensuring food security is one of Russia's strategically important tasks. In the context of increasing sanction pressure and the emergence of numerous external financial, regulatory, and other constraints on production and logistics in the food sector, this task becomes particularly significant, involving almost all regions of both the Chernozem and non-Chernozem zones of the country. The aim of the article is to assess the food security of the regions of the European North of Russia and to substantiate directions for its strengthening based on the activation of economic and non-economic factors. The information base consists of scholarly works and regulatory acts of the Russian Federation on food security, as well as data from Rosstat. To achieve this goal, we propose a methodological approach to assessing food security, based on calculating indicators of economic and physical accessibility of food, which allows for ranking the regions. As a result of its testing, it was found that in 2021–2023, the leaders in terms of food security among the regions of the European North were the Murmansk and Arkhangelsk regions, which is due to

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the high level of monetary income of the population and the action of Engel's law, as well as the conformity of the diet structure to rational norms. It was revealed that Vologda Region and the Nenets Autonomous Area had fundamentally different regional positions in terms of economic and physical accessibility of food. We put forward ways to strengthen the food security of the regions based on the use of economic and non-economic factors. The novelty of the research lies in establishing the relationship between economic and physical accessibility of food in the context of ensuring food security at the regional level; for the northern territories of Russia, high economic accessibility is a mechanism that, to a certain extent, offsets the low level of physical accessibility due to unfavorable natural and climatic conditions for economic activity.

Key words: food security, physical and economic accessibility of food, agriculture, region, European North of Russia.

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Introduction

Food security is one of the most important components of the national security of Russia (as well as any other country in the world), a necessary condition for maintaining health and ensuring a high quality of life. The relevance of this issue is noted in a significant part of the strategic planning documents at the federal level, in particular, in the National Security Strategy of the Russian Federation (approved by Presidential Decree 400, dated July 2, 2021), the Strategy of Scientific and Technological Development of the Russian Federation (approved by Presidential Decree 145, dated February 28, 2024). The key document regulating the solution of this issue, namely the Food Security Doctrine of the Russian Federation (approved by Presidential Decree 20, dated January 21, 2020), states that "food security is one of the main directions of ensuring the national security of the country in the long term, a factor in preserving its statehood and sovereignty, an essential component of socio-economic policy, as well as a prerequisite for the implementation of a strategic national priority – improving the quality of life of Russian citizens by guaranteeing high standards of living".

The problem of ensuring food security has become more acute in modern conditions of increasing sanctions pressure on Russia. One of the priorities of the country's government authorities has become the intensive development of Russian agriculture by supporting agricultural producers, improving the quality of products, scientific and technological development of the industry and the development of Russian breeding and seed production, etc. At the same time, the focus is on the industry's development not only in the chernozem, but also in the non-chernozem regions of Russia, which conditionally include 1/3 of the constituent entities of the Russian Federation, occupying 14% of its territory and producing more than 20% of the total agricultural output. Due to the considerable extent of the Non-Chernozem region from West to East and from North to South, a wide variety of climatic conditions of agriculture is observed in this zone. For example, the Arkhangelsk, Vologda and Murmansk regions, the Komi Republics and the Republics of Karelia, and the Nenets Autonomous Area, which are part of the European North of Russia (ENR) macro region, are located in three climatic zones at once – Arctic, subarctic, and temperate.

The strategic importance of ensuring food security is noted not only by practice, but also by science. For instance, Doctor of Sciences (Economics) A.G. Semkin (Semkin, Voronin, 2023; Semkin, Zadvorneva, 2022) in his writings sees one of the main tasks of any state to provide the country with high-quality and affordable food, an appropriate level of food security, which should consist in the stability of agricultural food supply not only for domestic consumption, but also in the formation of the necessary reserves in the food and social reserve funds. At the same time, one cannot but agree with the opinion of scientists (see, for example, the works: Pankova, Tsypin, Popov, 2019; Kosmin, Kuznetsov, 2023) that the development of directions and mechanisms for strengthening food security should be based on the results of a scientifically based assessment of its current level.

The aim of the article is to assess the food security of the regions of the European North of Russia and to substantiate the directions of its strengthening based on the activation of economic and non-economic factors.

The hypothesis of the study is based on the assumption that at the regional level, food security is ensured by both physical and economic accessibility of food; at the same time, in the northern regions of the country, a lower level of physical accessibility due to difficult natural and climatic conditions for economic activity corresponds to high economic accessibility.

We set the following tasks to achieve the aim and test the hypothesis:

1) to identify key controversial, "bottlenecks" in assessing food security based on a critical analysis of the scientific literature;

2) to develop and test a methodological approach to food safety assessment based on materials from the regions of the European North of Russia;

3) to substantiate promising areas for improving food security based on the activation of economic and non-economic factors.

Theoretical and methodological foundations of food security assessment

The problem of providing the population with food products of the required quantity, range and quality was solved centrally in the early stages of the formation of states, and only later the scientific community began joining its solution. International organizations such as the FAO[1], IFAD, UNICEF, WFP, WHO[2], and others conduct research in terms of analyzing trends, factors that contribute to or hinder food security in states, as well as searching for food supply opportunities for peoples of different countries.

For the first time, the term "food security" was used at the World Food Conference in Rome in 1974, organized by the Food and Agriculture Organization of the United Nations (FAO), and was formalized in the Rome Declaration on World Food Security on November 13, 1996, according to which food security is a situation in which all people at any given time have physical and economic access to sufficient safe food necessary for an active and healthy life[3]. The emergence of the concept was due to a global contradiction that developed in those years when the absolute overproduction of food in developed countries was accompanied by mass starvation and malnutrition of the population in a number of third world countries. For instance, according to the FAO, from 0.8 to more than 0.9 billion people on the planet are hungry, and from 2.7 to 3.1 billion people are unable to eat properly[4].

[1] Food Security Indicators. Statistics. Food and Agriculture Organization of the United Nations. 2017. Available at: http://www.fao.org/economic/ess/ess-fs/ess-fadata/en/#.VkhbzXbhDIU (accessed: 01.11.2024).

[2] FAO – Food and Agriculture of the United Nations; IFAD – International Fund for Agricultural Development; UNICEF – United Nations International Children's Emergency Fund; WFP – World Food Program; WHO – World Health Organization.

[3] Rome Declaration on World Food Security. World Food Summit Plan of Action. Available at: https://www.fao.org/4/w3613e/w3613e00.htm (accessed:20.04.2025).

[4] The UN Report: In 2021, the number of hungry people in the world reached 828 million (07.06.2022). FAO. Available at: https://www.fao.org/newsroom/detail/un-report- global-hunger-SOFI-2022-FAO/ru (accessed: 20.04.2025).

Scientists point out various reasons for this situation: from natural and climatic problems to the COVID-19 pandemic effects[5] (Shchetinina, 2023).

The international sanctions imposed on the Russian Federation, in terms of a ban on certain types of agro-industrial complex products, restrictions on international transportation, insurance, financial transactions and other measures, pose a serious threat to the effective functioning of the domestic agro-food complex. The current situation and the available historical experience indicate that the bulk of food and agricultural raw materials for them should be produced domestically (Shchetinina, 2023). The standards for the own production of the most important food products are defined in the Food Security Doctrine of the Russian Federation, approved by Presidential Decree 20, dated January 21, 2020. The document presents food security as the state of socio-economic development of the country, which ensures the food independence of the Russian Federation, guarantees the physical and economic accessibility for every citizen of the country of food products that meet mandatory requirements, in volumes not less than rational standards of food consumption necessary for an active and healthy lifestyle[6].

In this regard, since food security is one of the most important strategic tasks of preserving Russia's national security, the analysis and assessment of its provision in modern conditions and constraints is becoming particularly relevant.

Issues related to the assessment of food security at the regional level are among the most controversial among representatives of the scientific community and practitioners of public administration. This is manifested in a number of aspects, presented below.

1. *Debate about the expediency of assessing food independenc*e as one of the components of food security, since regions objectively cannot produce all basic foodstuffs themselves (based on natural and climatic conditions, social division of labor, and other reasons).

This aspect is considered in some detail and using specific examples in the work of V.V. Tyutyunik, Candidate of Sciences (History), an employee of the Amur Institute of Agroeconomics and Business, where he explicitly states: "The regional economy cannot and should not be autonomous by definition, since it is part of a single economic complex of the country, within which its own system of territorial division has developed. labor. The production of industrial and food products is geographically distributed in accordance with the availability of the best conditions for their production in a particular region..." (Tyutyunik, 2016). A.P. Yats, who served as Minister of Agriculture of the Khabarovsk Territory in 2012–2015, has a similar position: "Every constituent entity of the Russian Federation cannot and should not fully provide itself with food. According to the Doctrine approved by the President, the Khabarovsk Territory's task is to contribute to the overall consumer basket of the Russian Federation. What is produced in the region is aimed at meeting the needs of every resident of the country"[7]. It is worth noting that we hold a similar point of view.

However, some works in the Russian scientific literature assess independence at the regional level. At the same time, some papers consider the region

[5] The state of food security and nutrition in the world. Repurposing food and agricultural policies to make healthy diets more affordable. Rome: Food Agriculture Organizations of the United Nations, IFAD, UNICEF, WFP, WHO, 2022. 260 p. DOI: 10.4060/cc0639en; The future of food and agriculture – drivers and triggers for transformation. The Future of Food and Agriculture. 2023. No. 3. 68 p. DOI: 10.4060/cc0959en

[6] The Food Security Doctrine of the Russian Federation: Approved by Presidential Decree 20, dated January 21, 2020. Available at: https://base.garant.ru/73438425/ (accessed: 20.04.2025).

[7] The Khabarovsk Territory's food security doctrine will become a long-term one. PrimaMedia. Available at: https://primamedia.ru/news/280090/ (accessed: 01.11.2024).

from the point of view of administrative division as a RF constituent entity, others – from the point of view of the territorial approach developed in the works of academician A.G. Granberg, as a certain territory that differs from others in a number of ways and has some integrity, interconnectedness of its constituent elements. For example, Candidate of Sciences (Economics) E.N. Antamoshkina suggests comparing the current production level of certain types of agricultural products with the required amount of food determined in accordance with rational consumption standards to analyze the level of food independence of the region (Southern Federal District) (Antamoshkina, 2015). Head of the Siberian Research Institute of Agricultural Economics, Siberian Federal Scientific Centre of Agro-BioTechnologies of RAS, RAS Academician P.M. Pershukevich evaluates the independence of the Siberian Federal District based on a comparison of the cost of officially approved consumption standards for recommended foods included in the consumer basket and the actual average per capita expenditure of the population on food purchases (Pershukevich, 2018). The scientist justifies the need for such an assessment by the fact that, due to the territorial remoteness of most producers of cheap agricultural products, the agro-industrial complex of the Siberian regions is largely based on the territorial division of labor within the district. The work of authors, Doctor of Sciences (Economics) I.V. Mitrofanova, Doctor of Sciences (Economics) S.G. Pyankova, Candidate of Sciences (Economics) O.T. Ergunova, uses self-sufficiency coefficients (covering consumption rates for the region with actual production) and food import coverage (covering imports with exports) to assess independence (Mitrofanova et al., 2020).

2. *Debate about the choice of methodological approaches and specific indicators that charac*terize the economic availability of food.

According to the Food Security Doctrine of the Russian Federation (section "General provisions"), the economic availability of food is "the opportunity to purchase food products of proper quality at current prices, in volumes and assortment that meet the recommended rational consumption standards". However, it is defined as the ratio of the actual consumption of basic foodstuffs per capita to rational consumption standards that meet the requirements of a healthy diet, and, accordingly, does not directly take into account the financial possibilities of purchasing food by the population (section of the Doctrine "Indicators of food security and indicators of their assessment"). In this regard, the scientific community has spread as indicators (indicators) of economic accessibility:

A) The Engel coefficient, which represents the share of household spending on food in total consumer spending[8]. At the same time, we should understand that the high proportion of food costs in their total volume potentially forces the population, first, to limit their nutrition in quantitative or qualitative terms, which can negatively affect their health, and second, to limit consumption of other goods and services, including socially and economically significant ones (additional education, leisure, etc.) (Gumerov, 2020). The generally accepted limits of the Engel coefficient are as follows: 20% or less – the population belongs to the category of affluent, affluent; 20–30% – well-off; 30–40% – relatively well-off; 40–50% – meeting the basic needs of the population; 50–60% – the presence of some problems in meeting the basic needs of the population; 60% and above –

[8] The coefficient as a whole follows from the Engel's law, according to which, as family income increases, the percentage of food expenses decreases, although the total amount of food expenses increases. It is worth noting that the structural shift in consumption from food to non-food products and services as household income increases is confirmed by studies of household consumption patterns in many countries, including Russia, China, Africa, Europe, etc. Source: (Ovcharova, Popova, 2013); Ritchie H. Engel's Law: Richer people spend more money on food, but it makes up a smaller share of their income. (2023). Our World in Data. Available at: https://ourworldindata.org/engels-law-food-spending (accessed: 01.11.2024).

the presence of serious problems meeting the basic needs of the population (Zhiltsova, 2017[9]).

It is worth saying that a similar indicator – the ratio of food costs to the total costs of all types of goods and services – is used in the Concept of Improving the Food Security of the CIS Member States[10], used in the assessment of the economic accessibility of food by the Economist magazine (Borodin, 2018). The indicator of the share of food expenditures in the budget of poor families is used as one of the indicators of the economic availability of food in accordance with the methodological approach of the Food and Agriculture Organization of the United Nations (FAO) (Borodin, 2018).

Among the authors who use or propose to use the Engel coefficient (the share of food expenses in total expenses) to assess economic accessibility are K.G. Borodin, N.I. Shagaida and V.Ya. Uzun, and others (Borodin, 2018; Shagaida, Uzun, 2015).

B) The poverty rate, which reflects the share of the population with monetary incomes below the minimum wage in the total population, the Gini index, which characterizes the degree of unevenness of the distribution of the population by income level, and the purchasing power coefficient of the income of the population, reflecting the ratio of the minimum wage to the average per capita income (see, for example, work: Uskova et al., 2014). However, in our opinion, these indicators characterize the standard of living as a whole, only partially and indirectly making it possible to assess the economic availability of food to the population.

C) Gross domestic product per capita, the index of domestic food prices, the extent of malnutrition, the extent of food shortages, *the extent of food shortages, the share of food expenditures in the budget of poor families*, as indicators reflecting the economic availability of food in accordance with the FAO methodology. We should note that some of these indicators are not monitored in Russia (Borodin, 2018).

D) The share of the population living below the global poverty line, gross domestic product per capita at purchasing power parity, *food consumption as a share of household spending*, tariffs on agricultural imports, availability of food safety programs, access to financing for farmers (in the context of the methodology of the Economist Intelligence Unit[11]). Some of these indicators, as well as those presented above, are not monitored in Russia (Borodin, 2018).

3. *Debate about the indicators characterizing the physical accessibility of food.*

According to the Food Security Doctrine of the Russian Federation (section "General provisions"), the physical availability of food is "the level of development of the distribution infrastructure, which in all localities of the country provides the opportunity for residents to purchase food products or organize catering in volumes and assortment that meet the recommended rational consumption standards". It is defined as the percentage of the actual provision of the population with various types of retail facilities for the sale of food products and facilities for the sale of catering products to the standards established by the Government of the Russian Federation (section of the Doctrine "Indicators of food security and indicators of their assessment"). However, assessing physical accessibility from the perspective of this approach has a number of difficulties related to the difficulties

[9] The Engel coefficient in China is approaching the standards of the wealthy population. (2017). Available at: http://russian.people.com.cn/n3/2017/1016/c31518-9280305.html (accessed: 01.11.2024).

[10] The Concept of Improving the Food Security of the CIS Member States. Website of the Eurasian Center for Food Security of Lomonosov Moscow State University. Available at: https://ecfs.msu.ru/Low_documents/International/%D0%A1%D0%9D%D0%93.pdf?ysclid=m3a4nboc57199045506 (accessed: 01.11.2024).

[11] Global Food Security Index 2017. Measuring Food Security and the Impact of Resource Risks. The Economist Intelligence Unit. Available at: https://www.eiu.com/public/topical_report.aspx?campaignid=gfsi2017 (accessed: 01.11.2024).

of statistical accounting and assessing the level of development of the commodity distribution infrastructure[12], the lack of a direct reference in the Doctrine to the standards established in the Russian Federation[13], etc.

The scientific literature often uses the percentage ratio of the nutritional structure in terms of volume or caloric content of the main types of products to the rational norms of their consumption among the indicators of physical availability of food. It is the consumption of food at the level of rational norms and above that indicates that the population physically had access to food (at the expense of all possible sources of financing (personal funds; government subsidies for food, etc.) and the use of all possible types of commodity distribution infrastructure of the food market (fixed and mobile retail facilities, public catering; dairy kitchens to provide special meals for families with children, as well as pregnant and lactating women; northern delivery, etc.). For example, the work of A.V. Minenko uses the following indicators to assess the physical accessibility of food for the population: indices of the volume of food resources and the volume of own food production, *the actual and regulatory levels of food supply*, the level of stocks, as well as *the physical accessibility level* as the ratio of the volume of food resources of the territory to their required volume, determined in accordance with rational norms and population size (Minenko, 2018). A.A. Kaigorodtsev evaluates the level of physical accessibility by meeting the dietary requirements for caloric content, balance of fats, proteins and carbohydrates (Kaigorodtsev, 2021).

In addition to questions regarding food independence, economic and physical accessibility of food, the scientific literature raises the discussion that the Food Security Doctrine of the Russian Federation is insufficiently focused on improving the level of technological development in the food sector (Abanina, Olifirenko, 2025) and food quality assessment (Sannikova, Prikhod'ko, 2022), and also has other the shortcomings.

Thus, the conducted review showed that the problems of assessing food security at the regional level of the Russian Federation are very controversial, especially with regard to indicators of economic and physical accessibility of food. At the same time, the scientific literature often uses indicators that differ from those proposed by strategic planning documents, in particular, the Food Security Doctrine. This is due to a number of reasons, including the imperfection of statistical observation and methodological approaches to calculating indicators fixed by regulatory legal acts; the need for scientists to conduct a deeper and more comprehensive assessment of food security, etc. However, it is precisely this approach, based on the constant scientific search for alternative indicators, new methods of their processing and aggregation, and application to territories at different levels of the hierarchy (local, regional, macroregional, and national) that can ultimately increase the effectiveness of government policy in the field of food security.

[12] For instance, N.I. Shagaida notes the ambiguity of the percentage of the actual provision of the population with different types of retail facilities for the sale of food products and facilities for the sale of catering products to the standards established by the Government of the Russian Federation. The indicator itself and its dynamics are difficult to interpret. For example, areas can grow, but only at the expense of urban settlements. Source: Komrakov A. (2019). Food security will be assessed by the availability of food. Available at: https://www.ng.ru/economics/2019-03-11/1_7527_food.html (accessed: 01.11.2024).

[13] For example: On the Fundamentals of State Regulation of Trading Activities in the Russian Federation: Federal Law 381-FZ, dated December 28, 2009 (as amended on 01.03.2025). Available at: https://base.garant.ru/12171992/ (accessed: 01.11.2024); On Approval of the Rules for the Establishment by the constituent entities of the Russian Federation of Standards for the minimum provision of the population with the Area of Retail facilities and the Methodology for calculating Standards for the minimum provision of the population with the area of Retail facilities, as well as on the Invalidation of Certain Acts of the Government of the Russian Federation: Government Resolution 704, dated 05.05.2023 (as amended on 06.07.2024). Available at: https://www.garant.ru/products/ipo/prime/doc/406744886/ (accessed: 01.11.2024).

Materials and methods

The methodological approach to assessing food security at the regional level is three-stage, based on the calculation of indicators of economic and physical accessibility of food as its key components and the use of official statistics, allows ranking regions and determining the main directions of its strengthening.

At the first stage, the economic accessibility of food is assessed on the basis of the Engel coefficient, the closest analogue of which in Russian official statistics is the indicator "the share of food costs in total household consumer spending" (published by Rosstat in the collection "Social status and standard of living of the Russian population").

At the second stage, an assessment of the physical availability of food is carried out based on an analysis of the percentage of the population's nutrition structure by main types of products to the rational norms of their consumption specified in the Order of the Ministry of Health of the Russian Federation 614, dated August 19, 2016 (as amended on December 30, 2022) "On approval of recommendations on rational norms of food consumption that meet modern requirements of healthy nutrition". This indicator is calculated on the basis of Rosstat data published, among other things, in the collection "Social status and standard of living of the Russian population".

At the third stage, regions are ranked based on the ranks assigned to the regions according to the levels of economic and physical accessibility of food over an average three–year period (due to the fact that the assessment for one year may give incorrect results due to the high degree of dependence of the key branch of agro-industrial complex – agriculture – on natural and climatic conditions; taking into account data for several years makes it possible to smooth emissions from "lean" or, conversely, "abnormally productive" years). The time period covered 2021–2023 in the framework of our study.

The information base of the calculations is made up of open data from the Federal State Statistics Service, as well as the freely available legislative base of the Russian Federation and its constituent entities, which makes the methodological approach fairly simple to replicate and use by both researchers and representatives of government authorities.

Food security assessment in the regions of the European North of Russia

An analysis of the dynamics of the share of household spending on food in total consumer spending in 1990–2023 allowed making a number of important observations and conclusions related to the problems of ensuring economic accessibility of food in the ENR regions (*Tab. 1*).

First, the dynamics of this indicator during 1990–2023 did not have a steady upward or downward trend at both the national and macro-regional levels. As a result, in households in one region of the European North of Russia – the Vologda Region – in 2022, the share of food costs was even higher than in the "pre-crisis" [14] 1990 (by 4.3 p.p.).

In the three ENR regions in 2020–2023 (the period of the coronavirus pandemic spread and the introduction of appropriate restrictions aimed at reducing the rate and scale of its spread, increasing external sanctions pressure and related disruption of logistics supply chains of food products, as well as materials, equipment, spare parts, and components used in agricultural production), the share of food expenses increased by 0.1–2.0 p.p. At the same time, by the end of 2023, in five of the six regions of the European North (except for the Vologda Region), the share of food costs was lower than the average for the Northwestern Federal District (32.5%) and Russia (31.5%).

Second, according to the generally accepted gradation of the Engel coefficient, households in the Nenets Autonomous Area and the Murmansk

[14] This refers to the transformational crisis associated with the transition from a planned economic model to a market one in 1991.

Table 1. Share of food and non-alcoholic beverages in household consumer spending, %

Territory	1990	1995	2000	2002	2005	2010	2015	2020	2021	2022	2023	2023 to 1990, +/- p.p.	2023 to 2000, +/- p.p.	2023 to 2020 +/- p.p.
RF	**35.5**	**52.0**	**49.4**	**44.1**	**33.2**	**29.6**	**32.1**	**33.2**	**32.2**	**32.9**	**31.5**	**-4**	**-17.9**	**-1.7**
NWFD	N.d.	N.d.	**54.1**	**46.5**	**33.1**	**29.8**	**31.7**	**31.4**	**31.5**	**31.0**	**32.5**	–	**-21.6**	**1.1**
Nenets Autonomous Area (NAA)	N.d.	N.d.	41.5	40.3	31.0	24.3	32.6	31.5	26.5	27.1	25.3	–	-16.2	-6.2
Murmansk Region	32.9	48.8	48.6	40.4	31.0	25.1	28.0	26.0	24.6	26.9	26.4	-6.5	-22.2	0.4
Republic of Karelia	35.0	49.8	53.0	44.0	37.9	31.7	34.2	32.0	34.4	32.0	27.8	-7.2	-25.2	-4.2
Arkhangelsk Region (with NAA)	35.2	53.9	50.2	38.9	31.4	28.5	30.5	27.5	30.7	30.1	29.1	-6.1	-21.1	1.6
Arkhangelsk Region (without NAA)	N.d.	N.d.	N.d.	N.d.	N.d.	N.d.	30.4	27.3	31.0	30.2	29.3	–	–	2.0
Komi Republic	31.4	48.6	49.4	40.8	28.4	32.5	33.1	32.8	31.4	32.6	30.6	-0.8	-18.8	-2.2
Vologda Region	31.3	51.7	49.3	46.0	37.9	35.4	37.1	35.5	36.3	37.1	35.6	4.3	-13.7	0.1

Note: data for 1990, 1995, and 2000 are provided for the purchase of food products (according to Rosstat data). For data from 2002–2023, Rosstat indicated that meals outside the home, i.e. in restaurants, cafes and other catering establishments, were not taken into account due to their statistical accounting along with the costs of hotel services. The RF constituent entities, which are part of the European North of Russia, are ranked in ascending order of the share of food costs in 2023.
Source: Rosstat data (collection "Social status and standard of living of the Russian population", collection "Regions of Russia. Socio-economic indicators", bulletin "Household food consumption").

Region, the Republic of Karelia and the Arkhangelsk Region can be assessed as fairly well-off by the end of 2023, having no problems with the purchase of food (the share of food costs ranges from 20 to 30%). Moreover, the first two regions have held this position since 2021. Households in the Komi Republic and the Vologda Region can be assessed as relatively well-off (the share of food costs ranges from 30 to 40%).

At the same time, the ENR regions' ranking presents the constituent entities in terms of the share of food in household consumer spending on average in 2021–2023 as follows: 1st place is for the Murmansk Region (26.0%), 2nd place – the Nenets Autonomous Area (26.3%), 3rd place – the Arkhangelsk Region without NAA (30.2%), 4th place – the Republic of Karelia (31.4%), 5th place – the Komi Republic (31.5%), 6th place – the Vologda Region (36.3%; 10.0 p.p. more than the leader of the rating).

The separation of the Murmansk Region and the Nenets Autonomous Area by 3 p.p. or more from the rest of the ENR is to some extent due to higher levels of monetary incomes of the population[15] and the effect of Engel's law. The Vologda Region is lagging behind with lower incomes of the population[16], despite the fact that the cost of food for a significant part of food groups is at the level of the above-

[15] In particular, according to Rosstat data, the average per capita monetary income of the population in the NAA was 104.1 thousand rubles in 2022 (1st place among the NWFD regions), in the Murmansk Region – 62.6 thousand rubles (3rd place among the NWFD regions); the median per capita monetary income in the Nenets Autonomous Area. In 2022, it amounted to 71.5 thousand rubles (1st place among the NWFD regions), in the Murmansk Region – 48.4 thousand rubles (3rd place among the NWFD regions). The fact that in these regions the share of food costs is lower, in our opinion, may just be an illustration of the effect of Engel's law.

[16] According to Rosstat, the average per capita monetary income of the population in the Vologda Region was 35.4 thousand rubles in 2022 (8th place among the NWFD regions), the median per capita monetary income in 2022 was 29.4 thousand rubles (8th place among the NWFD regions).

Table 2. Cost of meals for the main food groups in 2023, rubles on average per consumer per month

Territory	Bread and bread products	Potato	Vegetables and melons	Fruits and berries	Meat and meat products	Milk and dairy products	Eggs	Fish and fish products	Sugar and confectionery products	Vegetable oil and other fats	Food salt
RF	**1290.6**	**202.6**	**1037.1**	**811.3**	**2857.8**	**1594.1**	**171.5**	**761.0**	**699.8**	**119.0**	**8.6**
NWFD	**1462.3**	**196.8**	**1087.5**	**827.1**	**2894.9**	**1787.3**	**159.4**	**687.9**	**595.2**	**95.3**	**8.6**
Republic of Karelia	1231.5	200.5	1065.4	853.1	2774.8	1613.5	187.1	629.3	596.9	121.9	10.2
Komi Republic	1333.3	195.5	1027.6	905.9	2456.8	1625.1	159.2	731.6	639.7	88.8	5.8
Arkhangelsk Region (with NAA)	1581.1	232.7	1094.3	864.5	2541.9	1757.4	164.1	707.9	809.5	122.0	8.5
Arkhangelsk Region (without NAA)	1597.0	232.7	1090.9	851.5	2540.8	1752.7	162.4	679.2	817.9	122.2	8.4
Nenets Autonomous Area	1183.7	233.8	1179.5	1190.2	2570.1	1874.3	207.5	1425.8	598.4	117.4	12.2
Vologda Region	1644.8	209.6	1127.2	886.3	2888.6	1925.1	193.4	707.6	766.2	114.8	4.9
Murmansk Region	1499.9	258.7	1264.9	1092.3	3075.2	1935.8	178.3	1034.4	673.1	94.0	7.6

Source: Rosstat data (bulletin “Household food consumption”).

mentioned Arctic regions, and in some cases exceeds it. For instance, if the cost of products of the “bread and bread products” category averaged 1,645 rubles per consumer in the Vologda Region in 2023, then in the Nenets Autonomous Area, it was 1,184 rubles. (28% less; *Tab. 2*), in the Murmansk Region – 1,450 rubles. (12% less).

We should mention that the Vologda Region has the highest share of households among the ENR regions that spend more than half of consumer spending on food purchases (in 2023 – 32.5%, which is 9.9 and 8.5 p.p. higher than the average for the Northwestern Federal District and Russia, respectively; *Tab. 3*).

Table 3. Distribution of households by the share of food purchase expenses in consumer spending in 2023, %

Territory	Share of expenses, %							
	Up to 20.0	20.1–30.0	30.1–40.0	40.1–50.0	50.1 and more	including		
						50.1–60.0	60.1–70.0	more than 70.0
RF	**12.0**	**18.7**	**23.0**	**22.2**	**24.0**	**15.2**	**6.7**	**2.1**
NWFD	**11.7**	**20.1**	**23.8**	**21.8**	**22.6**	**15.1**	**5.9**	**1.6**
Nenets Autonomous Area	15.4	30.6	32.4	16.3	5.3	4.0	0.9	0.4
Murmansk Region	19.5	26.9	25.8	17.5	10.3	7.8	2.2	0.3
Republic of Karelia	19.3	18.2	21.6	23.6	17.4	10.9	4.6	1.9
Komi Republic	11.3	18.8	26.9	22.8	20.3	11.7	6.4	2.2
Arkhangelsk Region (with NAA)	15.9	18.9	22.5	21.5	21.2	14.6	5.2	1.4
Arkhangelsk Region (without NAA)	16.0	18.5	22.2	21.7	21.8	15.0	5.4	1.4
Vologda Region	7.3	13.4	24.1	22.8	32.5	17.2	10.5	4.8

Note: the RF constituent entities, which are part of the European North of Russia, are ranked in ascending order of the share of households spending 50.1% or more on food purchases.
Source: Rosstat data (bulletin “Household food consumption”).

Table 4. Share of food purchase expenses* in the total volume of consumer spending by 20% of the Vologda Region population groups, depending on the level of per capita disposable resources in 2023, %

Household type	20% of the population					Difference between the cost shares I and V groups, +/- p.p.
	I**	II	III	IV	V***	
All households	50.1	46.6	41.9	38.6	27.8	+22.3
Households in urban areas	48.2	45.3	41.6	36.8	26.7	+21.5
Households in rural areas	54.0	50.0	42.8	42.4	37.7	+16.7

* – including meals outside the home; ** – the least affluent population; *** – the most affluent population.
Source: data from the Vologdastat based on the materials of a sample survey of household budgets ("Statistical Yearbook of the Vologda Region. 2023").

At the same time, the largest share of food purchase expenses in the total volume of consumer spending is typical for the least affluent population. For example, it was 50.1%, in the Vologda Region as a whole in 2023, which is 22.3 p.p. higher than the share of food expenses borne by the wealthiest residents (*Tab. 4*). In urban areas, the difference in the share of expenses of the least and most affluent population was 21.5 p.p. (48.2 versus 26.7%), in rural areas – 16.7 percentage points (54.0 versus 37.7%). A similar situation is observed in other ENR regions. For example, in the Nenets Autonomous Area, the gap in the share of food purchase costs between the least and most affluent populations is 20.1 p.p. (37.6 versus 17.5%). This directly indicates the greater vulnerability of the low-income population regarding the economic availability of food.

Analysis of the percentage ratio of the population's nutrition structure by main types of products to the rational norms of their consumption in natural weight in 1990–2023 (*Tab. 5*) allows making a number of important observations and conclusions related to the issue of ensuring physical accessibility of food in the ENR regions.

First, the consumption of bread and bread products (by 0.1–31.3%), potatoes (by 37.9–49.8%), vegetables and melons (by 21-42%), fruits and berries (by 18.4–32.8%) was below the rational standards in all ENR regions in 2023. Consumption of fish and fish products – in all regions except the Nenets Autonomous Area (by 19.7–33.3%; autonomous Area – 144.8%), milk and dairy products – in all regions except the Vologda Region (by 13.4–16.6%; the Region – 104.6%), eggs – in all regions except Vologda Region and the Republic of Karelia (by 1.2–11%; the Region – 105.5%, the Republic – 106.7%). In turn, the consumption of meat and meat products was at a level above the rational norms (by 20.5–40.2%) in all ENR regions with the exception of the Nenets Autonomous Area (98.8% of the norms).

We should say that in almost all ENR regions, consumption of bread and bread products, potato, milk and dairy products, as well as eggs has decreased since 1990. The decrease in the consumption of bread products is generally positively assessed by most scientists and specialized specialists as a shift towards a healthy diet (see, for example: Baturin et al., 2020[17]), while eggs and dairy products, which are sources of proteins, fats, and a complex of useful substances, on the contrary, negatively.

[17] "Food trends are laid in the family": 15 questions about the nutrition of Russians. Available at: https://journal.tinkoff.ru/eda-talk/ (accessed: 01.11.2024).

Table 5. Structure of population's nutrition by food groups, % of the rational consumption standards

Territory	1990	2000	2010	2020	2021	2022	2023	2023 to 1990, +/- p.p.	2023 to 2020, +/- p.p	2023 to 2022, +/- p.p
Milk and dairy products										
RF	**119.9**	**66.8**	**81.5**	**84.3**	**82.2**	**81.9**	**81.0**	**-38.9**	**-3.3**	**-0,9**
NWFD	**127.3**	**62.1**	**92.2**	**93.2**	**89.7**	**89.0**	**86.2**	**-41.1**	**-7**	**-2,8**
Vologda Region	132.3	73.0	86.7	108.4	105.4	108.4	104.6	-27.7	-3.8	-3,8
Arkhangelsk Region (without NAA)	N.d.	N.d.	N.d.	82.4	84.6	88.9	88.4	–	6	-0,5
Arkhangelsk Region (with NAA)	112.4	37.3	77.5	83.1	84.5	88.6	88.3	-24.1	5.2	-0,3
Murmansk Region	124.5	39.4	88.2	87.4	83.6	85.3	86.6	-37.9	-0.8	1,3
Nenets Autonomous Area (NAA)	N.d.	N.d.	70.7	99.1	82.2	81.6	85.3	–	-13.8	3,7
Komi Republic	123.0	65.5	91.6	86.3	86.7	84.6	84.8	-38.2	-1.5	0,2
Republic of Karelia	115.8	59.9	82.0	92.8	85.8	89.0	83.4	-32.4	-9.4	-5,6
Meat and meat products										
RF	**101.4**	**60.8**	**106.8**	**124.7**	**126.7**	**127.4**	**132.4**	**31**	**7.7**	**5**
NWFD	**101.4**	**55.4**	**116.8**	**123.5**	**125.6**	**127.5**	**133.4**	**32**	**9.9**	**5,9**
Vologda Region	104.1	59.5	101.6	121.9	126.8	135.2	140.2	36.1	18.3	5
Murmansk Region	93.2	43.2	117.7	118.6	118.2	123.0	136.4	43.2	17.8	13,4
Republic of Karelia	77.0	58.1	111.5	134.7	120.9	126.8	132.2	55.2	-2.5	5,4
Komi Republic	94.6	68.9	110.8	110.2	121.2	120.0	124.5	29.9	14.3	4,5
Arkhangelsk Region (without NAA)	N.d.	N.d.	N.d.	124.5	113.1	115.3	120.5	–	-4	5,2
Arkhangelsk Region (with NAA)	82.4	36.5	98.6	123.4	112.6	114.7	119.6	37.2	-3.8	4,9
Nenets Autonomous Area (NAA)	N.d.	N.d.	80.5	96.4	98.7	101.1	98.8	–	2.4	-2,3
Fish and fish products										
RF	**N.d.**	**N.d.**	**75.7**	**79.2**	**77.6**	**78.4**	**80.3**	**-**	**1.1**	**1,9**
NWFD	**N.d.**	**N.d.**	**75.7**	**66.1**	**64.0**	**64.5**	**61.8**	**-**	**-4.3**	**-2,7**
Nenets Autonomous Area (NAA)	N.d.	N.d.	6.5	157.3	152.7	157.6	144.8	–	-12.5	-12,8
Murmansk Region	N.d.	N.d.	9.5	74.0	78.8	78.1	80.3	–	6.3	2,2
Komi Republic	N.d.	N.d.	90.0	70.8	80.5	75.7	79.4	–	8.6	3,7
Arkhangelsk Region (with NAA)	N.d.	N.d.	90.4	88.8	84.9	84.1	76.8	–	-12	-7,3
Vologda Region	N.d.	N.d.	7.9	79.7	78.7	72.1	76.4	–	-3.3	4,3
Arkhangelsk Region (without NAA)	N.d.	N.d.	N.d.	86.1	82.3	81.1	74.1	–	-12	-7
Republic of Karelia	N.d.	N.d.	95.4	81.2	69.2	73.5	66.7	–	-14.5	-6,8
Eggs										
RF	**114.2**	**88.1**	**85.0**	**92.1**	**89.5**	**92.2**	**91.3**	**-22.9**	**-0.8**	**-0,9**
NWFD	**115.4**	**89.6**	**91.9**	**91.7**	**90.0**	**92.4**	**89.3**	**-26.1**	**-2.4**	**-3,1**
Republic of Karelia	122.7	78.1	90.4	109.8	101.9	106.9	106.7	-16	-3.1	-0,2
Vologda Region	120.8	88.1	100.0	95.8	96.7	104.5	104.5	-16.3	8.7	0
Murmansk Region	98.8	77.3	83.8	94.5	89.2	99.3	98.8	0	4.3	-0,5
Komi Republic	111.5	99.6	87.3	83.5	86.7	84.9	92.6	-18.9	9.1	7,7

Continuation of Table 5

Territory	1990	2000	2010	2020	2021	2022	2023	2023 to 1990, +/- p.p.	2023 to 2020, +/- p.p	2023 to 2022, +/- p.p
Nenets Autonomous Area (NAA)	N.d.	N.d.	68.5	88.7	79.6	92.2	91.4	-	2.7	-0,8
Arkhangelsk Region (with NAA)	113.5	58.5	83.8	95.4	87.5	90.5	89.1	-24.4	-6.3	-1,4
Arkhangelsk Region (without NAA)	N.d.	N.d.	N.d.	95.7	87.8	90.4	89.0	-	-6.7	-1,4
Bread and bread products										
RF	**122.7**	**120.6**	**104.6**	**98.7**	**92.9**	**93.1**	**89.6**	**-33.1**	**-9.1**	**-3,5**
NWFD	**116.5**	**113.4**	**94.2**	**87.6**	**81.6**	**83.4**	**79.7**	**-36.8**	**-7.9**	**-3,7**
Vologda Region	137.1	121.6	113.1	103.5	96.0	103.7	99.9	-37.2	-3.6	-3,8
Arkhangelsk Region (without NAA)	N.d.	N.d.	N.d.	100.2	88.7	90.1	86.3	–	-13.9	-3,8
Arkhangelsk Region (with NAA)	116.5	112.4	102.0	99.8	88.2	89.5	85.7	-30.8	-14.1	-3,8
Komi Republic	119.6	119.6	104.3	83.6	83.8	83.4	80.7	-38.9	-2.9	-2,7
Republic of Karelia	113.4	106.2	93.8	93.5	83.8	85.8	76.2	-37.2	-17.3	-9,6
Nenets Autonomous Area (NAA)	N.d.	N.d.	78.0	90.7	76.6	73.5	70.5	–	-20.2	-3
Murmansk Region	73.2	96.9	81.4	67.7	64.2	69.4	68.7	-4.5	1	-0,7
Potato										
RF	**117.8**	**N.d.**	**73.7**	**62.7**	**58.3**	**58.2**	**60.8**	**-57**	**-1.9**	**2,6**
NWFD	**105.6**	**N.d.**	**76.8**	**59.6**	**53.7**	**54.6**	**53.9**	**-51.7**	**-5.7**	**-0,7**
Vologda Region	128.9	N.d.	90.3	64.0	58.2	59.0	62.1	-66.8	-1.9	3,1
Republic of Karelia	91.1	N.d.	73.3	69.4	53.3	54.5	55.1	-36	-14.3	0,6
Murmansk Region	68.9	N.d.	61.3	53.2	48.7	50.4	54.8	-14.1	1.6	4,4
Arkhangelsk Region (without NAA)	N.d.	N.d.	N.d.	57.2	48.8	48.3	54.4	–	-2.8	6,1
Arkhangelsk Region (with NAA)	72.2	N.d.	75.1	57.2	48.9	48.5	54.3	-17.9	-2.9	5,8
Nenets Autonomous Area (NAA)	N.d.	N.d.	43.0	57.3	51.8	52.9	52.9	–	-4.4	0
Komi Republic	105.6	N.d.	61.7	49.3	49.8	48.7	50.2	-55.4	0.9	1,5
Vegetables and melons										
RF	**63,6**	**N.d.**	**68,9**	**74,2**	**72,1**	**74,3**	**76,1**	**12,5**	**1,9**	**1,8**
NWFD	**55.0**	**N.d.**	**71.8**	**73.6**	**70.7**	**73.2**	**71.2**	**16.2**	**-2.4**	**-2**
Vologda Region	46.4	N.d.	73.5	78.7	73.8	77.7	79.0	32.6	0.3	1,3
Arkhangelsk Region (without NAA)	N.d.	N.d.	N.d.	69.8	64.3	70.0	72.6	–	2.8	2,6
Arkhangelsk Region (with NAA)	50.7	N.d.	61.6	69.1	63.7	69.4	72.0	21.3	2.9	2,6
Republic of Karelia	52.9	N.d.	58.4	67.1	58.5	62.2	68.5	15.6	1.4	6,3
Murmansk Region	55.0	N.d.	67.1	66.6	61.3	67.5	67.3	12.3	0.7	-0,2
Komi Republic	64.3	N.d.	70.2	64.6	65.9	65.8	66.0	1.7	1.4	0,2
Nenets Autonomous Area (NAA)	N.d.	N.d.	34.6	52.7	50.2	53.6	58.0	–	5.3	4,4

End of Table 5

Territory	1990	2000	2010	2020	2021	2022	2023	2023 to 1990, +/- p.p.	2023 to 2020, +/- p.p	2023 to 2022, +/- p.p
Fruits and berries										
RF	**N.d.**	**N.d.**	**70.2**	**77.1**	**72.1**	**70.3**	**71.6**	**–**	**-5.5**	**1,3**
NWFD	**N.d.**	**N.d.**	**77.1**	**78.6**	**74.8**	**71.8**	**68.5**	**–**	**-10.1**	**-3,3**
Murmansk Region	N.d.	N.d.	90.2	88.1	81.3	77.9	81.6	–	-6.5	3,7
Vologda Region	N.d.	N.d.	67.3	89.8	79.2	76.7	76.9	–	-12.9	0,2
Arkhangelsk Region (without NAA)	N.d.	N.d.	N.d.	85.6	77.8	74.3	75.1	–	-10.5	0,8
Arkhangelsk Region (with NAA)	N.d.	N.d.	65.8	84.7	77.0	73.8	74.8	–	-9.9	1
Komi Republic	N.d.	N.d.	88.9	75.1	79.4	74.4	73.0	–	-2.1	-1,4
Nenets Autonomous Area (NAA)	N.d.	N.d.	41.9	61.6	57.2	61.6	68.4	–	6.8	6,8
Republic of Karelia	N.d.	N.d.	73.3	79.8	66.0	66.8	67.2	–	-12.6	0,4

Note: the comparison was carried out with the standards set out in the source: On approval of recommendations on rational standards of food consumption that meet modern requirements of healthy nutrition: Order of the Ministry of Health of Russia 614, dated 08/19/2016 (as amended on 12/30/2022). Available at: https://www.garant.ru/products/ipo/prime/doc/71385784 / (accessed: 11/01/2024).
According to the Order, the standard of consumption of bread products (bread and pasta in terms of flour, flour, cereals, legumes) is 97 kg/ year/ person, potatoes – 90 kg/ year/ person, vegetables and melons – 140 kg/ year / person, fresh fruits – 100 kg/ year/ person., sugar – 8 kg/year/person, meat products – 74 kg/year/person, fish and fish products – 28 kg/year/person, milk and dairy products in terms of milk – 322 kg/year/person, eggs – 260 pieces/year/person, vegetable oil – 12 kg/year / person, table salt – 1.8 kg / year / person. At the same time, according to the Order of the Ministry of Health of Russia 614, dated 08/19/2016, rational norms of food consumption that meet modern requirements of a healthy diet are the average per capita values of the main food groups, as well as their assortment in kilograms per capita per year, which take into account the chemical composition and energy value of food products, provide the estimated per capita need for food substances and energy, as well as the variety of food consumed. In the framework of this study, the calculations assume the constancy of rational consumption standards. The table does not show data on salt consumption due to their absence in 2006–2022, sugar, since Rosstat calculates sugar consumption together with confectionery, vegetable oil, since Rosstat calculates oil consumption together with other fats. The regions are ranked in descending order of the percentage of actual consumption from rational norms in 2023 within each food group.
Source: Rosstat data (2006–2023 – bulletin "Household food consumption", 1990–2000 – collection "Regions of Russia. Socio-economic indicators").

The consumption of vegetables and melons, meat and meat products, fruits and berries by the ENR population, as well as in the NWFD and Russia as a whole, has increased, which, according to A. Safonov, professor at the Financial University under the Government of the Russian Federation, is explained by a change in the standard of living toward improvement; head of the National Meat Association, S. Yushin also refers to the fact that that "meat remained an economically affordable product, while fish became more expensive and its consumption decreased"[18].

Second, the ENR regions can be ranked as follows based on the consumption rate of the main food groups on average in 2021–2023: 1st place belongs to the Vologda Region, 2nd place – the Arkhangelsk Region without the Nenets Autonomous Area, 3rd place – the Murmansk Region, 4th place – the Republic of Karelia, 5th place – the Komi Republic, 6th place – the Nenets Autonomous Area[19].

[18] Russians began eating a record amount of meat. Which foods have increased and which have decreased in consumption. Available at: https://www.rbc.ru/economics/09/08/2024/66b4b9919a7947473323a075 (accessed: 01.11.2024).
[19] The ranking was based on the arithmetic average of food consumption by groups in 2021–2023.

Table 6. Composition of food substances in consumed food in 2023, on average per consumer per day

Territory	Proteins			Fats			Carbohydrates			Kilocalories		
	g	% of the norm		g	% of the norm		g	% of the norm		kcal	% of the norm	
		M	W		M	W		M	W		M	W
RF	**81.4**	**108.5**	**135.7**	**109.4**	**151.9**	**191.9**	**311.9**	**103.6**	**131.1**	**2569.3**	**119.5**	**151.1**
NWFD	**77.8**	**103.7**	**129.7**	**107.2**	**148.9**	**188.1**	**282.4**	**93.8**	**118.7**	**2416.8**	**112.4**	**142.2**
Republic of Karelia	76.7	102.3	127.8	114.3	158.8	200.5	291.4	96.8	122.4	2511.8	116.8	147.8
Komi Republic	76.8	102.4	128.0	104.9	145.7	184.0	289.9	96.3	121.8	2422.1	112.7	142.5
Arkhangelsk Region (with NAA)	77.4	103.2	129.0	111.4	154.7	195.4	318.4	105.8	133.8	2598.2	120.8	152.8
Nenets Autonomous Area	70.4	93.9	117.3	88.1	122.4	154.6	265.1	88.1	111.4	2145.4	99.8	126.2
Arkhangelsk Region (without NAA)	77.7	103.6	129.5	112.4	156.1	197.2	320.6	106.5	134.7	2616.3	121.7	153.9
Vologda Region	89.6	119.5	149.3	124.5	172.9	218.4	339.1	112.7	142.5	2848.4	132.5	167.6
Murmansk Region	79.0	105.3	131.7	110.9	154.0	194.6	268.9	89.3	113.0	2402.2	111.7	141.3

Note: according to the guidelines "MP 2.3.1.0253-21. 2.3.1. Food hygiene. Rational nutrition. Norms of physiological energy and nutritional requirements for various population groups of the Russian Federation. Guidelines", physiological energy requirements for adults range from 2,150 to 3,800 kcal/day for men and from 1,700 to 3,000 kcal/day for women. Energy consumption for adaptation to the cold climate in the Far North increases by an average of 15%. The physiological protein requirement for the adult population ranges from 75 to 114 g/day for men and from 60 to 90 g/day for women. The physiological requirement for fats is from 72 to 127 g/day for men and from 57 to 100 for women. The physiological requirement for digestible carbohydrates is from 301 to 551 g/day for men and from 238 to 435 g/day for women.
When calculating food intake as a percentage of the norm, the lower limits of physiological needs for men (M) and women (W) were taken as the latter.
Source: Rosstat data (bulletin "Household food consumption").

It is important to note that the structure of consumption of the main food groups largely determines the caloric content of the diet, the sufficiency of macronutrients such as proteins, fats and carbohydrates. As follows from the data presented in *Table 6*, there are deviations from the lower and upper limits of recommended standards for men and women in the composition of food substances in consumed foods. For example, the average daily protein intake in the Nenets Autonomous Area was lower than the norm for men by 6.1% (70.4 g with a norm of at least 75 g), and taking into account the correction factor for the regions of the Far North – by 18.1% (70.4 g with a norm of at least 86 g). In the Vologda Region, the average daily fat intake is 24% higher than the upper limit of the norm for women (124 g with a norm of no more than 100 g). The average daily carbohydrate intake was 3.2–11.9% lower than the norm for men in the Komi Republic and the Republic of Karelia, the Nenets Autonomous Area and the Murmansk Region.

Thus, we can conclude that ensuring food security, in particular, its components such as economic and physical accessibility of food, is an urgent issue for the regions of the European North. Currently, the Murmansk Region occupies relatively high positions in the ranking of the ENR regions (1st place in terms of economic accessibility, 3rd in terms of physical accessibility; *Tab. 7*) and the Arkhangelsk Region without the Nenets Autonomous Area (3 and 2 places, respectively). The Komi Republic and the Republic of Karelia share 4th and 5th places in terms of economic and physical accessibility of food. The Vologda Region and the Nenets Autonomous Area have quite radically different positions on the economic and physical accessibility of food.

The data in Table 7 generally confirm the hypothesis that in the northern regions of the country, there is a high level of economic accessibility of food, provided by significant per capita incomes, compensates for a low level of physical accessibility due to difficult natural and climatic conditions for economic activity (for example, in the Nenets Autonomous Area, the Murmansk Region). In the more southern regions, in particular, in the Vologda Region, the situation is different. With relatively high physical availability of food, due to favorable natural and climatic conditions for economic, including agricultural, activities and a developed transport infrastructure, low economic accessibility is observed. However, we should understand that economic and physical accessibility are not interchangeable and, therefore, should be ensured simultaneously.

The above indicates the need to implement a set of measures and directions to strengthen food security in the regions of the European North as one of the key tasks of Russia's spatial development by activating both economic factors (government support, technological and innovative development, etc.) and non-economic factors (socio-cultural development (culture, medicine, education, etc.).

Suggestions and conclusion

The tasks of ensuring food security are complex, intersectoral and interdepartmental in nature. As the researchers (Zhigunova, Logvinova, 2025) noted, these tasks cover the social sphere (income, food consumption, social protection) and the economic sphere (trade, urban planning, transport), etc. At the same time, food security in each region is determined by specific factors that influence it. This suggests the need to develop a differentiated regional policy and prioritize support measures depending on the levels of economic and physical availability of food.

Table 7. Ranks of the regions of the European North of Russia in terms of economic and physical accessibility of food

Territory	Economic accessibility	Physical accessibility
Murmansk Region	1	3
Nenets Autonomous Area	2	6
Arkhangelsk Region (without NAA)	3	2
Republic of Karelia	4	4
Komi Republic	5	5
Vologda Region	6	1

Note: 1st place corresponds to a higher availability level, 6th place belongs to a lower availability level. It is ranked in descending order of rank according to the economic availability of food.
As part of the development of food security issues, the development of a generalized, integral indicator of food availability seems promising. It can be based on the indicators of economic (the share of food costs in the total volume of household consumer spending) and physical (the percentage of the population's nutrition structure by main types of products to rational standards of consumption) food availability used in this study, as well as weighting factors reflecting their importance. The scientific justification of the latter is a debatable, but at the same time very important task, which can be solved by involving experts (see, for example, the work (Gumerov et al., 2021).
Source: own compilation based on the calculation results.

The situation with the *economic accessibility* of food in Russia has become much more complicated as a result of the sanctions imposed, which has created conditions for its assessment and regular monitoring both at the national and regional levels. Measures aimed at increasing the economic availability of food should be aimed primarily at stimulating demand. In this direction, programs can be implemented to support the most vulnerable groups of the population, whose incomes do not allow them to purchase a set of food products necessary to maintain a healthy and active lifestyle. For example, it is possible to provide subsidies for catering to socially vulnerable segments to increase the economic accessibility of food (children, pregnant and lactating women, pensioners, and the disabled). An important issue in this regard is to increase the income level, which allows purchasing the necessary set of products. At the same time, as I.V. Shchetinina noted, priority measures include the development of food balances at all levels of government (federal, regional and municipal) to increase the physical and economic accessibility of food in Russia (Shchetinina, 2023). Such balances of production and use of products can be used in making managerial decisions in the process of concluding contracts for the export of agricultural products, planning humanitarian assistance and participating in international food projects.

In addition, it is necessary to *stimulate investments* in the rural economy. Investments in the development of agricultural producers will allow the production of homogeneous products to meet mass demand, including food products at affordable prices. The expansion of the scale of production facilities, in turn, will contribute to an increase in demand for labor, a decrease in unemployment, and the interest of manufacturers in training or retraining workers and the population living in the area.

In the context of ensuring food security, we should also note the *importance* of the necessary *logistical and information resources* for agricultural production for the economic and physical accessibility. Moreover, such resources should be based *on Russian technologies* that meet international standards, which will make it possible to mitigate the threats associated with the external economic situation and possible foreign policy restrictions. One of the directions that helps to master new technologies and techniques in the shortest possible time may be free consulting from suppliers. This practice is already used in some agricultural machinery manufacturing companies. In particular, Rostselmash Group contracts provide for the conditions for briefing the buyer's employees. The dissemination of such experience will allow agricultural enterprises to decrease the time required for the development of new equipment and reduce the risks of losses from unprofessional operation of expensive equipment. So, in particular, prices for tractors in February 2022 ranged from 1 to 12 million rubles, for combines – from 1.5 to 6 million rubles (Shchetinina, Derevyanko, 2022).

In this regard, ensuring food security should be based on relevant strategic documents that take into account the increasing importance of the role of agriculture, the spatial organization of the country, and provide for the *improvement of regulatory legal regulation* in this area, which will guarantee the availability of food products for the population, sustainable rural development. In particular, as R.R. Gumerov noted, the current legislation, as well as relevant regulatory legal acts, do not provide for the use of urgent regulatory measures in extreme situations (Gumerov, 2022). As the author mentions, in modern conditions of external challenges, a special law is necessary that would combine all available norms and mechanisms for regulating the food market, but at the same

time take into account the conditions of external sanctions pressure. A.V. Kolesnikov adheres to a similar position: "the implementation of food security policy should not be carried out within the framework of fragmentary regulatory acts, but a comprehensive package of direct-acting documents regulating the implementation of state agrarian policy in the EAEU countries" (Kolesnikov, 2024). The EAEU Food Security Doctrine can serve as such strategic documents, for the implementation and realization of which it is advisable to form a strategy and program for the development of the agro-industrial complex.

Therefore, an important task of the authorities and management is to *carry out monitoring, control and forecasting* in the field of food security, and support the spatial development of rural areas. This also requires *increasing the transport accessibility* of remote regions and their rural territories to ensure a guaranteed and uniform food supply to the population with sufficient food.

Based on this, the *implementation of state support for agriculture* is of no small importance. Despite the limits of financial incentives set by the federal budget, their level is often insufficient for expanded reproduction; and the cost of credit resources is higher than the profitability of these organizations.

According to E.R. Kokova, the Russian agro-industrial complex has a very low level of use and readiness to implement promising technological solutions (Kokova, 2019). The introduction of almost all known *advanced innovative technologies*, including smart and precision farming, artificial intelligence, nanotechnology, biotechnology, off-ground plant cultivation (hydroponics) and vertical farming, satellite navigation systems for harvesters and other equipment, autonomous robots, unmanned aerial vehicles, the Internet of Things, and blockchain technologies is impossible. without the use of modern digital information technologies, as well as other high technologies, including electrical engineering, electronics and robotics (Shutkov, Anishchenko, 2019; Podder et al., 2021; Osei et al., 2018; Digital platforms for agricultural consulting and business services ..., 2018). In addition, a strategically important task in the development of this area is to use a cluster approach to the process based on the long-term collaboration of all stakeholders (Sallet, 2011; Sallet, Paisley, 2009). According to foreign studies, the efficiency of agricultural production using digital technologies increases by at least 20–30% (Krylatykh et al., 2020).

We can single out the following as an example of the most relevant and promising technological solutions for implementation in the agricultural sector:

– intelligent monitoring of fields and seedlings using unmanned aerial vehicles using computer and satellite vision algorithms for data analysis and processing;

– smart (intelligent) analytics using machine learning models for the purpose of agricultural research and development, seasonal analysis, modeling of various market scenarios and optimization of business expenses;

– study and analysis of satellite images using machine learning and computer vision algorithms, etc. (Krylatykh et al., 2020).

It is worth agreeing with the opinion of scientists (Bogoviz et al., 2017) that an unconditional condition for sustainable food security is the availability of appropriate scientific support. Scientific support of the agro-industrial complex and its main sub-sectors makes it possible to develop such technologies and, accordingly, such personnel and logistical support, as a result of which the subjects of agro-industrial production are able to function more effectively in its various sections. This will contribute to improving the financial and

economic indicators of agricultural producers, the state of labor productivity, the volume and quality of products, minimizing the impact of negative climatic conditions, etc. At the same time, as N.K. Dolgushkin notes, close attention should be paid to the coordination of actions of authorities at all levels, scientific organizations and business representatives, as well as the formation of a unified innovation process from planning and conducting scientific research, creating developments to their commercialization based on the requests of commodity producers and subsequent replication (Dolgushkin, 2025).

It is *necessary to activate non-economic factors* for increasing the efficiency of production activities. In particular, the *competent motivation of the working-age population* to work in rural areas is relevant. Currently, the situation in this area continues to be extremely disappointing. For example, the population working in rural areas has a low average monthly salary (53.2% of the national level; in 1990 – 95%) (Anishchenko, 2021). In addition, significant rates of depopulation and migration outflow remain for rural areas of the North; the predominance of sparsely populated rural settlements in the total number (Patrakova, 2023). Therefore, an important task is to train personnel, increase the prestige of rural labor, and encourage the recruitment and retention of specialists in rural areas. I.V. Shchetinina and Yu.O. Derevyanko suggest starting with the education system to solve these problems (Shchetinina, Derevyanko, 2022). In particular, it is necessary to form a system of end-to-end agricultural education, starting from an early age to instill the interest of preschoolers and schoolchildren in rural labor; motivate applicants to study in agricultural fields; improve incentives for attracting personnel in agriculture. Given the increasing problems of rural settlements, the Strategy for the Development of the Agro-industrial and Fisheries Complexes of the Russian Federation for the period up to 2030[20] sets an ambitious goal of maintaining the share of the population of rural areas and rural agglomerations in the total population of the country. In addition, the state program "Integrated Rural Development", approved by Government Decree No. 696 dated May 31, 2019, is aimed at solving these and other problems of these territories, among other things, creating conditions for providing housing for young families and young professionals working in rural areas; stimulating the development of social and engineering infrastructure, creation of modern rural settlements.

It is worth noting that small-scale agricultural production plays an important role in equalizing the living conditions of the rural population, ensuring rural employment and, in general, food security of the country, which is reflected in the Strategy for the Sustainable Development of Rural Areas of the Russian Federation. In particular, this sector provides more than 60% of agricultural production (50.5% of cereals and legumes, 57.9% of sunflowers, 94% of potatoes, 88.7% of vegetables and 65.4% of milk are produced)[21].

It is worth noting that animal husbandry, namely dairy cattle breeding (cattle breeding, production of dairy products), plays an important role in ensuring food security in the agricultural sector. As noted in the Federal Scientific and Technical Program for the Development of Agriculture for 2017–2030, one of the main factors in increasing milk production is the technical modernization carried

[20] Strategy for the development of the agro-industrial and fisheries complexes of the Russian Federation for the period up to 2030, approved by RF Government Resolution 2567-r, dated September 8, 2022 (as amended on February 7, 2025). Available at: https://www.garant.ru/products/ipo/prime/doc/405172287 (accessed: 01.11.2024).

[21] Strategy for the Sustainable Development of Rural Areas of the Russian Federation for the period up to 2030, approved by RF Government Resolution 151-r, dated February 2, 2015 (as amended on January 13, 2017). Available at: https://www.garant.ru/products/ipo/prime/doc/70761426 (accessed: 01.11.2024).

out in dairy farming and the construction of new high-tech dairy farms[22]. At the same time, the introduction of technologies into this sub-sector is particularly difficult, since it is influenced by various factors, related to the biological characteristics of cattle, the number of care operations, the need to ensure an appropriate level of feeding for production, etc. In this regard, when using modern technologies in agriculture and especially in dairy farming, it is advisable to pay attention to *biotechnological developments* that can increase the productivity of dairy cattle by improving feeding methods and diets; introducing new feed additives, premixes, biostimulants, veterinary drugs; using new diagnostic methods and timely treatment of animals, etc.

To achieve these goals, the national project "Technological Food Security"[23] was launched in 2025, which includes federal programs on veterinary drugs, biotechnologies, breeding and genetics, as well as personnel support for agro-industrial complex. Technologies ensure efficient use of resources, increase productivity and reduce negative environmental impacts, and contribute to the sustainable development of agriculture. They provide efficient use of resources, increase productivity and reduce the negative impact on the environment, and contribute to the sustainable development of the agricultural sector.

Special attention should be paid to increasing the availability of products from those main food groups that are traditional for the regions. For example, for the Vologda Region, these are milk and dairy products, since dairy farming has been and remains one of the subsectors of the region's agricultural specialization (its products have historically been produced for domestic consumption, export to other regions of Russia, and export). The region has an appropriate production and resource base for its development, appropriate institutional conditions have been created (for example, the Vologda Region Dairy Cluster operates), there are specialized educational institutions (in particular, the Vologda State Dairy Farming Academy named after N.V. Vereshchagin).

The prospects for the research development are related to the working out of special mechanisms for ensuring food security for regions with a low level of economic accessibility of food and for regions with a low level of physical accessibility.

The novelty of the study lies in establishing the relationship between the economic and physical accessibility of food in the context of ensuring food security at the regional level; at the same time, for the northern territories of Russia, high economic availability of food is a mechanism that, to a certain extent, compensates for the low level of its physical availability due to unfavorable natural and climatic conditions for economic activity.

The theoretical significance of the work is to substantiate a methodological approach to assessing food security at the regional level, based on the calculation of well-established and proven indicators of economic and physical accessibility of food as its key components, as well as allowing for the ranking of regions. The practical significance lies in the possibility of using the results by state authorities at the federal and regional levels in improving policies in the areas of food security, agricultural and agro-industrial complex, and socio-economic development of territories.

[22] Federal Scientific and Technical Program for the Development of Agriculture for 2017–2030, approved by RF Government Resolution 996, dated August 25, 2017 (as amended on March 27, 2025). Available at: https://base.garant.ru/71755402 (accessed: 01.11.2024).

[23] Information resource "National Projects". Available at: https://xn--80aapampemcchfmo7a3c9ehj.xn--p1ai/new-projects/tekhnologicheskoe-obespechenie-prodovolstvennoy-bezopasnosti/ (accessed: 01.11.2024).

References

Abanina E.N., Olifirenko A.A. (2025). Application of digital technologies to ensure food security: Legal regulation. *Pravovaya politika i pravovaya zhizn'*, 3, 202–209. DOI:10.24412/1608-8794-2025-3-202-209 (in Russian).

Anishchenko A.N., Shutykov A.A. (2021). Problems of implementation of the Russian Food Security Doctrine. *Prodovol'stvennaya politika i bezopasnost'=Food Policy and Security*, 8(1), 9–22. DOI: 10.18334/ppib.8.1.111777 (in Russian).

Antamoshkina E.N. (2015). The assessment of a region's food security: Methodological issues. *Prodovol'stvennaya politika i bezopasnost'*, 2(2), 97–112. DOI: 10.18334/ppib.2.2.575 (in Russian).

Baturin A.K., Martinchik A N., Kambarov A.O. (2020). The transition of Russian nation nutrition at the turn of the 20th and 21st centuries. *Voprosy pitaniya=Problems of Nutrition*, 89(4), 60–70. DOI: 10.24411/0042-8833-2020-10042 (in Russian).

Bogoviz A.V., Ragulina Yu.V., Shkodinskii S.V., Babeshin S.V. (2017). Food security factors. *Ekonomika sel'skogo khozyaistva Rossii*, 2, 2–8 (in Russian).

Borodin K.G. (2018). Economic access to food: Factors and methods of assessment. *Ekonomicheskii zhurnal VShE=HSE Economic Journal*, 22(4), 563–582. DOI: 10.17323/1813-8691-2018-22-4-563-582 (in Russian).

Burchi F., De Muro P. (2016). From food availability to nutritional capabilities: Advancing food security analysis. *Food Policy*, 60, 10–19. DOI: 10.1016/j.foodpol.2015.03.008

Dolgushkin N.K. (2025). Scientific provision of food security in the face of modern challenges. *APK: ekonomika, upravlenie=AIC: Economics, Management*, 1, 14–21. DOI: 10.33305/251-14 (in Russian).

Gumerov R.R. (2020). Food security: New approaches to content analysis and assessment. *Problemy prognozirovaniya=Studies on Russian Economic Development*, 5(182), 133–141 (in Russian).

Gumerov R.R. (2022). The phenomenon of dormant threats to food security in Russia: Conditions of implementation and mechanisms of neutralization. *EKO=ECO Journal*, 6, 8–25. DOI: 10.30680/ECO0131–7652–2022–6–8–25 (in Russian).

Gumerov R.R., Guseva N.V., Solntseva L.I. (2021). Assessment of the quality of government programs: Results of the testing of a multi-criteria model (results, problems, opportunities). *Menedzhment i biznes-administrirovanie*, 4, 28–38 (in Russian).

Kaigorodtsev A.A. (2021). Assessment of the level of physical availability of food in the Russian Federation. *Vestnik Moskovskogo finansovo-yuridicheskogo universiteta MFYuA*, 3, 63–75 (in Russian).

Kokova E.R. (2019). Role of modern technologies in ensuring food security of regions. *Vestnik ekspertnogo soveta*, 1(16), 10–14 (in Russian).

Kolesnikov A.V. (2024). Strategic guidelines for ensuring food security of the EAEU. *APK: ekonomika, upravlenie=AIC: Economics, Management*, 6, 3–11. DOI: 10.33305/246-3 (in Russian).

Kosmin A.D., Kuznetsov V.V. (2023). On the measurement of the dynamic system of food security at the regional level. *Pravo i upravlenie*, 4, 15–27. DOI: 10.24412/2224-9133-2023-4-15-27 (in Russian).

Krylatykh E.N., Protsenko O.D., Dudin M.N. (2020). Actual issues of ensuring food security in Russia in the context of global digitalization. *Prodovol'stvennaya politika i bezopasnost'=Food Policy and Security*, 7(1), 19–38. DOI: 10.18334/ppib.7.1.41543 (in Russian)

Lipton M. (1983). *Poverty, Undernutrition, and Hunger (World Bank Staff Working Paper) 597*. Washington: World Bank.

Meade B., Rosen S. (2002). *Measuring Access to Food in Developing Countries: The Case of Latin America*. Economic Research Service (ERS) of the U.S. Department of Agriculture, Market and Trade Economics Division (MTED). Available at: http://ageconsearch.umn.edu/bitstream/19716/1/sp02me01.pdf (accessed: 01.11.2024).

Minenko A.V. (2018). Methodology of evaluation the physical availability of food for population. *Vektor ekonomiki*, 9(27). Available at: https://vectoreconomy.ru/images/publications/2019/9/regionaleconomy/Minenko2.pdf (accessed: 01.11.2025; in Russian).

Mitrofanova I.V., P'yankova S.G., Ergunova O.T. (2020). Conditions and factors for ensuring food security in the region. *Ekonomika: vchera, segodnya, zavtra=Economics: Yesterday, Today, Tomorrow*, 10(7A), 169–190. DOI: 10.34670/AR.2020.77.15.019 (in Russian).

Osei C., Yeboah A., Arthur F., Agbedanu E., Chidiac S. (2018). Digital platforms for agro-advisory and business service delivery: Lessons from scaling-up of agrotech in Ghana. *Agrotech Policy Paper*, 8, 1–15.

Ovcharova L.N., Popova D.O. (2013). Incomes and expenses of Russian households: What has changed in the mass consumption standard. *Mir Rossii*, 3, 3–34 (in Russian).

Pankova S.V., Tsypin A.P., Popov V.V. (2019). Developing analytical tools for managing public policy on food security. *Upravlenets=The Manager*, 2, 49–61. DOI: 110.29141/2218-5003- 2019-10-2-6 (in Russian).

Patrakova S.S. (2023). Rural territories of the North-West of Russia: Problems and contrasts. *EKO=ECO Journal*, 8(590), 57–76. DOI: 10.30680/ECO0131-7652-2023-8-57-76 (in Russian).

Pershukevich P.M. (2018). Assessment and regulation of food independence and safety of the Siberian population. *Region: ekonomika i sotsiologiya*, 3(99), 57–76. DOI: 10.15372/REG20180304 (in Russian).

Podder A.K., Bukhari A.A., Islam S. et al. (2021). IoT based smart aggrotech system for verification of Urban farming parameters. *Microprocessors and Microsystems*, 82. DOI: 10.1016/j.micpro.2021.104025

Prikupets L.B. (2018). Technological lighting for agro-industrial installations in Russia. *Light and Engineering*, 1, 7–17.

Putnam J., Allshouse J. (1999). Food consumption, prices, and expenditures, 1970–1997. In: *Statistical Bulletin 154924, United States Department of Agriculture, Economic Research Service.*

Rosen S., Thome K., Meade B. (2016). International food security assessment, 2016–2026. In: GFA-27, U.S. *Department of Agriculture, Economic Research Service.*

Sallet J. (2011). *Innovation Clusters Create Competitive Communities.* Available at: https://www.huffpost.com/entry/innovation-clusters-creat_b_293603 (accessed: 01.11.2024).

Sallet J., Paisley E. (2009). *The Geography of Innovation: The Federal Government and the Growth of Regional Innovation Clusters.* Available at: https://scienceprogress.org/wp-content/uploads/2009/09/eda_paper.pdf

Sannikova I.N., Prikhod'ko I.N. (2022). On some aspects of food security assessment. *EKO=ECO Journal*, 9(579), 149–165. DOI: 10.30680/ECO0131-7652-2022-9-149-165 (in Russian).

Semkin A.G., Voronin E.A. (2023). Food security as a factor of strategic spatial development of individual specialized high-tech zones (territories) in Russia. *Ekonomika sel'skogo khozyaistva Rossii,* 2, 2–10. DOI: 10.32651/232-2 (in Russian).

Semkin A.G., Zadvorneva E.P. (2022). Spatial development and management of the socio-economic growth strategy for individual macroregions. *Ekonomika, trud, upravlenie v sel'skom khozyaistve=Economy, Labor, Management in Agriculture*, 9(91), 60–71. DOI: 10.33938/229-60 (in Russian).

Shagaida N.I., Uzun V.Ya. (2015). *Prodovol'stvennaya bezopasnost' v Rossii: monitoring, tendentsii i ugrozy* [Food Security in Russia: Monitoring, Trends and Threats]. Moscow: Izdatel'skii dom "Delo" RANKhiGS.

Shchetinina I.V. (2023). The exacerbation of food security problems in the current international environment. *EKO=ECO Journal*, 8(590), 77–103. DOI: 10.30680/ECO0131-7652-2023-8-77-103 (in Russian).

Shchetinina I.V., Derevyanko Yu.O. (2022). Russia's food security in the light of recent political and other events. *EKO=ECO Journal*, 6(576), 26–50. DOI: 10.30680/ECO0131-7652-2022-6-26-50 (in Russian).

Shut'kov A.A., Anishchenko A.N. (2019). The future of artificial intelligence, neural networks and digital technologies in agriculture. *Ekonomika i sotsium: sovremennye modeli razvitiya=Economics in Society: Contemporary Models of Development,* 9(4), 508–522. DOI: 10.18334/ecsoc.9.4.100454 (in Russian).

Tyutyunik V.V. (2016). Food independence of the region. *Prostranstvennaya ekonomika=Spatial Economics*, 2, 168–182 (in Russian).

Uskova T.V., Selimenkov R.Yu., Anishchenko A.N., Chekavinskii A.N. (2014). *Prodovol'stvennaya bezopasnost' regiona* [Food Security of the Region]. Vologda: ISERT RAN.

Zhigunova A.V., Logvinova I.V. (2025). Measures to increase the level of food security in the region. *APK: ekonomika, upravlenie=AIC: Economics, Management*, 7, 24–36. DOI: 10.33305/257-24 (in Russian).

Zhil'tsova O.N. (2017). The need for marketing research in a period of changing consumer demand. *Marketing i logistika*, 6(14), 15–21 (in Russian).

Information about the Authors

Svetlana S. Patrakova – Candidate of Sciences (Economics), Researcher, Vologda Research Center, Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russian Federation; e-mail: sspatrakova@bk.ru)

Ekaterina D. Kopytova – Candidate of Sciences (Economics), Senior Researcher, Vologda Research Center, Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russian Federation; e-mail: ekaterina-razgylina@yandex.ru)

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Issues of the Work and Family Activities of the Older Generation

Elena V. VASILYEVA
Institute of Economics of the Ural Branch of the Russian Academy of Sciences
Yekaterinburg, Russian Federation
e-mail: vasileva.ev@uiec.ru
ORCID: 0000-0002-0446-1555; ResearcherID: Q-5620-2016

Abstract. The article analyzes the trends and socio-economic conditions of the transformation of the grandmother institution in Russia. The research employs the theoretical framework of neoclassical theory and neo-institutionalism, which explain the nature of the grandmother institution. A system of indicators describing the demographic characteristics of the population and its behavior has been developed. The data from the Federal State Statistics Service (Rosstat) served as the information base for the study. The analysis was conducted from the perspective of all participants: grandparents (the "grandmothers" themselves), parents, grandchildren, and the state as an actor shaping the environment in which the grandmother institution functions. The study has shown that the grandmother institution is transforming, adapting to new socio-economic conditions while retaining its significance. On the one hand, older people have become more in demand in the economy and society. There is a significant increase in the employment of the elderly population, especially among women aged 55–59. On the other hand, grandparents have become even more active in the lives of their grandchildren. The proportion of grandmothers providing daily childcare increased from 22.2% to 32.2%, and that of grandfathers from 13.2% to 23.4%. This is explained by an increase in the number of single-parent households with children (from 13.0% to 21.1% of all households with children), as well as an increase in the employment of women with children (from 76% to 82.8%). The results of Russian sociological surveys reveal the institutional nature of the motivation for the elderly population's participation in grandchild care. Sacrificial attitudes are characteristic of the

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majority of respondents; however, this position is not supported by parents, who prefer to raise their children independently and turn to grandparents only when assistance is required.

Key words: grandmother institution, population aging, employment, elderly population, households, women.

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Introduction

Modern concepts of "active aging" and "a society for all ages" significantly revise and expand the trajectories of aging. A new approach has been established in scientific discourse on older people, according to which public policy ensures their participation in all spheres of social life (Grigoryeva, Kelas'ev, 2016). The socio-economic context of such changes in the social and interfamilial roles of older people includes increased life expectancy and career length, nuclearization of families, urbanization, improved living standards and quality of life, and the development of social infrastructure. As rightly noted in an expert analytical report by the ANO "National Priorities"[1], given the changing age structure of the population and the growing demand for the labor force in the Russian economy, representatives of the older generation are becoming one of society's key resources. However, the traditional role of the older generation in the family, associated with caring for the younger generation, retains its significance. The overlap of these trends forces the older generation to choose between self-realization in society and fulfilling their traditional role in the family. As a result, the grandmother institution, characterized by an older woman taking care for her grandchildren, is being significantly transformed and even gradually falling into disuse (Sorokin, 2014; Rimashevskaya, 2003). This research attempts to analyze the trends and socio-economic context of the transformation of the grandmother institution in Russia, as understanding the motivation and challenges of the older generation will help optimize the interaction between the institutions of the labor market, social security, and family, which is particularly important in the context of ensuring sustainable development of Russian society. To achieve this goal, three objectives are formulated: first, to review theoretical approaches explaining the behavioral models of the older generation in the context of their social activity, including participation in social life and fulfilling the family role of grandparents; second, to develop an approach for researching the transformation of the grandmother institution based on the analysis of statistical data on indicators characterizing the demographic and socio-economic context shaping the behavior of all participants in these relationships; third, to identify patterns and established trends in the development of the grandmother institution in Russia using the proposed approach.

Theoretical framework of the research

In this study, the grandmother institution is understood as a stable form of organization of the activities of the family's older generation – grandparents – who perform functions of parents (part of them) in caring for and raising the younger

[1] The older generation as a personnel and social resource: Expert analytical report. ANO "National Priorities". National Projects. Available at: https://национальныепроекты.рф/upload/doklad-starshee-pokolenie-kak-kadrovyy-i-sotsialnyy-resurs/doklad-starshee-pokolenie-2024.pdf (accessed: October 1, 2025).

generation – their grandchildren. Considering the feminization of aging and the gender distribution of roles within the family, this institution is primarily formed by women, but men can also fulfill these functions; therefore, the research concerns representatives of both men and women among grandparents, i.e., grandmothers and grandfathers.

Within the framework of the neoclassical school, two models have been developed to explain the distribution of family resources: Samuelson's consensus model and Becker's altruist model. The first model is based on the hypothesis of a permanent "family consensus", which is a reconciliation of interests or compromise of family members. P.A. Samuelson explains the consensus in the preferences of family members by kinship ("blood is thicker than water" (Samuelson, 1956), so the family acts as if it maximizes its overall welfare function (group preferences). According to models of generational economics (Lee, 1980; Lee, 2007; Lee, Mason, 2014), interfamilial relations involve the redistribution of resources (finances, time, etc.) between family members, the economic mechanism of which is intergenerational transfer. The defining feature of such a transfer is the absence of an explicit "something in exchange for something" (quid pro quo)[2].

In G. Becker's altruist model, the "group preference function" is identical to the function of the altruistic parent, even if this parent does not possess sovereign power in the family. "Optimal redistribution" of income results from altruism and voluntary contributions. The altruist feels better from actions that increase their family's income and worse from actions that decrease it. Therefore, the altruist will refrain from actions that increase his or her own income if they further decrease the family's income; and the altruist will undertake actions that reduce his or her own income if they further increase the family's income (Becker, 1991). According to G. Becker, the time allocation of any family member is strongly influenced by the opportunities available to other members (Becker, 2003). Altruism within the family is confirmed by the fact that parents, sacrificing their own consumption and comfort, spend money, time, and effort on children, investing in their human capital. But even altruistic parents must seek a compromise between their own consumption and their children's human capital. Moreover, in modern societies, kinship is less significant than in traditional societies, where a significant portion of time and other resources is invested in children by grandmothers, grandfathers, aunts, and other relatives concerned with their well-being and behavior (Becker, 2003). The growth of state and private programs in education, healthcare, and social assistance has weakened the bonds between family members by eroding its traditional role in protecting its members from various risks. Relatives not only lose interest in monitoring and controlling family members, but their ability to do so diminishes as family members disperse in search of better opportunities.

Neoclassical school models view the economic agent as a rational individual aimed at efficiently allocating limited resources. Institutionalism demonstrates that the spectrum of household incentives is much broader. According to H. Simon, human rationality is bounded by the unavailability of all possible information and their ability to process it; therefore, they do not seek to choose the best alternative but try to find a satisfactory solution to their own problems (Simon, 1955). Economic behavior is influenced not only by rational calculation but also by institutions, i.e., habits, moral norms, and attitudes. From T. Veblen's perspective, an individual's behavior is determined

[2] National Transfer Accounts Manual: Measuring and Analyzing the Generational Economy (2022). New-York: UN. Available at: https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/undesa_pd_2022_nta-manual_russian.pdf (accessed: July 30, 2025).

by their habitual relations with members of their group, and these relations themselves, having an institutional character and force (the consistency of custom, prescription), change (Veblen, 1909). Habitual ways of acting and thinking not only become customary, simple, and obvious but are also sanctioned by social agreement, becoming correct and proper, generating principles of behavior (Veblen, 2024).

Thus, considering the provisions of these economic schools, it can be concluded that the grandmother institution has a dual nature. On the one hand, it is based on economic expediency, as it helps rationally distribute resources within the family. On the other hand, this institution represents an established tradition and a form of interaction between generations. Both economic schools note changes occurring in interfamilial relationships under the influence of various trends. In particular, the transformation of the grandmother institution in the 21st century is determined by the following main trends.

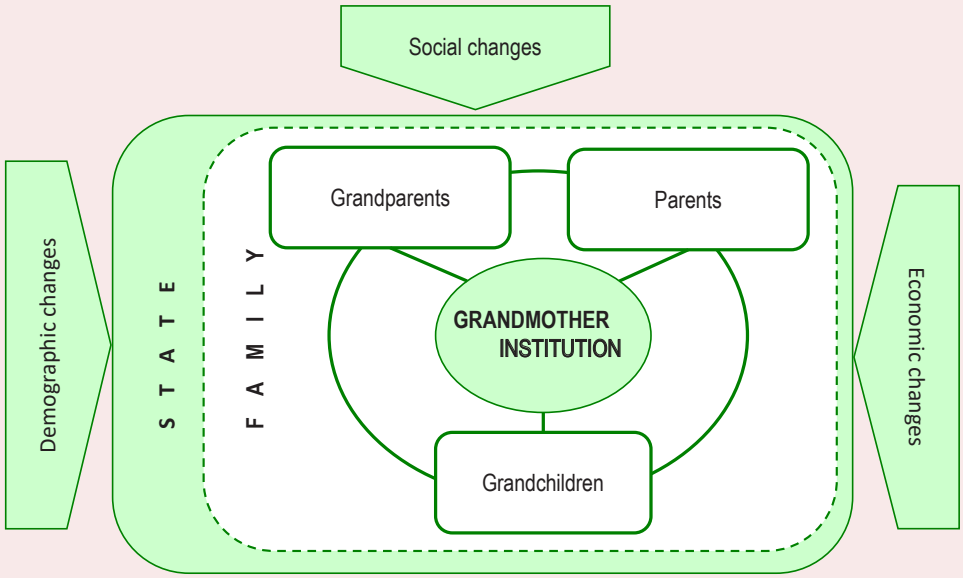
Demographic trends: a significant increase in life expectancy allows the older generation to interact more with the younger generation, while declining fertility naturally leads to a reduction in the number of grandchildren. This results in the development of new family models: with a predominance of the older generation over the younger ("top-heavy") (Hagestad, 2006) or even a complete absence of younger generations. Such changes affect intergenerational relationships and the distribution of material resources (Arber, 2016). This also leads to the phenomenon of grandparental deprivation – discomfort from unrealized grandparental potential, delayed acquisition of the "grandmother/grandfather" status (Yanak, 2021).

Social trends: a shift in the value system of the population, including the elderly, toward self-realization and social interaction in society. According to sociologists, after the age of 60, there are more opportunities for an active life due to new technologies and forms of employment (Grigoryeva et al., 2023). However, the level of self-realization decreases after 60 years old due to deteriorating health and motivation changes (Kozlova, 2017). Furthermore, society has clear ideas about the behavior of older people. A study by Yu. Zelikova showed that contemporary Russian society is characterized by strict regulation of age and gender behavioral norms. For older women, the role of grandmother remains the only acceptable model of behavior (Zelikova, 2020).

Economic trends: growing labor shortages in the economy create a need to attract women and older people, previously engaged in child-rearing, to the labor market and promote the development of various childcare institutions. A sociological study by I.I. Korchagina showed that 60.2% of women in Moscow support the idea that "placing a child in a short-term group facilitates a woman's return to employment after childbirth" (Korchagina, 2018). However, as noted in the work of R. Sarti, various childcare solutions (state services, paid nannies, care by grandparents or other relatives) are not mutually exclusive (Sarti, 2010). At the same time, opportunities for participation in grandchild care depend on the labor market demand for grandparents. However, in the labor market, they face a contradiction: on the one hand, there is significant demand for older workers (Zabelina, 2018), on the other hand, older people face discrimination (Vasilyeva, Tyrsin, 2021; Klepikova, Kolosnitsyna, 2017).

The literature actively studies individual aspects of the transformation of the role of older people, particularly grandmothers, in family and societal structures – demographic shifts, social norms, economic factors. However, this research attempts to form a systemic view of the transformation of the grandmother institution through an analysis of the demographic, social, and economic conditions influencing the behavior of all participants in these relationships.

Figure 1. The grandmother institution



Source: own compilation.

Research approach

Under the influence of demographic, social, and economic changes, the grandmother institution is transforming, not only within the family environment but also in society (*Fig. 1*). As noted by E.V. Konovalova, the family, influencing various relations in society, affects the nature of all processes in economic life (Konovalova, 2013). Therefore, to study the transformation of the grandmother institution, all participants in such relations are considered: grandparents themselves, parents, grandchildren, and the state as a participant shaping the environment in which this institution functions.

To analyze the transformation of the grandmother institution under the influence of modern realities, indicators describing the demographic and socio-economic conditions shaping the behavior of participants in these relationships have been defined.

Grandparents.

Number and potential of grandparents. Practically, grandparents include people who are the parents of the current generation's parents; in other words, the family connection "grandmother/grandfather – grandchild" should exist. As O.M. Shubat states, official Russian statistics lack data allowing for such identification (Shubat, 2022). Based on indirect data (average age of women at childbirth) and estimates, she calculated that women, on average, become grandmothers when they are 48–49 years old, and men become grandfathers at 53 years old[3]. In this research, the criterion for grandparents is age. Conventionally, the population aged 55 and older is classified as such, which corresponds to the specifics of statistical reporting. The study aims to identify general trends, not specific cases of the grandmother institution, so this assumption is justified. For analysis, it is important to consider different age groups of older people, as the perception of early and late grandparenthood differs (Bulygina, Komarova, 2019). To analyze the potential of active aging as a factor in the

[3] Demenko S. (2022). Forecast: In 2025, there will be 34.1 million grandmothers and 19.2 million grandfathers in Russia. Rossiiskaya gazeta – Federal'nyi vypusk, 282(8930). Available at: https://rg.ru/2022/12/13/resurs-rozhdaemosti.html (accessed: October 01, 2025; in Russian).

participation of the older population in social and family life, indicators of health status and education level are included in the system (Zaidi et al., 2013).

Labor and social activity of grandparents. When analyzing the labor activity of grandparents, not only their employment rate (including the availability of the old age pension) was considered but also the nature of their professional functions (as managers and highly qualified specialists). Studying the reasons for continuing labor activity helps understand their choice between self-realization in society and fulfilling their traditional role in the family. Analysis of the social activity of grandparents was based on indicators of their involvement in active leisure, attendance at entertainment and sports events, and daily childcare.

Parents.

Number and characteristics of parental behavior. Analysis of parental behavior is based on indicators of households with children, their structure, and level of urbanization. Indicators of mothers' reproductive behavior were analyzed separately.

Employment of mothers. According to the Family Code of Russia, parents have equal rights and obligations regarding children. However, the problem of combining work and childcare is particularly relevant for women (Zhuravleva, Gavrilova, 2017; Karabchuk, Nagernyak, 2013). Nobel laureate C. Goldin notes that despite the "quiet revolution" that changed women's role in society, little has changed in the family (Goldin, 2025). Therefore, when analyzing the need for help from grandparents, the employment of mothers, their marital status, and the age of their children are considered.

Grandchildren.

Number of grandchildren. Relying on the available statistical database, grandchildren are defined as children and adolescents, i.e., the population under 18, which carries a certain degree of convention. Moreover, the age of the grandchildren themselves significantly influences the nature of their relationship with grandparents (Bulygina, Komarova, 2019). Children of early and preschool age receive maximum benefits from personal communication with them and their physical presence, while in adolescence the connection becomes less close. Therefore, preschool and school-age children and adolescents are considered separately.

Infrastructure for the upbringing and development of children and adolescents. Developed social infrastructure for children and adolescents allows parents to allocate their resources (time and attention) more effectively[4], which accordingly reduces the need for help from grandparents in childcare.

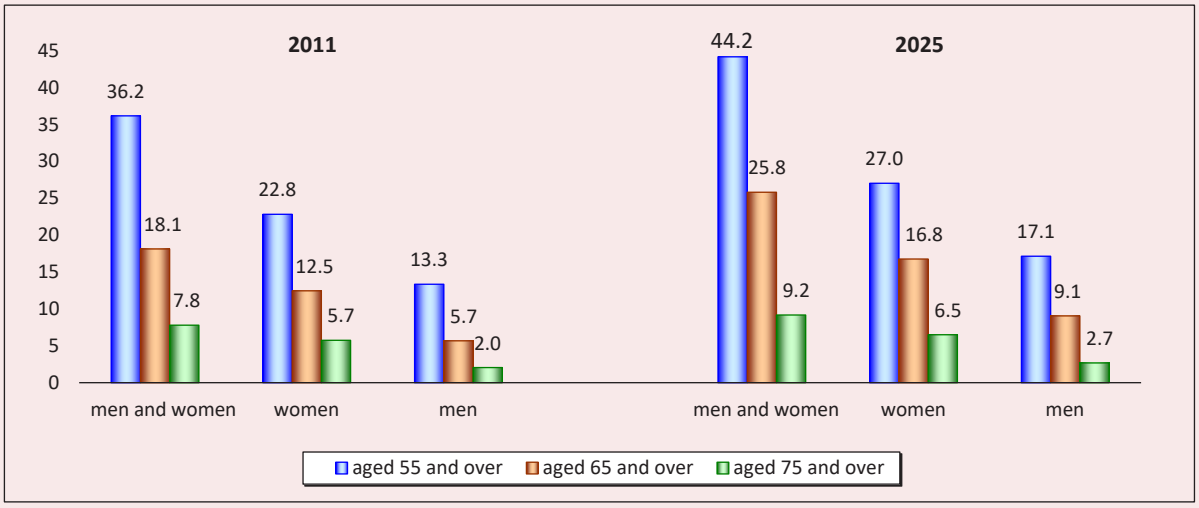
The state.

The results of state activities in education, family relations, and employment are reflected in the indicators listed above; therefore, the analysis was based on describing the situation and development priorities of society and focused on qualitative aspects of institutional transformations.

The information base of the study consists of data from the Russian Federal State Statistics Service (Rosstat), including results from federal statistical observations on socio-demographic problems and the results of the all-Russian population censuses, as well as results from sociological surveys conducted by the Russian Public Opinion Research Center (VCIOM) and other researchers. The main source of empirical data is the comprehensive observation of living conditions of the population, conducted by Rosstat since 2011; therefore, the selected research period is 2011–2024.

[4] Combining career and family is the success of Russia's demographic and personnel policy: Expert analytical report. ANO "National Priorities". National Projects. Available at: https://национальныепроекты.рф/upload/semya/Доклад%20Семья%202024.pdf (accessed: October 01, 2025).

Figure 2. Number of older adults, as of January 1, million people



Source: Rosstat data.

Research results

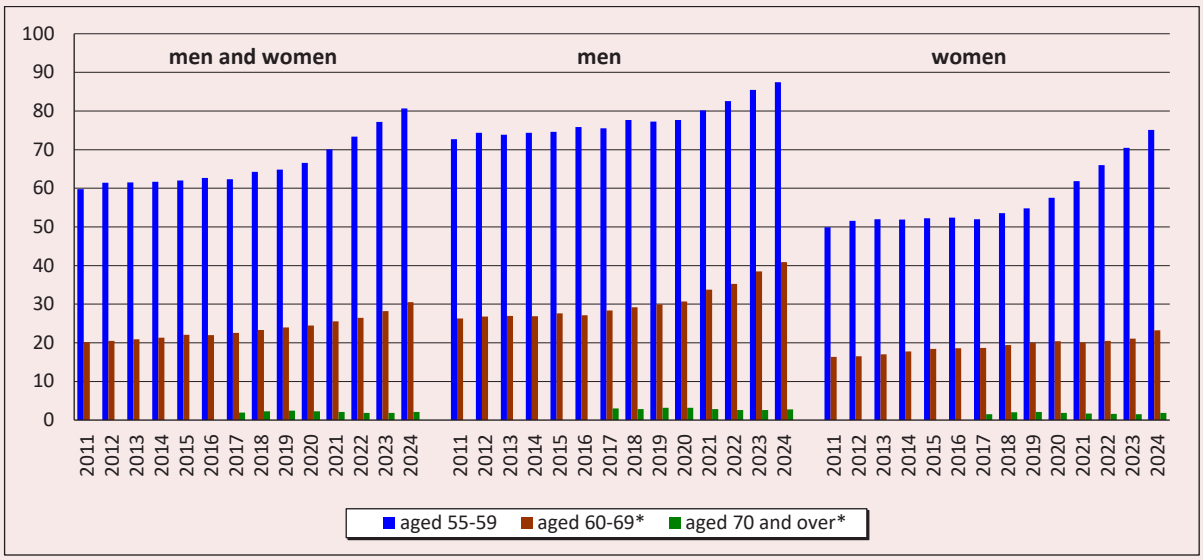
Based on the proposed system of indicators, an analysis of the economic demand for the grandmother institution and its transformation under the influence of contemporary realities in Russia was conducted, showing individual participants in these relationships.

Grandparents. In Russia in 2011–2025, the number of older adults (aged 55 and over) increased significantly – from 36.2 to 44.2 million people, i.e., by 22% (*Fig. 2*). Their share in the age structure of the population increased from 25.3 to 30.2%. However, the aging process is not "deep": the share of the old-old people has not increased significantly, as there has been no substantial shift in mortality to older age groups (Vasilyeva, 2024). From 2011 to 2023, the remaining life expectancy for men aged 60 increased by only 2.6 years, and for women aged 55 increased by 2.2 years, reaching 17.7 and 27.0 years, respectively. The level of "feminization" of aging is decreasing: while in 2011 there were 171 women per 100 men aged 55 and over, in 2025 there were 158 women.

In 2011–2024, the employment rate of the older adults increased substantially (*Fig. 3*). The growth is primarily noted among women aged 55–59: from 2019 to 2024, their employment rate increased from 54.8 to 75.1%. Also, during this period, employment among men aged 60–69 rose from 29.9 to 40.9%. This dynamic in the labor activity of the older adults was influenced by changes in pension legislation, namely the increase in the retirement age. In 2012–2023, the share of employed women aged 55 and over with higher education increased (from 28.8 to 32.3%), while among men the situation did not change significantly (from 25.7 to 25.4%).

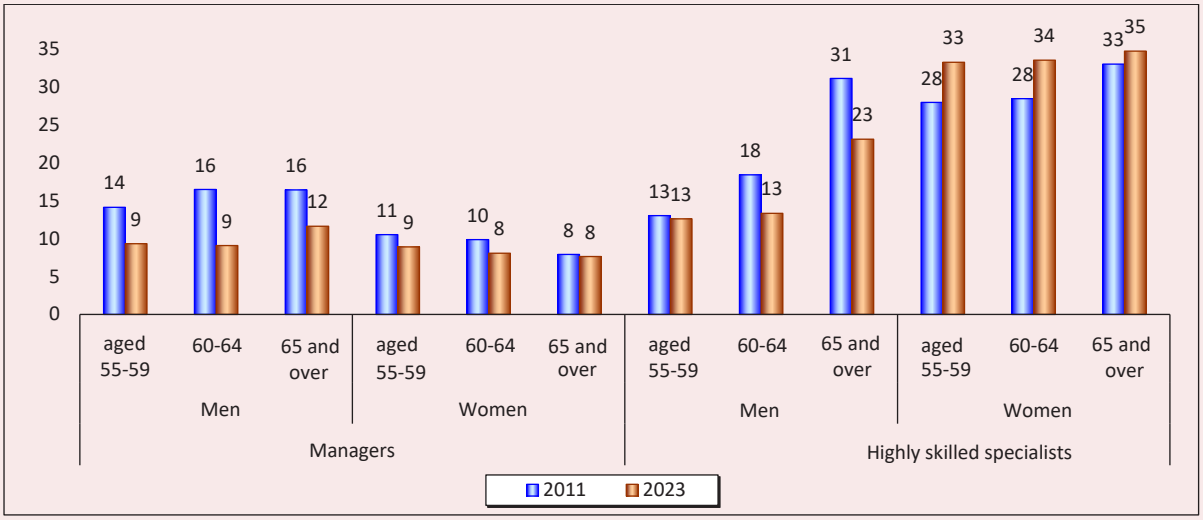
Furthermore, from 2011 to 2023, the share of highly qualified specialists among women over 55 increased from 28.8 to 33.7%, with the most notable growth in the 55–59 age group – from 28.0 to 33.3% (*Fig. 4*). Among older men, conversely, the share of highly qualified specialists is decreasing. From 2011 to 2023, the number of older managers decreased from 521.1 to 352.6 thousand people, and their share – from 12.4 to 9.0% of employed men aged 55 and over. At the same time, the share of managers aged 50 and over not only remains the highest among all age groups but also increased from 32.2% of all managers in 2012 to 36.3% in 2024.

Figure 3. Employment rate by age groups, %



Note: * Before 2017 it was the 60–72 age group.
Source: Rosstat data. Results of the labor force sample survey.

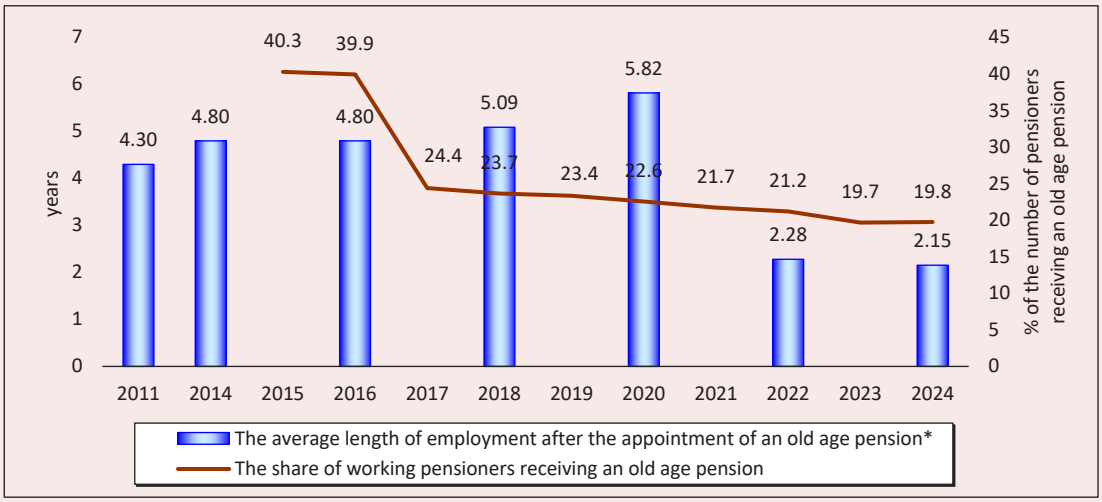
Figure 4. Share of managers and highly qualified specialists, % of the employed of respective gender and age



Source: Rosstat data.

The dynamics of labor activity among the older adults and labor activity among pensioners receiving old age pensions are opposite. As seen in *Figure 5*, employment among pensioners, on the contrary, is declining. First, the introduction of the federal law on "non-indexation of pensions for working pensioners" in 2017 alone reduced their share from 39.9 to 24.4%. Second, the increase in the retirement age reduced the average post-retirement length of employment of pensioners from 5.8 years in 2020 to 2.3 years in 2022. Moreover, these trends persist; according to 2024 data, the share of working pensioners was 19.8%, and the average length of employment after being granted an old age

Figure 5. Labor activity of pensioners



Note: * In the year of reaching the generally established retirement age.
Source: Rosstat data. Comprehensive observation of living conditions of the population.

pension was 2.2 years. According to a 2020 VCIOM survey[5], Russians believe the reasons pensioners continue working are insufficient pensions (74%), the desire to provide financial support to children and grandchildren (56%), the wish to be with people, in a community (32%), as well as interest in the work (19%) or the habit of working (16%). Similar results were shown by a 2020 survey of working pensioners in Saratov (Shakhmatova, 2021): insufficient pensions (81%), desire to provide financial support to children, grandchildren (36%), wish to avoid loneliness, be among people, in a community (28%), habit of working (24%), interest in work, desire to work (21%), with no gender differences found in responses. Data from a survey of the population in the Vologda Region (Ilyin et al., 2025) confirm that instrumental motives of the need for additional earnings (41%) and the desire to be financially independent, including to support children and grandchildren (40%), predominate among the motives for continuing work.

In 2011–2024, there were changes in the nature of social activity among the older population. The share of older adults capable of leading an active lifestyle and engaged in any form of active recreation varies between 5–8%, among women it is slightly lower (4–6%). Of those capable of an active life, in 2024 only one fourth engaged in any form of active recreation (one third in 2011). This generally confirms the conclusion drawn from a 2021 survey of residents of the Sverdlovsk Region (Neshataev, 2022): grandparents are more inclined toward passive leisure and "domesticated" activities, with the most popular forms of leisure among the surveyed grandparents being help in raising grandchildren (48.6%) and work at a dacha or vegetable garden (47.8%). At the same time, the structure of regularly attended events changed: the increase is recorded in the share of the older adults going to the cinema (from 1.2 to 12.6%), theater (from 2.8 to 15.0%), concerts (from 3.9 to 17.3%), art exhibitions, museums (from 1.9 to 9.5%), restaurants, cafes, bars (from 1.8 to 28.7%), sports events (from 2.4 to 7.0%), but religious institutions are still at the top (from 22.5 to 33.1%). The share of

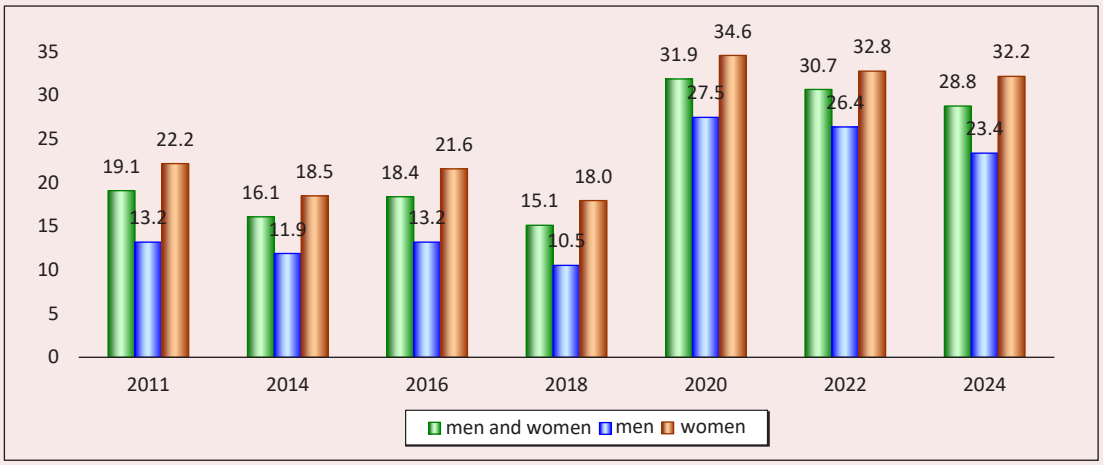
[5] Retirement work: Pros and cons. VCIOM. Available at: https://wciom.ru/analytical-reviews/analiticheskii-obzor/rabota-na-pensii-za-i-protiv (accessed: July 30, 2025).

older adults who went on a tourist or excursion trip in the past 12 months increased significantly (from 7.8 to 42.3%).

As shown by the results of statistical observations, there are no such processes as a reduction in the significance of the traditional the grandmother institution (Arutyunyan, 2012) or the disappearance of the "Russian grandmother" phenomenon (Sorokin, 2014). In 2011–2024, the share of people aged 55 and over providing daily childcare increased from 19.1 to 28.8% (*Fig. 6*). This growth is noted both among grandmothers (from 22.2 to 32.2%) and among grandfathers (from 13.2 to 23.4%). A.V. Korolenko found that women aged 60–64 with a high level of education, continuing to work while receiving a pension, and not living alone, communicate more with younger generations (Korolenko, 2018). Yu. Zelikova believes that established social norms and rules, postulating that there is only one role for older women – grandmother – lead to their self-discrimination (Zelikova, 2020). This corresponds to the results of a 2024 VCIOM survey[6]: 69–75% of older Russians believe that maximum participation of grandparents in raising grandchildren is necessary, whereas only 12–18% support the idea of "free" grandparents. Notably, the younger generations (Generation Z and Millennials) demonstrate a different position: the older adults should live primarily for themselves (48–55%), not for their grandchildren (28–36%).

Parents. According to the results of the 2010 and 2020 all-Russian population censuses, the number of households with children under 18 decreased by 2.6 million (*Table*), while there is an increasing number of single mothers (from 2.1 to 2.7 million) and fathers (from 226 to 494 thousand). The share of households consisting of single parents with children increased from 13.0% to 21.1% of the number of households with children. It is necessary to note that during the period under review, the number of divorces decreased (from 2011–2024 – from 4.7 to 4.4 divorces per 1,000 people), but the number of marriages also significantly decreased (from 9.2 to 6.0 per 1,000 people).

Figure 6. The share of people aged 55 and over providing daily care for children (their own or others'), %



Source: Rosstat data. Comprehensive observation of living conditions of the population.

[6] Grandmother of the 21st century. VCIOM. Available at: https://wciom.ru/analytical-reviews/analiticheskii-obzor/babushka-xxi-veka (accessed: July 30, 2025).

Table. Number of households with children under the age of 18, thousand households

Households	2010	2020
Households with children under 18	17877	15231
Households consisting of a mother with children under 18	2095	2727
Households consisting of a father with children under 18	226	494
Households consisting of a mother (father) with children under 18 and one of the parents of the mother (father)	894	805
Source: Rosstat data; all-Russian population censuses 2010 and 2020		

Though the number of households consisting of one parent with children and a grandmother (or grandfather) decreased from 894 to 805 thousand, their share persists (in 2010 – 5.0%, in 2020 – 5.3% of households with children). T.L. Kuzmishina notes that living with grandparents creates a distortion of family system boundaries (Kuzmishina, 2014). This can lead to tension in relations between mothers and grandmothers when their ideas about child-rearing do not coincide (Bektas et al., 2022; Con Wright, 2025), so parents need their own parents' help in raising children but limit it. J. Mason, V. May, and L. Clarke formulated this consensus as "being on hand" and "not interfering" (Mason et al., 2007). According to a 2005 survey, 51% of respondents favored limited participation of grandparents in raising grandchildren (Vovk, 2006). A 2020 VCIOM study[7] showed that only 27% of Russians are inclined to entrust upbringing to a grandmother or grandfather. The majority (66%) believe that it is better for a young family without financial difficulties to send their children to kindergarten, with women and the 35–44 age group stating this more often (69 and 74%, respectively). According to the sociological study "Family and Family Generations: A Generational View" (Rostovskaya, Egorychev, 2022), 65.1% of parents care for children themselves, and only 3.4% of respondents answered that grandparents take on this role. T.K. Rostovskaya and A.M. Egorychev associate this with the influence of the Soviet legacy on the family institution. In the Russian family, gender norms of the Soviet era persist, according to which a woman can work and build a career, but the primary responsibility for the family and children lies with her (Dobrokheb, Ballaeva, 2018). At the same time, the Western ideology of intensive motherhood is gaining popularity in Russia (Isupova, 2018), although this parenting standard is not perceived equally by all parents (Faircloth, 2023).

Another parameter of households is their level of urbanization: 73.5% of households with children live in urban settlements, and 26.5% in rural areas; this ratio did not change during the analyzed period.

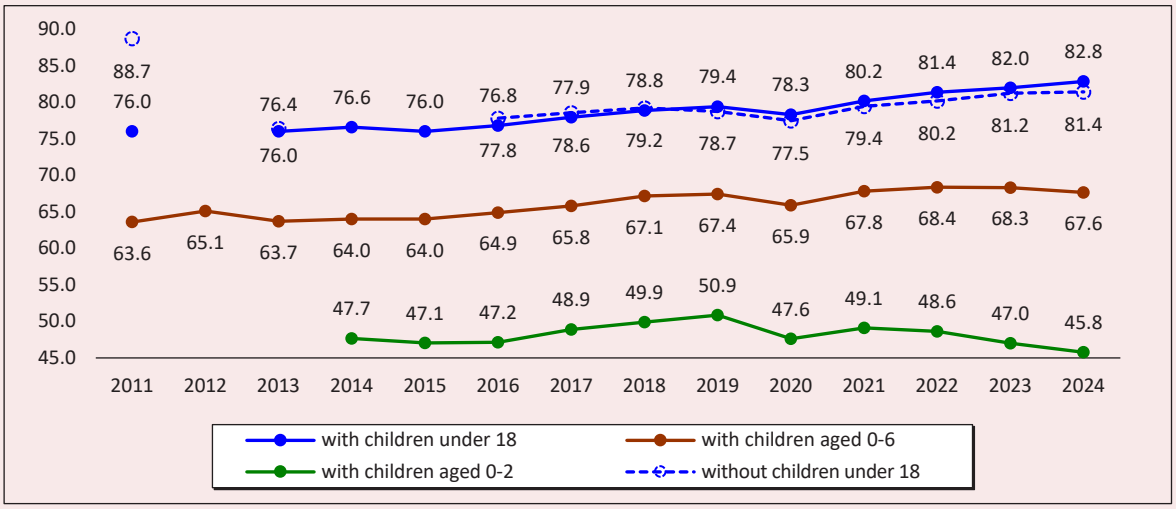
E.V. Zemlyanova and V.Zh. Chumarina showed a change in the age model of fertility in Russia, with a shift toward older ages (Zemlyanova, Chumarina, 2018). From 2011 to 2022, the average age of mothers at childbirth increased from 27.7 to 28.9 years. As a result, grandparents remain in a long wait for grandchildren, and when grandchildren appear, they themselves often need help from relatives (Gurko, 2020).

As rightly noted in the National Strategy for Women for 2023–2030[8], women in Russia are oriented toward full employment, career growth combined with family responsibilities and child-rearing. In 2011–2024, the share of employed women with preschool-age children increased from 63.6 to 67.6% (*Fig. 7*). However, since the "pandemic year", the employment rate of women with children under three has been

[7] A big family, or grandfathers and grandchildren. VCIOM. Available at: https://wciom.ru/analytical-reviews/analiticheskii-obzor/bolshaya-semya-ili-dedy-i-vnuki. (accessed: July 30, 2025).

[8] On the approval of the National Strategy for Women for 2023–2030: RF Government Resolution 4356-r, dated December 29, 2022. Available at: https://www.garant.ru/products/ipo/prime/doc/405965441/ (accessed: July 30, 2025).

Figure 7. Employment rate in women aged 20–49, %



Source: Rosstat data. Results of the labor force sample survey.

decreasing; in 2019 it was 50.9%, and in 2024 it was 45.8%. Overall, women's employment does not depend on whether they have children; since 2019, the employment rate among women with children has even been higher than among women without children (in 2024 – 82.8 and 81.4%, respectively).

The employment of married and single mothers is increasing, but the employment of unmarried women is higher. Among single mothers whose youngest child is under 15, 76.7% had full-time employment (in 2021 – 74.1%), 16.7% were unemployed (in 2021 – 18.5%). Among married mothers, 69.0% had full-time employment (in 2021 – 64.2%) and 22.1% were unemployed (in 2021 – 24.5%).

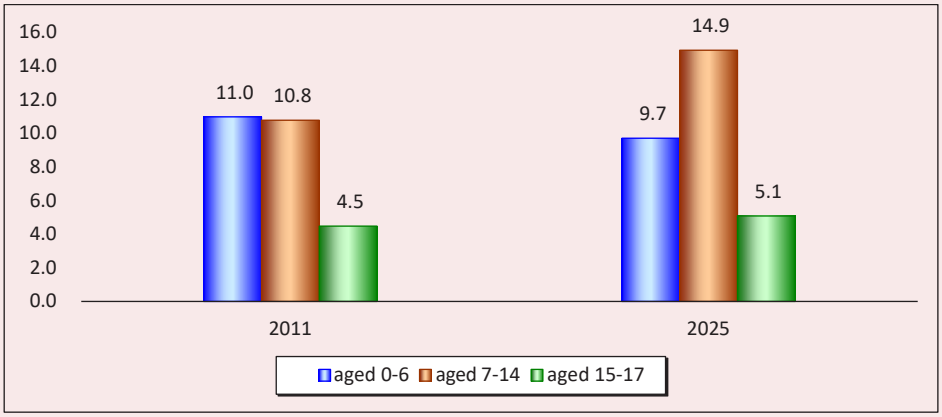
Grandchildren. In Russia, the ratio of the older generation's size to the young generation's size is increasing. Conventionally, in 2011 there were 2.8 persons aged over 55 per one grandchild (persons under 18), in 2025 – 3.1. In 2011–2025, the number of children (aged 14 and under) increased from 21.8 to 24.7 million people (*Fig. 8*). However, the number of preschool-age children is declining, which is associated with the preserved wave-like deformation of the age composition of Russia's population[9], and considering the negative dynamics of fertility, a further reduction in the size of this age group and the number of children in general is expected. According to a Rosstat forecast[10], in 2024–2042, there will be a 1.2-fold decrease in the population younger than working age (15 and under). The number of adolescents (15–17 years) from 2011 to 2025 increased by 603.6 thousand people; in 2025 it amounted to 5.1 million people. Such an age structure of children and adolescents in Russia undoubtedly influences the grandmother institution and the prospects for its development.

In 2011–2024, the accessibility of services related to the education and upbringing of children improved. While in 2011 there were 570 places per 1,000 children for preschool-age children in

[9] Shcherbakova E.M. (2023). Demographic results of the first half of 2023 in Russia (part I). Demoskop Weekly, 999–1000, 1–20. Available at: https://www.demoscope.ru/weekly/2023/0999/barom03.php (accessed: July 30, 2025; in Russian).

[10] Estimated population of the Russian Federation until 2045 according to the average demographic forecast: Statistical bulletin (2023). Moscow: Rosstat.

Figure 8. Population aged 17 and under, as of January 1, million people



Source: Rosstat data.

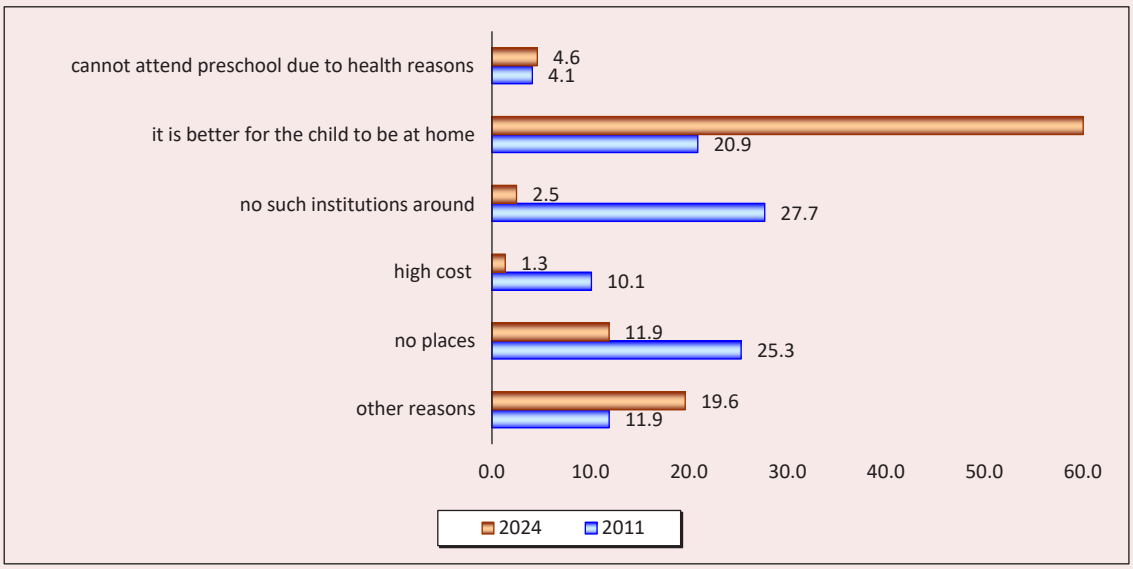
preschool educational institutions, in 2024 there were 811 places. At the same time, according to HSE statistical yearbooks[11], in 2011–2023 the number of preschool education institutions decreased from 45 to 32 thousand. The increase in accessibility, as noted by A.L. Sinitsa, is associated with the consolidation of groups and the development of short-term groups for children (Sinitsa, 2017). This assumption is indirectly confirmed by the growth in the number of childcare workers (in 2010–2023 from 485.2 to 509.4 thousand) and their workload (from 11 to 13 children per 1 worker). The HSE analytical report "Vectors of Preschool Education Development in the Context of Modern Challenges" states that the government supports the creation of new places for children under three in the non-public sector of preschool education, including based on public-private partnerships (Abankina et al., 2022). In particular, the national project "Demography" provides for subsidies from the federal budget to individual entrepreneurs and non-public organizations for creating additional groups for children aged one and a half to three years in private kindergartens. However, the proportion of children attending private preschool education institutions remains stable and does not exceed 1.5% of the total number of children in preschool education institutions. This may indicate the high accessibility of state education and the relatively low demand for private education.

In 2011–2024, the share of children aged 3–6 who were placed on a waiting list for a place in a preschool education institution increased from 25.9 to 37.7% of the total number of children of the corresponding age not attending a preschool education institution. During this period, the structure of reasons for children not attending kindergarten changed significantly. In 2011–2024, the physical and financial accessibility of preschool institutions increased; the share of children not attending a preschool education institution due to high cost and lack of places decreased from 63.1 to 15.7% (*Fig. 9*). In 2024, 60% of children aged 3–6 did not attend preschool institutions because "it is better for the child to be at home" (in 2011 – only 20.9%).

In 2011–2024, the share of children aged 5–17 enrolled in supplementary education programs increased significantly relative to the total number of children in this age category (from 39.3 to 85.9%). During the period under review, the

[11] Education in figures. National Research University Higher School of Economics. Available at: https://www.hse.ru/primarydata/oc (accessed: July 30, 2025).

Figure 9. Distribution of children aged 3–6 by reasons for not attending preschool education institution, % of total number of children of corresponding age not attending preschool education institution



Source: Rosstat data. Comprehensive observation of living conditions of the population.

number of children who vacationed in children's and adolescents' summer recreational institutions did not change; in 2024 it was 5.8 million people. At the same time, the number of children's and adolescents' summer recreational institutions significantly decreased (from 52 to 38.9 thousand).

The state. According to Russian legislation, parents are responsible for their children. Article 38 of the Constitution of the Russian Federation states that care for children and their upbringing are the equal right and obligation of parents. The Family Code of the Russian Federation (Article 67) grants grandparents and other relatives only the right to communicate with the child but does not impose any obligations for their upbringing or support. The Labor Code of the Russian Federation (Article 256) grants relatives the right to take parental leave to care for a child, provided the parents are not using it and not receiving corresponding payments. This delineation of rights and obligations is essential in determining the circle of persons responsible for the well-being of minors. The literature contains attempts to consider the grandmother institution – the care of grandparents for their grandchildren – through the lens of labor relations, defining it as "grandparental labor" requiring payment (Bagirova, Sapozhnikova, 2021). D.G. Saitova proposed a mechanism for state stimulation of such labor, where the state acts as the "employer", not the parents, whose duty it is to care for and raise their children (Saitova, 2022). Stimulating "grandparental labor" from a legal standpoint is not only unjustified but also economically inexpedient. In fact, it means transitioning an officially employed worker, possessing significant and unique professional skills by the end of their working life and being a taxpayer, into an "unprofessional" worker on the informal labor market, who in rare cases possesses the necessary competencies in child-rearing.

In the context of a declining working-age population and growing personnel shortages in Russia, the state is implementing a comprehensive policy to support the employment, paying special attention to women and people of pre-retirement and retirement ages as a significant part of the Russia's labor potential. This policy aims to develop

an effective employment system that considers the needs of all categories of citizens striving for professional realization while maintaining family obligations. The state shares responsibility with parents for raising children, creating conditions for the early development of children under three and for the labor activity of women with children[12]. In 2021, the federal project "Employment Promotion" was launched within the national project "Demography"; from 2025 it has been transformed and incorporated into the national project "Personnel". An important component of this project is expanding opportunities for young mothers to return to the labor market after parental leave, providing them with educational pathways (Abankina et al., 2022). The state also encourages businesses actively implementing programs to support working women with children and promote women's careers[13]. Furthermore, to ensure quality care and development of the child, the professional standard "Nanny (Worker for Supervising and Caring for Children)" was approved in 2018, which systematizes requirements for specialists.

In 2016, the Strategy for Action in the Interests of Senior Citizens up to 2030[14] was approved, which provides for the active involvement of older people in economic activity. In this strategy, measures in the area of the older adults employment are proposed, such as supporting entrepreneurial initiatives of senior citizens, developing forms of employment (domestic, temporary, flexible, and remote), creating conditions to prevent discrimination against older people in the labor market and to continue their labor activity after reaching retirement age, developing mentorship programs, as well as training and retraining older people, including pre-retirees.

Russian state policy pays special attention to strengthening intergenerational ties as a crucial element of developing the family institution. In particular, one of the tasks of the Strategy for the Comprehensive Safety of Children for the Period up to 2030[15] is to create conditions for intergenerational interaction and ensuring generational continuity. The Concept of State Family Policy of Russia for the period up to 2025[16] is also aimed, among other things, at strengthening intergenerational ties.

Discussion of results

The analysis revealed two interrelated trends in modern Russian society: a significant increase in the labor activity of older people, primarily among women, and, concurrently, an intensification of their participation in raising the younger generation. The trend of more active participation of grandparents in the lives of their grandchildren is characteristic not only of Russia. According to data from the Survey of Health, Ageing and Retirement in Europe (SHARE), 44% of grandparents in 11 European countries (Austria, Belgium, Denmark, France, Germany, Greece, Italy, Netherlands, Spain, Sweden, and Switzerland) provide childcare without the presence of the parents (Glaser et al., 2013). In the UK, data from the British Social Attitudes (BSA) survey show that 63% of grandparents are involved in raising grandchildren (Wellard, 2011).

[12] On national goals and strategic objectives for the development of the Russian Federation for the period up to 2024: Presidential Decree 204, dated May 7, 2018. Available at: http://www.kremlin.ru/acts/bank/43027 (accessed: July 30, 2025).

[13] On the approval of the National Strategy for Women for 2023–2030: RF Government Resolution 4356-r, dated December 29, 2022. Available at: https://www.garant.ru/products/ipo/prime/doc/405965441/ (accessed: July 30, 2025).

[14] On the approval of the Strategy for Action in the Interests of Senior Citizens up to 2030: RF Government Resolution 830-r, dated April 7, 2025. Available at: https://legalacts.ru/doc/rasporjazhenie-pravitelstva-rf-ot-07042025-n-830-r-ob-utverzhdenii/ (accessed: July 30, 2025).

[15] On the Strategy for the Comprehensive Safety of Children for the period up to 2030: Presidential Decree 358, dated May 17, 2023. Available at: https://www.garant.ru/products/ipo/prime/doc/406788976/ (accessed: July 30, 2025).

[16] On the approval of the Concept of State Family Policy of Russia for the period up to 2025: RF Government Resolution 1618-r, dated August 25, 2014. Available at: https://www.garant.ru/products/ipo/prime/doc/70627660/ (accessed: July 30, 2025).

According to a study by Dutch researchers, the probability of grandparents caring for their adult daughters' children increased from 0.23 to 0.41 in 1992–2006 (Geurts et al., 2014). Moreover, the same study claims that if the employment level of the older population had not increased, the growth of this indicator would have been more significant. Analysis of data from the Health and Retirement Study (HRS) – a survey of a representative sample of Americans over 50 – indicates that grandchild care by grandparents is becoming increasingly common, especially among families with low socio-economic status (Lee, Tang, 2015). Researchers from King's College London (di Gessa et al., 2016), using SHARE data, explain the higher level of intensive grandchild care by grandparents with the unavailability of formal childcare and the full-time employment of mothers. This relationship is clearly traced using the example of 11 European countries. In countries such as Italy, Portugal, Romania, and Spain, where mothers work overtime, more than 40 hours per week, and there are practically no specialized childcare institutions, a high degree of grandparental participation is noted. In the UK, Netherlands, and Germany, few mothers are engaged in prolonged labor, consequently they rely much less on grandmothers for intensive childcare (Glaser et al., 2013). M.H. Meyer, based on interviews with working American grandmothers, concluded that many of them change their work schedules, use vacation and sick leave time, and reduce retirement savings partly because they have more social security, flexibility, and resources than their daughters (Meyer, 2012).

If European and American studies demonstrate a predominantly economic basis for the motivation of grandmothers in caring for grandchildren, the results of Russian sociological studies show its institutional character. A survey of older Ossetian women with grandchildren indicates that 89% of them consider helping their grandchildren an obligation, and 60% of respondents would feel guilty if they did not provide such support (Dzagurova, 2021). A.V. Kuramshev, E.E. Kutyavina, and S.A. Sud'in note that the grandmothers' own needs and interests are given a low priority, and the entire daily schedule is built around the grandchildren. A study based on a survey of grandmothers revealed that sacrificial attitudes are characteristic of the majority of respondents (Kuramshev et al., 2017).

Studying the behavioral models of grandparents in Russia and Western European countries demonstrates the limitations of existing economic theories in explaining their motivation for participating in grandchild care. Many studies show that, despite natural changes in the character of "grandparent-grandchild" communication, the intergenerational ties remain an important component of the family system (Kemp, 2007), driven by both practical and emotional aspects. At the same time, according to the results of sociological studies, the Russian specificity is manifested in the absence of a dominant rational logic in the redistribution of resources within the family. This is traced when comparing behavioral patterns of the population in Russia and Estonia based on SHARE data (Sinyavskaya et al., 2023). If in Estonia, the chances of helping grandchildren are higher for working elderly and those assessing their income more highly, in Russia no statistically significant connection was found between involvement in helping grandchildren and social status or subjective income.

Conclusion

This research attempted to analyze the trends and socio-economic conditions of the transformation of the grandmother institution in Russia, based not on assumptions about the realization of ideas of active aging, self-realization, narcissism, feminism in the public consciousness, but on the results of statistical observations in the recent past. The scientific novelty of the study lies in developing a systemic approach to studying the

grandmother institution, based on the analysis of demographic, social, and economic factors influencing the development of behavioral patterns of all participants in these relationships: grandparents, parents, grandchildren, and the state. The results show that the older population of Russia demonstrates a trend toward greater social and labor activity while preserving traditional forms of participation in family life, including raising grandchildren. Since the grandmother institution is not a unique phenomenon characteristic exclusively of Russian society, European studies were also considered. Comparing the findings, we can conclude that there are differences in the motivation of grandparents that do not fit into the framework of one economic theory: neoclassical theory and neo-institutional theory. In Russia, grandmothers perceive caring for their grandchildren as a right, traditional form of interfamilial interaction. In Europe, grandmothers explain their help by economic expediency. Although this conclusion requires more detailed research with more comparable initial data, it can be unequivocally stated that the grandmother institution is not a social rudiment.

The study showed that the grandmother institution is not disappearing but is transforming, adapting to new socio-economic conditions, while retaining its significance both for the family and for society as a whole. M.Yu. Arutyunyan formulated the vector of this transformation as moving from a "substitutive" or even supplementary function relative to the parental one, toward an independent role (Arutyunyan, 2012). Indeed, there is a substantial increase in the employment of the older population, especially among women aged 55–59. Not only is there an increase in the education level of working older women, but also in the share of highly qualified specialists among them, and the leading position of older persons among managers persists. While the labor activity of the older population is growing, the labor activity of pensioners is declining. This divergent dynamic shows that a significant portion of pre-retirement and retirement age citizens demonstrate a desire to continue working, postponing pension registration. This indicates the preservation of high labor motivation among the older generation and their intention to remain economically active participants in the labor market. Moreover, according to surveys, a significant motive is also the desire to help children and grandchildren. At the same time, the social activity of the older adults is increasing, the spectrum of leisure activities is expanding, and participation in the cultural life of society is growing. Despite the decrease in the number of preschool-age children, a steady increase in the participation of older people in caring for grandchildren is recorded. This growth can be explained by the increase in the number and share of single-parent households with children, as well as the increase in labor activity among women with children. The significant personnel deficit in the Russian labor market prompts the state to conduct a comprehensive policy aimed at stimulating employment, especially among women and the older adults as a significant part of the Russia's labor potential. At the same time, the state seeks to maintain a balance between engaging these groups in labor activity and strengthening intergenerational ties through the implementation of family policy measures.

It is difficult to agree that the modern grandmother institution no longer implies selfless engagement of grandparents in the care of their grandchildren (Dorofeeva, 2021). On the contrary, the data indicate that, despite the growing involvement of the older adults in the economy and public life, their participation in raising grandchildren not only persists but intensifies. However, combining paid work and grandchild care can lead to an overload that negates the potential benefits of grandchild care for the well-being of older women (Arpino, Bellani, 2022). This

tension between social roles is clearly reflected in the statement of a woman engaged in raising her grandchild (one of the respondents in M.H. Meyer's study): "I wish I could be doing more grandmothering and less mothering"[17]. At the same time, young parents are rethinking the functions of the grandmother institution. They focus on raising children independently, using the support of the older generation primarily as an additional resource.

Such a transformation of the grandmother institution requires creating conditions that allow the older generation to harmoniously combine labor activity with participation in raising grandchildren. Key directions here could be the introduction of flexible forms of employment, the development of infrastructure for children, and the integration of family policy and active aging programs. Improvements in these areas will contribute not only to satisfying the interests of older people in professional and family aspects but also to reducing demographic risks (e.g., refusal to have a second or third child due to lack of support). This approach does not contradict traditional values but relies on them, turning the grandmother institution into a resource for the sustainable development of Russian society.

References

Abankina I.V., Mikhailova Ya.Ya., Nisskaya A.K., Sivak E.V., Filatova L.M. (2022). *Vektory razvitiya doshkol'nogo obrazovaniya v usloviyakh sovremennykh vyzovov: analiticheskii doklad* [Vectors of Preschool Education Development in the Context of Modern Challenges: Analytical Report]. Moscow: HSE University.

Arber S. (2016). Gender and ageing in global context: Role of marital status. *Monitoring obshchestvennogo mneniya: ekonomicheskie i sotsial'nye peremeny=Monitoring of Public Opinion: Economic and Social Changes*, 2, 59–78. DOI: 10.14515/monitoring.2016.2.04 (in Russian).

Arpino B., Bellani D. (2022). Juggling grandchild care and labor force participation: The effect on psychological wellbeing of older women. *Frontiers in Sociology*, 6, 806099. DOI: 10.3389/fsoc.2021.806099

Arutyunyan M.Yu. (2012). Changes in the "the grandmother institution": Socio-psychological aspect. *Narodonaselenie=Population*, 1(55), 76–85 (in Russian).

Bagirova A.P., Sapozhnikova K.A. (2021). Grandparenting as a labor process: Opinions of parents of children about financial incentives. In: Saraliev Z.Kh. (Ed.). *Starshee pokolenie sovremennoi Rossii* [Older Adults in Modern Russia]. Nizhny Novgorod: Lobachevsky State University of Nizhni Novgorod.

Becker G. (2003). *Chelovecheskoe povedenie: ekonomicheskii podkhod* [The Economic Approach to Human Behavior]. Moscow: HSE University.

Becker G.S. (1991). *A Treatise on the Family*. Cambridge; London: Harvard University Press.

Bektas G., Boelsma F., Gündüz M. et al. (2022). A qualitative study on the perspectives of Turkish mothers and grandmothers in the Netherlands regarding the influence of grandmothers on health related practices in the first 1000 days of a child's life. *BMC Public Health*, 22(1), 1364. DOI: 10.1186/s12889-022-13768-8

Bulygina M.V., Komarova S.V. (2019). Grandparents and grandchildren (review of foreign studies). *Sovremennaya zarubezhnaya psikhologiya=Journal of Modern Foreign Psychology*, 8(4), 97–105. DOI: 10.17759/jmfp.2019080410 (in Russian).

Con Wright G. (2025). "Who cares best for the child?" Grandmothers' interactions with mothers in childcare. *Akdeniz Kadın Çalışmaları Ve Toplumsal Cinsiyet Dergisi*, 8(1), 1–23. DOI: 10.33708/ktc.1497989

Di Gessa G., Glaser K., Price D., Ribe E., Tinker A. (2016). What drives national differences in intensive grandparental childcare in Europe? *Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 71, 141–153. DOI: 10.1093/geronb/gbv007

[17] Eisenberg R. Grandmothers Caring for Grandkids: Work-Life Balance 2016. Forbes. Available at: https://www.forbes.com/sites/nextavenue/2016/07/29/grandmothers-caring-for-grandkids-work-life-balance-2016/ (accessed October 15, 2025).

Dobrokhleb V.G., Ballaeva E.A. (2018). Family in the face of new social challenges. *Narodonaselenie=Population*, 2, 60–68. DOI: 10.26653/1561-7785-2018-21-2-05 (in Russian).

Dorofeeva Z.E. (2021). Role distribution in high-resource multi-child families. *Sotsiologicheskaya nauka i sotsial'naya praktika*, 3(35), 73–87. DOI: 10.19181/snsp.2021.9.3.8434 (in Russian).

Dzagurova N.Kh. (2021). The social role of the grandmother in the modern Ossetian family. *Sotsiologiya=Sociology*, 6, 78–83 (in Russian).

Faircloth C. (2023). Intensive parenting and the expansion of parenting. *Parenting Culture Studies*. Cham: Palgrave Macmillan. DOI: 10.1007/978-3-031-44156-1_2

Geurts T., van Tilburg T., Poortman A.-R., Dykstra P.A. (2014). Child care by grandparents: Changes between 1992 and 2006. *Ageing and Society,* 35(06), 1318–1334. DOI:10.1017/s0144686x14000270

Glaser K., Price D., di Gessa G. et al. (2013) *Grandparenting in Europe: Family Policy and Grandparents' Role in Providing Childcare*. London: Grandparents Plus.

Goldin C. (2025). The downside of fertility. *NBER Working Paper Series. Working Paper 34268.*

Grigoryeva I.A., Kelas'ev V.N. (2016). Internet in the life of elderly people: Intentions and realities. *Sotsiologicheskie issledovaniya=Sociological Studies*, 11, 82–85 (in Russian).

Grigoryeva I.A., Parfenova O.A., Galkin K.A. (2023). Conference "Social studies of aging. Delayed aging in the times of post-COVID and uncertainty". *Zhurnal sotsiologii i sotsial'noi antropologii=The Journal of Sociology and Social Anthropology*, 26(1), 258–262. DOI: 10.31119/jssa.2023.26.1.10 (in Russian).

Gurko T.A. (2020). The concept of ambivalence in the study of family relations. *Sotsiologicheskie issledovaniya= Sociological Studies*, 2, 63–73 (in Russian).

Hagestad G.O. (2006). Transfers between grandparents and grandchildren: The importance of taking a three generation perspective. *Zeitschrift für Familienforschung*, 18(3), 315–332.

Ilyin V.A., Kalachikova O.N., Gruzdeva M.A., Belekhova G.V., Soloveva T.S. (2025). *Starshee pokolenie na rossiiskom rynke truda: namereniya, motivy i osobennosti polozheniya: informatsionno-analiticheskaya zapiska* [Older Adults in the Russian Labor Market: Intentions, Motives and Features of the State: Information and Analytical Note]. Vologda. Available at: www.vscc.ac.ru/uploads/activity_files/2025/07/29454.pdf. (accessed: July 30, 2025).

Isupova O.G. (2018). Intensive motherhood in Russia: Mothers, daughters and sons on growing up at school. *Neprikosnovennyi zapas. Debaty o politike i kul'ture=NZ: Debates on Politics and Culture*, 3, 180–189 (in Russian).

Karabchuk T.S., Nagernyak M.A. (2013). Employment determinants for mothers in Russia. *Zhurnal issledovanii sotsial'noi politiki=The Journal of Social Policy Studies*, 11(1), 25–48 (in Russian).

Kemp C.L. (2007). Grandparent – grandchild ties. Reflections on continuity and change across three generations. *Journal of Family Issues*, 28(7), 855–881. DOI: 10.1177/0192513X07299599

Klepikova E.A., Kolosnitsyna M.G. (2017). Ageism at the Russian labour market: Wage discrimination. *Rossiiskii zhurnal menedzhmenta=Russian Management Journal*, 15(1), 69–88. DOI: 10.21638/11701/spbu18.2017.104 (in Russian).

Konovalova E.V. (2013). The economic theory of the family as a development of theoretical economics. *Teoreticheskaya ekonomika=Theoretical Economics*, 3(15), 52–58 (in Russian).

Korchagina I.I. (2018). Opinions of Moscow women on preschool education of children. *Narodonaselenie=Population*, 1, 136–150. DOI: 10.26653/1561-7785-2018-21-1-11 (in Russian).

Korolenko A.V. (2018). Some aspects of the state of a modern "institute of grandmothers": Experience of sociological research. *Sotsial'noe prostranstvo=Social Area*, 4(16). DOI: 10.15838/sa.2018.4.16.3 (in Russian).

Kozlova T.Z. (2017). Self-realization of people senior age. *Sotsial'nye issledovaniya*, 1, 54–61 (in Russian).

Kuramshev A.V., Kutyavina E.E., Sud'in S.A. (2017). Grandmothers in the system of intergenerational relations in the family: Sociological analysis. *Zhenshchina v rossiiskom obshchestve=Woman in Russian Society*, 3(84), 70–79. DOI: 10.21064/WinRS.2017.3.6 (in Russian).

Kuzmishina T.L. (2014). Features of emotional interaction of the toddler with grandparents in the modern family. *Yaroslavskii pedagogicheskii vestnik=Yaroslavl Pedagogical Bulletin*, 2(4), 249–253 (in Russian).

Lee R. (1980). Age structure, intergenerational transfers and economic growth: An overview. *Revue Economique: Special Issue on Economic Demography*, 31(6), 1129–1156.

Lee R., Mason A. (2014). Population aging and the generational economy: A global perspective. *Canadian Studies in Population*, 41(1–2), 220–222. DOI: 10.25336/P60034

Lee R.D. (2007). *Demographic Change, Welfare, and Intergenerational Transfers: A Global Overview. Ages, Generations and the Social Contract*. Dordrecht: Springer. DOI: 10.1007/978-1-4020-5973-5_1

Lee Y., Tang F. (2015). More caregiving, less working: Caregiving roles and gender difference. *Journal of Applied Gerontology*, 34(4), 465–483. DOI: 10.1177/0733464813508649

Mason J., May V., Clarke L. (2007). Ambivalence and the paradoxes of grandparenting. *The Sociological Review*, 55(4), 687–706. DOI: 10.1111/j.1467-954X.2007.00748.x

Meyer M.H. (2012). Grandmothers juggling work and grandchildren in the United States. In: Arber S., Timonen V. (Eds). *Contemporary Grandparenting: Changing Family Relationships in Global Contexts*. Bristol University Press. DOI: 10.1332/policypress/9781847429681.003.0004

Neshataev A.V. (2022). Relationship between leisure of grandparents and their involvement in childcare. *Vestnik Nizhegorodskogo universiteta im. N. I. Lobachevskogo. Seriya: Sotsial'nye nauki=Vestnik of Lobachevsky State University of Nizhni Novgorod. Series: Social Sciences*, 4(68), 135–141. DOI: 10.52452/18115942_2022_4_135 (in Russian).

Rimashevskaya N.M. (2003). *Chelovek i reformy: sekrety vyzhivaniya* [Man and Reforms: Secrets of Survival]. Moscow: ISESP RAS.

Rostovskaya T.K., Egorychev A.M. (2022). Features of intergenerational views for the formation of ideas about family roles. *TSITISE=CITISE*, 1(31), 170–186. DOI: 10.15350/2409-7616.2022.1.14 (in Russian).

Saitova D.G. (2022). Potential mechanisms of government incentives encouraging grandparental labor. *Natsional'nye interesy: prioritety i bezopasnost'=National Interests: Priorities and Security*, 18(12), 2338–2356. DOI: 10.24891/ni.18.12.2338 (in Russian).

Samuelson P.A. (1956). Social indifference curves. *The Quarterly Journal of Economics*, 70(1), 1–22. DOI: 10.2307/1884510

Sarti R. (2010). Who cares for me? Grandparents, nannies and babysitters caring for children in contemporary Italy. *Paedagogica Historica*, 46(6), 789–802. DOI: 10.1080/00309230.2010.526347

Shakhmatova N.V. (2021). Working pensioners in Russia and the region: Trends and problems. *Izvestiya Saratovskogo universiteta. Novaya seriya. Seriya: Sotsiologiya. Politologiya=Izvestiya of Saratov University. Sociology. Politology*, 21(4), 413–420. DOI: 10.18500/1818-9601-2021-21-4-413-420 (in Russian).

Shcherbakova E.M. (2023). Demographic results of the first half of 2023 in Russia (part I). *Demoskop Weekly*, 999–1000, 1–20. Available at: https://www.demoscope.ru/weekly/2023/0999/barom03.php (accessed: July 30, 2025; in Russian).

Shubat O.M. (2022). Regional features of the involvement of Russian grandmothers in the caring for grandchildren: Statistical assessments. In: *Strategii razvitiya sotsial'nykh obshchnostei, institutov i territorii: materialy VIII Mezhdunarodnoi nauchno-prakticheskoi konferentsii, g. Ekaterinburg, 18–19 aprelya: v 2-kh t.* [Strategies for the Development of Social Communities, Institutions and Territories: Proceedings of the VIII International Scientific and Practical Conference, Yekaterinburg, April 18–19: In 2 Volumes]. Yekaterinburg: Ural University Press.

Simon H.A. (1955). A behavioral model of rational choice. *The Quarterly Journal of Economics*, 69(1), 99–118.

Sinitsa A.L. (2017). Dynamic of preschool children groups in the regions of Russia. *Vestnik Instituta sotsiologii=Bulletin of the Institute of Sociology*, 8(1), 55–75. DOI:10.19181/vis.2017.20.1.445 (in Russian).

Sinyavskaya O.V., Kozlov V.A., Gudkova T.B. (2023). Financial and Instrumental Transfers in the families of elderly respondents in Russia and Estonia: Are there any ethnocultural differences? *Monitoring obshchestvennogo mneniya: ekonomicheskie i sotsial'nye peremeny= Monitoring of Public Opinion: Economic and Social Changes*, 2, 186–211. DOI: 10.14515/monitoring.2023.2.2371 (in Russian).

Sorokin G.G. (2014). Grandmothers of modern Russia. *Zhenshchina v rossiiskom obshchestve=Woman in Russian Society*, 1(70), 78–80 (in Russian).

Vasilyeva E.V. (2024). Russian and European experience in implementing the concept of active longevity. *Uspekhi gerontologii=Advances in Gerontology*, 37(5), 481–490. DOI: 10.34922/AE.2024.37.5.001 (in Russian).

Vasilyeva E.V., Tyrsin A.N. (2021). Age differentiation in wages in the Russian labor market: Identification of the causes. *Prostranstvennaya ekonomika=Spatial Economics*, 17(3), 103–132. DOI: 10.14530/se.2021.3.103-132 (in Russian).

Veblen T. (1909). The limitations of marginal utility. *The Journal of Political Economy*, 17(9), 620–636.

Veblen T. (2024). *Instinkt masterstva i struktura promyshlennogo iskusstva* [The Instinct of Workmanship and the State of the Industrial Art]. Moscow: HSE Publishing House.

Vovk E. (2006). Why do we need grandparents? *Sotsial'naya real'nost'*, 4, 89 (in Russian).

Wellard S. (2011). *Doing It All? Grandparents, Childcare and Employment: An Analysis of British Social Attitudes Survey Data from 1998 and 2009.* London: Grandparents Plus.

Yanak A.L. (2021). "Unrealized" grandmothers and grandfathers: The resource capacity of grandparents vs the deprivation of grandparents. *Izvestiya vysshikh uchebnykh zavedenii. Povolzhskii region. Obshchestvennye nauki=University proceedings. Volga region. Social sciences*, 1(57), 54–69. DOI: 10.21685/2072-3016-2021-1-6 (in Russian).

Zabelina O.V. (2018). Peculiarities of employment and problems of employment of older groups in the Russian labor market. *Ekonomika truda=Russian Journal of Labour Economics*, 5(1), 165–176. DOI: 10.18334/et.5.1.38874 (in Russian).

Zaidi A., Gasior K., Hofmarcher M. et al. (2013). *Active Ageing Index 2012. Concept, Methodology and Final Results.* European Centre Vienna.

Zelikova Yu. (2020). "I can only perceive myself as a babushka": Aging, ageism, and sexism in contemporary Russia. *Laboratorium: Zhurnal sotsial'nykh issledovanii=Laboratorium: Russian Review of Social Research*, 2, 124–145. DOI: 10.25285/2078-1938-2020-12-2-124-145 (in Russian).

Zemlyanova E.V., Chumarina V.Zh. (2018). Births' postponement by women in Russia within modern socio-economic context. *Sotsial'nye aspekty zdorov'ya naseleniya=Social aspects of population health*, 64(6). DOI: 10.21045/2071-5021-2018-64-6-9 (in Russian).

Zhuravleva T.L., Gavrilova Ya.A. (2017). Analysis of fertility determinants in Russia: What do RLMS data say? *Ekonomicheskii zhurnal VSHE=HSE Economic Journal*, 21(1), 145–187 (in Russian).

Information about the Author

Elena V. Vasilyeva – Doctor of Sciences (Economics), head of center, Institute of Economics of the Ural Branch of the Russian Academy of Sciences (29, Moskovskaya Street, Yekaterinburg, 620014, Russian Federation; e-mail: vasileva.ev@uiec.ru)

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Criteria of the Digital Well-Being of the Population: Current State and Problems

Mariya A. GRUZDEVA
Vologda Research Center, Russian Academy of Sciences
Vologda, Russian Federation
e-mail: mariya_antonovarsa@mail.ru
ORCID: 0000-0001-8759-4953; ResearcherID: H-4981-2017

Aleksandra N. GORDIEVSKAYA
Vologda Research Center, Russian Academy of Sciences
Vologda, Russian Federation
e-mail: alessu85@mail.ru
ORCID: 0000-0001-7777-3456; ResearcherID: I-9439-2016

Abstract. The current stage of societal development is inevitably linked to rapid digital transformation, the results of which permeate the economy, governance, and virtually all spheres of life. This confirms the relevance of addressing this issue, expanding the information base, and developing tools for assessing the impact of these new conditions on human life. The paper focuses on the digital well-being of the population, with its aim being the development of methodological approaches for its measurement. The article provides a critical analysis of theoretical and methodological approaches to studying well-being and digital well-being, presents an original assessment methodology based on subjective data, and tests it using data from a 2021 representative survey of the population in the Vologda Region. The novelty of the results is confirmed by the proposal of a new assessment approach and the applied results obtained through its implementation, which expand the regional picture of digital development and allow for comparisons

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and typologization of regions based on the level of the population's digital well-being. The characteristics of the population's digital well-being in the region are analyzed across types of settlements, levels of education and income, and by gender and age characteristics. Many conclusions regarding the persistence of digital divides and obstacles to achieving well-being in the digital environment are confirmed, and the most vulnerable socio-demographic groups are identified. A significant influence of place of residence and age on digital well-being parameters is shown; other factors are less pronounced and require deeper study. The findings concerning society's acceptance of potential digital risks require separate discussion and research. The practical significance of the results is determined by their potential use for managerial purposes, including the strategic planning for achieving national and regional development goals, and the classification and typology of regions based on digital development characteristics. Furthermore, the availability of information on the population's digital well-being can contribute to enhancing the investment attractiveness of the region's IT sector, developing digital education, introducing high-tech goods and services to the market, and other areas of digital transformation.

Key words: assessment of digital well-being, digital competencies, virtualization of life, digital interactions, digital risks.

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Introduction

Well-being is a rather complex and uncertain category. Many modern researchers turn to its conceptualization and evaluation; it significantly complements and expands the existing aspects of the concept of quality of life, as it includes subjective assessments. Russian society is highly differentiated; it is insufficient to use only objective indicators of income, material wealth, education, health characteristics, and social environment to better understand the current situation, so the concept of well-being is becoming more widespread, including in assessments and analysis the subjective aspects of human satisfaction with their lives, confidence in the future, security, and emotional state, and self-realization in various fields, etc. Authors studying the quality of life also use a subjective factor in their tools in addition to objective data, some of them identify these concepts (Kislitsyna, 2016). The Stiglitz – Sen – Fitoussi report is considered a milestone in the development of the measurement of well-being, in which they noted that "... it is time to shift the focus from measuring economic production to measuring human well-being" (Stiglitz et al., 2009, p. 12). They emphasized the importance of an integrated approach to the parameters of human well-being, namely, paying attention to living standards; health; education; personal activities, including work; political orientation and management; social ties and relationships; the environment (current and future conditions); insecurity, both economic and physical (Noll, 2011; Kruger, 2011).

Contemporary research includes an appeal to a variety of types of well-being, the most voluminous and multidimensional type among which, perhaps, is social well-being. It is recognized as one of the key non-material factors in the development of society (Sushko, 2023). The second important type is

economic or material well-being, which is closest to the concept and assessment of the quality of life. It is generally understood as a state of economic systems, processes and reproduction of a particular economic system that ensures the satisfaction of reasonable vital material and spiritual needs of society (Medvedeva et al., 2023; Dvoryadkina, Belousova, 2023). Depending on the parameters studied, it is also considered demographic (Ryazantsev, Miryazov, 2021), financial (Belekhova, 2023), psychological or emotional well-being (Psycho-Emotional..., 2020; Laktionova, Matyushina, 2018), etc.

It is impossible to ignore the fact that researchers turn to the concepts of well-being and happiness. In our opinion, all these views strive for a common goal – improving people's lives, so they do not conflict with each other, but, on the contrary, complement each other. This article uses the concept of digital well-being, as we strive to study its levels specifically for the population (not for the economy, but for the country), basing the construction of the toolkit on subjective information obtained using sociological methods.

The term "digital well-being" is only becoming widespread in connection with the understanding in Western and Russian science of the course and effects of total digitalization (Aseeva, 2023).

The aim of the article is to develop methodological approaches to measuring digital well-being. To achieve this aim, we set the following tasks: to conduct a critical analysis of theoretical and methodological approaches to the study of digital well-being; to develop our tools for assessing digital well-being; to test the tools based on data from a survey of the Vologda Region population conducted in 2021.

The scientific novelty of the paper lies in the proposed approach to assessing the level of digital well-being based on the index method, as well as in the applied results related to assessing this level for the Vologda Region population. The results obtained, as well as the methodological approach, are new and have the potential for practical application.

The object of the study is the adult population of the Vologda Region (over 18 years old, the upper limit is usually determined by the age of 79), living in urban and rural areas.

The information base of the research was data from a sociological study by Vologda Research Center of RAS: a survey of the Vologda Region population "Socio-cultural portrait of the region" in 2021 (sample size – 1,500 people over 18 years old, the sample is representative by gender, age, place of residence, the error does not exceed 5%). The method of conducting is a survey at the respondent's place of residence, conducted in two large cities of the region, Vologda and Cherepovets, 8 municipal districts / okrugs, including centers and rural areas.

Theoretical review

The term "digital well-being" was initially used to refer to a healthy relationship with digital devices (gadgets), other technologies and information posted on the Internet. Changing behavioral attitudes and information channels, the so-called digital fatigue, have prompted society to raise the issue of increasing awareness of using digital services without harm to mental, emotional and physical health. For example, leading manufacturers of hardware and operating systems (Android, iOS, Windows, macOS) are introducing services and applications into their practice, as well as a set of functions and settings that allow the user to control the time spent at the screen, set restrictions on viewing information (including parental controls), notifications, and adjust the rest mode, eye strain, etc. They help users become aware of their digital habits and change them if it is necessary.

The modern development of digital technologies and their active introduction into all spheres of human activity determine the expansion of scientific understanding of the concept of "digital well-being". This term is becoming increasingly popular

in the scientific literature and is considered in the context of a comprehensive assessment of human interaction with the digital environment. In a broad sense, digital well-being is interpreted as a balance between the conscious use of digital technologies to improve the quality of life, minimize possible risks and maximize the benefits provided by the digital environment.

Foreign research discourse focuses on the construction of the concept of digital well-being and considers it as the most important component of the stage of transition from the digital age to the era of digital well-being. Analysis of the database of the international research social network Researchgate (https://www.researchgate.net/) indicates a significant increase in scientific publications on this issue: as of 2023, more than 100 papers have been published on aspects of digital well-being (Zangogianni, Kavakli, 2025; Hayama, Desai, 2025). This growth indicates a global trend toward an active study of the role of digital technologies in human life against the background of the accelerating digitalization of social and individual processes, despite the continuing digital inequality between countries.

Our review of foreign studies shows the consistency of hypotheses and conclusions indicating that digital well-being is an important and integral result of the modern development of society. The researchers emphasize the need for a systematic analysis of the factors determining the achievement of digital well-being both at the level of individuals and groups, as well as at the level of society. Within the framework of this paradigm, special importance is attached to a conscious approach to using technology to ensure that people live healthier and more comfortable lives (Fan, Li, 2021; Wanju et al., 2025; Ghosh, 2024). This approach is the basis for effectively realizing the transformational potential of digital technologies and minimizing the negative consequences of their implementation.

A natural consequence is the appeal to the parameters and conditions of ensuring the digital well-being of certain groups of the population, either vulnerable, as in the case of the elderly or people with low incomes (Nuzzaci, Maviglia, 2025; Kawinska, 2024; Wanju et al., 2025), or those that require more attention and special management tools – in the case of adolescents and young people (Febrieta, Gina, 2024; Charmaraman et al., 2024). Attention is also focused on professional groups using digital technologies in their activities, for example, doctors, education and IT workers (Pisarska et al., 2025; Digital Well-Being ... 2025).

Russian research in the field of digital well-being remains relatively less represented despite the intensive growth of thematic interest at the international level. At the same time, digital well-being is considered as a defining characteristic of people's lives: "It is understood as including the fullness of social integration and communication activity, the level of satisfaction of needs and empowerment through digital technologies" (Aseeva, 2023, p. 138). Important areas of digital well-being are education, with separate areas of research on the digital well-being of students, as well as in resource management and socio-economic systems (Meikshane, 2021; Chubukov, 2022; Prikot, 2022). Within the framework of the social structure, attention is also paid to various groups of the population. Research shows that young people with a high level of digital literacy and IT education are more likely to feel positive about the digital future, while older and less affluent segments of society are prone to pessimism, which hinders their achievement of digital well-being.

It is worth noting that we are still talking about a new category for science, which makes it relevant to study and measure it. In this study, we approach digital well-being as a state of accessibility of ICT infrastructure, communications, digital literacy and motivation of the population, which determines the possibilities of using the digital environment to

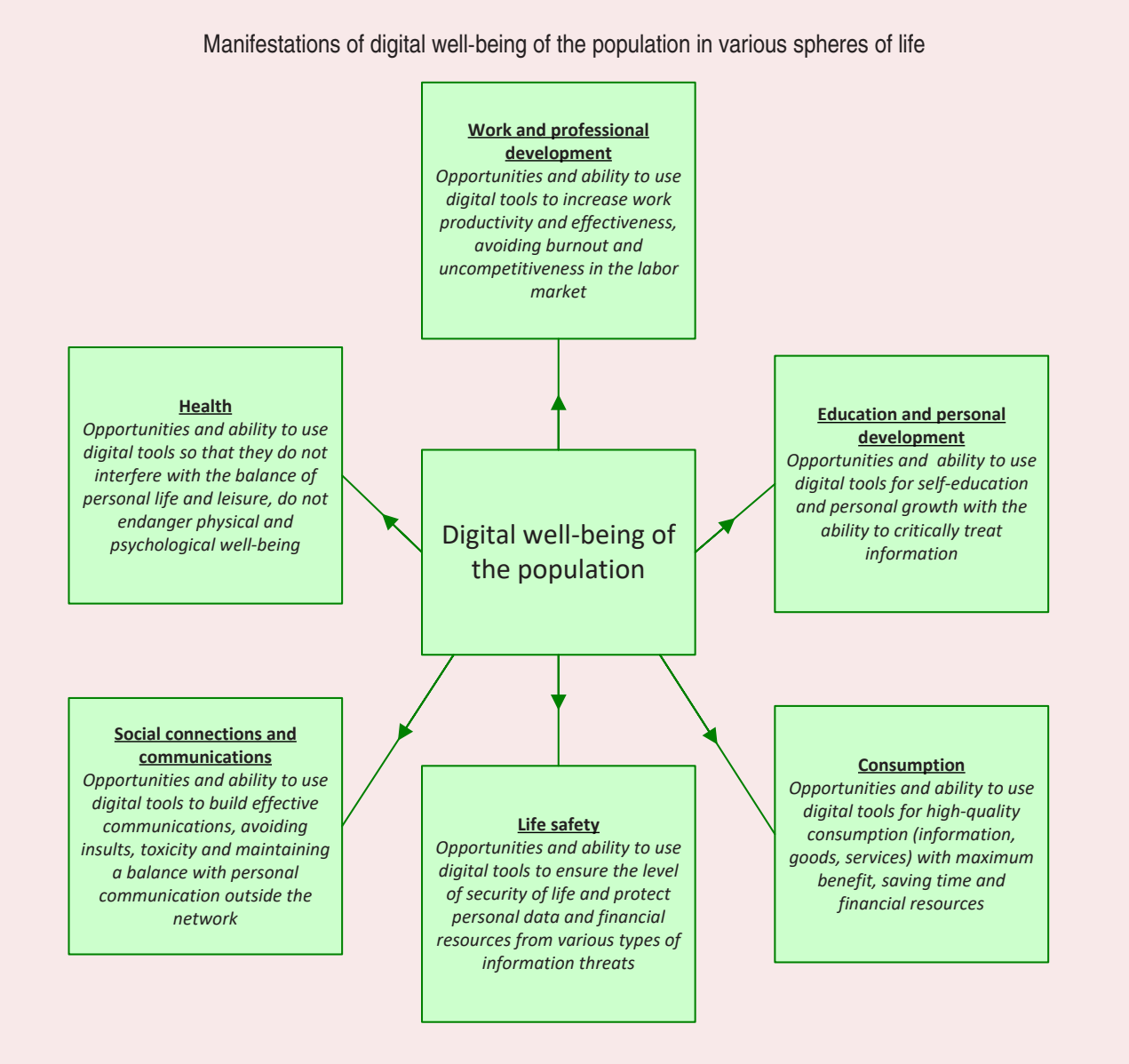
meet the needs of the population while maintaining a balance of benefits and minimizing possible risks. It remains possible to further adjust these grounds due to the new features of the phenomenon being studied.

We suppose that digital well-being can manifest itself in different spheres of human life (*Figure*).

Understanding the versatility of the concept under consideration and its mobility due to rapid digitalization and the emergence of new forms, we are attempting to develop and test tools for its assessment.

Materials and methods

A consistent study of the scale and factors concerning digital inequality, socio-cultural transformations of society generated by digitalization, prompted us to turn to the concept of digital well-being of the population. This concept is still rarely used in the scientific field. At the same time, interest in this concept is growing, which confirms the relevance of the development of theoretical and methodological foundations for the study of digital well-being. We used the provisions of a three-level model of digital inequality to develop



a methodology based on both objective and subjective data. This concept is the most widespread and recognized by researchers in the world (Gladkova et al., 2019; Nieminen, 2016; Ragnedda, Kreitem, 2018; Ragnedda, 2018; Shinyaeva et al., 2019, etc.).

The research uses a set of scientific methods, in particular, comparative analysis, statistical analysis, and sociological methods, to achieve its goals and objectives. Our toolkit for the sociological measurement of the digital well-being of the population has been developed. To analyze the results, we use methods of system-structural and cross-tabulation analysis, and compare nationwide and regional data. The theoretical basis of the research is scientific work on the issues of digital inequality, digital well-being, digital readiness, virtualization of life, digital dividends, etc.

Development of methodology for assessing subjective digital well-being

Table 1 presents a step-by-step algorithm for developing a methodology for the subjective assessment of the digital well-being of the population.

A detailed procedure for obtaining sub-indices presents below:

1. The virtualization depth sub-index of everyday life was calculated based on the answers to the question "For what purposes and how often do you use the Internet?". The respondents were asked to indicate the frequency of Internet use for 22 different purposes (communication, information search, household, personal, public, political and other purposes). For each practice of using the Internet from among the listed purposes, 1 point was awarded if one of the answer options was selected: "every day or almost every day", "at least once a week", "at least once a month", and for the answer option "never" – 0 points. Thus, the maximum value for the sum of all practices was 22 points. To normalize the index within the range from 0 to 1, the total score of each respondent was divided by 22.

The question "For what purposes and how often do you use the Internet?" in the questionnaire was asked only to those who use the Internet. For respondents who do not use the Internet, the digital skills index is 0. The questions for which the other indexes were calculated were asked to all respondents.

2. The digital competencies sub-index was calculated based on the answers to the question "What personal computer/tablet/phone skills do you have?". The respondents were asked to assess the level of development of their skills in 12 core competencies. If the answer was "the skill is sufficiently developed", the respondent was awarded 2 points, "the skill is insufficiently developed" – 1 point, "I do not have such a skill" – 0 points. To normalize the index within the range from 0 to 1, the total score of each respondent was divided by the maximum possible value – 24 points. The closer the index value is to one, the higher the level of proficiency in basic digital competencies.

Table 1. Consistent algorithm for developing research tools

Step one	Development of sociological tools for monitoring aspects of the digitalization of everyday life
Step two	Approbation of the developed tools in the framework of the Vologda Region population survey
Step three	Sub-index development 1. Sub-index of the depth of virtualization of everyday life 2. Digital competencies sub-index 3. Sub-index of integration into digital interactions with authorities 4. Sub-index of awareness of potential digital risks Each of the sub-indices is calculated for certain issues of sociological monitoring (the procedure is described below)
Step four	Creation of a comprehensive index of digital well-being of the population The index is calculated as the arithmetic mean of the sub-indices
Step five	Interpretation of results

3. The sub-index of integration into digital interactions with authorities was calculated based on the answers to the question "Have you applied for the following categories of public services in the last 12 months, and in what form?". The respondent needed to indicate in what form the interaction took place in the case of receiving the listed 11 groups of public services. If the answer option was "applied online", the respondent was awarded 1 point, "applied in person" – 0 points. The index was calculated as a quotient of the number of online interactions and the total number of cases of applying for various public services. The index is 1 if all interactions with government agencies were carried out in an online format. The index is 0 if the respondent received public services exclusively in person, or did not apply for them at all.

4. The sub-index of awareness of potential digital risks was calculated based on the answers to the question "How do you think modern people are protected from the following risks of using the Internet?". Respondents were asked to rate the degree of protection from the listed 5 threats related to Internet use on a scale from "absolutely not protected" (1 point) to "absolutely protected" (4 points). Suggested threat assessments are: receiving negative information (violence, aggression, obscene language, propaganda of racial hatred, drug addiction, alcohol, unhealthy behavior, etc.); negative communication (humiliation of dignity, intolerance, discussion of personal characteristics of a person, harassment, including on gender and national grounds); fraud (theft of personal information, financial resources, blackmail); consumer risks (abuse of consumer rights, purchase of low-quality goods, forgery, falsification); coercion to commit illegal acts (including sexual ones). To normalize the index within the range from 0 to 1, the total score of each respondent was divided by the maximum possible value of 20 points. The higher the index value, the more the respondent is aware of the potential risks of using the Internet.

Thus, sub-indices and a comprehensive index of digital well-being were calculated for each respondent in the sample. The values of the subindex and the complex index range from 0 to 1. In this case, we do not deduce which index value is optimal or characterizes well-being levels, but use the results for comparison within the sample under study; obtaining more data for observation will make the analysis more differentiated. At the moment, the results are being considered for different groups of the population living in different territories, of different ages, genders, material wealth, educational level, marital status, etc.

Let us look at the results obtained.

Results

Territorial factor

Considering the results of the assessment of the digital well-being of the population living in various territories of the region confirms the conclusions made earlier by us and other researchers about the spread of digital inequalities along the "urbanized-agrarian" axis (Shabunova et al., 2020; Gruzdeva, 2020). The values of all sub-indices and the complex index are higher in urban areas than in rural areas (*Tab. 2*). There are minor discrepancies in the use of digital interactions with government authorities by citizens and villagers. Back in 2019, regional surveys showed that rural residents prefer to contact the agency in person for all types of services (Gruzdeva, 2021), but by 2023 the situation began changing. The reasons for this may be the expansion of the range and accessibility of services, ensuring stable Internet access for households and socially significant facilities in rural areas according to the Strategy for the Development of the Information Society in the Russian Federation for 2017–2030. In addition, many informatization processes during the constraints of the COVID-19 pandemic have become a catalyst for obtaining online services. When comparing two large cities in the region (Vologda and Cherepovets), interesting differences are revealed: residents of the regional capital show

Table 2. Results of calculating the digital well-being index. Territorial factor

Sub-Index / Index	Region	Vologda	Cherepovets	Districts	Urban area	Rural area
Sub-index of the depth of virtualization of everyday life	0.46	0.62	0.50	0.34	0.40	0.31
Digital competencies sub-index	0.37	0.52	0.38	0.28	0.32	0.25
Sub-index of integration into digital interactions with authorities	0.35	0.44	0.45	0.25	0.26	0.25
Sub-index of awareness of potential digital risks	0.38	0.41	0.33	0.38	0.41	0.37
Digital well-being index	0.39	0.50	0.42	0.31	0.35	0.29
Here and further, own compilation is carried out according to the developed methodology, the empirical base is data from the survey of the population of the Vologda Region "Socio–cultural portrait", 2021.						

a greater depth of virtualization of everyday life and a higher level of digital competencies than residents of industrial Cherepovets. There is also a difference in citizens' awareness of the potential risks of digitalization, at least according to self-assessment in Vologda, they are somewhat more aware of the negative aspects of virtualization of life.

However, the region, in addition to the large cities of Vologda and Cherepovets, has small towns – regional and okrug (after municipal reform) centers, which, despite their small number of inhabitants and relative provinciality, have an urban lifestyle, in particular in matters of digital development, using the advantages such as more stable connectivity, the ability for online shopping (receiving orders via mail and marketplace pick-up points). Field observations conducted with our direct participation, as part of working out of strategies for the development of municipal okrugs and rural settlements of the region, prove that the infrastructure for online shopping is the most important criterion for the quality of life in peripheral territories, even if it is the closest agglomeration zone to cities. Calculations based on the methodology confirm this, the digital well-being index in urban areas is higher than in rural areas, but is inferior to large cities. The same trend can be seen in the components of the index (with the exception of integration into digital interactions with authorities in areas where they are less popular), in such close communities, people still trust personal communication with the agency more.

Age factor

Age is a determinant that, despite the convergence of generations in the context of modern technological transformations, still has a significant impact on the parameters of digital well-being. The assessment carried out according to the developed methodology confirms these conclusions: for all the parameters studied, the values for the youngest of the groups (18–24 years old) are higher, the slight difference with the older group of young (25–34 years old) in the sub-indices is offset in the consolidated index of digital well-being (*Tab. 3*). Thus, such a heterogeneous cohort of young people living at these ages at various stages of personal becoming, education, career building and family, in fact, has a comparable level of digital well-being. Despite the fact that some of them are mostly digital migrants (their active acquaintance with digital technologies began already in adolescence, while the former became familiar with digital tools many earlier, which, of course, affected their socialization, skills development and integration into the digital environment). The data allow concluding that the speed and depth of modern digital transformations are working toward the convergence of people of different ages.

The parameters of the digital well-being of elderly deserve special attention. The sub-indices clearly show that in all aspects of well-being, this age group is significantly inferior to the younger ones. This once again draws us to the conclusion that age is the most important determinant of digital

Table 3. Values of the digital well-being index. Age factor

Sub-Index / Index	18–24 years old	25–34 years old	35–59 (54) years old	Over 60 (55) years old
Sub-index of the depth of virtualization of everyday life	0.76	0.66	0.54	0.21
Digital competencies sub-index	0.67	0.58	0.41	0.16
Sub-index of integration into digital interactions with authorities	0.47	0.50	0.42	0.19
Sub-index of awareness of potential digital risks	0.45	0.42	0.40	0.31
Digital well-being index	0.59	0.54	0.44	0.22

inequality, confirming the reflection of the theory of digital migrants in the context of the current state of society and the need for special attention and flexible tools for the inclusion of elderly in the digital space.

Despite the conclusion that the older a person is, the lower their level of digital well-being, it is worth noting that representatives of all age groups are similar in how they recognize potential digital risks. In this aspect, representatives of all of them do not show a high level of awareness: values range from 0.40 to 0.45 for young and middle-aged people, and the group of elderly residents of the region is characterized by an even lower level of attention to digital risks (0.31). These results cannot be interpreted positively, as respondents may feel a sense of false security in digital interactions, including if they themselves or their friends have not personally experienced such manifestations. It may also indicate paternalistic sentiments – efforts to protect are shifted to the state and established institutions.

We also examined the influence of the gender and age determinant on digital well-being, but it did not show a significant impact.

Educational factor

Education has a direct impact on the depth of virtualization of everyday life, digital competencies, and integration into digital interactions with government authorities: the higher the level, the more developed they are (*Tab. 4*). The exception is the level of awareness of the riskiness of the digital environment, this factor is not determined by education in any way.

Despite the fact that digitalization has a huge potential for bringing together different socio-economic groups of the population and territories, it exacerbates social inequality. In the early 2000s, analyzing the role of digital technologies in society, Pipa Norris called them "Pandora's box, opening up new inequalities of power and wealth, which deepens the differences between the information rich and the poor, connected and unplugged, active and passive" (Norris, 2001, p. 13). The influence

Table 4. Values of the digital well-being index. Educational factor

Sub-Index / Index	Secondary general and primary vocational education	Secondary vocational, secondary specialized education	Higher education and academic degree
Sub-index of the depth of virtualization of everyday life	0.29	0.43	0.62
Digital competencies sub-index	0.23	0.34	0.52
Sub-index of integration into digital interactions with authorities	0.17	0.35	0.50
Sub-index of awareness of potential digital risks	0.34	0.39	0.39
Digital well-being index	0.26	0.38	0.51

Table 5. Values of the digital well-being index. Self-assessment of income

Sub-Index / Index	Purchasing power		
	Low	Average	High
Sub-index of the depth of virtualization of everyday life	0.42	0.47	0.55
Digital competencies sub-index	0.31	0.38	0.48
Sub-index of integration into digital interactions with authorities	0.26	0.38	0.45
Sub-index of awareness of potential digital risks	0.38	0.38	0.33
Digital well-being index	0.34	0.40	0.45

of the income factor on the spread of digital inequalities has been little studied, and may be indirect. For a detailed study, it is necessary to have a more significant amount of analytical information and assessment tools. In our study, self-assessment of income purchasing power had an insignificant impact on sub-indices and indices of digital well-being, except for the parameters of integration into digital interactions with authorities: it is more pronounced for people with high income purchasing power (*Tab. 5*).

Conclusion

We can draw the following conclusions based on the research findings:

– The concept of digital well-being is only getting its development, and the foreign research sector is addressing it more actively than the Russian one. Nevertheless, it is recognized as a defining characteristic in the life of a modern person. Indicators of digital development are among the most unstable modern characteristics of socio-economic development and human well-being. Therefore, due to the rapid digitalization, we reserve the possibility of future adjustments in the developed theoretical and methodological foundations of studying digital well-being.

– The article develops a methodology for assessing a person's subjective digital well-being. It proved its worth and, in fact, reflects the differences in the digital well-being of the regional community, taking into account various factors. This characterizes its strengths. Reproducing these tools in other territories is costly and time-consuming, as it will require conducting sociological research, creating and processing a database. At the same time, if we consider the Vologda Region as a typical (model) region for Russia, at least for the non-metropolitan territories of the Central Federal District and the Northwestern Federal District (similar socio-demographic and economic situation, parameters of digital infrastructure development), these data can conditionally characterize the digital well-being of the population in other Russian territories, and therefore create an empirical basis for making managerial decisions in this area.

– The results of the methodology testing showed a significant influence of place of residence and age on the parameters of digital well-being, other factors are less pronounced and require more in-depth study.

– The results obtained on awareness of the potential risks of the digital environment require special attention. The results were low for the entire surveyed population and were not determined by the factors under consideration. We assume that if a person themselves or their close environment has not faced certain risks, or their impact has not been noticeably negative, then they feel a sense of false security, or shift the need for their protection to state institutions. In this case, online behavior may be less alert to possible dangers, and therefore more vulnerable to various types of social engineering and psycho-emotional effects. This carries the threat of both a subsequent loss of trust, one of the key factors in building digital interactions, and real financial losses.

The findings confirm many of the theses of Russian and foreign researchers, and also allow expanding the regional picture of the mechanisms and factors concerning territorial development and identify those risk areas where in-depth study and influence from managers are required.

For instance, the results obtained can become the basis for strategic planning by state and municipal authorities of the territory's development in aspects of digital development, data on the digital well-being of the population, determining its factors, will allow making informed decisions within the framework of national projects, including the "Data Economy", identify "bottlenecks" and allocate resources purposefully. In addition, classifications and typologies of regions can be constructed based on the assessed levels of digital well-being, reflecting their specifics and the interconnectedness of development trends, which can also become an important management tool, including from the perspective of the federal level. Regions with a high level of digital well-being of the population may be more attractive for investments in the IT sector, digital transformation of education, public administration, location of high-tech industries, stimulating innovative development and other areas.

The prospects for continuing the research are seen in a more detailed study of the manifestations of digital well-being in various spheres of human life, considering the risks of subject-environment interactions in the digital environment.

References

Aseeva I.A. (2023). Digital well-being of society: An interdisciplinary approach. *Vestnik Tomskogo gosudarstvennogo universiteta. Filosofiya. Sotsiologiya. Politologiya*, 71, 138–148. DOI: 10.17223/1998863X/71/14 (in Russian).

Belekhova G.V. (2023). Financial well-being of older adults: Theoretical and methodological aspects and assessment issues. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 16(5), 117–137. DOI: 10.15838/esc.2023.5.89.7 (in Russian).

Charmaraman L., Nesi J., Schueller S., Choukas-Bradley S. (2024). Youth digital wellbeing and social connectedness. In: Christakis D.A., Hale L. (Eds). *Handbook of Children and Screens*. Cham: Springer. DOI: 10.1007/978-3-031-69362-5_31

Chubukov M.A. (2022). Digital maturity and digital well-being in the theory of management and decision-making in social and economic systems. In: *Sovremennye issledovaniya i innovatsii v nauke i obrazovanii: sbornik nauchnykh trudov po materialam mezhdunarodnoi nauchno-prakticheskoi konferentsii, g. Moskva, 31 yanvarya 2022 g.* [Modern Research and Innovations in Science and Education: Collection of Scientific Papers Based on the Materials of the International Scientific and Practical Conference, Moscow, January 31, 2022]. Moscow: IP A.V. Tugolukov (in Russian).

Dvoryadkina E.B., Belousova E.A. (2023). Economic well-being concept and possibility of its projection to the municipal level. *Problemy razvitiya territorii=Problems of Territory's Development*, 27(6), 213–233. DOI: 10.15838/ptd.2023.6.128.13 (in Russian).

Fan Y., Li Z. (2021). From empowerment to restriction: A study of smartphone use among the elderly. *Future Communications*, 28(05), 29–37.

Febrieta D., Gina F. (2024). Empowering adolescents in the digital era: A comprehensive approach to digital well-being. *Nusantara Journal of Behavioral and Social Sciences*, 3(3), 143–150. DOI: 10.47679/njbss.202461

Ghosh M. (2024). Digital era of well-being. In: *India's Silver Surfers*. Cham: Palgrave Macmillan. DOI: 10.1007/978-3-031-71194-7_4

Gladkova A.A., Garifullin V.Z., Ragnedda M. (2019). A model of three levels of digital inequality: Current opportunities and limitations (using the example of a study of the Republic of Tatarstan). *Vestnik Moskovskogo universitet. Seriya 10. Zhurnalistika*, 4, 41–72. DOI: 10.30547/vestnik.journ.4.2019.4172 (in Russian).

Golovei L.A. (Ed.). (2020). *Psikhoemotsional'noe blagopoluchie: integrativnyi podkhod* [Psycho-Emotional Well-Being: An Integrative Approach]. Saint Petersburg: Nestor-Istoriya.

Gruzdeva M.A. (2021). Digitalization of state and municipal services: portrait of a regional user. *Zhurnal issledovanii po upravleniyu*, 7(5), 3–13. Available at: https://naukaru.ru/ru/nauka/article/46106/view#article-info (in Russian).

Gruzdeva M.A. (2022). Cities and rural periphery: Key trends of digitalization. *Society and Security Insights*, 4, 90–107. DOI: 10.14258/ssi(2022)4-05 (in Russian).

Hayama Y., Desai H. (2025). Digital wellbeing. In: *Digital Futures in Human-Computer Interaction*. CRC Press.

Hirshberg M., Davidson R.J., Velarde Arrisueño L.B. et al. (2025). Digital well-being training with health care professionals: a randomized clinical trial. *JAMA Intern Med*, 185(10), 1248–1256. DOI: 10.1001/jamainternmed.2025.3888

Kawinska M. (2024). Digital seniors – opportunities and barriers. *Polityka Społeczna*, 607(2), 31–36.

Kempson E., Finney A., Poppe C. (2017). *Financial Well-Being A Conceptual Model and Preliminary Analysis*. Oslo: Oslo and Akershus University College of Applied Sciences. DOI: 10.13140/RG.2.2.18737.68961

Kislitsyna O.A. (2016). *Izmerenie kachestva zhizni / blagopoluchiya: mezhdunarodnyi opyt* [Measuring the Quality of Life / Well-Being: International Experience]. Moscow: Institut ekonomiki RAN.

Kruger P.S. (2011). Wellbeing – the five essential elements. *Applied Research Quality Life*, 6, 325–328. DOI: 10.1007/s11482-010-9127-1

Laktionova E.B., Matyushina M.G. (2018). Theoretical analysis of the scientific approaches to positive human functioning: Happiness, psychological well-being, subjective well-being. *Izvestiya Irkutskogo gosudarstvennogo universiteta. Seriya: Psikhologiya=The Bulletin of Irkutsk State University. Series Psychology*, 26, 77–88. DOI: 10.26516/2304-1226.2018.26.77 (in Russian).

Medvedeva E.I., Yarasheva A.V., Makar S.V. (2023). Happiness and well-being: The main determinants in the modern world. *Diskussiya=Discussion*, 117(2), 14–28 (in Russian).

Meikshane T.A. (2021). Digital Etiquette and digital well-being of undergraduate students. In: *Diskursologiya i mediakritika sredstv massovoi informatsii: sbornik trudov III Mezhdunarodnoi nauchno-prakticheskoi konferentsii, g. Belgorod, 7–8 oktyabrya 2021 g.* [Discursology and Media Criticism of Mass Media: Proceedings of the 3rd International Scientific and Practical Conference, Belgorod, October 7–8, 2021]. Belgorod: Politerra (in Russian).

Nieminen H. (2016). Digital divide and beyond: What do we know of information and communications technology's long-term social effects? Some uncomfortable questions. *European Journal of Communication*, 31(1), 19–32. DOI: 10.1177/0267323115614198

Noll H.H. (2011). The Stiglitz-Sen-Fitoussi-Report: Old wine in new skins? Views from a social indicators perspective. *Social Indicators Research*, 102, 111–116. DOI: 10.1007/s11205-010-9738-9

Norris P. (2001). *The Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide*. Cambridge: Cambridge University Press. DOI: 10.1017/CBO9781139164887

Nuzzaci A., Maviglia D. (2025). Opportunities and risks of digital hyperconnectivity: The importance of promoting digital well-being. In: *Transformations in Digital Learning and Educational Technologies*. University of Messina. DOI: 10.4018/979-8-3373-3678-7.ch003

Pisarska A.M., Kryczka A., Castellone D. (2025). Organizational trust as a driver of eudaimonic and digital well-being in IT professionals: A cross-cultural study. *Sustainability*, 17(11), 1–16. DOI: 10.3390/su17115124

Prikot O.G. (2022). Digital well-being of a person in the metamodern educational ecosystem (part I). *Obrazovatel'naya politika*, 4(92), 8–16. DOI: 10.22394/2078-838X-2022-4-8-16 (in Russian).

Ragnedda M. (2018). Conceptualizing digital capital. *Telematics and Informatics*, 35, 2366–2375. DOI: 10.1016/j.tele.2018.10.006

Ragnedda M., Kreitem H. (2018). The three levels of digital divide in East EU countries. World of Media. *Journal of Russian Media and Journalism Studies*, 4, 5–27. DOI: 10.30547/worldofmedia.4.2018.1

Ryazantsev S.V., Miryazov T.R. (2021). Demographic well-being: Theoretical approaches to definition and assessment methodology. DEMIS. *Demograficheskie issledovaniya=DEMIS. Demographic Research*, 1(4), 5–19. DOI: 10.19181/demis.2021.1.4.1 (in Russian).

Shabunova A.A., Gruzdeva M.A., Kalachikova O.N. (2020). Settlement aspect of digital inequality in modern Russia. *Problemy razvitiya territorii=Problems of Territory's Development*, 4(108), 7–19. DOI: 10.15838/ptd.2020.4.108.1 (in Russian).

Shinyaeva O.V., Poletaeva O.V., Slepova O.M. (2019). Information and digital inequality: Searching for effective population practices adaptation practices. *Monitoring obshchestvennogo mneniya: sotsial'nye i ekonomicheskie peremeny=Monitoring of Public Opinion: Economic and Social Changes*, 4, 68–85. DOI: 10.14515/monitoring.2019.4.04 (in Russian).

Stiglitz J., Sen A., Fitoussi J. (2009). *Report by the Commission on the Measurement of Economic Performance and Social Progress.*

Sushko P.E. (2023). Social well-being and social success of Russian youth. Nauka. Kul'tura. *Obshchestvo=Science. Culture. Society*, 29(3), 136–149. DOI: 10.19181/nko.2023.29.3.8 (in Russian).

Wanju T., Yijie T., Jilai Zh. (2025). Strategies on enhancing the digital well-being of Chinese elderly groups in the age of digital economy. *Journal of Economics Management and Trade*, 31(5), 32–44. DOI: 10.9734/jemt/2025/v31i51286

Zangogianni P., Kavakli E. (2025). From Digital era to Digital Wellbeing era. *SHS Web of Conferences 210*. DOI: 10.1051/shsconf/202521003004

Information about the Authors

Mariya A. Gruzdeva – Candidate of Sciences (Economics), Leading Researcher, Vologda Research Center, Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russian Federation; e-mail: mariya_antonovarsa@mail.ru)

Aleksandra N. Gordievskaya – Researcher, Vologda Research Center, Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russian Federation; e-mail: alessu@mail.ru)

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The Impact of Intergenerational Differences on Employee Engagement in an Organization

Elena O. NIDERGAUS
Ural Federal University named after the first President of Russia B.N. Yeltsin
Yekaterinburg, Russian Federation
e-mail: e.o.nidergaus@urfu.ru
ORCID: 0000-0002-9824-7575; ResearcherID: AAZ-6857-2021

Elena V. KEMMET
Ural Federal University named after the first President of Russia B.N. Yeltsin
Yekaterinburg, Russian Federation
e-mail: Elena.Kemmet@urfu.ru
ORCID: 0000-0003-3967-8153

Abstract. The relevance of the study is driven by the need to adapt corporate engagement policies to the specifics of the workforce's age structure, especially in the context of demographic aging and the growing share of employees from Generations Y and Z. The aim of the work is to identify the specifics of how employees of different generations perceive engagement programs, using an industrial enterprise operating in a special economic zone as an example. In the scientific literature, engagement is interpreted as a multidimensional construct encompassing emotional, behavioral, and cognitive components; however, the generational aspect remains understudied. The novelty of the research lies in the empirical comparison of the levels and semantic characteristics of engagement among representatives of Generations X, Y, Z, and older employees, based on the validated international Kincentric model. The empirical base includes the results of a questionnaire survey of 72 employees of „SEZ 'Titanium Valley"' JSC conducted in the

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spring of 2025. An adapted questionnaire was used, comprising 24 statements grouped into four blocks: Engagement, Management, Resources, and Development. Percentage values were calculated based on the number of respondents who answered each question. Methods of descriptive statistics and intergroup analysis were applied. The obtained data indicate the highest level of engagement among Generation Y and a decrease in indicators among employees aged 56 and older. Differences in career expectations and perceptions of the corporate environment were identified. The practical significance of the study lies in the formation of personalized HR strategies for a multi-generational workforce. The limitations of the study are associated with the territorial specifics and the single-organization sample; promising directions for future research include expanding the geographical scope and comparing industry-specific cases.

Key words: employee engagement, generational differences, behavioral model, corporate policy, Generation Y, Generation X, Generation Z, intergenerational interaction, motivational strategies.

Introduction

Current challenges of sustainable socio-economic development require organizations not only to adapt to changing environmental conditions, but also to effectively manage internal resources, primarily human capital. Staff involvement, being one of the key categories of labor economics and personnel management, is considered as the most important factor in increasing productivity, innovation activity, and competitiveness of the organization.

The generational diversity of staff increases the complexity of management tasks and requires the development of flexible interaction models that combine economic efficiency and social sustainability. Representatives of Generations X, Y, and Z differ in motivational attitudes, communication styles, and career expectations, which makes it necessary to move from universal to differentiated engagement strategies that take into account the age and value specifics of employees.

This problem is particularly important in high-tech industrial clusters, where the cost of human resources and the requirements for their qualifications are particularly high. "SEZ 'Titanium Valley"' JSC belongs to such organizations, which operates under conditions of constant technological and organizational changes. In this case, the issues of mentoring, motivation, career growth and staff retention are directly related to the sustainability of the production system.

The aim of the study is to develop proposals for adapting the HR strategy of the industrial organization, taking into account intergenerational differences in staff engagement. To achieve it, we carried out a comparative analysis of employee engagement levels of different age groups, identified cohort differences in motivational orientations and perception of the corporate environment, and proposed directions for adapting HR strategies to the intergenerational context.

The scientific novelty of the work consists in an empirical analysis of generational differences in engagement based on the validated international Kincentric model, which made it possible to correlate quantitative indicators with qualitative characteristics of motivation and organizational behavior. The practical significance of the research lies in the possibility of applying the results obtained in the development of personalized engagement programs aimed at improving the effectiveness of intergenerational interaction and the sustainability of human resources.

For the correct interpretation of the research results, the work uses a generational typology based on the theory of generations by W. Strauss and N. Howe (Strauss, Howe, 1991), which is widely

used both in foreign and Russian academic circles. According to this concept, each generation represents a stable cohort community, formed under the influence of key historical and socio-cultural events during the period of personality formation (approximately from 10 to 25 years). These events form stable values, attitudes, and behavioral strategies that distinguish the generation from the previous and subsequent ones.

Modern Russian researchers (Parma, 2021; Miroshkina, 2017; Dzaei, 2019; Rikel, 2019; Belyaeva, 2022) emphasize that the theory of generations is an interdisciplinary framework in which the approaches of sociology, psychology, pedagogy, cultural studies and even political science intersect. In addition to classical concepts (Mannheim, 1952; Strauss, Howe, 1991), cohort analysis, age stratification theory, transmission models (transmission of cultural norms), and concepts of digital generation are actively used.

In this study, the following periodization is adopted, adapted to the Russian context (Nefedova, 2020; Pavlova, Elshin, 2020; Lebedeva, 2019; Kotovshchikova, 2019).

Generation X – born in 1965–1980. They are considered to be carriers of stability, professional ethics, prone to hierarchy and long-term planning.

Generation Y (millennials) – 1981–1996. They are focused on flexibility, personal development, work-life balance, and prefer horizontal forms of communication.

Generation Z – since 1997. They perceive digital technologies as a natural environment, tend to individualize, seek immediate feedback and a high degree of involvement in significant projects.

It is worth saying that the boundaries of generations in different sources may vary (± 2–3 years), and some domestic classifications (Shamis, Nikonov, 2017, 2023) include additional archetypes – "perestroika generation", "digital generation", etc. Nevertheless, the basic generational division into X, Y, and Z remains analytically productive, especially in applied HR research.

In addition, numerous studies have documented that the transformation of the generational structure is caused not only by age, but also by the action of many factors.:

– political (reforms, ideological rifts);
– economic (crises, employment structure);
– technological (digitalization, AI dissemination);
– social (changes in families, educational trajectories);
– cultural (value shifts, lifestyle).

Recognizing this complexity avoids a simplistic understanding of generational differences and treats them as a dynamic, contextually sensitive category. In our study, we use a generational approach as an analytical tool to interpret differences in the perception of corporate engagement programs, without claiming a rigid classification or universal typology.

Literature review

The issue concerning personnel involvement in organizational processes has long occupied an important place in scientific research in the field of management, organizational psychology and labor sociology. The concept of engagement was first conceptualized in the classical work of W. Kahn (Kahn, 1990), where it is interpreted as a condition in which a person brings themselves to organizational roles with full physical, cognitive and emotional commitment. This model has formed the basis for many subsequent studies focusing on the psychological conditions of inclusion, such as meaningfulness, safety, and accessibility (May et al., 2004).

It is necessary to distinguish between the concepts of "engagement" and "loyalty", which are often used synonymously. Loyalty reflects a predominantly stable, passive attitude toward an organization, a willingness to maintain membership in it and follow its norms. Engagement, on the other hand, involves active participation, emotional

attachment, and the desire to contribute to achieving the company's goals. Taking into account generational differences, the perception of these categories is also changing: for senior employees, loyalty is more often associated with long-term work and responsibility, while representatives of Generations Y and Z emphasize engagement as an opportunity for self-realization, recognition and development.

Key theoretical approaches to the phenomenon of engagement have been developed in foreign literature (Hackman, Oldham, 1975; Leiter, Maslach, 1988; Schaufeli et al., 2002, 2006; Saks, 2006; Macey, Schneider, 2008). The researchers emphasized the difference between involvement in work and in an organization, and proposed multifactorial models that include components such as energy, commitment, and absorption. The scales they developed, including the Utrecht Work Engagement Scale (UWES), are widely used in applied HR research.

Despite this, there is still no unity in understanding the essence of engagement. As B. Shuck notes, there are several competing approaches: from functional (involvement as a derivative of working conditions) to value-based (involvement as conscious identification with company goals). W.H. Macey, B. Schneider distinguish between surface activity and genuine psychological involvement, which actualizes the task of its deep diagnosis.

Russian researchers also pay attention to the internal mechanisms of engagement. In a number of works, corporate patriotism is interpreted as the highest form of inclusion (Magura, Kurbatova, 1998); the role of values in maintaining labor efficiency is emphasized in (Grishchenko, Brikoshina, 2015), and the connection between engagement and the quality of HR branding is noted in (Gromova, 2016).

However, these works mostly lack a detailed study of the age differentiation of the perception of engagement. This creates an obvious gap, especially in conditions where labor collectives are becoming more and more generationally diverse. Modern research (Nefedova, 2020; Lebedeva, 2019) demonstrates that representatives of Generation X value stability, recognition and a hierarchical structure of interaction more, while Y and Z are focused on flexibility, development and horizontal communication. A number of studies confirm that the use of universal approaches to motivation and engagement is becoming less effective (Pavlova, El'shin, 2020; Kotovshchikova, 2019; Palaguta, 2017).

Nevertheless, even in these studies, generational features are most often considered outside the organizational context, which limits the possibilities of practical adaptation of the results. In addition, a significant part of the work is descriptive or conceptual in nature – loosely related to specific engagement programs, tools, and results. Empirical studies that use measurable indexes (for example, Gallup Q12 or the Scriptunova methodology, 2010) are rare and, as a rule, do not record differences between generations.

The problem becomes even more urgent when we consider that staff turnover in Russia remains high[1] (HeadHunter, 2025), especially among young professionals. The research[2] (Towers Watson, 2017) highlights that engagement is becoming a critical retention factor and requires flexible and targeted programs from employers that are sensitive to age, seniority, and career motivation.

In this context, there is a growing interest in internal engagement programs: mentoring, recognition of achievements, career development, and participation in projects. However, the mechanisms of their perception by different generations remain poorly understood. This is especially true for high-

[1] HeadHunter. Staff turnover study in Russia: 2025. Available at: https://hh.ru/?hhtmFrom=article (accessed: 09.06.2025).

[2] Deloitte. Retention – Under the Spotlight: Transportation, Hospitality and Services. 2022–2023. Available at: https://www2.deloitte.com/content/dam/Deloitte/global/Documents/gx-tgr-transportation-hospitality-services-retention-sector.pdf (accessed: 05.05.2025).

tech enterprises operating in special economic zones, where the requirements for staff efficiency are combined with the tasks of continuity and rapid adaptation.

Thus, the analysis of modern literature allows identifying several key scientific gaps:

– lack of a unified methodology for assessing engagement, taking into account generational differences;

– lack of empirical evidence-based cases in the industrial sector;

– weak operationalization of the concepts of engagement for Russian realities;

– insufficient development of a programmatic approach to engagement in the context of geographically specialized structures, such as SEZs.

Our study aims to fill in these gaps by referring to a specific case – "SEZ 'Titanium Valley'" JSC, where real-world engagement programs are used to analyze their perception and effectiveness for different generations of employees.

Research methodology

The empirical study was conducted in April – May 2025 on the basis of "SEZ 'Titanium Valley'" JSC, located in the Sverdlovsk Region and operating under the federal program for the development of special economic zones. The object of the analysis was the personnel of the enterprise participating in corporate engagement programs.

The methodological basis was formed by a quantitative strategy using a questionnaire based on an adapted version of the international **Kincentric (formerly Aon Hewitt)** model, recognized in the global practice of measuring staff engagement. The model helps to capture three key behavioral indicators: willingness to recommend an employer, the intention to continue working for the company, and the desire to make additional efforts to achieve its aims. The use of this model provided an opportunity for a comprehensive assessment of engagement, taking into account intergenerational differences.

Seventy-two employees representing three age groups took part in the survey: generation Y (25–39 years old) – 42%, generation X (40–55 years old) – 35%, and the older generation (56–70 years old) – 23%. With a total staff of about 250 people, the sampling error did not exceed 7.8% with a confidence level of 95%. The stratified nature of the sample ensured the representativeness of the data and made it possible to compare the results between cohorts.

The questionnaire included 24 statements grouped into four areas: engagement, the role of the direct supervisor, organizational resources, training and development. The answers were recorded on a five-point Likert scale (from 1 – "totally disagree" to 5 – "totally agree"). This format made it possible to obtain quantitative assessments of the perception of key aspects of the organizational environment.

The primary data processing was performed using an Excel spreadsheet editor. We used methods of descriptive statistics, intergroup comparisons, and interpretation of results in the logic of the Kincentric behavioral indicators for the analysis. We paid particular attention to identifying differences in assessments of managerial communications, feedback opportunities, career development, and training programs across generational groups.

The study design used allowed combining the reliability of quantitative measurements with an analytical interpretation of cohort differences in the perception of the corporate environment. This provided an opportunity to empirically confirm the hypothesis about the influence of the age structure of staff on the level of engagement and perception of HR practices.

Research results and discussion

Analysis of empirical data obtained during a survey of employees of "SEZ 'Titanium Valley"' JSC project revealed significant differences in the level and structure of engagement between representatives of different generations. The use

of the validated Kincentric model provided both a quantitative assessment (engagement index) and a qualitative interpretation of the respondents' behavioral and motivational characteristics. This section presents the key results, grouped by the main thematic areas of the study: differences in engagement indices, perceptions of team interaction and feedback, career expectations, as well as the values underlying engagement.

In addition to the calculated engagement indices, it is important to take into account the qualitative aspects of the perception of organizational processes by representatives of different generations. The analysis of the questionnaire data by age group revealed significant differences in the assessment of key management blocks, such as teamwork, feedback opportunities, as well as career development and training.

For instance, young employees (25–39 years old) are more likely to critically perceive the effectiveness of managerial communications: 41.7% of respondents in this group indicated an irregular feedback from management. At the same time, they are actively involved in corporate initiatives and positively evaluate learning and growth opportunities, provided that these opportunities are presented in an interactive, flexible form. This highlights the need to use digital platforms and flexible formats in the staff development system.

The 40–55-year-old group shows a mixed picture: on the one hand, they demonstrate sustained loyalty to the company's mission, on the other, they are most critical of the work of senior management and the lack of clear career prospects. This imbalance indicates the need to introduce transparent development tracks within the company, adapted to mid-level specialists.

The older generation (56–70 years old), on the contrary, shows high loyalty and stability in assessments. However, an expert interview with the director of sustainable development shows that it is this group that more often experiences barriers to access to information and new forms of communication. The instability of individual initiatives (for example, mentoring and experience-sharing practices) and the lack of personalized forms of recognition of contributions were also highlighted as problem areas. This requires the development of specialized support programs for senior staff, focusing on knowledge transfer and social recognition.

Thus, the data obtained demonstrate the need to move away from a universal approach to engagement formation and move toward a generationally sensitive human resource management system. This is especially important in the context of demographic aging of staff and the growing importance of intergenerational interaction for the sustainable development of organizations.

In the future, it is advisable to supplement the study with the inclusion of such parameters as job level, work experience and psychographic characteristics, as well as to dynamically track changes in engagement depending on corporate transformations. The ability of the Kincentric model to adapt to such tasks makes it applicable for further monitoring and strategic planning in the HR area.

The greatest differences between generations were observed on issues related to professional development opportunities and receiving regular feedback from management. For example, among respondents aged 25–39, 60% fully agree that they receive regular feedback, while among the older group (56–70 years old), there were less than 30% of them. This indicates a generational gap in the perception of managerial communications.

Representatives of Generation X more often emphasized the importance of stability and predictability of internal processes, while Y focused on freedom of expression and flexibility of tasks. Generation Z, in turn, focused on digital transparency and the relevance of tasks, which correlates with the general trends of digitalization of the work environment. These differences are

important in developing corporate values that are understandable and close to each cohort.

We recorded the phenomenon of "ceiling expectations" among respondents over the age of 55: the majority do not consider the possibility of career growth as realistic. This may be due to both objective factors (company structure) and subjective ones, such as a decrease in self-esteem of career prospects with age.

Additionally, we found that not only age, but also the length of stay in the company has a significant impact on the level of engagement. Among Generation Y employees who have been working for more than 3 years, the engagement index exceeded 80%, while for new employees it did not reach 60%. This highlights the importance of retention and engagement strategies in the early stages of adaptation.

One of the Generation X respondents noted: "For me, engagement is when I know that my expertise is in demand". While a representative of Generation Z said: "It is important for me that my ideas are immediately seen and taken into account". These quotes illustrate the shift from role-playing to project contributions and expectations of immediate recognition.

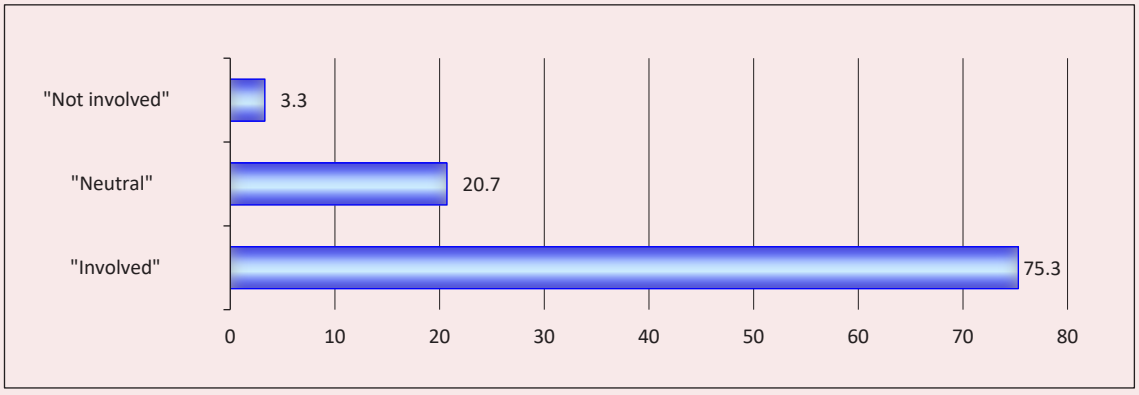
The Kincentric model demonstrated high sensitivity to differences in motivational attitudes, but required adaptation when analyzing the older age group, where some of the questionnaire formulations were interpreted ambiguously. This imposes limitations on direct comparison with the results of other studies and requires further testing of the toolkit in a multi-age environment.

As a result of the empirical survey of employees of "SEZ 'Titanium Valley'" JSC revealed several significant patterns reflecting the generational differentiation of engagement. The calculation of the engagement index based on the Kincentric model made it possible to classify respondents by the level of engagement (involved, neutral, not involved), as well as analyze the perception of key organizational practices and the environment. These data formed the basis for a meaningful discussion about the transformation of corporate culture in the context of age diversity.

1. Engagement Index: generational differences

The highest level of engagement was demonstrated by employees aged 25 to 39 (group Y): 75.3% of them were in the "involved" category, while only 3.3% were in the "not involved" category (*Figure*).

Indicators of the employee engagement index for the 25–39 age group of "SEZ 'Titanium Valley'" JSC for December 2024, %



Source: own compilation.

This refutes the persistent stereotype of superficial loyalty and instability of millennials, forming the basis for a review of approaches to personnel planning.

The situation is fundamentally different for employees over 55 years of age: the share of neutrals is 40.4%, while those involved are only 19.1%. We can talk about a weak emotional connection with the organization, which is not necessarily a consequence of burnout, but may indicate a sense of exclusion or weak relevance of current motivation programs. The question arises: are representatives of the older cohorts really less involved, or is the problem that the engagement mechanisms themselves are focused on the values and behavioral patterns of Generation Y?

2. Teamwork and feedback availability

In most cases, employees of Generation Y noted the high quality of communication and support from colleagues and management (more than 60% of positive ratings). On the contrary, representatives of the 56–70-year-old generation feel a lack of belonging to a team and lack of regular feedback: only 25% of older respondents believe that they receive constructive feedback. This may be due to the lack of adapted communication channels, or to internal barriers related to age expectations, authority, and distance.

It is worth asking the question: is there a need for separate formats of intra-corporate communication focused on trust, dialogue and recognition, especially for senior employees?

3. Perception of career development

Of particular interest is the perception of career prospects. Almost 80% of respondents under the age of 30 (Z) believe that they have a real chance of professional advancement. In the 40–55-year-old group, this figure drops to 48%, while among employees over 55 it is only 12%. This reflects not only the objective limitations of career growth, but also the effect of "psychological ceiling" – a situation where employees themselves do not expect development, even if they have formal opportunities.

This raises the issue concerning equity and effectiveness of age-friendly management: should organizations encourage the development of senior staff or focus on youth as a key human resource?

4. Value priorities and meanings of engagement

The survey results show that representatives of different generations put different value meanings into the concept of engagement. Young people (Y and Z) associate it with open opportunities, professional growth, a flexible environment and recognition of achievements. The older generation more often associates engagement with reliability, stability, formal fairness, and respect for experience. Hence, we can notice different perceptions of the same programs: elements of gamification, informal interaction, and horizontal management can inspire some and alienate others.

Thus, a universal toolkit of engagement can simultaneously motivate one group and demotivate another. A dilemma arises: is a radical personalization of corporate policy necessary, or should we stick to neutral, universal models that ensure overall sustainability?

Conclusions and discussion

Summarizing the empirical study results made it possible to identify key patterns of staff involvement from different generations and identify ways to increase it in an industrial organization.

The results confirmed the presence of pronounced generational differences in the level and structure of involvement of "SEZ 'Titanium Valley'" JSC staff. Based on the Kincentric model, we found that the highest engagement rates are demonstrated by representatives of Generation Y (25–39 years old), which contradicts common ideas about the low organizational attachment of this cohort. This indicates the transformation of millennials' motivational attitudes and confirms the effectiveness of flexible, developing HR practices focused on professional growth and feedback.

Employees of the older age groups (56+) are characterized by a lower level of engagement, due not to a decrease in competencies, but to limited participation in internal communications and decision-making processes. This result indicates the need for targeted support programs for senior employees aimed at recognizing their experience, engaging in mentoring practices, and strengthening organizational identity.

The analysis showed that universal HR solutions that do not take into account the age and value diversity of staff are not effective enough. In the context of multigenerational teams, it is necessary to differentiate the tools of engagement and build adaptive motivation models that ensure a balance between individual expectations and the strategic goals of the organization.

The methodological significance of the work consists in testing the Scriptunova engagement index to analyze cohort differences and adapt the Kincentric model to the conditions of an industrial organization in the format of a special economic zone. The practical significance lies in the formation of grounds for adjusting HR strategies, taking into account the age structure of the staff and the objectives of the sustainable development.

The results obtained allow considering engagement as an integral indicator of the quality of an organization's internal environment and its ability to ensure effective intergenerational interaction. It is advisable to focus further research on the development of tools for diagnosing intergenerational dynamics of engagement and assessing the impact of management practices on the preservation of human resources.

References

Belyaeva L.A. (2022). "Adult" youth in the contemporary social space of Russia. *Vestnik RUDN. Seriya: Sotsiologiya=RUDN Journal of Sociology,* 22(4), 812–827. DOI: 10.22363/2313-2272-2022-22-4-812-827 (in Russian).

Dzaei Kh.N.A. (2019). Intergenerational of generations: Methodology of sociological research. *Gumanitarii Yuga Rossii=Humanities of the South of Russia*, 8(3), 165–173. DOI: 10.23683/2227-8656.2019.3.17 (in Russian).

Grishchenko M.A., Brikoshina I.S. (2015). The role of values in improving the efficiency of staff (using the example of JSC Avtoframos). *Vestnik universiteta*, 9, 142–145 (in Russian).

Gromova N.V. (2016). HR-branding in ensuring the competitiveness of companies. *Sovremennaya konkurentsiya=Journal of Modern Competiton*, 10, 1(55), 124–132 (in Russian).

Hackman J.R., Oldham G.R. (1975). Development of the job diagnostic survey. *Journal of Applied Psychology*, 60(2), 159–170.

Kahn W.A. (1990). Psychological Conditions of Personal Engagement and Disengagement at Work. *Academy of Management Journal*, 33(4), 692–724.

Kotovshchikova I.V. (2019). Generation theory: The specifics of generation Z. In: *Vyzovy vremeni i vedushchie mirovye nauchnye tsentry: sbornik statei mezhdunarodnoi nauchno-prakticheskoi konferentsii: v 2-kh ch., g. Chelyabinsk, 26 fevralya 2019 g. Ch. 2* [Challenges of the Time and the World's Leading Scientific Centers: Collection of Articles of the International Scientific and Practical Conference: In 2 Hours, Chelyabinsk, February 26, 2019, Part 2]. Chelyabinsk: Omega Sains (in Russian).

Kotovshchikova I.V. (2019). Psychological features of the perception of the organizational environment by representatives of different generations. *Vestnik TGU. Psikhologiya*, 49, 63–77 (in Russian).

Lebedeva I.A. (2019). Generational theory as a tool for managing staff motivation. *Menedzhment i biznes-administrirovani*e, 3, 56–61 (in Russian).

Leiter M.P., Maslach C. (1988). The impact of interpersonal environment on burnout and organizational commitment. *Journal of Organizational Behavior*, 9(4), 297–308.

Macey W.H., Schneider B. (2008). The meaning of employee engagement. *Industrial Relations Research Association*. Available at: https://www.researchgate.net/publication/255593558_The_Meaning_of_Employee_Engagement (accessed: 05.05.2025).

Magura M.I., Kurbatova M.B. (2004). *Obuchenie personala kak konkurentnoe preimushchestvo* [Staff Training as a Competitive Advantage.]. Moscow: OOO "Zhurnal "Upravlenie personalom".

Mannheim K. (1952). The Problem of Generations. In: Kecskemeti P. (Ed.). *Essays on the Sociology of Knowledge*. London: Routledge and Kegan Paul.

May D.R., Gilson R.L., Harter L.M. (2004). The Psychological Conditions of Meaningfulness, Safety and Availability and the Engagement of the Human Spirit at Work. J*ournal of Occupational and Organizational Psychology*, 77(1), 11–37.

Miroshkina M.R. (2017). Interpretations of the theory of generations in the context of Russian education. *Yaroslavskii pedagogicheskii vestnik,* 6, 30–35 (in Russian).

Nefedova I.N. (2020). Generational differences in the professional identity of youth and mature workers. *Sotsiologicheskie issledovaniya*. 6, 66–73 (in Russian).

Palaguta V.I. (2017). Generation Y and Generation X – who are they and what is the difference? In: *Nauchnye issledovaniya studentov v reshenii aktual'nykh problem APK: materialy regional'noi nauchno-prakticheskoi konferentsiib g. Irkutsk, 17 marta 2017 g.* [Scientific Research of Students in Solving Urgent Problems of Agriculture: Materials of the Regional Scientific and Practical Conference Irkutsk, March 17, 2017]. Irkutsk: IrGSKhA (in Russian).

Parma R.V. (2021). Theoretical models of relations between generations of citizens. *Vlast'*, 29(6), 139–146. DOI: 10.31171/vlast.v29i6.8706 (in Russian).

Pavlova N.S., El'shin L.A. (2020). The impact of generational differences on staff engagement: Features and management practices. *Kadry i upravlenie personalom predpriyatiya*, 3, 27–32 (in Russian).

Rikel' A.M. (2019). Generation as an object of social psychology study: Research in "one's own field" or in "no man's land"? *Sotsial'naya psikhologiya i obshchestvo*, 10(2), 9–18. DOI: 10.17759/sps.2019100202 (in Russian).

Saks A.M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, 21(7), 600–619.

Schaufeli W., Salanova M., González-Romá V., Bakker A. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3(1), 71–92.

Schaufeli W.B., Bakker A.B., Salanova M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, 66(4), 701–716.

Shamis E.M., Nikonov E. (2017). *Teoriya pokolenii. Neobyknovennyi Iks* [The Theory of Generations. The Extraordinary X.]. Moscow: Un-t "Sinergiya"; Shkola Biznesa.

Shamis E.M., Nikonov E. (2023). *Teoriya pokolenii. Strategiya bebi-bumerov (1943–1963)* [The Theory of Generations. The Baby Boomer Strategy (1943–1963)]. Moscow: Un-t Sinergiya.

Shuck B. (2011). Four emerging perspectives of employee engagement: An integrative literature review. *Human Resource Development Review*, 10(3), 304–328.

Skriptunova E.A. (2010). Methodology for calculating the staff engagement index. *Upravlenie chelovecheskim potentsialom*, 2(22), 97–109. Available at: http://www.axima-consult.ru/stati-04-10-metod-raschet-indeksa-vovl-personala.html (accessed: 18.11.2024).

Strauss W., Howe N. (1991). *Generations: The History of America's Future, 1584 to 2069*. New York: William Morrow. Available at: https://www.amazon.com/GENERATIONS-History-Americas-Future-1584/dp/0688081339 (accessed: 18.05.2025).

The Power of Three: Taking Engagement to New Heights. Available at: http://www.companies-that-care.org/images/stories/files/pdf/towers-watson-takingengagementtonewheights.pdf (accessed: 08.06.2024).

Information about the Authors

Elena O. Nidergaus – Candidate of Sciences (Sociology), Associate Professor, head of an educational program, head of department, Ural Federal University named after the first President of Russia B.N. Yeltsin (19, Mira Street, Yekaterinburg, 620062, Russian Federation; e-mail: e.o.nidergaus@urfu.ru)

Elena V. Kemmet – Candidate of Sciences (Sociology), Senior Lecturer, Ural Federal University named after the first President of Russia B.N. Yeltsin (19, Mira Street, Yekaterinburg, 620062, Russian Federation; e-mail: Elena.Kemmet@urfu.ru)

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Trade and Investment Interactions in the Asia-Pacific Region: Effects of Integration Agreements

Dmitry A. IZOTOV
Economic Research Institute, Far Eastern Branch of the Russian Academy of Sciences
Khabarovsk, Russian Federation
e-mail: izotov80@yandex.ru
ORCID: 0000-0001-9199-6226; ResearcherID: S-3876-2017

Abstract. The aim of the work is to provide a long-term assessment of the impact of integration agreements on trade and investment interactions between Asia-Pacific countries in 1992–2023. It is determined that the Asia-Pacific region accounts for the largest share of trade and investment interactions worldwide, with intraregional trade in goods and direct capital flows being the main source. The study shows that, in terms of reducing trade and economic barriers between countries, integration agreements can be classified into shallow and deep agreements, with the Asia-Pacific region taking the lead in their creation. Based on a database compiled from various sources on trade and capital flows between Asia-Pacific countries, and using gravity modeling, the long-term cumulative effects of shallow and deep integration agreements on trade and the inflow of accumulated foreign direct investment (FDI) are estimated. The general stimulating effect of integration agreements on trade among Asia-Pacific countries was identified as increasing trade by an average of 21.9%, while their influence on FDI inflow was found to be invariant. We found that shallow integration agreements between Asia-Pacific countries reduced FDI inflows by 47.5% and promoted trade growth by 46.0%; as for deep integration agreements, they increased trade volumes between Asia-Pacific countries by 15.5% and FDI inflows by 23.6%. It was shown that, within the Asia-Pacific region, shallow and deep integration agreements conflicted with each other in terms of attracting FDI. Due to the suppression of FDI inflows by trade in goods and the longer duration of shallow agreements, their long-term cumulative trade effect was greater than that of deep agreements. Deep integration agreements encouraged both trade and direct capital flows between Asia-Pacific countries, pointing to the creation

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of conditions for complementarity between trade and FDI within more advanced formats of economic convergence aimed at reducing production cooperation costs. Unlike trade, FDI exchange in the Asia-Pacific region proved to be more sensitive to existing barriers to economic interaction and less flexible toward recipient countries of such investments.

Key words: trade, foreign direct investment, deep integration agreements, shallow integration agreements, gravity model, integration effect, globalization, regionalization, Asia-Pacific region.

Introduction

Despite the current manifestations of protectionism and fragmentation in the global economy (Afontsev, 2020; Baldwin, Ruta, 2025), over the past more than three decades, almost all countries worldwide have achieved significant progress in reducing barriers to economic interactions, including through mechanisms of concluded bilateral and multilateral integration agreements. The most important elements of economic interactions between countries are trade in goods and the exchange of direct investments (Larch, Yotov, 2023). Within modern integration frameworks, trade in goods is regulated at both the global (WTO) and sub-global (regional) levels. Meanwhile, the exchange of direct investments between countries occurs solely on the basis of regional integration agreements. Due to the absence of opportunities to create more advanced forms of integration at the global level, over the past two decades, two large groups of integration agreements have become increasingly distinct at the regional level (Mattoo et al., 2020; Larch, Yotov, 2024). The first group is shallow integration agreements, which aim to reduce tariff and non-tariff barriers in trade in accordance with WTO principles. The second group is deep integration agreements, which envision freer movement of goods, services, capital, labor, and technology between countries, as well as regulation of powers by state authorities and control over exporters to protect consumer rights in importing countries – measures that go beyond the WTO framework. Under the conditions of most of the world's countries joining the WTO[1], a process of mass conclusion of deep integration agreements has been observed, alongside stagnant trends in the dynamics of shallow integration agreements.

Empirical estimates show that these two groups of integration agreements have stimulated global trade (Mattoo et al., 2022; Park, 2025), while their impact on foreign direct investment (FDI)[2] has been ambiguous (Kox, Rojas-Romagosa, 2019; Larch, Yotov, 2023). On one hand, the reduction of only trade barriers within shallow integration agreements can have a restraining effect on FDI attraction, since in this case, trade substitutes for direct investment from abroad (Kox, Rojas-Romagosa, 2020), for which barriers, in turn, persist. On the other hand, beyond the removal of trade restrictions, the reduction of other economic barriers can have a stimulating effect on both trade and investment interactions between countries. In this case, trade in goods and the exchange of direct capital are complementary within the framework of deep integration agreements (Anderson et al.,

[1] Due to the reduction of tariff barriers under the Most-Favoured-Nation (MFN) regime.

[2] Foreign Direct Investment (FDI) is defined as actions undertaken by a resident of a foreign economy (the direct investor or parent company) to establish a long-term interest in an enterprise that is a resident in the domestic economy (the FDI enterprise or foreign affiliate). A long-term interest implies the existence of a lasting relationship between the direct foreign investor and the enterprise. The ownership of more than 10% of the enterprise's equity is considered sufficient evidence of such a long-term relationship and the investor's ability to influence its management. For details, see: Foreign direct investment: Inward and outward flows and stock (Available at: https://unctadstat.unctad.org/datacentre/dataviewer/US.FdiFlowsStock).

2019). This aspect is particularly important for the functioning of global value chains, linking inflows of FDI with subsequent exports of goods, including intermediate ones (Martínez-Galán, Fontoura, 2019).

Among the world's largest regions, deep integration agreements have become significantly widespread in the Asia-Pacific Region (APR)[3], which accounted for a large share of the global economy—approximately 60% of global GDP on average from 1992 to 2023[4]. Over the past four decades, the main incentive for integration processes in the APR has been production cooperation among East Asian countries (Park, 2020) aimed at stimulating the "vertical" trade of transnational corporations (Hummels et al., 2001). Acting as the "core" of integration processes in the APR, East Asian countries generally contributed to the further spread of integration agreements with countries in North and South America, as well as Australia and Oceania, by reducing barriers to trade and FDI inflows. Empirical research points to positive effects from the reduction of barriers to the exchange of goods and direct capital in the APR (Lakatos, Walmsley, 2012; Bouët et al., 2012) for lowering the costs of trade and economic interactions (Pomfret, Sourdin, 2009; Kimura et al., 2021). Amid the foreign policy confrontation between groups of countries (Jackson, Shepotylo, 2023; Aiyar et al., 2024; Potapov, 2025), and due to existing limitations for further liberalization of foreign economic relations in a number of the region's economies (Chaisse, Hsieh, 2023), signs of fragmentation in the economic space have recently become noticeable in the APR from the perspective of China's confrontation with a number of regional countries. This resulted in the creation of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)[5]. Nevertheless, this process did not lead to the formation of closed trade and economic blocs; on the contrary, it stimulated the expansion of integration agreements and the creation of "compromise" formats in the APR, particularly the Regional Comprehensive Economic Partnership (RCEP)[6], thereby mitigating potential risks of fragmentation.

Assessments of the long-term comparative impact of integration agreements on trade and investment interactions in the APR are insufficiently studied, as they primarily focus on East Asian countries (Ing et al., 2019) and do not cover the period of the current foreign policy confrontation in the region. It should be noted that there is some skepticism regarding the positive trade effects for a number of shallow integration agreements (Herz, Wagner, 2011). Based on this, it can be assumed that within the APR, deep integration agreements contributed to a greater expansion of trade among member countries compared to shallow integration agreements. It can also be assumed that deep integration agreements stimulated FDI attraction, since this type of agreement extends barrier reduction mechanisms to factor markets, a key one being capital. Thus, within the APR, all else being equal, shallow and deep integration agreements might be conflicting for FDI inflows. Relying on these assumptions, it is important to

[3] It should be noted that the geographical scope of the Asia-Pacific Region (APR) is a subject of debate (Bollard, Mayes, 1992; Ravenhill, 2006). This study adopts a "broad definition" of the APR, encompassing over fifty countries and economies: Australia, Brunei, Vanuatu, East Timor, Vietnam, Guatemala, Honduras, Hong Kong, Indonesia, Cambodia, Canada, Kiribati, North Korea, China, Colombia, Costa Rica, Laos, Macao, Malaysia, Marshall Islands, Mexico, Mongolia, Myanmar, Nauru, Nicaragua, New Zealand, New Caledonia, Cook Islands, Palau, Panama, Papua New Guinea, Peru, Republic of Korea, Russia, El Salvador, Samoa, Singapore, Solomon Islands, United States, Thailand, Taiwan, Tonga, Tuvalu, Wallis and Futuna, Federated States of Micronesia, Fiji, Philippines, French Polynesia, Chile, Ecuador, and Japan.

[4] Calculated according to: World Economic Outlook Database. IMF. Available at: https://www.imf.org/en/Publications/WEO/weo-database/2025/april

[5] Australia, Brunei, Vietnam, Canada, Malaysia, Mexico, New Zealand, Peru, Singapore, Chile, Japan.

[6] Australia, Brunei, Vietnam, Indonesia, Cambodia, China, Korea, Laos, Malaysia, Myanmar, New Zealand, Singapore, Thailand, Philippines, Japan.

emphasize how the influence of globalization and regionalization processes on trade and investment interactions in the APR correlates, and to what extent this influence is differentiated for flows of goods and capital within this region.

Consequently, the aim of this study is a long-term assessment of the impact of integration agreements on trade and investment interactions among countries in the Asia-Pacific Region (APR). The research algorithm involves addressing the following tasks: 1) analysis of the dynamics of trade, FDI, and integration agreements in the APR; 2) formation of a dataset and selection of an evaluation methodology; 3) assessment of the long-term impact of integration agreements on trade and investment interactions among APR countries. Within this study, the assessment of the impact of integration agreements on inflows of foreign direct investment was based on accumulated FDI stocks[7], which, compared to flow values, are characterized by lower volatility and contain far fewer zero and negative values (Kox et al., 2020). The effects of FDI inflows extend to the economy of the host country and are more complex compared to capital outflows, generally contributing to an increase in its market capacity, the creation of production facilities (including export-oriented ones), the attraction of technologies, and an increase in employment and population income (Hassan, 2022). To avoid double counting, trade interactions were assessed using the flow of mutual exports between APR countries. The research covers the period 1992–2023.

Trade-investment interactions and integration agreements among APR countries

During the period under review, trade and investment interactions among APR countries increased substantially. The total exports from APR countries increased more than 7-fold in current prices – from USD 1.6 trillion in 1992 to USD 11.9 trillion in 2023, while the accumulated inflow of FDI into the region's countries increased almost 21-fold – from USD 1.3 trillion to USD 27.7 trillion, respectively (*Fig. 1*).

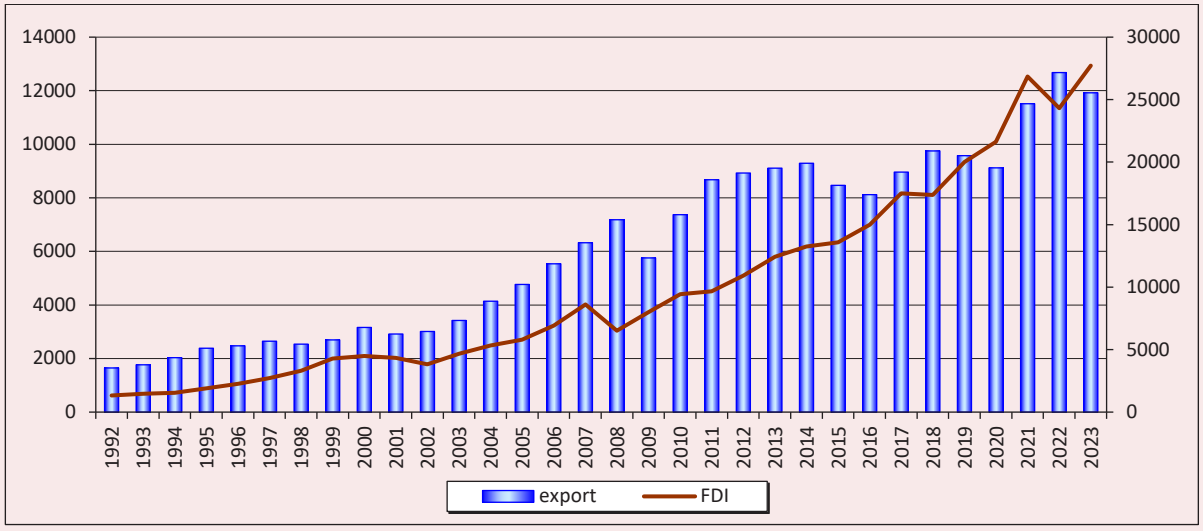
In 2023, APR countries accounted for half of global exports, an increase of 7 percentage points compared to 1992. Meanwhile, the share of intra-regional exports rose by 10 percentage points – from 61.4% in 1992 to 71.4% in 2023, indicating a strengthening of trade interdependence among APR countries (*Fig. 2*).

As a result, intra-regional exports in the APR increased 8.5-fold: from USD 1.0 trillion in 1992 to USD 8.5 trillion in 2023. An increase was also observed in the share of APR countries in the global stock of inward FDI – from 53.3% in 1992 to 56.4% in 2023. The share of APR countries in global FDI inflows showed a tendency to increase, except for the early 2020s (COVID-19 pandemic and intensification of foreign policy risks) (Izotov, 2024). FDI inflows into APR countries were shaped by intra-regional investments, whose value increased more than 21-fold – from USD 0.9 trillion in 1992 to USD 20.2 trillion in 2023. At the same time, significant volatility was observed in the share of intra-regional FDI inflows. Although a trend of increasing the share of direct investments from countries located outside the region has been recorded since the early 2010s, nevertheless, on average over the period under review, intra-regional sources accounted for more than 70% of FDI inflows into the APR.

The exchange of goods and capital within the APR framework was the main source of foreign economic interactions for the region's countries. These interconnections in the APR were based on the reduction of various kinds of barriers, including those related to the conclusion of bilateral and multilateral integration agreements, which are divided into deep and shallow. Until the early 2000s, shallow integration agreements played the

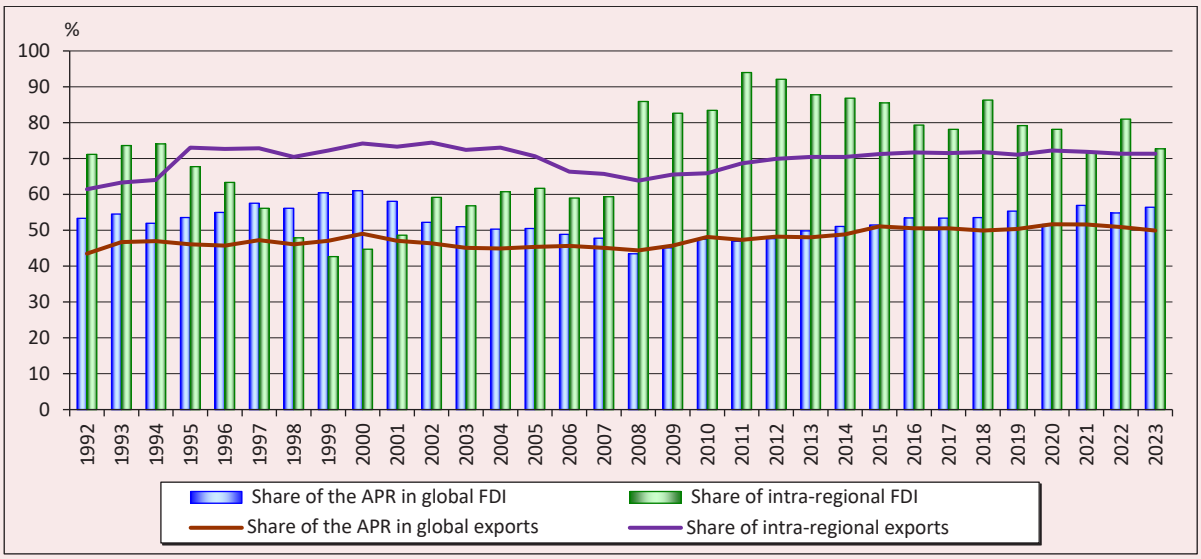
[7] FDI flows represent the corresponding transactions recorded during the reporting period, which consist of equity acquisitions or sales, reinvested earnings, and inter-company debt. In turn, FDI stocks represent the accumulated value of FDI recorded at the end of the reporting period.

Figure 1. Exports (left axis) and FDI inflow (right axis) of APR countries, billion USD



Source: World Integrated Trade Solution. World Bank. Available at: http://wits.worldbank.org/WITS/WITS/Default-A.aspx?Page=Default; Trade Structure. UNCTADstat. Available at: https://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx; Foreign direct investment: Inward and outward flows and stock. UNCTADstat. Available at: https://unctadstat.unctad.org/datacentre/dataviewer/US.FdiFlowsStock

Figure 2. APR trade and investment: share in the global economy and share in intra-regional flows, %



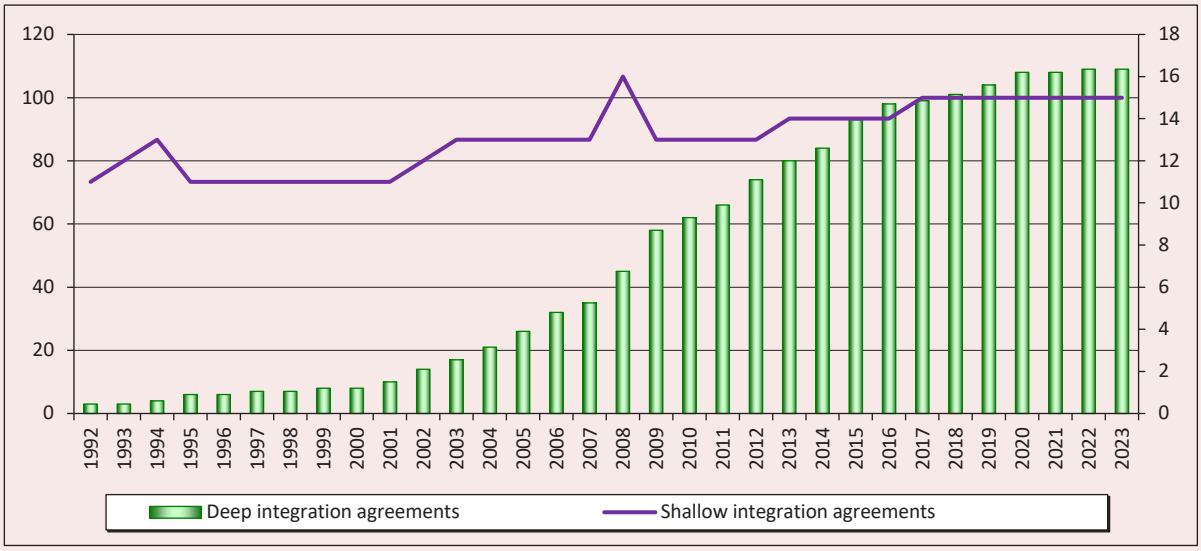
Calculated according to: FDI Bilateral Statistics. UNCTAD. Available at: https://unctad.org/en/Pages/DIAE/FDI%20Statistics/FDI-Statistics-Bilateral.aspx (accessed: 14.06.2017); FDI database. UNCTAD. Available at: https://unctad.org/fdistatistics (accessed: 01.02.2020); Foreign direct investment: Inward and outward flows and stock. UNCTADstat. Available at: https://unctadstat.unctad.org/datacentre/dataviewer/US.FdiFlowsStock; FDI Flows. OECD. Available at: https://www.oecd.org/en/data/indicators/fdi-flows.html; Foreign Direct Investment Statistics: Data, Analysis and Forecasts. Available at: https://mneguidelines.oecd.org/statistics.htm; OECD International Direct Investment Statistics. Available at: https://www.oecd.org/en/publications/oecd-international-direct-investment-statistics_2307437x.html; IMF Coordinated Direct Investment Survey (CDIS). IMF. Available at://data.imf.org/?sk=40313609-F037-48C1-84B1-E1F1CE54D6D5; Foreign Direct Investment Trends and Statistics. IMF. Available at: https://www.imf.org/en/Publications/SPROLLs/direct-investment#sort=%40imfdate%20descending; Statistics of Foreign Direct Investment in ASEAN. Stocks of Inward Foreign Direct Investment (FDI) at year-end, by source country. Available at: https://data.aseanstats.org/fdi-by-hosts-and-sources-stock (accessed: 01.03.2025); CEIC Database. Available at: https://www.ceicdata.com; World Integrated Trade Solution. World Bank. Available at: http://wits.worldbank.org/WITS/WITS/Default-A.aspx?Page=Default; Trade Structure. UNCTADstat. Available at: https://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx

main role in the regionalization process within the APR. These included agreements primarily aimed at reducing barriers in trade in goods, i.e., partial scope agreements (PSA)[8], free trade agreements (FTA)[9], and customs unions (CU)[10]. However, subsequently, shallow integration agreements gave way to more advanced forms of integration (*Fig. 3*).

From the first half of the 2000s, a fundamentally new process in the APR was the increase in the number of concluded FTAs in an expanded format (FTA+), which by all formal criteria belonged to deep integration agreements. A process of creating multilateral FTA+s began to be observed, for example, the CPTPP and RCEP, which occupy a significant share in the trade and investment exchange among APR countries[11]. The potential accession of other APR countries to RCEP and CPTPP increases opportunities for enhancing their trade and investment potential (Petri, Abdul-Raheem, 2014; Park et al., 2021). It should also be noted that some shallow integration agreements among APR countries, as new members joined and amendments were made, transitioned into the category of deep integration agreements. In some cases, these functioned as shallow agreements for a short period, typically within a transitional period.

From a functional perspective, deep integration agreements facilitate both trade and investment interactions among APR countries. Shallow integration agreements stimulate only the exchange

Figure 3. Deep (left axis) and shallow (right axis) integration agreements among APR Countries, units



Note: data are presented on a cumulative basis.

Sources: Regional trade agreements notified to the GATT/WTO and in force. Available at: https://rtais.wto.org/UI/publicPreDefRepByCountry.aspx; Deep Trade Agreements database 2.0 (vertical depth). Available at: https://datatopics.worldbank.org/dta/table.htm

[8] Under a Partial Trade Agreement (PTA), countries reduce tariff barriers on specific product groups.

[9] A free trade agreement (FTA) involves the reduction of tariff measures and non-tariff restrictions, and grants the right to determine trade policies toward third countries.

[10] In a customs union (CU), countries implement a common external tariff and a unified system for regulating non-tariff measures towards third countries.

[11] In 2023, trade between RCEP member countries accounted for 32% of trade and 26% of FDI inflows in the APR, while CPTPP accounted for 7% and 10%, respectively.

of goods, as they were primarily created between developing countries, while FDI inflows into APR countries came from developed economies. This, to a certain extent, could have limited opportunities for capital exchange within this form of integration. However, during the analyzed period, a number of countries that concluded shallow integration agreements were either developed or had high per capita income[12] and actively channeled direct investments into other APR countries. Therefore, the impact of shallow integration agreements on FDI inflows is at least ambiguous, requiring quantitative assessment for more precise conclusions.

Assessment methodology and data

Methodology. Over the past two decades, the development of gravity models for assessing the impact of integration agreements on trade and economic interactions between countries has achieved significant progress (Larch et al., 2025). In accordance with accumulated empirical estimates of the influence of integration factors on trade and economic interactions between countries within structural gravity models, specific recommendations have been developed for conducting quantitative calculations of the corresponding effects. First, based on a panel dataset, for a correct assessment of the impact of dummy variables on the dependent variable, the model includes country-time fixed effects for exporter/importer to control for multilateral resistance[13], and country-pair fixed effects to account for the influence of all time-invariant bilateral costs (Yotov et al., 2016). Second, the estimation of the relationship is built in a multiplicative form (Poisson Pseudo-Maximum Likelihood – PPML) to include zero values in the dataset, thereby avoiding the problem of heteroscedasticity and model specification errors due to an incorrectly chosen functional form (Santos Silva, Tenreyro, 2006). Third, the panel includes internal trade and investment interactions, i.e., the domestic market for goods and the stock of domestic direct investments, to control for the diversion of countries' trade (Yotov, 2022) and investment (Kox, Rojas-Romagosa, 2020) flows toward their domestic markets and to eliminate the distorting influence of global factors. These recommendations have significantly simplified the estimation of the effects of integration agreements that determine countries' trade and investment interactions.

Since the impact of integration agreements is delayed in the long term (Yotov et al., 2016; Borghi et al., 2024), this study estimates only the cumulative effects of these agreements on trade and FDI inflows. The cumulative effect of integration agreements on trade was estimated using the following model:

$$X_{ijt} = \exp\left[\beta_0 + \sum_{n=0}^{n=5} \beta_n TREAT_{ijt-n} + \right.$$
$$\left. + \sum_{T=1}^{T=n} \beta_T INTL(T)_{ij} + \pi_{it} + \chi_{jt} + \mu_{ij} + \varepsilon_{ijt}\right], \quad (1)$$

where:

X_{ij} – exports from country *i* to country *j* (in US dollars);

$TREAT_{ij}$ – dummy variable indicating the presence/absence of an integration agreement between *i* and *j*;

$INTL(T)_{ij}$ – dummy variable that equals one for international flows (between countries) for each year *T* and zero for intra-national flows of goods (1) and FDI (2);

β_0 – constant;

$\sum \beta_n$ – value of the cumulative effect of the integration agreement;

β_T – aggregate barriers in trade interactions between countries;

t – time period;

n – time lag (5 years);

[12] Singapore, the Republic of Korea (hereinafter Korea), Japan, Australia, New Zealand, China, Malaysia.

[13] All bilateral variable costs faced by the exporter/donor country and importer/recipient country, respectively.

π_i – exporter-year fixed effects;

χ_j – importer-year fixed effects;

μ_{ij} – country-pair fixed effects;

ε – error term.

The cumulative effect of integration agreements on FDI inflows was calculated as follows:

$$FDI_{ijt} = \exp\left[\beta_0 + \sum_{n=0}^{n=5}\beta_n TREAT_{ijt-n} + \right.$$
$$\left. + \sum_{T=1}^{T=n}\beta_T INTL(T)_{ij} + \gamma_{it} + \omega_{jt} + \mu_{ij} + \varepsilon_{ijt}\right], \quad (2)$$

where:

FDI_{ij} – inflow of accumulated FDI into country *i* from country *j* (in US dollars);

β_T – aggregate barriers in investment interactions between countries;

γ_i – donor country-year fixed effects;

ω_j – recipient country-year fixed effects.

Subsequently, to isolate the effects of globalization (i.e., to exclude the impact of regional integration agreements), following the methodology of a previous study (Izotov, 2020), the aggregate cumulative effects of integration for trade and investment were estimated.

The aggregate cumulative effect of integration for trade was estimated as follows:

$$X_{ijt} = \exp\left[\beta_0 + \sum_{n=0}^{n=5}\beta_n TREAT_{ijt-n} + \right.$$
$$\left. + \pi_{it} + \chi_{jt} + \mu_{ij} + \varepsilon_{ijt}\right]. \quad (3)$$

In turn, the aggregate cumulative effect of integration for FDI inflows was estimated using the following equation:

$$FDI_{ijt} = \exp\left[\beta_0 + \sum_{n=0}^{n=5}\beta_n TREAT_{ijt-n} + \right.$$
$$\left. + \gamma_{it} + \omega_{jt} + \mu_{ij} + \varepsilon_{ijt}\right]. \quad (4)$$

The difference in $\sum \beta_n$ between models (3) and (1) reflects the value of the cumulative effect of integration within the globalization process for trade, while the difference between (4) and (2) reflects the same for FDI inflows. For the sake of brevity, the variable $TREAT_{ij}$ in models (1) to (4) encompassed the following:

PTA_{ij} – dummy variable for the presence/absence of any integration agreement (both deep and shallow) between *i* and *j*;

DTA_{ij} – dummy variable for the presence/absence of a deep integration agreement between *i* and *j*;

$NONDTA_{ij}$ – dummy variable for the presence/absence of a shallow integration agreement between *i* and *j*.

Data. For the dependent variable FDI, we used statistics reflecting the value of mutual accumulated FDI stocks in the Asia-Pacific Region (APR) and their internal domestic investment. The primary challenge in constructing the dataset for accumulated FDI stocks was the absence of a single comprehensive statistical database providing the value of mutual FDI stocks between APR countries. Most sources provide incomplete data on FDI stocks between APR countries; therefore, the dataset for the dependent variable *FDI* was compiled from various sources, primarily based on data from international databases: UN[14], OECD[15], the World Bank (Steenbergen et al., 2022), IMF[16],

[14] FDI Bilateral Statistics. UNCTAD. Available at: https://unctad.org/en/Pages/DIAE/FDI%20Statistics/FDI-Statistics-Bilateral.aspx (accessed: 14.06.2017); FDI database. UNCTAD. Available at: https://unctad.org/fdistatistics (accessed: 01.02.2020).

[15] OECD FDI Flows. Available at: https://www.oecd.org/en/data/indicators/fdi-flows.html; Foreign Direct Investment Statistics: Data, Analysis and Forecasts. Available at: https://mneguidelines.oecd.org/statistics.htm; OECD International Direct Investment Statistics. Available at: https://www.oecd.org/en/publications/oecd-international-direct-investment-statistics_2307437x.html

[16] IMF Coordinated Direct Investment Survey (CDIS). Available at: http://data.imf.org/?sk=40313609-F037-48C1-84B1-E1F1CE54D6D5; Foreign Direct Investment Trends and Statistics. IMF. Available at: https://www.imf.org/en/Publications/SPROLLs/direct-investment#sort=%40imfdate%20descending

and CEIC[17]. When gaps in mutual FDI stock statistics were identified, they were either filled with data from other sources (CEPII[18]; ASEAN[19]; central banks, statistical offices, relevant ministries, and investment agencies of APR countries and economies, as well as other international organizations and analytical agencies[20]) or, in some cases, estimated using a moving average. Occasional negative values of FDI stocks were set to zero (Kox, Rojas-Romagosa, 2020).

The dataset for the dependent variable *FDI* included data characterizing the value of accumulated investment in fixed assets within APR countries, excluding accumulated FDI, following the recommendations for estimating gravity model specifications for trade (Yotov et al., 2016). For the period under review, statistics on domestic accumulated investment in fixed assets were compiled from both specialized databases[21] and statistical offices of APR countries. Since for some APR countries[22], statistics on domestic accumulated investment in fixed assets were not found, these economies were excluded from the estimated panel[23]. Ultimately, as in a previous study (Izotov, 2023), the panel included 36 APR economies[24].

To ensure the comparability of results, the panel for trade interactions in the APR included the same set of regional countries. Accordingly, for the dependent variable *X*, we used statistics reflecting the value of trade between APR countries and their internal trade. Values for countries' internal trade were derived as the difference between the value of goods produced in the national economy and exports (Campos et al., 2021; Izotov, 2023a; Izotov, 2023c). The values of goods produced in APR economies were collected from specialized statistical databases (UNIDO[25], CEPII[26], CEIC, FAO (UN)[27], UNCTAD[28], the World Bank[29]), as well as from statistical agencies of the region. Statistical data on mutual exports between APR

[17] CEIC Database. Available at: https://www.ceicdata.com

[18] FDI Map. CEPII. Available at: https://www.cepii.fr/cepii/en/bdd_modele/bdd_modele_item.asp?id=4

[19] Statistics of Foreign Direct Investment in ASEAN. Stocks of Inward Foreign Direct Investment (FDI) at year-end, by source country. Available at: https://data.aseanstats.org/fdi-by-hosts-and-sources-stock

[20] Central Bank of Russia; Australian Bureau of Statistics; Brunei Darussalam Department of Economic Planning and Statistics; Vale Columbia Center on Sustainable International Investment; Foreign Investment Committee of Chile; Kingdom of Cambodia Ministry of Foreign Affairs and International Cooperation; Canada Department of Foreign Affairs and International Trade; Canada Department of Statistics; Singapore Department of Statistics; Central Bank of Malaysia; Malaysia Department of Statistics; Bank of Japan; JETRO; Japan Ministry of Finance; Central Bank of Ecuador; Ministry of Commerce People's Republic of China; Taiwan Ministry of Economic Affairs; Central Bank of Philippines; Bank of Thailand; Thailand Board of Investment; Bureau of Economic Analysis; Export-Import Bank of Korea; New Zealand Department of Statistics; Myanmar Directorate of Investment and Company Administration; National Statistical Office of Mongolia; Macau Statistics and Census Service; Laos Investment Promotion Department; Indonesia Investment Coordinated Board; Hong Kong Census and Statistics Department; Vietnam General Statistical Office; Statista; Institute for International Political Economy; Bank for International Settlements, etc. In some cases, the search for necessary indicators was conducted on the Internet using artificial intelligence tools (DeepSeek and ChatGPT)..

[21] United States International Trade Commission (USITC). Available at: https://www.usitc.gov/data/gravity/mreid.htm

[22] Vanuatu, East Timor, Kiribati, North Korea, Marshall Islands, Nauru, New Caledonia, Palau, Cook Islands, Samoa, Solomon Islands, Tuvalu, Wallis and Futuna, Federated States of Micronesia, French Polynesia.

[23] This is not critical, as their combined share in incoming accumulated FDI in the APR was less than 0.1%.

[24] Australia, Brunei, Vietnam, Guatemala, Honduras, Hong Kong, Indonesia, Cambodia, Canada, China, Colombia, Costa Rica, Laos, Macao, Malaysia, Mexico, Mongolia, Myanmar, Nicaragua, New Zealand, Panama, Papua New Guinea, Peru, Korea, Russia, El Salvador, Singapore, United States, Thailand, Taiwan, Tonga, Fiji, Philippines, Chile, Ecuador, and Japan.

[25] UNIDO Statistics. Available at: https://stat.unido.org/

[26] CEPII Database. Available at: http://www.cepii.fr/CEPII/en/bdd_modele/bdd_modele.asp

[27] FAOSTAT. Available at: https://www.fao.org/statistics/en/

[28] UNCTADstat. Available at: https://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS_ChosenLang=en

[29] WITS. World Integrated Solution. Available at: https://wits.worldbank.org/

countries were sourced from UNCTAD, the World Bank, CEIC, and RIETI[30] databases.

To build the dataset of dummy variables for integration agreements between APR countries, data on the presence or absence of deep and shallow agreements from the World Bank[31] and WTO[32] databases were used. As mentioned earlier, some integration agreements over the long-term period transitioned from shallow to deep status, which was accounted for in the dataset construction. For multilateral agreements, differences in the timing of countries' accession to the integration mechanisms of these agreements were also considered.

The following agreements between APR countries were classified as deep trade agreements (*DTA*), primarily in the FTA+ format unless otherwise specified: PSA+ Latin American Integration Association[33] (1981); CU Andean Community of Nations[34] (1988); Australia – New Zealand (1989); NAFTA North American Free Trade Agreement[35] (1994–2020); Colombia – Mexico (1995); Canada – Chile (1997); FTA ASEAN Free Trade Area (AFTA)[36] (1992–1995); Chile – Mexico (1999); Central America[37] (2001); New Zealand – Singapore (2001); Chile – Costa Rica (2002); Chile – El Salvador (2002); Japan – Singapore (2002); Canada – Costa Rica FTA (2002); China – Hong Kong (2003); China – Macao (2003); Panama – El Salvador (2003); Singapore – Australia (2003); Panama – Taiwan (2004); Republic of Korea – Chile (2004); USA – Chile (2004); USA – Singapore (2004); ASEAN – China[38] (2005); USA – Australia (2005); Thailand – Australia (2005); Thailand – New Zealand (2005); Japan – Mexico (2005); Central America – USA[39] (2006); Guatemala – Taiwan (2006); Japan – Malaysia (2006); Panama – Singapore (2006); Korea – Singapore (2006); Trans-Pacific Strategic Economic Partnership[40] (2006); Chile – China (2007); Japan – Thailand (2007); Chile – Japan (2007); Brunei – Japan (2008); Chile – Honduras (2008); China – New Zealand (2008); El Salvador – Honduras – Taiwan (2008); Japan – Indonesia (2008); Japan – Philippines (2008); Nicaragua – Taiwan (2008); Panama – Costa Rica (2008); Panama – Chile (2008); ASEAN – Japan (2008)[41]; ASEAN – Korea (2009); Peru – Chile (2009); Peru – Singapore (2009); Panama – Guatemala (2009); Panama – Honduras (2009); Panama – Nicaragua (2009); Japan – Vietnam (2009); USA – Peru (2009); China – Singapore (2009); Colombia – Northern Triangle (2009); Australia – Chile (2009); Canada – Peru (2009); Chile – Colombia (2009); ASEAN – Australia – New Zealand[42] (2010); Chile – Guatemala (2010); New Zealand – Malaysia (2010); Peru – China (2010); Peru – Korea (2011); Canada – Colombia (2011); China – Costa Rica (2011); Hong Kong – New Zealand (2011); Japan – Peru (2012); Chile – Nicaragua (2012); Panama – Peru (2012); Peru – Mexico (2012); Korea – USA (2012); USA – Colombia (2012); USA – Panama (2012); Chile – Malaysia FTA (2012); Malaysia – Australia (2013); Mexico –

[30] RIETI-TID. Available at: https://www.rieti.go.jp/en/projects/rieti-tid/index.html

[31] Deep Trade Agreements database 2.0 (vertical depth). Available at: https://datatopics.worldbank.org/dta/table.html

[32] Regional trade agreements notified to the GATT/WTO and in force. Available at: https://rtais.wto.org/UI/publicPreDefRepByCountry.aspx

[33] PTA in an extended format. Mexico – Peru (since 2011); Ecuador – Colombia (since 2016); Chile – Colombia (since 2009); Chile – Peru (since 2008); Mexico – Colombia (since 1994); Mexico – Chile (since 2000).

[34] Only Ecuador – Peru (2016).

[35] USA, Mexico, Canada.

[36] Since 1993: Brunei, Malaysia, Philippines, Singapore, Indonesia, Thailand. All other ASEAN countries: since 1995.

[37] Honduras, Guatemala, Costa Rica, Nicaragua, El Salvador. Panama joined the agreement in 2003.

[38] Brunei – China (2005); Cambodia – China (2005); Indonesia – China (2005).

[39] Costa Rica – USA (2009).

[40] Brunei, New Zealand, Singapore, Chile.

[41] Cambodia – Japan (2010); Myanmar – Japan (2010).

[42] FTA+ with Indonesia – since 2012, with Laos and Cambodia – since 2011.

Central America (2013); New Zealand – Taiwan (2013); Canada – Panama (2013); Costa Rica – Peru (2013); Costa Rica – Singapore (2013); Chile – Vietnam FTA (2014); Canada – Honduras (2014); Korea – Australia (2014); Singapore – Taiwan (2014); Korea – New Zealand (2015); Korea – Vietnam (2015); Mexico – Panama (2015); Australia – China (2015); Canada – Korea (2015); Chile – Thailand (2015); China – Korea (2015); Hong Kong – Chile (2015); Japan – Australia (2015); Costa Rica – Colombia (2016); Russia[43] – Vietnam (2016); Japan – Mongolia (2016); Korea – Colombia (2016); Pacific Alliance[44] (2016); Peru – Honduras (2017); CPTPP (2018); Hong Kong – Macao (2018); ASEAN – Hong Kong (2019); Korea – Central America[45] (2019); Chile – Indonesia FTA (2019); Peru – Australia (2020); Hong Kong – Australia (2020); Indonesia – Australia (2020); PACER Plus[46] (2020); United States–Mexico–Canada (USMCA) (2020); RCEP (2022).

Shallow integration agreements (NONDTA) between APR countries included: CU Central American Common Market[47] (1961–2012); PTA Protocol on Trade Negotiations[48] (1973); APTA Asia-Pacific Trade Agreement[49] (1976); Australia – Papua New Guinea FTA (1977); Latin American Integration Association FTA+[50] (1981); FTA South Pacific Regional Trade and Economic Cooperation Agreement[51] (1981); Ecuador – Mexico PTA (1983); CU Andean Community of Nations[52] (1988); PTA Global System of Trade Preferences[53] (1989); Laos – Thailand PTA (1991–1994); ASEAN FTA (1992–1994); PTA Melanesian Spearhead Group[54] (1994); APTA – China PTA[55] (2002); FTA Pacific Island Countries Trade Agreement[56] (2003); CU Central America – Panama (2013); El Salvador – Ecuador PTA (2017); Brunei – Japan FTA+ (only 2008); Japan – Indonesia FTA+ (only 2008); ASEAN – Japan[57] (only 2008).

The aggregate indicator reflecting membership in both deep and shallow integration agreements is *PTA*. To avoid biased estimates (Baldwin, Taglioni, 2007), the value indicators reflecting bilateral and internal trade, as well as accumulated FDI and internal domestic investment, were expressed in current prices (Izotov, 2023c). If an integration agreement entered into force in the first half of a year, it was assigned to that year; if it entered into force in the second half, it was assigned to

[43] As a member state of the Eurasian Economic Union.

[44] Colombia, Mexico, Peru, Chile.

[45] Panama – Korea (2021).

[46] Australia, New Zealand, Tonga.

[47] Costa Rica – Guatemala, Honduras, Nicaragua, El Salvador (until 2001); Costa Rica – Panama (until 2008); El Salvador – Panama (until 2002); Nicaragua – Panama (until 2009).

[48] Korea, Mexico, Peru, Chile, Philippines. PTA Mexico – Chile (until 1999).

[49] Korea– Laos (until 2008).

[50] Mexico – Peru (until 2011); Chile – Ecuador (1981); Ecuador – Colombia (until 2016); Chile – Colombia (until 2009); Chile – Peru (until 2008); Mexico – Colombia (until 1994); Mexico – Chile (until 2000).

[51] Australia, New Zealand, Papua New Guinea, Tonga, Fiji. PTA Australia, New Zealand – Tonga (until 2020).

[52] Colombia, Ecuador – Peru (until 2016).

[53] Vietnam, Indonesia, Colombia, Korea, Malaysia, Mexico, Myanmar, Nicaragua, Peru, Singapore, Thailand, Philippines, Chile, Ecuador. Chile – Indonesia (until 2019); Chile – Korea (until 2003); Chile – Malaysia (until 2011); Chile – Mexico (until 1999); Chile – Singapore (until 2005); Chile – Thailand (until 2015); Chile – Vietnam (until 2013 Colombia – Chile (until 2008); Colombia – Korea (until 2016); Colombia – Mexico (until 1994); Colombia – Peru (until 2013); Indonesia – Chile (until 2019); Indonesia – Korea (until 2008); Korea – Malaysia (until 2008); Indonesia – Myanmar (until 2008); Korea – Nicaragua (until 2019); Korea – Peru (until 2011); Korea – Philippines (until 2008); Korea – Singapore (until 2005); Korea – Thailand (until 2008); Korea – Vietnam (until 2008); Malaysia – Mexico (2018); Malaysia – Peru (2018); Mexico – Nicaragua (until 2012); Mexico – Peru (until 2011); Mexico, Singapore (2018); Mexico – Vietnam (until 2018); Peru – Singapore (until 2009); Peru – Vietnam (2018).

[54] Papua New Guinea, Fiji.

[55] China – Korea (2002–2015); China – Laos (2002–2004).

[56] Papua New Guinea, Tonga, Fiji. FTA Papua New Guinea – Tonga (until 2020).

[57] Japan – Laos (only 2008).

the following year (Izotov, 2023c). To facilitate quantitative estimation, interval values of the panel data with a five-year lag were considered (1992[58], 1995, 1999, 2003, 2007, 2011, 2015, 2019, and 2023). As a result, this study covers 11,502 observations.

Estimation results

The estimation confirmed the stimulating effect of the considered agreements on trade between APR countries within the process of regionalization. Countries that concluded integration agreements (PTA) traded 21.9% more compared to those national economies that did not conclude such agreements. However, the impact of integration agreements on FDI inflows – without distinguishing between deep and shallow agreements – was not statistically significant, indicating the invariant influence of this foreign policy instrument for stimulating investment interactions among APR countries (*Tab. 1*).

Table 1. Estimation results for (3) and (4)

Variable	X			FDI		
	1	**2**	**3**	**4**	**5**	**6**
PTA	0.20*** (0.05)	–	–	0.08 (0.10)	–	–
DTA	–	0.14*** (0.05)	–	–	0.21** (0.09)	
NONDTA	–	–	0.38*** (0.17)	–	–	-0.65*** (0.23)
Δ, %	**21.9**	**15.5**	**46.0**	**-**	**23.6**	**-47.5**
$INTL_{1992}$	-0.78*** (0.06)	-0.81*** (0.06)	-0.90*** (0.06)	1.50*** (0.12)	1.57*** (0.12)	1.47*** (0.10)
$INTL_{1995}$	-0.52*** (0.06)	-0.54*** (0.06)	-0.60*** (0.05)	0.19* (0.10)	0.24** (0.09)	0.22** (0.09)
$INTL_{1999}$	-0.37*** (0.05)	-0.38*** (0.05)	-0.45*** (0.05)	-0.03 (0.10)	-0.02 (0.10)	-0.05 (0.10)
$INTL_{2003}$	-0.37*** (0.05)	-0.38*** (0.05)	-0.45*** (0.04)	-0.26*** (0.08)	-0.20** (0.08)	-0.21** (0.08)
$INTL_{2007}$	-0.31*** (0.05)	-0.32*** (0.05)	-0.40*** (0.05)	-0.05 (0.08)	-0.05 (0.08)	-0.05 (0.09)
$INTL_{2011}$	-0.37*** (0.04)	-0.37*** (0.04)	-0.41*** (0.04)	-0.01 (0.06)	-0.03 (0.06)	-0.03 (0.07)
$INTL_{2015}$	-0.29*** (0.04)	-0.30*** (0.04)	-0.33*** (0.04)	-0.17*** (0.05)	-0.13** (0.05)	-0.14** (0.05)
$INTL_{2019}$	-0.23*** (0.03)	-0.24*** (0.03)	-0.26*** (0.04)	-0.04 (0.06)	-0.03 (0.06)	-0.03 (0.06)
Constant	15.67*** (0.57)	10.06*** (0.61)	10.23*** (0.52)	20.01*** (0.22)	12.59*** (0.31)	10.64*** (0.33)
Pseudo log-likelihood	-1.86e+12	-1.86e+12	-1.86e+12	-3.03e+12	-3.04e+12	-3.07e+12
Pseudo R^2	0.99	0.99	0.99	0.99	0.99	0.99
RESET-test	0.28	0.37	0.08	0.02	0.02	0.02

Notes. 1–3 correspond to different specifications of model (3); 4–6 correspond to different specifications of model (4). * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$; autocorrelation is accounted for using Newey-West standard errors; values in parentheses are standard errors; INTL reflects border effect values, with 2023 as the base year. Here and hereafter, the Δ indicator is calculated as $(e^{\beta}-1)\times100\%$.
Source: own calculation.

[58] This is the only exception, as the interval between 1992 and 1995 is four years. This year was added to account for the influence of agreements prior to the establishment of the WTO.

We should note that shallow integration agreements (*NONDTA*) contributed to a significant increase in trade between APR countries in the long term – by an average of 46.0% – while simultaneously suppressing FDI inflows by 47.5%. These estimates indicate that under shallow integration agreements, there was a crowding-out of investment flows between countries in the region due to the stimulation of trade alone. In turn, APR countries that established deep integration agreements (DTA) with each other increased their bilateral trade by an average of 15.5% and FDI inflows by 23.6%. Consequently, deep integration agreements stimulated the exchange of both goods and direct capital between APR countries, indicating the creation of conditions for complementarity between trade and FDI in the region under more advanced formats of economic integration. This complementarity explicitly points to the establishment of vertical forms of FDI in the APR, aimed at stimulating trade in intermediate goods within production processes spread across different countries to manufacture finished products with relatively low costs. This is supported, in particular, by estimates for key East Asian countries and associations – China, Japan, Korea, and ASEAN (Izotov, 2023b; Li, Kawasaki, 2014; Whalley, 2017).

Beyond reducing overall investment risks, attracting FDI requires the mitigation of various market access barriers in national economies, which can be achieved through deep integration formats to subsequently develop countries' comparative advantages within an export expansion strategy. However, as the estimates showed, the long-term cumulative trade effect of shallow integration agreements was higher than that of deep integration agreements. This circumstance can be explained by at least two reasons. First, the market penetration in recipient countries facilitated by FDI inflows somewhat suppressed the export of goods from the donor countries of these direct investments. Second, the specific time periods during which the two types of integration agreements operated: deep integration agreements were primarily concluded in the 2000s, while shallow integration agreements had been reducing trade barriers between APR countries long before that.

The analysis indicated a difference in the dynamics of comparative total costs (*INTL*) for trade and investment in interactions between APR countries. For trade, a generally progressive trend of cost reduction was observed, with costs decreasing by 54% by 2023 relative to 1992, i.e., $(e^{-0.78}-1)\times 100\%$. The coefficients for the INTL variable were statistically significant for all years analyzed, indicating a tendency among all countries in the sample toward free trade in goods within the APR (Izotov, 2023b). In contrast, the costs of investment interactions between APR countries did not decrease as unequivocally as in the case of trade. The estimates showed lower values for investment interaction costs in the first half of the 1990s compared to 2023, as the ratio of FDI to internal domestic investment was higher in the last decade of the 20th century than in the subsequent years under review. The statistical insignificance of the *INTL* variable for investment interactions in some of the years analyzed could have been caused by the distorting effect of foreign policy confrontations in the APR, as well as the transformation of production cooperation due to the transition of a number of regional economies from trade in intermediate goods to the exchange of finished products (Izotov, 2023b). Nevertheless, based on the statistically significant estimates of the *INTL* variable, a reduction in barriers to FDI inflows was observed by 2023 relative to the early 2000s and mid-2010s, indicating some convergence of APR economies in terms of investment interactions.

Subsequently, estimates for the aggregate cumulative effect of integration between APR countries were obtained for both trade and investment (*Tab. 2*).

Table 2. Estimation results for (1) and (2) and the difference between effects

Variable	X			FDI		
	1	2	3	4	5	6
PTA	0.60*** (0.04)	–	–	0.01 (0.10)	–	–
DTA	–	0.57*** (0.05)	–	–	0.21** (0.09)	–
NONDTA	–	–	0.81*** (0.17)	–	–	-0.49** (0.23)
Δ, %	**82.1**	**76.6**	**125.1**	**–**	**23.6**	**-38.9**
Constant	9.77*** (0.47)	14.87*** (0.36)	15.29*** (0.48)	23.03*** (0.41)	16.64*** (0.72)	20.79*** (0.82)
Pseudo log-likelihood	-2.09e+12	-2.11e+12	-2.31e+12	-3.30e+12	-3.31e+12	-3.34e+12
Pseudo R^2	0.99	0.99	0.99	0.99	0.99	0.99
RESET-test	0.02	0.02	0.02	0.01	0.01	0.01
Globalization effect, %	**60.2**	**61.1**	**79.1**	**–**	**0**	**8.6**

Notes. 1–3 correspond to different specifications of model (1); 4–6 correspond to different specifications of model (2). ** $p < 0.05$; *** $p < 0.01$; autocorrelation is accounted for using Newey-West standard errors; values in parentheses are standard errors. The globalization effect is calculated as the difference between the aggregate cumulative integration effect (Tab. 2) and the cumulative integration effect (Δ, %; Tab. 1).
Source: own calculations.

From the perspective of effect direction, the estimates of the aggregate cumulative effect of integration between APR countries revealed a positive impact on trade from integration agreements in general (*PTA*), as well as from deep (*DTA*) and shallow (*NONDTA*) agreements. This positive influence significantly exceeded the direct impact of these agreements within the regionalization process (see Tab. 1). In contrast, for investment interactions, the aggregate cumulative integration effect (see Tab. 2) was comparable to the corresponding indicator of the direct influence of integration agreements on capital flows (see Tab. 1). This circumstance indicates that the globalization process notably stimulated only trade interactions and generally had an invariant effect on direct investment flows between APR countries that signed integration agreements. Although the globalization process mitigated the negative impact of shallow integration agreements on FDI flows between APR countries, this mitigation was insignificant. It is important to consider that in the global economy, trade in goods is facilitated by the WTO, while no similar integration framework exists for direct investment[59]. Therefore, the obtained estimates provide grounds to assert that in the context of barrier reduction, investment interactions in the APR were determined by deep integration agreements, which require mutual, endogenous lowering of restrictions on capital flows. Ceteris paribus, in the absence of such integration agreements, long-term expectations of FDI inflows into APR countries were generally unfounded, unlike trade interactions, which were stimulated by the global economic conjuncture and WTO membership.

Conclusion

Due to the absence of opportunities for creating more advanced forms of integration at the global level, two major groups of integration agreements have become increasingly distinct: shallow and deep. A significant proliferation of integration agreements is observed in the APR, which holds

[59] The World Bank, IMF, and sub-global development banks conduct relatively small volumes of direct investments solely as international organizations, and not within the framework of bilateral interactions between countries.

a leading global position in terms of economic size, trade, and FDI. The exchange of goods and direct capital within the APR is the primary source of foreign economic interactions for the region's countries, facilitated by the reduction of various barriers, including those achieved through the conclusion of bilateral and multilateral deep and shallow integration agreements. Until the early 2000s, shallow integration agreements played the main role in the regionalization process in the APR, while from the first half of the 2000s, deep integration agreements took precedence. However, estimates of the long-term comparative influence of integration agreements on trade and investment interactions in the APR remain insufficiently studied. Therefore, this study, based on gravity modelling, has estimated the cumulative effects of shallow and deep integration agreements, given that their impact on trade and FDI inflows is delayed in the long term.

The obtained estimates indicated a stimulating effect of any integration agreements on trade between APR countries, contributing to its increase by an average of 21.9%, while their influence on FDI inflows was invariant. Shallow integration agreements between APR countries reduced FDI inflows by 47.5% and contributed to a 46% increase in trade on average over the period. In turn, APR countries that concluded deep integration agreements increased their bilateral trade by 15.5% and FDI inflows by 23.6%. Consequently, within the APR, shallow and deep integration agreements conflicted with each other in terms of attracting FDI. The long-term cumulative trade effect of the former was higher than that of the latter. This paradox is explained by the suppression of direct investment by goods trade, as well as the longer duration of shallow integration agreements. Nevertheless, deep integration agreements stimulated the exchange of both goods and direct capital between APR countries, indicating the creation of conditions in the region for complementarity between trade and FDI under more advanced integration formats aimed at reducing the costs of production cooperation.

As the assessment of the aggregate cumulative integration effect showed, the globalization process significantly stimulated only trade interactions and generally had an invariant effect on direct investment flows between APR countries that concluded integration agreements. Therefore, in the context of reducing barriers in interactions between APR economies, investment interactions were determined by deep integration agreements, which require mutual reduction of restrictions on capital flows between countries. A strategy of passively waiting for FDI inflows into APR countries, hoping for a favorable global economic conjuncture, was generally ineffective in the long run, unlike trade, which was stimulated in part by countries' membership in the WTO. This circumstance indicates that the exchange of direct investment in the APR was more sensitive to existing barriers in economic interactions, as well as less flexible and more specific to FDI recipient countries compared to trade.

The assessment of the aggregate cumulative integration effect also indicated a difference in the dynamics of comparative total costs for trade and investment in interactions between APR countries. For trade interactions, a generally progressive trend of cost reduction was observed. In contrast, the costs for investment interactions between countries did not decrease as unequivocally as in the case of trade. Nevertheless, by 2023, a reduction in barriers to FDI inflows was observed relative to the early 2000s and mid-2010s, indicating to a certain extent a convergence of economies in terms of investment interactions.

The estimates obtained for the APR as a whole provide grounds to assert that the existing framework of integration agreements, both global and regional,

will support trade relations based on a combination of principles of "political" loyalty and economic expediency when concluding deep integration formats between countries in the region. The simultaneous participation of countries in "pro-China" and "pro-American" trade formats mitigates future disagreements among regional countries, restraining the process of fragmentation in the APR (Wei et al., 2022; Park, 2020). An important aspect for intensifying the attraction of foreign direct investment within deep integration agreements is likely to be their qualitative content (Osnago et al., 2019). Long-term stimulation of FDI inflows into APR countries could be based on a combination of strategies to reduce various endogenous investment risks and the conclusion of deep integration formats to subsequently develop countries' comparative advantages, with the aim of prospectively enhancing their export specialization and expanding domestic market capacity.

It should be noted that Russia, as one of the APR countries, was predominantly a recipient of FDI from the economies of this region. Under the conditions of the large-scale sanctions imposed in 2022, the previous volume of FDI inflows from APR countries into the Russian economy decreased significantly, while trade was largely maintained with friendly countries in the region and within commodity niches not subject to these restrictions. Prior to the imposition of large-scale sanctions, Russia had not established a network of deep integration agreements with APR countries, with the sole exception of an FTA+ with Vietnam. For this reason, under the new conditions, attracting FDI into the Russian economy based on regionalization mechanisms is quite problematic, especially given the potential imposition of secondary sanctions by Western countries. For significantly increasing Russian exports of raw commodities, integration agreements are apparently not as effective as for exports of high value-added goods, the production of which requires foreign technology and capital to participate in international production cooperation. However, as estimates show (Kimura et al., 2021), the reduction of trade and investment barriers through the implementation of integration agreements between APR countries will positively affect the economic indicators of the region's countries in the medium term, sustaining high demand for imports of raw commodities, particularly those flowing from Russia to the Chinese market. The results of the study indicate the necessity for Russia to, at a minimum, maintain net goods exports by switching to domestic funding sources and creating exclusive conditions for foreign direct investment, and at a maximum, attract capital from friendly APR countries, including through the establishment of deep integration agreements with them.

References

Afontsev S.A. (2020). Politics and economics of trade wars. *Zhurnal Novoi ekonomicheskoi assotsiatsii=Journal of the New Economic Association,* 1, 193–198. DOI: 10.31737/2221-2264-2020-45-1-9 (in Russian).

Aiyar S., Malacrino D., Presbitero A.F. (2024). Investing in friends: The role of geopolitical alignment in FDI flows. *European Journal of Political Economy*, 83, 102508. DOI: 10.1016/j.ejpoleco.2024.102508

Anderson J.E., Larch M., Yotov Y.V. (2019). Trade and investment in the global economy: A multi-country dynamic analysis. *European Economic Review*, 120, 103311. DOI: 10.1016/j.euroecorev.2019.103311.

Baldwin R., Ruta M. (2025). *The State of Globalisation*. CEPR Press. International Monetary Fund. Available at: https://cepr.org/system/files/publication-files/255049-the_state_of_globalisation.pdf

Baldwin R., Taglioni D. (2007). Trade effects of the Euro: A comparison of estimators. *Journal of Economic Integration*, 22, 780–818. DOI: 10.11130/jei.2007.22.4.780

Bollard A., Mayes D. (1992). Regionalism and the Pacific Rim. *Journal of Common Market Studies*, 30, 195–210. DOI: 10.1111/j.1468-5965.1992.tb00427.x

Borghi E., Helg R., Tajoli L. (2024). How deep is the impact of deep trade agreements? An empirical analysis on a large sample. *Italian Journal of Economic, Demographic and Statistical Studies*, LXXVIII, 207–218. DOI: 10.71014/sieds.v78i3.311

Bouët A., Berisha-Krasniqi V., Estrades C., Laborde D. (2012). Trade and investment in Latin America and Asia: Perspectives from further integration. *Journal of Policy Modeling*, 34, 193–210. DOI: 10.1016/j.jpolmod.2011.09.004

Campos R.G., Timini J., Vidal E. (2021). Structural gravity and trade agreements: Does the measurement of domestic trade matter? *Economics Letters*, 208, 110080. DOI: 10.1016/j.econlet.2021.110080

Chaisse J., Hsieh P.L. (2023). Rethinking Asia-Pacific regionalism and new economic agreements. *Asia Pacific Law Review*, 31, 451–468. DOI: 10.1080/10192557.2023.2216056

Hassan A.S. (2022). Does country risk influence foreign direct investment inflows? A case of the Visegr d Four. *Economies*, 10, 1–22. DOI: 10.3390/economies10090221

Herz B., Wagner M. (2011). The dark side of the generalized system of preferences. *Review of International Economics*, 19, 763–775. DOI: 10.1111/j.1467-9396.2011.00980.x

Hummels D., Ishii J., Yi K.M. (2001). The nature and growth of vertical specialization in world trade. *Journal of International Economics*, 54, 75–96. DOI: 10.1016/S0022-1996(00)00093-3

Ing L.Y., Richardson M., Urata S. (2019). *East Asian Integration Goods, Services and Investment*. Routledge-ERIA Studies in Development Economics. Routledge. Available at: https://www.eria.org/research/east-asian-integration-goods-services-and-investment

Izotov D.A. (2020). The effects of Asia-Pacific countries' trade integration in the context of globalization and regionalization. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 13(4), 91–107. DOI: 10.15838/esc.2020.4.70.5 (in Russian).

Izotov D.A. (2023a). The impact of geographical factors on expanding trade interactions between countries (on the example of the Asia-Pacific region). *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast,* 16(6), 38–54. DOI: 10.15838/esc.2023.6.90.2 (in Russian).

Izotov D.A. (2023b). The sectoral dimension of trade expansion in the western macrozone of the Asia-Pacific Region: The role of global formats. *Prostranstvennaya ekonomika=Spatial Economics,* 19(4), 117–144. DOI: 10.14530/se.2023.4.117-144 (in Russian).

Izotov D.A. (2023c). The GATT/WTO participation and Asia-Pacific regional trade: Long-term effects. *Vestnik mezhdunarodnykh organizatsii: obrazovanie, nauka, novaya ekonomika=International Organisations Research Journal*, 3, 48–73. DOI: 10.17323/1996-7845-2023-03-03 (in Russian).

Izotov D.A. (2024). FDI inflow to Pacific Rim countries: Impact of political and economic risks. *Oikumena. Regionovedcheskie issledovaniya=Ojkumena. Regional Researches*, 4, 136–150. DOI: 10.29039/1998-6785/2024-4/136-150 (in Russian).

Jackson K., Shepotylo O. (2023). Transforming East Asia: Regional integration in a trade war era. *Open Economies Review*, 34, 657–672. DOI: 10.1007/s11079-022-09698-y

Kawasaki K. (2014). The relative significance of EPAs in Asia-Pacific. In: *RIETI. Discussion Paper Series 14-E-009*. Available at: http://www.rieti.go.jp/jp/publications/dp/14e009.pdf

Kimura F., Pangestu M., Thangavelu S.M., Findlay C. (2021). Handbook on East Asian economic integration. In: *Edward Elgar Publishing. Issue 18644*. Available at: https://www.elgaronline.com/edcollbook/edcoll/9781788975155/9781788975155.xml

Kox H.L.M., Rojas-Romagosa H. (2019). Gravity estimations with FDI bilateral data: Potential FDI effects of deep preferential trade agreements. *EUI Working Paper RSCAS*, 2019/70. Available at: https://cadmus.eui.eu/handle/1814/64229

Kox H.L.M., Rojas-Romagosa H. (2020). How trade and investment agreements affect bilateral foreign direct investment: Results from a structural gravity model. *The World Economy*, 43, 3203–3242. DOI: 10.1111/twec.13002

Lakatos C., Walmsley T. (2012). Investment creation and diversion effects of the ASEAN–China free trade agreement. *Economic Modelling*, 29, 766–779. DOI: 10.1016/j.econmod.2012.02.004

Larch M., Shikher S., Yotov Y.V. (2025). *Estimating Gravity Equations: Theory Implications, Econometric Developments, and Practical Recommendations.* Center for Global Policy Analysis. LeBow College of Business. Drexel University. CGPA Working Paper 2025-01. Available at: https://www.lebow.drexel.edu/sites/default/files/2025-01/wp2025001-gravity-equations.pdf

Larch M., Yotov Y.V. (2023). Deep trade agreements and FDI in partial and general equilibrium: A structural estimation framework. *The World Bank Policy Research Working Papers*, 10338. DOI: 10.1596/1813-9450-10338

Larch M., Yotov Y.V. (2024). Regional trade agreements: What do we know and what do we miss? *FIW Policy Brief*, 64. Available at: https://www.fiw.ac.at/wp-content/uploads/2024/10/64_FIW_PB_LarchYotov.pdf

Li C., Whalley J. (2017). How close is Asia already to being a trade bloc? *Journal of Comparative Economics*, 45, 847–864. DOI: 10.1016/j.jce.2016.08.001

Martínez-Galán E., Fontoura M.P. (2019). Global value chains and inward foreign direct investment in the 2000s. *The World Economy*, 42, 175–196. DOI: 10.1111/twec.12660

Mattoo A., Mulabdic A., Ruta M. (2022). Trade creation and trade diversion in deep agreements. *Canadian Journal of Economics*, 55, 1598–1637. DOI: 10.1111/caje.12611

Mattoo A., Rocha N., Ruta M. (2020). The evolution of deep trade agreements. *Handbook of Deep Trade Agreements*, 1–43. Available at: https://documents.worldbank.org/pt/publication/documents-reports/documentdetail/685311594363725995/handbook-of-deep-trade-agreements

Osnago A., Rocha N., Ruta M. (2019). Deep trade agreements and vertical FDI: The devil is in the details. *Canadian Journal of Economics*, 52, 1558–1599. DOI: 10.1111/caje.12413

Park C.-Y., Petri P.A., Plummer M.G. (2021). The Economics of Conflict and Cooperation in the Asia-Pacific: RCEP, CPTPP and the US-China Trade War. *East Asian Economic Review*, 25, 233–272. DOI:10.11644/KIEP.EAER.2021.25.3.397

Park I. (2020). Regional trade agreements in East Asia: Past and future. *Development Policy Review*, 38, 206–225. DOI: 10.1111/dpr.12418

Park S. (2025). Uncertainty, deep regional trade agreements, and global value chain trade. *East Asian Economic Review*, 29, 243–267. DOI: 10.11644/KIEP.EAER.2025.29.2.449.

Petri P.A., Abdul-Raheem A. (2014). Can RCEP and the TPP be pathways to FTAAP? *SSRN,* 21. Available at: http://ssrn.com/abstract=2513893

Pomfret R., Sourdin P. (2009). Have Asian trade agreements reduced trade costs? *Journal of Asian Economics*, 20, 255–268. DOI: 10.1016/j.asieco.2009.02.007

Potapov M. (2025). Escalation of contradictions between China and United States and prospects for bilateral economic relations. *Mirovaya ekonomika i mezhdunarodnye otnosheniya,* 69(6), 92–102. DOI: 10.20542/0131-2227-2025-69-6-92-102 (in Russian).

Ravenhill J. (2006). US and EU regionalism: The case of the Western Pacific Rim. *The International Trade Journal*, 20, 219 –261. DOI: 10.1080/08853900600620191

Santos Silva J.M.C., Tenreyro S. (2006). The log of gravity. *Review of Economics and Statistics*, 88, 641–658. DOI: 10.1162/rest.88.4.641

Steenbergen V., Liu Y., Latorre M.P., Zhu X. (2022). *The World Bank's Harmonized Bilateral FDI Databases: Methodology, Trends, and Possible Use Cases*. The World Bank, 2022/05/31. Available at: https://documents.worldbank.org/pt/publication/documents-reports/documentdetail/099800006252213235

Wei J., Gao Y., Elahi E. (2022). China's integration in the Asia-Pacific regional economic cooperation. *Frontiers in Psychology*, 13, 951413. DOI: 10.3389/fpsyg.2022.951413

Yotov Y.V. (2022). Gravity at sixty: The workhorse model of trade. *CESifo Working Paper,* 9584. DOI: 10.2139/ssrn.4037001

Yotov Y.V., Piermartini R., Monteiro J.-A., Larch M. (2016). *An Advanced Guide to Trade Policy Analysis: The Structural Gravity Model*. United Nations and World Trade Organization. Available at: https://www.wto.org/english/res_e/booksp_e/advancedwtounctad2016_e.pdf

Information about the Author

Dmitrii A. Izotov – Doctor of Sciences (Economics), Leading Researcher, Economic Research Institute, Far Eastern Branch of the Russian Academy of Sciences (153, Tikhookeanskaya Street, Khabarovsk, 680042, Russian Federation; e-mail: izotov@ecrin.ru)

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Interregional Differentiation and Analysis of Spatial Inequality Governance Performance in China

Olga V. TARASOVA
Institute of Economics and Industrial Engineering, Siberian Branch of the Russian Academy of Sciences
Novosibirsk State University
Novosibirsk, Russian Federation
e-mail: tarasova.o.vl@gmail.com
ORCID: 0000-0003-3523-7641; ResearcherID: C-1915-2015

Ekaterina N. ISUPOVA
Institute of Economics and Industrial Engineering, Siberian Branch of the Russian Academy of Sciences
Novosibirsk State University
Novosibirsk, Russian Federation
e-mail: e.meitenisova@g.nsu.ru
ORCID: 0000-0003-3931-3373; ResearcherID: R-9972-2017

Abstract. The People's Republic of China exhibits significant interregional differentiation across various socio-economic development indicators, including population, income level, education, and others. Researching the potential for managing spatial inequality within the framework of state regional policy necessitates the development of an approach for a comprehensive assessment of provincial socio-economic development. This approach should account for the state's capacity to influence specific development indicators and include an analysis of the interregional disparities in the resulting evaluations over time. The aim of the work is to provide a quantitative assessment of regional policy performance across the provinces of the PRC in the context of reducing spatial inequality. The methodology is based on constructing a composite index of regional policy performance for 31 PRC provinces for the periods 2016–2019 and 2020–2023, incorporating 55 socio-economic development indicators. The indicators are grouped into eight key dimensions: Security; Healthcare; Education, Science and Innovation; Social Support; Sports

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and Culture; Transport; Ecology; Economic Development. The empirical findings demonstrated that eastern and central Chinese provinces exhibit higher composite index values, reflecting stronger policy performance. The Gini coefficient for the composite index decreased to 0.4 compared to 0.426 in the 2016–2019 period, indicating a reduction in spatial inequality in China as a result of implemented regional policy measures. The leaders were most distinctly separated from the main group of provinces in the dimensions of Ecology; Education, Science and Innovation; Sports and Culture; and Healthcare. The dimensions of Social Support and Transport displayed a more balanced distribution of outcomes across the national territory. During the pandemic period, disparities in Economic Development; Sports and Culture; and Healthcare decreased significantly. The analysis reveals that the regional policy performance index tends to be higher in economically advanced provinces of China and lower in larger provinces. Involvement in national-level spatial integration projects also emerges as a critical success factor in improving policy performance. The obtained results contribute to a deeper understanding of existing differentiation in regional development in China and provide valuable insights for refining the strategic design of future regional policy, as well as for developing and implementing measures to balance the level of socio-economic development across its provinces.

Key words: interregional differentiation, spatial inequality, regional policy, complex assessment, indicators, provinces, indices, provincial ranking.

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Introduction

Currently, China exhibits a pronounced level of interregional differentiation, with significant inequality persisting between the central, eastern, and western provinces. Furthermore, various studies highlight disparities not only in the distribution of per capita income (Candelaria et al., 2010) but also in the level of development of healthcare, education (Wan et al., 2023), and environmental quality (Liu et al., 2018).

Regional inequality can lead to various negative consequences: a slowdown in long-term economic growth, the emergence of market imperfections (Alesina, Perotti, 1996), a deterioration of the institutional environment, and increased political tension (Perotti, 1996; Ippolito, Cicatiello, 2019), as well as constraints on the mobility of both physical and human capital (Magrini, 2004).

This naturally raises the question of the potential of state regional policy[1] to reduce interregional disparities across various indicators of socio-economic development.

Contemporary regional policy in the People's Republic of China is based on the pursuit of balanced development that considers the capacities and needs of different territorial entities. However, the achievements gained under this approach are yet to be fully assessed.

[1] Within the context of this study, regional policy is understood as the totality of various directions of state activity that significantly influence the growth and development of individual territories (regions) of the country.

The formation of modern principles of regional development in China can be divided into four key stages (Huang et al., 2023). The first stage (1949–1978) reflects the principles of the early balanced regional policy. Its goal was to ensure stable territorial development through the industrial sector. The second period (1978–1995) coincided with the "opening up" policy, when China actively sought to develop trade relations with various countries against the backdrop of rapid global economic growth, with port provinces receiving a significant development impulse. Economic differentiation intensified, and the policy of this period is referred to as unbalanced. The third stage spanned from 1995 to 2013, during which regional policy once again began striving for balanced regional development, while modern concepts of coordinated development emerged – aiming to account for the needs and capabilities of individual provinces. Finally, the fourth stage, beginning in 2013, is characterized by the principles of balanced and coordinated regional development (Huang et al., 2023). These principles are reflected in the creation of growth poles from the country's provinces or individual cities, which differ in their level of economic development but are united to solve a specific problem or create a certain development impulse for the economy as a whole.

The aim of the paper is to provide a quantitative assessment of regional policy performance across Chinese provinces in the context of reducing spatial inequality.

Theoretical framework

There is currently no single universally accepted approach for the empirical assessment of regional policy, as the selection of indicator systems and their weights for calculating a resultant metric must account for national economic characteristics, development priorities, and the availability of statistical information. J. Hoerner and P. Stephenson (2012) systematized existing approaches to the empirical evaluation of regional development policy, identifying the following categories: econometric statistical evaluation methods; methods based on macroeconomic modeling; qualitative analysis based on individual case studies; and multifactor microeconomic analysis.

The application of any of these approaches requires considering a large set of indicators. The diversity of measures and directions within regional policy creates the challenge of selecting indicators that most accurately reflect the observed outcomes of their implementation. The resulting comprehensive assessment must incorporate indicators over which the state can exert direct or indirect influence.

The evaluation of regional policy lacks universal standards, as it is determined by a country's unique internal logic, traditions shaped by its history and political system, national development priorities, etc. Therefore, we will now consider a number of empirical studies devoted to state regulation of regional development in the People's Republic of China.

Zeng et al. (2024) evaluated an emissions trading initiative in specific provinces of China. The authors identified a control group of territories that successfully implemented the emissions trading project and compared them to the rest of the country's provinces. Disparities in economic development outcomes between the groups under the influence of the environmental management initiatives were identified and interpreted. The Difference-in-Differences (DID) method used for the evaluation is a specific tool of econometric analysis and appears effective for assessing the results of individual initiatives implemented in a limited part of the country. However, this approach does not allow for a comprehensive assessment of the results of state management of regional development, taking into account all support measures being implemented across the national territory.

An analysis of the Open Up the West program, implemented since 1999, which aims to ensure

more balanced regional development in the western part of the country, was conducted in the study (Huang et al., 2023). The project involved a large volume of state investment in infrastructure projects, environmental protection, and education. The study econometrically estimated a Barro growth model incorporating government expenditures carried out under the regional policy initiative. The authors concluded that the project's effect was noticeable only for territories located sufficiently close (within 30 km) to the major cities participating in the program.

Another study analyzed panel data from 285 Chinese cities for the period 2004–2015. It demonstrated that a new regional development instrument launched in 2009 – regional development plans for territories – had a varying impact on economic growth in the country's cities (Yang et al., 2022). The authors found that the inclusion of cities in regional development plans in the central and western parts of the country had a negative impact on economic growth rates, whereas a significant positive effect was observed for cities in the eastern part. The study emphasizes the importance of this finding for the national government when designing regional policy measures.

A significant number of publications are devoted to the comprehensive assessment of China's development from a regional perspective, based on the calculation of integral indices. For instance, the study by Long et al. (2019) calculated a Genuine Progress Indicator (GPI), which allowed for the ranking of Chinese provinces and analysis of their development dynamics from 1997 to 2016. The authors note that the use of composite indices provides a more complete picture of the quality of regional growth and can serve as a tool for monitoring and operational regulation of regional development. In particular, for provinces with an unfavorable environmental situation (low environmental sub-index value), such as Beijing, Shanghai, Shanxi, and Guangdong, it is recommended to consider the advisability of introducing additional emission control standards and incentivizing the adoption of clean technologies. Conversely, low economic sub-index values, characteristic of provinces in the western part of the country like Sichuan, Yunnan, Tibet, and Gansu, suggest, according to the authors, a need for enhanced state support for the economic sector, including through the involvement of these regions in major national projects.

The study by Wang et al. (2024) proposed a Regional Sustainable Development Index, calculated for 31 provinces of China for the period 2013–2020 based on 18 indicators, using the principal component method. The analysis results revealed a close correlation between this index and the level of regional GRP per capita, as well as the Average Night-light Index (as a proxy for economic activity). According to the authors, this confirms the advisability of its application in making management decisions regarding provincial development.

Shi J. et al. (2023) calculated an integrated indicator of public service provision for 35 Chinese cities from 2011 to 2018. The calculation used 18 indicators divided into blocks covering education, healthcare, social support (mainly insurance programs), transportation, and ecology. Shi J. et al. concluded that a high level of public services was observed in cities of the eastern and central provinces, while cities in the western part of the country ranked at the bottom. It was also noted that the quality of public services could be insufficient even in economically developed cities of the country (the authors cite Beijing and Shanghai as examples).

A study devoted to the quantitative assessment of the efficiency of local governments from 2001 to 2010 involved the analysis of 47 indicators (Tang et al., 2014). The choice of the list of indicators for calculating the composite indicator of regional government performance seems debatable: some

of them belong to the same type of public service, which, in our opinion, could distort the final assessments. Furthermore, the aforementioned study did not conduct an analysis of interregional differentiation among provinces based on the composite indicator.

Among Russian works, there are also studies on China's regional policy. For example, the conceptual foundations and institutional framework of state management of regional development in China are discussed in detail in the works of staff from the Institute of Far Eastern Studies of the Russian Academy of Sciences (China: Regional Economics, 2015) and the Institute of China and Contemporary Asia of the Russian Academy of Sciences (Chubarov, 2020; Chubarov, 2025). S.B. Makeeva (2020) systematizes the historical experience and transformation of the regional development planning system in China from 1949 to 2019. S.K. Pestsov (2023) analyzed the modern principles of China's regional policy and its development in recent decades. The author describes the accumulated practical experience in regional development governance in detail and examines the most successful cases.

A monograph written by an international team involving the Institute of Socio-Economic Development of Territories of the Russian Academy of Sciences (ISEDT RAS) and Jiangxi Academy of Social Sciences (Economic Development..., 2017) contains an attempt to draw parallels in the trends of socio-economic development of regions in Russia and China, as well as a comparison of regional development governance practices.

P.M. Mozias (2023) raised the question of the role of state regional development policy in reducing interprovincial differentiation. Within a sufficiently deep retrospective, an explanation of its dynamics (in terms of per capita income) is provided through the lens of implemented state regional policy measures, as well as external factors. The work by D.B. Kalashnikov and I.B. Mitrofanova (2023) points out territorial imbalances in China at the current stage of the transition to a post-industrial society and the related new aspects of regional policy.

It is important to note that in the works listed above, regional policy performance was not discussed for all Chinese provinces as a whole (analysis is more often done for macro regions or applied to individual provinces, using individual performance indicators); a comprehensive quantitative assessment of policy performance was not conducted. Furthermore, the differentiation of regional policy outcomes was not specifically analyzed, nor was the dynamic of indicators studied in the context of the transforming role of regional authorities in China.

This transformation occurred as a result of an exogenous external shock – the coronavirus pandemic that began in January 2020. To enable rapid and more effective response based on current information, Chinese provinces were granted greater freedom of action, including the ability to implement certain measures without the need for additional approval. This situation significantly increased the importance of coordinated regional policy measures. For instance, examining regional policy measures in Hubei and Zhejiang provinces during 2020–2022, Mao Y. (2023) concluded that coordinated and consistent actions by provincial authorities, and effective interaction between the government, businesses, and households, could significantly reduce the negative consequences of the pandemic in Zhejiang province.

The pandemic significantly influenced the differentiation of socio-economic development among Chinese provinces; this issue has been examined in detail by a number of researchers. For example, Wan W. et al. (2023), using data for 20 provinces (218 cities) from 2013 to 2022, showed that the impact of the pandemic on the level of income inequality varied greatly by region. The implications were more severe for regions with a

higher share of services in GRP and for those more dependent on foreign trade. At the same time, the development of digitalization in a city's economy helped mitigate the consequences in terms of income distribution inequality.

Dwelling into the reasons for the uneven regional development response to the pandemic, Li J. et al. (2022), using data from 287 Chinese cities, showed that the speed of infection spread and, consequently, the impact of COVID-19 strongly depended not only on the flow of people from Wuhan province in the early days of the pandemic and population density, but also on the characteristics of city authorities (having higher education, connections with federal authorities, work experience in the medical field, etc.).

Thus, issues of state governance of regional development, along with the performance and effectiveness of regional policy, are widely discussed in the scientific community.

A critical analysis of the literature revealed the absence of comprehensive quantitative assessments of the results of regional policy implementation in China. Furthermore, a comparative analysis of regional policy performance in China before and after the pandemic has not been presented to date.

Research methodology

To quantitatively assess regional policy performance in China, an integral indicator of the socio-economic development of territories is calculated. The assessment methodology presented in the work of O.V. Tarasova and S.V. Sedipkova (Tarasova, Sedipkova, 2024) was modified to account for the specifics of China.

The quantitative assessment process involved several stages: selection of indicators and populating each of the considered dimensions, data processing (averaging indicators, scaling, and normalization), determination of weighting coefficients, calculation of sub-indices for each dimension, and calculation of the composite index.

The resulting composite index of regional policy performance, as well as the dimensional sub-indices, were normalized to a range of 1 to 100 for ease of interpretation. Thus, the province with the best regional policy performance received an index score of 100, and the province with the worst results received a score of 1. Subsequently, provincial rankings based on regional policy performance were constructed.

It is important to note that the obtained scores for Chinese provinces are relative, meaning they allow for the comparison of policy performance across the country's territories. In other words, a low composite index value for a particular Chinese province does not indicate "poor" results in state governance of regional development, but rather that the results in other provinces were higher.

The calculation was performed for 31 provincial-level territorial units in China. The special administrative regions – Hong Kong (Xianggang) and Macao (Aomen) – were excluded due to the lack of statistical data for these territories.

The comprehensive assessment of regional policy performance for Chinese provinces was conducted using data from the period 2016–2023. To assess dynamics, the pre-pandemic period (2016–2019) and the COVID-19 pandemic period (2020–2023) were considered. The composite index was constructed based on the average annual values for each of the considered periods, as this helps smooth out potential fluctuations observable in individual years.

Examining the periods before and after the start of the pandemic is also motivated by the fact that, as mentioned earlier, after the official declaration of the pandemic in China in January 2020, provinces were granted greater freedom in choosing mechanisms and tools for managing socio-economic development.

The selection of indicators for calculating the composite index of regional policy performance was based on the availability of statistical data, the

country's spatial development priorities and directions, and was determined by the mechanisms of state governance and the principles of China's regional policy. The calculation was based on 55 indicators of provincial socio-economic development over which the state can exert direct and/or indirect influence. These were grouped into eight dimensions: Security (5 indicators); Healthcare (4); Education, Science and Innovation (7); Social Support (7); Sports and Culture (9); Transportation (4); Ecology (6); and Economic Development (13). The data source was the National Bureau of Statistics of China[2].

The weighting of indicators within the composite index was determined considering a scored expert assessment of the degree of state influence on them (the logic for assigning weights is described in (Tarasova, Sedipkova, 2024)). The weight of an indicator is higher, the less its level is determined by the activity and decisions of the private sector (businesses, households, and individual citizens). Thus, instead of equal weights of 0.018 (= 1/55), indicators were assigned weights ranging from 0.006 (assigned 1 point according to the logic described above, e.g., GRP dynamics and labor productivity) to 0.03 (assigned 5 points, e.g., the number of meteorological stations).

Table 1 presents the list of indicators, their distribution across key dimensions, and their assigned scores. It is emphasized that within the scope of this article, we do not correlate "plan" versus "actual", results versus state expenditures for their achievement, focusing precisely on the observed "outputs" of regional policy, i.e., we do not discuss aspects of its performance and efficiency.

Table 1. Socio-economic development indicators for calculating the composite index of regional policy performance

	Indicator name	Unit of measurement	Score
Security			
1	Street illumination	number of street lights, by Engel coefficient	5
2	Electricity generation	kW per 1 yuan of GRP	4
3	Food security	volume of agricultural output per capita	3
4	Length of fibre-optic cable lines	km, by Engel coefficient	4
5	Road traffic casualties	share of killed and injured in the total population, %	2
Healthcare			
6	Number of healthcare institutions	units, by Engel coefficient	2
7	Number of medical personnel	persons, by Engel coefficient	2
8	Hospital bed capacity	beds, by Engel coefficient	3
9	Number of public toilets	units, by Engel coefficient	4
Education, Science and Innovation			
10	University graduates	share of the total population, %	2
11	Number of academic degrees awarded	share of the total population, %	3
12	Number of academic and administrative staff in higher education institutions	persons per 1 graduate	2
13	Number of graduates from specialized secondary and vocational institutions	share of the total population, %	4
14	Number of academic and administrative staff in specialized secondary and vocational institutions	persons per 1 graduate	3
15	R&D personnel in industrial enterprises (labor input)	person-years per 1 urban resident	3
16	Number of national patent applications filed	units per 1 urban resident	3

[2] National Data / Official Website of National Bureau of Statistics of China. NBS. Available at: https://data.stats.gov.cn/english/ (accessed: 20.01.2025)

End of Table 1

	Indicator name	Unit of measurement	Score
	Social Support		
17	Share of rural population	%	3
18	Share of population with access to piped gas	%	4
19	Share of population with access to tap water	%	4
20	Share of rural population with income below the subsistence minimum	%	3
21	Number of social service institutions	units, by Engel coefficient	5
22	Share of poor rural population participating in the “five guarantees” insurance program	% of the total rural population living below the subsistence minimum	5
23	share of insured population	%	3
	Sports and Culture		
24	Number of higher education institutions	units, by Engel coefficient	2
25	Number of specialized secondary, vocational institutions, primary and secondary schools	units, by Engel coefficient	3
26	Number of magazines and newspapers	copies per capita	3
27	Volume of telecommunication services	yuan per capita	2
28	Number of performances by amateur art groups	units per capita	2
29	Number of museum collections	units, by Engel coefficient	4
30	Total number of books loaned by public libraries	person-times per capita	1
31	Number of people attending exhibitions, lectures, and training sessions at public libraries	visits per capita	3
32	Number of books published in the province	units	2
	Transport		
33	Public transport availability	units per capita	2
34	Length of railway lines	km, by Engel coefficient	2
35	Length of highways	km, by Engel coefficient	2
36	Passenger traffic	passenger-km, by Engel coefficient	2
	Ecology		
37	Number of parks in the province	hectares, by Engel coefficient	3
38	Area requiring waste removal	% of the total urban area	4
39	Number of road sweeping vehicles	units per km^2	4
40	Waste processing capacity	tons/day per capita	3
41	Volume of waste removed	tons per capita	3
42	Number of meteorological stations	units per km^2	5
	Economic Development		
43	GRP per capita	yuan per capita	2
44	Population growth rate	%	2
45	Growth rate of real GRP per capita	%	1
46	Share of the service sector in the economy	% of GRP	2
47	Variation in real GRP growth rates	–	1
48	Labor productivity	yuan per 1 employed person	1
49	Availability of post offices	units, by Engel coefficient	4
50	Length of urban sewage pipes	km, by Engel coefficient	4
51	Urban unemployment rate	%	3
52	Growth rate of fixed asset investment (constant prices)	%	3
53	Consumer price index	%	3
54	Ratio of import/export value to GRP	–	3
55	Marginal propensity to consume	%	2

Source: own compilation.

We should note several specific aspects of forming the indicator set for calculating the composite index of regional policy performance for Chinese provinces. The first is the absence of open data on sports in the country's official statistics. Therefore, proxy indicators for sports development are used. In China, universities have large stadiums (often more than one), open spaces, and outdoor fitness equipment. The situation is similar in secondary and primary schools. Given that schools have smaller stadiums and sports facilities, they were considered separately from universities. Furthermore, university stadiums add an entertainment component to public life, as they host major sporting events.

The Healthcare dimension included the indicator for the number of public toilets in a province. In 2015, China initiated a program for the construction and renovation of sanitary facilities. Improving sanitary conditions in the country is largely aligned with state goals in the healthcare sector. This aspect of public administration gained renewed relevance during the COVID-19 pandemic.

Interestingly, official development documents[3] list among state security priorities, inter alia, ensuring population access to electricity and grain, which justified the inclusion of these indicators in the analysis.

Due to the rapid growth in demand for domestic postal services, the 14th Five-Year Plan for National Economic and Social Development of China also prioritized the active development of postal services, especially in rural areas. This fact determined the inclusion of the availability of post offices for the population in the analysis.

The development of rural areas receives significant attention from the Chinese government: their sustainable development is expected not only to reduce inequality and poverty levels (most needy households in China reside in villages) but also to address food security issues. A large number of state rural development programs are in operation, such as: programs to combat soil degradation; technological programs for territorial development, including through the use of modern drones; programs to support low-income households and create jobs, among others. At the national level, there is a program to support the low-income population living in villages (the policy of "Two No Worries, Three Guarantees"), ensuring access to five basic necessities – food, clothing, education, housing, and healthcare[4] (Yu et al., 2023). Additionally, provinces may implement a range of supplementary measures aimed at reducing rural poverty and supporting the elderly population.

Where necessary, relative indicators were used in the calculations instead of absolute ones. For example, the provision of park areas was accounted for using the Engel coefficient formula, i.e., considering the region's area and its average annual resident population; the number of road traffic casualties was considered relative to the total population, etc. The scale of provinces was also taken into account. Value-based indicators were adjusted for GRP (electricity generation, foreign trade turnover) or the Consumer Price Index.

Results

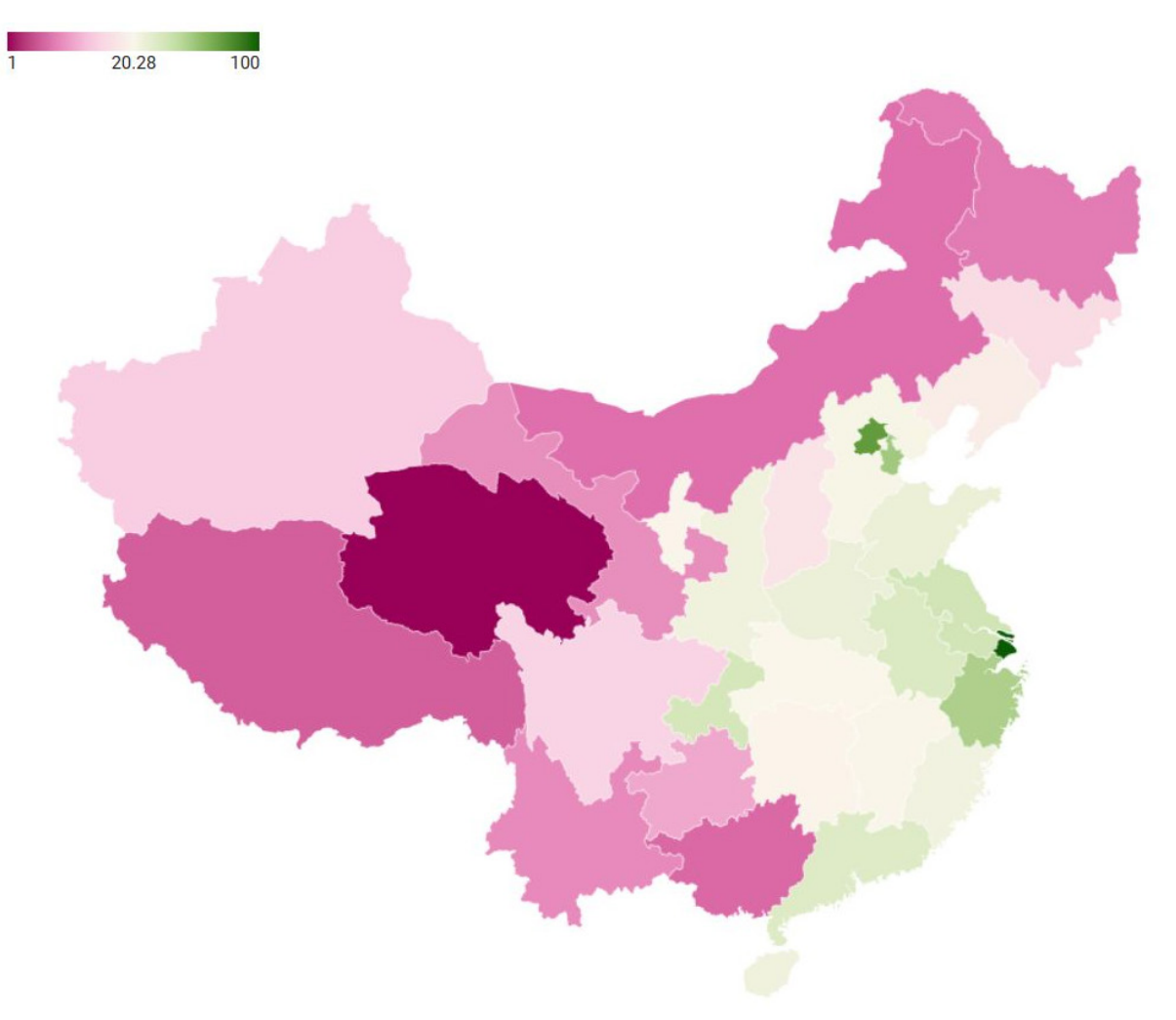
Figure 1 presents a cartographic visualization of the estimated composite indices of regional policy performance across Chinese provinces for the period 2020–2023. Territories are shaded darker corresponding to higher index values.

The analysis shows that the provinces of Zhejiang, Jiangsu, Anhui, Guangdong, Shandong, Henan, Hainan, Shaanxi, Fujian, Hebei, and Jiangxi, alongside the directly administered

[3] Outline of the 14th Five Year Plan (2021–2025) for National Economic and Social Development and Vision 2035 of the People's Republic of China. Official Website of People's Government of Fujian Province. Available at: https://www.fujian.gov.cn/english/news/202108/t20210809_5665713.htm (accessed: 20.01.2025).

[4] Two No Worries, Three Guarantees. Official Website of National Rural Revitalization Administration (formerly Poverty Alleviation Office). Available at: http://www.nrra.gov.cn (accessed: 20.03.2025).

Figure 1. Composite index of regional policy performance by Chinese province, 2020–2023



Source: own compilation based on calculation results.

municipalities of Shanghai, Beijing, Tianjin, and Chongqing, demonstrate higher composite index values compared to other territories. Shanghai is the clear leader, assigned the highest index value of 100. Following Shanghai, but with a significant gap, is Beijing with a score of 76.7. The lead of these top performers over the subsequent regions in the national ranking is also substantial: Tianjin (3rd place) – 56.7 points, and Zhejiang (4th place) – 54.4 points. Differentiation among provinces outside the top four is insignificant, which is potentially a consequence of the balanced regional policy championed by the Chinese government for over a decade (Deng, 2022).

On average, composite indices were higher in the group of eastern provinces (except for Liaoning and the Guangxi Zhuang Autonomous Region, ranking 19th and 29th respectively), as well as in some central (Anhui, Henan, Jiangxi) and western (Chongqing, Shaanxi) regions.

Table 2. Regional policy performance rankings dynamics across the considered periods

2016–2019		Province	2019–2023	
Rank	Index		Index	Rank
1	100.00	Shanghai	100.00	1
2	79.71	Beijing	76.69	2
3	58.62	Tianjin	57.68	3
4	46.29	Zhejiang	54.37	4
5	37.66	Jiangsu	41.63	5
6	34.20	Guangdong	34.93	8
7	31.53	Chongqing	39.05	6
8	24.96	Shaanxi	25.20	12
9	24.90	Anhui	36.16	7
10	24.50	Shandong	28.09	9
11	23.62	Fujian	24.93	13
12	20.76	Henan	27.64	10
13	19.53	Hubei	20.28	16
14	19.32	Ningxia Hui Autonomous Region	20.19	17
15	18.56	Liaoning	18.95	19
16	18.42	Shanxi	17.59	20
17	17.30	Hainan	25.52	11
18	17.25	Guizhou	11.24	24
19	16.75	Hebei	22.00	14
20	15.12	Jiangxi	20.68	15
21	13.77	Jilin	16.27	21
22	13.47	Hunan	20.01	18
23	11.33	Sichuan	15.09	22
24	11.22	Heilongjiang	8.14	27
25	10.17	Yunnan	9.13	26
26	9.71	Xinjiang Uygur Autonomous Region	14.21	23
27	6.51	Inner Mongolia	7.38	28
28	6.40	Guangxi Zhuang Autonomous Region	6.86	29
29	5.86	Gansu	9.47	25
30	1.29	Tibet	6.21	30
31	1.00	Qinghai	1.00	31

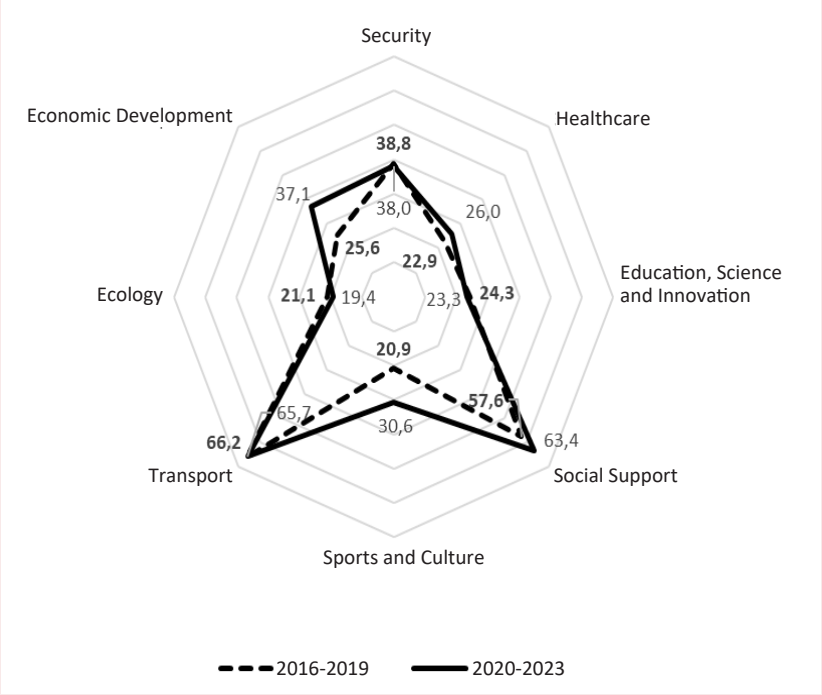
Source: own compilation based on calculation results.

The Gini coefficient for the sample of composite indices is 0.4 (compared to 0.426 for the 2016–2019 period), indicating a moderate level of differentiation in regional policy performance among Chinese provinces, with a trend toward reduction.

The median composite index remains low at 20.28 (compared to 18.42 in the previous period). This signifies that for the majority of indicators, most regions lag behind the leading regions. As seen in *Table 2*, even the gap between 1st and 2nd place has become more pronounced. Notable improvements in ranking were observed for Anhui, Shandong, Henan, and Hainan (most sharply, from 17th to 11th place), while significant declines were demonstrated by Shaanxi, Liaoning, and Shanxi.

During the 2016–2019 period, the gap between the leading provinces and the majority was most pronounced in the dimensions of Ecology; Sports and Culture; Healthcare; and Education, Science and Innovation – these dimensions had the lowest median values (*Fig. 2*). The dimensions of Social Support and Transportation were developed substantially more evenly across China.

Figure 2. Medians of sub-indices for dimensions of regional policy performance in China



Source: own compilation based on calculation results.

The pandemic shock intensified differentiation in the Ecology, and Education, Science and Innovation dimensions. These findings align with the results of other studies. For instance, R. Blundell et al. (2020) noted a rise in regional inequality in the education sector among Chinese provinces during the pandemic. The work by Wen W. et al. (2022) points out, on one hand, an improvement in ecological conditions during the pandemic due to reduced production levels, but also, on the other hand, a large-scale negative effect associated with the reduced intensity of government efforts in cleaning territories and removing waste.

The healthcare sector gained particular significance after the onset of the pandemic. The number of cases and the rate of its increase determined the nature, intensity, and duration of restrictive measures, which directly impacted the level of socio-economic development of the territories (Li et al., 2022). The increase in the number of cases necessitated greater efforts by provincial authorities in the Healthcare dimension, even in territories that lagged in this dimension prior to the pandemic. New sanitary norms required, among other things, ensuring a high growth rate in the number of new public toilets within provinces. However, densely populated provinces found it more challenging to ensure a proportional increase in this indicator, leading to a reduction in differentiation within the Healthcare dimension.

The Sports and Culture dimension during 2020–2023, as expected, demonstrated a narrowing of the gap between most provinces and the ranking leaders: the implications of restrictive measures were more acutely felt by territories that actively host cultural events. Consequently, the reduction in outcome differentiation for this dimension cannot be interpreted as a positive result of regional policy implementation. It can be assumed that the situation will recover after the lifting of restrictive measures.

The observed and quite substantial decrease in differentiation within the Economic Development dimension is also attributed to the worsening situation of the leading provinces. This fact has been noted by other researchers as well. For example, provinces with a relatively high share of foreign trade turnover in their GRP experienced a significant slowdown in economic growth rates during the pandemic (Wan, 2023).

The applied calculation methodology enables the identification of "spatial gaps" at the level of specific sectors, allowing for the adjustment of sectoral policy priorities. Thus, low sub-index values (*Tab. 3*) may indicate the need for the development and implementation of additional measures in the respective provinces to strengthen their position in a given dimension. Furthermore, the obtained estimates can be useful for provincial and lower-level

Table 3. Sub-indices of regional policy performance for 2020–2023

Province	Security	Healthcare	Education, Science and Innovation	Social Support	Sports and Culture	Transport	Ecology	Economic Development	Composite index
Shanghai	100.0	100.0	68.6	73.7	100.0	46.5	100.0	100.0	**100.0**
Beijing	24.6	71.2	100.0	64.1	88.8	100.0	88.6	63.2	**76.7**
Tianjin	40.7	59.5	76.9	82.8	47.5	91.0	52.5	61.6	**57.7**
Zhejiang	61.4	35.4	36.4	53.5	73.6	70.1	55.7	73.0	**54.4**
Jiangsu	85.2	41.5	44.3	1.0	52.4	84.6	32.9	63.1	**41.6**
Chongqing	44.6	31.6	32.5	58.0	59.5	93.0	23.9	57.6	**39.0**
Anhui	40.2	26.6	24.9	44.6	78.2	90.3	22.4	47.1	**36.2**
Guangdong	41.9	29.0	22.8	48.9	31.0	69.6	49.7	68.8	**34.9**
Shandong	46.4	40.3	19.7	41.8	41.0	91.8	13.5	49.7	**28.1**
Henan	27.6	40.2	24.2	50.1	51.9	83.1	20.3	36.3	**27.6**
Hainan	38.0	22.3	14.1	50.5	30.6	49.2	44.4	50.7	**25.5**
Shaanxi	45.0	28.0	29.0	62.3	36.0	84.8	23.8	26.0	**25.2**
Fujian	34.6	26.1	23.3	53.2	33.8	53.3	24.7	52.7	**24.9**
Hebei	37.4	35.7	25.7	52.0	29.7	75.8	12.9	38.7	**22.0**
Jiangxi	36.9	24.9	23.5	62.5	28.2	77.1	20.7	30.9	**20.7**
Hubei	21.9	26.0	23.9	62.8	24.8	89.3	19.4	39.6	**20.3**
Ningxia Hui AR	64.9	12.5	15.4	73.8	21.1	60.3	34.2	18.0	**20.2**
Hunan	29.7	27.5	19.7	39.4	32.2	81.3	19.2	43.8	**20.0**
Liaoning	43.7	27.1	26.4	63.8	17.9	83.9	19.4	24.7	**18.9**
Shanxi	28.9	22.2	28.2	63.4	42.4	59.1	13.6	16.5	**17.6**
Jilin	18.5	21.5	40.0	81.6	22.1	65.7	9.8	22.4	**16.3**
Sichuan	37.7	21.7	15.5	65.1	19.2	49.7	11.5	37.1	**15.1**
Xinjiang Uygur AR	54.4	2.7	2.5	91.7	12.8	21.7	11.6	43.6	**14.2**
Guizhou	31.6	22.3	7.4	66.6	16.0	61.6	6.6	33.3	**11.2**
Gansu	33.6	11.2	11.9	65.6	24.6	43.3	2.3	29.7	**9.5**
Yunnan	39.7	14.1	13.0	71.4	17.6	43.2	2.6	24.6	**9.1**
Heilongjiang	39.4	12.3	20.9	79.6	1.0	52.0	22.1	9.3	**8.1**
Inner Mongolia	47.4	6.9	14.6	64.3	12.7	56.1	1.0	24.4	**7.4**
Guangxi Zhuang AR	29.3	17.6	14.6	56.5	12.2	41.1	6.8	29.7	**6.9**
Tibet	1.0	1.0	1.0	100.0	43.2	1.0	6.4	18.2	**6.2**
Qinghai	25.2	2.1	5.3	78.1	27.8	33.5	2.1	1.0	**1.0**

Source: own compilation based on calculation results.

authorities in terms of identifying "bottlenecks" and making independent management decisions to address them and/or lobbying for assistance from the national government.

Discussion

The analysis of regional policy performance in China presented above will now be supplemented by an investigation into the factors contributing to positive dynamics of the index.

We begin by presenting a correlation analysis between the composite index of regional policy performance and provincial size in terms of territorial area, population, and GRP.

Table 4 presents the pairwise correlations (and their significance levels) between the composite index of regional policy performance and provincial size indicators for China, calculated using the Pearson formula[5]. It can be observed that in China, a higher level of regional policy performance in both periods was associated with administrative-territorial units having higher GRP per capita and a smaller territorial area.

Table 4. Correlation analysis of the composite index of regional policy performance and provincial size in China

Composite index of regional policy performance	GRP	Population	Land area
2016–2019	0.3179** (0.0813)	-0.0007 (0.9972)	-0.4885* (0.0053)
2020–2023	0.3805* (0.0347)	0.1087 (0.5606)	-0.5190* (0.0028)

Note: p-values are shown in parentheses. * indicates significance at 5% level, ** indicates significance at 10% level.
Source: own compilation based on calculation results.

We should note that the alignment between the comprehensive assessment of regional development policy performance and provincial GRP became more pronounced after 2020 (indicated by a higher significance level of the correlation). At the same time, the population size indicator did not show a concurrent dynamic with the policy performance index either in the 2016–2019 period or after 2020.

Next, without claiming to provide an exhaustive overview, we will discuss some of China's modern large-scale regional development projects and the territories included in them.

Table 5 presents the provinces that demonstrated significant improvement in their regional policy performance rankings, along with the names of the projects they were included in.

The ranking leaders are also included in various major national projects. For instance, Beijing and Tianjin, together with Hebei province, which notably improved its ranking position, are part of the "Jing-Jin-Ji" project, which aims to address issues of industrial production optimization and environmental problems. Guangdong province is part of the "Guangdong-Hong Kong-Macao" project, while Shanghai, Jiangsu, and Zhejiang are involved in the "Yangtze River Economic Belt" project.

Table 5. Participation of provinces in spatially extensive interregional projects of China

Province	Change in ranking	Project name
Anhui	from 9th to 7th place	Yangtze River Economic Belt
Chongqing	from 7th to 6th place	
Jiangxi	from 20th to 15th place	
Hunan	from 22nd to 18th place	
Gansu	from 29th to 25th place	
Hebei	from 19th to 14th place	Jing-Jin-Ji
Shandong	from 10th to 9th place	Yellow Sea – Bohai Bay

Source: own compilation.

[5] We should emphasize that the calculation of the correlation coefficient examines the fact of co-movement between the variables under consideration, and based on its calculation, it is not possible to infer a causal relationship between them.

All the mentioned spatially distributed projects are part of the new phase of regional policy aimed at reducing territorial development disparities across the country. Let us examine their essence in more detail.

The "Yangtze River Economic Belt" project was formally approved in April 2014, but its active implementation phase occurred during 2016–2020. After the imposition of US sanctions in 2018, the project received a new development impulse. It was designed to mitigate the dependency of key technological economic sectors on imported components. It involves nine provinces and two directly administered municipalities (Chongqing and Shanghai). The project aims to ensure a balanced and efficient distribution of industry, taking into account the economic and environmental characteristics of the territories. The launch of the project was motivated by the following factors. Coastal provinces began facing challenges with human resources, ecology, and rising land rental costs, which started to impose a limit on their future development. To optimize the location of production, a decision was made to transfer it to the central part of the country and create industrial parks. Primarily, transportation infrastructure was created (a high-speed railway, several highways, and a waterway along the Yangtze River). Subsequently, companies and regional authorities from the southern provinces were involved in the production transfer process (automotive manufacturing, high-tech, etc.), while also participating in the distribution of future financial flows. Within the "Economic Belt" project, urban agglomerations were identified; the development of some of these was intended to be based on existing natural potential – reserves of copper, lead, zinc, and other mineral resources. Others were based on the relocation of new industries (typically located along the Yangtze River estuary). A third group combined existing capabilities, particularly in the chemical industry, with new ones arising from the transfer of production to industrial parks. Parallel to the relocation of industries, subway lines were actively expanded in cities, thereby allowing a larger proportion of the provincial population to work in the new production facilities, while simultaneously reducing labor costs. Thus, the southern provinces contributed through financial and technological resources and existing progressive management strategies, while the central territories contributed through human capital and land. We should note that some provinces are fully included in the project territorially, such as Anhui, Jiangxi, Hunan, and Chongqing. A second group of provinces is partially involved through the inclusion of specific cities and counties (Guizhou and Yunnan). A third group is assigned a supportive function, generally related to providing transportation infrastructure based on existing potential without an additional development impulse (Henan, Shaanxi, and Gansu).

Another major spatial-organizational project is the "Beijing-Tianjin-Hebei Province Cities" project (Jing-Jin-Ji project). Officially launched in 2014, this project was designed to address the environmental problems of the territories. In 2018, five of the ten most polluted cities in the country were located within the Jing-Jin-Ji area. A noticeable intensification of territorial integration was observed from 2020 onwards. It was anticipated that environmental improvement would be achieved through production transfer and support for environmental initiatives. Participant cities in the project received the status of a free trade zone partner of Tianjin to facilitate business conditions (Zhang et al., 2020).

The "Guangdong-Hong Kong-Macao" project gained active development in 2017 and was intended to become a key transportation, technological, trade, and financial hub within the national "Belt and Road" initiative for international trade development. During the 2020–2024 period, active development of transportation infrastructure and the institutional environment was observed. To date, the project's cities attract a large number of both major technology corporations and startups, aiming to create a favorable environment for their development.

Hainan province, which rose in the ranking from 17th place in the 2016–2019 period to 11th in the 2020–2023 period, also participates in a major project focused on developing trade relations.

Thus, we observe that most provinces that significantly improved their position in the regional policy performance rankings are involved in successful spatially distributed interregional projects in China. The unification of cities and individual provinces created a competitive advantage, allowing them to partially compensate for the negative consequences of the pandemic. From this perspective, analyzing the organizational and institutional structure of these mentioned projects, being of practical interest, could become a direction for further research.

Conclusion

The paper presents a quantitative assessment of state regional policy performance for Chinese provinces, based on our own methodology, within the context of reducing spatial inequality. The assessment approach is based on constructing a composite index derived from 55 indicators, used to form provincial rankings. The analysis was conducted for two periods: before (2016–2019) and during the COVID-19 pandemic (2020–2023).

It was shown that during the study period, high scores for regional policy performance were observed in the eastern provinces and some central territories. The top three positions in the ranking were occupied by the directly administered municipalities of Shanghai, Beijing, and Tianjin. The lowest-ranking regions were Qinghai and Tibet. The most balanced results were observed in Jiangxi province, which occupied 15th place in the 2020–2023 ranking.

The Gini coefficient for the sample of composite indices indicates a moderate level of differentiation in regional policy performance among Chinese provinces, with a trend toward reduction – from 0.426 to 0.4.

The gap between the leaders and the majority of provinces was most pronounced in the dimensions of Ecology; Education, Science and Innovation; Sports and Culture; and Healthcare. The dimensions of Social Support and Transportation displayed a more balanced distribution of outcomes across China. During the pandemic, differentiation noticeably decreased in the dimensions of Economic Development; Sports and Culture; and Healthcare.

An important finding is that provinces which significantly improved their ranking in terms of regional policy performance are involved in successfully implemented spatial integration projects in China. This underscores the significance of studying China's experience in applying this mechanism of regional policy from the perspective of potential adaptation, including within Russian conditions.

It was also found that high scores of the composite index of policy performance were observed predominantly in provinces with high GRP per capita and small territorial area, as evidenced by significant correlation coefficients in both the 2016–2019 and 2020–2023 periods. This suggests that significant results from regional policy implementation cannot be expected in economically underdeveloped and/or large-area provinces.

The obtained findings are not only of research interest and contribute to the understanding of existing regional development differentiation in China but also hold practical significance. They provide valuable insights for defining the future contours of China's regional policy, and for designing and implementing measures to balance the level of socio-economic development across its provinces.

References

Alesina A., Perotti R. (1996). Income distribution, political instability, and investment. *European Economic Review*, 40(6), 1203–1228.

Blundell R., Costa D. M., Joyce R., Xu X. (2020). COVID-19 and inequalities. *Fiscal Studies*, 41, 291–319. DOI: 10.1111/1475-5890.12232

Candelaria C., Daly M., Hale G. (2010). *Beyond Kuznets: Persistent Regional Inequality in China*. Available at: https://www.frbsf.org/wp-content/uploads/wp09-07bk.pdf

Chubarov I.G. (2020). State-level regional development programs in China. *Vostochnaya Aziya: fakty i analitika=East Asia: Facts and Analytics*, 4, 21–33. DOI: 10.24411/2686-7702-2020-10022 (in Russian).

Chubarov I.G. (2025). The ideological foundations of the modern regional policy of the PRC. In: *Sovremennaya ideologiya KNR. Idei Si Tszin'pina kak osnova politiki Kitaya: monografiya* [Modern Ideology of the PRC. Xi Jinping's Ideas as the Basis of China's Policy: Monograph]. Moscow: Institut Kitaya i sovremennoi Azii RAN.

Hoerner J., Stephenson P. (2012). Theoretical perspectives on approaches to policy evaluation in EU: the case of cohesion policy. *Public Administration*, 90 (3), 699–715. DOI: 10.1111/j.1467-9299.2011.02013.x

Huang J., Shen J., Sun Z. (2023). Understanding China's economic growth from a regional policy perspective. *China and World Economy*, 31(3), 1–26. DOI: 10.1111/cwe.12468

Ilyin V.A., Shabunova A.A., Uskova T.V. et al. (2017). *Ekonomicheskoe razvitie regionov: opyt Rossii i Kitaya: monografiya* [Economic Development of Regions: Experience of Russia and China: Monograph]. Vologda: Institut sotsial'no-ekonomicheskogo razvitiya territorii RAN.

Ippolito M., Cicatiello L. (2019). Political instability, economic inequality and social conflict: The case in Italy. *Panoeconomicus*, 66, 365–383. DOI: 10.2298/PAN1903365I

Kalashnikov D.B., Mitrofanova I.B. (2023). Regional development of China on the eve of the transition to post-industrialization. *Kontury global'nykh transformatsii: politika, ekonomika, pravo=Outlines of Global Transformations: Politics, Economics, Law,* 16(1), 128–146. DOI: 10.31249/kgt/2023.01.07 (in Russian).

Li J., Zhang J., Han Z. (2022). Regional differences of COVID-19 pandemic prevention in China: Especially from the perspective of political leaders. *Frontiers of Public Health,* 10, 1037242. DOI: 10.3389/fpubh.2022.1037242

Liu Q., Wang S., Zhang W., Li J. (2018). Income distribution and environmental quality in China: A spatial econometric perspective. *Journal of Cleaner Production*, 205, 14–26. DOI: 10.1016/j.jclepro.2018.09.090

Long L., Ji X. (2019). Economic Growth quality, environmental sustainability, and social welfare in China – provincial assessment based on Genuine Progress Indicator (GPI). *Ecological Economics*, 159, 157–176. DOI: 10.1016/j.ecolecon.2019.01.002

Magrini S. (2004). *Regional (Di)convergence. Handbook of Regional and Urban Economics. Vol. 4.* Elsevier Publishing.

Makeeva S.B. (2020). Historical experience in the implementation of strategies for spatial regional development in China (1949–2019). *Vostok. Afro-aziatskie obshchestva: istoriya i sovremennost'=Vostok (Oriens),* 4, 196–206. DOI: 10.31857/S086919080010846-7 (in Russian).

Mao Y. (2023). What accounts for the different regional responses to COVID-19 in China? Exploring the role of institutional environment, governance capacity and legitimacy. *Health Policy and Planning*, 38(4), 552–566. DOI: 10.1093/heapol/czad007

Mozias P.M. (2023). Interprovincial inequality and regional policy in China. *Sotsial'nye i gumanitarnye nauki. Otechestvennaya i zarubezhnaya literatura. Seriya 9: Vostokovedenie i afrikanistika,* 1, 98–126. DOI: 10.31249/RVA/2023.01.07 (in Russian)

Ostrovsky A.V. (Ed.). (2015). *KNR: ekonomika regionov: sbornik statei* [China: Economy of Regions: Collection of Articles]. Moscow: Institut Dal'nego Vostoka RAN.

Perotti R. (1996). Growth, income distribution, and democracy: What the data say. *Journal of Economic Growth*, 1(2), 149–187.

Pestsov S.K. (2024). Managing the development of peripheral territories: The Chinese model. *Finansovaya ekonomika,* 2, 64–69 (in Russian).

Shi J., Dai X., Duan K., Li J. (2023). Exploring the performances and determinants of public service provision in 35 major cities in China from the perspectives of efficiency and effectiveness. *Socio-Economic Planning Sciences*, 85, 101441. DOI: 10.1016/j.seps.2022.101441

Tang R., Tang T., Lee Z. (2014). The efficiency of provincial governments in China from 2001 to 2010: Measurement and analysis. *Journal of Public Affairs*, 14(2), 142–153. DOI: 10.1002/pa.1518

Tarasova O.V., Sedipkova S.V. (2024). Assessing public sector performance in regions of the Russian Federation. *Regional Research of Russia,* 14(2), 296–305. DOI: 10.1134/S2079970524600185

Wan W., Wang J., Jiang W. (2023). Does COVID-19 exacerbate regional income inequality? Evidence from 20 provinces of China. *Sustainability*, 15, 11894. DOI: 10.3390/su151511894

Wang C., Wang L., Zhai J. et al. (2024). Assessing progress toward China's subnational sustainable development by Region Sustainable Development Index. *Sustainable Horizons*, 11, 100099, 1–11. DOI: 10.1016/j.horiz.2024.100099

Wen W., Li Y., Song Y. (2022). Assessing the "negative effect" and "positive effect" of COVID-19 in China. *Journal of Cleaner Production*, 375, 36160312. DOI: 10.1016/j.jclepro.2022.134080

Yang Z., Shao S., Xu L., Yang L. (2022). Can regional development plans promote economic growth? City-level evidence from China. *Socio-Economic Planning Sciences,* 83, 101212. DOI: 10.1016/j.seps.2021.101212

Yu W., Wang Q., Wang Y., Guan G., Gao Y. (2023). Does targeted poverty alleviation policy reduce poverty? Evidence from rural China. *Sage Open*, 13, 1–14. DOI: 10.1177/21582440231197281

Zeng S., Fu Q., Haleem F. et al. (2024). China's carbon trading pilot policy, economic stability, and high-quality economic development. *Humanities and Social Science Communications*, 11, 1107, 1–15. DOI: 10.1057/s41599-024-03646-6

Zhang R., Dong S., Li Z. (2020). The economic and environmental effects of the Beijing-Tianjin-Hebei Collaborative Development Strategy – Taking Hebei Province as an example. *Environmental Science and Pollution Research,* 27, 35692–35702. DOI: 10.1007/s11356-020-09790-1

Information about the Authors

Olga V. Tarasova – Candidate of Sciences (Economics), Leading Researcher, associate professor, Institute of Economics and Industrial Engineering, Siberian Branch of the Russian Academy of Sciences (17, Akademician Lavrentiev Avenue, Novosibirsk, 630090, Russian Federation); Novosibirsk State University (1, Pirogov Street, Novosibirsk, 630090, Russian Federation; e-mail: tarasova.o.vl@gmail.com)

Ekaterina N. Isupova – Candidate of Sciences (Economics), Senior Researcher, associate professor, deputy dean of the NSU ED on international educational programs, Institute of Economics and Industrial Engineering, Siberian Branch of the Russian Academy of Sciences (17, Akademician Lavrentiev Avenue, Novosibirsk, 630090, Russian Federation); Novosibirsk State University (1, Pirogov Street, Novosibirsk, 630090, Russian Federation; e-mail: e.meltenisova@g.nsu.ru)

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Contemporary Rural Studies in Russia and China: Scientific Overview

Konstantin A. GALKIN
Sociological Institute of the Russian Academy of Sciences
Saint Petersburg, Russian Federation
e-mail: Kgalkin19892@mail.ru
ORCID: 0000-0002-6403-6083; ResearcherID: A-8784-2016

Abstract. The paper explores key directions in the study of rural areas in Russia and China, highlighting both thematic intersections and differentiations, as well as identifying research gaps and promising avenues for future inquiry. A comprehensive content analysis was conducted using the eLibrary (RSCI) and Google Scholar databases. Keywords and thematic queries were selected to reflect current scholarly interests in the socio-economic development of rural regions in both countries. The analysis demonstrates a growing academic interest in socio-economic transformations of rural spaces, the implications of urbanization, and the dynamics of rural-to-urban migration. Considerable attention is also given to changes in traditional ways of life, the transformation of community relations, and alterations in social structure. Notably, Chinese research tends to frame rural areas as complementary to urban spaces, whereas the Russian scholarly tradition predominantly examines them as autonomous and distinct environments. Among the identified gaps are the limited attention to individual dimensions of rural development and to the formation of prestige associated with rural living. Insufficient coverage is given to processes such as migration flows, the return migration of former urban residents to rural regions, and strategies for cultivating a positive image of rural life. Overall, the findings underscore the multidimensional and interdisciplinary character of contemporary rural studies in Russia and China, as well as a heightened scholarly interest in issues of sustainable rural development.

Key words: modern rural studies, rural development in Russia and China, rural sociology, Russia, China, research review, rural communities, rural transformation, interdisciplinary rural studies.

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Introduction

Current methodological approaches to rural research should be reconsidered. This is substantiated with the transformations in society, which directly affect the rural lifestyle and change its structure. Rural areas, being in the context of global processes, face many challenges, from the instability of the modern world and the issues of socio-economic development to migration processes and the implementation of new agricultural technologies, including the digitalization of agriculture (Bolshakova et al., 2019; Enyedi, Volgyes, 2013; Resina, 2012). There is also a growing interest in the development of eco-settlements and the choice of rural life by various social groups (Walker, Plotnikova, 2018). Despite the accumulated theoretical and empirical knowledge in the field of rural sociology and agrarian sociology, researchers still need to revise the established socio-economic paradigm. A transition to a more flexible analysis of rural spaces using socio-cultural, geopolitical and environmental approaches is required (Khagurov, 2009). An important aspect is the understanding of disciplinary differences in modern rural sociology, since research methods and focuses can vary significantly depending on the national context, the history of the discipline and the priority objects of study.

Sociological studies of villages in socialist states, particularly in the Soviet Union, have significantly transformed in the post-Soviet period (Khagurov, 2009; Novikov, 2018). In modern Russia, there is a shift in research interests due to the transition to a market economy and the emergence of new phenomena uncommon for the Soviet era, such as return labor migration and a steady outflow of population from rural areas, especially in the Non-Black-Earth Region (Bozhkov, 2015). At the same time, Russian research of the 1990s is largely based on the achievements of rural sociology of the Soviet period of the 1960s–1980s, and it maintains continuity, though there is a great methodological and thematic variety (Khagurov, 2009). In particular, the work of the Center for Peasant Studies and Agrarian Reforms led by T. Shanin demonstrates a broad regional coverage and deep attention to various aspects of rural life, from peasant autobiographies to the analysis of the informal economy (Nikulin, 2020).

From a methodological point of view, these studies can be described as groundbreaking for their time. T. Shanin calls his approach "reflexive peasant studies", focusing on the subjective perception of everyday life and the experience of rural residents. Such methods have not previously been used in Russian rural sociology, which emphasizes their novelty and value (Doktorov, Nikulin, 2020).

At the same time, elements of the Soviet research tradition remain, especially in the study of the socio-economic situation of rural areas and the state of agriculture. For example, in the 1990s, N.E. Pokrovsky's "Ugora Project" was developed, focused on a comprehensive study of rural life using interviews, ethnographic methods and analysis of the regions of the European North, where the issues of population outflow and rural infrastructure decline are particularly pronounced (Pokrovsky, Nefedova, 2012). The value of such projects lies in their interdisciplinary nature, combining a sociological analysis of rural communities with an assessment of the socio-economic situation and the study of environmental conditions, including the biodiversity of the studied territories.

Other works that appeared in Russia in the 1990s and 2000s focus on the study of particular social groups living in rural areas, such as youth, seasonal workers, residents of eco-settlements, as well as the ethnic composition of the village population. The latter aspects are actively developing within the framework of anthropological research conducted, in particular, at the Museum of Anthropology and Ethnography of RAS (Vinokurova, 2010; Kondratyeva, 2019). Despite the significant amount of accumulated research, Russian rural sociology remains flexible and is based on various disciplines: its boundaries are blurred, and approaches fluctuate between geography, anthropology, history, and classical sociology. The topics related to post-pandemic changes in rural life, as well as the development of interdisciplinary forms of cooperation in the study of the modern village, have not been sufficiently studied.

In addition, the lack of a comprehensive comparative analysis of Russian rural sociology with similar research areas in other countries remains an obvious problem. This is especially true for countries with a large rural population and a lack of large-scale rural migration, such as countries in South America, Central and Southeast Asia.

It is even more interesting to make comparisons with states that have passed the socialist stage of development. Some of them are still at this stage. The People's Republic of China is a prime example of such a case, as it has socio-economic trends similar to Russian realities. In particular, both China and Russia are characterized by the massive outflow of population from villages, urbanization, as well as gaps between infrastructure development in urban and rural areas (Chen, 2010; Long et al., 2016). This includes, for example, the availability of high-speed Internet, the quality of medical services and transport infrastructure. The development of rural sociology in China began with the work of Tong Rong-zhi, who perceived it as an applied discipline focused on solving specific problems without building a fundamental theoretical framework[1]. In turn, Yang Kaidao considers rural sociology as a separate field of knowledge, focusing on the specifics of social life in rural communities[2]. Despite the growing interest in rural studies both in China and in Russia, rural sociology as a discipline has not acquired clear boundaries and methodological unity. Basic works such as Feng Hefa's study consider rural sociology as an independent scientific field, though they do not offer a unified methodological framework and do not analyze the specifics of the institutionalization of the discipline (Shasha, 2019).

Despite the cultural and historical differences in the development of villages in Russia and China, there are a number of common features. Among them, the most significant are gaps in the level of infrastructure development in rural regions and the high level of social inequality compared to urban areas. Thus, according to Rosstat, in 2018, the average per capita income of rural residents was only 65% of the income of the urban population, which indicates a significant gap in the level of financial security[3]. In China, the same indicator was 37.24%, which also confirms the existence of serious differences between the incomes of rural and urban residents[4].

In the Russian context, regional differences are significant: the level of rural development in the Non-Black-Earth Region and in the south of Russia shows significant heterogeneity (Antoncheva, Apanasenko, 2021). The key issues are the non-diversified production in rural areas and high migration, especially among young people, to cities (Kartseva et al., 2024). In China, similar

[1] Feng Hefa (1934). Outline of Rural Sociology. Shanghai.

[2] Ibidem.

[3] Household incomes, spending and consumption in 2018 (based on the results of a sample survey of household budgets). Federal State Statistics Service. Available at: https://gks.ru/bgd/regl/b18_102/Main.htm (accessed: 25.08.2025).

[4] China Statistical Yearbook, 2019. Available at: https://www.stats.gov.cn/tjsj/ndsj/2019/indexeh.htm. (accessed: 25.08.2025).

difficulties are caused by urbanization which began in the mid-1970s (Jie, 2020). In Russia, the issues of poverty and the gap in living standards are usually considered to be solved using market mechanisms and economic diversification, but these programs are often declarative and difficult to implement in practice (Mikheeva, 2016). In China, priority is given to direct government regulation of the socio-economic development of rural areas (Merenkova, 2019). Both countries are characterized by poor investment prospects of rural regions, which hinders infrastructure development, entrepreneurship and private subsidiary plots. The issue of modernizing the healthcare system is particularly acute: in Russia, the reduction in the number of medical institutions in rural areas and the number of health workers has significantly reduced the availability of medical care, which further aggravates the prospects of villages (Chernyshev, 2022). At the same time, there are no comprehensive programs aimed at increasing the social significance of rural life and stimulating migration to villages among both urban residents and foreign migrants.

In terms of cultural and social development, both Russia and China face the destruction of traditional social ties, the increasing role of commercialized relations between residents, and the decline of previous communal forms of interaction (Kurakin, 2019). At the same time, the importance of diversifying the rural economy and creating a positive and attractive image of rural regions is increasing.

The relevance of the research is confirmed by strategic documents, in particular, the Strategy for Sustainable Rural Development of the Russian Federation until 2030[5]. This document highlights the need to diversify the rural economy, strengthen local governments, promote the integration of villages and cities, as well as partnership between the state, municipal structures and rural communities. In this regard, it is becoming relevant to study not only the current trends in the development of rural areas in Russia based on the analysis of scientific publications, but also the experience of other countries. The study of Chinese practices is of particular importance, taking into account both the similarity of socio-economic processes and China's status as a strategic partner of the Russian Federation.

The scientific novelty of the research lies in understanding the key areas of rural development in Russia and China, identifying research gaps and formulating promising areas. The purpose of the analysis is to identify similarities and differences in the study of rural areas of the two countries, as well as to identify key topics describing the specifics of the transformation of the modern village in Russia and China.

Research methodology

Qualitative content analysis differs fundamentally from the quantitative approach as it is focused not on the statistical calculation of information units, but on identifying the meaning content, deep processes and interrelations between the studied phenomena. The main objective of this method is to provide a detailed and comprehensive understanding of the material under study, to form a system of classifications and categories, and to trace the features of their functioning in a real social context. Unlike quantitative analysis, which is limited to frequency detection, a qualitative approach allows identifying hidden structures, as well as interpret texts in a broader socio-cultural context. The method of qualitative content analysis is actively used in various fields of social science, including sociology, cultural studies, political science, economics and demography. The sources for the analysis were the databases eLibrary and Google Scholar, which provide a wide range of publications in the field of social science. To form

[5] Strategy for Sustainable Rural Development of the Russian Federation until 2030. Available at: http://static.government.ru/media/files/Fw1kbNXVJxQ.pdf (accessed: 25.08.2025).

the sample, a list of keywords and concepts was developed containing such queries as "modern rural research in Russia and China", "socio-economic development of rural areas", "migration of rural population", "social issues of rural life", "rural economy", "rural communities", etc. To expand the sample, the queries were translated into English and used in the Google Scholar search engine, which allowed comparing Russian and foreign publications and identify interdisciplinary links.

After the initial sampling, all papers were manually verified, which allowed excluding publications not related to rural areas in Russia and China. The final database includes articles from various disciplinary fields, from sociology and economics to philosophy, political science and anthropology. This interdisciplinary approach has allowed us to consider rural issues in a multi-dimensional way: from the analysis of economics and social policy to cultural transformations, environmental challenges and political processes. The time range of the study covered the period from 2021 to 2025, so we could focus on current trends and identify relevant areas of scientific research. As a result, 360 publications meeting the stated criteria were uploaded from the Google Scholar database, and 140 articles were uploaded from eLibrary. The research includes not only journal articles, but also monographs, as well as conference proceedings. Such a broad scope allowed us to include both fundamental works and applied developments that are significant for the practice of rural management. The analysis showed that the peak of scientific activity was in 2022, when 250 papers were published. In subsequent years, their number has stabilized at about 82 per year, which indicates the development of a sustained research agenda. At the same time, a significant part of the publications was devoted to rural regions of China, which is explained by the scale of the reforms being carried out there, as well as the priority of rural issues for Chinese science. The analysis of the thematic distribution showed the following results: socio-economic development and urbanization – 288 publications; socio-geographical research – 148 papers; ecology and social ecology issues – 95 publications; cultural and anthropological field – 45 studies. At the same time, it is noted that in Chinese publications these topics are covered much more deeply and more comprehensively than in Russian studies, where they are often considered only partly. This difference reflects the specifics of national research traditions and priorities of the scientific agenda.

A comparative analysis showed that, despite the general similarity of the research structure, the emphases are placed differently. Russian science is more characterized by a focus on socio-economic issues and regional development issues, while Chinese researchers attach primary importance to urbanization processes, migration and their consequences for rural areas, and this approach allows making more comprehensive forecasts and recommendations for the China's public policy. It is important to emphasize that this study does not pretend to be an exhaustive analysis of the entire scientific literature on rural areas of Russia and China. However, the most cited and significant publications of recent years have been systematized within the limited format of the article. These works allow us to form a holistic view of the state and prospects of development of this area and serve as the basis for further research.

The main areas of modern rural research in Russia and China

Socio-economic area

The socio-economic area remains one of the most developed, maintaining a stable applied focus and developing over several decades. In recent years, the research vector has shifted toward studying the transformations of economic and political institutions in rural Russia, as well as the possibilities of rural development in new institutional conditions. From 2021 to 2024, there has been a significant

increase in the number of Russian publications devoted to the socio-economic development of rural areas. In 2021, 15 works were recorded, in 2022 their number increased to 24, and in 2023 and 2024 their volume reached 36 annually. This dynamic indicates the growing interest of Russian researchers in studying the processes of transformation of rural areas and socio-economic changes. Recent publications have paid special attention to the transition from analyzing the consequences of global transformations to studying the everyday practices and individual trajectories of rural residents. Thus, the research vector is shifting toward microsocial processes related to everyday life and individual adaptation strategies.

Special attention is paid to the topic of "managerization" of rural relations, market rationalization of everyday interactions and the destruction of traditional informal ties (Nekrasov, 2023; Bogdanova et al., 2024). From 2022 to 2024, there has been an increase in the number of publications devoted to the managerization of rural relations and the gradual destruction of the traditional community model. So, in 2022, 10 papers were published, in 2023 – 14, and in 2024 – 18, reflecting the growing interest in the study of transformations of social structures and rural communities.

There is considerable interest in studying the relationship between formal and informal practices in rural economy and public life. Researchers note that previously dominant informal practices are gradually losing influence, giving way to formalized interactions (Kondratyev, Fadeeva, 2021; Lushnikova, 2023; Plusnin, 2024). One of the illustrative examples is the disappearance of familiar neighborhood ties, which are being replaced by more rational, economically motivated models of relationships. At the same time, as O.B. Bozhkov and his colleagues emphasize, villagers are still often guided by traditional norms and retain elements of informal exchange (Bozhkov et al., 2020). However, even these interactions are becoming commercialized: it is now customary to pay for assistance to older people, for care or household support, albeit along with traditional practices of exchanging products and services (Bogdanova et al., 2024). Thus, the modern rural community is a hybrid system that combines the features of a traditional and market paradigm. This creates the basis for a new format of interactions between residents and allows us to more accurately characterize the specifics of rural daily life and economic dynamics.

This topic also examines institutional transformations in rural areas, including the specifics of the activities of local authorities, their formal and informal foundations. At the same time, when analyzing publications, we identified the importance of studying interpersonal relationships and the stability of trust-based communications in rural areas (Andrianova et al., 2022; Vinogradskii, Vinogradskaya, 2023). Formalization in villages can be seen as part of a broader trend toward individualization and changing social norms typical of the modern era.

One of the features of rural sociology in China is its predominant focus on applied research, as opposed to an emphasis on theoretically grounded approaches. Chinese scientists concentrate on studying the processes taking place directly in rural areas and on phenomena that have a direct impact on the lives of rural residents. A significant object of analysis is the structural reform that began in the 1970s. According to a number of experts, its consequences continue to affect the current state of the village (Lardy, 1986; Chen, Davis, 1998). Within the framework of this approach, the development of rural areas in China is being reconsidered, especially in the context of the transformation of traditional peasant farms, where the key elements were the rural community and the mutual support of its participants. The main objective of Chinese rural sociology is to analyze the causes and issues

associated with the transformation of rural lifestyles and changes in government policy. Despite the extensive empirical material, this research aspect suffers from a lack of theoretical approaches and insufficient generalization of findings. The lack of research complexity makes it difficult to establish links between theory and practice and limits the possibilities for an adequate analysis of scientific contribution, especially in publications and dissertations.

Studies also record the negative effects of the land reform. Prior to its implementation, cooperation between rural and urban enterprises was a key driver. The settlements that have managed to build such connections have successfully adapted to the new conditions; other villages have faced economic difficulties. At the same time, there is a high level of migration to cities, which exacerbates development issues (Zang et al., 2020; Yan et al., 2020; Wang, 2023).

Research on urbanization and rural migration

Modern Russian research on rural areas addresses the phenomenon of deurbanization, according to which the village appears as an alternative to the city. Rural territories are positioned as a space where it is possible to realize an eco-friendly lifestyle (Pokrovsky et al., 2020). Among the significant topics are the development of eco-settlements, the phenomenon of return labor migration (including in the research of M. Plyusnin), as well as the analysis of migration strategies from the city to the countryside in search of stability and psychological comfort (Agibalova, 2020; Kuznetsova, 2021). Modern Russian research on rural areas pays special attention to the impact of factors such as digitalization, the COVID-19 pandemic and changes in the professional structure of society, new migration strategies development (Makhrova, Nefedova, 2021; Parfenova, Petukhova, 2022). These processes contribute to a conscious choice of life outside of large cities, which indicates a significant transformation of ideas about the village and its place in the social space.

Digitalization, accompanied by the widespread use of remote forms of employment, has had a significant impact on the mobility of the population and the ability to choose a place of residence. Previously, limited access to high-quality Internet infrastructure was a great hindrance to moving to rural areas, but the current development of telecommunication technologies gradually blurs the boundary between urban and rural areas (Kasimova, Kasimov, 2020; Sovetova, 2021). An increasing number of specialists in the field of information technology, media, education, as well as the creative profession are choosing rural areas as a platform for work and life. This process is accompanied by the development of a new type of rural resident: mobile, economically active and self-actualizing outside the traditional urban lifestyle.

Migration processes are considered as one of the key aspects of the transformation of the Chinese countryside. Researchers identify two main reasons of rural-to-urban migration: the desire to improve financial situation and the desire to acquire the necessary resources for doing business in rural areas (Guo, Qiao, 2020; Zhu et al., 2021; Liu, 2022). A paradox arises: in order to develop rural entrepreneurship, it is necessary to earn seed money in the city. This strategy loosens traditional community ties, strengthens individualism and transforms the social structure of rural areas.

A separate section of Chinese rural research is devoted to urbanization. Scientists emphasize that the consequences of agrarian reform and land privatization contributed to the development of a new model: temporary migration of rural residents to cities, followed by land transfer (Gu, Qiao, 2020; Xu et al., 2020; Garriga et al., 2023). These trends are typical primarily for young people. The conflicts that arose during privatization caused an accelerated transition to a market model and the disintegration of traditional forms of collective ownership. At the same time, rural residents, accustomed to informal

relationships and collectivism, turned out to be unprepared for new realities (Kan, 2020; Barbalet, 2021). Some studies record cases of citizens appealing to local authorities to preserve collective forms of ownership, but such initiatives do not receive support (Wong et al., 2022). In the context of urbanization, rural areas are increasingly perceived as backward and depressed. The elimination of the infrastructural gap between urban and rural areas, especially in the areas of medicine, social support and poverty reduction, is considered a priority. At the same time, the emphasis is on developing the attractiveness of agriculture, which is impossible without the revival of traditional collectivism.

Cultural and anthropological research

A smaller but important area is cultural and anthropological research. Within this framework, rural areas are considered as spaces with a unique culture and historical identity. Modern works in this field are increasingly focusing not only on ethnic composition or traditions, but also on the features of social communication, identity, and connections to the place of residence. Everyday practices, forms of care, and the influence of the rural landscape on interpersonal relationships are explored.

An important aspect is the study of rural residents' perception of their own daily lives. Special attention is paid to how they cope with infrastructural deficits, develop life strategies, choosing ways of self-realization in conditions of socio-economic constraints. An example is research on the Non-Black-Earth Region, where specific forms of adaptation to changes are observed (Popov, 2022; Shomina, 2020; Yakovlev, Nikolaev, 2020). Publications in this area are usually characterized by neutral emotions. The authors' intention is not so much to criticize the changes taking place as to describe their impact on the individual and collective experience of living in rural areas.

Within the framework of this area, in modern Chinese rural research, scientists are particularly concerned about the loss of a collective lifestyle associated with increasing land inequality. The most representative group of studies is devoted to the disintegration of the community model that previously dominated Chinese agriculture. It has been established that the spread of market mechanisms and the commercialization of rural life have led to the loss of collective identity and the transition to individualized forms of management (Ge et al., 2020; Zang, 2020; Wang, 2023). The technologization of rural production has become a significant factor. For example, irrigation, which was previously carried out jointly by the community, now requires the involvement of hired labor. This destroys the established forms of collective labor that previously served as the basis for the existence of a rural community (Yan et al., 2020).

Despite the government's efforts to redistribute land, the situation is getting worse due to the lack of coordination and institutional support. Frequent property redistribution only increases migration flows and, in some cases, leads to the economic decay of villages (Yang, Cai, 2020). Research highlights that much of the land redistribution initiatives were developed at the grassroots level and represent a legacy of revolutionary practices (Guo, Liu, 2021; Song et al., 2020). Such processes are considered as a manifestation of the commercialization of agriculture. However, the authors themselves emphasize the lack of theoretical elaboration of this trend, which makes it difficult to comprehend it within the framework of modern scientific discourse.

Socio-geographical research

This area is associated with socio-geographical research that began in the 2000s and is developing to this day. Key research groups working in this area include teams led by N.E. Pokrovsky, as well as researchers at the Institute of Geography of RAS collaborating with sociologists (Nefedova et al., 2015). The starting point is the rejection of a purely sociological interpretation of the village and, accordingly, the appeal to interdisciplinary

approaches combining geographical, biological and environmental perspectives. A rural area is considered as a set of natural and social resources capable of both attracting and repelling potential residents (Pokrovsky, Nefedova, 2012; Pokrovsky, Nefedova, 2013).

However, it is important to note that this is not so much a return to traditional forms of rural life as an attempt to synthesize urban and rural models of existence. New villagers' intention is not to completely abandon the benefits of civilization – on the contrary, they actively use digital technologies, develop small businesses, launch local environmental projects, blog, and advance educational initiatives (Sokolova, Kalachikova, 2023). Thus, the image of the "new village" is being developed – a space that combines individualism, technological engagement and a focus on sustainable development.

The COVID-19 pandemic, in turn, has become an important driver for these changes. Restrictions on movement, the transfer of offices to remote work, as well as a sharp increase in the sense of instability have prompted many citizens to reconsider their life priorities. The increase in anxiety, the overload of urban infrastructure, the lack of personal space – all these have become the reasons for the mass interest in life outside the city. In research, this phenomenon is increasingly interpreted in terms of escapism, the desire to escape from an aggressive, unpredictable urban environment toward silence, spaciousness, and the symbolic "naturalness" of rural life (Parfenova, Galkin, 2023; Stadnik, Radionova, 2021).

The transformation of the professional structure of society is directly related to these changes. The growing share of remote jobs, the changing career model, and the focus on freelance and entrepreneurship create conditions for decentralizing employment. There are more and more examples of former residents of megacities realizing themselves in rural areas, while maintaining professional activity at the global level (Popova, 2021; Ovchintseva, 2021). This destroys the stereotypical image of the countryside as a space of backwardness and social deprivation, opening up opportunities for its repositioning in public consciousness. Escapist motives play an important role in these processes, but they are complemented by more pragmatic considerations. Rural areas are attractive due to relatively low living costs, a more favorable environment and the possibility of creating sustainable communities with interpersonal ties and a high level of social engagement. In this context, the village becomes not just an alternative to the city, but a space for the realization of new lifestyles, combining freedom of choice, digital independence and rootedness in a place. Modern Russian research on rural areas is largely focused on the analysis of transformations in the social structure, communication, and spatial development of villages. Special attention is paid to new trends related to the formalization of interactions, sustainable consumption and the reassessment of the role of rural lifestyle in an unstable world.

Despite technological advances and digitalization, interest in rural life as a possible alternative to the urban lifestyle continues to grow. The combination of formal and informal practices typical of the rural environment opens up prospects for the development of sustainable communities. At the same time, there is a reconsideration of the very concept of rural space, it is increasingly viewed not just as a periphery, but as an independent space with specific values, structure and with the potential for development.

Despite the relatively small number of publications in this area by Chinese rural researchers, they raise an important issue such as environmental degradation of the rural areas. One of the reasons for the deterioration of the environment is the uncontrolled use of agrochemicals in farms, which poses risks to the safety of agricultural products (Shao et al., 2024; Li et al., 2021). This

creates a negative image of the village, hinders the development of eco-tourism and the movement of the urban population to rural areas.

The researchers emphasize that the environmental crisis is exacerbated by the processes of return labor migration, which leads to the destruction of traditional family models and undermines values that previously served as a pillar of Chinese society (Talhelm, English, 2020; Tang, Zhu, 2020; Wang, 2023). The lack of positive forecasts in the field of ecology makes the situation even more alarming. Against the background of the deteriorating environmental situation and loosening community ties, researchers express pessimism about both the future of the village and the potential for scientific research in this area.

In general, the modern Chinese village is considered as a space of deep transformations. Economists' optimism, which links the transition to a market model with productivity growth, is diluted by criticism of the social consequences. Individualization of management and commercialization increase the erosion of community ties, hinder the development of sustainable communities and make it difficult to implement projects based on mutual assistance. These processes directly affect the image of the village as a potential cluster of the agricultural market. However, economic transformations are often not accompanied by the development of a positive image of rural areas, which reduces its attractiveness for both residents and researchers.

Summarizing the above, we present a comparative description of the main modern areas of rural research in Russia and China (*Table*).

Conclusion

The study identified key gaps in the study of rural areas in Russia and China. Despite a significant number of publications devoted to socio-economic transformations and changes in the traditional community structure, the Russian scientific literature does not pay enough attention

Comparative description of the main modern areas of rural research in Russia and China

Key research areas	Key research topics in Russia	Key research topics in China
Socio-economic area	– Diversification of the rural economy and its development prospects; – transition to a market model in rural areas; – transformation of political and economic institutions; – research on the new economy and rural innovation	– Development of rural economy and transition to market management mechanisms; – analysis of rural areas in the context of urban development; – transformation of villages after the agrarian reform
Research on urbanization and rural migration	– Analysis of migration processes and migration outflow from the Non-Black-Earth Region; – research on rural population decline; – career strategies of rural youth; – the phenomenon of return labor migration and urban-to-rural migration	– The impact of urbanization on rural-to-urban migration; – rural-to-urban youth migration after the agrarian reform; – transformation of the community model and its relation to migration processes
Cultural and anthropological research	– The unique culture and historical identity of rural communities in Russia; – attachment to the place and the importance of rural spaces for residents and visitors	– Transformation of the community model and its impact on the modern village and rural economy; – migration and changes in the social structure of rural regions
Socio-geographical research	– Changes in the population structure of rural areas; – spatial development of villages; – transformation of the traditional rural lifestyle	– Sustainable rural development and the use of environmentally-oriented methods in agriculture; – agrochemical pollution and its consequences for rural areas

to individual prospects and personal aspects of rural life. Studies of regional differences, in particular the differences between northern and southern villages, their infrastructural development and socio-economic opportunities, are also insufficiently developed. The issues of diversification of the rural economy and the development of a positive image of rural areas remain practically unexplored, which is confirmed by the small number of Russian publications in these areas.

There are also certain gaps in Chinese research. The especially noticeable lacuna is the lack of systematic publications devoted to the modernization and renewal of the village in the context of the new economic reality and large-scale migration processes. The issues of long-term rural development and their integration into the national economy of China are discussed insufficiently. However, in the future, the transformation of rural spaces in both countries can stimulate the development of new research areas and expand the analytical base.

Among the common features of rural studies in Russia and China are the research on the transformation of traditional communities, the loosening social ties and the transition to the managerization of rural life. Both research traditions record the processes of introducing market relations in the countryside. However, there are significant differences in issues emphasized. In Chinese literature, urbanization and the associated migration to cities are often described as a benefit, while rural areas are characterized as depressed and lagging. In Russian science, the village is contrasted with the city, representing a special social "world" with its own values and opportunities, which makes it attractive to a certain part of the population.

The revealed differences in interpretations reflect the specifics of national scientific traditions. Russian studies tend to consider the village as an independent space with its own processes and prospects for transformation. Chinese publications, on the contrary, position the village as an element of a unified economic and political system that ensures the development of the country. These differences are explained by government modernization strategies and socio-economic priorities. The theoretical significance of the analysis is to identify the key stages of the transformation of rural areas in Russia and China and to understand the underlying processes associated with migration, urbanization, economic diversification and a change in the traditional lifestyle. Special attention is paid to the transformation of social ties within rural communities, which allows for a new interpretation of the classical ideas of F. Tönnies about the difference between "community" and "society". This aspect highlights the need to continue fundamental research in this area.

The practical significance of the work lies in the identification of issues and features that need to be considered when developing strategies for sustainable rural development. The findings can be used in the implementation of the national Strategy of the Russian Federation for rural development until 2030, as well as for the analysis and adaptation of the Chinese experience. Thus, the study contributes to the development of modern trends in the study of rural spaces and the enhancement of international dialogue in this area.

References

Agibalova V.G. (2020). Multifunctionality of rural development in the format of the organization of eco-settlements. *Moskovskii ekonomicheskii zhurnal=Moscow Economic Journal*, 2, 312–319. DOI: https://doi.org/10.24411/2413-046X-2020-10071 (in Russian).

Andrianova E.V., Davydenko V.A., Danilova E.P. et al. (2022). *Institutsional'nye faktory i sotsial'nye formaty razvitiya sel'skikh territorii* [Institutional Factors and Social Formats of Rural Development]. Tyumen: TyumGU-Press.

Antoncheva O.A., Apanasenko T.E. (2021). Reducing the rural-urban social inequality: Chinese and Russian comparative experience. *Upravlencheskoe konsul'tirovanie=Administrative Consulting*, 1(145), 61–76. DOI: 10.22394/1726-1139-2021-1-61-76 (in Russian).

Barbalet J. (2021). The analysis of Chinese rural society: Fei Xiaotong revisited. *Modern China*, 47(4), 355–382. DOI: http://dx.doi.org/10.1177/0097700419894921

Bogdanova E., Galkin K., Nizamova A. (2024). Ethics of neighborly care for the elderly in the Russian village: Towards community managerialism. *Sotsiologicheskoe obozrenie=Russian Sociological Review*, 23(3), 285–313 (in Russian).

Bolshakova Y.A., Gusev A.N., Gruzdeva V.V., Kurilova A.A., Ponedilchuk T.V (2019). Specifics of modern management of sustainable development in rural areas. *Contemporary Dilemmas: Education, Politics and Values*, 6 (S1), 84.

Bozhkov O.B. (2015). Social problems of the Russian rural areas and agrarian relations. *Teleskop: zhurnal sotsiologicheskikh i marketingovykh issledovanii=Telescope: Journal of Sociological and Marketing Research*, 3, 50–52 (in Russian).

Bozhkov O.B., Nikulin A.M., Poleshchuk I.K. (2020). Agricultural cooperation in the Northern Non-Black-Earth Region: Formal and informal practices. *Vestnik Rossiiskogo universiteta druzhby narodov. Seriya: Sotsiologiya=RUDN Journal of Sociology*, 20(4), 889–904 (in Russian).

Chen F., Davis J. (1998). Land reform in rural China since the mid-1980s. *Land Reform, Land Settlement, and Cooperatives*, 6(2), 123–137.

Chen X. (2010). Issues of China's rural development and policies. *China Agricultural Economic Review*, 2(3), 233–239. DOI: http://dx.doi.org/10.1108/17561371011078390

Chernyshev V.M. (2022). Rural healthcare of Russia. Status, problems, prospects. *Sibirskii nauchnyi meditsinskii zhurnal=Siberian Scientific Medical Journal*, 42(4), 4–14. DOI: https://doi.org/10.18699/SSMJ20220401 (in Russian).

Doktorov B.Z., Nikulin A.M. (2020). Teodor Shanin: Peasant studies and Russia. *Krest'yanovedenie=Russian Peasant Studies*, 5(3), 146–172. DOI: https://doi.org/10.22394/2500-1809-2020-5-3-146-172 (in Russian).

Enyedi G., Volgyes I. (Eds). (2013). *The Effect of Modern Agriculture on Rural Development: Comparative Rural Transformation Series.* Elsevier.

Garriga C., Hedlund A., Tang Y., Wang P. (2023). Rural-urban migration, structural transformation, and housing markets in China. *American Economic Journal: Macroeconomics*, 15(2), 413–440. DOI: http://dx.doi.org/10.1257/mac.20160142

Ge D., Long H., Qiao W., Sun D. (2020). Effects of rural-urban migration on agricultural transformation: A case of Yucheng City, China. *Journal of Rural Studies*, 76, 85–95. DOI: http://dx.doi.org/10.1016/j.jrurstud.2020.04.010

Gu H., Ling Y., Shen. T., Yang L. (2020). How does rural homestead influence the hukou transfer intention of rural-urban migrants in China? *Habitat International*, 105, 102267. DOI: http://dx.doi.org/10.1016/j.habitatint.2020.102267

Guo Y., Liu Y. (2021). Poverty alleviation through land assetization and its implications for rural revitalization in China. *Land Use Policy*, 105(3), 105418. DOI: http://dx.doi.org/10.1016/j.landusepol.2021.105418

Guo Y., Qiao W. (2020). Rural migration and urbanization in China: Historical evolution and coupling pattern. *Sustainability*, 12(18), 7307. DOI: http://dx.doi.org/10.3390/su12187307

Jie Zh. (2020). Urbanization as a social phenomenon of globalization transformations of the economy. *Sotsiologiya=Sociology*, 5, 117–127 (in Russian).

Kan K. (2020). Creating land markets for rural revitalization: Land transfer, property rights and gentrification in China. *Journal of Rural Studies*, 81(4), 68–77. DOI: http://dx.doi.org/10.1016/j.jrurstud.2020.08.006

Kartseva M.A., Mkrtchyan N.V., Florinskaya Yu.F. (2024). Rural-urban migration in contemporary Russia through the prism of quantitative and qualitative analysis. *Krest'yanovedenie=Russian Peasant Studies*, 9(2), 153–179. DOI: https://doi.org/10.22394/2500-1809-2024-9-2-153-179 (in Russian).

Kasimova Zh.V., Kasimov A.A. (2020). Digital transformation of rural areas. *Vestnik NGIEI=Bulletin NGIEI*, 8(111), 117–126. DOI: https://doi.org/10.24411/2227-9407-2020-10079 (in Russian).

Khagurov A.A. (2009). Methodological aspects of rural sociology in Russia. *Sotsiologicheskie issledovaniya=Sociological Studies*, 2, 95–101 (in Russian).

Kondratyev M.V., Fadeeva O.P. (2021). Practices of public participation in local self-governance: Case studies of Siberian villages. *Region: ekonomika i sotsiologiya=Region: Economics and Sociology*, 2, 162–183 (in Russian).

Kondratyeva E.V. (2019). The communal traditions in youth festivals and rituals of the Chuvash and Udmurts. *Ezhegodnik finno-ugorskikh issledovanii=Yearbook of Finno-Ugric Studies*, 2, 223–232. DOI: https://doi.org/10.35634/2224-9443-2019-13-2-223-232 (in Russian).

Kurakin A.A. (2019). Ways of rural development of Russia and China. *Krest'yanovedenie=Russian Peasant Studies*, 4(3), 201–207. DOI: https://doi.org/10.22394/2500-1809-2019-4-3-201-207 (in Russian).

Kuznetsova E.V. (2021). Life cycles of ecovillages. *Krest'yanovedenie=Russian Peasant Studies*, 6(1), 170–179. DOI: https://doi.org/10.22394/2500-1809-2021-6-1-170-179 (in Russian).

Lardy N.R. (1986). Agricultural reforms in China. *Journal of International Affairs*, 91–104.

Li Q., Zhu K., Liu L., Sun X. (2021). Pollution-induced food safety problem in China: Trends and policies. *Frontiers in Nutrition*, 8, 703832. DOI: http://dx.doi.org/10.3389/fnut.2021.703832

Liu J. (2022). Childhood and rural to urban migration in China: A tale of three villages. *Children & Society*, 39(3), 636–651. DOI: https://doi.org/10.1111/CHSO.12666

Long H., Tu S., Ge D., Li T., Liu Y. (2016). The allocation and management of critical resources in rural China under restructuring: Problems and prospects. *Journal of Rural Studies*, 47, 392–412. DOI: http://dx.doi.org/10.1016/j.jrurstud.2016.03.011

Lushnikova O.L. (2023). Informal rural labor practices (on the example of Khakassia). *Vektory blagopoluchiya: ekonomika i sotsium=Journal of Wellbeing Technologies*, 1(48), 15–23. DOI: https://doi.org/10.18799/26584956/2023/1/1490 (in Russian).

Makhrova A.G., Nefedova T.G. (2021). Can the COVID-19 pandemic inspire suburbanization in Central Russia? *Vestnik Moskovskogo universiteta. Seriya: Geografiya=Moscow University Bulletin. Series 5, Geography*, 4, 104–115 (in Russian).

Merenkova I.N. (2019). Diversification of rural areas as a tool for human capital development. *Vestnik Voronezhskogo gosudarstvennogo agrarnogo universiteta=Vestnik of Voronezh State Agrarian University*, 12(3), 124–130. DOI: https://doi.org/10.17238/issn2071-2243.2019.3.124 (in Russian).

Mikheeva N.N. (2016). The diversification of regional economic structure as a growth strategy: Pros and cons. *Region: ekonomika i sotsiologiya=Region: Economics and Sociology*, 4, 196–217. DOI: https://doi.org/10.15372/REG20160409 (in Russian).

Nefedova T.G., Pokrovsky N.E., Treivish A.I. (2015). Urbanization, desurbanization and rural-urban communities in the face of growing horizontal mobility. *Sotsiologicheskie issledovaniya=Sociological Studies*, 12, 60–69 (in Russian).

Nekrasov S.N. (2023). Rural community and its decomposition. In: *Sovremennye tekhnologii: aktual'nye voprosy teorii i praktiki: sbornik statei VI Mezhdunarodnoi nauchno-prakticheskoi konferentsii, 30 noyabrya 2023 g.* [Modern Technologies: Current Issues of Theory and Practice: Collection of Articles of the VI International Scientific and Practical Conference, November 30, 2023]. Penza: Nauka i Prosveshchenie.

Nikulin A.M. (2020). Teodor Shanin in textbooks, monographs and essays: Reviewing the scholar's major works. *Sotsiologicheskii zhurnal=Sociological Journal*, 26(1), 168–182. DOI: https://doi.org/10.19181/socjour.2020.26.1.7058 (in Russian).

Novikov V.G. (2018). Russian rural sociology: Its social space, subject specificity and genesis. *Vestnik universiteta*, 9, 152–158. DOI: https://doi.org/10.26425/1816-4277-2018-9-152-158 (in Russian).

Ovchintseva L.A. (2021). New villagers: Motives and factors for moving from urban to rural areas. *Vestnik Rossiiskogo universiteta druzhby narodov. Seriya: Sotsiologiya=RUDN Journal of Sociology*, 21(2), 296–310. DOI: https://doi.org/10.22363/2313-2272-2021-21-2-296-310 (in Russian).

Parfenova O.A., Galkin K.A. (2023). Social activity and participation of older Russians in the context of active ageing. *Zhurnal sotsiologii i sotsial'noi antropologii=The Journal of Sociology and Social Anthropology*, 26(1), 200–223. DOI: https://doi.org/10.31119/jssa.2023.26.1.8 (in Russian).

Parfenova O.A., Petukhova I.S. (2022). Covid-19 pandemic impact on older people in urban and rural contexts. *Sotsiologicheskie issledovaniya=Sociological Studies*, 5, 71–80. DOI: https://doi.org/10.31857/S013216250018704-7 (in Russian).

Plusnin Ju. (2024). *Promysly rossiiskoi provintsii: neformal'nye ekonomicheskie praktiki naseleniya* [Russian Provincial Crafts: Informal Economy of Households]. Moscow: HSE Publishing House.

Pokrovsky N.E., Makshanchikova A.Yu., Nikishin E.A. (2020). Reverse migration in pandemic crisis: Russia's out-of-town spaces as an adaptation resource. *Sotsiologicheskie issledovaniya=Sociological Studies*, 12, 54–64. DOI: https://doi.org/10.31857/S013216250010726-1 (in Russian).

Pokrovsky N.E., Nefedova T.G. (2012). The Ugora Project – prospects for the development of the Near North. *Monitoring obshchestvennogo mneniya: ekonomicheskie i sotsial'nye peremeny=Monitoring of Public Opinion: Economic and Social Changes*, 5(111), 185–196 (in Russian).

Pokrovsky N.E., Nefedova T.G. (2013). "Cellular globalization" and tendencies in rural communities of Russia's Near North. *Sotsiologicheskie issledovaniya=Sociological Studies*, 4, 13–23 (in Russian).

Popov E.A. (2022). Social functions of rural farmers (on the example of the Altai Region). *Vestnik Rossiiskogo universiteta druzhby narodov. Seriya: Sotsiologiya=RUDN Journal of Sociology*, 22(3), 672–686 (in Russian).

Popova M.V. (2021). Modern Russian migrations from city to village. *Sotsiologiya=Sociology*, 2, 68–74 (in Russian).

Resina J.R. (2012). *The Modern Rural. New Ruralism: An Epistemology of Transformed Space*. Orlando: Iberoamericana-Vervuert.

Shao Y., Ni J., Zhou Sh., Wang Y., Jin X. (2024). Safety assessment of agricultural products and the pesticide regulation trend in China. *Agricultural and Food Economic*s, 12(1), 29.

Shasha Y. (2019). Rural sociology: Chinese and Western theoretical traiditions. *Obshchestvo: sotsiologiya, psikhologiya, pedagogika=Society: Sociology, Psychology, Pedagogics*, 1, 31–36 (in Russian).

Shomina E.S. (2020). Self-organization of citizens at the rural settlements – look through pink glasses. *Sotsiologicheskaya nauka i sotsial'naya praktika=Sociological Science and Social Practice*, 8(2), 114–132. DOI: https://doi.org/10.19181/snsp.2020.8.2.7308 (in Russian).

Sokolova A.A., Kalachikova O.N. (2023). Modern return labor migration: Analysis of territorial specificity according to the Russian Census. *Demograficheskie faktory adaptatsii naseleniya k global'nym sotsial'no-ekonomicheskim vyzovam=Demographic Factors of Population Adaptation to Global Socio-Economic Challenges*, 312–322. DOI: https://doi.org/10.17059/udf-2023-3-7 (in Russian).

Song J., Du H., Li S. (2020). Who is the winner? Relocated rural communities and stratification in urbanizing northwestern China. *Journal of Rural Studies*, 77, 159–168. DOI: http://dx.doi.org/10.1016/j.jrurstud.2020.04.026

Sovetova N.P. (2021). Rural territories' digitalization: From theory to practice. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 14(2), 105–124. DOI: https://doi.org/10.15838/esc.2021.2.74.7 (in Russian).

Stadnik G.V., Radionova L.A. (2021). COVID-19 as a trigger for an escapist rural lifestyle model. *Editorial Board*, 499 (in Russian).

Talhelm T., English A.S. (2020). Historically rice-farming societies have tighter social norms in China and worldwide. *Proceedings of the National Academy of Sciences*, 117(33), 19816–19824. DOI: https://doi.org/10.1073/pnas.1909909117

Tang W., Zhu J. (2020). Informality and rural industry: Rethinking the impacts of E-Commerce on rural development in China. *Journal of Rural Studies*, 75, 20–29. DOI: http://dx.doi.org/10.1016/j.jrurstud.2020.02.010

Vinogradskii V.G., Vinogradskaya O.Ya. (2023). The phenomenon of self-organization of the rural population: Principles and prospects of research. *Vestnik Rossiiskogo universiteta druzhby narodov. Seriya: Sotsiologiya=RUDN*

Journal of Sociology, 23(2), 355–367. DOI: http://dx.doi.org/10.22363/2313-2272-2023-23-2-355-367 (in Russian).

Vinokurova I.Yu. (2010). Vepsian youth in the chronicle of biosocial events. In: Mazalova N.E., Lapin V.A., Fishman O.M. *Uvedi menya, doroga: sbornik pamyati T.A. Bernshtam* [Take Me Away, the Road: A Collection in Memory of T.A. Bernshtam]. Saint Petersburg: Museum of Anthropology and Ethnography of RAS.

Walker K., Plotnikova M. (2018). Ecological settlement as a self-government model in rural areas. *Management Theory and Studies for Rural Business and Infrastructure Development*, 40(3), 416–423. DOI: http://dx.doi.org/10.15544/mts.2018.39

Wang Y. (2023). Rural lifestyles and life politics: Reimagining modernity in the development of a future village in China. *Rural Sociology*, 88(2), 337–361. DOI: http://dx.doi.org/10.1111/ruso.12478

Wong S.W., Tang B., Liu J. (2020). Rethinking China's rural revitalization from a historical perspective. *Journal of Urban History*, 48(3), 565–577. DOI: http://dx.doi.org/10.1177/0096144220952091

Xu D., Yong Zh., Deng X., Zhuang L. (2020). Rural-urban migration and its effect on land transfer in rural China. *Land*, 9(3), 81. DOI: http://dx.doi.org/10.3390/land9030081

Yakovlev A.I., Nikolaev E.A. (2020). The structure of everyday life of the modern Yakut village. *Vestnik Severo-Vostochnogo federal'nogo universiteta imeni M.K. Ammosova. Seriya: Obshchestvennye nauki=Vestnik of North-Eastern Federal University. Social Science*, 3, 14–23 (in Russian).

Yan H., Bun K.H., Siyuan X. (2020). Rural revitalization, scholars, and the dynamics of the collective future in China. *The Journal of Peasant Studies*, 1–22. DOI: https://doi.org/10.1080/03066150.2019.1694911

Yang Q., Cai Y. (2020). Housing property redistribution and elite capture in the redevelopment of urban villages: A case study in Wuhan, China. *Journal of Cleaner Production*, 262, 121192. DOI: https://doi.org/10.1016/j.jclepro.2020.121192

Zang Y., Liu Y., Yang Y., Woods M. (2020). Rural decline or restructuring? Implications for sustainability transitions in rural China. *Land Use Policy*, 94, 104531. DOI: http://dx.doi.org/10.1016/j.landusepol.2020.104531

Zhu Y., Wang W., Lim L. (2021). Return migration and in situ urbanization of migrant sending areas: Insights from a survey of seven provinces in China. *Cities*, 1(115), 103242. DOI: http://dx.doi.org/10.1016/j.cities.2021.103242

Information about the Author

Konstantin A. Galkin – Candidate of Sciences (Sociology), Senior Researcher, Sociological Institute of the Russian Academy of Sciences (25/14, Sedmaya Krasnoarmeyskaya Street, Saint Petersburg, 190005, Russian Federation; e-mail: Kgalkin19892mail.ru)

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Public Opinion Monitoring of the State of the Russian Society

As in the previous issues, we publish the results of the monitoring of public opinion concerning the state of the Russian society. The monitoring is conducted by VolRC RAS in the Vologda Region[1].

The following tables and graphs show the dynamics of several parameters of social well-being and socio-political sentiment of the region's population according to the results of the latest round of the monitoring (October 2025) and for the period from October 2024 to October 2025 (the last seven surveys, that is, almost a year).

We compare the results of the surveys with the average annual data for 2000 (the first year of Vladimir Putin's first presidential term), 2007 (the last year of Vladimir Putin's second presidential term, when the assessment of the President's work was the highest), 2012 (the first year of Vladimir Putin's third presidential term) and 2018 (the first year of Vladimir Putin's fourth presidential term).

The annual dynamics of the data are presented for 2000–2024[2].

[1] The surveys are held six times a year in the cities of Vologda and Cherepovets, in Babayevsky, Velikoustyugsky, Vozhegodsky, Gryazovetsky, Tarnogsky Kirillovsky, Nikolsky municipal okrugs, and in Sheksninsky Municipal District. The method of the survey is a questionnaire poll by place of residence of respondents. The volume of a sample population is 1,500 people 18 years of age and older. The sample is purposeful and quoted. The representativeness of the sample is ensured by the observance of the proportions between the urban and rural population, the proportions between the inhabitants of settlements of various types (rural communities, small and medium-sized cities), age and sex structure of the Region's adult population. Sampling error does not exceed 3%.

More information on the results of VolRC RAS surveys is available at http:// www.vscc.ac.ru.

[2] In 2020, four rounds of the monitoring were conducted. Surveys in April and June 2020 were not conducted due to quarantine restrictions during the spread of COVID-19.

During the period from August to October 2025, the President's approval rating did not change and amounted to 66–67%. The proportion of negative judgments remained within 19%.

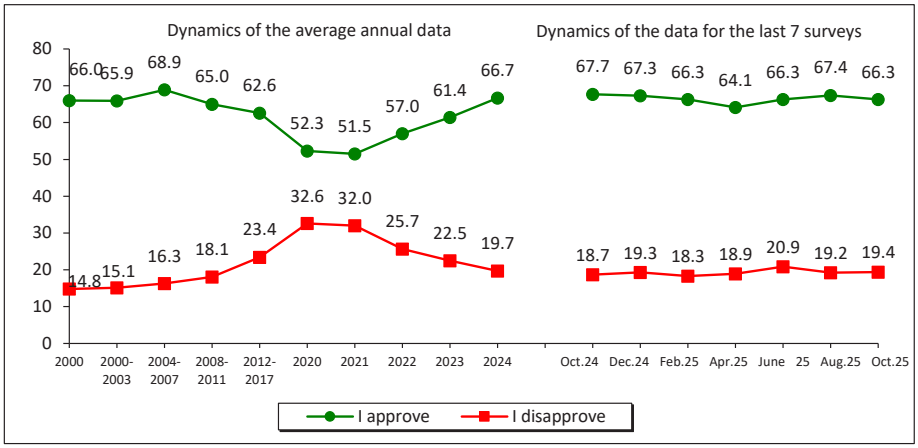
Over the past 12 months (from October 2024 to October 2025), the share of positive assessments of the activities of the head of state has also remained at the same level (66–67%)[3].

How would you assess the current work of…? (% of respondents)

Response	Dynamics of the average annual data									Dynamics of the data for the last 7 surveys							Dynamics (+/-), Oct. 2025 to	
	2000	2007	2012	2018	2020	2021	2022	2023	2024	Oct. 2024	Dec. 2024	Feb. 2025	Apr. 2025	June 2025	Aug. 2025	Oct. 2025	Oct. 2024	Aug. 2025
RF President																		
I approve	66.0	75.3	51.7	66.4	52.3	51.5	57.0	61.4	66.7	67.7	67.3	66.3	64.1	66.3	67.4	66.3	-1	-1
I disapprove	14.8	11.5	32.6	21.7	32.6	32.0	25.7	22.5	19.7	18.7	19.3	18.3	18.9	20.9	19.2	19.4	+1	0
Chairman of the RF Government																		
I approve	–	–	49.6	48.0	38.7	39.9	45.4	50.1	54.1	53.7	55.6	54.7	53.9	53.0	55.1	55.7	+2	+1
I disapprove	–	–	33.3	31.6	40.4	37.6	32.0	27.6	24.8	25.5	25.3	23.8	22.3	22.9	20.6	23.1	-2	+3
Vologda Region Governor																		
I approve	56.1	55.8	41.9	38.4	35.0	36.7	40.9	48.1	51.7	51.9	50.8	46.8	42.9	39.9	41.0	41.8	-10	+1
I disapprove	19.3	22.2	33.3	37.6	42.5	40.5	35.8	30.9	28.4	28.0	29.8	31.4	34.6	37.2	39.1	41.3	+13	+2

Here and elsewhere, in all tables and in the text, positive changes are highlighted in green, negative changes are highlighted in red, and no changes – in blue. Due to the fact that the changes of +/- 3 p.p. fall within the limits of sampling error, they are considered insignificant and are marked in blue.
Wording of the question: "How would you assess the current work of ...?"

How would you assess the way that the RF President is handling his job?
(% of respondents, VolRC RAS data)



Response	Dynamics (+/-), Oct .2025 to	
	Oct. 2024	Aug. 2025
I approve	-1	-1
I disapprove	+1	0

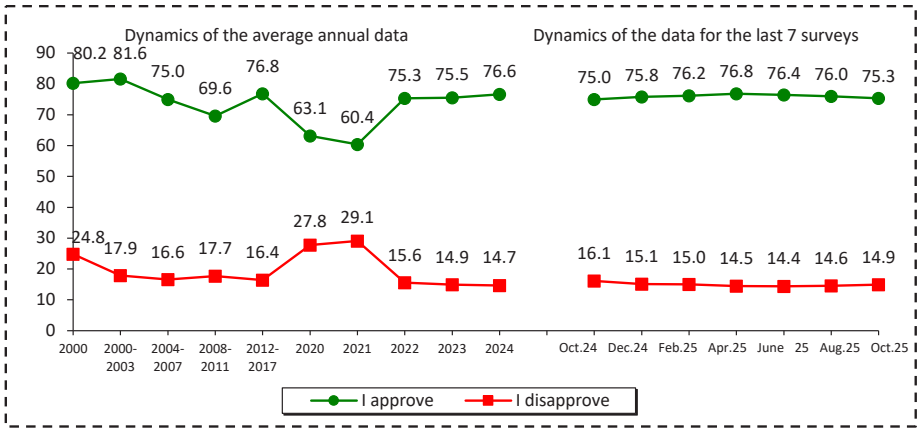
Here and elsewhere, all graphs show the average annual data for 2000, 2020, 2021, 2022, 2023, 2024, as well as the average annual data for the periods 2000–2003, 2004–2007, 2008–2011, 2012–2017 that correspond to presidential terms.

[3] Here and further in the text, the results of a comparative analysis of the data from the survey conducted in October 2025 with the results of the monitoring carried out in October 2024 are given in the frame.

For reference:

According to VCIOM, the assessment of the RF President's performance from August to the first half of October 2025 did not change: the share of positive judgments is 75%, negative – 15%.

Do you approve or disapprove of the way that the RF President is handling his job?
(% of respondents; VCIOM data)



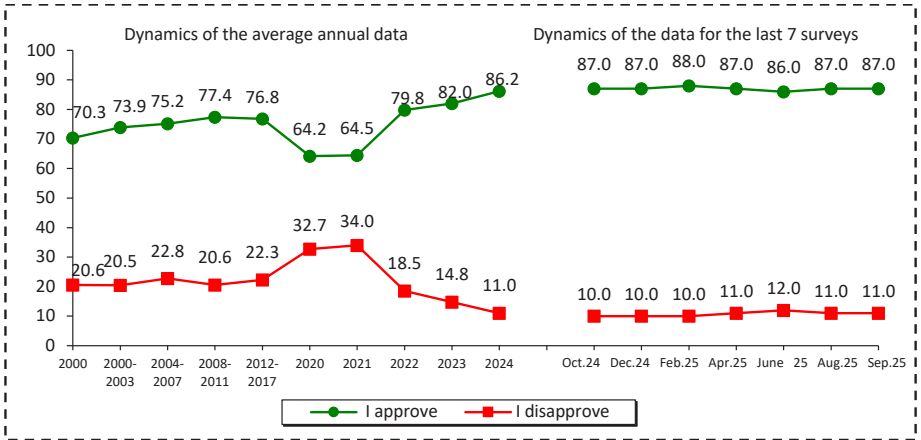
Response	Dynamics (+/-), Oct .2025 to	
	Oct. 2024	Aug. 2025
I approve	0	-1
I disapprove	-1	0

Wording of the question: "In general, do you approve or disapprove of the way that the Russian President is handling his job?"
Data as of September 2025 – for one survey as of October 5, 2025.
Source: VCIOM. Available at: https://wciom.ru/

According to Levada-Center, the share of positive assessments of the activities of the President of the Russian Federation in August – October 2025 was 87%; the share of negative characteristics was 11%.*

During the year of observations, no changes were recorded: the share of positive characteristics was 87%, negative –10–11%.

In general, do you approve or disapprove of the way that Vladimir Putin is handling his job as President of Russia? (% of respondents; Levada-Center* data)



Response	Dynamics (+/-), Oct .2025 to	
	Oct. 2024	Aug. 2025
I approve	0	0
I disapprove	+1	0

Wording of the question: "In general, do you approve or disapprove of the way that Vladimir Putin is handling his job as President of Russia?"
Source: Levada-Center*. Available at: https://www.levada.ru/

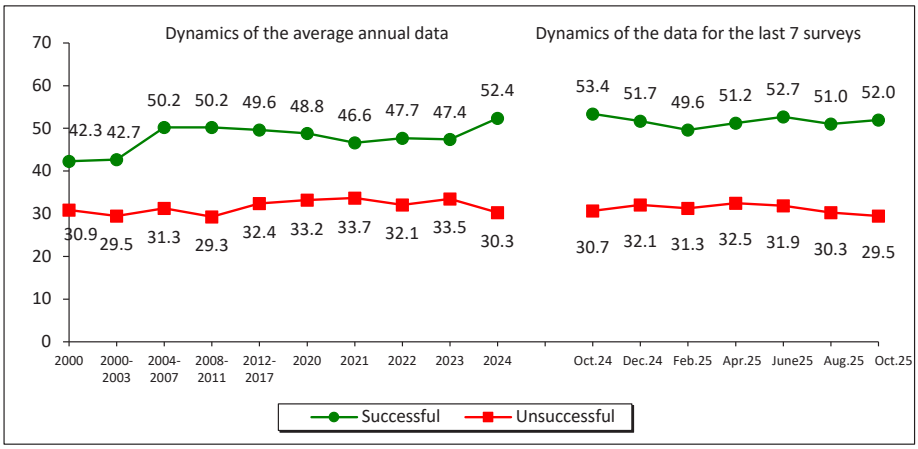
* Included in the register of foreign agents.

In your opinion, how successful is the RF President in handling challenging issues? (% of respondents; VolRC RAS data)

Over the past two months, the proportion of people who consider the Russian President's actions to strengthen Russia's international position to be successful has remained stable at 52%. For comparison, the proportion of those who adhere to the opposite point of view is significantly less and amounts to 29–30%.

From October 2024 to October 2025, the shares of both positive and negative assessments of the RF President's work to strengthen Russia's international position did not change.

Strengthening Russia's international position

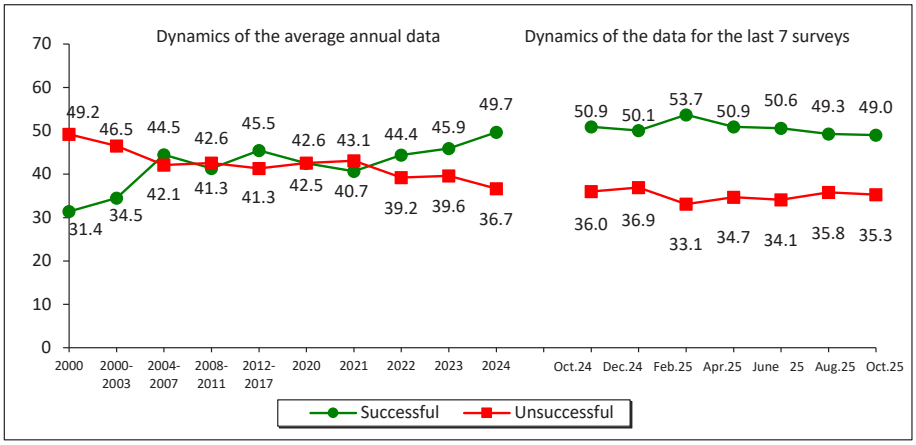


Response	Dynamics (+/-), Oct .2025 to	
	Oct. 2024	Aug. 2025
Successful	-1	+1
Unsuccessful	-1	-1

In August – October 2025, the share of residents of the region who positively assessed the work of the head of state to restore order in the country was 49%.

Over the past 12 months (from October 2024 to October 2025), the estimates of the population have remained unchanged: the share of positive judgments is 49–51%, negative – 35–36%.

Imposing order in the country

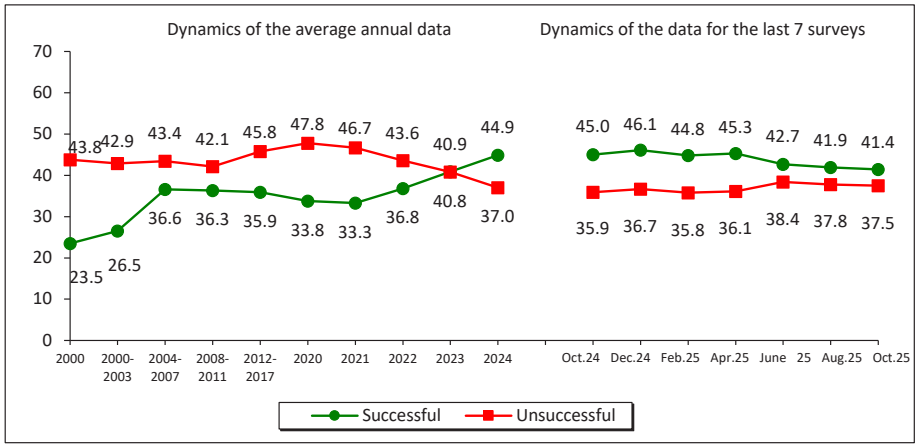


Response	Dynamics (+/-), Oct .2025 to	
	Oct. 2024	Aug. 2025
Successful	-2	0
Unsuccessful	-1	-1

In August – October 2025, the share of positive assessments of the activities of the President of the Russian Federation to protect democracy and strengthen the freedoms of citizens amounted to 41–42%, the proportion of negative ones was 38%.

From October 2024 to October 2025, the proportion of positive judgments decreased by 4 percentage points, from 45 to 41%. The proportion of negative judgments did not change.

Protecting democracy and strengthening citizens' freedoms

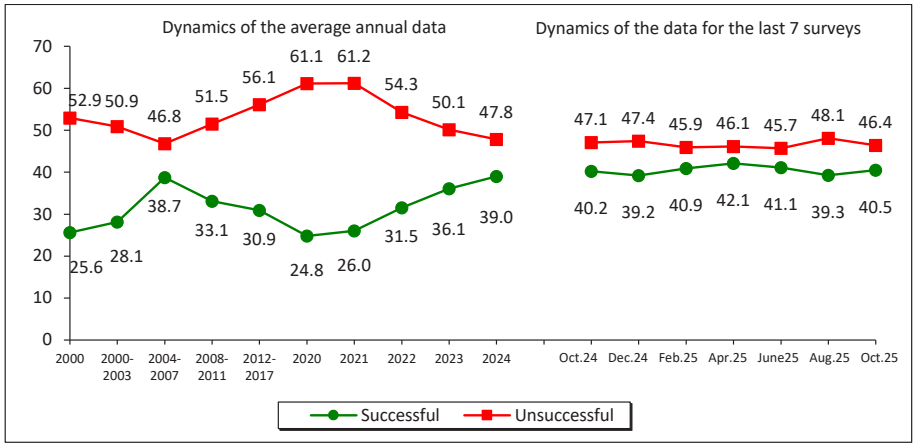


Response	Dynamics (+/-), Oct .2025 to	
	Oct. 2024	Aug. 2025
Successful	-4	-1
Unsuccessful	+2	0

The share of positive opinions about the activities of the head of state to boost the economy and increase the welfare of citizens remains stable from August to October 2025 (39–40%). The proportion of negative assessments is still high and remains at the level of 46–48%.

Over the past 12 months, there were no significant changes in the judgments regarding the work of the head of state to protect democracy and strengthen citizens' freedoms.

Economic recovery, increase in citizens' welfare



Response	Dynamics (+/-), Oct .2025 to	
	Oct. 2024	Aug. 2025
Successful	0	+1
Unsuccessful	-1	-2

Over the past two months, no significant changes were recorded in the structure of political preferences of the region's residents: in August – October 2025, the share of people whose interests are expressed by the United Russia Party was 41%, the Communist Party of the Russian Federation – 10–12%, the Liberal Democratic Party – 7–9%, Just Russia – 3–4%, New People – 1–2%.

From October 2024 to October 2025, the political preferences of the residents of the region remained unchanged. The share of people who believe that none of the parties represented in Parliament reflects their interests is 23–24%.

Which party expresses your interests? (% of respondents; VolRC RAS data)

Party	Dynamics of the average annual data													Dynamics of the data for the last 7 surveys							Dynamics (+/-), Oct. 2025 to	
	2000	2011	Election to the RF State Duma 2011, fact	2012	2016	Election to the RF State Duma 2016, fact	2018	2020	Election to the RF State Duma 2020, fact	2021	2022	2023	2024	Oct. 2024	Dec. 2024	Feb. 2025	Apr. 2025	June 2025	Aug. 2025	Oct. 2025	Oct. 2024	Aug. 2025
United Russia	18.5	31.1	33.4	29.1	35.4	38.0	37.9	31.5	49.8	31.7	35.2	39.5	42.9	41.8	42.3	39.9	40.5	41.6	41.2	40.5	-1	-1
CPRF	11.5	10.3	16.8	10.6	8.3	14.2	9.2	8.4	18.9	9.3	10.1	9.6	8.9	8.7	9.1	8.8	8.0	9.1	11.5	10.5	+2	-1
LDPR	4.8	7.8	15.4	7.8	10.4	21.9	9.6	9.5	7.6	9.9	7.3	7.0	7.1	7.5	8.8	7.5	7.1	9.4	8.7	7.8	0	-1
Just Russia – Patriots for the Truth	–	5.6	27.2	6.6	4.2	10.8	2.9	4.7	7.5	4.7	4.9	4.4	3.5	4.2	4.4	2.3	2.9	3.9	4.2	3.4	-1	-1
New People*	–	–	–	–	–	–	–	–	5.3	2.3	1.5	1.9	2.0	2.3	2.3	3.1	3.0	2.5	1.8	2.2	0	0
Other	0.9	1.9	–	2.1	0.3	–	0.7	0.5	–	0.2	0.3	0.1	0.2	0.3	0.3	0.3	0.0	0.1	0.1	0.1	0	0
None	29.6	29.4	–	31.3	29.4	–	28.5	34.2	–	33.9	30.6	26.5	25.2	24.1	26.3	28.4	27.7	24.9	23.3	24.3	0	+1
Difficult to answer	20.3	13.2	–	11.7	12.0	–	11.2	11.1	–	10.0	10.1	11.1	10.3	11.0	6.5	9.7	10.8	8.5	9.2	11.3	0	+2

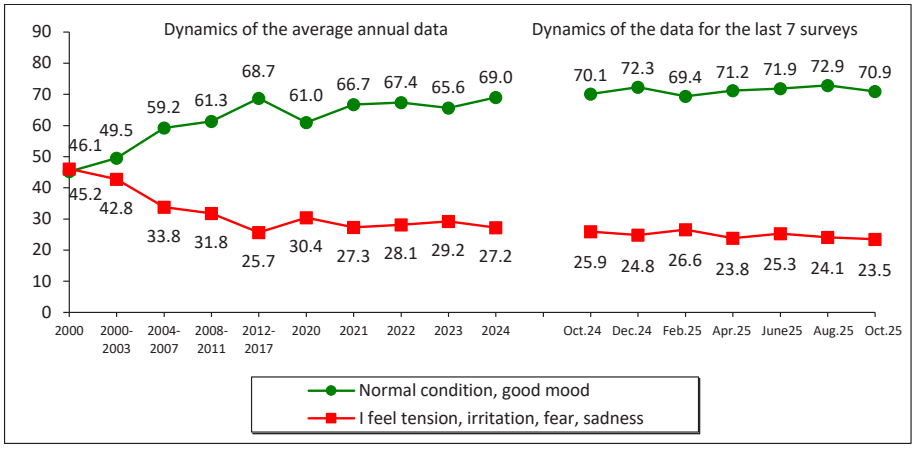
* The New People party was elected to the State Duma of the Russian Federation for the first time following the results of the election held on September 17–19, 2021.

From August to October 2025, the share of positive assessments of social mood remained at the level of 71–73%. The proportion of people experiencing predominantly negative emotions also remained unchanged at 23–24%.

During the year (from October 2024 to October 2025), the proportion of people who describe their daily emotional state as «normal, fine» did not change (70–71%). The proportion of those who more often experience «tension, irritation, fear, sadness» remains stable (24–26%).

Estimation of social condition
(% of respondents; VolRC RAS data)

Social mood

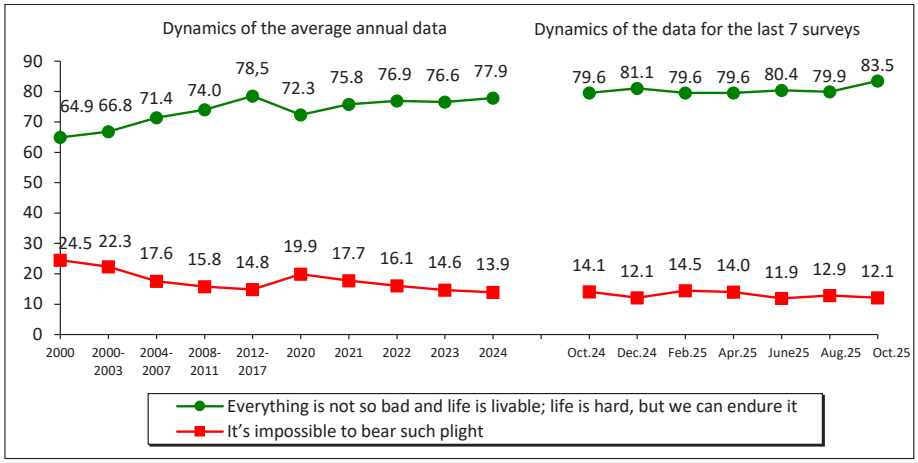


Response	Dynamics (+/-), Oct .2025 to	
	Oct. 2024	Aug. 2025
Normal condition, good mood	+1	-2
I feel tension, irritation, fear, sadness	-2	-1

From August to October 2025, the share of positive assessments of the stock of patience increased: the proportion of people who note that “everything is not so bad and life is livable; life is hard, but we can endure it” increased by 4 percentage points (from 80 to 84%). The share of those who believe that it is “no longer possible” to bear their plight was 12–13%.

Over the past 12 months (from October 2024 to October 2025), the stock of patience has also increased by 4 percentage points, from 80 to 84%.

Stock of patience

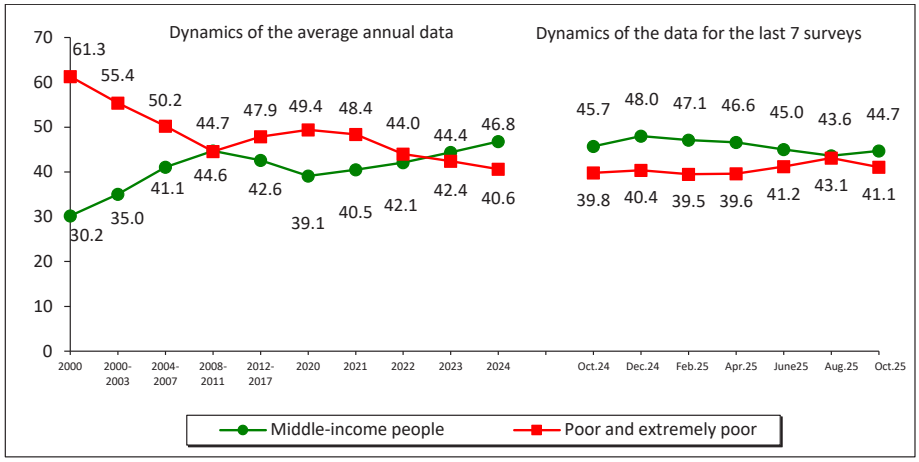


Response	Dynamics (+/-), Oct .2025 to	
	Oct. 2024	Aug. 2025
Everything is not so bad and life is livable; life is hard, but we can endure it	+4	+4
It’s impossible to bear such plight	-2	-1

In August – October 2025, the proportion of residents of the region subjectively classifying themselves as "poor and extremely poor" amounted to 41–43%. The proportion of those who subjectively classify themselves as "middle-income people" was 44–45%.

During the year of observations, the indicators of social self-identification did not change significantly.

Social self-identification*



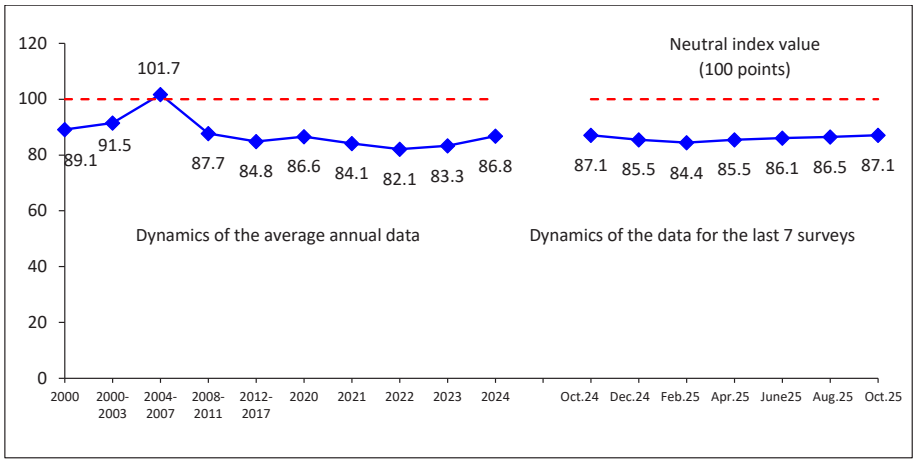
Response	Dynamics (+/-), Oct .2025 to	
	Oct. 2024	Aug. 2025
Middle-income people	-1	+1
Poor and extremely poor	+1	-2

* Wording of the question: "What category do you belong to, in your opinion?"

The value of the CSI in October 2025 remained at the level of August 2025 – 86–87 points.

In October 2025, the value of the CSI corresponds to the data of October 2024.

Consumer Sentiment Index
(CSI, points; VolRC RAS data for the Vologda Region)



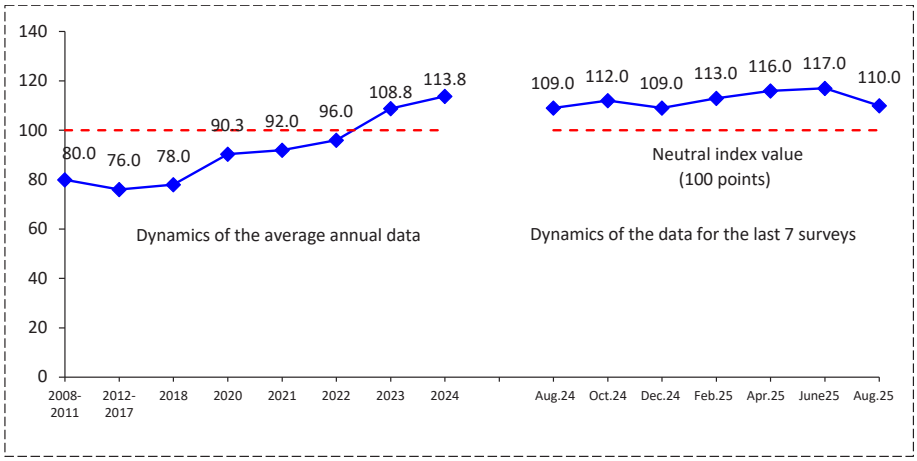
CSI	Dynamics (+/-), Oct .2025 to	
	Oct. 2024	Aug. 2025
Index value, points	0	+1

For reference:

According to the latest data from the all-Russian Levada-Center surveys (for the period from June to August 2025), the Consumer Sentiment Index decreased by 7 points, from 117 to 110 points.*

There were no tangible changes in the value of the CSI over the past 12 months.

Consumer Sentiment Index
(CSI, points; Levada-Center* data for Russia[4])



CSI	Dynamics (+/-), Aug. 2025 to	
	Aug. 2024	June 2025
Index value, points	+1	-7

The index is calculated since 2008.
The latest data – as of August 2025.
Source: Levada-Center*. Available at: https://www.levada.ru/indikatory/sotsialno-ekonomicheskie-indikatory/

During the period from August to October 2025, there were no significant changes in the dynamics of the share of positive assessments of social mood in most of the main socio-demographic groups. There is a decrease in the proportion of people who positively characterize their daily emotional state in only two categories: among men (from 72 to 68%) and in the group of the least affluent (from 56 to 53%).

[4] **Since March 2025, Levada-Center* has updated data on the CSI.** The CSI in Russia has been calculated since 1993 on the basis of five questions, similar to the index developed in the 1940s by the Institute for Social Research at the University of Michigan. The individual indices for each question are calculated as the difference between the proportions of positive and negative responses plus 100. The cumulative CSI is the arithmetic mean of individual indices (range 0–200, where >100 is the predominance of positive ratings). In 2009, the CSI was linked to the values of March 2008 (100% base), which was associated with a change in the methodology of surveys and the economic crisis. However, this led to the fact that the index began to reflect changes only relative to 2008. Since March 2025, it was decided to return to the original method of calculating the CSI, abandoning the link to 2008, because in 2023, many indicators exceeded the peaks of 2008 and the old version of the index ceased to adequately reflect the current situation. A return to the original methodology is intended to solve this problem. Source: Updated Consumer Sentiment Index: February 2025 Figures. Available at: https://www.levada.ru/2025/03/26/obnovlennyj-indeks-potrebitelskihnastroenij-pokazateli-fevralya-2025-goda/).

* Included in the register of foreign agents.

Over the past 12 months, the share of positive assessments of social mood has increased in 5 of the 14 main socio-demographic groups, especially among those with secondary education (by 6 percentage points); the most affluent residents (by 6 percentage points); residents of Vologda (by 4 percentage points) and Cherepovets (by 3 percentage points); in the age group of 30–55 years (by 4 percentage points). A slight deterioration in grades is recorded among people with secondary vocational education (by 4 percentage points). There are no significant changes in other socio-demographic groups.

Social mood in different social groups (response: "Wonderful mood, normal, stable condition", % of respondents; VolRC RAS data)

Population group	Dynamics of the average annual data									Dynamics of the data for the last 7 surveys							Dynamics (+/-), Oct. 2025 to	
	2000	2007	2012	2018	2020	2021	2022	2023	2024	Oct. 2024	Dec. 2024	Feb. 2025	Apr. 2025	June 2025	Aug. 2025	Oct. 2025	Oct. 2024	Aug. 2025
Gender																		
Men	50.1	65.9	69.1	72.8	60.8	65.7	66.8	65.5	66.5	65.2	69.2	70.1	68.8	71.6	72.1	68.2	+3	-4
Women	43.3	61.7	65.8	69.8	61.2	67.4	67.9	65.7	70.9	74.0	74.7	68.8	73.1	72.2	73.5	73.1	-1	0
Age																		
Under 30	59.1	71.3	72.3	79.9	67.6	73.5	77.6	75.0	76.6	78.0	81.3	79.9	76.7	76.7	78.1	75.2	-3	-3
30–55	44.2	64.8	67.9	72.6	61.8	69.5	69.4	68.8	71.3	69.8	73.2	70.2	74.1	74.1	74.9	73.9	+4	-1
Over 55	37.4	54.8	62.1	65.2	57.4	60.5	61.1	58.2	63.3	67.4	67.8	64.6	65.8	67.6	68.6	65.9	-2	-3
Education																		
Secondary and incomplete secondary	41.7	58.4	57.2	64.8	56.1	62.1	64.6	62.0	64.6	62.5	65.5	64.6	65.6	68.4	70.3	68.4	+6	-2
Secondary vocational	46.4	64.6	66.7	72.1	63.5	66.7	68.3	66.1	70.3	75.2	76.5	71.8	74.8	74.1	73.6	71.4	-4	-2
Higher and incomplete higher	53.3	68.6	77.0	76.7	63.3	71.5	69.5	68.8	72.3	72.3	74.2	71.4	73.4	73.0	74.7	73.1	+1	-2
Income group																		
Bottom 20%	28.4	51.6	51.5	57.2	43.4	54.6	57.0	50.1	53.5	54.8	55.7	55.9	56.9	56.1	58.3	53.3	-2	-5
Middle 60%	45.5	62.9	68.7	72.1	62.6	67.3	68.1	67.4	70.7	73.6	74.2	70.5	72.6	74.4	73.1	73.1	-1	0
Top 20%	64.6	74.9	81.1	82.4	75.6	79.9	78.3	73.9	77.6	78.4	80.6	77.9	81.3	84.1	83.8	84.8	+6	+1
Territory																		
Vologda	49.2	63.1	73.6	71.0	60.9	60.3	59.8	59.6	66.0	67.9	69.6	66.7	68.6	69.5	72.9	71.4	+4	-2
Cherepovets	50.8	68.1	76.2	75.7	60.4	71.0	71.2	68.1	69.8	70.7	73.0	69.9	71.5	72.5	75.0	73.2	+3	-2
Districts	42.2	61.6	59.8	68.6	61.4	67.8	69.5	67.7	70.2	71.0	73.4	70.7	72.7	73.1	71.6	69.3	-2	-2
Region	46.2	63.6	67.3	71.2	61.0	66.6	67.4	65.6	69.0	70.1	72.3	69.4	71.2	71.9	72.9	70.9	+1	-2
Total number of groups: positive changes / no changes / negative changes																	14: 5 / 8 / 1	14: 0 / 12 / 2

RESUME

As the results of the next round of monitoring showed, there were no significant changes in the dynamics of most indicators of public sentiment:

– a high level of approval of the activities of the federal government remains: the President of the Russian Federation – 66–67%, the Chairman of the Government of the Russian Federation – 55%;

– at the same time, there is still a differentiation of assessments in certain areas of the head of state 's activities: the strengthening of international positions is more highly appreciated than the economic recovery and the growth of the welfare of citizens;

– there are no significant fluctuations in the structure of political preferences of citizens, the leading position is occupied by the United Russia Party;

– the positive background of social well-being also remains: the proportion of respondents who rate their emotional state as "normal" or "fine" remains at the level of 70–73%;

– at the same time, the vast majority of the population (84%) retains a high stock of patience and considers life's difficulties to be bearable. We emphasize that the trend toward strengthening this indicator is observed both in the short term and in the annual dynamics.

In our opinion, it is important to note that against the background of the general stability of public opinion assessments on the main monitoring indicators, there is a positive trend regarding people's forecasts about their future. This is indicated by the growth dynamics of the Consumer Sentiment Index (CSI). It is barely noticeable (from February to October – from 84 to 87 points), but it is fixed throughout virtually the entire year 2025.

Among the negative changes, a decrease in positive assessments of social mood among men and the least affluent (according to their own self-assessments) citizens should be highlighted. Such dynamics require close attention, especially due to the fact that in the medium term, with the onset of the autumn-winter period, seasonal factors may put pressure on social well-being: from worsening climatic conditions to higher housing and communal services tariffs, which can have a significant negative impact on assessments, primarily (but not only) socially vulnerable population groups.

Prepared by K.E. Kosygina and I.M. Bakhvalova

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A.D. Kirillova
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