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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).

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EDITORIAL

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"The Constitutional Ban on State Ideology Means a Ban on Revising the Ideological Tenets of Liberalism": What the 30-Year Absence of a State Ideology Leads to

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Abstract. In the article, we continue to reveal the topic related to the problem of liberal ideology, which was actually established in Russia after the adoption of the Constitution of the Russian Federation in 1993, which proclaimed a ban on official state ideology (Article 13). The emphasis is placed on the empirical results of monitoring sociological research, which allow us to see the dynamics of changes in indicators of the intellectual, creative and moral level of Russian society for the period from 1996 to 2024. The study was carried out in the Vologda Region, but a comparison of the data obtained with the results of opinion polls conducted in other regions of the Russian Federation suggests the existence of identified trends in many regions of the country. The analysis has shown that, on average, over the period from 1996 to 2024, the proportion of people interested in various topics about life, such as family, culture, upbringing

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of younger generations, the life of the country and society, etc. decreased by 11 percentage points. The proportion of people who do not tend to engage in creative activities in everyday life has increased by 15 percentage points. The proportion of people experiencing remorse in the case of committing certain immoral acts (deception, rudeness, injustice, etc.) decreased by 8 percentage points. The generalization of expert assessments given in the article indicates that the cause of negative trends is largely the ideology of liberalism, which is based on the ideas of consumerism and money as the leading values in life, the understanding of benefit as the only driving force of social development. Special emphasis is placed on the values and behaviors of the ruling elites, who continue to adhere to the basic tenets of liberal ideology, which, in the context of the special military operation, leads to extremely negative consequences for the country and creates real threats to national security. Some of the ruling elites are still guided by liberal attitudes that contradict traditional spiritual and moral values such as justice, patriotism, and the priority of the spiritual over the material, which are contained in Presidential Decree 809 of November 9, 2022. Therefore, there is a growing need in the expert community and among the general public for a real understanding of the answer to the question "What kind of state are we building?" Our contribution lies in the analysis and interpretation of the database of sociological data accumulated from 1996 to 2024 in the context of current problems of public administration effectiveness.

Key words: ideology, Constitution of the Russian Federation, public opinion, threats to national security, intellectual, creative potential, moral level.

In the previous editorial **"What the 30-year absence of a state ideology leads to: "*The enemy is not only on the other side of the frontline*'"** published in the April issue of the journal Economic and Social Change: Facts, Trends, Forecast[1], the facts and expert opinions reflecting current trends in the development of the situation in the country and in the world were analyzed, which determine the **high and increasing degree of urgency of the problem related to the definition of the ideological vector of national development, and more specifically, the problem of the lack of an official state ideology in Russia.**

The subtitle "The enemy is not only on the other side of the frontline"[2] reflected, perhaps, one of the main consequences of this problem – the **systemic nature of corruption in power**, which is for Russia the most real "internal enemy" in the context of the ongoing war with the "external" enemy – NATO countries.

[1] Ilyin V.A., Morev M.V. (2025). What the 30-year absence of a state ideology leads to: "The enemy is not only on the other side of the frontline". *Economic and Social Changes: Facts, Trends, Forecast*, 18(2), 9–38.

[2] With this quote, acting governor of the Kursk Region A. Khinstein, assessed the situation that unfolded in late 2024 and early 2025 around the activities of the Kursk Region Development Corporation. In December 2024, general director of the Kursk Region Development Corporation V. Lukin, as well as his deputies I. Grabin and S. Martyanova, were arrested. On April 15, 2025, A. Smirnov, former governor of the Kursk Region, and A. Smirnov, former first deputy governor A. Dedov were detained... All of them were connected with the activities of the KRDC, on the basis of which a criminal scheme was organized, which for many years allowed embezzlement of budget funds, including those allocated for the construction of defensive structures. The result of this criminal activity was the invasion of the Armed Forces of Ukraine into the territory of the Kursk Region on August 6, 2024.

The urgency of the problem of the lack of ideology in Russia is due to external and internal reasons.

First, "the aggravation of cultural issues, preservation of the cultural code" ***in the context of the civilizational crisis faced by the world community in the 21st century***"[3].

Second, the fact that "the Russian Federation is facing a civilizational crisis ***not only at the global level*** (associated with a change in the form of the world order, with the transition from a unipolar to a multipolar world and the need to occupy a worthy place in this new world), ***but also at the national level, associated with the incipient exit from the semi-colonial condition, in particular which our country found itself in after the collapse of the USSR in 1991***... Therefore, ***in order to get out of the value-worldview conflict, our country will need value-worldview changes***: within the elites, within the general population, within the state and public policy in all its manifestations (in economy, education, science, culture, etc.)"[4].

One of the key conclusions, summarized in an April article based on expert opinions, was that "***there is no state without an ideology; if a state does not have its own ideology, then someone else will surely take its place***"[5], or, as some analysts point out, "upbringing does not tolerate emptiness. It will definitely be filled in, but the question is by whom? and with what?"[6].

In this issue of the journal, in the editorial, we continue to disclose this thesis, and this time attention is focused on specific empirical data from long-term monitoring sociological studies conducted by the VolRC RAS since 1996, which allow us to clearly see the negative impact of the lack of Russia's own state ideology on trends in intellectual, creative, and moral potentials using the example of the regional community.

The headline "The constitutional ban on state ideology means a ban on revising the ideological tenets of liberalism"[7] reflects the general essence of the research: **Article 13 of the Constitution of the Russian Federation, which has been in force in Russia since 1993 and which prohibits official state ideology, does not just proclaim "ideological diversity"[8], but legislatively enshrines the ideology of liberalism, which contradicts the course of national development aimed at strengthening sovereignty.**

First of all, we should note that, according to many experts, the situation that has developed since the beginning of the special military operation, not only around but also inside Russia, places very special and increased demands on the ruling elites responsible for implementing the objectives of the President of the Russian Federation, including ensuring sustainable growth in the standard of living and quality of life, as well as the security of territories.

And this concerns, first of all, the internal situation in the country, since the actions of the so-called Collective West (the United States, UK and NATO bloc as a whole), which is actually waging a full-scale war with Russia at the hands of the "Kiev regime", are quite understandable and naturally fit into the logic of their publicly announced goals to

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[3] Ilyin V.A., Morev M.V. (2025). What the 30-year absence of a state ideology leads to: "The enemy is not only on the other side of the frontline". *Economic and Social Changes: Facts, Trends, Forecast*, 18(2), p. 20.

[4] Ibidem. P. 25.

[5] Ibidem. P. 33.

[6] Kireev M., Koreneva E., Kireeva N. (2024). The cultural code of Russia and its evolution. *Nauka, iskusstvo, kul'tura=Science, Arts, Culture*, 3(43), 22–35.

[7] Radikov I.V. (2019). The search for ideological orientation in post-Soviet Russia. *Vestnik Moskovskogo gosudarstvennogo lingvisticheskogo universiteta. Obshchestvennye nauki*, 1(834), p. 57.

[8] The Constitution of the Russian Federation. Available at: http://duma.gov.ru/legislative/documents/constitution/

A.A. Prokhanov (writer): "Russia, which is waging a terrible war, needs a wartime army, needs a wartime economy, needs wartime industry, wartime culture, wartime ideology, wartime managers, wartime leaders. **Russia needs a wartime elite capable of leading the country and leading it to Victory. Russia does not have such an elite**. The Russian elite was created by the West, which conquered the country after 1991, and it is a product of the West, like Coca-Cola, jeans, or Broadway musicals"[9].

R.I. Nigmatulin (RAS Academician): **"…the elite itself must be rebuilt: the government elite, the state elite**, all these deputies, and so on. And besides, of course, a cohort of people who are rich, who have huge wealth concentrated on themselves, who consume a lot, fly business jets abroad as before, spend their vacation there, thereby wasting our resources. **All this is as it was, and it remains**"[10].

achieve "Russia's strategic defeat"[11], "defeat Russia on the battlefield"[12]; and declaring our country its enemy in official documents[13].

As for the internal situation in the country, first, a certain number of representatives of the ruling elites, through their specific actions, which are actually revealed on a daily basis by investigative authorities (Insert 1), discredit Russia's entire course toward strengthening national sovereignty, which includes traditional spiritual and moral values formulated in Presidential Decree 809 dated November 9, 2022 "On approval of the foundations of state policy for the preservation and strengthening of traditional Russian spiritual and moral values": "justice", "patriotism", "high moral ideals", "the priority of the spiritual over the material", "collectivism"[15] and so on.

"Law 809 is a turning point. We generally live in a new era. This new era in Russia began on February 24 after the start of the special military operation, which led to huge transformations in the positioning of our country in a global context. **The law "On approval of the foundations of state policy for the preservation and strengthening of traditional Russian spiritual and moral values" is a fundamental point…"**[14]

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[9] Prokhanov A. Russian martin. Available at: https://zavtra.ru/blogs/russkij_marten?ysclid=mcd3l9lbpf301691139

[10] Nigmatulin R. The elite itself must rebuild. Available at: https://dzen.ru/a/ZttL8YPwYEy7MA6N?ysclid=mcbp45zrxh200197138

[11] "*From the point of view of the United States, the ultimate goal is the* ***strategic defeat*** *of Russian President Vladimir Putin*," US Undersecretary of State for Political Affairs Victoria Nuland said on March 9, 2022 (Source: https://russian.rt.com/world/news/973180-nuland-ssha-rossiya).

[12] The fact that "***this war will be won on the battlefield***" was stated on April 9, 2022 by the EU High Representative for Foreign Affairs and Security Policy J. Borrel. Available at: https://www.gazeta.ru/politics/news/2022/04/09/17546431.shtml

[13] For example: H.R. 3364 – Countering America's Adversaries Through Sanctions Act. Available at: https://web.archive.org/web/20171214193452/https://www.whitehouse.gov/legislation/hr-3364-countering-americas-adversaries-through-sanctions-act; Global Britain in a competitive age The Integrated Review of Security, Defence, Development and Foreign Policy. March 2021. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/975077/Global_Britain_in_a_Competitive_Age-_the_Integrated_Review_of_Security__Defence__Development_and_Foreign_Policy.pdf

[14] Dugin A. Tradition and modernity. Speech at the First Siberian Forum of the World Russian People's Council on December 20, 2022. Available at: https://izborsk-club.ru/23673?ysclid=mcbkw4bcvc72439398

[15] Presidential Decree 809 dated November 9, 2022 "On approval of the foundations of state policy for the preservation and strengthening of traditional Russian spiritual and moral values". Available at: http://www.kremlin.ru/acts/bank/48502

Second, these actions lead to the appearance of so-called "black swans"[16], which occur **regularly throughout virtually the entire period of the special military operation[17] and they indicate serious internal failures of the public administration system as a whole.**

In recent days, such "black swans" have been a series of terrorist attacks on railway tracks in the border territories[18] and the cynical AFU Operation Spiderweb – a drone attack on Russian airfields, carried out directly from trucks, which raises many questions about the work of "all our special services"[19].

<u>A. Gurulev:</u> "Let's be honest… By the way, this applies not only to the army, unfortunately, we will have no less in civilian life. But an army is still the price of a human life. After all, the meaning is very simple. If you're the boss and your subordinates tell you lies, I'm sorry, they tell you lies, or you let them tell you lies, let's put it this way, or you want to hear only the good, you'll listen to the good, but it won't be true. **And if that's not true, you won't have the raw data to make decisions about the problems that exist. And without making a decision on the problems that exist, you will drive yourself into a dead end. That's the trouble"[20].**

[16] «Black swans" – "events that initially seem rare, difficult to predict, but after the fact often turn out to be quite logical based on the current situation" (source: Zuikova A. "Black swan" – what is it and how to prepare for it). Available at: https://trends.rbc.ru/trends/futurology/60be57219a794724c40c369a

[17] "Black swans" include:

- ✓ August 20, 2022 – terrorist attack in Moscow, as a result of which Russian journalist and political scientist D. Dugina was killed;
- ✓ September 11, 2022 – retreat of the Russian Armed Forces from the Kharkov Region;
- ✓ November 9, 2022 – retreat of the Russian Armed Forces from Kherson (which, according to political scientist S. Markov, became "Russia's largest geopolitical defeat since the collapse of the USSR and a natural consequence of internal problems related to the Army and ideology" (source: https://wsem.ru/publications/otstuplenie_rossii_iz_khersona_realnye_prichiny_vykhoda_rossiyskoy_armii_iz_khersona_5155/");
- ✓ April 2, 2023 – terrorist attack in Saint Petersburg, as a result of which the military blogger V. Tatarsky was killed;
- ✓ June 24, 2023 – armed coup attempt carried out by head of the Wagner Private Military Company, E. Prigozhin;
- ✓ March 22, 2024 – terrorist attack in Crocus City Hall, which claimed the lives of 149 Russians;
- ✓ April 23, 2024 – arrest of Deputy Defense Minister T. Ivanov;
- ✓ August 6, 2024 – Ukrainian Armed Forces invaded the territory of the Kursk Region;
- ✓ December – April 2025 – detention of persons associated with the activities of the Kursk Region Development Corporation, including ex-governor of the region A. Smirnov (April 15, 2025).

[18] **In two weeks, there were five explosions on the railway in the border regions**: on May 25 in the Belgorod Region, on May 31 in the Bryansk Region, on June 1 in the Bryansk and Kursk regions, and on June 5 in the Voronezh Region (source: https://www.gazeta.ru/social/2025/06/05/21163862.shtml?ysclid=mbotvyibpw670474206).

[19] "**Several Russian military facilities were attacked by kamikaze drones on June 1… The attacks were carried out according to the same scheme: drones took off from trucks equipped as launching pads**. Eyewitnesses reported that the trucks stopped near military installations, and then drones began to fly out of them… Despite the fact that many videos of what was happening were posted on Telegram and social medias, and military personnel reported which specific military facilities were attacked, official sources did not provide detailed information about the emergency. In the late afternoon, the Russian Defense Ministry reported that airfields in the Murmansk, Irkutsk, Ivanovo, Ryazan and Amur regions had been attacked by drones" (source: Mukhin V. The collapse of bridges was followed by a high-profile drone attack. Available at: https://www.ng.ru/armies/2025-06-01/1_9264_attack.html?ysclid=mbouauzyhr222168336).

[20] Gurulev A. Interview on June 14, 2024. Available at: https://www.chita.ru/text/politics/2024/06/14/73698665/

Many experts[21] point to the similarity of Operation Spiderweb with the Israeli drone attack on Iran on the night of June 13, 2025. This suggests that "Israel and Ukraine had the same source of technology… and it is the West that is the scriptwriter and director of this well-planned operation"[22].

1. "State Duma deputy A. Gurulev regarded attacks with trucks and drones, including in Siberia, as ***"a failure of all our special services".*** He said that the special services should find out how the truck, where the drones were, was able to reach its destination in the Irkutsk Region, "carry out investigation from all sides, and draw conclusions".

2. Military expert V. Shurygin, author of "Ramzai" Telegram channel, commenting on the attack, said that more than three years after the start of the military operation in Ukraine, Russian airfields, for the most part, "still do not have protected caponiers and concrete shelters for aircraft, air defense systems of most airfields remote from the SMO zone are primitive and do not meet the current threat level"[23].

3. Yu. Knutov (military expert): "***It has been known for a long time that the drones attacking us are launched from the territory of Russia. Opponents could disguise as volunteers and purchase and assemble them, ostensibly to send them to the front… The containers were also made in Russia***, because such cargoes coming from abroad are screened using X-ray inspection equipment, and the strange filling, of course, would have been immediately detected…"[24]

4. A. Salin (Chairman of the Presidium of the Astrakhan Regional Branch of the Officers of Russia organization): "***What happened in the Murmansk and Irkutsk regions is over the top***. This should not be allowed in the future… We, veterans of military operations on the ground, have long been calling ***for tougher actions inside the country***. What is it about? ***We need to ask officials responsible for security and important strategic facilities more harshly***… If officials, prosecutors, and police officers do not perform their duties, they should be fired, and those who are able to fulfill their tasks should be hired instead"[25].

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[21] For example: philosopher A. Dugin (source: Operation Spiderweb was repeated. But everything turned upside down (interview with A. Dugin). Available at: https://dzen.ru/a/aEyiuGSZYHY828nz?ysclid=mbynu7223e142707617), Member of the Human Rights Council under the President of the Russian Federation A. Akhmedova (source: Ivanov A. Unprecedented attack by the Jewish state on our ally Iran. Available at: https://zavtra.ru/events/bespretcedentnoe_napadenie_evrejskogo_gosudarstva_na_nashego_soyuznika_iran).

[22] "Israel and Ukraine have the same source": it turned out why Operation Spiderweb was repeated in Iran (opinion of military expert, senior researcher at the Center for Analysis of Strategies and Technologies Yuri Lyamin). Available at: https://www.mk.ru/politics/2025/06/13/u-izrailya-i-ukrainy-odin-istochnik-vyyasnilos-pochemu-operaciya-pautina-povtorilas-v-irane.html?ysclid=mbyn5qgm1a317825354

[23] How trucks with drones were able to get close to military airfields in Russia. Available at: https://dzen.ru/a/aD3YXmgYIDFEVlQv?ysclid=mbouewsvsc155302776

[24] The expert spoke about the fight against attacks on military airfields. Available at: https://vz.ru/news/2025/6/1/1335975.html

[25] What lessons should Russia learn from Operation Spiderweb? Available at: https://sevastopol.su/news/kakie-uroki-rossii-sleduet-izvlech-iz-operacii-pautina

Insert 1

Facts of the detention and arrests of representatives of the ruling elites in May – June 2025

May 12 – head of the Ministry of Transport of Buryatia was detained on charges of corruption.
May 13 – The Federal Security Service of Russia for the Rostov Region detained the head of the Novocherkassk administration, Yu. Lysenko, on suspicion of taking a bribe.
May 14 – The Federal Security Service of Russia for the Kemerovo Region announced the detention of the deputy head of the Siberian Department of the Federal Service for Environmental, Technological and Nuclear Supervision (Rostekhnadzor), Viktor Brodt, in a bribery case.
May 14 – head of the Migration Department of the Main Directorate of the Ministry of Internal Affairs of Russia for the Rostov Region, and head of one of the sections of the department became defendants in the criminal case. They helped 18 citizens of a foreign state who did not speak Russian or know the history and legislation of Russia to keep their work permits, thus creating conditions for their illegal stay in the country.
May 15 – Rostov-on-Don's Leninsky District Court arrested Novocherkassk Mayor Yuri Lysenko for two months in a bribery case.
May 15 – Kaluga Region's Deputy Head of the FSIN Regional Directorate was arrested on suspicion of accepting a bribe.
May 21 – Former Deputy Governor of Tambov Region S. Ivanov was arrested in connection with the bribery case of Rusagro founder Vadim Moshkovich.
May 22 – Former Vice Governor of Krasnodar Region A. Nesterenko was arrested on suspicion of abuse of office.
May 27 – head of the state-owned institution "Capital Construction Department of the Government of Buryatia" was arrested. He is suspected of committing a crime under paragraph "e" of Part 3 of Article 286 of the Russian Criminal Code (abuse of office committed out of other personal interest).
May 28 – First Deputy Minister of Natural Resources of the Krasnodar Territory was detained on suspicion of large-scale fraud. Between August and September 2023, the suspect received 3.8 million rubles from a resident of Kurganinsky District through an acquaintance.
May 29 – head of the non-departmental security service of the Russian Guard for the Novosibirsk Region, R. Kurbanov, was arrested on suspicion of receiving a bribe.
May 29 – director of the center for taking exams (in Russian language, Russian history, and the fundamentals of Russian legislation) from foreigners was detained in Yekaterinburg. He gave migrants the correct answers for money. Eight more people were also detained for helping foreigners obtain fictitious registration.
June 4 – general director of RusKhimtreyd, Evgeny Gerasimov, and commercial director of PJSC Khimprom, Alexey Fedotov, were detained on suspicion of illegal actions related to professional activities. Gerasimov served as Minister of Industry and Energy of Chuvashia from September 2020 to the end of August 2021.
May 12 – head of the Ministry of Transport of Buryatia was detained on charges of corruption.
June 9 – Krasnoyarsk Mayor Vladislav Loginov was detained. According to the investigation, the official received more than 180 million rubles in cash and payment for the construction of a bathhouse, in exchange for ensuring the victory of a commercial organization in tenders for the repair of city roads.
June 11 – director of the Oryol branch of JSC Rosselkhozbank M. Shikhman was detained on suspicion of abuse of office and illegal transfer of €2.4 million abroad. Rosselkhozbank suffered damages of over 167 million rubles.

V. Shurygin (military expert): “The situation requires ***extraordinary measures*** from the country’s leadership and special services. It is necessary to ***create a powerful special service on the basis of the main directorate for counterterrorism, modeled on Stalin’s Smersh during the Great Patriotic War, with the broadest powers”***[26].

O. Nilov (State Duma deputy): “Only capital punishment can somehow prevent and minimize the threat of terrorist attacks. ***Smersh must be returned, especially at such a time***”[27].

A. Gurulev (State Duma deputy): ***“It’s time to recreate Smersh. We need to pick up the documents, register everything. The State Duma is able to pass a law in a day”***[28].

I. Korotchenko (editor-in-chief of Natsionalnaya oborona magazine): **“We need a new SMERSH**. The functions and powers of the FSB in the border and new regions of the Russian Federation **need to be expanded to counter the intelligence and sabotage activities of the Kiev regime”**[29].

The facts presented in *Insert 1* clearly show that some of the ruling elites still live according to the liberal paradigm of the past decades, in which material gain and personal success are more important than traditional spiritual and moral values. And the ongoing terrorist attacks and the continuing questions among experts about the work of the management system as a whole are a logical consequence of connivance, negligence, and in the worst case, direct sabotage of the instructions of the head of state by such representatives of the public administration system.

Obviously, this is a matter of culture, worldview and values of the ruling elites responsible for the practical implementation of the goals and objectives of national development formulated by the President.

“It is important to note that the ruling elite de facto controls all branches and authorities. It can adopt any laws and interpret those already in force as it sees fit... It is difficult to recall that new norms were blocked by any institution, including the Constitutional Court. It is also difficult to recall that the provision of the Basic Law actually prevented the introduction of a new ban”[30].

[26] The specifics of the SMO: Is Russia ready for the revival of Smersh? Available at: https://topcor.ru/34776-specifika-svo-gotova-li-rossija-v-vozrozhdeniju-smersh-2.html

[27] Khomyakov V. “Russia is reviving Stalinist structures”: Who will the new Smersh catch. Available at: https://tsargrad.tv/articles/rossija-vozrozhdaet-stalinskie-struktury-kogo-budet-lovit-novyj-smersh_943102

[28] Ibidem.

[29] Korotchenko I. We need a new “SMERSH”. Available at: https://t.me/igor_korotchenko/23148

[30] On the possibility of new constitutional amendments. Available at: https://www.ng.ru/editorial/2025-05-21/2_9257_red.html

> **“The fact that the Security Council has raised the issue of preserving traditional values suggests that they are under serious attack”[31].**

This is largely why the head of state pays special attention to the systematic implementation of state policy aimed at protecting traditional values and strengthening the moral foundations of Russian society[32]. On June 10, 2025, in its continuation, the President held a Meeting of the Security Council of the Russian Federation, the agenda of which included *“issues of improving state policy in the field of protection of traditional spiritual and moral values ...”*. As Vladimir Putin noted, this is *“an extremely significant and relevant topic*, ***directly related to ensuring Russia’s sovereignty and national interests***”[33].

During the meeting, as some experts emphasized, the President actually “***demanded*** *legislative protection of traditional values*”[34]. Vladimir Putin noted that Russia needs not only to “*resist attempts to impose attitudes that destroy our values on our citizens, especially young people...*” but also to “***consistently and actively promote our values, form our humanitarian and cultural meanings that are in demand both in the country and in the world***”[36].

> “In the modern world, the value and semantic space is subject to fierce competition... neoliberal, so-called neoliberal, and essentially, in practice, totalitarian models are being pushed through. Moreover, they are not only being persistently introduced in a number of Western countries, they are **actively trying to export them all over the world and impose them. And it’s clear why. Because by depriving peoples of their value base, depriving them of sovereignty, it is easier to subjugate them, turn them into vassals”**[35].

Indeed, as the results of monitoring management decisions show, the President, the Government, and the State Duma are actually taking measures on a daily basis aimed not only at improving the safety and socio-economic support of the general population, but also at improving the spiritual and moral atmosphere in society – to combat the negative influence of foreign agents, to introduce educational elements in the educational process, the gradual replenishment of management personnel by former members of the SMO, etc. (*Insert 2*).

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[31] A. Dugin’s speech at Radio Sputnik on June 11, 2025. Available at: https://radiosputnik.ru/20250611/dugin-1978615534.html?ysclid=mc0aom4ief908940539

[32] Other, most important management decisions in this area include:

- ✓ Presidential Decree 809, dated November 09, 2022 “On approval of the foundations of state policy for the preservation and strengthening of traditional Russian spiritual and moral values” (the decree lists traditional spiritual and moral values);
- ✓ Presidential Decree 35, dated January 25, 2023 “On amendments to the fundamentals of state cultural policy, approved by Presidential Decree 808, dated December 24, 2014” (the concept of “cultural sovereignty” is enshrined in the legislation);
- ✓ Presidential Decree 229, dated March 31, 2023 “On approval of the concept of foreign policy of the Russian Federation” (Russia is proclaimed a “civilization state”);
- ✓ Presidential Decree 314, dated May 08, 2024 “On Approval of the fundamentals of the state policy of the Russian Federation in the field of historical education” (a unified methodology for teaching history is being created, starting from kindergartens and ending with universities).

[33] Meeting of the Security Council of the Russian Federation on June 10, 2025. Available at: http://www.kremlin.ru/events/president/news/77160

[34] Rodin I. Putin demands legislative protection of traditional values. Available at: https://www.ng.ru/politics/2025-06-10/3_9271_security.html?ysclid=mbtfbda54q867917249

[35] Meeting of the Security Council of the Russian Federation on June 10, 2025. Available at: http://www.kremlin.ru/events/president/news/77160

[36] Ibidem.

Insert 2

The monitoring of regulatory legal acts (laws, decrees) signed by the RF President in the period from April 21to June 21, 2025[37]

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

April 21 – Federal Law 99 "On Amendments to Certain Legislative Acts of the Russian Federation". The law is aimed at improving measures to ensure the safety of protected facilities in order to protect against threats associated with the use of unmanned vehicles. State authorities, organizations and persons authorized by law to prevent the presence of unmanned aircraft in the airspace are allowed to place and use facilities, installations and devices designed for such suppression in the appropriate subzone of the airfield territory of the airport. In addition, the law unifies the provisions on the responsibility of private security guards, departmental security personnel and transport security units for their use of physical force, special means or firearms in excess of their powers, extreme necessity or necessary defense.

April 21 – Federal Law 102 "On Amendments to Article 2056 of the Criminal Code of the Russian Federation". The law is aimed at improving the effectiveness of the system for detecting, preventing and suppressing criminal activities carried out in order to undermine the foundations of the constitutional order, the country's defense capability and State security. In this regard, criminal liability is established for failure to report to the authorities authorized to consider reports of a crime about a person(s) who, according to reliably known information, is preparing, committing or has committed at least one of the crimes related to sabotage activities.

May 8 – Decree 300 "On additional social guarantees for family members of military personnel, employees of some federal government agencies and citizens staying in volunteer formations". Family members of military personnel, employees of some law enforcement agencies and citizens staying in volunteer formations have been granted the right to receive free admission to a sanatorium-resort organization to which these persons are sent for medical rehabilitation after treatment due to injury (wounds, injuries, concussions) or illness while performing tasks during the special military operation. Accompanying family members of these categories of citizens also receive the right to free travel to a medical (sanatorium) organization.

May 23 – Federal Law 103 "On Amendments to Article 71 of the Federal Law on Education in the Russian Federation". Special rights are granted to children of military personnel, employees of federal executive authorities and federal government bodies in which military service is provided by federal law, employees of internal affairs bodies of the Russian Federation, employees of the penal enforcement system when applying for bachelor's and specialist degree programs at the expense of budget allocations from the federal budget, budgets of constituent entities of the Russian Federation and local budgets of the Russian Federation, who participated in military operations on the territory of the Russian Federation in accordance with the decisions of the state authorities of the Russian Federation.

May 23 – Federal Law 113 "On Amendments to Article 56 of the Law of the Russian Federation 'On Pension Provision for Persons who have completed Military Service, Service in Internal Affairs Bodies, the State Fire Service, Bodies for the Control of Trafficking in Narcotic Drugs and Psychotropic Substances, Institutions and Bodies of the Penal system, the troops of the National Guard of the Russian Federation The Russian Federation, the enforcement authorities of the Russian Federation, and their families'". The law is aimed at reducing the time of payments to pensioners and their family members by improving the procedure for executing the federal budget through the use of treasury technologies (a mechanism for direct payments by Federal Treasury bodies through the Mir national payment system to pensioners' bank cards).

[37] 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).

Continuation of Insert 2

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

April 21 – Federal Law 89 "On Amendments to Article 4 of the Federal Law on Control over the Activities of Persons under Foreign Influence". The list of activities, the implementation of which is one of the elements of the status of a foreign agent, is being supplemented. In particular, a person who has received support and (or) is under foreign influence in other forms may be recognized as a foreign agent if such a person assists in the execution of decisions of international organizations in which the Russian Federation does not participate, or foreign government agencies if they are directed against the security of the Russian Federation, in the case of the involvement of minors in the activities provided for by the provisions of the Federal Law "On Control over the Activities of Persons under Foreign Influence", and in the case of financing all the listed activities.

April 21 – Federal Law 90 "On Amendments to the Criminal Code of the Russian Federation and Article 31 of the Code of Criminal Procedure of the Russian Federation". It provides for increased criminal liability for discrediting the use of the Armed Forces of the Russian Federation for mercenary motives or for hire, calls for the introduction or extension of sanctions against the Russian Federation and assistance in the implementation of decisions of international organizations in which the Russian Federation does not participate, or foreign government agencies on the criminal prosecution of officials of public authorities of the Russian Federation and others. persons for purposes contrary to the interests of the Russian Federation. Property obtained as a result of the commission of such crimes, as well as used or intended for their financing, will be subject to confiscation on the basis of a guilty verdict.

April 21 – Federal Law 100 "On Amendments to the Federal Law 'On Education in the Russian Federation' and Articles 9 and 11 of the Federal Law 'On Control over the Activities of Persons under Foreign Influence'". A number of measures are being established aimed at further improving the mechanism for monitoring the activities of persons under foreign influence. In particular, it provides that a foreign agent is not entitled to carry out teaching activities in state and municipal educational organizations and (or) educational activities in relation to both minors and adults. In addition, foreign agents are prohibited from entering the governing bodies of State corporations. It also stipulates that a non-profit organization that is a foreign agent cannot be included in the register of socially oriented non-profit organizations.; It provides for the inadmissibility of providing municipal financial and other property support to a foreign agent, including in the implementation of his creative activities.

April 21 – Federal Law 101 "On Amendments to Article 247 of the Criminal Procedure Code of the Russian Federation". It is established that criminal proceedings can be conducted in cases of certain minor and moderate crimes in the absence of the defendant, if such acts are aimed at undermining the foundations of the constitutional order, the country's defense capability and the security of the Russian Federation, and the defendant is outside the territory of the Russian Federation and (or) evades court appearance.

May 19 – Decree 335 "On State Monitoring of Harm Caused to the Russian Federation, Subjects of the Russian Federation, the Federal Territory of Sirius, Municipalities, Individuals and Organizations by Foreign Sources". The Prosecutor's office is responsible for state monitoring of harm caused by foreign sources. We are talking about the harm caused to Russia, its subjects and municipalities, to the life, health and property of individuals, to the property of organizations (except damage from sanctions in the financial sphere) by unfriendly states and territories and persons acting in their interests.

End of Insert 2

MEASURES TO PROVIDE SOCIO-ECONOMIC SUPPORT TO THE GENERAL POPULATION, STRENGTHEN THE COUNTRY’S ECONOMY, INCLUDING IN THE INTERNATIONAL ARENA

May 23 – Federal Law 105 “On Amendments to Certain Legislative Acts of the Russian Federation”. A multi-level system is being established to counteract the legalization (laundering) of proceeds from crime, the financing of terrorism, extremist activities and the financing of the proliferation of weapons of mass destruction when individuals and legal entities carry out operations with digital rubles on the digital ruble platform. The main responsibilities for countering these criminal acts are assigned to the operator of this platform (the Bank of Russia).

June 7 – Federal Law 131 “On Amendments to the Federal Law “On Additional Measures of State Support for Families with Children’”. Registration of persons entitled to maternity capital will now be conducted in GIS “Unified centralized digital platform in the social sphere”. The deadline for reviewing an application for the disposal of maternity capital’s funds has been reduced from 10 to 5 working days, the deadline for the authorized body to consider requests from the SFR and send responses to it from 5 working days to 48 hours, and the deadline for the Fund to make a decision in case of non–receipt of the requested materials from 20 to 12 days. The right to the parent capital will be transferred to the legal successors (the father or the children themselves) in a proactive (undeclared) manner in the event that the certificate holder ceases to have such a right due to death, deprivation of parental rights, restriction in them and in other cases. Previously, this approach was used only for the initial provision of maternity capital.

However, all these efforts are largely designed for the future, and in the present, experts are paying attention to the growing disagreements and contradictions in the ruling elites.

“**The economic differences between the government and the Central Bank manifested themselves like never before, in 2025** at the St. Petersburg International Economic Forum (SPIEF). **At the same time, both the leadership of the Central Bank and the ministers relied on their theses that clearly contradict the facts of the current economic reality.** Head of the Central Bank Elvira Nabiullina stated the need to create a new economic model in Russia, which the ministers loudly objected to. In addition, the ministers suggested that the Central Bank reassess its faith in the 4% annual inflation targets...

There were also contradictory assessments of the current situation in the Russian economy at the SPIEF. “In terms of numbers, we have cooling. **But for us, all our figures are a rearview mirror**. According to the current business sentiment, we already seem to be on the verge of going into recession”, the head of the Ministry of Economic Development said. However, the head of the Central Bank claims that the economy is “cooling down”...

Observers may also have questions about the arguments of the participants in the discussion. **Thus, Nabiullina claims that in the Russian Federation “the production capacities and the capital reserve of the banking system are really exhausted”.** But what kind of exhaustion of production capacity can we talk about if factories are shutting down in the country, production is declining and the number of facilities starting construction is falling? What kind of exhaustion of the “capital of the banking system” can we talk about if lending is restrained manually due to the so-called macroprudential prohibitions?

Siluanov’s claims that “Russia is growing by 4% plus” also raise questions. The planned GDP growth rate this year is 2.5%. The current GDP growth is about 1.4%. According to the Central Bank’s forecast, GDP growth in the last quarter of 2025 could reach zero percent”[38].

And in this regard, there are more and more calls for the head of state to amend Article 13 of the Constitution of the Russian Federation, which bans official state ideology. Moreover, we should note that these calls were made even before the start of the SMO, and they come not only from reputable experts, but also from representatives of the public administration system (including the Presidential administration).

[38] Sergeev M. Fundamental differences between the government and the Central Bank surfaced at SPIEF 2025. Available at: https://www.ng.ru/economics/2025-06-19/4_9276_inflation.html

For example:

1. May 12, 2021 – I. Volynets (Commissioner for Children’s Rights in Tatarstan) on the shooting at the Kazan school on May 11, 2021: “The main reason for what happened is the absolute absence of state ideology in the country”[39].

2. May 16, 2021 – A. Sergeev (President of the Russian Academy of Sciences): “Serious problems remain in school education in Russia, and one of them is the lack of ideology”[40].

3. June 20, 2022 – S. Novikov (head of the presidential office for ensuring the activities of the State Council), at a meeting with classroom teachers, urged “not to be shy about the word ‘ideology’”, which Russia was urged to abandon in the post-Soviet period: “Now it is clear that it was a technique. We were told that your country should not have an ideology. And as a result, we got a whole generation completely de-ideologized, which drew these ideological attitudes from other parts of the world. As a result, we have people who are ideologically lost”[41].

4. May 11, 2023 – K. Chuychenko (head of the Ministry of Justice): “Of course, we will have to resolve the issue with the article of the Constitution, which states that we have neither a state nor a mandatory ideology (Part 2 of Article 13 of the Basic Law of Russia)... in principle, no country in the world has such provisions in its Constitution. Only Russia at one time, on the advice of our so-called partners, assumed these increased obligations”[42].

5. November 22, 2023 – Aleksandr Bastrykin (head of the Investigative Committee of the Russian Federation): “It is necessary to formulate the state ideology and goals of Russian society and consolidate them in the Basic Law of the country... Of course, it should be a slow job. But to go... along the path of defining the prospects for our development without enshrining these prospects in the Constitution.... I think it is necessary.... You can’t just dismiss it”[43].

6. June 7, 2024 – S. Karaganov (Doctor of Sciences (History), political scientist, economist, public figure): “... a great state cannot exist without a national ideology, without a great idea. States that lost their national idea and national ideology inevitably collapsed. The world is littered with the graves or shadows of such states... Why are we afraid to introduce a unified state ideology, mandatory for all those who want and are ready to serve the state and society...?”[44]

“The lack of ideology”, as many analysts point out, “is very beneficial for some segments of society”[45]. Perhaps that is why, in part, the issue of introducing new amendments to the text of the Basic Law is blocked at the discussion level.

[39] The Ombudsman spoke about the relationship of the Kazan shooter with his parents. Available at: https://www.rbc.ru/rbcfreenews/609b074f9a79475e7a15e176

[40] The President of the Russian Academy of Sciences called the lack of ideology a problem of schools. Available at: https://www.rbc.ru/society/16/05/2021/60a0ed049a794785b8cf4647?from=article_body

[41] Vinokurov A. Ideological pricing. Available at: https://www.kommersant.ru/doc/5422483

[42] The head of the Ministry of Justice called for resolving the issue of the ban on state ideology in the Constitution. Available at: https://www.rbc.ru/politics/11/05/2023/645ce8869a7947ffdeaed6a3

[43] Bastrykin called for the state ideology to be written in the Constitution. Available at: https://www.rbc.ru/politics/22/11/2023/655db8f39a7947609f6e6b9e?ysclid=mbw9ft2qx5125649289

[44] The plenary session of the St. Petersburg International Economic Forum on June 7, 2024. Available at: http://www.kremlin.ru/events/president/news/74234

[45] Prosfor O. The battle for ideals: our right to win. Available at: https://rusvesna.su/news/1649873378?utm_source=yxnews&utm_medium=desktop&utm_referrer=https%3A%2F%2Fdzen.ru%2Fnews%2Fby%2Fstory%2Fc5d833a4-0bae-5f17-8795-65c9402041e9

1. D. Ayatskov: *"**The elites cannot abandon the liberal ideology, because only manipulations with so-called liberal values ensure their position in power and the preservation of acquired property**.... As long as there is a possibility of redistributing the remnants of property between different clans within the elites ... the sustainability of the political course toward national revival is questionable"*[46].

2. State Duma deputy speaker Pyotr Tolstoy said that the amendments made to the Basic Law in 2020, in his opinion, are unlikely to be the last. The deputy suggests taking into account *"the circumstances in which our current Constitution was written"*. Tolstoy believes that the new changes may be *"much more significant than those that we discussed five years ago"*.

Some have raised objections to what the deputy speaker said. Senator Andrei Klishas said that he respects colleague Tolstoy, but urges him to *"live under the current version of the Constitution"*. Deputy Pavel Krasheninnikov agreed with Klishas: in his opinion, the Basic Law meets the realities of the time and is *"written well enough"*... Dmitry Peskov, press secretary of the President of the Russian Federation, also had to react to Tolstoy's words. He stated that new amendments *"were not on the agenda"*[47].

N.S. Mikhalkov, a well-known Russian film director and public figure, showed in his speech at the plenary session of the State Duma on June 17, 2025, how initiatives aimed at strengthening the country's cultural sovereignty are blocked "effectively" and unnoticeably on the sidelines of the government.

Excerpt from N.S. Mikhalkov's speech at the plenary session of the State Duma on June 17, 2025:

"I want to give you one example. Here's just an example. My fellow filmmakers have urged me to ask the President for quotas for American cinema in defense of our cinema....

What was in this letter that I wrote at the suggestion of my comrades? The letter proposed quotas for Hollywood movies. The entrance fee for reviewing the submitted film in Russia costs 5 million rubles, and 10% of the rental goes to refinance the national cinema. In addition, it was proposed to organize the principle of a "single window" for entry into the Russian film distribution market, created by Presidential Decree 378, dated June 28, 2021. In addition, in order to avoid the penetration of unnecessary content onto the screens through insignificant private film distribution companies, such companies as Gazprom Media Holding and the National Media Group, controlled to some extent, to varying degrees by the state, should be identified as the largest film distributors. Why? Because the market share of these two companies was 47.2% by the end of 2024.

***This letter was written on March 1, 2025. It received the following resolution: "Please support the idea. We need to take measures to protect the market in advance, even before competitors start returning. Work it out and report back". This is written to Vladimir Medinsky**.*

[46] Ayatskov D. Consciousness of the elites. Available at: https://zavtra.ru/blogs/soznatel_nost_elit

[47] On the possibility of new constitutional amendments. Available at: https://www.ng.ru/editorial/2025-05-21/2_9257_red.html?ysclid=mbwd33q7m0765063660

What happens next? A day later, this letter ends up on Medinsky's desk. A week after any meetings, a document is prepared. The Presidential Administration and the Ministry of Culture approve this document, this idea, and it is sent to the Government, to the structures in charge of culture. What happens next? Then this document is sent to eight different organizations for consultation. But the most interesting and most important thing is that this document is being sent without the first page of my letter, which contains the President's resolution. And this document ceases to be supported by the President. It becomes a private initiative of some people due to the fact that "some movie", "something like that". Why? What for? This resolution says: "I ask you to do it faster, before the competitors come". Today is June 17th. And it just kind of hung like that...

It is wrong to deprive this idea of the President's support that has already been received. But this is wrong. That is, ***for anyone who received this paper, it is insignificant, because they do not know that it is supported by the President***"[48].

As the experts emphasized, it is very important that people like N.S. Mikhalkov, who *"was not afraid to tell the truth to the deputies of the State Duma"*[49], they have the opportunity to speak in Parliament. But the fact remains that the above example clearly demonstrates a situation where the motives of "personal gain" turn a "correct understanding of strategic prospects" into an "imitation", which hinders the course of national development toward strengthening sovereignty.

The above examples and facts allow us to agree with the Chairman of the Communist Party of the Russian Federation G.A. Zyuganov that neoliberalism in the public administration system *"continues to creep out of all cracks"*, leading to hidden crises in the party of power and hidden socio-political tension in society. And this situation has a long history, going back to the era of the 1990s.

O. Belikov: "The well-known director Nikita Mikhalkov **was not afraid to tell the truth to the deputies of the State Duma**, raising hot topics, starting with the thievish privatization of the 1990s and ending with the extinction of Russians, abortions, and the return of the death penalty. He drew the attention of the people's deputies to the fact that **the fighters who returned with a Victory will start asking questions – and it's better if we have the necessary answers**"[50].

S. Mikheev: "Nikita Mikhalkov addressed the deputies in the State Duma. It was a conversation between a respected person and other respected people **who somehow look at life differently**...

Mikhalkov spoke to the deputies: "Why don't you do it? Don't you see or don't you notice?"... **It's good that he was allowed to make such a speech in the State Duma. The answer to Mikhalkov's question is simple: when there is nothing in the soul, when there is no true faith and conviction in the truth, then two factors remain. The first: personal gain; the second: the command "from above".** This is a question of imitation and proper understanding of strategic perspectives"[51].

[48] N.S. Mikhalkov's speech at the plenary session of the State Duma on June 17, 2025. Available at: http://duma.gov.ru/news/61632

[49] Nikita Mikhalkov was not afraid to tell the truth to the deputies. SMO fighters supported him from the trenches (opinion of the military observer of Tsargrad O. Belikov). Available at: https://tsargrad.tv/dzen/nikita-mihalkov-ne-pobojalsja-skazat-pravdu-deputatam-bojcy-svo-podderzhali-iz-okopov_1290256

[50] Ibidem.

[51] Mikheev S. About Mikhalkov's speech in the State Duma. Available at: https://dzen.ru/a/aFRipUrW1FyULBB9?ysclid=mcd4ebnl1o955672720

Excerpt from the report of Chairman of the Central Committee of the Communist Party of the Russian Federation G.A. Zyuganov on June 18, 2025:

"Socio-political tension is largely hidden from view. It is hidden like an electrical wire under a protective coating. But the load is increasing, and the control mechanisms are wearing out...

The crisis of the ruling party is not obvious to many. But it is hard not to see it, being vigilant. Then the demagogic approach to state affairs will become visible. And the unpredictability of the results in the implementation of many initiatives. And the outright destruction of the electoral system. The unhealthiness of the situation is manifested in the clash of oligarchic groups, in the discrepancy between the patriotic and comprador "towers". It is clearly visible in the scale of corruption, in the cynicism of officials who express the interests not of the country and the people, but of large financial and industrial groups. **All of this has the potential of enormous destructive power, and it is becoming a national threat. This is the reality behind the facade of imaginary "solidity"...**

The criminal acts of the Yeltsin-Chubais-Gaidar comprador clique were inspired by this ideology [neoliberalism]. It is still used today by her cynical outspokenness. Neoliberalism continues to creep out of all cracks. It makes itself felt in calls for new privatization, in the mocking rate of the Central Bank, in our cultural and educational losses. All this is a continuation of a long-standing dispute in Russian history"[52].

Indeed, those representatives of the ruling elites who pose an immediate threat to national security do not appear out of nowhere. **It is a "product" of society and social development "originally from the 1990s". And if they continue to exist today, it means that appropriate favorable conditions have been created for this in the public administration system and in the country as a whole.**

In this context, we should recall that the Constitution of the Russian Federation of 1993 (in which Article 13 on the prohibition of ideology first appeared) was developed and adopted in very special conditions for the country – after the collapse of the USSR, which symbolized the end of the Cold war, the disappearance of Soviet communist ideology, and the establishment of a new era of a unipolar world with a dominant position of the winner, the United States of America.

The adoption of the first RF Constitution cannot be considered outside the context of these global geopolitical changes, since the Basic Law of the Russian Federation, in fact, has become **one of the tools for the Americans to implement the "soft power" method**, applied in order to prevent the global "red project" from ever returning to the world stage.

An excerpt from the book Autopsy on an Empire by J. Matlock, U.S. Ambassador to the USSR: *"If we were to attribute the collapse of communist rule in the Soviet Union to one person, we would have to name Mikhail Gorbachev. ...* ***However, the script was written in Washington****"*[53].

It is no coincidence that there is currently a lot of evidence that Americans (or rather, specialists from the United States Agency for International Development (USAID)) were directly involved in the preparation of the text of the Constitution of the Russian Federation in 1993...

[52] Political report of the Central Committee of the Communist Party of the 19th Party Congress. Report by Chairman of the Central Committee of the Communist Party of the Russian Federation G.A. Zyuganov on June 18, 2025. Available at: https://kprf.ru/party-live/cknews/235430.html

[53] Goncharov A. Anatomy of treason. Available at: https://zavtra.ru/blogs/anatomiya_izmeni?ysclid=mbyuflue7m673551914

1. "USAID-funded executors helped develop the Russian Constitution, Part I of the Civil Code of the Russian Federation and the Russian Tax Code"[54].

2. "The basic code of laws of Russia was created in 1993 at a difficult time for the country. It is founded on the constitutions of other Western countries, which is the norm for new, developing countries. The consultants were foreign experts and companies"[55].

3. "In the volumes of the official transcripts of the working group on writing the Constitution, there is not a single mention of Americans and their participation in writing it.... However, there is a large section on the foundation's website: "USAID in Russia". We are now talking about "past achievements". So there we quite openly read: "The USAID-funded Rule of Law implementers helped draft the Russian Constitution, Part I of the Russian Civil Code, and the Russian Tax Code". "USAID funded the observance of legality in the work of the executors involved in the drafting of the Constitution of the Russian Federation, Part I of the Civil Code of the Russian Federation, as well as the Tax Code of the Russian Federation"[56].

Article 13 of the 1993 Constitution of the Russian Federation stated that "*in the Russian Federation ideological diversity shall be recognized. No ideology may be established as state or obligatory one*". However, according to experts, the allegations about the absence of an official state ideology in the country **have always been and are "crafty", since ideology is "an indispensable attribute of the existence of the state as a form of life of a political nation"**. Therefore, the constitutional ban on state ideology, established in Russia in 1993 (no matter how correct and convincing the motives were), in fact meant **"a ban on the revision of the ideological postulates of liberalism" or, in other words, the <u>consolidation of the ideology of liberalism in latent form in the Basic Law of the country</u>.**

I.V. Radikov (Doctor of Sciences (Politics), Professor, St. Petersburg State University): *"... the Constitution of the Russian Federation (Article 13), consolidated the course toward de-ideologization: it proclaims that no ideology can be established as state or mandatory... At the same time, the presence of ideology as a system of socially significant ideas and values, both in official* ***and latent formalization, is an indispensable attribute of the existence of the state as a form of life of a political nation;*** *therefore, statements about the absence of a state ideology* ***have always been and still are very crafty...***

Obsessed with the idea of rapidly entering the Western world, the authors of the Russian Constitution, by including in it a ban on the establishment of a generally binding and state ideology as a political and philosophical doctrine, actually allowed the values of liberal ideology to be introduced into the structure of the Constitution as generally binding, ignoring other ideological guidelines... ***As a result, the "new", "hidden" ideology becomes a real, state ideology without being called official"***[57].

[54] Being "more American" than the Americans themselves: Russia's subordination to the West in the Constitution was invented by Yeltsin's "demographic franchise" (political scientist M. Sinelnikov-Orishak). Available at: https://tsargrad.tv/news/amerikanistee-samih-amerikancev-podchinenie-rossii-zapadu-v-konstitucii-pridumala-elcinskaja-demshiza-politolog_239442

[55] The Constitution of the Russian Federation was written under foreign influence. Available at: https://kpfu.ru/isfnmk/struktura/otdeleniya/massovyh-kommunikacij/faktcheking/konstituciya-rf-napisana-pod-inostrannym.html

[56] Starikov N. How Russia was "helped" to write the Constitution. Available at: https://nstarikov.ru/kak-rossii-pomogali-pisat-konstit-35328

[57] Radikov I.V. (2019). The search for ideological orientation in post-Soviet Russia. Vestnik Moskovskogo gosudarstvennogo lingvisticheskogo universiteta. Obshchestvennye nauki, 1(834), p. 56.

Moreover, we should emphasize that this "latent" ideology of liberalism was adopted by the elites (political, economic, cultural), but was never accepted by the broad strata of Russian society.

*"The **latent ideology** adopted by the reformist "elite", which ignores Russian traditional values and morals and **is based on the recognition of the idea of consumerism and money as the leading values in the lives of people,** measures and things of an individual, **the understanding of benefit as the only driving force of social development**, has spread rapidly among the vast majority of officials and entrepreneurs. It was received with approval by a significant part of show business… In fact, the constitutional ban on state ideology means a **ban on revising the ideological tenets of liberalism"**[58].*

This is evidenced, for example, by the significantly more convincing support by Russian voters for patriotic and state-oriented amendments to the Constitution of the Russian Federation in 2020, compared with the results of the all-Russian referendum in 1993: on December 12, 1993, 32 million voters voted for the Constitution of the Russian Federation, and on July 1, 2020, 57 million voted for its amendment (*Tab. 1*).

In addition, the fact that liberal ideology, by and large, has never met the needs of the population and has never become part of the Russian "cultural code" is evidenced by the fact that throughout virtually the entire post-Soviet period in Russia, attempts were repeatedly made to formulate the foundations of state ideology, and not only by experts and public figures[59], but also by representatives of the public administration system[60].

Table 1. Main results of the all-Russian referendums on the adoption of the Constitution of the Russian Federation on December 12, 1993 and amendments to the Constitution of the Russian Federation on July 1, 2020

Indicator	% of voters			In absolute terms (people)		
	December 12, 1993	July 1, 2020	Dynamics (+/-)	December 12, 1993	July 1, 2020	Dynamics (+/-)
For	58.43	77.92	+19.49	32937630	57747288	+24809658
Against	41.57	21.27	-20.30	23431333	15761978	-7669355
Turnout	54.80	67.97	+13.17	58187755	74215555	+16027800
Total number of voters	100	102.84	+2.84	106170835	109190337	+3019502
Source: database of the Central Election Commission of the Russian Federation.						

[58] Radikov I.V. (2019). The search for ideological orientation in post-Soviet Russia. *Vestnik Moskovskogo gosudarstvennogo lingvisticheskogo universiteta. Obshchestvennye nauki*, 1(834), p. 56.

[59] For example:

1. Sulakshin S. (2009). The national idea of Russia. Actions program (problem definition). *Kontury global'nykh transformatsii: politika, ekonomika, pravo*, 5.

2. Stepanov A.D. The ideology of Development is impossible without reliance on Tradition. Available at: https://ruskline.ru/analitika/2013/10/16/ideologiya_razvitiya_nevozmozhna_bez_opory_na_tradiciyu/

3. Prokhanov A., Averyanov V., Maslin M. et al. The project "Worldview of Russian civilization" (first presented on December 9, 2023 at the conference of the Izborsk Club at St. Petersburg State University).

4. Dugin A.G. Fundamentals of Russian Ideology. Available at: https://dzen.ru/a/ZYxP6OEygRpWSRX3?ysclid=mbq6cbnbux502947199

5. Delyagin M. New Russian ideology. Available at: https://katehon.com/ru/article/novaya-russkaya-ideologiya

[60] For example:

1. Surkov V.Y. The concept of sovereign democracy. Great Russian Encyclopedia. Available at: https://bigenc.ru/c/suverennaia-demokratiia-c309a5?ysclid=mcd4kotetu819454802

2. Kharichev A.D. (2025). The civilization of "Russia". *Bloknot grazhdanskogo prosveshcheniya*, 7, March–April.

Nevertheless, all the proposed projects of ideology, in fact, remained and remain nothing more than projects: discussed, criticized, supported, **but having neither legal force nor the possibility of a large-scale impact on the life of society**. Therefore, the “latent” (as I.V. Radikov calls it) ideology of liberalism for more than three decades since the adoption of the Constitution of the Russian Federation in 1993 continued to be the only ideology in Russia in the 1990s and in the 21st century.

And what was its essence? What was the basis of this instrument of “soft power” introduced by the Americans into the Russian Constitution with the aim of imperceptibly and covertly “enslaving” Russian society?

By and large, it was based on the scrapping of the system of moral principles of the “Soviet person” and their transformation into a “Service person; in fact, a consumer deprived of any identity, self-awareness, passionate energy, and instead completely **dependent** on comfort and digital technologies created (and therefore, controlled) by global elites and multinational corporations.

As Vladimir Putin noted later (on November 7, 2024) during his speech at the Valdai Forum in Sochi, “it was a hidden, veiled intervention against our country”[61]. And, unfortunately, it must be admitted that this “intervention” turned out to be very successful...

The results of sociological research show exactly what changes took place in society during the period when it was (and continues to be) under the influence of the “latent” liberal ideology of the “consumer society”. For example, the data from one of the most long-term monitoring conducted by Vologda Research Center: “The monitoring of labor potential quality”[63].

M.V. Kovalchuk: “The dream of the elites who rule the world has always been to bring out **a certain subspecies of “service” people who would have limited self-awareness... Today, for the first time in the history of civilization, the technological possibility of breeding a “service” person has appeared...**

What is needed for this? To do this, first it is necessary to fool you: simplify your system to the Unified State Exam of education so that you answer the tests ..., fool you to the maximum, then give you iPhones and provide satellite connection. And what then? That’s it! Any thing is the application of cognitive technologies for mass consciousness management. You can counteract this in a very simple way – a switch. Turn it off and nothing works **... it is, in fact, like fascism, but you and I must understand that this is the ideology of the modern world, of our dear colleagues and partners.**

The most important thing is to break down the system of basic moral principles and introduce alternative norms of morality to universal human values. This is happening everywhere... You’ve broken the basic system and the person has already been removed... And then you do whatever you want with this... In fact, the technological basis for creating “service” people and ensuring their livelihoods is convergent technologies”[62].

[61] Plenary session of the XXI annual meeting of the Valdai International Discussion Club on November 7, 2024. Available at: http://www.kremlin.ru/events/president/news/75521

[62] Kaklyugin N.V. Mikhail Kovalchuk’s speech at the Army 2020 Forum, which went unnoticed at the top. Available at: https://ruskline.ru/opp/2022/10/31/neuslyshannoe_v_verhah_vystuplenie_mihaila_kovalchuka_na_forume_armiya_2020?ysclid=mbnddy5x2z432869895

[63] The study has been conducted since 1996 and thus covers the last presidential term of Boris Yeltsin (1996–1999) and all the presidential terms of Vladimir Putin (as well as the presidential term of Dmitry Medvedev in 2007–2011). Most importantly, this study covers almost the entire period of Article 13 of the Constitution of the Russian Federation.

The methodology of this study[64] helps, when analyzing "qualitative characteristics of labor resources"[65], to pay attention to a wide range of human properties and characteristics and to interpret the results obtained from the broadest positions: a person "**as a subject of public relations" and only "in particular**, social and labor relations".

The results of the monitoring show that over the period from the mid-1990s to the present:

despite a significant increase in the level of trust in all state and public institutions (*Tab. 2*);

"The methodology integrates qualitative components of labor potential that characterize the energy capabilities of an employee (**health, intelligence**) and socio-communicative properties (**cultural and moral level, entrepreneurial and communicative abilities**) that distinguish a person **as a subject of social, in particular socio-labor, relations"**[66].

Table 2. Dynamics of the level of trust in state and public institutions, %

Institution	1996–1999*	2018–2024	Dynamics (+/-), p.p.	Institution	1996–1999*	2018–2024	Dynamics (+/-), p.p.
President	26.5	55.1	+29	Court	19.8	43.0	+23
Prosecutor's office	18.2	46.1	+28	Region's administration	14.2	37.7	+24
RF Government	18.5	45.1	+27	RF State Duma	14.8	32.4	+18
Police	14.1	44.4	+30	Mass media	15.4	30.9	+16
Army	34.2	43.3	+9	Political parties	6.8	23.0	+16

*The data for 1996 are presented. The survey was conducted in 1996 and annually since 2000.
Source: VolRC RAS data. Ranked according to the average annual data for 2018–2024.

[64] More information about the methodology can be found in the monograph: Leonidova G.V., Rossoshanskaya E.A., Popov A.V. (2018). *Monitoring kachestva trudovogo potentsiala: 20 let issledovanii* [Monitoring the Quality of Labor Potential: Twenty Years of Research]. Vologda: VolRC RAS.

Brief description of the methodology:

From 1996 to 2018, the monitoring of the quality of labor potential was carried out annually (surveys were not conducted in 2010, 2013 and 2015), since 2018 – once every two years. Monitoring is carried out through a questionnaire survey of the working-age population. That is, when carrying out sociological measurements in the Vologda Region, the object of research, taking into account current legislation, is the population of the region aged 16 to 54 years for women and from 16 to 59 years for men. The surveys are conducted in the cities of Vologda and Cherepovets and in eight districts of the region: Babaevsky, Velikoustyugsky, Vozhegodsky, Gryazovetsky, Kirillovsky, Nikolsky, Tarnogsky and Sheksninsky. Total sample size is 1,500 people. Sampling method: zoning with proportional placement of observation units. Sample type: quota based on gender and age. Random sampling error does not exceed 3–4% with a confidence interval of 4–5%. When calculating the sample, the latest available data on the gender and age structure of the region's population are used.

The basic methodology for collecting data on the quality of labor potential used in the framework of monitoring is based on the concept of qualitative characteristics of the population formed by scientists at the Institute of Socio-Economic Studies of Population of the Russian Academy of Sciences under the leadership of N.M. Rimashevskaya in the early 1990s.

[65] Ibidem.

[66] Leonidova G.V., Rossoshanskaya E.A., Popov A.V. (2018). *Monitoring kachestva trudovogo potentsiala: 20 let issledovanii* [Monitoring the Quality of Labor Potential: Twenty Years of Research]. Vologda: VolRC RAS. P. 9.

despite the fact that, according to self-assessments, the proportion of people who classify themselves as “poor and extremely poor” has significantly decreased, and their level of material security, on the contrary, has noticeably improved (*Tab. 3*);

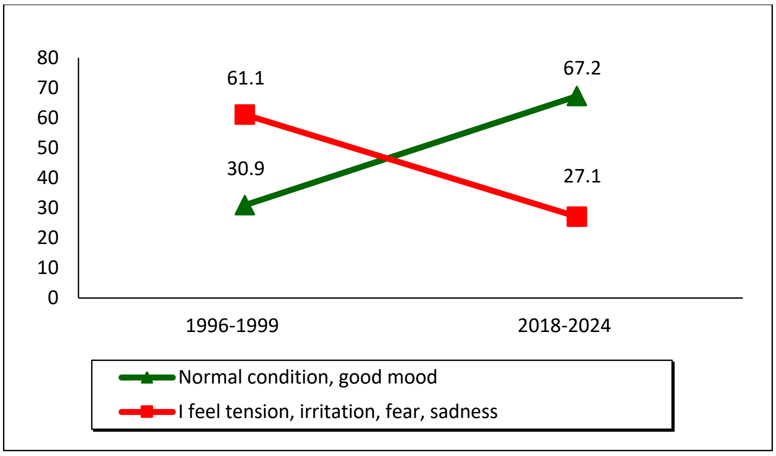
and despite the fact that there have been radical positive changes in the dynamics of social mood (psychological well-being) during this period (*Figure*)...

...there are mainly negative trends in the dynamics of self-assessments reflecting people’s attitudes toward Creativity, Knowledge, and moral norms and principles. Moreover, this applies not only to people’s **attitudes** toward Creativity, Knowledge, and moral norms, but also to **specific forms of behavior and actions** that they perform in real everyday life.

Inserts 3–5 provide detailed empirical evidence to prove this thesis. Here, for example, we will cite only some, most convincing, monitoring results,

Table 3. Dynamics of self-assessments of living standards, %

Indicator of self-assessment of living standards	1996–1999	2018–2024	Dynamics (+/-), p.p.
Proportion of people subjectively classifying themselves as ...			
“Poor and extremely poor”	64.0	45.3	-19
“Rich and middle-income people”	27.6	43.5	+16
Manufactured goods that the “poor and extremely poor” people have (self-assessment)			
TV-set	36.0	56.8	+21
Vacuum cleaner	36.6	48.9	+12
Furniture	35.8	48.4	+13
Motor vehicle	8.2	21.7	+14
Source: VolRC RAS data.			



Dynamics of social mood, % of respondents

Source: VolRC RAS data.

reflecting typical trends in public opinion on average for the period from 1996 to 1999 (Boris Yeltsin's last presidential term) to 2018–2024 (Vladimir Putin's fourth presidential term)[67]:

Block 1. Dynamics of self-assessments reflecting people's attitude toward Knowledge and Education *(Insert 3)*

✓ proportion of people who believe that it is important to «have a good education» decreased by 22 percentage points (from 86 to 64%);
✓ proportion of people who agree that «one should make full use of one's learning abilities» decreased by 20 percentage points (from 87 to 67%);
✓ proportion of people who believe that «knowledge beautifies a person's life and makes them happier» decreased by 10 percentage points (from 77 to 67%);

✓ proportion of people who are interested in or read anything about the problems of «family, relations between a man and a woman» decreased by 15 percentage points (from 75 to 60%);
✓ proportion of those who are interested in the topic of «parenting and education of children» decreased by 13 percentage points (from 72 to 59%);
✓ proportion of people who are interested in the topic of «morality, morals, rules of human behavior in society decreased by 12 percentage points – (from 68 to 56%); proportion of people who are interested in «the life of society, the state; history» also decreased by 12 percentage points (from 75 to 63%).

Block 2. Dynamics of self-assessments reflecting people's attitude toward Creativity *(Insert 4)*

✓ proportion of people who believe that the process of creating new things brings joy in everyday life decreased by 25 percentage points (from 63 to 38%);
✓ proportion of people who believe that «creative abilities should be fully realized» decreased by 18 percentage points (from 81 to 63%);
✓ proportion of those who believe that «creativity beautifies human life» decreased by 12 percentage points (from 75 to 63%);

✓ proportion of people who are positive about being the author of creative work decreased by 14 percentage points (from 64 to 50%);
✓ proportion of people who engage in creative activities in everyday life decreased by 6 percentage points (from 58 to 52%);
✓ proportion of people who believe that a creative person is distrusted by others has increased by 6 percentage points (from 14 to 20%).

Block 3. Dynamics of self-assessments reflecting people's attitude toward the norms of morality *(Insert 5)*

✓ importance of such qualities as "mutual assistance and mutual aid" decreased by 8 percentage points (from 86 to 78%), as well as "kind-heartedness toward others" (from 84 to 76%);
✓ proportion of people for whom «decency» is important decreased by 6 percentage points (from 91 to 85%);
✓ proportion of people who value «self-esteem» decreased by 5 percentage points (from 89 to 84%), «respect for other people's views» (from 83 to 78%), «respect for the team» (from 84 to 79%), «performance of official duties» (from 84 up to 79%).

✓ proportion of people experiencing remorse in the case they "break a promise" (from 74 to 58%) or "hurt someone" (from 82 to 66%) decreased by 16 percentage points;
✓ by 14 percentage points – in case they show «insufficient attention to parents» (from 61 to 47%);
✓ by 12 percentage points – in case they commit an «unfair act» (from 73 to 61%).

[67] The data are grouped into three main blocks, reflecting, respectively, the dynamics of people's attitude toward Knowledge (block 1), Creativity (block 2), moral norms and values (block 3).

Each block contains six research results that we consider most significant. Each block is divided into two parts:

The first part presents three results that reflect the changes that have taken place in the public consciousness (that is, in people's attitude toward Knowledge, Creativity, and moral norms);

The second part presents three more research results that reflect the changes that have occurred in people's behavior and actions over the same period.

All indicators are ranked within each block. The full research data is presented in Inserts 3–5.

Insert 3

Insert 3. Dynamics of self-assessments reflecting people's attitude toward Knowledge and Education

Table 3(A). "People have different attitudes toward book knowledge and learning in general. Some people are ready to study all their lives, and it gives them pleasure, others think differently… What is your opinion on this?" (proportion of people who agree with the listed statements; % of respondents)

Statement	%			People		
	1996–1999	2018–2024	Dynamics	1996–1999	2018–2024	Dynamics
Knowledge beautifies a person's life, makes them happier	77.1	67.6	-10	1157	1014	-143
If you have the ability to learn, you need to use it fully	86.7	67.0	-20	1301	1005	-296
It's better to have a good education than not to have one	86.7	64.4	-22	1301	966	-335
If I could start my life over, I would do(a) do everything possible to get a good education	70.8	47.5	-23	1062	713	-350
Studying takes up too much time	53.7	45.5	-8	806	683	-123
You can get a good job in life without special knowledge, and be useful to people	47.9	40.4	-8	719	606	-113
Learning something new by reflecting on what you've read – what could be more enjoyable!	61.8	38.7	-23	927	581	-347
There are many more pleasant things in life than hitting books	24.9	30.7	+6	374	461	+87
Others can't but wonder at a person who is always reading books. They call him/her a bookworm	22.7	24.6	+2	341	369	+29
An educated person is distrusted by others – he/she is perceived as being a "smart alec"	17.6	20.7	+3	264	311	+47
TOTAL: Total number of negative changes / no changes / positive changes			**8 / 0 / 2**			**8 / 0 / 2**

For each of the listed statements, the respondent was asked to express the degree of his/her agreement or disagreement with it. Options: "I fully disagree", "I disagree", "It's hard to say", "I agree", "I fully agree".
Table 3 (A) shows the percentage of respondents who chose the answer option "I agree" or "I fully agree."

Table 3(B). "From what sources do you get most of your knowledge about the areas of society, man, and nature listed in the table?" (proportion of those who "read and are interested" in various spheres of society; % of respondents)

Topic	%			People		
	1996–1999	2018–2024	Dynamics	1996–1999	2018–2024	Dynamics
The life of society: internal politics, law, government, state structure, management, history, etc.	74.5	62.8	-12	1118	942	-176
Healthy lifestyle: nutrition, alcohol consumption, drugs, personal hygiene, etc.	71.4	60.9	-11	1071	914	-158
Family: relationship between a man and a woman, sexual problems	75.2	59.8	-15	1128	897	-231
Parenting and education of children	71.5	59.0	-13	1073	885	-188
Structure of the human body (human physiology), health, diseases, etc.	72.4	58.3	-14	1086	875	-212
International politics and international relations	65.6	58.3	-7	984	875	-110
Aesthetics and culture: painting, music, literature, architecture, cinema, theater, etc.	67.8	57.2	-11	1017	858	-159
Relationships between people, in teams (psychology and social psychology)	63.5	56.8	-7	953	852	-101
Economics: finance, budget, organization of labor and production, etc	61.6	56.0	-6	924	840	-84
Morality, morality, religion, rules of human behavior in society	67.8	55.5	-12	1017	833	-185
Nature: animal and plant life, environmental protection (ecology, physics, chemistry, mathematics, statistics)	67.9	55.5	-12	1019	833	-186
Machinery and production technology: machines, machine tools, electronics, computers, etc.	50.8	55.4	+5	762	831	+69
TOTAL: Total number of negative changes / no changes / positive changes			**11 / 0 / 1**			**11 / 0 / 1**

The respondents were asked to assess the degree of interest in information on 12 topics from the sphere of society, man and nature. Table 3 (B) shows the proportion of respondents who chose the answer options "I read only what is found in newspapers, socio-political magazines, TV and radio, news on the Internet", "I read popular science literature, I read, if necessary, textbooks and encyclopedias (including online)" or "I regularly read specialized, scientific and other literature, communicate with specialists, etc. (including on the Internet)."

The average annual data for the last presidential term of Boris Yeltsin (1996–1999) and the fourth presidential term of Vladimir Putin (2018–2024) are presented.
Ranked in descending order according to the data for 2018–2024; 1,500 people of working age are interviewed in each round of the of monitoring.

Insert 4

Dynamics of self-assessments reflecting people's attitude toward Creativity

Table 4(A). "People have different attitudes toward life. Some people endlessly compose and invent something, finding pleasure in it, others don't care. Below are a few judgments about creativity and creative people. Which of them reflect your point of view?" (proportion of those who agree with the listed statements; % of respondents)

Statement	%			People		
	1996–1999	2018–2024	Dynamics	1996–1999	2018–2024	Dynamics
If you have creative abilities, you need to fully realize them	80.9	63.2	-18	1214	948	-266
Creativity beautifies a person's life, makes them happier	75.0	63.0	-12	1125	945	-180
Having your own works, cars, etc. is more pleasant than not having	63.8	49.5	-14	957	743	-215
Coming up with something new is at least some joy and solace in our everyday lives	63.2	38.2	-25	948	573	-375
There are many more pleasant things in life than puzzling over all sorts of problems	31.6	31.9	0	474	479	+5
If I could start my life from the beginning, I would certainly get carried away with inventing and writing	18.5	29.7	+11	278	446	+168
We've already thought of enough, we need to work, we need to get things done	24.9	26.2	+1	374	393	+20
A creative person limits his life, loses a lot	20.5	23.1	+3	308	347	+39
An inventor, a creative person, causes distrust of others	14.7	20.3	+6	221	305	+84
A man who is always running around with their ideas, prevents others from living and working normally	17.5	20.3	+3	263	305	+42
TOTAL: Total number of negative changes / no changes / positive changes			**8 / 1 / 1**			**8 / 1 / 1**

The respondents were asked to rate the degree of agreement with 10 statements reflecting attitudes toward creativity and creative people.
For each of these statements, the respondent was asked to assess the degree of their agreement or disagreement with it. Options: "I fully disagree", "I disagree", "It's hard to say", "I agree", "I fully agree".
Table 4 (A) shows the percentage of respondents who chose the answer option "I agree" or "I fully agree".
Ranked in descending order according to 2018–2024 data.

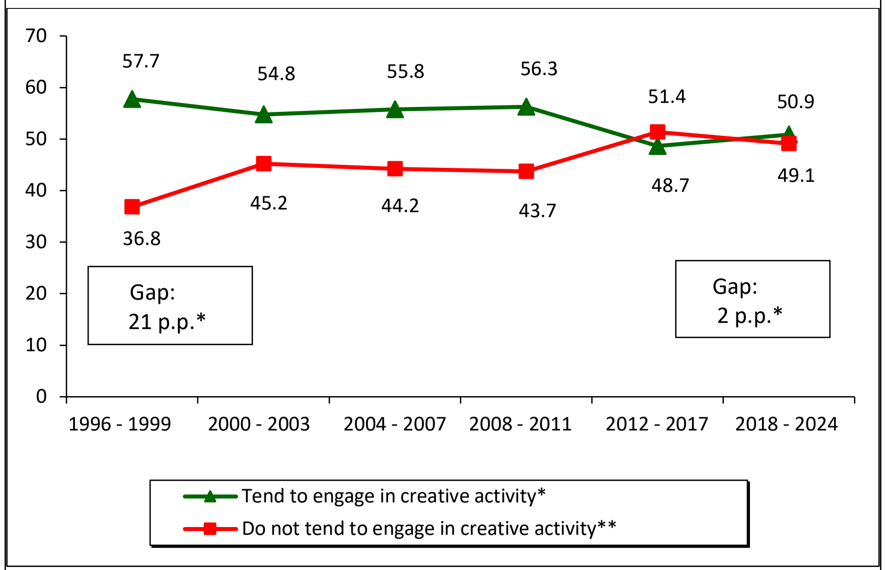


Figure 4 (B). "To what extent do you currently engage in creative (innovation, inventive, etc.) activities? (% of respondents)

* In 1996–1999, the proportion of those who noted that they tended to engage in creative activity was 21 percentage points higher than the proportion of people for whom creative activity was not typical. In 2018–2024, this gap decreased to 2 percentage points

** People who do not tend to engage in creative activity – answer option "I never do anything, I do what I was taught before, or what others tell me, what I can read in books, reference books."

People who tend to engage in creative activity – all the other combined answers ("I'm constantly inventing something, writing, composing, etc. – this is my lifestyle", "I invent something when I have a practical need to do something, but I don't know how, there are no ready-made solutions", "I invent, compose, etc., when I receive the appropriate assignment from my superiors").

The average annual data for the last presidential term of Boris Yeltsin (1996–1999) and the fourth presidential term of Vladimir Putin (2018–2024) are presented. Ranked in descending order according to the data for 2018–2024; 1,500 people of working age are interviewed in each round of the of monitoring.

Insert 5

Dynamics of self-assessments reflecting people’s attitudes toward moral norms

Table 5(A). “People evaluate different life phenomena in different ways. For some, one thing is important, for others – another… Which of the following is important to you and which is not?” (the proportion of those for whom the listed life phenomena are important; % of respondents)

Value, trait	%			People		
	1996–1999	2018–2024	Dynamics	1996–1999	2018–2024	Dynamics
Justice	87.3	86.8	0	1310	1302	-8
Respect for elders	84.6	86.2	+2	1269	1293	+24
Honesty, truthfulness	88.4	85.2	-3	1326	1278	-48
Decency	90.6	84.6	-6	1359	1269	-90
Self-esteem	89.3	84.0	-5	1340	1260	-80
Respect for the team	84.4	79.7	-5	1266	1196	-71
Performance of official duties	84.0	79.1	-5	1260	1187	-74
Mutual assistance and mutual assistance	86.2	78.0	-8	1293	1170	-123
Tolerance, respect for the views and opinions of others	82.7	77.6	-5	1241	1164	-77
Law enforcement, law-abiding conduct	76.0	77.3	+1	1140	1160	+20
High professionalism	81.2	76.8	-4	1218	1152	-66
Responsiveness, sensitivity to other people	84.0	76.0	-8	1260	1140	-120
Show compassion, mercy	77.9	74.3	-4	1169	1115	-54
Respect for other people’s (private, state) property	72.5	73.7	+1	1088	1106	+18
Equality between people	63.4	73.0	+10	951	1095	+144
To be useful to society, to fulfill the duties of a citizen	68.5	72.2	+4	1028	1083	+56
Respect for people of other ethnicities	59.4	68.7	+9	891	1031	+140
TOTAL: Total number of negative changes / no changes / positive changes			**10 / 1 / 6**			**10 / 1 / 6**

The respondents were asked to assess the degree of importance of the listed 18 vital phenomena and human qualities for them. For each of the listed qualities, the respondent was asked to assess their importance. The options are: “Not important at all”, “More or less important”, “Quite important”, “Very important”.
Table 5 (A) shows the percentage of respondents who chose the option “Very important” or “Quite important”.

Table 5(B). “Have you ever felt guilt or remorse in the cases listed below?” (proportion of those who feel remorse; % of respondents)

Deed	%			People		
	1996–1999	2018–2024	Dynamics	1996–1999	2018–2024	Dynamics
Unwittingly (or consciously) you have offended another, were rude	81.6	65.8	-16	1224	987	-237
Involuntary or conscious deception of someone in something	70.3	62.0	-8	1055	930	-125
Under the pressure of circumstances or out of good will, you have committed an injustice	72.8	60.5	-12	1092	908	-185
Poor performance of official duties for any reason	69.5	58.4	-11	1043	876	-167
An unfulfilled promise made to someone	73.9	58.2	-16	1109	873	-236
Refusal to help someone in a critical situation for any reason.	55.0	58.1	+3	825	872	+47
Unintentionally (or knowingly) caused damage to other people’s property, breaking something, etc.	61.1	56.3	-5	917	845	-72
Unintentionally (or knowingly) inflicted damage to state property	42.3	50.0	+8	635	750	+116
Insufficient attention to parents (mother, father)	61.5	47.2	-14	923	708	-215
Bad attitude toward children (one’s own or others’)	42.6	32.8	-10	639	492	-147
Cheating on your wife, husband, boyfriend, girlfriend	36.2	28.8	-7	543	432	-111
TOTAL: Total number of negative changes / no changes / positive changes			**9 / 0 / 2**			**9 / 0 / 2**

The respondents were asked to evaluate their moral experiences in various life situations. For each of the listed situations, the respondent was asked to assess his/her attitude toward them. Options: “I can’t blame myself for this, there was no case”, “There is no remorse”, “I worry, but everything passes quickly”, “I worry a lot”. Table 5 (B) shows the proportion of respondents who chose the option “I worry a lot” or “I worry, but everything passes quickly”.

The average annual data for the last presidential term of Boris Yeltsin (1996–1999) and the fourth presidential term of Vladimir Putin (2018–2024) are presented. Ranked in descending order according to the data for 2018–2024; 1,500 people of working age are interviewed in each round of the of monitoring.

The presented empirical data clearly demonstrate the negative trends that have developed and continue to develop in Russian society under the conditions of the “latent” liberal ideology of the “consumer society”: **it can be said that since the mid-1990s, the process of intellectual, creative and moral decline has been going on at the systemic level.**

And this process, stretched over time, went almost unnoticed, since it did not actually affect people’s self-assessment of their external condition; how they look, communicate in a team, express their thoughts, organize recreation, etc. Thus, with the identified negative trends in the dynamics of intellectual, creative and moral level, during the period under review there has been an increase in the proportion of those who are characterized by the ability to:

- ✓ “speak well, express one’s thoughts beautifully” (by 19 percentage points, from 33 to 52%);
- ✓ “look good” (by 15 percentage points, from 44 to 59%);
- ✓ “engage in a conversation” (by 13 percentage points, from 50% to 63%);
- ✓ “express one’s thoughts competently on paper” (by 13 percentage points, from 41 to 54%);
- ✓ “organize one’s leisure time” (by 10 percentage points, from 49 to 59%), etc. (*Tab. 4*).

Table 4. Proportion of those who possess certain positive qualities of existence and interaction in society, % of respondents

Characteristics of human interaction in society	%			People		
	1996–1999	2018–2024	Dynamics	1996–1999	2018–2024	Dynamics
Politeness, courtesy, good manners, knowledge of etiquette (how to behave at a table, at a party, in a theater, at a banquet, etc.)	55,1	69,3	+14	827	1040	+213
Friendliness	72,3	68,9	-3	1085	1034	-51
Ability to do your job well	64,5	66,1	+2	968	992	+24
Ability to keep up a conversation in any company	49,9	63,3	+13	749	950	+201
Aability to listen to the interlocutor, to understand the meaning of his/her statements	62,8	61,7	-1	942	926	-17
Ability to behave oneself in society, company	48,2	61,4	+13	723	921	+198
Tact, ability not to hurt other people’s self-esteem	60,4	61,4	+1	906	921	+15
Ability to organize one’s own leisure time, rest	49,2	59,4	+10	738	891	+153
Ability to always look good	43,5	58,7	+15	653	881	+228
Ability to maintain one’s own health	36,9	58,2	+21	554	873	+320
Ability to compromise with other people, to give in	44,3	58,0	+14	665	870	+206
Ability to dress with taste	41,9	57,8	+16	629	867	+239
Ability to restrain oneself in any critical situation, “not to lose face”	42,8	57,1	+14	642	857	+215
Ability to express your thoughts competently and well on paper	41,2	54,7	+13	618	821	+203
Ability to convince others that you are right	44,4	53,6	+9	666	804	+138
Extensive knowledge, erudition	31,5	53,1	+22	473	797	+324
The ability to speak well, express your thoughts beautifully	32,8	51,9	+19	492	779	+287
TOTAL: Total number of negative changes / no changes / positive changes			**2 / 0 / 15**			**2 / 0 / 15**

The average annual data for the last presidential term of Boris Yeltsin (1996–1999) and the fourth presidential term of Vladimir Putin (2018–2024) are presented.
Ranked in descending order according to the data for 2018–2024; 1,500 people of working age are interviewed in each round of the of monitoring.
The question was asked in tabular form. Wording of the question: «Not all people have the same qualities, it is natural and normal. The various qualities of a person are listed below. Which of them are characteristic of you and to what extent?»
The respondents were asked to give a self-assessment of the manifestation of each of the 17 listed qualities (either “Little, not enough”, or “Generally enough”, or “Sufficiently”, or “Fully”).
The table shows the combined options: “Sufficiently”, “Fully”.

We should note that the results of the study conducted on the territory of the Vologda Region reflect the picture typical for many regions of Russia. For example, experts from the Institute of Sociology – Branch of the Federal Center of Theoretical and Applied Sociology of the Russian Academy of Sciences (IS FCTAS RAS) based on sociological research conducted in 2003–2020 in Moscow, Pskov, Omsk, Smolensk, Saratov, Bryansk, Kirov, Vladimir, came to the conclusion that there is an "*emerging tendency to blur ideas about qualities-virtues and moral qualities*", which "*may lead society in the opposite direction from traditional spiritual and moral values*".

Thus, the negative trends in the dynamics of people's attitudes toward knowledge, creativity, education, and a decrease in the importance of moral standards identified in the Vologda Region are quite typical and in themselves pose a threat to national security, since "*the ability of the state to maintain continuity in state-building*" largely depends on this.

"The level of the spiritual and intellectual potential of the people, the level of their spiritual forces and the ability to solve strategic tasks of state building directly depends on how much the cultural basis of their development and cultural continuity is preserved. ***The ability of the state to maintain continuity in state building directly depends on this"***[68].

And it is quite natural that such trends in society as a whole could not contribute to the "recovery" of its elite part. Rather, on the contrary, they consolidated in it the key tenets of liberal ideology – "*the ideas of consumerism and money as the leading values in life... the understanding of profit as the only driving force of social development*"[69].

"... In general, the direction of the dynamics indicates an ***emerging tendency to blur ideas about virtue qualities and negative moral qualities***, as a norm and a departure from it. ***This negative trend requires attention. It seems that with the further weakening of religious feeling, such a dynamic of moral meanings can lead society in the opposite direction from traditional spiritual and moral values...***

The results of the analysis show that **the semantic guidelines bear the stamp of a somewhat distorted understanding of the main moral meanings of human life, the spread of which has not been suspended...** there is a sharply negative trend – "... literally a collapse of the qualities traditionally inherent, and perhaps (judging by these data) attributed to Russians – ***benevolence, cordiality, sincerity, selflessness***. ***The weakening of such qualities was noted by 59–61% of respondents.*** At the same time, according to the overwhelming number of respondents, there was an ***increase in aggression and an increase in cynicism***. Although it should be noted that there is a slowdown in such trends in the mass consciousness"[70].

[68] Shashkin P.A., Rudakov A.B., Volobuev S.G. (2023). *Pokazateli effektivnosti gosudarstvennoi politiki v oblasti zashchity traditsionnykh rossiiskikh dukhovno-nravstvennykh tsennostei, kul'tury i istoricheskoi pamyati* [Indicators of the Effectiveness of State Policy in the Field of Protection of Traditional Russian Spiritual and Moral Values, Culture and Historical Memory]. Moscow: Institut Naslediya. P. 38.

[69] Radikov I.V. (2019). The search for ideological orientation in post-Soviet Russia. *Vestnik Moskovskogo gosudarstvennogo lingvisticheskogo universiteta. Obshchestvennye nauki*, 1(834), p. 56.

[70] Bessokirnaya G.P., Bolshakova O.A., Karakhanova T.M. (2023). Experience of investigating the spiritual and moral state of Russian society. *Sociologicheskaja nauka i social'naja praktika*, 11(3), 6–36.

Excerpt from Vladimir Putin's speech on February 9, 2012 at the congress of the Union of Russian Industrialists and Entrepreneurs:

"... what happened in the 1990s. We've talked a lot about this, when business was often reduced to a simple division of the state pie... of course, we need to turn this page, too... **we need to end this period...** so that society really accepts these options for closing the problems of the 1990s: unfair, frankly speaking, privatization, all kinds of auctions.... I think that society as a whole and the entrepreneurial class are primarily interested in this. **This topic should be closed**"[71].

Excerpt from Vladimir Putin's speech on June 20, 2025 at the St. Petersburg International Economic Forum:

"During the privatization [in the 1990s], of course, a lot of injustice was committed. For one ruble, something worth maybe millions was privatized. All this is understandable. And from the point of view of social justice, these were far from the best decisions... Therefore, in my opinion, **it is necessary to finally develop a regulatory framework for the limitation periods of all events of this kind and close this topic once and for all**"[72].

In conclusion, we should note that the President of the Russian Federation has repeatedly drawn attention to the influence of liberal ideology on the economic foundations of the state, "when business was reduced to a simple division of the state pie", and that it is necessary to close this issue "once and for all".

He first identified this problem on February 9, 2012 at the congress of the Union of Russian Industrialists and Entrepreneurs, and raised it again on June 20, 2025 at the St. Petersburg International Economic Forum. But the question remains: 13 years have passed and it is still unclear when real steps will be taken in this direction.

[71] Speech by the Chairman of the Government of the Russian Federation Vladimir Putin at the Congress of the Russian Union of Industrialists and Entrepreneurs on February 9, 2012. Available at: http://archive.premier.gov.ru/events/news/18052/

[72] Vladimir Putin's speech at the plenary session of the XXVIII St. Petersburg International Economic Forum on June 20, 2025. Available at: http://www.kremlin.ru/events/president/transcripts/77222

Returning to the headline of the article – “*The constitutional ban on state ideology means a ban on revising the ideological tenets of liberalism*” – we would like to emphasize that now experts are raising the question “What kind of state are we building?” in forums and in the media more and more often.

External conditions, especially after three and a half years of the special military operation, require Russia (as the Hero of Labor writer A. Prokhanov writes) to “*mobilize, put an end to flabbiness, laxity, fearfulness, timidity”*. And for this, according to political scientist S. Karaganov, “***we need to have our own new humane state ideology …**, which should be promoted at all levels, starting from school*”[73].[74]

> A. Prokhanov: “**… And again, for the umpteenth time,** events … confirm the need for modern Russia **to mobilize, to put an end to flabbiness, laxity, fearfulness, timidity. A demobilized Russia is a tasty morsel for hostile intelligence services…** ”[74]

“If what we encounter in life is in stark contrast to the ideological model, the best theoretical endeavors will be criticized and perceived negatively*. In recent years, the state has done a lot for people, despite its efforts, but the most sensitive issue of social justice has not been resolved and it is not clear how it will be resolved…* ***If we are trying to formulate an ideology, then the mechanism of its execution must be truly spelled out. Procrastination is fraught with the most unpredictable consequences”***[75].

References

Bessokirnaya G.P., Bolshakova O.A., Karakhanova T.M. (2023). Experience of investigating the spiritual and moral state of Russian society. *Sociologicheskaja nauka i social’naja praktika,* 11(3), 6–36 (in Russian).

Kireev M., Koreneva E., Kireeva N. (2024). The cultural code of Russia and its evolution. *Nauka, iskusstvo, kul’tura=Science, Arts, Culture*, 3(43), 22–35 (in Russian).

Leonidova G.V., Rossoshanskaya E.A., Popov A.V. (2018). *Monitoring kachestva trudovogo potentsiala: 20 let issledovanii* [Monitoring the Quality of Labor Potential: Twenty Years of Research]. Vologda: VolRC RAS.

Radikov I.V. (2019). The search for ideological orientation in post-Soviet Russia. *Vestnik Moskovskogo gosudarstvennogo lingvisticheskogo universiteta. Obshchestvennye nauki,* 1(834), 54–75 (in Russian).

Shashkin P.A., Rudakov A.B., Volobuev S.G. (2023). *Pokazateli effektivnosti gosudarstvennoi politiki v oblasti zashchity traditsionnykh rossiiskikh dukhovno-nravstvennykh tsennostei, kul’tury i istoricheskoi pamyati* [Indicators of the Effectiveness of State Policy in the Field of Protection of Traditional Russian Spiritual and Moral Values, Culture and Historical Memory]. Moscow: Institut Naslediya.

[73] Karaganov S. Interview on November 24, 2024. Available at: https://www.business-gazeta.ru/article/655229

[74] Prokhanov A. We love you, FSB! Available at: https://zavtra.ru/blogs/lyubim_tebya_fsb

[75] Klyuchnikov S. Civilization-State and traditional values. Available at: https://zavtra.ru/blogs/gosudarstvo-tcivilizatciya_i_traditcionnie_tcennostiya?ysclid=mcd57lu0n1708683973

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Global Governance Wars: Genesis, Specifics and Significance

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Abstract. The modern era of political confrontation in the second half of the 20th –first half of the 21st century is characterized by the transition to the doctrine of global governance wars between conflicting States. The essence of this doctrine is to strengthen one's own governance system as much as possible and critically weaken the enemy's public administration system so that all the links of the state body cease to work effectively and cope with their tasks. The paper reveals the significance of governance wars on the example of the collapse of the USSR, which occurred without any direct military clash, but led to the loss of all strategic advantages for the Russian Federation, its successor. We put forward a structural model of global dominance, according to which governance depends on hard, soft, and smart power; we show that this understanding comes from generalizing J. Nye's concept of soft power. We define the specifics of governance wars: long duration, all-encompassing and uncompromising nature. The following tools and algorithms of modern governance wars are considered: promotion of own ideology; working with local elites; masks syndrome and conspiracy in political elites; control over the information space; color revolutions; proxy wars; destruction of medical sovereignty. We reveal the relationship between governance wars and governance cycles that imply fluctuations in the effectiveness of public administration system both within one country and between countries. We consider five levels of social phenomena: meta, mega, macro, meso and micro levels, and substantiate their two-way hierarchy, when higher-level processes determine the development vector for lower-level processes, and lower-level processes form the

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mechanisms for implementing higher-level processes. We show that in modern conditions this paradigm is gaining importance, preventing the formation of distorted cognitive patterns in relation to the driving forces of national development.

Key words: governance wars, USA, USSR, indirect action strategy, hybrid warfare, soft power, smart power.

Introduction

The emergence of nuclear weapons of mass destruction by the middle of the 20th century raised a serious barrier to a direct military clash between States possessing such weapons and urged them to revise approaches to geopolitical competition. Crude methods of military intimidation began to serve as an information background in the confrontation between powerful States, while its very methods became more subtle and sophisticated. In this regard, it is not surprising that the Second World War was followed by the Third World War between the USSR and the USA and their allies, which became known as the Cold War. From that moment on, the confrontation between the countries evolved into a clash of their governance systems, which suggests the emergence of a new phenomenon in foreign policy – governance wars.

The transition to information warfare was marked by the creation and enormous strengthening of various special services in countries around the world. The global system of espionage and political sabotage, disinformation and ideological pressure have become a common thing for the civilization in the 20th and 21st century. While traditional academic science (economics, political science and sociology) was turning a blind eye on the fact that governance wars had become not only a significant, but also a determining factor in the development of all countries. Today, when the next round of the West/Non-West confrontation and the US/Russia confrontation, this fact can no longer be denied. Thus, we are facing an urgent task to consider the genesis, features and significance of governance wars, as well as to determine their impact on modern social knowledge. The aim of the research is to addressing this problem. The novelty of our approach lies in systematizing the facts and structuring them for subsequent use in the analysis of policy and political economy.

Governance wars: the essence and genesis

By the middle of the 20th century, two giant States, the USA and the USSR, had nuclear weapons, which completely transformed the military doctrines of leading countries. Based on modern interpretations, we can say that the third world war of a hybrid type, called the Cold War, began in 1949 (Balatsky, 2022). The very specifics of the new weapons, and then their number, made a direct military clash between the superpowers pointless: it led either to a global planetary catastrophe or to excessive damage from the war, which devalued the victory. From that moment on, it became clear that the war should be waged with the use of other methods.

A new war doctrine still implied the collapse and even destruction of the enemy State, but by other, indirect methods of influence. The focus shifted from purely military confrontation to economics, technology, ideology, and other competitive factors. These links of the rival country should be weakened as much as possible, which ensured victory in a new war. This approach marked the formation of the doctrine of *governance wars*, according to which the enemy's public administration system must be weakened critically so that all the links of the state body cease to work effectively and cope with their pressing tasks. In a broader interpretation, governance warfare is an improvement in the organization of one's own society and the disorganization of the enemy's society. Since the actions of a certain State to weaken the enemy's governance system are transferred to the territory of another State, the governance war inherently becomes global; if such actions by the two giant countries affect many States (primarily allied ones), the global governance war becomes *worldwide*. The transition to this doctrine means the transfer of global competition to the field of governance – from now on, competition between the governance systems of the opposing countries came to the fore. Accordingly, in a new military-strategic clash, the country whose public administration system works better wins.

We recall that the Cold War began with the Soviet Union testing a nuclear bomb in 1949, and a year before that, Norbert Wiener's landmark book *Cybernetics* was published in the United States. The book proclaimed a new universal science – the science of control in technical, biological and social systems (Wiener, 1968). From that moment on, all special social and technical disciplines were subordinated to the main science – the science of control and governance. No wonder that the new worldview and the underlying philosophy have been placed at the forefront of the modernized U.S. geopolitical doctrine. It is this new analytical apparatus that has become the basis for the practice of conducting governance wars.

The essence of governance warfare is to *disable the governance subsystem of the enemy State and, conversely, to strengthen one's own governance subsystem*. The main imperative of governance warfare is extremely simple: to organize oneself (one's State) as effectively as possible and to disorganize the enemy (its State) as much as possible. From now on, it became unnecessary to physically destroy the rival's economy, it was enough to take control of or neutralize its centers of governance decision-making.

The new doctrine, which focuses on the conduct of war using the indirect approach, has been called the *strategy of indirect action* (Lukyanovich, Silvestrov, 2023). Governance wars emerged during the period of British imperial rule that was based on trade, deception and cunning (Lukyanovich, Silvestrov, 2023). The need for such art was linked to the need for the British establishment to control vast territories beyond the borders of the metropolis. In the second half of the 20th century, the United States, which began to transform into a global empire, brought the practice of governance wars to its logical conclusion. The philosophical basis for the new approach utilized by the American administration was an ancient treatise by the Chinese thinker Sun Tzu (Sun Tzu, 1950). The direct ideologist of U.S. special operations, including those carried out by the CIA, was Allen Dulles, who substantiated the principles of combining methods of counterintelligence, psychological warfare, deception, security and falsification (Lukyanovich, Silvestrov, 2023).

We emphasize that the strategy of governance wars (SGV) was originally formed in the United States, but was initiated by the country's confrontation with the Soviet Union. The latter, of course, also used SGV methods to one degree or another, but much less intensively and not so diversely. In other words, the initiative and advantage in new methods of struggle were originally on the side of the United States.

Today, the concept of *hybrid warfare* is widely used; it refers to a wide combination of economic, political and informational impact on the enemy, provided that opponents try to avoid open hostilities or transfer them to the territories of other countries; while all such actions imply a rejection of established legal and ethical norms (Khudokormov, 2024). There is also an expanded definition of hybrid warfare as the use of all available resources, technical, financial, and human, to win in a clash between two sides (Sivkov, Sokolov, 2023, p. 13). However, it does not take into account that hybrid warfare should be understood as the use of all available resources (technical, financial, and human) except for nuclear weapons. As mentioned earlier, the latter element makes the war itself meaningless, because a large-scale nuclear conflict does not imply a winner. Nevertheless, today hybrid wars, depending on the presence of kinetic effects (physical violence), are divided into non-kinetic and kinetic. The former include information and psychological influence, trade and cyber wars, while the latter include "color revolutions" and participation in local military conflicts (Alaudinov, 2024a; Alaudinov, 2024b).

An important feature of hybrid warfare is that it is a *war of meanings and nerves* and aims to stupefy national elites and dehumanize the masses (Devyatov, 2020, p. 83). Accordingly, the task of the *war of meanings* is to destroy the culture of the enemy people – their traditional worldview, ethical and aesthetic coordinates, values, faith and other elements of the worldview. The task of the *war of nerves* is to achieve the fastest and most accurate reaction of one's forces to control signals and, conversely, to slow down the enemy's reaction due to apathy or exhausting destructive arousal (Devyatov, 2020, p. 159).

Based on the above, we can say that the strategy of indirect actions, the doctrine of hybrid wars and the concept of governance wars are equivalent in their essence, because in all cases the "blows" dealt by the enemy are embedded in the national economy and culture, violating their original format and the direction of the evolution of the State. At the same time, the concept of governance wars, in our opinion, is preferable, because in a more explicit form it highlights the main link of the clash (the subsystem of public administration) and the methods of geopolitical competition (non-military). In this case, the governance war has two dimensions – *internal* and *external*. The internal dimension consists in the work of the public administration system within one's own country in order to ensure its unhindered development and eliminate obstacles along the way; the external dimension consists in the work of the governance system on the territory of the enemy in order to destroy, disrupt or take control of its public administration system and hinder the development of its country.

In addition, we should highlight some differences in the above concepts. For example, the Cold War in the narrow sense of the word presupposes an arms race with all the ensuing consequences, which is much narrower than the concept of a governance war involving a wider range of confrontation. Hybrid wars, on the contrary, focus on damaging the enemy by non-standard methods, but they overlook the state of their own governance system. This once again confirms the great universality of the concept of governance wars.

The presence of internal and external dimensions in the phenomenon of governance wars highlights the *principle of consistency* (Balatsky, 2021; Balatsky and Yurevich, 2022), which requires consistency in setting technological, institutional and cultural factors in the implementation of national economic growth and development policies. In this context, its generalization looks like this: to achieve common success in the geopolitical struggle, it is important to achieve success in all particular areas. For example, success in the ideological field without material reinforcement does not have any impact by itself; achievements in the external sphere are ineffective without their equivalent in domestic politics. The example of the USSR demonstrates that the confrontation on the territory of the enemy was conducted quite satisfactorily by its leadership, but the accumulated mistakes in the country's domestic policy did not allow winning the Cold War.

It is quite logical to emphasize once again the question of the legitimacy of the claim that governance wars emerge only in the 20th century, because the clash of public administration systems has occurred before. The fact is that before the Second World War, inclusive, all intelligence and sabotage actions of States already existed, but were mainly of an *auxiliary* nature, since the strength of weapons and the size of the army remained the *main* factor in winning the war. After the arrival of nuclear weapons, there was a fundamental castling in this process: large-scale reconnaissance and sabotage operations on enemy territory became the main factor in victory, and the military-strategic arsenal turned into a means of deterrence (intimidation) to neutralize a direct heated clash between the warring parties.

Significance of governance wars

The concept of governance wars was successfully applied by the United States of America against the USSR and at the same time became the standard approach to building relations with all unfriendly countries. It is the confrontation between the United States and the USSR in the Cold War and its outcome that make it possible to understand the significance of governance wars. To do this, let us look at the *Table*, which shows the ratios of countries in the context of key development indicators. Thus, the territorial potential is estimated by the area of the country's territory, the demographic potential by the number of its population, the economic potential by the volume of GDP, and the technological potential by the volume of per capita GDP; the methodology of such analysis is described in (Balatsky, 2024).

The approach that uses GDP for measuring the potential of an economy and its capacity to function is widely criticized, which is reflected in a series of papers on this topic (Balassa, 1964; Kuznets, 1973; Stiglitz et al., 2009; Sapir, 2022). However, we still do not have a better alternative, so we will use traditional estimates of GDP at purchasing power parity. Given the conventionality of cross-country comparisons of GDP, it is advisable to treat the figures shown in the Table primarily as ordinal estimates.

The Table shows that by 1991 the Soviet Union had a strategic advantage over the United States in terms of territory and a slight advantage in demography; the United States, on the contrary, had a strategic advantage in technology and a noticeable, but not strategic, dominance in the economy. We recall that a strategic advantage is considered when the comparative index is greater than two (Balatsky, 2024). By now, Russia has retained an advantage only in terms of area, and this advantage is not strategic; as for all other indicators, the United States has a strategic advantage over Russia.

For convenience, let us average the country indices (the last row of the Table), which gives quite an expected result: by the time of its collapse the USSR had a slight advantage in total economic potential compared to the United States, while now Russia is noticeably inferior to its geopolitical rival.

Relative indicators of the potential of Russia/the USSR and the USA

Potential	USSR/USA (1989–1990)	Russia/USA (2020–2023)
Territorial	2.28	1.74
Demographic	1.18	0.44
Economic	0.51	0.17
Technological	0.43	0.44
Average value	1.1	0.7
Compiled according to: (Balatsky, 2024).		

Thus, as a result of the victory in the Cold War, the United States achieved a fundamental reformatting of the geopolitical balance of power and actually crushed its rival.

Speaking about the scale of the USSR's losses as a result of the Cold War, we can say that it has lost all its advantages almost forever, especially those of strategic importance. The collapse of the USSR led to the loss of 30% of its territory, and Russia was significantly shifted to the north. At the same time, the country lost very important southern lands where the demographic situation was much more favorable and living conditions much more preferable than in its northern regions. After the collapse of the Soviet Union, the country was facing depopulation. From 1991 to 2009 the Russian Federation lost more than 6 million people and is still balancing around the regime of simple reproduction, not reaching the 150 million mark. As for the United States, its population increased by 80 million people in 1991–2021, which is absolutely unattainable for Russia in the foreseeable future. Regarding the military-strategic factor, the situation was even more tragic – Russia lost its foothold in the Warsaw Pact countries, and then withdrew its bases from other countries as well. The United States, on the contrary, has increased its military and strategic presence around the world, bringing the number of its military bases to 700 (Sachs, 2022); according to alternative but unofficial estimates, the number of American bases reaches 900–1,000 units.

Thus, the 1949–1991 governance war proved victorious for the United States and allowed it to achieve strategic goals: the USSR and its successor, Russia, lost their status as superpower with all the consequences that followed. However, the most important thing that the Third World (Cold) War showed was that the most powerful geopolitical rival was defeated without a single shot, without an armed invasion and, consequently, without human casualties and catastrophic material destruction. It is this result that is the final and indisputable argument in favor of the effectiveness and expediency of governance wars.

However, these events do not exhaust the achievements of the United States during the Cold War. The dismemberment of the Soviet Union into 15 countries was only the first step, the second was their transformation into neocolonial States under the control of the U.S. administration. The localization of the Soviet Union's nuclear potential in Russia by the American establishment led to the automatic military and political incapacity of the remaining 14 countries. However, as subsequent events have shown, the Russian Federation's nuclear shield has already failed to ensure its political sovereignty – the country has been in colonial dependence on the United States for 31 years, until 2022[1]. But that is not all: in 2022 it became clear that the previous war had not ended, and its logical conclusion should be the further dismemberment of Russia into "independent" States. Thus, governance wars can smoothly flow into each other, unnoticed by the population and even by political elites.

We should note that after the First World War, the Communists were able to rebuild the destroyed Russian Empire in the form of the USSR, which was further expanded and strengthened after the victory in the Second World War. After the defeat in the Third World (Cold) War, such a reconstruction of the country became impossible. Now Russia faces a less ambitious, but no less difficult task – to preserve its statehood in the face of total Western pressure.

[1] In recent years, one of the main leitmotifs of Vladimir Putin's official speeches has been the idea of the country gaining sovereignty. He said that "either the country is sovereign or it is a colony"; such explanations actually mean recognition of the fact that until 2022 Russia did not have full-fledged political sovereignty and was in neocolonial dependence (See: Adamovich O. (2022). "We don't want to be a colony": Putin explained what Russia's independence is based on. *Komsomolskaya Pravda*. June 9. Available at: https://www.kp.ru/daily/27403/4600366/). Of course, Russia was in a stets of local rather than total neocolonial dependence, which, however, does not change the essence of the issue being raised.

The above is quite enough to illustrate the importance of the phenomenon of governance wars in the global world of the 20th and 21st century. Current events indicate that the role of this type of confrontation will only increase in the future.

Soft power as the core of governance wars

It would not be a mistake to assert that one of the central conceptual constructions of governance wars is the so-called "soft power" put forward by J. Nye. He understood it as the hegemony of the English language, Western culture, and the political leadership of the United States (Nye, 2014). Although the concept was widely criticized from the very beginning, with an emphasis on its vagueness and low verifiability, new interpretations and theories were born on its basis[2]. In this regard, we will try to operationalize the concept of "soft power" in relation to governance wars while preserving its meaningful constructive nature.

In an attempt to structure and schematically display Nye's views, we propose the following generalized formula for the global dominance of a State:

$$\underbrace{\begin{pmatrix}\text{Global}\\ \text{leadership}\end{pmatrix}}_{\text{Governance}} = \underbrace{\begin{pmatrix}\text{Military}\\ \text{might}\end{pmatrix} + \begin{pmatrix}\text{Economic}\\ \text{might}\end{pmatrix}}_{\text{Hard power}} + \underbrace{\begin{pmatrix}\text{Country's}\\ \text{image}\end{pmatrix} + \begin{pmatrix}\text{Network}\\ \text{might}\end{pmatrix}}_{\text{Soft power}} + \underbrace{\begin{pmatrix}\text{Coordination}\\ \text{of plans and actions}\end{pmatrix}}_{\text{Smart power}} \quad (1)$$

In this formula, the country's military and economic power play its part and should still be maximized to ensure strategic balance; but in addition, the so-called soft power comes into play, which means a positive image of a leading country with all the methods and ways to demonstrate this.

It has already been noted in the literature that the distinction between hard and soft power is quite conditional, and the tools of "soft power", when being forced, can evolve into "hard power" (Lebedeva, 2017). Nye himself also said that in addition to the targeted formation of an attractive image of a hegemon country (actually soft power), there is a complex system of horizontal (network) connections that extends beyond national States (the activities of hackers, the media, national diasporas, terrorist organizations, offshore companies, banks, special services, etc.). This factor has also become an important element of soft power, and mastering it is a separate and very difficult professional competence. This element is included in formula (1) as a component of soft power, but the country's network power tends to turn into hard power and often becomes an independent phenomenon for the use of "network-centric warfare" (Cebrowski, Garstka, 1988); there are already assessments and conclusions regarding the practice of network-centric operations, for example, in Afghanistan and Iraq (Arzumanyan, 2008).

As already noted, forcing the propaganda of one's own country and its advantages, the increased pushing of certain ideas turns soft power into hard power. In this sense, Nye said that soft power is devoid of ethical content, and therefore can be used both for evil and for good: "Twisting minds is not necessarily better than twisting arms", (Nye, 2014, p. 148). This circumstance once again underlines the combat aspect of soft power methods and governance wars.

Hereafter, the ability of soft power to smoothly transform into hard power will be called the ambivalence of soft power. Considering that hard actions provoke resistance from the countries against which they are carried out, scientific discourse produced another concept, smart power, which means the ability to subtly combine resources and an action plan in conditions of the dispersion of the total potential of the hegemon country and the "rise of the rest" (Nye, 2014, p. 338). In fact, we are talking about the ruling elite's ability to abandon redundant goals and objectives in favor of truly important and

[2] Ageeva V.D. (2016). The role of "soft power" instruments in the foreign policy of the Russian Federation in the context of globalization: Candidate of Sciences (Politics) dissertation. Saint Petersburg: Saint Petersburg State University.

urgent ones. From a methodological point of view, the principle of smart power is the political science equivalent of the principle of coherence, which requires effective coordination and synchronization of governance efforts in all areas. For example, hard actions in the field of soft power, even with a powerful military and economic potential, can lead to a country losing its international prestige and influence. The importance of smart power as an element of governance wars is reflected in formula (1).

Most experts say that the USA lost its privileged positions and authority because it had failed to use smart power (Brzeziński, 2007), largely due to the conflict between the need for the leader State to abandon its previous ambitions and claims and the unwillingness of the political establishment to make such concessions.

Among other things, formula (1) provides a convenient tool for understanding and diagnosing the process of waning influence of large imperial entities. For example, during the late Soviet period, ideological work ceased to produce positive results due to outright failures in the economic sphere; successful subversive activities by U.S. agents of influence in the Soviet Union became effective due to the already existing negative sentiments of the local population. Even the military might of the USSR by itself could no longer prevent the collapse of the positive image of the State; therefore, the subversive network work of foreign agents received support even among the country's political elites.

Specifics of modern governance wars

It would be naive to believe that governance wars emerged only in the 20th century. They have been going on in one form or another, but the maturity of such wars was insufficient to distinguish them as a specific form of geopolitical clashes. Today, the situation has changed and governance wars have become a complex and large-scale phenomenon. Let us consider their typical features without going into detail.

1. Totality. Governance wars are essentially total confrontations. Many authors point out that the mentality of the American establishment and the entire model of U.S. global dominance adhere to the doctrine of intransigence that implies uncompromising political attitude toward maintaining cultural homogeneity and "purging" all objectionable social elements (Balatsky, 2024). This means *waging war by any means necessary and rejecting any ethical and legal restrictions*. At the same time, the confrontation itself permeates all parts of the social system, even those that may seem insignificant.

We should note that the rejection of ethical constraints in governance wars is coupled with the development of alternative ethical attitudes that refute traditional norms. Moreover, when pursuing a policy of global dominance, new norms become mandatory not only for the hegemon country, but also for its allies.

Perhaps the most striking and famous example of the considered principle of totality is the case that occurred on August 20, 2024 in Hong Kong, when retired Taiwanese General Tsang You-hsia committed a serious offense – he stood up and stood at attention during the performance of the national anthem of the People's Republic of China[3]. This action is an offense in accordance with the law governing relations between the people of Taiwan and mainland China, and therefore the Ministry of Defense of Taiwan, together with the Council of Mainland China Affairs, the Ministry of Internal Affairs and the Ministry of Justice, found Tsang guilty of violating Article 9-3 of the law. According to this article, high-ranking officials and former officials, such as generals and deputy ministers, may not participate in any ceremonies or events held by political parties, military, administrative or political bodies (institutions) or organizations of

[3] See https://www.taipeitimes.com/News/front/archives/2024/10/16/2003825371

the mainland, which in turn harm national dignity; the conduct detrimental to Taiwan's national dignity includes saluting the flag or emblems, singing anthems, or any other similar behavior symbolizing mainland China's political power. In this regard, the Ministry of Defense of Taiwan decided to reduce the pension of the retired general by 75% over the next five years after he was found guilty; the punishment for such misconduct involves the deprivation of the pension in the amount of 50 to 100%.

The above example clearly demonstrates the internal network of legal and moral norms that prevent the recognition of the sovereignty of the opposing country. We recall that Taiwan is a strategic partner of the United States in the region; thus, such norms exist in the region. It is the internal norms of a country that allow it to *consolidate* its population and win global wars. Earlier examples of the totality of governance decisions are provided by the United States from the early period of its existence. According to the latest data, from 1600 to 1900, the colonists exterminated about 3 million Indians; the colonists also exterminated 60 million bison so that to deprive the natives of the basics of their existence. Quakers – white representatives of the so-called Religious Society of Friends – were also systematically exterminated. They were hung to the deafening roar of drums in order to prevent those present from hearing the last words of the convicts trying to explain the meaning of their teachings. European competitors like the Dutch and Swedish colonists were also exterminated along with the indigenous peoples. During World War II, not only the nuclear bombing of Hiroshima and Nagasaki was carried out, but even before that 110,000 U.S. citizens of Japanese origin were sent to concentration camps inside the country[4].

[4] *Amerika protiv vsekh. Geopolitika, gosudarstvennost' i global'naya rol' SShA: istoriya i sovremennost'* [America against All. Geopolitics, Statehood, and the Global Role of the United States: History and Modernity]. Moscow: Sodruzhestvo kul'tur, 2023.

The conflict between Russia and Ukraine led to the fact that the Russian language as well as Russian culture in all its forms was banned in the latter. This step is also typical for governance wars – otherwise the nation will be too "loose", i.e. not fully consolidated to confront an external enemy.

Thus, victory in the governance war is ensured everywhere – absolutely in all areas of the social system due to the total consolidation of internal forces.

The very fact of the rejection of ethical and legal norms in the framework of governance wars has already received a certain theoretical understanding that can be summarized with the help of the works of N. Taleb and F. Fukuyama. Thus, Taleb substantiated the thesis of the locality of ethics, and Fukuyama – the locality of trust. This leads to the introduction of the concept of the *radius of ethics (trust)*. The general ideological substantiation for the denial of ethics and law in governance wars boils down to two consistently applied theses. The first one is the *primacy of ethics before the law*, according to which "the ethical is always more robust than the legal. Over time, it is the legal that should converge to the ethical, never the reverse... laws come and go, ethics stay" (Taleb, 2018, p. 90). Thus, the ethical justification of certain unsightly actions automatically ensures their legitimacy. The second thesis is the *locality of the phenomenon of ethics*, according to which "ethics is essentially a local phenomenon" (Taleb, 2018, p. 98). A person assumes certain ethical obligations toward others only if this person identifies themselves and these people as representatives of the same social group; otherwise, ethical norms become meaningless. This principle presupposes the division of humanity into *us* and *them*; then ethical standards apply to "us", but they do not apply to "them". Depending on the context, strangers can be other peoples, animals, political enemies, neighbors, etc. A typical example of this is the Japanese and Germans: the two nations are characterized by a high culture of cooperation and mutual assistance, but they showed striking cruelty toward other peoples during the Second World War. The reason, according to Fukuyama, is simple: Germans and the Japanese do not perceive other peoples as their equals; therefore, the same ethical principles do not apply to them as to their compatriots (Fukuyama, 2006). In conditions of acute political confrontation between States, the phenomenon of locality of ethics is particularly pronounced.

2. Duration. This issue has already been raised in (Balatsky, 2022). So, while the First and Second world wars lasted four and six years, respectively, the Third (Cold) War lasted 42 years (1949–1991). Such a long period is determined by the very nature of governance wars. It is always a difficult struggle for the position in the future with long-term goals, cascades of successes and failures. Only after a long time, the achievements and mistakes that have accumulated finally tip the scales in one direction or another, when the enemy's public administration system reaches a critical point of ineffectiveness. We can say that governance wars are modern wars aimed *to deplete the enemy's resources*. To wage such wars, many special official and unofficial organizations are being created aimed at disrupting the enemy's control system. The advantage in waging such wars is on the side of the leading countries, which already have an extensive international network of special representative offices and have many years of experience in conducting such operations.

Currently, the Fourth World War between Russia and the United States has unfolded; it started in 2014, and entered a hot phase in 2022 (Balatsky, 2022). At the same time, the very course of the special military operation in Ukraine indicates its long-term nature. For example, it was only in the third year of the military clash that Ukraine transferred active military operations to the territory of Russia, which showed, first, the unpredictability of the course of hostilities and had a painful effect on the population of the attacked regions, and second, caused image damage to the Russian Federation and contributed to the strategic undermining of the economic situation of its border regions – the Bryansk, Belgorod, Kursk and other regions. Such decisions are fundamentally long-term and designed to cause system-wide discontent among the Russian population with the very fact of military confrontation. At the same time, Russia's success in coping with the effects of international sanctions over three years has become an unpleasant surprise to the West. However, no one expected that the issue would be finally resolved within 2–3 years. For example, in Russia, 11 regions border on unfriendly countries and were previously considered favorable for living, but due to geopolitical instability they are beginning to lose their attractiveness (Kazantsev, 2024). Such processes not only undermine the country's power, but also cause destructive movements of resources within it: the final outcome of the unfolding governance war is postponed, at least to the end of the second decade of the war after its beginning – by 2032.

3. Uncompromising nature. Although governance wars use subtle and even delicate tools, their action is characterized by extreme harshness, which is typical for all wars. The above examples have already partially demonstrated the uncompromising nature of the emerging confrontations, but among other things, it manifests itself in the following principle: ***in peacetime, the logic of capital (economic benefit) is higher than any other logic and even all human values; in war, the logic of destroying the enemy (military benefit) becomes higher than economic logic.***

The manifestations of this principle are very diverse. For example, trade (tariff) wars between the United States and China cause economic damage to the United States itself, but it recedes into the background, because the first priority is to prevent the domination of the enemy. The huge costs incurred by European countries due to the disruption of cheap energy supplies from Russia are also considered acceptable, because the main task in the outbreak of war is to weaken the Russian public administration system. Moreover, the United States is ready to wage a governance war with Russia in Ukraine "to the last Ukrainian"[5]. As for Germany, the United States not only allows the bankruptcy of its industrial sector due to the lack of cheap energy resources, but also promotes the relocation of German enterprises to its territory. It is noteworthy that Germany, being a satellite of the United States, fully accepts this position. The main rule is extremely simple: *everything that prevents a victory in a geopolitical confrontation is sacrificed*, including the well-being of the allied countries. For the same reason, the internal social space of the country is being ruthlessly "cleansed" of any hostile elements.

Among other things, the uncompromising nature of governance wars, as already mentioned, implies the rejection of *moral* and *legal norms*. This principle was projected into the sphere of governance directly from the activities of the secret services. In this regard, we agree with Gert Buchheit, who said: "One can argue whether there are binding professional morals or some international contractual principles in the field of secret services. In practice, it all boils down to a fairly wide set of very arbitrary "rules of the game" – both decent and shameless – and various ways to complete tasks, both direct and roundabout. And which tracks a particular secret service is moving along largely depends on the person who runs it" (Buchheit, 2024). This makes it possible to reasonably assert that the essence and ideology of governance wars were developed in the secret services, and then gradually transferred to the entire system of public administration.

[5] See: https://www.rbc.ru/politics/22/06/2023/649435bb9a7947f12d69326b?ysclid=m2j0w60w9924983719

Tools and algorithms of modern governance wars

The main leitmotiv of governance wars is the struggle for people's minds. Indeed, once the mind has given up, the body can no longer resist. In this regard, the set of methods of governance wars is conditioned by the need to take control of the consciousness of the enemy's elites and masses. Over the last century, these methods have been crystallized and improved. Let us briefly consider some of them.

1. Promoting own ideology. *Ideological struggle* is an integral element of governance wars, when the ideology of the winner replaces the ideology of the loser. To understand the essence of the phenomenon under consideration, we will use the following definition: "Ideology is a system of ideas about the world and value-based and semantic paradigms that dominates in a certain community, promoting and directing the life of its members" (Volkonsky, 2024, p. 44). The enemy's ideology must penetrate not only the local elite, but also the general population. The psychological meaning of this is clear: if you share the ideology of your enemy, then he is no longer your enemy. Thus, the replacement of ideology eliminates the internal resistance of the population and the elites of the opposing State. Moreover, the replacement itself occurs step-by-step: first, an intellectually formalized ideology wins as a kind of ideological stem or core of a new worldview, and then the entire deep ideology, which absorbs cultural codes and traditions, is replaced (Volkonsky, 2024). With such an ideological inversion, the former nation ceases to exist.

Spreading own ideology to the enemy's territory is aimed at creating an ideologically (mentally) homogeneous space that is not capable of generating the very idea of confrontation and war. An example of such a course of events is the Constitution imposed on Russia by the United States after the victory over the USSR. The document still contains Paragraph 1 of Article 13: "Ideological diversity shall be recognized in the Russian Federation"[6]. In fact, it means there is no official state ideology, which is social nonsense. As some researchers rightly point out, "there is always an ideology, but its quality can vary from advanced ... to degrading" (Shekhovtsov, 2024, p. 32). In physics there is a saying: nature abhors a vacuum. Economists have a similar saying: society does not live in an ideological vacuum. As soon as ideological voids form, they are immediately filled by third-party and, as a rule, hostile ideologemes. Of course, a country acting as a hegemon or at least a technological leader has serious advantages in promoting its ideology in the enemy's camp, because everyday logic turns out to be on the leader's side: the ideology is more correct where it is better to live. The point of replacing ideology is that in this case the masses and elites are deprived of social activity, and their energy is directed away from the interests of their own country.

At the moment, the President of the Russian Federation adheres to the norm of Paragraph 1 of Article 13 of the Constitution. In his opinion, the Soviet Union had a dominant ideology, but its presence did not prevent the country from collapsing[7]. However, the mistake of such a judgment is that the presence of ideology in a governance war is a necessary, but not a sufficient condition for victory. Propaganda slogans and calls for a better life cannot ensure victory in a war unless they are supported by economic and technological advances. However, it does not follow that in the context of a geopolitical confrontation, a country can survive without a solid ideological base. The presence of many ideologies provokes and at the same time legitimizes their struggle, which can lead to the disavowal of the country's history and culture, which was done in Russia after 1991. The struggle of ideologies is closely intertwined with the modern possibilities of disinformation.

We should note that the state ideology is not limited to the ideological discourse of the State, but defines it. For example, the presence/absence of the right of a civil servant to have real estate and money accounts abroad in Russia today is determined operationally, but not formalized constitutionally. For a long time, this right was not limited in Russia, but it was eliminated at a certain point. However, this norm is not reflected in the code of state ideology, leading to institutional uncertainty arises. Such examples are numerous, thus the need for the manifestation of basic values at the level of state ideology. The "falling out" of such institutional norms from the constitution creates the ground for double standards and dilution of the effectiveness of the public administration system.

2. Working with local elites. The main task of the governance war is to take control over the governance system of the enemy country. This is directly achieved by forming local elites, loyal to and controlled by own political elite, on the enemy's territory. The arsenal of means to achieve this goal is quite wide – recruitment, conversion, bribery, ideological and educational training of current and future government representatives based on own interests and ideologies. Strategically, this task evolves into the task of turning local elites into supranational elites that are no longer connected with the strategic interests of their country and its population. All progressive initiatives and projects are blocked through the comprador elites. For example, in Russia, the appointment of Anatoly Chubais to the post of head of the state corporation Rusnano froze the creation of the country's own modern production of microchips. Similar processes took place in the civil aircraft industry; by 2023, the domestic

[6] For this and subsequent references to the Constitution of the Russian Federation, see: http://duma.gov.ru/legislative/documents/constitution/

[7] See: https://www.rbc.ru/politics/07/06/2024/6663275c9a79472d5adec23d

public sector provided only 2.4% of the industry's products in the pharmaceutical industry, while the share of imported components in the domestic production of pharmaceutical substances was about 80% (India, China, and European countries) (Gusev, Yurevich, 2023).

Blocking the creation of high-tech industries by local elites has far-reaching consequences. The absence of such industries makes the domestic advanced science unclaimed, and this, in turn, makes it pointless to train skilled personnel. Sometimes the lack of demand from the authorities for high technology can be "overcome" by the so-called J.-B. Say's law, according to which supply creates its own demand. However, the very control of the supply factor by the comprador elites prevents the operation of Say's law and does not allow the situation to be reversed.

We should note that in the 20th century the United States developed and applied a three-step algorithm for creating puppet governments.

At the first stage, consulting firms are sent to the country that needs to be involved in the orbit of U.S. influence. Their employees contact high-ranking officials of the country in order to convince them to take a loan from international banks for the development of the national economy in such a way that the country would not be able to repay it later. Economic consultants, or so-called *economic hit men* (EHMs), brainwash local elites by feeding them deliberately false data and inflated forecasts of economic development based on the most advanced methods and models. If it is possible to drive the country into a debt trap, then it falls into economic and political dependence and finds itself embedded in the imperial circle of American corporations. An example of the successful work of EHMs is Saudi Arabia in the mid-1970s, which used its petrodollars to purchase U.S. government securities and pledged to reinvest the interest earned by these securities to pay for the services of American construction companies (Perkins, 2005).

If the work of EHMs did not produce the desired result, as in Panama and Ecuador, for example, then the *second stage* was launched, at which local opposition forces are provoked to participate in revolutions and political coups in order to establish a puppet government; or the CIA-sanctioned agents, "jackals", step in to physically eliminate political figures objectionable to the United States. An example of the successful work of the "jackals" include the assassinations in 1981 of Ecuadorian President Jaime Roldós, who defended the law on hydrocarbons that was "dangerous" for the United States, and Panamanian President Omar Torrijos, who refused to renegotiate the agreement on the Panama Canal, which was unfavorable for the United States (Perkins, 2005).

If the "jackals" failed to do their job, as was the case in Venezuela and Iraq, then the *third stage* was launched – an armed invasion of the U.S. army into the territory of an unfriendly country with all the ensuing consequences. The Iraq war of 2003 is a classic example of a successful operation of this kind; Vietnam is a textbook example of the failure of U.S. military intervention (Perkins, 2005).

The three-stage model used by the United States of America to gain control over unfriendly countries and their governments has been called *global institutional traps*, because the countries that fall into these traps function extremely ineffectively and find it extremely difficult to get out of such a regime (Balatsky, 2006).

3. The masks syndrome and conspiracy in political elites. The deepening of the hegemon country's work with the elites of non-sovereign States led to the emergence of the *masks syndrome* in political circles and its wide dissemination in the 21st century. Gradually, major independent political thinkers and strategists have left the scene, and now more and more grotesque figures appear as state leaders. Top European officials receive instructions from the United States and are told what to do; it becomes less and less clear who acts as behind-the-scenes advisers and whose interests underlie the decisions made. Here are some of many examples. At the Yalta European Strategy 2024 forum, Lithuanian Foreign Minister Gabrielius Landsbergis called on the West to start a war with the Russian Federation[8], and Danish Colonel Peter Nielsen, commander of NATO forces in Lithuania, also called on society to prepare for war with Russia[9]. All Western media outlets are filled with such irresponsible statements.

At the same time, the pandemic of political masks has engulfed the United States itself – its ex-president Joseph Biden was constantly making ridiculous statements and acting weird. Thus, the clarity in understanding who bears the general responsibility for the policies and decisions taken has completely disappeared. This means that the subject of governance of nation States is being blurred; therefore, the public administration system itself is becoming more conspiratorial and less effective, and the governance process itself is being curtailed and replaced by some kind of imitation action. On the one hand, thanks to this policy, the United States has gained unprecedented power over the countries under its patronage; on the other hand, the global political system is losing its understandable checks and balances, thereby opening the way to behind-the-scenes actions and fatal mistakes that accompany them.

The masks syndrome and conspiracy in political elites in the 20th century was supported by the process of fragmentation of countries. Suffice it to say that before the Second World War there were about 50 countries in the world, and now (along with the unrecognized ones) there are more than 250 (Lukyanovich, Silvestrov, 2023). After the collapse of the USSR, 15 pseudo-sovereign States were formed instead; Abkhazia and South Ossetia separated from Georgia a little later, and Transnistria has been in the process of separating from Moldova for many years (just as Kosovo has been trying to achieve independence from Serbia). There are many such examples. The meaning of such divisions is simple: the smaller the country, the smaller its political ambitions, including its own political sovereignty.

4. Control over the information space. Already in the 20th century, the information space turned into an arena of political clashes. Suffice it to recall that Moscow Radio, which was broadcasting abroad, was launched in 1929, while the Voice of America radio station was established only 12 years later (Khudokormov, 2024). However, after World War II, American strategists developed long-term programs of cultural and intellectual influence on the elites of other countries. The Congress for Cultural Freedom, with offices in 35 countries, dozens of publications and programs, became the main tool of the cultural front of the Cold War. Numerous publications, symposiums, exhibitions, concerts, and Congress programs were supposed to convince Europeans that “America and Americans have achieved mature triumphs in all the spheres of the human spirit common to both the Old and the New Worlds” (Saunders, 2020, p. 4). To conceal the funding and participation in such activities, the CIA created an extensive system of funds, which served as money channels. This system has allowed the CIA to finance an unlimited number of covert programs against youth groups, trade unions, universities, publishing houses, and other organizations since the early 1950s. The scale of this activity is impressive in all respects (Saunders, 2020). Given that this propaganda with elements of disinformation has been conducted for more than 70 years, it is not surprising that the United States today has solid support around the world.

[8] See: https://mosregtoday.ru/news/power/litva-ofitsialno-prizvala-zapad-nachat-vojnu-s-rossiej/

[9] See: https://www.ritmeurasia.ru/news--2023-11-12--rashrabrilsja-komandujuschij-silami-nato-v-litve-prizyvaet-gotovitsja-k-vojne-s-rossiej-69801

However, in the 21st century, the scale of information warfare has reached its peak. In recent decades, the United States has mastered a new information market tool – the construction and dissemination of narratives containing deliberate distortions or even outright lies. Such signals can take the form of fake news, unreliable expert opinions, outdated cognitive models, etc. Moreover, there are studies confirming that unreliable narratives spread much faster and more widely than reliable ones (Volchik, 2023). The problem is that false narratives, almost instantly capturing huge masses of people, form a distorted or fundamentally incorrect picture of the world. As the leader of the global information market, the United States has long been a leader in the production of fake news and narratives. Moreover, this practice is successfully automated, creating the effect of "invisible manipulation" in the global information environment. Thus, according to available data, in 2017 alone, bots generated more than 50% of all global Internet traffic (Lukyanovich, Silvestrov, 2023). In such a situation, the hegemon State has the opportunity to form a biased opinion about any participant in the geopolitical space. This creates a very subjective "axis of evil" that includes countries unfriendly to the United States; in this vein, Russia, Iran and North Korea are being demonized today.

Of course, U.S. information sabotage not always proves successful. Thus, Washington's attempts to accuse the Syrian leadership of using chemical weapons, which took place from 2013 to 2018, were unsuccessful due to Russia's active opposition. Thus, successes and failures in this field reflect the vigilance of the governance systems of participants in the global geopolitical space.

5. Color revolutions. The deepening of work with the elites is logically followed by the so-called *color revolutions*, proposed by Gene Sharp The essence of the concept lies in organizing subversive actions in a potentially hostile country with the help of a large number of "small non-violent" acts of civil disobedience, which should result in the destruction of the existing system of power and the change of the political regime (Lukyanovich, Silvestrov, 2023).

The above is a three-step algorithm for creating puppet governments, where the second step consists in overthrowing the local regime by physically eliminating independent political leaders of a hostile country. However, the concept of the color revolution allows taking an alternative path at the second stage – organizing protests from below to overthrow the current government and replace it with a puppet cabinet. In this direction, financial crises were purposefully created in countries unfriendly to the United States – Argentina (1982 and 2001), Mexico (1992), Russia (1998), etc. In the same vein, in 1972, Washington developed a doctrine of financial sabotage, the "shock doctrine", which is a specific algorithm of actions to destroy the political, social and economic system of a country. For the first time, the United States implemented it in Chile after the military coup led by the CIA in September 1973 (Lukyanovich, Silvestrov, 2023). Subsequently, the overthrow of the current government by the color revolution method was effectively implemented by the American special services in a number of countries: the GDR, Hungary and Romania (1989), Georgia (1995), Serbia (2000), Ukraine (2004 and 2014), Kyrgyzstan (2005 and 2010). Sometimes such attempts were unsuccessful: in China and Georgia (1989), Mongolia and Armenia (2008), Moldova (2009), Belarus (2006 and 2020) and Russia. However, these failures are perceived by the American establishment as temporary and do not affect its willingness to use the tool of color revolutions further.

The events in Yugoslavia (Serbia) give an idea of the sequence of the color revolutions. At first, in the early 1990s, extensive economic sanctions were imposed on the country, which led to a drop in living standards, but did not undermine Milošević's rating. Against this background, work began with the opposition, the recruitment of the political and power elite. According to reports, in the year 2000 preceding the elections in Yugoslavia, opposition parties received $35 million, opposition media received $6 million from the European Union and $9 million from Germany (Khudokormov, 2024). Due to the fact that the opposition lacked a single candidate who could be opposed to S. Milošević, an expensive study of public opinion was conducted by order of the American National Democratic Institute for International Affairs; the results of the study revealed the leader of a small party, V. Koštunica, unknown to the general public. Since 1999, subversive work with youth organizations has begun. Thus, the Resistance movement, which resembled an interest group back in 1998, received funding and support from the United States the following year; as a result, by 2000, the organization already had 130 regional branches and 70,000 members (Khudokormov, 2024). All this and the organized coup d'etat in the elections led to the fall of the Milošević regime. Thus, over the past few years, foreign curators from the United States have managed to unite the disparate opposition, turn passionary youth against the government, paralyze the power bloc of the State, oust the current administration and create a puppet government.

In 2025, the arrival of the Donald Trump administration in the United States provoked a political scandal with the United States Agency for International Development (USAID), whose fate was in doubt. In fact, this meant that the U.S. administration recognized the illegitimacy of this organization and revealed its secrets, which, while promoting American values around the world, conducted not so much humanitarian as subversive political activities, directly interfering in the internal affairs of other States. As an independent agency, USAID was not part of the structure of ministries and the U.S. Department of State, but successfully distributed about $ 40 billion a year to various political programs in the form of non-refundable grants, technical means, goods and services; the agency owned a network of about 100 regional missions. USAID has become the culmination in the formation of an institutional instrument of U.S. soft power outside the country. Throughout its existence, USAID has worked closely with the CIA, and in relation to Russia it has funded the work of experts involved in drafting the country's Constitution, Civil, Tax, and Land codes, reforming the judicial system, organizing experience exchange programs for officials, and others[10].

6. Proxy wars. As mentioned earlier, military invasion of a hostile country is the third step in the three-step algorithm for creating puppet governments. As a rule, the States subjected to such aggression by the United States were not qualified as the primary enemies of the hegemon; rather, they were perceived as the infrastructure of the main rival. Thus, a *proxy war* is unleashed on the territory of third countries, while the main parties to the conflict are, as a rule, two superpowers, a direct clash between which is considered impossible. So, already in the 20th century, Korea, Vietnam and Afghanistan became the territories of proxy wars between the USA and the USSR. After 1991, when the world turned from a bipolar to a monocentric one, proxy wars became more commonplace, when a hegemon country could "restore order" on unfriendly territory at will. Libya, Iraq and Syria have been targeted by such campaigns. A return to the classic proxy war occurred in 2022 when Russia and the United States clashed on the territory of Ukraine[11].

[10] See: The USAID Foreign Aid Agency is closing in the United States. What we need to know. *Izvestia*, 2025, February 4. Available at: https://iz.ru/1833382/2025-02-04/v-ssha-zakryvaetsia-agentstvo-inostrannoi-pomoshchi-usaid-chto-nuzhno-znat

[11] The period of "pure" monocentrism led by the United States ended around 2014, after which a phase of geopolitical turbulence began with a characteristic weakening of the position of the hegemon and the entry of new global players onto the political scene: China, India, Russia, Iran, etc. – with expressed self-interests. However, during this period, the United States continued to play the role of conductor of a geopolitical symphony with many musicians.

The peculiarity of the conflict in Ukraine is that the combat zone borders directly on the territory of Russia, which is why hostilities are constantly moving to the territory of the main participant in the conflict. The United States has a huge advantage in this proxy war due to its distance from the combat zone. At the same time, the proxy war in Ukraine itself began after many years of ideological and organizational conversion of its elites and population against Russia, effectively becoming the third stage of the algorithm for creating puppet governments, which was implemented after the first two stages were fully completed.

The nature of proxy warfare also relies on long and very serious training in the first two stages of the specified algorithm. For example, one of the tools of the United States in Iraq was the bribery of Republican Guard generals who ordered their subordinates to stop resisting. Moreover, bribes to the Iraqi high-ranking military were transferred even before the start of hostilities. This policy allowed the United States and its allies to achieve victory with minimal losses, although the Iraqi army was superior in many respects (Lukyanovich, Silvestrov, 2023).

We should note that modern proxy wars are a truly subtle tool. For example, there is still no clear distinction between proxy warfare and covert operations carried out by an external party without being directly involved in the war (Chanysheva, 2023). In addition, proxy wars are taking place against the background of information wars, in the process of which various narratives are being formed, setting different positions of the warring parties. For example, in American discourse, the mega narrative regarding proxy wars is defined by two polar pairs: *war of choice / war of necessity; just war / unjust war* (Chanysheva, 2023). In this gradation, the U.S. war against Iraq is a just war by necessity, since it defended the Americans, their allies and the interests of the country. Russia's war in Ukraine, on the contrary, is portrayed as a war of choice, unjust and unfair, and therefore Russia is responsible for it (Chanysheva, 2023).

7. Destruction of medical sovereignty. The beginning of the 21st century witnessed a new facet of governance wars – depriving the opposing country of medical sovereignty, which is understood as the problem of the dependence of national elite groups on foreign medicine (Gusev, Khudokormov, 2024). There are many cases of medical care provided to foreign government leaders outside their countries in 2010–2022. Moreover, in relation to Russia, the stories of medical pressure on representatives of the political elite have been revealed, showing personal vulnerability of those who have become dependent on foreign drugs and therapies. This applies to federal politicians, heads of constituent entities of the Russian Federation, major businesspeople, celebrities, and professional athletes[12].

In this case, the work of U.S. special services is being observed to block such a sensitive channel as medical care, and the doctrine of intransigence, which implies the rejection of ethical and legal restrictions, is being implemented.

As part of this trend, there are also "external influences" that cause problems in the health sector of the nation. A typical example of such actions is the new opium wars between China and the United States. For example, the U.S. authorities accuse Beijing of directly subsidizing the production and

[12] The most famous case is that of a Russian statesman, former Prime Minister Yevgeny Primakov, who suffered from liver cancer and underwent surgery in Milan in 2014. Subsequently, it turned out that the U.S. special services had created obstacles in the purchase of the drug that Primakov needed and that was available on American territory; as a result, the drug from the USA to Russia was delivered with a delay (Gusev, Khudokormov, 2024). This was announced by the representative of the Russian Foreign Ministry, M.V. Zakharova: The medicine for Primakov was seized by the American special services. *Uralinformburo*. January 16, 2017. Available at: https://www.uralinform.ru/news/politics/266180-lekarstvo-dlyaprimakova-izyali-amerikanskie-specslujby (accessed: 24.07.2024).

export of the synthetic opiate fentanyl and other illegal drugs, which provoked a new wave of the opioid crisis in the United States. Washington claims that China has become the leading supplier of precursors, the substances necessary for the production of fentanyl; Chinese authorities are supporting their own chemical companies to produce a new opioid and supply it to Mexican drug cartels. Thus, China is stabilizing its revenue base and harming its geopolitical rival, the United States. The damage is very noticeable: due to fentanyl poisoning, which is 50 times stronger than heroin and 100 times stronger than morphine, 200 citizens die in the United States every day, which is equivalent to the daily crash of a passenger Boeing-737; in 2019 deaths from fentanyl overdose in the United States overtook the death rate of road accidents, recently it has become the most common cause of death for Americans aged 18 to 45[13]. We should add that in this case China does not suffer from any ethical dilemma – this is its geopolitical response to the participation of businesspeople from the United States in the Anglo-Saxon campaign to supply opium to China and generate large-scale drug abuse in it, which took place 200 years ago.

8. The use of historical and psychological conditions. The rejection of ethical and legal norms in governance wars allows the leading countries to use historical circumstances against their less fortunate opponents. Let us consider this war factor in more detail using the example of Russia and the United States.

The defeat of the USSR in the Cold War fundamentally weakened Russia, depriving it of many strategic advantages. However, this was not enough for Washington, and it continued to put pressure on Russia in order to further weaken and dismember it. This U.S. policy was based on an important, though not universal, historical pattern, which we will call Rule 1: the country's desire to try again and win the wars it lost or "did not quite win" leads to a repetition of the original disposition, but in deteriorating geopolitical conditions (Evstafiev, 2024, p. 196). For example, Germany, after losing the First World War, tried to "eventually win" it by starting the Second World War. However, the situation fundamentally worsened – now Germany was actively opposed by the sharply strengthened United States (instead of its sluggish and short participation in the First World War) and the consolidated and industrialized USSR (instead of the agrarian Russian Empire with a deteriorating statehood in the First World War). It is not surprising that this war was fatal for Germany. Roughly the same thing is happening to Russia now – it is forced to defend its political sovereignty after its defeat in the Third World War in radically deteriorated geopolitical conditions – it is deprived of huge resources (compared with the USSR, it has lost 30% of its territory and more than 50% of its population, as well as many knowledge-intensive economic sectors) and it is opposed by a greater number of hostile countries (almost all European States, some of which were under the patronage of the USSR during the Third World War). However, unlike Germany, which aspired to geopolitical hegemony during the Second World War, Russia was forced to join the Fourth World War to preserve its sovereignty. This use of Washington's historical advantage and political situation is one of the modern tools of the global governance war.

Among other things, the logic of geopolitical confrontation has deep evolutionary (biological) foundations. Let us explain them using myrmecology. Fertilized ant queens are at constant risk of being killed by ants from another family, and therefore they form a group of 10–15 individuals for joint protection; when the ants of their offspring mature, they ruthlessly destroy the extra females one by one, stretching them by their legs and stinging them to death until only one, the most fertile, remains (Wilson, 2022, p. 73). This leads

[13] See: https://www.rbc.ru/politics/17/04/2024/661fc75e9a794736343f365b?ysclid=m6f39e3hdc804562181

to a biological principle: the maternal structure is destroyed by its own offspring if it is inferior to another more effective structure. This principle can be projected onto the geopolitical system, turning into Rule 2: in dominant countries (Gerschenkron, 2015) that lose global competition to the hegemon State, their own elites and populations often contribute to its collapse in favor of the hegemon State. It was precisely this problem that Russia faced at the start of the special military operation, when a wide stratum of political opposition and the "fifth column" emerged in the country, both among the business elite, politicians, ordinary people, scientific community and cultural workers. By raising the stakes in Ukraine, the United States is using to its advantage the deep biological and psychological patterns of global competition and thereby perpetuating an asymmetry in the behavior of the political classes of the United States and Russia: in the first case, an aggressive, uncompromising and largely irresponsible model of confrontation, in the second – overly cautious, prudent and overly responsible. This fact may not even be realized by the population and decision makers, but it encourages them to adopt a well-defined line of behavior.

Thus, governance warfare relies on the full range of available scientific knowledge, including implicit knowledge from related sciences[14].

Governance wars and governance cycles

The castling of dominant countries and colonies, which periodically occurs in the world economic system, is associated with profound changes in the course of governance wars. It is quite obvious that the colonial cycles would not have taken place if they had not been supported by peculiar governance cycles. In this case, we are talking about the fact that the effectiveness of the governance system of different states is not a constant, but is subject to extremely strong fluctuations. For example, by the beginning of the First World War, the Russian Empire had come up with an extremely ineffective system of government. In fact, the country's ruling class had no clear idea what the global war consisted of, what its rules and laws were, what Russia's essential interests were, and what its strategic goals and objectives should be (Nolde, 2024). However, after the creation of the USSR, the reformatting of the state's governance system began, and for 50 years of its existence, the country had a governance system no worse, and perhaps even better, than that of the United States. Otherwise, the USSR would not have achieved so much while initially finding itself in a tough situation. Subsequently, the situation changed dramatically again – the USSR's governance system took the path of increasing bureaucracy and formalism against the background of an overflow of unqualified managers at all levels of the system. As a result, the Cold War was lost.

In addition to the castling in the level of public administration efficiency within the country, similar processes can be observed between different States. So, before our eyes, the formation of another governance cycle is taking place, when the Chinese governance system begins to surpass the American one. Although a simple measurement is impossible here, there are many indirect facts that indicate this. While the number of man-made disasters is increasing in the United States, and train wrecks are becoming almost the norm, China has created a truly unprecedented infrastructure that attracts tourists from all over the world to witness the wonders of modern construction. The fact that the Chinese company *Broad Sustainable Building* is able to build a 30-storey skyscraper withstanding a magnitude nine earthquake[15] in 2 weeks indicates, first of all, the high culture of corporate governance.

[14] A more detailed consideration of the psychological factors of management warfare is not among the objectives of the article, although it is of interest, as well.

[15] See: https://fishki.net/2821930-beshenaja-strojka-v-kitae-postroili-30-jetazhnyj-otely-za-2-nedeli.html

We see something similar when, for example, Chinese specialists built a multi-storey hotel, completing it in 2 days[16]. Even more impressive is a Chinese project to rebuild and expand the Xi'an Railway Station in Shaanxi Province in northwestern China, which took 9 hours and 1.5 thousand workers; large-scale modernization was carried out in anticipation of the transport boom before, during and after the Spring Festival – Chinese New Year[17]. It is quite obvious that such work is due primarily to the careful planning of all the details of the reconstruction, which once again indicates a qualitatively new level of governance in China. There are almost an infinite number of such examples, whereas the United States has not demonstrated such results for a long time.

Governance cycles can include the phenomenon of opium wars mentioned earlier. In the 19th century European colonists, in collaboration with businessmen from the United States, were able to impose mass opiate consumption on China, followed by a century and a half of degradation of the country, while in the 21st century the Celestial Empire returns its debt to America, provoking a fentanyl crisis among the American population. If 200 years ago the Chinese governance system was unable to prevent negative impacts of world trade in some cases, then at present the American governance system finds itself in a similar situation.

There are more obvious macroeconomic examples in relation to the USA/China castling. For example, an exogenous disaster in the form of the coronavirus epidemic of 2020–2021 caused completely different results in the two countries: in the USA in 2020 production fell by 3%, while in China it increased by 2%; in the USA in 2020–2021 life expectancy decreased by 2.8 years and reached 76 years, while in China it increased up to 78 years; mortality in the USA increased by 25% during this period, i.e. by a million deaths relative to the trend, while in China it did not change (Popov, 2025). The efficiency of the PRC's state machine and the maneuverability of its economy have also demonstrated their capabilities: the production of protective masks in the country increased from 15 million per day in early February 2020 to 100 million per day by the end of the same month; 3,000 Chinese enterprises that previously had nothing to do with health products began producing masks, protective suits, sanitizers and other hygiene products (Popov, 2025). All this once again demonstrates that the effectiveness of public administration in China is already much higher than in the United States.

Thus, the field of governance has its own cycles caused by competition between States and uncompromising governance wars.

Methodological conclusions: five levels of social phenomena

The presence of castling of dominant States and governance wars testifies, first of all, to the impossibility of the eternal hegemony of any empire. The rotation of leaders and outsiders occurs despite all actions aimed at hindering this process. It is not surprising that in the course of such permutations, civilizational risks and military clashes arise. However, history shows that this does not frighten anyone. As Michel Houellebecq rightly wrote, "we risk losing only those economic wars that we lack the courage to enter" (Houellebecq, 2023, p. 521). Apparently, Russia, Iran, China, India, and North Korea have the guts to claim something more than what the current hegemon, the United States of America, has measured out to them.

Another important consequence of the governance wars under consideration is a new understanding of the hierarchy of both the social processes themselves and the social concepts describing them.

[16] See: https://yandex.ru/video/preview/16236185488196857702

[17] See: https://gudok.ru/news/?ID=1450028

Based on planetary logic, it is advisable to consider five social levels. The first one, *meta level*, covers global planetary processes, regardless of state borders. These can be climatic issues, mass population migrations, major natural and man-made disasters, etc. The second, *mega level*, considers the geopolitical space with all States in complex interactions. These are technological, patent, trade, currency, military and other wars and alliances. The third, *macro level*, covers national economy and issues related to regulating its activity and balance. These are traditional monetary, fiscal, and currency policies, etc. The focus of the fourth, *meso level*, is on large sectoral and regional subsystems of the national economy. This is the prerogative of regional policy, intergovernmental fiscal relations, free economic zones, technological and social priorities. The fifth, *micro level*, includes business entities from individuals and households to large corporations. At this level, family and corporate policies are developed, taking into account competition and cooperation with other market participants.

The levels described above are nothing new; however, in our opinion, a new way of looking at them is in the nature of their hierarchy. For example, back in the 1940s the British historian Arnold Toynbee wrote: "One of my own cardinal points was that the smallest intelligible fields of historical study were whole societies and not arbitrarily insulated fragments of them like the nation-states..." (Toynbee, 2011, p. 17). In other words, it is impossible to adequately understand the history of one country or people without understanding the entire world history, in the context of which the respective countries and peoples fit. This provision was shifted from studying historical *retrospect* to forecasting future *prospects*, which gives the following formula: a qualitative forecast of the development of an individual country cannot be made without having an idea of the future development of the whole world (Balatsky, Ekimova, 2021). However, macroeconomics has turned this situation around: according to traditional economic theory, all systemic movements begin from below – at the micro level, spreading further and refracting into larger-scale events at higher social levels. For example, back in the 1980s, the following research paradigm was in effect: "The research methodology consists in evaluating the main indicators of aggregate demand based on the principles of combining micro and macro approaches"; "any macroeconomic construction can be erroneous if it is not supported by a model of a firm operating in conditions of imperfect competition" (Weitzman, 1989, p. 1044). Consequently, other levels grow, up to a powerful state, from the micro level and from the activity and capacity of economic agents. The States themselves compete with each other with the help of more or less effective macroeconomic policies, which allows some to get ahead, while others lag behind.

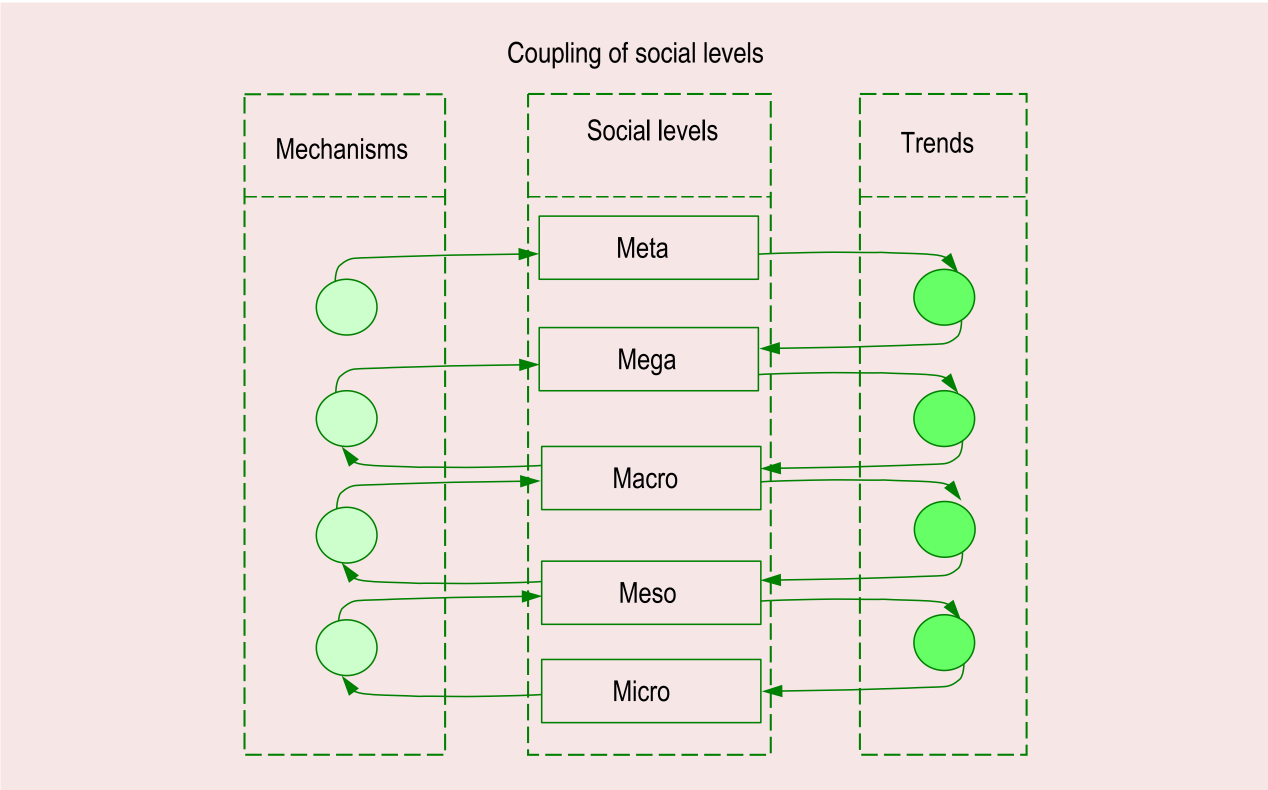
However, in the 21st century, the macroeconomic view of the world turns out to be hopelessly outdated. The hierarchy of links between the levels becomes the exact opposite. Thus, global planetary phenomena, i.e. phenomena of the meta level, generate the very process of the emergence of ancient States, empires and civilizations in a well-defined geographical area – in the "happy latitudes" (Sachs, 2022); thus, the behavioral basis for the next social level is formed. Geopolitical confrontations of States, i.e. mega-level processes lead to the emergence of dominant countries and colonies when the development of the latter is artificially restrained. The subordinate (neocolonial) position of the country leads to the forced adherence of its macro policy to those recommendations that benefit the hegemon State and are often detrimental to the local economy. And finally, inefficient and even inadequate macro policies do not allow national firms and companies, their own innovation markets and entrepreneurial traditions to appear and develop.

Thus, in the global world, the hierarchical rule is formulated as follows: *the higher levels determine the vector of development of the lower ones*. From a philosophical and theoretical point of view, this principle is a projection of the law of synarchy (Shmakov, 2016). In this context, it becomes obvious that the attempts of a dependent State under neocolonial pressure with a controlled governance system to find the right macroeconomic policy to ensure its dynamic development are groundless. It is this circumstance that generates the parade of sovereignty that we have observed in recent years, when an increasing number of countries are trying to get out from under the direct and indirect control of the dominant center – the United States.

Of course, the new view does not negate the old hierarchy, but rather complements it as shown in the *Figure*. As it should be in any cybernetic system, there is a direct and inverse relationship between the social levels. However, the new understanding focuses on the direct link between a higher level and a lower one, which sets the *trends* for the development of the lower level, driven by the needs of the upper level. At the same time, the feedback between a lower level and a higher one creates *mechanisms* for the formation of a higher link, a specific social mechanism for combining active elements into a more global system. These mechanisms themselves turn out to be predetermined by the needs of the highest level.

The hierarchy shown in the Figure corresponds to modern interdisciplinary concepts. Suffice it to recall Edward Wilson's ideas about the relationship between discipline and "anti-discipline": for a certain discipline (science), there is a discipline with a more general object and principles of research, which acts as an anti-discipline. Thus, physics serves as an anti-discipline for chemistry, chemistry for biology, and biology for the social sciences (Wilson, 2015, p. 37).

Indeed, at first an individual should be able to live on Earth at all, after solving this problem there is a need to divide the geopolitical space into separate countries, and when a nation-state



is isolated, it becomes necessary to establish interaction between its regions, and for this it is necessary to provide some organizational models of households and companies. In turn, the specific models of functioning of households and companies determine the degree of success of mastering the fragments of the State, their interaction, etc., right up to the formation of a certain model of the survival of all humankind.

Although this may seem extremely simple and trite, economics is still dominated by the idea that all creative impulses are generated at the individual level, and then they simply aggregate at higher levels. Such ideas produce fruitless arguments about the priority of the individual and the collective. The diagram in the figure removes this confrontation and puts everything in its place.

The misconception that the lower levels predestine the upper ones creates a distorted picture of the economic development of States. For example, the successes and failures of different countries are explained by purely cultural or institutional differences. South Korea and North Korea are typical examples. However, the divergence of these countries' paths is primarily based on their entry into different geopolitical alliances. Currently, there is every reason to get rid of such cognitive distortions.

Conclusion

Thus, the crystallization such a phenomenon as governance wars in the modern world makes it possible not only to introduce this concept, but also to look at many issues in a new way.

The essence of the doctrine of governance wars is to maximize the strengthening of one's own governance system and to critically weaken the enemy's public administration system when all the links of the state body cease to work effectively and cope with their tasks. The specificity of governance wars lies in their unprecedented totality, duration and uncompromising nature. These properties allowed the United States to crush its geopolitical rival, the USSR, without a direct military clash. The immediate result of the defeat in the Cold (governance) War was Russia loosing all the strategic advantages characteristic of the USSR.

The core of the doctrine of governance wars is the structural model of global dominance, in which governing depends on hard, soft and smart power. The set of tools and algorithms for modern governance wars is quite diverse: promoting one's own ideology; working with local elites; masks syndrome and conspiracy in political elites; control over the information space; color revolutions; proxy wars; destruction of medical sovereignty. Proper manipulation of these tools allows the United States to maintain global dominance. At the same time, the existence of governance cycles, which are understood as fluctuations in the level of effectiveness of the public administration system, brings new countries, in particular China, to the forefront of world politics.

The presence of five levels of social phenomena – meta, mega, macro, meso and micro levels – presupposes their two-way hierarchy, since higher-level processes determine the vector of development of lower-level processes; lower-level processes form the mechanisms for the implementation of higher-level processes. In modern conditions, this paradigm is becoming particularly important, preventing the formation of distorted cognitive patterns in relation to the driving forces of development of countries.

References

Alaudinov A. (2024a). Russian national security threatened by new type of hybrid warfare. *Mezhdunarodnaya zhizn'=The International Affairs*, 7 (in Russian).

Alaudinov A. (2024b). U.S. and Chinese approaches to hybrid warfare. *Mezhdunarodnaya zhizn'=The International Affairs*, 11 (in Russian).

Arzumanyan R. (2008). Theory and principles of network-centric warfares and operations. *21-i vek*, 2(8), 66–127 (in Russian).

Balassa B. (1964). The purchasing-power parity doctrine: A reappraisal. *Journal of Political Economy*, 72(6), 584–596.

Balatsky E., Yurevich M. (2022). Consistency principle: Theory and empirical evidence. *Foresight and STI Governance*, 16(3), 35–48.

Balatsky E.V. (2006). Global institutional traps: Nature and specifics. *Mirovaya ekonomika i mezhdunarodnye otnosheniya=World Economy and International Relations*, 9, 102–107 (in Russian).

Balatsky E.V. (2021). The principle of consistency in social development theory. *Terra Economicus*, 19(1), 36–52 (in Russian).

Balatsky E.V. (2022). Russia in the epicenter of geopolitical turbulence: Accumulation of global contradictions. *Economic and Social Changes: Facts, Trends, Forecast*, 15(4), 42–59.

Balatsky E.V. (2024). The American model of global dominance. *Terra Economicus,* 22(2), 6–31 (in Russian).

Balatsky E.V. (2024). The phenomenon of strategic advantages in the 21st century. *Economic and Social Changes: Facts, Trends, Forecast*, 17(4), 39–57.

Balatsky E.V., Ekimova N.A. (2021). Public administration tools: Forecasting vs designing. *Upravlenets=The Manager,* 12(1), 18–31 (in Russian).

Brzeziński Z. (2007). *Eshche odin shans. Tri prezidenta i krizis amerikanskoi sverkhderzhavy* [Second Chance: Three Presidents and the Crisis of American Superpower]. Moscow: Mezhdunarodnye otnosheniya.

Buchheit G. (2024). *Abver. Istoriya voennoi razvedki* [The Abwehr. The History of Military Intelligence]. Moscow: Eksmo; Yauza.

Cebrowski A.K., Garstka J.H. (1988). Network-centric warfare: Its origin and future. *United States Naval Institute Proceedings,* 124(1), 139–148.

Chanysheva Z.Z. (2023). Pragmalinguistic description of proxy wars in geopolitical conflicts. *Politicheskaya lingvistika=Political Linguistics,* 5(101), 48–56 (in Russian).

Devyatov A.P. (2020). *Razvedka budushchego kak iskusstvo obrazov i podobii* [Exploration of the Future as the Art of Images and Likenesses]. Moscow: IP Sokolova A.A.

Evstafyev D.G. (2024). *Strategiya "bol'shoi igry". Rossiya i SShA v Novom Mire* [The Strategy of the "Big Game". Russia and the USA in the New World]. Moscow: Kontseptual.

Fukuyama F. (2006). *Doverie* [Trust]. Moscow: AST.

Gerschenkron A. (2015). *Ekonomicheskaya otstalost' v istoricheskoi perspektive* [Economic Backwardness in the Historical Perspective]. Moscow: Delo.

Gusev A.B., Khudokormov G.A. (2024). Medical sovereignty of Russia: The problem of dependence of domestic elites on therapy abroad. *Journal of Economic Regulation,* 15(3), 75–88 (in Russian).

Gusev A.B., Yurevich M.A. (2023). The sovereignty of Russia in the area of pharmaceuticals: Challenges and opportunities. *Terra Economicus*, 21(3), 17–31 (in Russian).

Houellebecq M. (2023). *Unichtozhit': roman* [Annihilation]. Moscow: zdatel'stvo AST, CORPUS.

Kazantsev S.V. (2024). Development resources of the border regions of the Russian Federation. *Upravlencheskie nauki=Management Sciences,* 14(2), 23–38.

Khudokormov G.A. (2024). Hybrid wars as a new phenomenon in the global world. *Journal of Economic Regulation,* 15(3), 40–51 (in Russian).

Kuznets S. (1973). Modern economic growth: Findings and reflections. *The American Economic Review,* 63(3), 247–258.

Lebedeva M.M. (2017). Soft power: The concept and approaches. *Vestnik MGIMO-Universiteta=MGIMO Review of International Relations,* 3(54), 212–223 (in Russian).

Lukyanovich N.V., Silvestrov S.N. (2023). The strategy of indirect approach in the U.S. foreign policy. *Mir novoi ekonomiki=The World of New Economy,* 17(3), 18–31 (in Russian).

Nolde B.E. (2024). *Rossiya v ekonomicheskoi voine* [Russia in the Economic War]. Moscow: Izdatel'stvo Instituta Gaidara.

Perkins J. (2005). *Ispoved' ekonomicheskogo ubiitsy* [Confessions of an Economic Hit Man]. Moscow: Pretext. 319 p.

Popov V.V. (2025). *Kitaiskaya model'. Pochemu Kitai ran'she otstaval ot Zapada, a teper' ego obgonyaet* [The Chinese Model. Why China Used to Lag Behind the West, but Is Now Overtaking It]. Moscow: Fortis Press.

Sachs J. (2022). *Epokhi globalizatsii: geografiya, tekhnologii i instituty* [The Ages of Globalization. Geography, Technology, and Institutions]. Moscow: Izdatel'stvo Instituta Gaidara.

Sapir J. (2022). Assessing the Russian and Chinese economies geostrategically. *American Affairs*, 6(4), 81–86.

Saunders F.S. (2020). *TsRU i mir iskusstv. Kul'turnyi front kholodnoi voiny* [The Cultural Cold War: The CIA and the World of Arts and Letters]. Moscow: Kuchkovo pole.

Shekhovtsov M.V. (2024). *Sub"ektivizatsiya i upravlenie razvitiem Rossii* [Subjectivization and Management of Russia's Development]. Moscow: Grifon.

Shmakov V. (2016). *Zakon sinarkhii i uchenie o dvoistvennoi ierarkhii monad i mnozhestv* [The Law of Synarchy and the Doctrine of the Dual Hierarchy of Monads and Sets]. Moscow: Sofiya.

Sivkov K., Sokolov K. (2023). *Gibridnaya voina* [Hybrid Warfare]. Moscow: Nashe zavtra.

Stiglitz J.E, Sen A., Fitoussi J.P. (2009). *Report of the Commission on the Measurement of Economic Performance and Social Progress*. Available at: https://ec.europa.eu/eurostat/documents/8131721/8131772/Stiglitz-Sen-Fitoussi-Commission-report.pdf

Sun Tzu (1950). *Iskusstvo voiny* [The Art of War]. Moscow – Leningrad: Izd-vo AN SSSR.

Taleb N.N. (2018). *Riskuya sobstvennoi shkuroi: Skrytaya asim-metriya povsednevnoi zhizni* [Skin in the Game. Hidden Asymmetries in Daily Life]. Moscow: KoLibri; Azbuka-Attikus.

Toynbee A.J. (2011). *Tsivilizatsiya pered sudom istorii. Mir i Zapad* [Civilization on Trial. The World and the West]. Moscow: AST, Astrel.

Volchik V.V. (2023). Unreliable narratives in the context of institutional change. *Voprosy teoreticheskoi ekonomiki*, 4, 53–67 (in Russian).

Volkonsky V.A. (2024). On ideologies and their bearers: Revisiting the issue. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 17(1), 41–59 (in Russian).

Weitzman M.L. (1989). The simple macroeconomics of profit sharing. *Ekonomika i matematicheskie metody=Economics and Mathematical Methods,* 25(6), 1004–1021 (in Russian).

Wiener N.L. (1968). *Kibernetika, ili upravlenie i svyaz' v zhivotnom i mashine* [Cybernetics: Or Control and Communication in the Animal and the Machine]. Moscow: Soviet Radio.

Wilson E.O. (2015). *O prirode cheloveka* [On Human Nature]. Moscow: Kuchkovo pole.

Wilson E.O. (2022). *Planeta murav'ev* [Tales from the Ant World]. Moscow: Al'pina nonfikshn.

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The European Economic Slump: Between Global Reasons and Country-Specific Causes

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Abstract. The European economy (in the sense of EU-27 and Euro-20) is currently experiencing a period of economic difficulties that are reflected in lower growth than that of the United States and Asian countries. It seems to be losing its relevance on the scale of the global economy. This is the immediate result of the sharp rise in energy prices induced by the sanctions taken against Russia, but also of structural factors in the EU (energy market) and the existence of the euro. To some extent, the process of economic integration pursued in the EU has contributed to spread and diffuse the energy crisis among EU members. This is in part explaining the current situation that worsen the new US policy about trade and tariffs. However, these general problems are added to crisis factors that are specific to each of the member countries, as shown by the study of the three main economies of the EU, France, Germany and Italy. These three economies are still weighting more than 50% of the EU GDP. They are facing specific crisis factors going from a strong deindustrialization, a loss in labor productivity and a strongly degraded fiscal situation for France to the combination of a weak internal demand and a long-standing crisis in Italy and to a crisis of the very model of the German economy caught between the energy crisis that hit harder a more industrialized base and a general dereliction of public infrastructures. But for Germany, the common currency – the euro – seems to have played a much negative role, particularly for France and Italy. The combination of these specific problems and general problems is proving difficult to resolve, the more so when the EU is facing President Trump's new trade policy. One can wonder if the economic and monetary integration has not been pushed too far without a balancing global fiscal integration.

Key words: European Union, energy, economic forecast, euro area, investment, recession, re-localization, tariffs, Trump's trade policy.

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Introduction

The European economy has been deeply affected by two external shocks, the COVID-19 crisis and armed conflict in Ukraine with all its consequences. After the post-COVID recovery the growth nearly stalled because of changes in geopolitical conditions. Anti-Russian sanction disorganized European industry and trade. This crisis has a strong and lasting impact on economic activity but has not hit equally all EU country members. Still, this crisis has overshadowed specific issues in the three most powerful EU economies (France, Germany and Italy). The combination of global reasons and country specific issues is at heart of the current situation. Now the EU is also facing Donald Trump's protectionist offensive. But it is affecting countries in different ways. For some countries, like Germany and Italy, it is now an existential issue when France looks less affected.

This is also raising another question. Could economic, and partly monetary, integration – the pride of the EU – have played against the EU in spreading current difficulties?

Assessing the European union economic situation

The economy of the European Union is diverse given the heterogeneity of the EU. However, core EU countries have slowed down for several months. Symptomatically, the Eurozone, which concentrates the largest economies of the EU (France, Germany, Italy) and is the pride of the EU with its monetary integration, is slowing down even more. The outlook seemed better before Trump's tariffs announcements. But this is likely to change downwards and the EU seems to be caught between D. Trump's hammer and energy anvil and could lead to a rise in what is called "euroscepticism" in many countries (Vasilopoulou, Talving, 2023).

The EU growth has never regained the pace it had before the "subprime crisis" of 2008 to 2010 (*Tab. 1*). Between 2010 and 2023 (Artus, 2024), the EU and EZ accumulated considerable a lag toward USA and Asia. The current difficulties therefore date partly from before the current crisis period. However, the consequences of COVID-19 and of the conflict in Ukraine and sanctions have worsened the situation with a resurgence of what is called Euroscepticism (Szczerbiak, Taggart, 2024). The phenomenon is old and has always accompanied the European Union (De Vries, Hobolt, 2020). However, it is now spreading to parties in the center of the political spectrum and not just to the far right or the far left (Engler, 2020). It is this weakened EU that how has to face new D. Trump's trade policy.

The context: is the European Union falling behind global growth?

The EU is accumulating a significant gap to the Emerging Asia or ASEAN-5. Neither the European Union nor the Eurozone, are any longer the growth engine of the global economy (*Fig. 1*). The same is true for the United States. The COVID-19 crisis has hit the different European countries unevenly (Sapir, 2021a), but the gap with Asia has also been significant (Sapir, 2021b). We can therefore wonder about the combination of crises, both global and local, that are currently affecting the EU (Schilin, 2024). A careful study of their combination could explain why this economic slump.

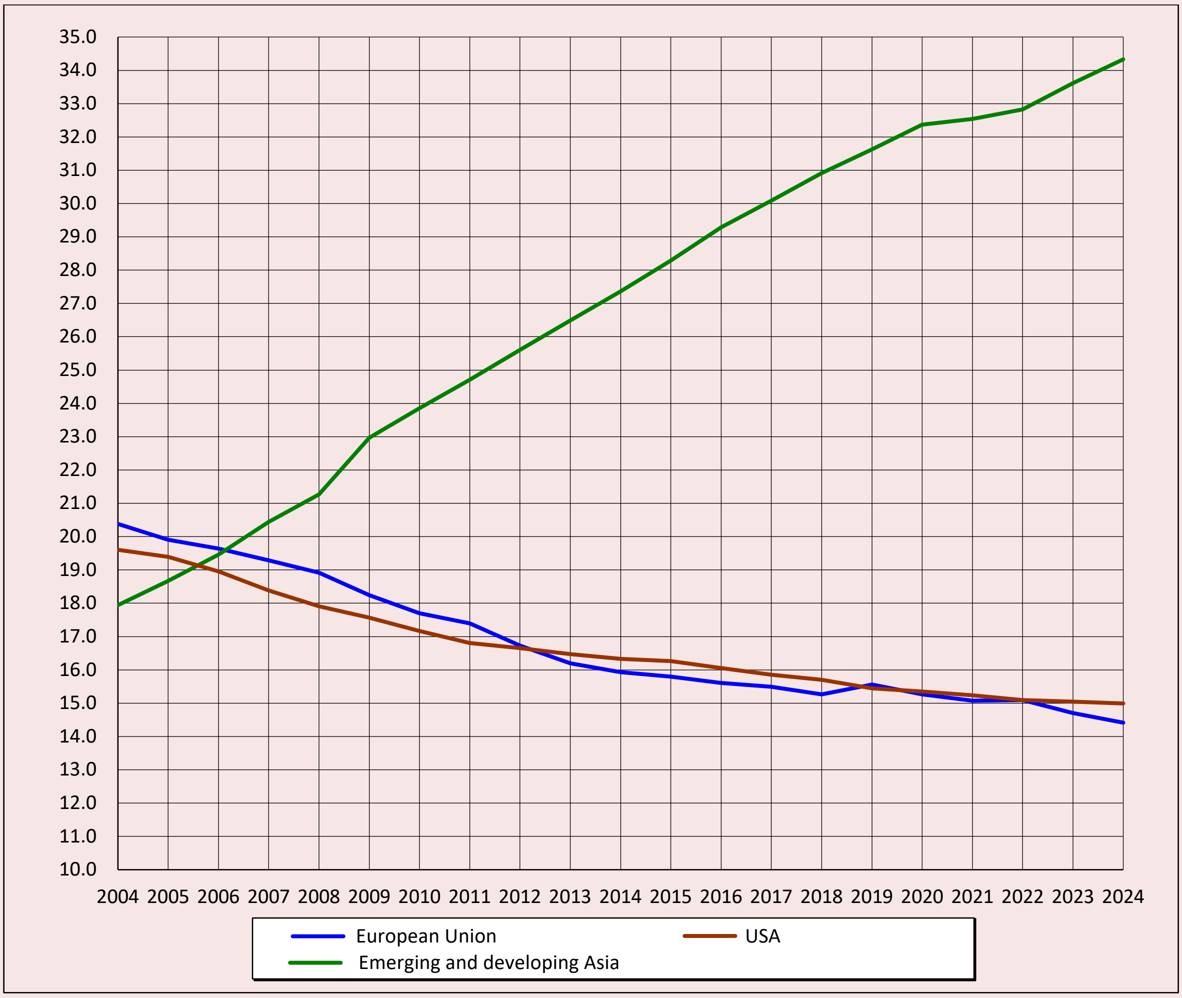
Table 1. GDP and unemployment growth estimates and forecasts for 2024–2026, %

Year	GDP		Unemployment	
	EU-27	Euro Area	EU-27	Euro Area
2024	0.9	0.8	6.1	6.5
2025	1.5	1.3	5.9	6.3
2026	1.8	1.6	5.9	6.3
Source: Autumn 2024 Economic Forecast: A gradual rebound in an adverse environment. Available at: https://economy-finance.ec.europa.eu/economic-forecast-and-surv...n-2024-economic-forecast-gradual-rebound-adverse-environment_en				

In recent decades, Europe has witnessed a significant intensification of economic and financial interconnectivity (Sidorova, 2021), driven by the expansion of trade, capital mobility, and coordinated policy frameworks among Member States, this deep integration was intended to facilitate substantial opportunities for economic growth (Sánchez-García et al., 2024), to enable economies to capitalize on shared markets, efficient resource allocation, and technological diffusion. But it actually has failed to deliver a significant boost to growth. This is raising doubt about the economic efficiency of EU integrated institutions (Moiseeva, 2024). One major problem has been the failure of these integrated institutions to foster investment. A huge gap is emerging toward Asia, less large but significant with the ASEAN-5 countries, tends to increase again since 2023 (*Fig. 2*). That generated highly critical comments about the EU economic policy (Rogoff, 2024).

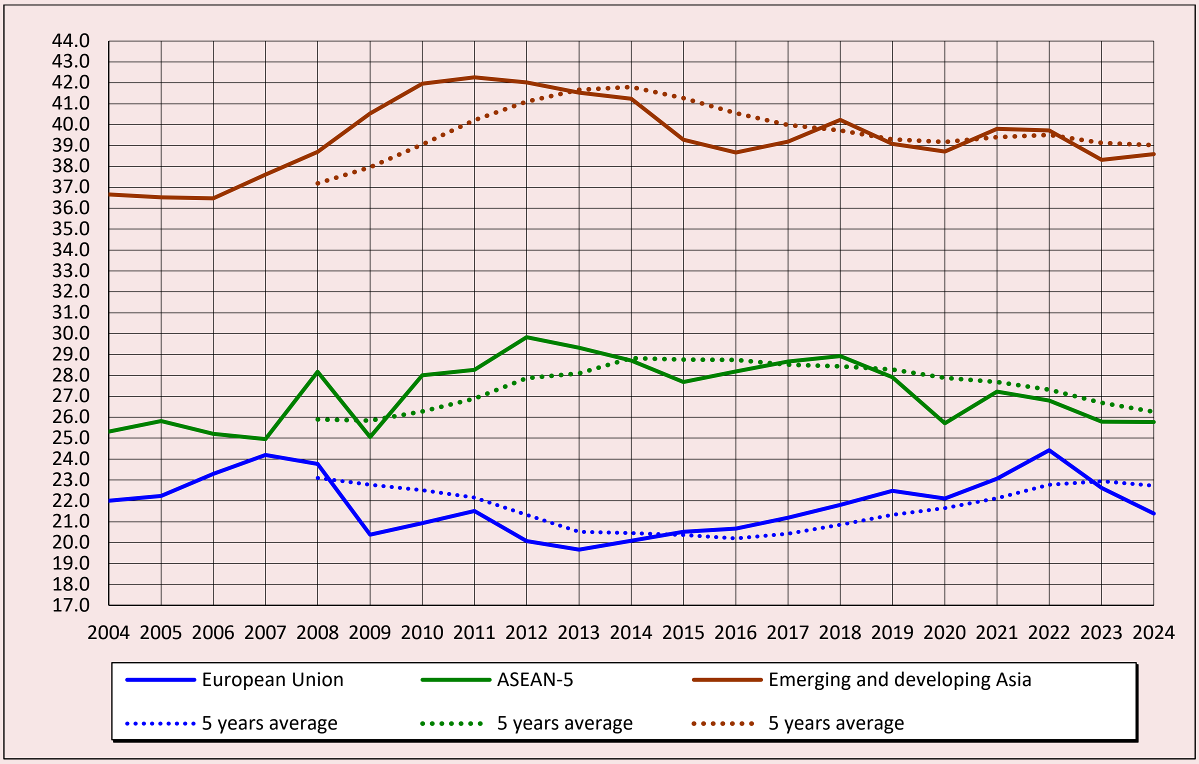
By the way, the recent economic crise underlined too negative effect of economic interdependence at the EU level (Rezaei Soufi et al., 2022), highlighting how a crisis in one country can quickly turn into a regional problem (Alessi et al., 2020). This is a kind of paradoxical effect as this interdependence was a conscious political goal to enhance EU economic competitiveness

Figure 1. Share of world GDP in PPP, %



Source: IMF, World Economic Outlook database, October 2024.

Figure 2. Investment, in % of GDP



Source: IMF, World Economic Outlook, October 2024.

(Krawczyk et al., 2023; Kuc-Czarnecka et al., 2023). As European economies become increasingly integrated, a number of studies have identified a wide range of macroeconomic, social, and structural indicators, such as government deficits, unemployment rates, and income inequality, as being relevant in assessing vulnerability to economic crises.

The shock of the energy crisis and its consequences

Armed conflict in Ukraine since February 2022 has triggered strong political reactions of the EU with several packages of sanctions against Russia (Batzella, 2024). But these sanctions have been taken without any thoughts given to a possible "Boomerang effect", that they could do more damage to countries taking these sanctions than on the sanctioned country, Russia (Sapir, 2023). This was quite surprising considering that previous economic sanctions against Russia (2014–2016) has already given mixed results on this point (Bali, 2018; Bali, Rapelanoro, 2021; Giumelli, 2017). What is more, no attention seems to have been given to possible retorsion measures taken by Russia (Van Bergeijk, 2014).

Sanctions on energy were (and still are) a very sensitive point. Assessments have been made, mostly by the IMF (Albrizio et al., 2022; Bachmann et al., 2022), but also by the French government (Baqaee et al., 2022) and the Bank of Italy (Borin et al., 2022). Other have clearly identified direct and indirect links going from the German economy to other countries (Alessandri, Gazzani, 2023). It was quickly obvious that the destruction of Nord Stream gas pipe would lead to concentrate the shock on a gas price hike[1]. It had extended into a general

[1] Public Measures to Counter Energy Price Increases in Advanced Countries. Bank of Italy Annual Report for 2022. Bank of Italy, 2023.

rise in energy prices (Mingsong et al., 2024). The switch from direct gas pipe to sea delivered LNG with all the infrastructure needed has a cost (Bialek et al., 2023), a topic abundantly quoted in the EU literature on energy security (Knodt et al., 2024).

After an initial shock, prices receded a bit, but in the first semester 2024 they were still significantly higher (by 45–46%) than in the second semester of 2021 (*Tab. 2; Fig. 3*). Of course, some countries, like France, subsidized their enterprises, but at a very high cost as far the public deficit was concerned[2]. The same apply also for residential use.

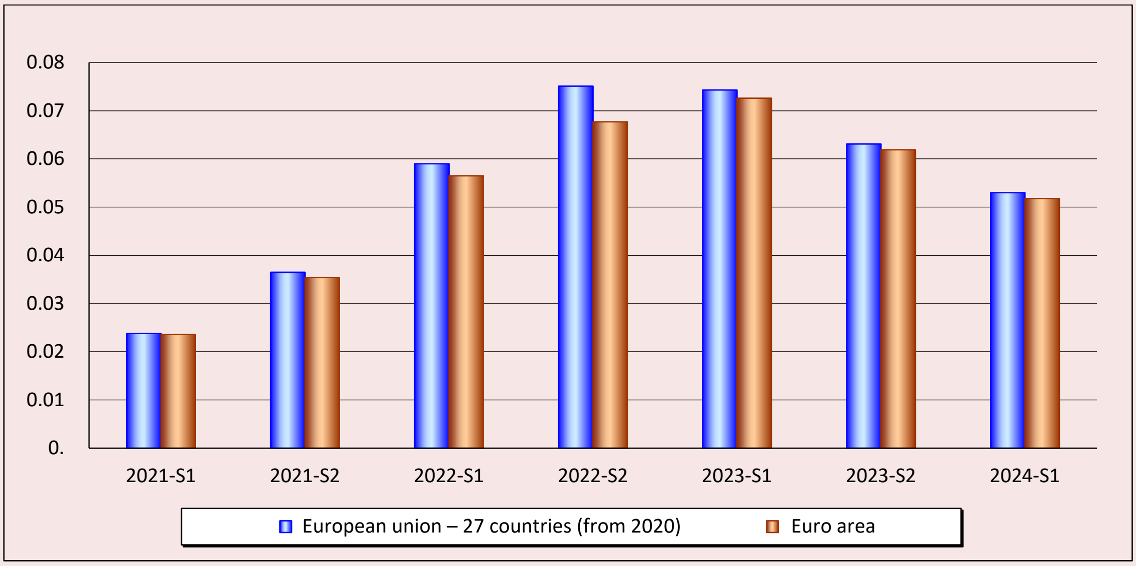
Table 2. Evolution of non-residential gas prices, semestrial average, %

Period	EU-27	Euro Zone (EZ-20)
2022-S1/2021-S2	161,6	159,6
2022-S2/2021/S2	205,8	191,2
2023-S1/2021-S2	203,6	205,1
2023-S2/2021-S2	172,9	174,9
2024-S1/2021-S2	145,2	146,3
Source: Eurostat.		

The energy shock was a direct result of sanctions against Russia. It exemplified too the nexus of divergent interests and the plays of Institutions inside the EU. It had considerable an impact on German industrial production and on French public finance. But the energy prices shock had deeper consequences. Seven countries like Czechia, Slovakia, Germany and Poland have prices above the EU average. Nevertheless, but for three countries, the general situation improved in comparison to Germany. German position globally degraded as far as non-residential gas prices were concerned, and gas, both as an energy source or a raw material in the industry is a very important factor of competitivity.

Still, the sanctions Boomerang effect was not the only reason behind the energy prices surge. As a matter of fact, the European "market for energy" was (and still is) deeply dysfunctional (Bureau et al., 2023) both in the way it transmits to different

Figure 3. Gas prices for non-household consumers



Source: Eurostat, Gas prices for non-household consumers - bi-annual data (from 2007 onwards).

[2] La flambée des prix de l'énergie: un effet sur l'inflation réduit de moitié par le 'bouclier tarifaire'. INSEE Analyses. No. 75. September, 2022.

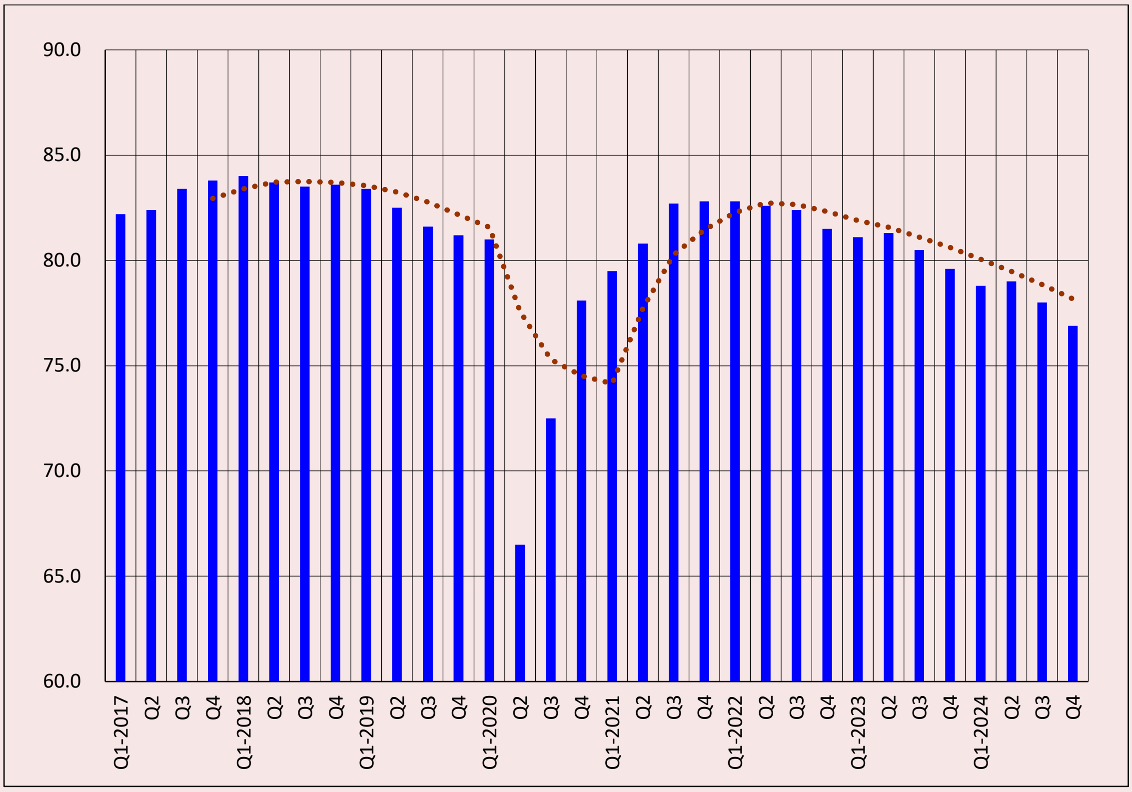
economies any external shock (Hidalgo Pérez et al., 2022), and more generally in the way it computes energy prices.

The current crisis

We will use the capacity utilization rate in manufacturing industry as a a reasonable proxy of the global activity. One can see in *Figure 4* that the COVID-19 shock has been quite violent and recovery did not happen before the second quarter of 2021. The capacity utilization rate then peaked for the rest of 2021 year and the first 2022 quarter before the effect of the energy crisis could be felt and then began to fall till the fourth 2024 quarter where it reached a value of 76.9%, implying a decrease of -5.9%.

Of course, the EU economic heterogeneity implies that significant differences could exist among Member State. Three countries are displaying a significant increase of the capacity utilization rate in manufacturing industry: Cyprus, Greece and Malta (*Tab. 3*) to the contrary of the rest of the EU. This is neither a surprise nor a coincidence. These three countries have a manufacturing sector quite strongly dependent of shipbuilding or ship-repair and they are all known to have much benefitted from the shift from gas pipe to LNG travel. These countries are, to some extent and paradoxically, better off with sanctions because of their specific industrial specialization. Some other countries, like Romania and Bulgaria, have been shielded from the sanction-induced gas hike, and are also quite better off. But the same doesn't apply for Nordic or Balt countries, which implies that the interruption of cross-border trade has also a strong negative impact on the capacity utilization rate.

Figure 4. Capacity utilization rate in manufacturing industry – Euro area, %



Source: Eurostat, European Commission – Directorate-General for Economic and Financial Affairs (ECFIN).

Table 3. Capacity utilization rate evolution among EU countries, %

Country	2022-Q2	2024-Q4	2024-Q4 – 2022-Q2
Malta	64.6	81.4	16.8
Cyprus	58.5	63.0	4.5
Greece	76.4	78.4	2.0
Romania	71.7	72.4	0.7
Bulgaria	74.9	75.4	0.5
Czechia	81.6	81.9	0.3
Portugal	81.8	81.8	0.0
Luxembourg	79.9	79.5	-0.4
Estonia	68.5	66.5	-2.0
Poland	80.0	77.9	-2.1
France	82.2	80.1	-2.1
Spain	80.0	77.5	-2.5
Latvia	75.4	72.8	-2.6
Sweden	85.0	82.0	-3.0
Croatia	80.2	77.1	-3.1
Slovakia	83.9	80.3	-3.6
Italy	79.3	74.9	-4.4
Slovenia	85.5	80.9	-4.6
Belgium	80.0	75.3	-4.7
Lithuania	77.2	71.7	-5.5
Hungary	80.6	74.5	-6.1
Austria	88.8	82.2	-6.6
Finland	80.7	74.0	-6.7
Netherlands	84.2	77.1	-7.1
Germany	85.2	76.1	-9.1
Denmark	85.4	76.0	-9.4
Average	78.9	76.6	-2.3

Note: Ireland not included for lack of data.
Source: Eurostat – European Commission – Directorate-General for Economic and Financial Affairs (ECFIN).

Countries have lost as high of 9% for Germany or Denmark which is considerable. Losses are highly significant too for countries quite linked to German economy, like Netherlands (7.0%), Austria (6.6%), Hungary (6.1%), Belgium (4.7%) or Italy (4.4%). Sanctions have then induced a strong negative economic effect on the EU and the Euro Area economies coming through the mechanism of energy prices or because of the disruption of cross-border trade. Both these combined effects are magnified by economic integration that foster deeper transmission of external shock.

A lesson can here be learned. But for countries either with a specific industrial specialization which helped them to benefit from the change of energy trade and the new relevance of maritime transportation or that have been relatively shielded from the sanctions boomerang effect, the loss in industrial production as an effect of sanctions has been quite severe. It was deeper for more industrialized economies than for other, but also deeper for more integrated countries than for others. For some, this effect was even amplified by a reduction in the local trade with Russia.

Industrial development and economic integration have then amplified the boomerang effect. Quite interestingly EU mechanisms supposed to boost economic activity have played in the reverse because the boomerang effect was largely concentrated on energy, and energy vital a factor in highly developed countries. An interesting point is the fact that for a lot of countries albeit their position relative to Germany improved in the wake of the energy shock their economic situation degraded to a significant point. It is possible that the decrease in demand coming from Germany has more than offset the relative improvement toward Germany for energy price. European internal trade was an important target of European integration. The single market institutions were supposed to foster this inter-EU trade. But in the current crisis they worked here against some countries. It's quite possible this happened because we lack perspective on that point and this situation could be reversed in years to come. Nevertheless, in short term the demand effect seems to be greater than the relative prices one. It is an important fact to be kept in mind as far an EU global economic policy is to be worked on.

However, countries specific situations) are quite important to understand how they economically behave. The study of economic specificities is also important to understand the evolution of the three larger economies, Germany, France and Italy (*Tab. 4*). Since the BREXIT, these countries are the biggest EU or Euro Area economies, but they display some interesting trajectory differences.

These differences are to play a significant role in the response to Trump's new trade policies as the level to trade exposure is obviously not the same. Germany certainly is the most exposed country and the one that could suffer much from the announced tariffs hike. France is probably the less exposed and Italy is between both. This is giving a new dimension to the crisis as D. Trump's tariffs are an existential threat to the German industry.

The three major EU economies: similarities and dissimilarities

France, Germany and Italy are all facing formidable economic problems, but for different reasons.

In France, also the decline in productivity coupled with deindustrialization and the drift of the public deficit are structural causes of the crises.

Italy, for its part, suffers from a mode of insertion in the EU and the Eurozone that prevents it from fully reaching its potential and adds to the old ills of Italian society. In this context, the energy price crisis has come to break the recovery that was announced once the COVID-19 crisis was over.

Germany as we seen was very hard hit by this energy price crisis, which has also been amplified by the behavior of some companies that have abused their market power, thus revealing a flaw in German regulation. By the way, the possibility that some major enterprises will reshore to the USA to benefit from low energy prices is quite real. However, this energy crisis has been added to structural crises. Germany has sacrificed infrastructure investments for too long to the dogma of balanced budgets and it is facing competition from Chinese companies which, in a context of high energy costs and aging infrastructure, is now becoming a worrying problem.

Table 4. France, Germany and Italy, as a % of EU-27 and Eurozone GDP

	2015	2016	2017	2018	2019	2020	2021	2022	2023
EU-27	56.5	56.4	55.9	55.5	55.0	54.8	54.3	53.3	53.1
Euro-20	65.2	65.1	64.8	64.4	64.0	64.0	63.6	62.7	62.6
Euro-12	66.9	66.9	66.6	66.2	65.9	65.9	65.6	64.7	64.7
Source: Eurostat, Gross domestic product at market prices.									

Still, these countries are making more than half of the EU-27 or of the different Euro Area configurations.

The EU GDP is then quite concentrated. The next three countries, Spain, Netherlands and Poland, are making 19.3% of the total GDP, that is 36.3% of the first three countries. As a matter of fact, the 9 first countries are making 80.0% of the EU-27 GDP and the 13 first countries 90.0%. This concentration is giving us an idea of the importance of the first 3 countries in the EU economy, not just by the absolute weight but also by the links they have created with other countries through cross-border trade and the effect of European integration. However, it is also a fact that growth in France, Germany and Italy has been usually lower than the average growth of the EU-27 or the Euro-20.

France in deep troubles

Notwithstanding political troubles, the French economy has been marked by a very slow and declining growth[3] coupled to a poor fiscal policy which let the budget deficit out of control. The fall in inflation did not lead to a recovery in consumption, contrary to what was hoped for. Business investment and employment suffered greatly from the political uncertainties that grew from July onwards. In this context several facts are to be highlighted.

True, France resisted to the energy shock. The so-called "Energy shield" or "Prices shield" however cost the country around 60 billion euro, or nearly GDP 1,1% a year. It reduced the energy-induced inflation by around 2,2% (with an actual inflation rate of 5,9% in 2022 against a counter-factual 8,5% without the shield) (Lemoine et al., 2024). The Energy-price shield has then helped to limit inflation and supported economic growth (+0.3 pp of GDP over 2022–2023) when forecasts made at the beginning of the energy shock were quite pessimistic (Heyer, 2022). But, the relatively favorable results of the Energy-price shield were contingent on the temporary nature of the energy price shock. In the event of a persistent shock, it would only have postponed the increase in inflation, unless it was maintained in the long term, at a prohibitive budgetary cost.

There was a clear budgetary slippage following the measures taken to support economic activity during the COVID-19 crisis. The so-called "emergency measures" taken in the COVID-19 pandemics and after had an important cost for the French budget and pushed both the budget deficit (*Fig. 5*) and the debt to GDP ratio to new levels (Heyer, 2022). But budget deficit was also clearly structural. This is to be associated with a trend of overvaluation of the real effective exchange rate (REER) linked to the Euro since it was adopted by 1999 (*Tab. 5*). Since then, it seems that French governments made a deliberate choice to pursue a growth target higher than what the French competitiveness allowed by running a budget deficit. French GDP growth has been higher than Germany's one but it had a cost.

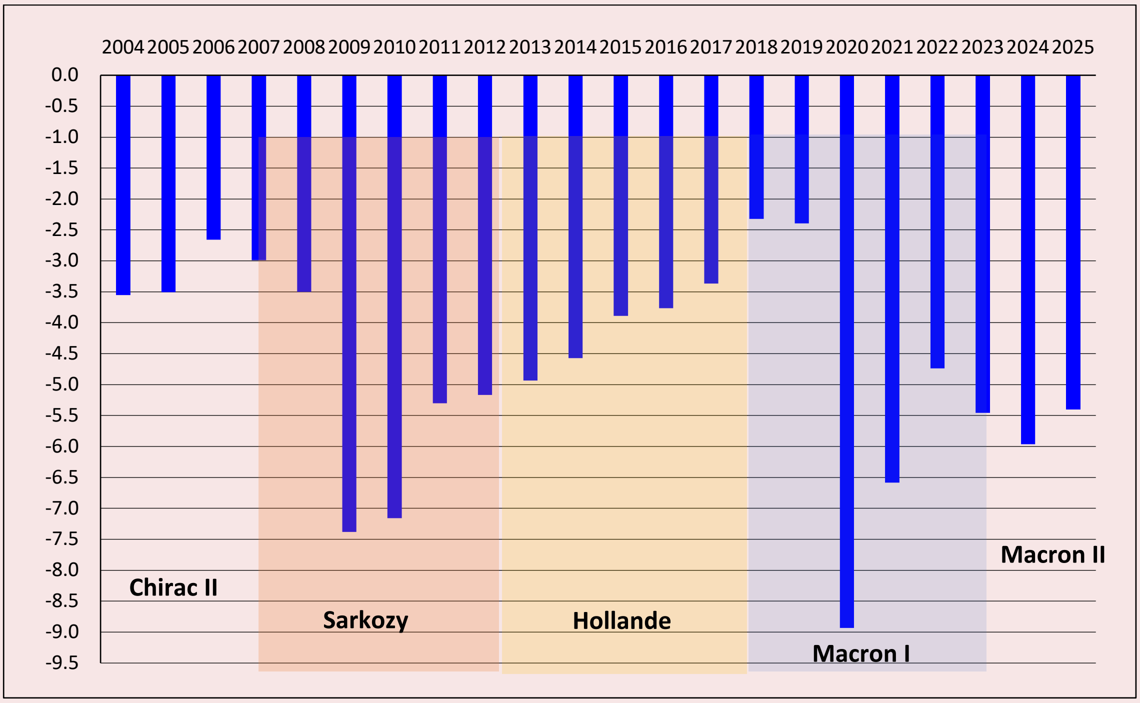
Not only has Euro considerably slowed down growth among Euro member countries (Bibow, Terzi, 2007), but for Germany, but it has induced considerable costs on countries like France and Italy (Gasparotti, Kullas, 2019). If we retain this structural explanation of budget deficit linked to the Euro (Sapir, 2016), one of the major problem the French economy is facing, could be that it had no room to maneuver when it had to face external shocks.

Consumption and investment have been quite disappointing since the COVID-19 crisis. If the inflationary episode seems to be over (Huber et al., 2024), households are only just beginning to perceive this improvement[4]. Despite solid gains in purchasing power their consumption has

[3] INSEE. Le PIB en volume se replie légèrement au quatrième trimestre 2024. Informations Rapides. Note 24. January 30th, 2025.

[4] INSEE. La croissance entre pouvoir d'achat et incertitudes. Note de Conjoncture. Montrouge. October 9th, 2024.

Figure 5. Budget deficit (IMF standard), %



Note: Presidencies where the budget has been drafted are showed on the graph.

Source: IMF, World Economic Outlook database and public declaration of the French Minister of Finance in the French Parliament finance committee January 23 and 24 (see Reuters: "Le déficit 2024 devrait avoisiner 6% du PIB", January 23, 2004).

Table 5. Gap with the German Real Effective Exchange Rate (REER), IMF computation, %

Country	2017	2018	2019	2020	2022	2023
France	19.0	15.5	15.1	17.2	14.9	10.8
Italy	20.0	18.0	15.1	8.9	17.1	19.0
Euro Area	11.0	10.0	8.2	7.4	15.8	5.8
USA	27.0	22.0	22.0	17.4	16.8	13.3
India	14.0	13.0	5.4	2.9	0.0	-2.4
China	14.0	11.5	9.0	8.7	2.1	8.2

Note: year 2021 has been omitted as post-COVID 19 recovery is too much affecting data.
Source: IMF, External Sector Report, various year.

disappointed in 2024. The "Olympic period" of 2024 has only slightly increased consumption[5]. The rise of the public sector consumption has quite probably avoided France to enter a recession by the end of 2023 but, as already said, to quite a high budget deficit cost. Investment contracted in 2024 (-1.5%) after a feeble growth in 2023 (+0.7%). As a matter of fact, 2024, investment declines significantly as mentioned (-1.5% after +0.7% in 2023), with a new, more pronounced decline in

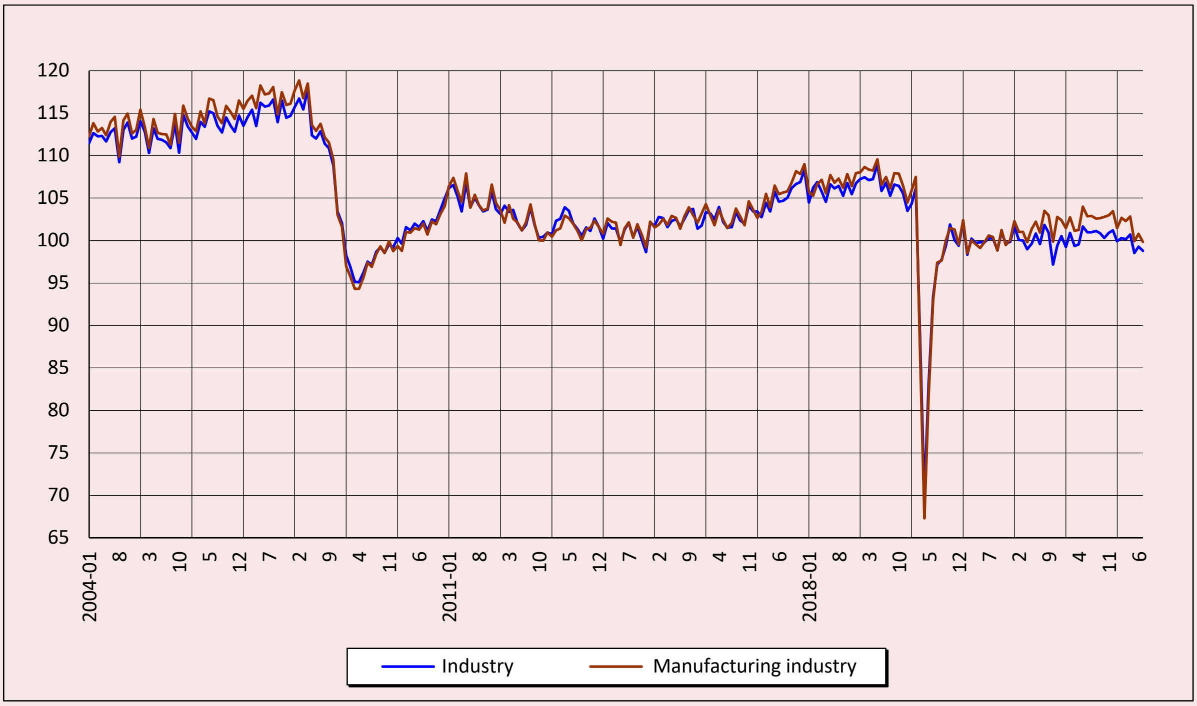
[5] INSEE. Le PIB en volume se replie légèrement au quatrième trimestre 2024. Informations Rapides. Note 24. January 30th.

investment in construction (-2.5% after -0.9%), a sector that is experiencing a real crisis, and a sharp decline in investment in manufactured products (-4.5% after +3.8%)[6].

However, the current slow growth and investment drop France is facing is also to be put into a more general context, one of continuous deindustrialization (Dufourcq, 2022; Fontain, Vigna, 2019). This deindustrialization is a consequence of REER overvaluation since 1999. This process was not a French specificity (Cowie, Heathcott, 2003) but is leading to a global impoverishment of the population and an increased vulnerability to external shocks. It also increases imbalance among regions, a considerable problem for France (Dalmasso, 2017).

Industrial production has been steadily declining as a share of GDP for more than twenty years (Mouhoud, 2006). Industrial production continued to grow until the eve of the 2008–2010 crisis. This crisis has never been overcome (*Fig. 6*). Even more serious, production in volume, which was impacted by the COVID-19 crisis, has never returned to its 2019 level. The government's various efforts to "reindustrialize" the economy, efforts that were regularly affirmed from the end of 2020 to 2022 (Allain, 2020), have largely failed to produce lasting effects (Chevallier, 2023). The fact that French industrial production has been unable to recover its pre-COVID-19 level is revealing another hidden story: the one of stagnant or declining labor productivity[7].

Figure 6. France – industrial production (index 100 = January 2014)



Source: INSEE.

[6] Ibidem.

[7] INSEE. Institut national de la statistique et des e tudes e conomiques. National Statistics Office. Recent labour productivity developments in the four major euro area economies: A breakdown by industry. Economic Outlook. December 2022.

Since 2019, labor productivity in France has fallen by 8.5% relative to the pre-COVID trend (*Tab. 6*), and as a result job creation has outpaced GDP growth (Devulder et al., 2024). This could be a good point but turns into a sore one once impact of this productivity drop on enterprises competitiveness is figured out. By the way, this new trend is mostly unexplained (Heyer, 2023).

Different factors could explain this drop in labor productivity in 2023 (Askenazy et al., 2024). One important point is that the productivity drop during the COVID crisis was bigger in France than in other European countries and the recovery after the COVID crisis was much smaller and slower. This situation could be in part explained by a focus on employment but for another part is clearly not linked to this focus. This is the real issue. Unexplained factors can't be addressed. Till they could be identified they will plague the French economy and its competitiveness.

Forecasts made for 2025 indicated that growth would remain weak but could increase in 2026 and 2027 (*Tab. 7*). But they had been done before D. Trump's tariffs announcement and their consequences on the global economy and the situation could be more degraded than what it seems.

The INSEE January 2025 note[8] showed the impact of economic deceleration in the fourth quarter that could extend to the first quarter on 2025. The economic consensus was quite pessimistic

Table 6. Contribution to the loss of productivity per capita
(as deviation from the pre-COVID trend, percentage points)

Apprenticeship	1.2
Work force composition	1.4
Permanent effects of the COVID crisis	0.4
Posted workers and regularization of undeclared work	0.1
Total permanent losses	**3.1**
Labor hoarding in some sectors	1.7
Job retention scheme	0.1
Sick leave	0.0
Total temporary factors	**1.8**
Unexplained factors	**3.6**
Grand total (%)	**8.5**
Source: Devulder A., Zuber T., Ducoudré B., Lemoine M. (2024), Explaining productivity losses observed in France since the pre-Covid period. Bulletin de la Banque de France, 251(1), March, p. 2.	

Table 7. Main macroeconomic indicators, %

Indicator	Confirmed	**Expected**	**Forecast**		
	2023	2024	2025	2026	2026
Real GDP	1.1	**1.1**	0.9	1.3	1.3
CPI	5.7	**2.4**	1.6	1.7	1.9
CPI, excluding energy and alimentation	4.0	**2.4**	2.2	1.8	1.8
Unemployment rate (ILO methodology)	7.3	**7.4**	7.8	7.8	7.4
Source: Projections macroéconomique – Décembre 2024. Banque de France, Paris, December 16, 2024.					

[8] INSEE. Le PIB en volume se replie légèrement au quatrième trimestre 2024. Informations Rapides. Note 24. January 30th, 2025.

in 2025 early months[9], and the French entrepreneur association, REXECODE, diffused among economists a forecasted figure of 0.6% for 2025 growth. A reduction in growth forecast from 1.1% to 0.9% made the French Minister of Economy and Finance, Mr. Eric Lombard, to move from a 5.1% to a 5.4% budget deficit target. If the growth is to sink deeper – to 0.7%–0.6% – the budget deficit could then reach 5.8% to 6.0%, a level not very different from the one of 2024.

French specific issues have interacted with the EU context to generate the current economic situation. The EU sanction generated energy crisis has been partly blunted by France through the "energy prices shield" but to a considerable budget deficit cost. This short-term issue was mixed with a long-term one, the budget deficit drift the Euro caused. Both of them are leading France toward major a fiscal problem. Still, in the medium term, France has to focus on its labour productivity problem to find solution at the current crisis. With labour productivity growth stagnating, there is no hope to regain competitiveness, to achieve cost reductions and to fund the social system and pensions. But, first of all, causes of this stagnation are to be completely understood.

In the long-term France has to reverse the deindustrialization process that is making it more vulnerable to external shock coming from the international situation. But to do so France has to recover its manoeuvre margins to be able to focus on its comparative advantages in cheap and green nuclear energy, in aeronautics and advanced technologies. This implies recovering the ability to depreciate the national currency. That could implies too deleting regulations, mainly but not only European ones, that limit the ability to focus on France comparative advantages.

[9] Picard M. (2025), France – 2025–2026 scenario: In search of political stability, with growth undermined by uncertainty. Available at: https://www.credit-agricole.com/en/news-channels/the-channels/econ...earch-of-political-stability-with-growth-undermined-by-uncertainty

French difficulties are then part linked to the EU sanctions induced energy crisis and of the Euro Area straight jacket and part related to French specific issues.

Italy: the long and short crisis

Italy is in a curious situation. Current results look mildly disappointing, but less than German ones and on par with France. Still, Italy is in a deep crisis, but one that begun nearly twenty years ago. The factual causes of this long stagnation are quite disputed. Alberto Bagnai put it to economic consequences of the European Monetary Union and the Euro as in France (Bagnai, 2012; Bagnai, 2016). Other explanations have been raised. For example, some have argued that the Italian slowdown is due to the country's continued specialization in traditional sectors and its inability to upgrade its sectoral specialization (Faini, Sapir, 2005). This argument however has been challenged by Pellegrino and Zingales (Pellegrino, Zingales, 2017). Other dimensions of supposed Italian "backwardness" are also frequently highlighted by the literature as the insufficient levels of human capital, a bank-centered financial system based on personalized relations, a centralized industrial relations system preventing adjustment of wages to local productivity levels, and a society prone to familism, as well as cronyism and corruption, a cumbersome bureaucracy with complex and non-transparent rules, and an inefficient court system (Toniolo, 2013). Given the long list of deficiencies, some economic historians have come to the paradoxical conclusion that what is in need of explanation is not the Italian decline, but the previous period of growth (Di Martino, Vasta, 2015). The main problem with this type of argument is that the negative features it concentrates on have been present for a long time, including when the Italian economy was growing faster than those of other countries, and there is no evidence that they have worsened after the 1990s. Logically, a time-invariant factor should not be invoked as a cause of a time-variant effect.

Another set of explanations are revolving around an insufficient economic liberalization[10] (Pagano, 2019). But (Baccaro, D'Antoni, 2024) conclude to European origins of Italy's stagnation, and some authors describe some structural reforms implemented because Italy could devaluate no more its currency (Daveri, 2012). The EMU has exacerbated difficulties coming from the Italian economy structure (Bagnai, Mongeau Ospina, 2014; Zezza, Zezza, 2020).

The current slump too was initiated through the "energy crisis" that reverberated among the EU (Canelli et al., 2024). This slump resulted in a strong contraction of internal demand that induced a strong reduction of imports and then an improvement of the trade balance. Without external demand the situation would be worse and Trade balance is expected to stay in the positive zone[11]. Capital formation was strongly affected but with a one-year lag. Unemployment slightly declined but stayed at a high level and the decline of inventories played to a negative role in growth. In 2024, GDP growth has been supported by net foreign demand while domestic demand decreased. D. Trump's new tariffs are raising considerable a problem for Italy in 2025 as prospects for foreign demand, mainly in the EU are decreasing[12].

Household private consumption will continue to be bolstered by the increase in real wages. Labor market improvements will contribute to a sharp reduction in the unemployment rate in 2024 (+6.5%, down from +7.5% in 2023), followed by a further slight decrease in 2025 (6.2%).

However, investment is still big a problem. Deletion of measures taken in the post-COVID 19 are taking their toll. Italy is then rejoining France in the investment slump.

The country looks more dependent on Foreign trade than France, hence more likely to be affected by the present turmoil. The Italian statistical office (ISTAT) has revised downward its estimates from 1.0% to 0.5% for 2024 and from 1.1% to 0.8% for 2025 expected results[13]. In a context where the economic situation is on a trend of degradation both in France and in Germany, the main Italian economy partners, even this revision appear to be quite optimistic and there is now a strong consensus among economists to put between 0.6% and 0.4% 2025 growth.

Specificities of Italian crisis, and particularly the long stagnation since the beginning of the 2000's, are compounding its current problem mostly linked to the EU energy crisis and the negative effect coming from Germany. These specificities are adding their own drag on the EU stagnation

Germany: the collapse of an economic system?

Germany, once the heart of Europe's industrial economy is turning into the "sick man" of the EU and is in recession for the second year in a row[14]. The main cause of the crisis is the huge rise in sanctions-induced energy prices. Of all EU countries, Germany certainly has been one the worst hit by the sanctions Boomerang effect. German industry, because of its specialization on sectors with a high energy consumption (metallurgy, chemicals, automobile industry) was particularly dependent of the cheap Russian gas flow coming by gas tubes. However, if energy prices clearly were major a crisis reason they were not the only ones.

[10] IMF. Italy: Selected Issues. Washington DC, International Monetary Fund. European Dept. Volume 2024: Issue 241. Available at: https://www.elibrary.imf.org/view/journals/002/2024/241/article-A002-en.xml

[11] ISTAT. Le prospettive per l'economia italiana nel 2023–2024. December 2023. Available at: https://www.istat.it/it/files//2023/12/Prospettive-per-economia-italiana-5-dicembre-2023.pdf

[12] ISTAT. Italy's economic outlook 2025-25. December 5, 2024.

[13] ISTAT. Italy's economic outlook 2025-25. December 5, 2024. P. 8.

[14] See: Destatis, Statistisches Bundesamt. Available at: https://www.destatis.de/EN/Themes/Economy/National-Accounts-Domestic-Product/Tables/gdp-bubbles.html; https://www.destatis.de/EN/Press/2025/01/PE25_019_811.html

First of all, the manufacturing industry is in crisis plagued by a rise of energy costs since 2022[15]. It had direct consequence on the GDP growth (*Tab. 8*). But it is not the only crisis factor. Particularly in the automobile industry, German enterprises are losing ground to their Chinese competitors (Schmitz, Matthes, 2024) because a lack of innovations. Furthermore, households have refrained from purchasing despite the increase in their income due to uncertainty about the development of the economic situation.

The surge in energy prices has led to severe a contraction in the energy-intensive sector's production, while the non-energy intensive sector's industrial production has remained resilient (Chen et al., 2023). Production of other industries saw limited declines during 2022, followed by a gradual increase in 2023 as pandemic-induced supply disruptions started easing and external demand recovered.

However, unit profit per real output has exceeded the historical trend and increased by almost 20 percent in the two years after the beginning of the Ukrainian crisis, and the average profit share was 2 percentage points higher than the 2019 average. A survey conducted by DIHK, but also academic researches, suggest that facing higher energy costs, three-quarters of manufacturing firms in Germany planned to pass high production costs onto end-users (Weber et al., 2024; Nikiforos et al., 2024). Some companies have taken advantage of their or market power to increase their sales prices more than was indicated by the development of purchase prices (Ragnitz, 2022; Nabernegg et al., 2024).

It appears then that energy-cost induced inflation in Germany was used as a tool by some companies to alter profit redistribution (Weber, Wasner, 2023). This is pointing to loopholes in German regulations that clearly are unable to prevent enterprises to implement a policy detrimental to the final consumer (Fletcher et al., 2024).

In manufacturing, as said, output was down and gross value added dropped significantly. Key sectors like the manufacture of machinery and equipment or the automotive industry saw a marked decline in production. Production remained at a low level in energy-intensive industrial branches[16], the long-standing weak order situation coupled with high costs is leading a third of industrial companies to plan to reduce staff while only eleven percent expect to increase staff. Employment expectations in the automotive industry are particularly negative where this situation is coupled with a lack of innovation.

As consequence, from January to September 2024, the labor market deteriorated as economic output stagnated. The deterioration of the labor market is expected to be contained as economic growth resumes and ageing continues to weigh

Table 8. Gross domestic product of Germany

Indicator	2021	2022	2023	2024
GDP growth, price adjusted, %	3.7	1.4	-0.3	-0.2
GDP growth, price and calendar adjusted, %	3.6	1.5	-0.1	-0.2
GDP at current prices, billion euro	3.676.5	3.953.9	4.185.6	4.306.4
GDP per inhabitant, euro	44.190	47.183	49.525	50.836
GDP par person in employment, %	3.5	0.0	-1.0	-0.4
Source: Destatis (https://www.destatis.de/EN/Press/2025/01/PE25_039_811.html).				

[15] German economy is losing ground. DIHK survey, fall 2024. Available at: https://www.dihk.de/en/german-economy/german-economy-is-losing-ground-123310

[16] German economy is losing ground. DIHK survey, fall 2024. Pp. 21–23. Available at: https://www.dihk.de/en/german-economy/german-economy-is-losing-ground-123310

on labor supply. Nominal wage growth has been decelerating, but as inflation fell more, real compensation increased by 2.3% y-o-y in 2024-Q2[17].

Problems in production and employment were not the only ones. The decline in investment was sharp for the fifth year in a row. In 2024, gross fixed capital formation in machinery and equipment declined even more than gross fixed capital formation in construction. When facing the stiff competition coming from China, it is not good news. German industry is losing what has once made its advantage, a highly effective capital base. Its energy sector is in shambles and it has to review its whole energy strategy.

Public investment in Germany was on the average quite low since the late 1990's and enabled the German government to keep down budget deficit but put the country at the bottom of advanced economy for public investment[18]. This is raising a strong problem of labor productivity as noted by the IMF (Fletcher et al., 2024). Germany is now facing a major block-obsolescence issue, one that could imply expenditures as high as 2% GDP (at 2024 prices) for the next five to seven years in addition to investments needed for the "green transition" (a point that current economic difficulties have put into question) and to diversify energy sources. The budget deficit, now at GDP -2.8% in 2024, could increase to over 3.0% as Germany is facing a huge investment effort but also strong demands from the population for more social benefits. But the decay of infrastructures (road, railroad, bridges) is now looking like a serious crisis, which could imply a 500 billion euros (at 2024 value) till 2030. Note here that the future expansion of the public debt could have a strong eviction effect on French and Italian public securities (Strezhneva, 2025).

Consumption had ever been one of the weak points of German economy. The slowing pace of inflation was only able to encourage spending to a limited extent. The biggest increases in household final consumption expenditure (price adjusted) were in the area of health (+2.8%) and transport (+2.1%), which reflects also the age structure of the German society. By contrast, households spent considerably less on food and beverage service activities and accommodation services than in the previous year (-4.4%). In addition, less clothing and footwear were bought in 2024 than in 2023 (-2.8%), after adjustment for price effects[19].

The growth in 2025 could be between -0.2% and +0.2%, that is well under IMF forecasts, and the total cumulated growth for 2025–2027 could not exceed 1.0%. Moreover, this extremely weak growth will be mostly supported by the service sector with its traditional low productivity. Risks of deindustrialization look severe in the context of D. Trump's economic offensive.

The German economic slump is to be associated with the Boomerang effect of sanctions. But it has revealed much deeper weaknesses of the German economic model: a long-standing lack of investment, both public and private, had a detrimental effect on German competitiveness, despite clear a strong undervaluation of the REER. This is real an issue as China is stepping up its competitive power and Washington is trying to induce main German industrial producers to re-locate in the US to benefit of much lower energy prices and to avoid newly implemented tariffs. The lack of a buoyant internal consumption is also a contributing factor of the German disease. Consequences of German illness are reverberating in the whole EU and notoriously in countries that were subcontractors of German firms (Czech

[17] Economic Forecast for Germany. Brussels, European Commission. November 15, 2024.

[18] https://books.openbookpublishers.com/10.11647/obp.0222/ch3.xhtm

[19] German economy is losing ground. DIHK survey, fall 2024. P. 24. Available at: https://www.dihk.de/en/german-economy/german-economy-is-losing-ground-123310

Republic, Slovakia), mostly – but not only – on the economic side. In that sense, Germany is also part of creating a toxic EU economic context.

Conclusion

The European Union is currently going through a period of great difficulties, which could easily turn into an open crisis in the coming months or years. The current difficulties stem largely from the boomerang effect of the sanctions taken against Russia since the end of February 2022. But they come too from the cumulative effect of individual crisis: deindustrialization, loss of labor competitivity and fiscal policies issues linked to the Euro for France, the long stagnation of the Italian economy also associated with the Euro, the decaying of the German industrial model. Interactions between specific and general causes are complex. But quite clearly the level of economic integration achieved by the EU is playing against the EU by spreading local diseases to a general level. So, rise here several questions: was the EU overextended, both geographically and on the institutional side? Was the Euro a mistake? Would European economies be better off with different kind o grouping giving each country more flexibility in time of crisis? By the same token, it seems difficult to achieve a common EU position toward Trump's tariffs and trade policies as divergences between EU countries are important. These questions are clearly existential ones for Europeans.

References

Albrizio S., Bluedorn J.C., Koch C., Pescatori A., Stuermer M. (2022). Market size and supply disruptions: Sharing the pain of a potential Russian gas shut-off to the European Union. *IMF Working Papers*, WP/22/143.

Alessandri P., Gazzani A.G. (2023). *Natural Gas and the Macroeconomy: Not All Energy Shocks Are Alike.* DOI: http://dx.doi.org/10.2139/ssrn.4549079

Alessi L., Benczur P., Campolongo F. et al. (2020). The resilience of EU member states to the financial and economic crisis. *Social Indicators Research*, 148(2), 569–598.

Allain J. (2020). Réindustrialiser la France L'exemple d'une ville moyenne, Bourges. *Les Analyses de Population & Avenir*, 28(10), 1–18.

Artus P., (2024). Economics: Why Europe is falling behind the USA. *Polytechnique Insight*. Available at: https://www.polytechnique-insights.com/en/columns/economy/economy-why-europe-is-falling-behind-the-usa/

Askenazy P., Cupillard E., Houriez G., Jeauneau Y., Roucher D. (2024). A la recherche des gains de productivit perdus depuis la crise sanitaire. *Blog de l'INSEE*. Available at: https://blog.insee.fr/la-productivite-du-travail-fr-depuis-la-c...0premier%20trimestre%202024,moyenne%20entre%202011%20et%202019.

Baccaro L., D'Antoni M. (2024). Tying your hands and getting stuck? The European origins of Italy's economic stagnation. *Review of Political Economy*, 36(3), 1104–1129.

Bachmann R., Baqaee D., Bayer C. et al. (2022). What if? The economic effects for Germany of a stop of energy imports from Russia. *ECONtribute Policy Brief,* 28.

Bagnai A. (2016). Italy's decline and the balance-of-payments constraint: A multicountry analysis. *International Review of Applied Economics*, 30(1), 1–26.

Bagnai A., Mongeau Ospina C.A. (2014). The a/simmetrie annual macroeconometric model of the Italian economy: Structure and properties. *a/ Working Papers Series 1405*. Italian Association for the Study of Economic Asymmetries. Rome.

Bagnai I. (2012). *Il Tramonto dell'euro*. Regio Emillia, Imprimatur.

Bali M. (2018). The impact of economic sanctions on Russia and its six greatest European trade partners: A country SVAR analysis. *Finansy i biznes=Finance & Business,* 14(2), 45–67.

Bali M., Rapelanoro N. (2021). How to simulate international economic sanctions: A multipurpose index modelling illustrated with EU sanctions against Russia. *International Economic*, 168, 25–39.

Baqaee D., Moll B., Landais C., Martin P. (2022). The economic consequences of a stop of energy imports from Russia. *Focus,* 084-2022.

Batzella F. (2024). Slowly but surely? Assessing EU actorness in energy sanctions against Russia. *Energy Policy,* 192.

Bialek S., Schaffranka C., Schnitzer M. (2023). The energy crisis and the German manufacturing sector: Structural change but no broad deindustrialisation to be expected. *VoxEU Column*.

Bibow J., Terzi A. (Eds). (2007). *Euroland and the World Economy: Global Player or Global Drag?* New York: Palgrave Macmillan.

Borin A., Conteduca F. P., Di Stefano E. et al. (2022). Quantitative assessment of the economic impact of the trade disruptions following the Russian invasion of Ukraine. *Occasional Paper 700.* Bank of Italy.

Bureau D., Glachant J.-M., Schubert K. (2023). Le triple défi de la réforme du marché Européen de l'electricité. *Notes du Conseil d'Analyse Économique*, 76, March.

Canelli R., Fontana G., Realfonzo R., Passarella M.V. (2024). Energy crisis, economic growth and public finance in Italy. *Energy Economics,* 132.

Chen Y., Lan T., Mineshima A., Zhou J. (2023). Impact of high energy prices on Germany's potential output. *IMF selected Papers SIP 2023/059.* IMF, Washington D.C.

Chevallier M. (2023). La France se réindustrialise-t-elle ? *Alternatives Économiques*, 438, 60–61.

Cowie J., Heathcott J. (Eds). (2003). *Beyond the Ruins. The Meanings of Deindustrialization*. Ithaca: Cornell University Press.

Dalmasso A. (2017). Territoires et désindustrialisations: trajectoires d'entreprises et marginalisation territoriale. In: Daumas J.-C., Kharaba I., Mioche P. (Eds). *La Désindustrialisation: une fatalité?* Besançon: Presses universitaires de Franche-Comté.

Daveri F. (2012). La flessibilità parziale del mercato del lavoro, un inefficace sostituto della svalutazione. In: Messori M. (Ed.). *Il modello di sviluppo dell'economia italiana quarant'anni dopo*. Milano: Egea.

De Vries C.E., Hobolt S.B. (2020). *Political Entrepreneurs and The Rise of Challenger Parties in Europe*. Princeton: Princeton University Press.

Devulder A., Zuber T., Ducoudré B., Lemoine M. (2024). Explaining productivity losses observed in France since the pre-Covid period. *Bulletin de la Banque de France*, 251/1, March.

Di Martino P., Vasta M. (2015). Wealthy by accident? firm structure, institutions, and economic performance in 150(+4) years of Italian history: Introduction to the special forum. *Enterprise & Society*, 16(2), 215–224.

Dufourcq N. (2022). *La désindustrialisation de la France 1995–2015.* Paris: Odile Jacob.

Engler S. (2020). Centrist anti-establishment parties and their protest voters: More than a superficial romance? *European Political Science Review,*12(3), 307–325.

Faini R., Sapir A. (2005). Un modello obsoleto? Crescita e specializzazione dell'economia italiana. In: *Oltre il decline.* Bologna: Il Mulino.

Fletcher K., Kemp H., Sher G. (2024). Germany's real challenges are aging, underinvestment, and too much red tape. *IMF Country Focus*. Washington DC: IMF. Available at: https://www.imf.org/en/News/Articles/2024/03/27/germanys-real-challenges-are-aging-underinvestment-and-too-much-red-tape

Fontaine M., Vigna X. (2019). La désindustrialisation, une histoire en cours. 20 & 21. *Revue d'histoire*, 144(4), 2–17.

Gasparotti A., Kullas M. (2019). *L'Euro a 20 ans: qui sont les perdants, qui sont les gagnants.* Freiburg Centrum für Europäische Politik. Available at: https://www.cep.eu/fileadmin/user_upload/cep.eu/Studien/20_Jahre_Euro_-_Gewinner_und_Verlierer/cepStudy_20_years_Euro_-_Winners_and_Losers.pdf

Giumelli F. (2017). The redistributive impact of restrictive measures on EU members: Winners and losers from imposing sanctions on Russia. *Journal of Common Market Studies*, March, 1–19.

Heyer E. (2022). La croissance manque d'énergie – perspective 2022–2023 pour l'économie française. *Revue de l'OFCE*, 178(3), 131–163.

Heyer É. (2023). Comment expliquer l'évolution de l'emploi salarié depuis la crise Covid? Une analyse économétrique sur données macro-sectorielles. *Revue de l'OFCE*, 180(2023/1), April.

Hidalgo Pérez M., Mateo Escobar R., Collado Van-Baumberghen N., Galindo J. (2022). *Estimating the Effect of the Spanish Gas Price Cap for Electricity Generation*. ESADE.

Huber F., Onorante L., Pfarrhofer M. (2024). Forecasting euro area inflation using a huge panel of survey expectations. *International Journal of Forecasting*, 40(3), 1042–1054.

Knodt M., Ringel M., Bruch N. (2024). Secure and sustainable? Unveiling the impact of the Russian war on EU energy governance. In: *The War Against Ukraine and the EU: Facing New Realities*. Cham: Springer Nature Switzerland.

Krawczyk D., Martynets V., Opanasiuk Y., Rekunenko I. (2023). Socio-economic development of European countries in times of crisis: Ups and downs. *Sustainability*, 15(20), 14820.

Kuc-Czarnecka M., Markowicz I., Sompolska-Rzechuła A. (2023). SDGs implementation, their synergies, and trade-offs in EU countries – sensitivity analysis-based approach. *Ecological Indicators*, 146.

Lemoine M., Petronevich A., Zhutova A. (2024). Bouclier tarifaire sur les prix de l'énergie en France: quel bilan ? *Bulletin de la Banque de France*, 253/4, July–August.

Mingsong S. et al. (2024). The Russia-Ukraine conflict, soaring international energy prices, and implications for global economic policies. *Heliyon*, 10(16).

Moiseeva D.E. (2024). Multi-level governance in the EU: Institutional problems. *World Economy and International Relations*, 68(12), 80–87.

Mouhoud E.M. (2006). *Mondialisation et délocalisation des entreprises*. Paris: La Découverte.

Nabernegg M., Lange S., Kopp T. (2024). Inflation in Germany: Energy prices, profit shares, and market power in different sectors. *International Journal of Political Economy*, 53(4), 342–363.

Nikiforos M., Grothe S., Weber J.D. (2024). Markups, profit shares, and cost-push-profit-led inflation. *Industrial and Corporate Change,* 33(2), 342–362.

Pagano U. (2019), Proprietà e controllo delle grandi imprese: un'interpretazione del resistibile declino italiano. *L'industria*, 40(2), 223–251.

Pellegrino B., Zingales L. (2017). Diagnosing the Italian disease. *National Bureau of Economic Research Working Paper 23964.*

Ragnitz J. (2022). *Gewinninflation und Inflationsgewinner.* IFO Institute, Dresden, December.

Rezaei Soufi H., Esfahanipour A., Akbarpour Shirazi M. (2022). A quantitative approach for analysis of macroeconomic resilience due to socio-economic shocks. *Socio-Economic Planning Sciences*, 79, 101101.

Rogoff K. (2024). Europe's economy is stalling out. *Project Syndicate*. Available at: https://www.project-syndicate.org/commentary/keynsian-...s-will-not-save-eu-economies-by-kenneth-rogoff-2024-11

Sánchez-García E., Martínez-Falcó J., Marco-Lajara B., Gigauri I. (2024). Building the future through digital entrepreneurship and innovation. *European Journal of Innovation Management*. DOI: https://doi.org/10.1108/EJIM-04-2024-0360

Sapir J. (2016). *L'Euro contre la France, l'Euro contre l'Europe*. Paris: Le Cerf.

Sapir J. (2021a). The economic shock of the health crisis in 2020: Comparing the scale of governments support. *Studies on Russian Economic Development*, 32(6), 579–592.

Sapir J. (2021b). Is eurozone accumulating an historic lag toward Asia in the Covid-19 context? *Economic Revival of Russia,* 1(67), 89–102.

Sapir J. (2023). Wendet sich der Wirtschaftskrieg gegen Russland gegen seine Initiatoren? In: Luft S., Kostner S. (Eds). *Ukrainekrieg. Warum Europa eine neue Entspannungspolitik braucht.* Frankfurt am Main: Westend-Verlag.

Schilin A. (2024). EU or euro area crisis? Studying differentiated integration as an idea structuring elite perceptions of the sovereign debt and the COVID-19 crisis. *Journal of European Integration*, 46(1), 47–68.

Schmitz E., Matthes J. (2024). *Konkurrenzdruck aus China für deutsche Firmen, IW-Report, Nr. 30.* Köln.

Sidorova E.A. (2021). *Fiscal Integration in the European Union*. Moscow: Ves' Mir. Available at: https://www.imemo.ru/publications/info/fiskalynaya-integratsiya-v- evropeyskom-soyuze-imemo-ran-im-em-primakova-moskva-izdatelystvo- vesy-mir-2021-200-s-isbn-978-5-7777-0850-2 (In Russian).

Strezhneva M. (2025), Institutional dynamics of fiscal integration in the European Union. *World Economy and International Relations*, 69(4), 25–35.

Szczerbiak A., Taggart P. (2024). Euroscepticism and anti-establishment parties in Europe. *Journal of European Integration*, 46(8), 1171–1191.

Toniolo G. (2013). An overview of Italy's economic growth. In: *The Oxford Handbook of the Italian Economy since Unification*. Oxford: Oxford University Press.

Van Bergeijk P.A.G. (2014). Russia's tit for tat. *VoxEU-CEPR*. Available at: https://voxeu.org/article/russia-s-tit-tat

Vasilopoulou S., Talving L. (2023). Euroscepticism as a syndrome of stagnation? Regional inequality and trust in the EU. *Journal of European Public Policy*, 31(6), 1494–1515.

Weber I.M., Lara Jauregui J., Teixeira L., Nassif Pires L. (2024). Inflation in times of overlapping emergencies: Systemically significant prices from an input–output perspective. *Industrial and Corporate Change,* 33(2), 297–341.

Weber I.M., Wasner E. (2023). Sellers' inflation, profits and conflict: Why can large firms hike prices in an emergency? *Review of Keynesian Economics,* 11(2), 183–213.

Zezza F., Zezza G. (2020). A stock-flow consistent quarterly model of the Italian Economy. *Levy Institute Working Paper 958*. Annandale-on-Hudson, NY: Levy Economics Institute of Bard College.

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China's Belt and Road Initiative: Evolution, Opportunities, Contradictions

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Abstract. China's Belt and Road Initiative (BRI) has been named the world's largest infrastructure program of the 21st century. As the BRI is implemented in practice, it demonstrates to the world its new capabilities and features, including in the light of the COVID-19 crisis. The article identifies three stages in the development of the BRI, differing in geographical coverage, variability of declared tasks, financial instruments for implementation and approaches to the development of transport infrastructure. The findings of our research show that the development of the BRI was initially determined by the establishment of commercial relations between China and countries on its periphery on the basis of five key blocks of tasks. Subsequently, the Initiative transformed into an open agreement in which any interested countries can participate, and the main focus shifted toward the formation of the Digital Silk Road, the Green Silk Road and the Health Silk Road. The BRI has achieved tangible macroeconomic results. By 2025 the Initiative covered over 70% of the world's countries except for Australia, North America, and Western

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Europe. Reliable prerequisites have been created for the expansion of Chinese companies abroad, based on government financial support, significant production investments and the possibility of using improved infrastructure. Given its extensive geographical coverage and economic scale, the development of the BRI is an important event in shaping a new network of global transport corridors. However, the criteria for including infrastructure facilities in the list of projects under the BRI are still unclear. As for potential concerns of the countries involved in the Initiative, some of them include possible threats of an influx of labor from China, loss of control over strategic assets, use of less environmentally friendly technology, and increased financial dependence on China.

Key words: Belt and Road, economic corridor, infrastructure projects, international cooperation, China.

Introduction

Over the past two decades, there has been a transformation of global economic space (Minakir, 2022). There is a gradual shift in economic growth centers from the West to the East, and Asian countries are characterized by trade flows concentration and the rapid development of transport infrastructure. The driving force of this process is China, which is demonstrating megaprojects to the world: completion of a network of high-speed railways connecting 18 provinces within eight-hour’s travel; construction of Grand Canal combining five river systems of China (Aritua et al., 2020; Aritua et al., 2022).

One of the most ambitious ideas is the Belt and Road Initiative (BRI), proposed by Chinese President Xi Jinping in Astana (Kazakhstan) in 2013[1]. The basic principles, structure, priorities and mechanisms of cooperation under the BRI were formulated later, in 2015.

The BRI project promises to transform economic and strategic relations for much of Central Asia and the Middle East. Initially, it was expected that the BRI would unite about 70 countries, which together would account for up to 65% of the world’s population and a third of global GDP. It was assumed that the development of trade and investment attraction would increase income growth in the countries located along the corridors of the BRI. It was thought that the implementation of the BRI project would reduce travel time along economic corridors by 12%, increase trade volume from 3 to 10%, lift 7.6 million people out of extreme poverty and 32 million people out of moderate poverty[2]. China’s government spending on the implementation of the BRI is expected to exceed 1 trillion US dollars in total (Nedopil, 2025). It is believed that the successful use of the Initiative will accelerate the process of transition from the unipolar world that existed after 1991 to a multipolar world (Siddiqui, 2019).

Twelve years have passed since the announcement of the BRI. At the moment, it is difficult to measure the achievements of the Initiative, since the economies of the participating countries are at different levels of development. Nevertheless, while some researchers see new opportunities in the implementation of the Initiative for developing trade relations, mutually beneficial cooperation, and improving the well-being of the population (Yuan, 2014; Lam et al., 2018; Sun et al., 2022), others note that this Initiative should be treated with great caution, since the number of underestimated risks may significantly exceed the number of obvious benefits (Zhang, 2015; Garlick, 2017; Comolli, Rose, 2021).

[1] Buranelli F.C. One Belt, One Road and Central Asia: Challenges and Opportunities (www.978-981-10-5921-6_12.pdf).

[2] Belt and Road Economics: Opportunities and Risks of Transport Corridors. World Bank, 2019. DOI: 10.1596/978-1-4648-1392-4

It seems that at this stage, the identification of inconsistencies between the current and declared state of affairs in the implementation of the China's Belt and Road Initiative remains a scientific challenge. Therefore, the aim of the study is to identify the main periods when the basic objectives of the BRI were reformulated and there were changes in the geographic scope, participation format and investment vehicles. According to the authors, this approach allows assessing the importance of the BRI in the currently changing political and economic conditions of the world order.

Research data and methods

The methodological basis of the work is various research methods: analytical, comparative, descriptive, statistical, expert and cartographic. The focus is on the transport corridor BRI projects, their origin, status and development prospects. The study period is 2013–2025. The analyzed data include secondary data from government and department statistics, regulatory and analytical documents taken from official reports and websites of the World Bank Group (WBG), Financial Inclusion Support Framework (FISF), Belt and Road Initiative International Green Development Coalition (BRIGC), China's National Development and Reform Commission (NDRC), China International Development Cooperation Agency (CIDCA), Economic and Social Commission for Asia and the Pacific (ESCAP), Great Tumangan Initiative (GTI).

The significance and evolution of the Belt and Road Initiative

Since the beginning of the 21st century, after joining the World Trade Organization, China has been actively integrating into the global economy. Chinese companies have focused on increasing their own geopolitical importance by expanding foreign direct investment in both developed and developing countries (Izotov, 2024). China's development was based on the following principles: "Big powers are the key; China's periphery is the priority; developing countries are the foundation; multilateral platforms are the stage" (Zeng, 2017). To implement these principles, in the early 2010s, the China's government put forward several initiatives to find, build and promote a new model of international cooperation and development, the most significant of which was the Belt and Road Initiative.

In general, the BRI is a long-term strategy for transcontinental development based on transport corridors consisting of two components – the Silk Road Economic Belt and the 21st century Maritime Silk Road. It is worth noting that the land-based Silk Road Economic Belt unites six land transport corridors, and the 21st century Maritime Silk Road has three maritime transport corridors.

Despite the fact that a huge number of works have been written about the Initiative, many issues remain unclear: there is no complete list of announced projects, and the criteria for projects being classified as BRI have not been published. There is also confusion in determining projects initiated before 2013 and subsequently included in this Initiative, and projects initiated under the BRI. We will try to describe the evolution of the strategy of this Initiative and its main criteria.

An analysis of the development of China's relations with surrounding countries during the work on the Initiative in 2013–2025 allows us to identify three stages, differing in the global reach, variability of declared objectives, financial instruments for implementation and approaches to the development of infrastructure projects.

The general goal of the BRI, postulated at the initial stage of its establishment[3] and actually remaining unchanged throughout its implementation, is to improve transport links and increase cooperation between countries of several continents.

[3] Excellent prospects and practical actions for the co-creation of the Silk Road Economic Belt and the 21st century Maritime Silk Road. Available at: http://kg.china-embassy.gov.cn/rus/ggwj/201505/t20150520_1311170.htm (accessed: February 05, 2025).

The achievement of the general goal implies reaching a number of specific sub-goals and local objectives, which are characterized by continuity and extension of their scope at the second and third stages of the BRI implementation (*Tab. 1*).

The first stage (2013–2015) of the BRI development actually focused on building business relations between China and its surrounding peripheral countries. At that time, the Initiative was focused on achieving five main objectives, which retained their significance for the entire period of its implementation:

– coordinating policy: it was declared that the countries located along the BRI corridors would jointly work on development strategies and plans with equal opportunities, and take measures to promote international or interregional cooperation to resolve issues arising from such cross-country coordination;

– connectivity of objects: it was supposed to develop a single transport network connecting China with other parts of Asia, Europe and Africa;

– facilitating unimpeded trade: it was supposed to simplify investment and trade procedures, reduce investment and trade constraints, and promote regional economic integration;

– increasing financial cooperation: diversification of transactions in local currency and currency exchange in trade and investments between the participating countries, the increase of multilateral and bilateral financial cooperation, and the reduction of financial risks through regional agreements;

– increasing social and cultural exchanges, promoting exchange and dialogue between different cultures in order to create the foundation for the development of regional cooperation.

Funding of the Initiative. In order to increase the investment component, the Chinese Government established the Silk Road Fund in 2014 with an initial contribution of 200 million US dollars (Zhang et al., 2018). In 2015, the Asian Infrastructure Investment Bank (1.73 billion US dollars) was established as a multilateral funding institution with a special focus on financing infrastructure projects and promoting sustainable development in Asia and beyond (Gong, 2018). In September of the same year, the Institute of South-South Cooperation and Development was established with an initial contribution of 2 billion US dollars to support developing countries[4]. Existing banks were also involved in the promotion and implementation of BRI projects. For example, the China Development Bank supports 400 projects in 37 countries totaling 110 billion US dollars.

Infrastructure projects. The basis for the development of transport infrastructure at the first stage was the principle of creating a skeleton of transport communications by bridging infrastructure gaps and developing industrial clusters.

During this period, the creation of 64 industrial clusters was initiated. Construction of the transport infrastructure of the New Eurasian Land Bridge, China – Central Asia – West Asia, and China – Pakistan economic corridors has begun. The emphasis was on the construction of railways and highways between the main economic centers (Huut – Tavantolgoi – Gashuunsukhait in Mongolia, Khorgos – Zhetigen in Kazakhstan, Bichig – Chifeng in China).

During the first period of the BRI implementation, the emphasis was put on infrastructure projects in Africa, announced in the white paper "China – Africa Economic and Trade Cooperation"[5]. The African railway network development

[4] China's International Development Cooperation in the New Era. The State Council Information Office of the People's Republic of China. 2021. Available at: https://english.www.gov.cn/archive/whitepaper/202101/10/content_WS5ffa6bbbc6d0f72576943922.html (accessed: February 05, 2025).

[5] China-Africa Economic and Trade Cooperation. 2013. Information Office of the State Council. The People's Republic of China. Available at: http://www.scio.gov.cn/zfbps/ndhf/2013n/202207/t20220704_130094.html (accessed: February 02, 2025).

Table 1. Characteristics of the main stages of the development of the Belt and Road Initiative

Parameter	**First stage (2013–2015)**	**Second stage (2016–2020)**	**Third stage (2021–2025)**
General goal	Developing transport links and increasing cooperation within several continents		
Geographic scope	Expanding China's cooperation with peripheral countries	Expanding China's economic ties to the West, creating new opportunities to accelerate economic transformation in the country	Expanding cooperation beyond the traditional regions (New Zealand, Latin America)
Continuity of the BRI objectives by stages	1. Coordinating policy. 2. Developing a single transport network. 3. Facilitating unimpeded trade. 4. Increasing financial cooperation. 5. Increasing social and cultural exchange		
		6. Improving China's position in the global digital space	
			7. Eco-friendly and sustainable infrastructure development. 8. Health
Policy papers	Program "Made in China 2025"; White paper "China – Africa Economic and Trade Cooperation"; Concepts for the development of railways in Africa for the period up to 2040	White paper "China's Arctic Policy"; vision of maritime cooperation under the BRI Plan for the development of cooperation under the BRI on scientific and technological innovations	White paper "China's International Development Cooperation in the New Era"; Chinese Government Scholarship – The Silk Road Program
Key projects	Industrial clusters development; construction of the economic corridor "New Eurasian Continental Bridge"; railway system development and construction of sea ports in Africa	Digital Silk Road; railway construction between China and Afghanistan; construction and modernization of "China – Central Asia – West Asia", "China – Myanmar – Bangladesh – India" railway and highway corridors	Green Silk Road; Silk Road of Health; Spatial Information Corridor construction under the BRI
Main funding institutions	Silk Road Fund (SRF), Asian Infrastructure Investment Bank (AIIB), New Development Bank (NDB), Institute of South-South Cooperation and Development (ISSCAD), China Securities Regulatory Commission (CSRC)	BRI International Green Development Coalition (BRIGC), Green Finance & Development Center (GFDC), Transport Planning and Research Institute (TPRI), Energy Research Institute (ERI)	BRI International Green Development Coalition (BRIGC), Green Finance & Development Center (GFDC)
Number of participating countries, ea	27	135	147
Population of the BRI countries, million people	2323.7	4453.6	5330.6

Compiled based on: (Rahman, 2022; Leonov, Zaostrovskikh, 2024a; Leonov, Zaostrovskikh, 2024b, Nedopil, 2025); The Belt and Road Initiative: A Key Pillar of the Global Community of Shared Future. The State Council Information Office of the People's Republic of China. 10.11.2023. Available at: http://en.cidca.gov.cn/2023-10/11/c_932108.htm (accessed: March 03, 2025); Belt and Road Economics: Opportunities and Risks of Transport Corridors (2019). The World Bank. DOI: 10.1596/978-1-4648-1392-4; The Great Initiative of China: The results of the first decade of the Belt and Road Initiative (2024). Moscow – Vladivostok: Saint Petersburg: OOO Izdatel'stvo "Rus'"; The Belt and Road Initiative for seamless connectivity and sustainable development in the Asia-Pacific region. ESCAP U.N. 2021; The WEB of Transport Corridors in South Asia (2018). The World Bank. DOI: https://doi.org/10.1596/978-1-4648-1215-6 project was aimed at combining disparate and outdated sections into a single modern system. At the same time, several projects for sea ports, including construction (Lamu Port in Kenya, set to work in 2022) and modernization (ports of Mombasa, Dar es Salaam, Djibouti) were launched in order to increase their capacity (Humphreys et al., 2019).

Geographic scope. At the first stage, the main goal of the Initiative was to build relationships between China and its peripheral countries. During the first stage, contacts were also formed with the countries of Africa, Central Asia and Eastern Europe. By 2016, 27 countries with a total population of 2.3 billion people had become participants in the BRI (Fig. 1).

The second stage (2016–2020) of the BRI development provided for the extension of the scope of China's territorial cooperation with the countries of Africa, Southeast Asia, Europe and Latin America. Cooperation under the Initiative has moved from the "outline" stage to the "detailed implementation" stage. It was the time of carrying out the state program "Made in China – 2025", adopted in 2015, which aimed to modernize the manufacturing industry based on the imperatives of the "fourth industrial revolution" and disposition of the old production facilities (Liu, Avdokushin, 2019).

In 2017, the "Action Plan on Belt and Road Cooperation in Scientific and Technological Innovation" was published, aimed at increasing the capacity for innovation in participating countries through measures such as joint research, technology transfer, exchanges in science and technology, as well as cooperation between high-tech industrial parks[6]. In order to synchronize the development plans of the countries of the Maritime Silk Road, the Vision for Maritime Cooperation under the Belt and Road Initiative was published in the same year[7].

In 2018, the white paper "China's Arctic Policy"[8] postulated the need to organize a scientific study of navigation routes, create land monitoring stations, conduct research on climate and environmental changes in the Arctic, and provide navigation forecasting services.

At the second stage, the funding system of the Belt and Road Initiative was further developed. The work of the Institute of South-South Cooperation and Development[9], established in 2015, was complemented by the activities of the China Securities Regulatory Commission, which in 2015 launched a pilot project to issue yuan-denominated bonds for foreign organizations on the Chinese bond market. In 2018, the BRI Green Finance & Development Center was established, and 262 green projects with a total cost of more than 300 billion US dollars are being implemented under its authority. The Center's main ongoing projects relate to clean energy (178 projects), sustainable infrastructure (29 projects), energy conservation and environmental protection (23 projects), as well as ecology (7 projects)[10].

Infrastructure projects. At the second stage of the implementation of the BRI, the basis for infrastructure development was the principle of accelerated development of transport infrastructure facilities, as well as sustainable transport

[6] The Belt and Road Initiative: A Key Pillar of the Global Community of Shared Future. The State Council Information Office of the People's Republic of China. 10.11.2023. Available at: http://en.cidca.gov.cn/2023-10/11/c_932108.htm (accessed:March 03, 2025).

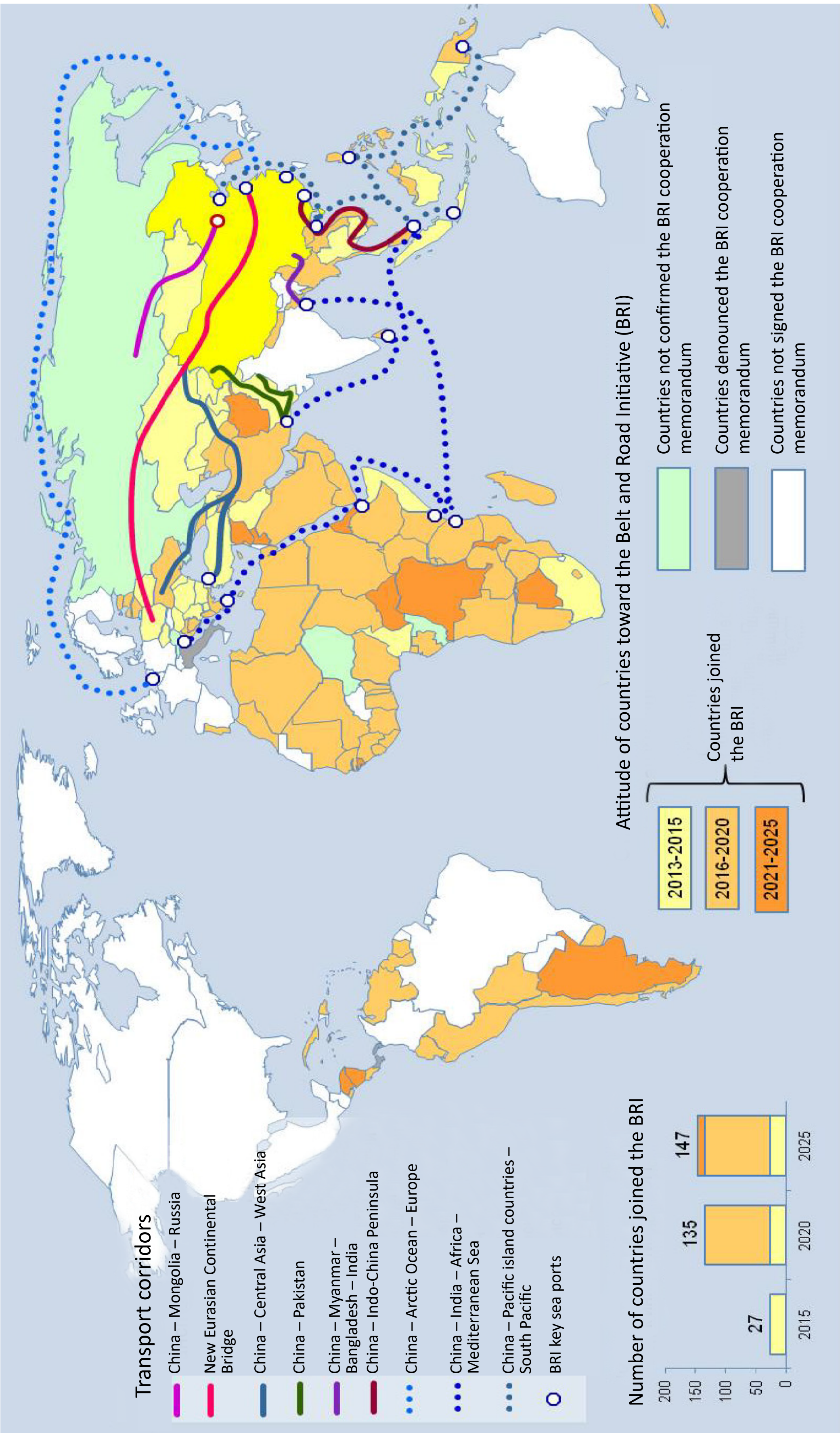
[7] Vision for Maritime Cooperation under the Belt and Road Initiative. 2017. Available at: http://www.xinhuanet.com//english/2017-06/20/c_136380414.htm (accessed: April 10, 2025).

[8] Available at: http://www.scio.gov.cn/zfbps/ndhf/2018n/202207/t20220704_130568.html (accessed: March 03, 2025).

[9] China's International Development Cooperation in the New Era. The State Council Information Office of the People's Republic of China. 2021. Available at: https://english.www.gov.cn/archive/whitepaper/202101/10/content_WS5ffa6bbbc6d0f72576943922.html (accessed: February 05, 2025).

[10] AIFC Green Finance Centre. Available at: https://gfc.aifc.kz/ru/aifc-documents-on-green-finance (accessed: April 25, 2025).

Figure 1. Main stages of the territorial expansion of the Belt and Road Initiative



development, when the industry respects the economic, environmental and social aspects of development.

The key projects of this period are the construction and modernization of railways and highways of the economic corridors "New Eurasian Continental Bridge Corridor", "China – Central Asia – West Asia", "China – Myanmar – Bangladesh – India". The modernization of the economic corridor "New Eurasian Continental Bridge" has allowed creating a traditional railway route between China and Europe. In 2017, the railway over 480 km was launched, connecting the largest port of East Africa, Mombasa, with the capital of Kenya, Nairobi.

Among the significant projects for Russia and China related to the China –Arctic Ocean – Europe maritime corridor, the most representative example of cooperation between the two countries is the Yamal liquefied natural gas (LNG) project (Leonov, 2021). In this project of the Russian gas benchmark company PAO NOVATEK, the Chinese side owns almost a third of the 27 billion-dollar project: Silk Road Fund – 9.9%, China National Petroleum – 20%[11].

Geographic scope. In 2017, the Belt and Road Initiative under the 21st century Maritime Silk Road was extended to Latin America. In total, 108 countries joined the Initiative in the period 2016–2020, and the total number of participating countries was 135 with a total population of over 4.4 billion people.

At the third stage (2021–2025), the BRI is actually turning from an Asian development strategy into an initiative for all countries of the world. Such an increase in the number of participating countries, as well as an extended block of strategic goals of the Initiative, causes Chinese scientists to express concerns: "when 'one belt one road' includes everything, it becomes nothing" (Zeng, 2017).

At the third stage, the main documents regulating goals of the project were the white paper "China's International Development Cooperation in the New Era"[12] and the white paper "The Belt and Road Initiative: A Key Pillar of the Global Community of Shared Future"[13], which postulated ways to eliminate the root causes and obstacles hindering the development of member countries.

The COVID-19 pandemic has posed new challenges to the BRI. The changes that occurred were to a great extent related to disruptions in supply chains (Zaostrovskikh, 2025). The BRI efforts were directed toward the development of the Digital Silk Road, Green Silk Road and Silk Road of Health. The China's BRI, which was previously characterized as a transport and logistical project, currently involves increasing cooperation between the participating countries in the digital economy and innovative development through interaction under the Digital Silk Road.

The construction of the spatial information corridor under the Initiative has been a huge success. China has built teleports connecting South Asia, Africa, Europe and America. Data obtained from Earth remote sensing satellites as part of satellite monitoring is widely used in many countries and regions. The "BeiDou" satellite-based navigation system provides comprehensive services for high-speed railway link "China – Europe", and is widely used in other fields[14].

[11] China's Silk Road Fund has bought 9.9% of the Yamal LNG project. Available at: https://www.vedomosti.ru/business/news/2015/12/17/621420-fond-shelkovogo-putiyamal-spg (accessed: April 25, 2025).

[12] China's International Development Cooperation in the New Era. The State Council Information Office of the People's Republic of China. 2021. Available at: https://english.www.gov.cn/archive/whitepaper/202101/10/content_WS5ffa6bbbc6d0f72576943922.html (accessed: February 05, 2025).

[13] The Belt and Road Initiative: A Key Pillar of the Global Community of Shared Future. The State Council Information Office of the People's Republic of China. 2023. Available at: http://en.cidca.gov.cn/2023-10/11/c_932108.htm (accessed: March 03, 2025).

[14] Ibidem.

Funding of the Initiative. In 2020, Chinese state-owned banks implemented programs to support projects affected by COVID-19, and after a recession in the first half of 2020, direct non-financial investments in BRI countries increased sharply in the second half of the year (Comolli, Rose, 2021).

In general, China's funding institutions provide significant assistance in construction and modernization of the infrastructure required under the Initiative (*Tab. 2*).

The Industrial and Commercial Bank of China is promoting a mechanism for regular interbank cooperation under the BRI. In addition, specialized banks and regional funds have been established to support major foreign infrastructure projects under the BRI. So, a reliable network has been created for Chinese capital and companies that invest abroad, using their advantages such as financial power, infrastructure improvements and increasing production capacity. These initiatives will undoubtedly have a significant impact on the global economic pattern.

Infrastructure projects. The infrastructure improvement at the third stage of the BRI development was based on the principle of creating safe transport routes that meet modern environmental, economic and social requirements.

A section of the "New Eurasian Continental Bridge" corridor, the "Hungary – Serbia – Belgrade – Novi Sad" railway in Serbia, was launched in 2022, and track laying began on the "Budapest – Kelebia" section in Hungary. The construction of the highways "Western Europe – Western China" and "Smokovac – Mateševo" in Montenegro has been finished[15].

Table 2. Funding of infrastructure projects under the Belt and Road Initiative by China's institutions

Institution	Date of establishment	Allocation of funds for infrastructure projects
China Development Bank (CDB)	1994	Supported 400 projects in 37 countries totaling 110 billion US dollars
Export-Import Bank of China (CHEXIM)	1994	Supported over 1000 projects in 49 countries totaling 80 billion US dollars
Industrial and Commercial Bank of China (ICBC)	1984	Funded 212 projects totaling 67.4 billion US dollars
Asian Infrastructure Investment Bank (AIIB)	2014	Approved 75 projects totaling 22 billion US dollars
Silk Road Fund (SRF)	2014	Provided a 200 million US dollars loan
Institute of South-South Cooperation and Development (ISSCAD)	2015	Provided loans to support developing countries (2 billion US dollars)
Green Finance Center (FISF)	2018	Funded 262 "green" projects totaling over 300 billion US dollars
China Securities Regulatory Commission (CSRC)	2023	Issued BRI-oriented bonds totaling 52.72 billion yuan
Compiled based on: (Agırman, Osman, 2022); The WEB of Transport Corridors in South Asia. The World Bank, 2018. DOI: https://doi.org/10.1596/978-1-4648-1215-6; The belt and road initiative for seamless connectivity and sustainable development in the Asia-Pacific region. ESCAP U.N. 2021; The Belt and Road Initiative: A Key Pillar of the Global Community of Shared Future. The State Council Information Office of the People's Republic of China. 10.11.23. Available at: http://en.cidca.gov.cn/2023-10/11/c_932108.htm (accessed: March 03, 2025).		

[15] Safronova E.I. (Ed.). (2023). *China in World and Regional Politics. History and Modernity. Issue XXVIII*. Moscow: ICCA RAS. DOI: 10.48647/IFES.2022.11.52.002

The Thar Coal Block-I thermal power station, coal-fired power station and 720 MW Karot hydropower plant were built and launched as part of the “China – Pakistan” economic corridor. Their construction has given a significant boost to the development of the local economy and provided Pakistan with clean and cheap energy. The Rashakai special economic zone (Pakistan) has reached the stage of comprehensive development[16].

The “China – Laos” railway has improved the reliability of transportation along the “China – Indo-China Peninsula” economic corridor. The “Jakarta – Bandung” high-speed railway has allowed reaching a service speed of 350 km/h. The first stage of the “China – Thailand” railway construction has begun[17].

Although Russia is not directly involved in the BRI, there is interaction on the basis of a Joint Statement by Russia and China “On cooperation on the joint construction of the Eurasian Economic Union and the Silk Road Economic Belt”[18]. As part of this Statement, “Heihe – Blagoveshchensk”[19] highway bridge and “Tongjiang – Nizhneleninskoye”[20] railway bridge, which connect China and Russia, have opened to freight traffic. The “China – Russia” east-route gas pipeline has been fully connected. China, Russia and Mongolia have officially launched a feasibility study on the upgrading and development of the central-route railway of the China – Mongolia – Russia economic corridor[21].

Currently, the China – Europe railway express serves more than 120 cities in China and 227 cities in 25 European countries, with 86 routes passing through the main regions of Eurasia at speed of up to 120 km/h[22]. The company’s route network covers the entire Eurasian continent. The express travels 1,300 km per day and arrives from China to Europe within 12 days with absolute punctuality. Customers choose this type of freight delivery because railway express is three times faster than sea transportation and eight times cheaper than air transportation[23]. By the end of 2024, the total volume of transportation by the China – Europe railway express exceeded 17.5 thousand trains (*Fig. 2*), with almost 11 million containers in twenty-foot equivalent unit (TEU) and more than 50 thousand types of goods totaling more than 420 billion US dollars having been transported[24].

Under the BRI, cooperation on navigation between the ports of the member countries is expanding, and the efficiency of freight traffic has increased significantly. In 2016, the China’s COSCO Shipping company acquired a controlling stake in the Piraeus Port, the largest of Greece,

[16] Salakhuddin A. Experience of developing economic zones. Available at: https://www.globaltimes.cn/page/202211/1278640.shtml?id=11

[17] The Belt and Road Initiative: A Key Pillar of the Global Community of Shared Future. The State Council Information Office of the People’s Republic of China. 10.11.23. Available at: http://en.cidca.gov.cn/2023-10/11/c_932108.htm (accessed: March 03, 2025).

[18] On the China’s “Belt and Road Initiative”. The Ministry of Foreign Affairs of the Russian Federation. Available at: https://www.mid.ru/ru (accessed: March 03, 2025).

[19] The total length of the Heihe – Blagoveshchensk bridge is 1080 meters. Freight traffic on the bridge was opened on June 10, 2022. Available at: https://www.kp.ru/russia/vladivostok/mesta/most-blagoveshhensk-hejhe

[20] The 2.2 km long Tongjiang – Nizhneleninskoye railway bridge is designed to handle up to 5.2 million tons of rail freight per year, with an expected increase of up to 20 million tons after the reconstruction of the “Birobidzhan – Leninsk” railway section. Railway tracks of two gauges have been built – for Russian (1520 mm) and Chinese (1435 mm) rolling stock. Available at: https://trans.ru/news/dvizhenie-po-pervomu-zheleznodorozhnomu-mostu-mezhdu-rossiei-i-kitaem-nakonets-to-zapuscheno

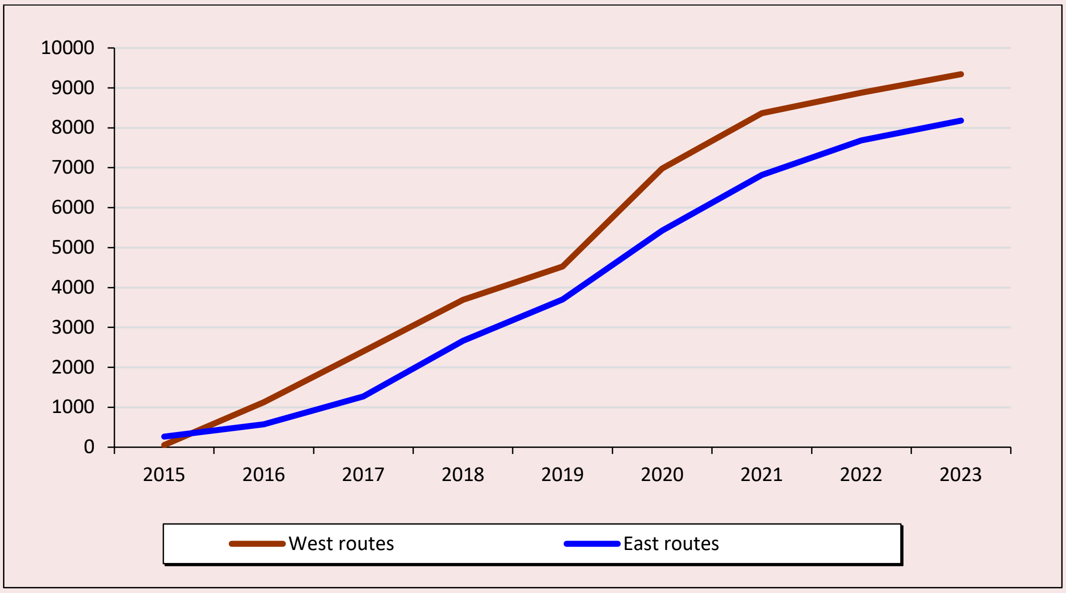
[21] White paper “The Belt and Road Initiative: A Key Pillar of the Global Community of Shared Future”. Available at: http://en.cidca.gov.cn/2023-10/11/c_932108.htm

[22] China – Europe railway express shows rapid growth. China today. 12.03.2024. Available at: https://prc.today/zheleznodorozhnyj-ekspress-kitaj-evropa-demonstriruet-bystryj-rost

[23] Kober P. China-Europe railway express crossing Russia is getting up steam. Available at: https://expert-ural.com/articles/zheleznodorozhniy-ekspress-kitay--evropa-tranzitom-cherez-rossiyu-nabiraet-oboroti.html

[24] BRI in Numbers. China-Europe freight train trips reach 100,000. Available at: https://eng.yidaiyilu.gov.cn/p/0LN66HPE.html

Figure 2. Transportation of containers with the “China – Europe” railway, number of trains



Source: Belt and Road Initiative. Available at: https://eng.yidaiyilu.gov.cn/p/0T4ND13J.html

located in a strategic location between the Asian and European continents. 660 million US dollars investments in Piraeus Port led to an increase in the volume of container transshipment (2023 – 5 million TEU containers), which made it the leading port in the Mediterranean region[25].

As part of the BRI, China is also increasing transport and economic relations with African countries. Built by the China Harbor Engineering Company Ltd in 2020–2022, the Lekki deep sea port in the economic center of Nigeria, Lagos, has become the country’s largest modern sea port and one of the largest in Central and West Africa. The port is designed to handle 1.2 million standard containers per year[26].

By 2024, the 21st century Maritime Silk Road network included 117 ports in 43 countries. In addition, more than 300 well-known Chinese and international shipping companies, port enterprises and think tanks, among other organizations, have joined the Silk Road Maritime association[27].

Since 2015, the Ningbo Shipping Exchange has been calculating China’s trade indices with countries along the Maritime Silk Road based on monthly data from the customs service on import and export[28].

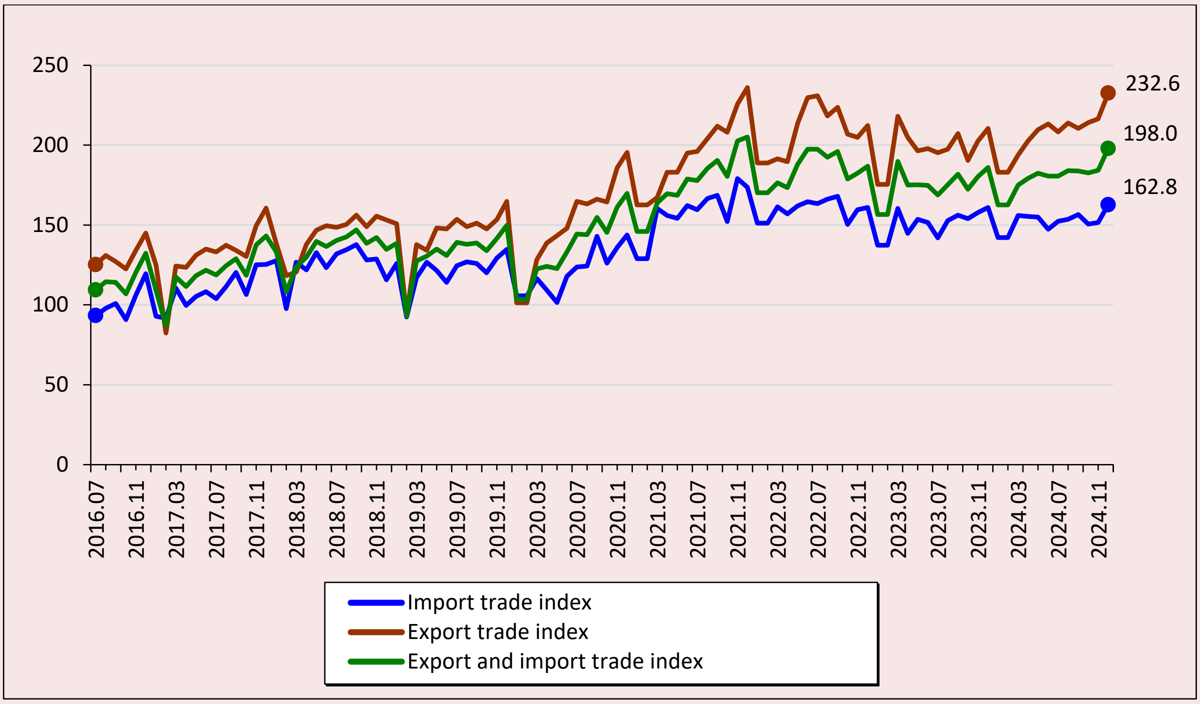
[25] Chernenkov I. China to turn Greece’s main port into the largest in Europe. Available at: https://www.finversia.ru/publication/kitai-prevratit-glavnyi-port-gretsii-v-krupneishii-v-evrope-66215

[26] China’s CHEC company has built the Lekki deep sea port in Nigeria. Available at: https://portnews.ru/news/337936

[27] The Belt and Road Initiative: A Key Pillar of the Global Community of Shared Future. The State Council Information Office of the People’s Republic of China. 10.11.23. Available at: http://en.cidca.gov.cn/2023-10/11/c_932108.htm (accessed: March 03, 2025).

[28] China’s trade indices with countries along the Maritime Silk Road reflect the volume and trend of trade between China and countries along this route. The indices measure the level of China’s foreign economic and trade development and reflect the changing trend of its foreign trade. The indices are calculated as of March 2015 with a base value of 100 and are published monthly in 2015 constant prices (see: Belt and Road. Available at: https://www.yidaiyilu.gov.cn/dataChart).

Figure 3. China's trade indices with countries under the Maritime Silk Road in 2015 constant prices



Source: Belt and Road. Available at: https://www.yidaiyilu.gov.cn/dataChart

In December 2024, the trade index (export and import trade) between China and countries along the Maritime Silk Road stood at 198 points, which is 88.5 points higher than in January 2016 (*Fig. 3*).

The increase in this indicator over a nine-year period was mainly provided by the export trade index, which increased by 107.3 points from January 2016 to 232.6 points in December 2024. The import trade index in December 2024 amounted to 162.8 points, which is 69.4 points higher than in January 2016.

An analysis of the data in Figure 3 shows that during the implementation of the BRI, the trade indices of the Maritime Silk Road have increased dramatically. It should be noted and is shown above that in the period under review growth was also observed in the volume of container overland transportation by China – Europe trains.

Geographic scope. At the third stage, the idea of the BRI was actually transformed into an open agreement any country can participate in. Under the Initiative, tangible macroeconomic results were achieved: in 2025, 147 countries and 32 international organizations participated in the BRI and signed more than 200 documents and cooperation agreements with China (Nedopil, 2025). It is significant that 116 of the 147 participating countries are not located directly along the corridors of the BRI, nevertheless they are actively cooperating on modernization and construction of transport infrastructure facilities. Such a high attractiveness of the Initiative for the international community is due to the demonstration by the Chinese government of its financial viability, confirmed by real projects.

Discussion

It is important that during the implementation of the Belt and Road Initiative, countries have developed different positions regarding the effectiveness of participation in it.

While developing countries have a predominantly positive attitude toward this Initiative and are willing participants, advanced economies tend to take a neutral or negative position. One of the most dynamically integrating regions, in terms of participation in the BRI, is Africa or, more precisely, the countries located on the east coast: Kenya, Tanzania, Ethiopia, Djibouti. The major powers have either rejected the BRI or are neutral (Zhang et al., 2018). At the moment, Russia has also not confirmed the memorandum on cooperation with China under the BRI, but expresses support and synchronizes its own integration and transport projects, taking into account China's actions in the long term, considering options for "jointing" its projects with the China's Initiative (Lukin, 2021). Some countries have withdrawn from the Chinese Initiative relatively recently: Panama[29] in 2025 in response to the threat from the United States, which announced resistance to the increased control over the Panama Canal by China under the BRI, Italy[30] in 2023 due to political pressure from the G7 countries.

The BRI members are primarily developing countries. Accordingly, they consider the creation of an appropriate infrastructure as a top priority for global future development under this Initiative.

Geopolitical challenges are the key issue somehow affecting the implementation of the BRI. For example, as noted in the paper (Sarker et al., 2018), relations between India and Pakistan, which are tense due to the Kashmir conflict, at the same time not hinder the development of the China – Pakistan economic corridor, since the latter passes through Pakistan-controlled Kashmir. The other reason for the Sino-Indian confrontation and India's refusal to become a BRI member is India's dissatisfaction with China's growing dominance in Southeast and South Asia (Rahman, 2022). The disagreements between Russia and Ukraine, the civil wars in Syria, Iraq and Afghanistan also do not accelerate the implementation of the BRI. Some partner countries suffer from political instability, sanctions, corruption, expropriation, and inefficiency, which affect the success of initiatives and specific projects under the BRI (Sarker et al., 2018).

As for possible concerns of the BRI member countries, some of them include potential loss of control over national strategic assets[31], threats of an influx of labor from China, use of less environmentally friendly technology and increased financial dependence on China, as well as socio-political problems (Comolli, Rose, 2021).

Some researchers note that in the context of China's growing economy and the recession in the United States, competition between the United

[29] On February 6, 2025, Panamanian President Mulino, after talks with US Secretary of State Rubio, confirmed that Panama had officially withdrawn from the Belt and Road Initiative, which the country signed on in 2017. During the talks, the US Secretary of State warned of the US intention to take measures against Panama in the case of no "immediate changes" regarding "Chinese influence" in the country. Available at: https://www.forbes.ru/biznes/530047-panama-otkazalas-ot-ucastia-v-proekte-s-kitaem-posle-slov-trampa-o-panamskom-kanale

[30] In 2019, Italy joined the Chinese BRI Initiative, becoming the only G7 member participating in the program, which received strong criticism from the United States and the European Union. In 2023 Italy exited the BRI memorandum. Available at: https://lenta.ru/news/2023/07/31/beltandroad

[31] Projects are based on financing schemes that involve access to natural resources, control over the asset investments themselves, or terms of the financing agreement, which sometimes involve unacceptable payment rates. For example, in 2017, in Sri Lanka, the port of Hambantota was handed over to China on a 99-year lease due to the inability to pay off debts (Comolli, Rose, 2021). China's generous loans often contribute to a serious debt spiral in Central Asia. About 40% (or 1.5 billion US dollars) of Kyrgyzstan's public debt, and 50% (or 1.1 billion US dollars) of Tajikistan's, is owed to Chinese institutions, mainly the Export-Import Bank of China (Laruelle, 2018).

States and China may intensify, leading to an escalation of the economic and trade conflict between them (Siddiqui, 2019). In fact, the features of the trade war caused by the attempts of the US President D. Trump's plans to impose protective tariffs and other restrictive economic and trade measures against a large number of countries have been observed since the beginning of 2025. Such US activities artificially disrupt previously established global industrial chains, violate market-oriented free trade rules, undermine the economic development of various countries, and, on the whole, damage the idea of economic globalization[32].

Conclusion

In the course of the research, the thesis was confirmed that the China's Belt and Road Initiative is ambitious, and it has a wide and increasing geographic scope, actually extending to all areas of development in the vast majority of countries around the world through two megaprojects: Silk Road Economic Belt and 21st century Maritime Silk Road.

An analysis of the development of China's relations with surrounding countries during the BRI implementation in 2013–2025 allowed us to identify three stages, differing in the geographic scope, variability of declared objectives, financial instruments for implementation and approaches to the development of infrastructure projects.

The paper shows that the general goal of the BRI, postulated at the first stage of the project, which is to improve transport links and increase cooperation between countries, remains virtually unchanged throughout the implementation of this Initiative, but requires setting and achieving a number of specific interrelated sub-goals and resolving local issues at the second and third stages.

The BRI members are mainly developing countries, respectively, the creation of an appropriate infrastructure is the priority for future global development under the Initiative. Given its wide geographic scope and large economic scale, the BRI is an important event in the development of a new network of global transport corridors and has great potential for growth not only in China, but also in a number of participating countries.

For instance, the countries of Central Asia, which act as a kind of gateway for China's diversified overland routes to Western markets, are of primary importance for the land-based Silk Road Economic Belt[33]. Similarly, six countries and their sea ports are key for the Maritime Silk Road[34]. In the future, they may become hub ports of the second level of the global maritime highway. The use of these corridors will allow creating a multimodal transport infrastructure that will link industrial clusters into one production and distribution chain.

In the future, with the construction of a railway from Rovaniemi (Finland) to Kirkenes (Norway)[35] and the Helsinki – Tallinn tunnel[36] as well as the construction of a railway connecting the port of Piraeus (Greece) with Central and Eastern Europe, a single transport ring may be created under the BRI. It will not only connect the Mediterranean Sea with the Arctic Ocean, but also provide access to the Pacific and Indian oceans for Scandinavian and Mediterranean countries.

To conclude, the Belt and Road Initiative can not only change the global economic pattern, but also, if successful, provide China with a central strategic position in the geopolitical space of Asia and the world.

[32] China's opinion on some issues of China – US economic and trade relations. Available at: http://www.scio.gov.cn/zfbps/zfbps_2279/202504/t20250409_889794.html

[33] Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan.

[34] Philippines, Indonesia, Sri Lanka, Pakistan, Kenya, Greece.

[35] Prokhorov P. The Arctic Silk Road will not include Russia. Available at: https://www.rbc.ru/spb_sz/12/03/2018/5aa68a6c9a794752737189bc

[36] Estonian Prime Minister Michal to discuss project on tunnel under the Gulf of Finland. Available at: https://www.dp.ru/a/2024/08/14/premer-jestonii-mihal-obsudit

References

Agırman E., Osman A.B. (2022). The belt road initiative: Prospects and threats for Turkish economy. *International Social Sciences Studies Journal*, 8(94), 256–265. Available at: http://dx.doi.org/10.26449/sssj.3792

Aritua B., Hei C., Lu C., Farrell S. (2022). *Developing China's Ports How the Gateways to Economic Prosperity Were Revived. International Development in Focus*. Washington, DC: World Bank. DOI: 10.1596/978-1-4648-1849-3

Aritua B., Lu C., Richard L., Harrie L. (2020). *Blue Routes for a New Era: Developing Inland Waterways Transportation in China. International Development in Focus*. Washington, DC: World Bank. DOI:10.1596/978-1-4648-1584-3

Comolli V., Rose N. (2021). *China's New Silk Road: Navigating the Organized Crime Link. Global Initiative Against Transnational Organized Crime*.

Garlick J. (2017). If you can't Beatem, Joinem: Shaping Indias response to China's belt and road gambit. *China Report*, 53, 143–157.

Gong X. (2018). The belt & road initiative and China's influence in Southeast Asia. *The Pacific Review*, 32(4), 1–31. Available at: https://doi.org/10.1080/09512748.2018.1513950

Humphreys M. et al. (2019). *Port Development and Competition in East and Southern Africa: Prospects and Challenges. International Development in Focus*. Washington, DC: World Bank. DOI: 10.1596/978-1-4648-1410-5

Izotov D.A. (2024). Mechanisms and risks of the Chinese economy in 2014–2023. *Regionalistika=Regionalistics*, 11(5), 21–40. Available at: http://dx.doi.org/10.14530/reg.2024.5.21 (in Russian).

Lam J.S.L, Cullinane K.P.B., Lee T.W. (2018). The 21st-century maritime silk road: Challenges and opportunities for transport management and practice. *Transp. Rev.,* 38(4), 413–415. Available at: https://doi.org/10.1080/01441647.2018.14535 62

Leonov S.N. (2021). Relations between Russia and China in the Arctic. Status and prospects. *Trudy Bratskogo gosudarstvennogo universiteta. Seriya: Ekonomika i upravlenie=Works of Bratsk State University. Series: Economics and Management*, 1, 3–7 (in Russian).

Leonov S.N., Zaostrovskikh E.A. (2024a). Inland waterway transport as a driving force of China's economy. Can Russia repeat? *EKO=ECO*, 5(599), 83–103. DOI: 10.30680/ECO0131-7652-2024-5-83-103 (in Russian).

Leonov S.N., Zaostrovskikh E.A. (2024b). Development of inland waterway transport in Russia and the experience of China. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 17(3), 258–274. DOI: 10.15838/esc.2024.3.93.15 (in Russian).

Liu Y., Avdokushin E.F. (2019). Forming the foundations of the "Digital Silk Road". *Mir novoi ekonomiki=The World of New Economy*, 13(3), 62–71. DOI: 10.26794/2220-6469-2019-13-4-62-71 (in Russian).

Lukin A. (2021). The Russia-China entente and its future. *International Politics*, 58(3), 363–380. Available at: https://doi.org/10.1057/s41311-020-00251-7

Minakir P.A. (2022). The world economy: The perfect storm. *Prostranstvennaya ekonomika=Spatial Economics*, 18(2), 7–37. DOI 10.14530/se.2022.2.007-037 (in Russian).

Nedopil C. (2025). *"Countries of the Belt and Road Initiative"; Shanghai, Green Finance & Development Center. FISF Fudan University*. Available at: www.greenfdc.org

Rahman Z.U. (2022). A comprehensive overview of China's belt and road initiative and its implication for the region and beyond. *Journal of Public Affairs*, 22(1), e2298.

Sarker M.N.I., Hossin M.A., Yin X.H., Sarkar M.K. (2018). One Belt One Road Initiative of China: Implication for future of global development. *Modern Economy*, 9, 623–638. Available at: https://doi.org/10.4236/me.2018.94040

Siddiqui K. (2019). One Belt and One Road, China's massive infrastructure project to boost trade and economy: An overview. *International Critical Thought*, 9(2), 214–235. Available at: hnps://doi.org/10.1080/21598282

Sun Y., Wang Y., Xie J. (2022). The co evolution of seaports and dry ports in Shandong province in China under the Belt and Road Initiative. *Journal of Shipping and Trade*, 7(3), 1–27.

Yuan W. (2014). National strategic analysis of the construction of Belt and Road. *Theory Mon.*, 11, 5–9. Available at: https://doi.org/10.14180/j.cnki.1004-0544.2014.11.002

Zaostrovskikh E.A. (2025). Maritime transport corridors: Changes and development prospects in the conditions of modern economy. *Problemy sotsial'no-ekonomicheskogo razvitiya Sibiri=Issues of Social-Economic Development of Siberia*, 1, 24–32. DOI: 10.18324/2224-1833-2025-1-24-32 (in Russian).

Zeng J. (2017). Does Europe matter? The role of Europe in Chinese narratives of 'one belt one road' and 'new type of great power relations'. *JCMS: Journal of Common Market Studies*, 55(5), 1162–1176.

Zhang M. (2015) Comprehensively improve the development level of the Belt and Road strategy. *Macroecon. Manag.,* 02, 20–24. Available at: https://doi.org/10.19709/j.cnki.11- 3199/f.2015.02.007

Zhang W., Alon I., Lattemann C. (2018). *China's Belt and Road Initiative Changing the Rules of Globalization*. Springer International Publishing.

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Engineering and Siting of New Industries in the Komi Republic (Experimental Approach)

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Abstract. The socio-economic development of the Komi Republic largely depends on timely structural transformation of production based on innovative technologies and the territorial organization of the economy relative to the northern environmental conditions. In this context, the background and prospects of an experimental scientific approach to the development and processing of mineral and biological resources are considered. The enterprises that have played a driving role in solving technical problems relevant to the country and in developing new research areas in the past are highlighted. Syktyvkar pilot shipbuilding yard has developed a technique for timber bundling and lifting sunken timber from the river-bed. Ukhta radiochemical plant in Vodny village was the only enterprise in the world where radium was isolated from mineralized groundwater; in fact, radiogeochemistry of groundwater originated here. At the Yarega oil and titanium deposit, thermoshaft extraction of the heavy high-viscosity oil was used for the first time and an attempt is being made to extract titanium from complex ores. The future of the republic's economy is connected with the development and implementation of technologies for hydrocarbon chemistry, physico-chemical geotechnology, and organic chemistry. It is proposed to create experimental scientific enterprises and site them according to the issues of the Pechersk coal basin, the Arctic Ural and the Sysolo-Vychegodsky forest economic region. To successfully resolve these issues, a national-economy approach is required, in which the key driver of new industries development is a government order for programs and projects of a full investment cycle, including enterprise institutions. The novelty of the

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presented research lies in the development of methods for introducing scientific results into the practical economic activity by combining experimental scientific and common economic activities, taking into account the environmental conditions of the northern and arctic territories.

Key words: North of Russia, Komi Republic, research and production experiment, hydrocarbon chemistry, physico-chemical geotechnologies, organic chemistry, siting of plants and technology parks.

Introduction

The current state of the Komi Republic's economy is characterized as transitional – from the quantitative growth of the industrialization to the qualitative transformations of goods and their production technologies of the post-industrial development (Lazhentsev, 2024a). The nature of work is changing, and interest in creativity and high technology is increasing. There are still limited opportunities in the Komi Republic to achieve such an interest, which is one of the reasons for the negative net migration. The population of the Republic decreased from 1,261 thousand in 1989 to 720 thousand in 2025. At the peak of economic growth in the 1980s, up to 90 million tons of fuel and raw materials (including coal, oil, gas, non-metallic materials, mason sand, and wood) were mined and harvested in the region; currently, the number is approximately 30 million tons. Such a significant reduction is due not only to the deep economic crisis of the 1990s, but also to the economy transformation during the recovery from the depression toward increasing shares of manufacturing, industrial and consumer services. As a result, gross domestic product in comparable prices over the past 15 years has had an average annual change in the range –1+1%, which again underlines the problematic development of the Komi Republic's economy.

Various kinds of emergency circumstances are "superimposed" on the objective process of economic transformation. For example, the urgent need to increase the level of technological self-sufficiency of Russia and, in this regard, to reequip the mining-and-metallurgical industry, transform coal mining and processing, oil, gas and biological resources. Accordingly, the issues of integrated territorial development and assessment of the impact of northern and arctic environmental conditions on the development of economic and life support systems are being updated. The change in the technical and economic structure is associated with an active search for new forms of industrial management and siting.

The aim of the work is to show the possibilities and ways of scientific-and-production experiment as an element of the general process of economic development of the Komi Republic based on the results of specific research projects. This aim correlates in a certain way with the key concepts of Russian modern technology policy: institutes of innovative development, high-tech products, technological cooperation, end-to-end technology, own technology development line, etc.[1]

The author characterizes the research methodology as interdisciplinary, when social forms of production organization (the subject of political economy and economics of national economy sectors) and forms of productive forces location (the subject of socio-economic geography and regional economics) are studied in conjunction. Information on geology, mining, technology, and innovation processes is included in the task-oriented research on a specific region (the Komi Republic), the development prospects of which are related to the search for alternative forms of economic organization.

[1] On technological policy in the Russian Federation and amendments to certain legislative acts of the Russian Federation: Federal Law 523-FZ, dated December 28, 2024.

Features of the scientific-and-production experiment in the northern conditions

Northern regions have a very unusual function in the system of geographical division of labor – they are a "testing ground" for new equipment and some innovative technologies. The reasons for this are extreme climatic conditions and many other environmental characteristics, which require special engineering solutions to adapt to. Sometimes such solutions are used in places with a more favorable climate. For instance, the experience of using arches in building and construction to preserve permafrost is brought into action in large cities to obtain additional parking areas or for other purposes. A good example is the architectural design of the arctic rotation villages, integrating the complex of utility and office spaces with covered walkways, winter gardens and other recreational areas. This kind of architecture is useful, for example, in the organization of a therapeutic resort in any territories where there are appropriate prerequisites for its development. Other northern innovations of interregional importance are connected with transport, economic use of snow and ice, organization of underground storage, medical adaptation techniques, etc.

As a rule, the "testing ground" function of northern regions is auxiliary to traditional farming, mining and processing of minerals, forestry, taiga agriculture and life support systems. But at certain stages of development, the performers of this function become valuable as attractor structures, i.e. they act as a key link in strategic qualitative transformations. Currently most regions of the North of Russia are in this very stage, when the classical forms of organization of mass (large-scale) production become problematic there both in terms of efficiency of capital investments and socio-ecology.

The "scale of production" problems are, of course, solvable, but this requires appropriate resources and time for thorough technical preparation. In addition, it is necessary to overcome the "arctic syndrome", when a significant investment in the declared projects of the RF Arctic Zone is considered as a sign of the "correct" economic behavior of a corporation (firm), allegedly following common geopolitical guidelines. But more often, arctic zeal is explained by the hope of government subsidies for business projects, as well as gaining a positive reputation.

In modern conditions of national economic development, the other thing is relevant – the use of less expensive "miniature" physico-chemical and biochemical technologies, the creation of new materials and composites from mineral resources, the design and testing of "northern" technology. We are no longer talking about individual achievements in adapting to the difficult northern conditions, but about the scientific-and-experimental form of organization of production and the economy as a whole.

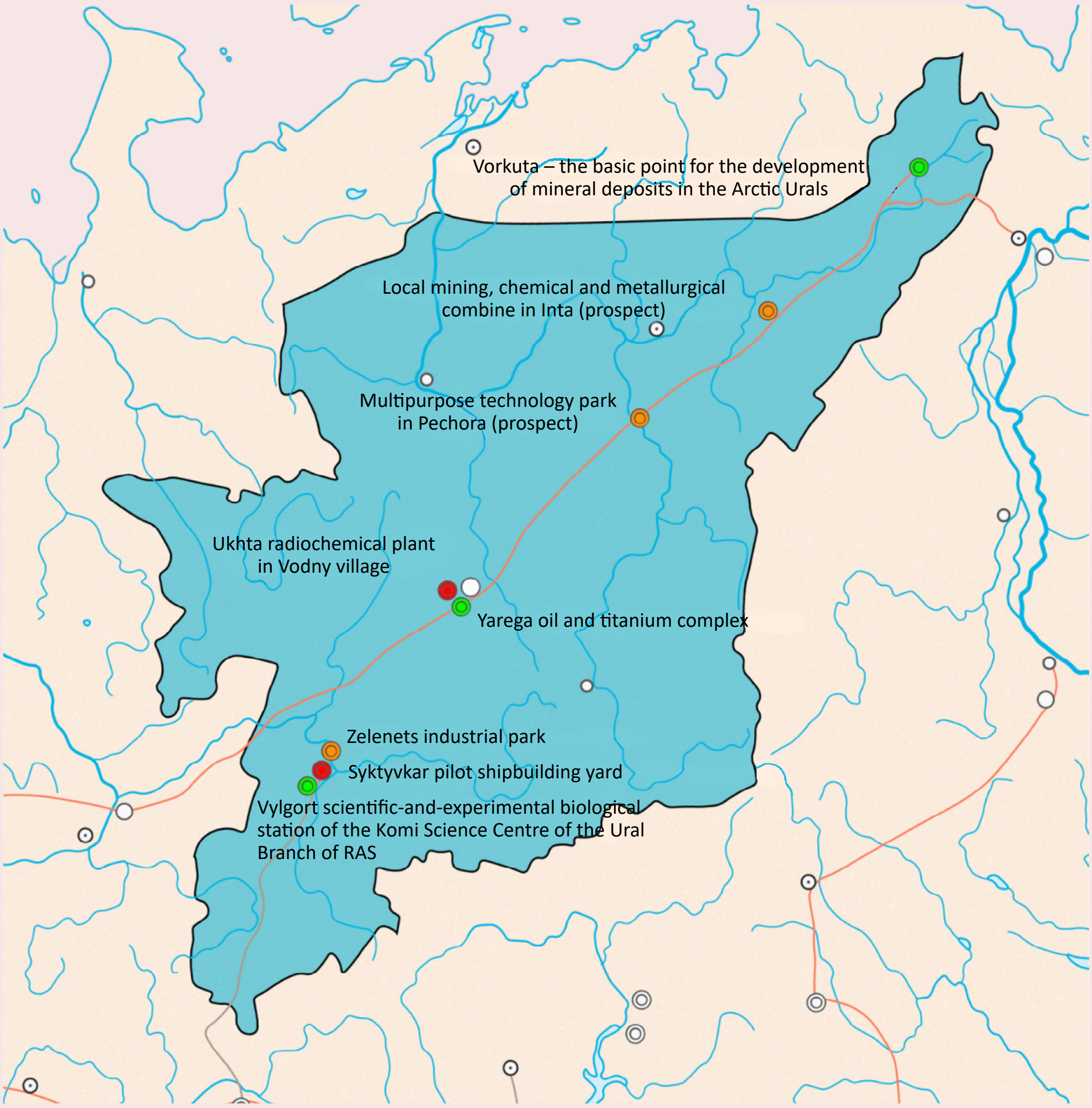
The facilities of scientific-and-experimental production working in the past and currently, as well as promising ones considered in the article, are shown in the *Figure*.

Three examples of the experimental approach to the production engineering in the Komi Republic

Let us refer to the historical experience of enterprises engineering similar to modern (scientific-and-experimental). These facilities were urgently created to solve practical problems, and theoretical understanding of the northern regions' position in the geographical division of labor was not taken into account. At the same time, they serve as an example of a creative approach to using advanced scientific achievements and obtaining an original result based on domestic research.

Syktyvkar pilot shipbuilding yard. This example is interesting in the context of this article as there is a shift from a purely practical, "routine" activity to an experimental, creative approach. The former is due to the great influence of river transport on the pioneering development of the northern

Scientific-and-production facilities in the Komi Republic (red sign – facilities active in the past; green sign – active currently; brown sign – proposed for creation)



territories; the latter is due to the integration of the Komi Republic into the national river shipbuilding system. The yard's development stages: forge and mechanical yards (1930) – ship-repairing yards (1934) – shipbuilding and ship-repairing yard (1941) – ship-repairing yard (1954) – pilot shipbuilding yard (1969–1995)[2]. Eventually, the yard became a developer of new technology for highly relevant technological operations, such as coastal timber bundling, piece-by-piece unloading of timber from the water, and lifting timber (that has been drowned and lying at the river-bed for years). The latter allowed not only revitalizing the rivers, but also obtaining valuable wood with special physico-chemical properties. It is appropriate to note here the achievements of the research designers L.F. Koyushev, F.G. Kukovitskii, Yu.A. Latkin, M.P. Sivkov.

[2] Syktyvkar pilot shipbuilding yard. Available at: https://fleetphoto.ru/port/1378/?lang=ru (accessed: March 17, 2025).

The yard's design bureau was aimed at creating and testing prototypes of novel equipment, followed by their "replication" at the country's shipyards. It is this direction of production engineering that corresponds to the economic and geographical specifics of the northern region. The closing and liquidation of the yard, which could not withstand the devastating impact of the "reforms" of the 1990s, is a great loss for the Komi Republic. Now we are not talking about restoring the yard, but only about using the method of its activity, which simultaneously includes the republic's participation in solving the problem of reviving northern river navigation and interregional cooperation within the framework of specific science and technology programs.

Ukhta radiochemical plant in Vodny village. From 1931 to 1956, a unique radiochemical plant operated in Vodny village near Ukhta, the only enterprise in the world where radium was isolated from mineralized groundwaters. A new branch of science was born there – radiogeochemistry of groundwater.

A review of online materials[3] shows that a radiochemical laboratory, a radium concentrate processing plant, 12 radiochemical plants and three individual water treatment plants operated in Vodny village. About 150 wells were constantly in use. The company's production facilities were situated within a radius of 40 km. Settlements for independent workers and prisoners were located near the plant producing radium concentrates and large water processing plants. As of August 1, 1940, 2756 prisoners and 573 independent workers were engaged in this field. In 1951, due to new technologies in radium production, the extraction and processing of radium waters were completely stopped, three chemical plants were closed, and the radium concentrate processing plant was reconstructed and converted to processing uranium waste. In 1956, the radium industry in Vodny village was completely closed.

Many well-known scientists were involved in the engineering of these radiogeochemical industries[4]: I.Ya. Bashilov, Chemical Engineer, Doctor of Sciences (Engineering), one of the founders of the radiochemical and rare earth industry in the USSR; I.I. Ginzburg, head of the radiochemical laboratory, Doctor of Sciences (Geology and Mineralogy), Professor of Geochemistry; M.D. Krasheninnikov – Chief Engineer of the industry; A.V. Kulevskii – Chief Geologist of the plant; G.A. Razuvaev – Production Superintendent of the concentrate plant, Doctor of Sciences (Chemistry), USSR Academy of Sciences Academician, laureate of the Lenin and State Prizes of the USSR, Hero of Socialist Labor; S.P. Sudarikov – Senior Chemist; F.A. Toropov – head of the core chemical laboratory, Chemical Engineer, Doctor of Sciences (Engineering).

At its core, the radiochemical plant in Vodny was a research-and-production enterprise, and formally it looked like a "sharashka"[5], where politically convicted scientists and engineers worked under the control of security agencies. They have solved the strategically important task of providing Soviet science and industry with radium, the only material for sealed sources of ionizing radiation at that time.

[3] Yesterday and tomorrow of Vodny village. Available at: https://www.atomic-energy.ru/smi/2012/10/01/36389; Part two. Industry in Vodny. Available at: https://nashural.ru/interesnoe/chast-ii-vodnyj-promysel; Institute of Organometallic Chemistry of RAS: 75 years of victory. Available at: https://iomc.ras.ru/history/wwii75; Bobrakov I. (2022). Deadly resort. *Tribuna*, 9. Available at: http://www.tribuna.nad.ru/smertelnyj-kurort-v-uxtinskom-poselke-vodnyj-25-let-dobyvali-radij-obladayushhij-celebnymi-svojstvami-no-ubivayushhij-tex-kto-blizko-s-nim-soprikasaetsya (accessed: March 20, 2025) (in Russian).

[4] The positions that were occupied at the water industry facility in Vodny village and subsequent academic degrees and titles are listed.

[5] "Sharashka" is a colloquial term for prison-type research institutes and design bureaus, subordinate to the NKVD/Ministry of Internal Affairs of the USSR, where convicts worked.

Without referring to the Gulag forms of labor organization, we highlight the knowledge-intensive nature of production there. The USSR Academy of Sciences performed expert and advisory functions in the development of this field. In 1933, the Pechora team of the Polar committee of the USSR Academy of Sciences headed by Academician A.P. Karpinskii[6] visited the industry, and in March 1940, a special academic expedition of the USSR Academy of Sciences headed by Academician A.E Fersman visited the industry. This expedition consisted of Academicians V.G. Khlopin and D.S. Rozhdestvenskii, Professors V.I. Baranov, V.N. Vasil'ev, L.V. Komlev, N.N. Slavyanov, A.A. Chernov, and Researcher E.M. Rozhanskaya. Since the 1960s, ecological aspects have been studied in Vodny, the essence of which (the effect of small doses of radiation on living organisms and vegetation) has been revealed by the staff of the Department of Radioecology at the Institute of Biology of the Komi Science Centre of RAS with the academic advising of Candidate of Sciences (Biology) V.I. Maslov and Candidate of Sciences (Biology) A.I. Taskaev.

The radiogeochemistry of groundwater, created in the 1930s at the facility in Vodny, was subsequently developed into a wide range of geochemical methods for extracting minerals from mineralized edge water. One example of the studies on geochemistry is the research on methods for obtaining magnesium from mineralized edge water from oil fields and gas condensate reservoirs in the Komi Republic (Lanina et al., 2010).

In 1957, the plant named "Komielektrosteatit" was founded in Vodny village. In 1966, it was renamed "Progress", and in 1997 it was renamed OAO Ukhta "Progress" plant. Its specialization is the production of electro-ceramic, radio-ceramic materials, high-voltage ceramic capacitors, as well as sonar equipment-specific technological complexes for the intensification of hydrocarbon production. Scientific work and experimental tests on semiconductor devices, hydroacoustics, condensation, and corundum ceramics are conducted there[7].

Yarega oil and titanium complex. In terms of research-and-production engineering, this complex is the most interesting and yet the most problematic in the Komi Republic. Its uniqueness is in the thermoshaft method of heavy oil extraction, suitable for producing insulating, white technical and medicinal oils, grahamite and varnished bitumen, arctic diesel, etc.; in the presence of titanium in oil-bearing sandstones and underlying ore bodies, the reserves of which make this deposit large for the production of titanium metal and titanium dioxide, the raw materials for the production of paints and varnishes; in the non-standard technical and technological solutions to the commingled production of oil and titanium ore.

The historical role of the development of this deposit and the engineering of the production of frost-resistant engine oil for refueling tanks during military operations in winter is as significant as the Vodny radium industry for the production of packaged radiation sources. There, from the very beginning, scientific experiment was considered as a necessary element of production work (Kalinina, Kalinin, 2013; Aginei, 2022). An example of this is the research activity of Professor, Doctor of Sciences (Geology and Mineralogy) N.N. Tikhonovich, who in 1934 (while exiled to Ukhta) put forward the idea of opening an oil reservoir with a mine; Professor, Doctor of Sciences (Geology and Mineralogy), twice awarded the State Prize, Hero of Socialist Labor A.Ya. Krems (repressed and exiled to Ukhta in 1939, rehabilitated in 1956) – developed the

[6] The grandson of Academician A.P. Karpinskii, Research Engineer, Candidate of Sciences (Chemistry), P.I. Tolmachev, served time as a political prisoner in Vodny. According to L.P. Roshchevskaya, Doctor of Sciences (History), P.I. Tolmachev made a significant contribution to the study of the radium deposit at the Ukhta river (Roshchevskaya, 2025).

[7] Available at: http://www.komi.com/progress/ru/index.htm

scientific foundations of mining heavy oil; a number of other geologists and engineers (Zhangabalov, 2020).

But the history of Yarega also has negative manifestations: due to inter-corporate disagreements, integrated development is deliberately delayed. The improvement of thermoshaft production is carried out by PAO Lukoil, which does not deal with titanium ores. The latter was the subject of OAO Yarega-Ruda, but this company placed financial interests above production and technology. It has been lawfully deprived of its license to develop titanium ores. Such upheaval is relevant to the subject of our article only in one aspect – how to be "unique" in market conditions?

Strategically, the answer to this question should be looked for in the issues of public-private partnership, regulation of inter-corporate relations, and management by objective. Instead, the experimental approach to the engineering of complex productions is more related to the current circumstances. Taking them into account, it seems very promising that Ukhta State Technical University recommends to organize an educational production laboratory in an oil mine, where in natural conditions it is possible to study the geological structure of the reservoir, the mechanism of oil recovery, to work out various drilling technologies and configurations of wells; to organize basic work-study sites in the mine and on the surface for testing modern technologies and facilities, internships and training of qualified personnel in the field of resource development (Ruzin, 2010). It is also advisable to include experimental studies on the enrichment processing of titanium oxide raw material using carbothermy, autoclave processing and flotation (Roshchevskii, Timonin, 1994; Ryabkov et al., 2013).

There is a growing social recognition of the uniqueness of Yarega. The increased interest of academic science, higher education and the population of the Komi Republic in its problems can have a positive impact on the development of a mining and chemical complex there with an integrated scientific-and-educational center.

Promising areas of the experimental approach to the engineering and siting of new industries

The basic technologies for the further development of the natural resource economy of the Komi Republic are the following:

– processing of primary hydrocarbons to produce chemical products;

– new methods of mining ore minerals, their enrichment and processing using geomechanical, hydrometallurgical, nuclear, physical and biochemical methods, X-ray separation of ores, etc.;

– production of natural materials with high consumer properties and qualities;

– chemical processing of wood greenery, waste from logging and woodworking, the use of biochemical technologies in agriculture.

These areas of technological development are considered fundamental in many other regions of Russia, though it is necessary to consider special geological, geographical and socio-economic circumstances of their implementation in the Komi Republic:

– geological and geographical – the characteristics of territorial combinations of minerals, identified in the republic, require to find new technologies for their integrated development and use (Askhabov et al., 2015);

– socio-economic – the republic has no other way of balanced and prosperous development, except for the diversification of the structure of the natural resource economy with the creation of high-tech and high-income jobs (Lazhentsev, 2020).

Hydrocarbon chemistry. Due to the problems of the structural transformation of the global energy sector and Russia's technological sovereignty, the multipurpose use of coal is becoming increasingly relevant, including the production of coke, liquid fuels, adsorbents, carbon-graphite materials, and thermo-graphite. The complex use of oil and gas has a similar motivation, because their components – ethane, butane, propane, hydrogen sulfide – are raw materials for the production of PVC, plastics, sulfur dioxide, mineral fertilizers, whereas liquid asphalt and petroleum residue – for the production of oil coke and other products. The set of mining and chemical raw materials also includes peat and shale.

Chemical processing of hydrocarbons has a lot of potential in the Komi Republic (Burtsev et al., 2015; Burtsev et al., 2016). It was shown that it is possible and attractive to process coal from the Pechora basin with semi-coking and gasification methods to produce valuable fuels (sulfur-free and high energy) and raw materials for chemical processing to produce synthetic liquid fuels, sorbents, and high-carbon materials, such as fullerenes (like graphite or diamond); to produce lignin-alkaline reagents, coal-humic preparations and lignitic material from brown coals containing up to 40–50% humic acids (organic substances that increase soil fertility); to process shale coal to produce shale oil, fuel gas and shale ash.

In our opinion, this complex should be expanded by the production of needle coke, a carbon product obtained from petroleum and coal raw materials and used to produce a wide range of graphite materials. This product is extremely scarce in Russia, relatively new to its economy; it can be produced from alternative sources and according to various technological schemes. The chemical and technological principles of needle coke formation continue to be improved and also require experimental verification (Obukhova et al., 2024).

Each field of hydrocarbon chemistry can be considered separately as an experiment, for example, coal chemistry in Vorkuta. However, their integrated engineering is not excluded either. One of the options for such a combination is the creation of an integrated technology park operating under the rules and regulations established for special economic zones. It could be sited in Pechora, a city equidistant from the main sources of hydrocarbon chemistry (Vorkuta and Inta coal, Ukhta and Usinsk petroleum products and promising shale coal deposits) and having a convenient location for transportation, as well as a lot of energy.

Physico-chemical and economic innovations in mining and processing of ore minerals. There are many ore deposits in the Komi Republic, but only two of them – Vezhayu-Vorykvinskoe and Verkhne-Shchugorskoe (OAO Boksit Timana) – are being developed and make a significant contribution to the growth of the aluminum industry in Russia (the volume of bauxite production is about 3 million tons per year). The third deposit, Pizhemskoe (the largest in Russia and the world in terms of resources and reserves of titanium and quartz raw materials), is being prepared for development. Scientific and technological innovations in bauxite area are carried out by the Integrated Company Rusal, and in titanium and quartz area – by the Rustitan group of companies. Everything else (chromium, manganese, barite, gold, gangue quartz, pure quartz, potash-magnesium salt, etc.) is unallocated mineral resources, and the question, whether they are included in the economy of Russia and the Komi Republic or not, largely depends on an assessment of the possibilities of applying physico-chemical geotechnologies and special forms of territorial organization of mining.

Geotechnology is a comprehensive term and includes a lot of aspects. This is not accidental, since the development of each specific deposit is based not only on standard patterns, but also on "individual" mining methods. They contribute to such novelties as underground dissolution and solvent extraction, hydraulic mining by boreholes, the influence of a thermal field on a rock mass, extraction of minerals from groundwater, microbiological methods for mineral raw materials enrichment, electric and magnetic separation of feebly magnetic ores, etc. It is often necessary to combine various physico-chemical methods of ore extraction and enrichment.

The specifics of the selection of geotechnologies are particularly evident in the development of mineral deposits sited in isolated territories, such as the Arctic (Nether-Polar and Polar) Urals. The Tsentral'noe chromite deposit of the Rai-Iz geological mass is being intensively developed there (sited in Yamal-Nenets Autonomous Area, 35 km from the Kharp – Severnoe Siyanie railway station), while the Zapadnoe, Voikaro-Cyn'inskoe, Saum-Keu and Laptopaiskoe chromite deposits are also considered promising for development; The Parnokskoe manganese deposit has been studied in detail, reserves of iron-skarn ores (Yun'yaginskoe), tantalum, niobium and rare earths (Tai-Keu), barite (Khoilinskoe), polymetals (Saureiskoe, Kharbeiskoe, Lekyn-Tal'beiskoe, etc.), gold and silver (Petropavlovskoe), gangue and pure quartz (Zhelannoe) (Brusnitsyn, 2015; Vikentiev, 2020). Regarding experimental approach, it is indicative that the researchers studying the mineral resource base of this problematic region consider that not only mineral reserves are valuable, but also the uniqueness of the natural site itself, which gives the opportunity to improve geological science and mining (Vakhrusheva et al., 2023).

The geotechnological aspect of the development of the mineral resources of the Arctic Urals significantly affects the territorial organization of mining, including field methods, seasonal work and a rotational schedule. Earlier, the district method was established as advantageous, when a group of deposits with common infrastructure is developed simultaneously[8], and there is a possibility of connecting two or more mines to one separator located in the nearest city or village. In our case, we consider Vorkuta and Inta (Kuznetsov, Lazhentsev, 2025). Now it can be assumed that the enrichment method itself (fragmentation, flotation, gravity concentration, separation etc.) can be polytechnical with additional operations of following up geotechnical products to the conditions necessary for metallurgy, electrochemistry, optical or other engineering, as well as the production of intermediates, for example, by fuming, chloridation, etc.

Such a factory, together with ore and gravel mines, can be considered as a mining, chemical and metallurgical combine with a relatively free location of the factory itself, which is not directly linked to a specific mineral deposit. Given the particularly difficult economic situation of Inta, worsened after the closing of the coal mines, it is advisable to start implementing plans for the introduction of geotechnologies in this city. The construction of a small carborundum and ferrous alloys plant, which could later become part of the mentioned combine, is coming to an end there.

The combined form of production simplifies the manufacturing engineering and testing of new natural materials and composites. The physico-chemical structure of some of them was developed at the Institute of Chemistry of the Komi Science Centre of the Ural Branch of RAS under the supervision of Doctor of Sciences (Geology and Mineralogy) B.A. Goldin and Doctor of Sciences (Chemistry) Yu.I. Ryabkov. There is solid evidence of the accelerated development of this area of the Komi Republic's economy, including the production of composites, sulfur concrete, various ceramics, stone casting, basalt and light-carrying fibers, artificial crystals, and synthetic products (Goldin et al., 2010; Ryabkov et al., 2013; Belyaev et al., 2023).

[8] Atamanova E.A. (2015). *Metodicheskii instrumentarii kompleksnoi otsenki mineral'nykh resursov v usloviyakh prostranstvennogo nedropol'zovaniya: avtoref. dis. ... kand. ekon. nauk: 08.00.05 – Ekonomika i upravlenie narodnym khozyaistvom (ekonomika prirodopol'zovaniya)* [Methodological Tools for the Integrated Assessment of Mineral Resources in Conditions of Their Spatial Management: Thesis Abstract: Candidate of Sciences (Economics): 08.00.05 – Economics and Management of the National Economy (Environmental Economics)]. Yekaterinburg: Institute of Economics of the Ural Branch of RAS.

Organic chemistry in forestry and agriculture. Technologies such as emulsion extraction, hydrolysis, and oxidation allow processing plant resources into valuable bioactive substances and additives. Under the leadership of Academician A.V. Kuchin (Institute of Chemistry of the Komi Science Centre of the Ural Branch of RAS), the scientific work resulted in the production of "VERVA" and "VERVA-EL'" preparations, an emulsion extract from wood greenery, plant protection biopreparations, turpentine oil, and a number of other products[9] (Hurshkainen, Kuchin, 2011). Experimental use of some preparations in agriculture has shown their effectiveness (Yudin, 2021). The high demand for biochemical products makes the issues of multipurpose utilization of forest resources and the development of forestry chemistry as a "diverse" branch of the economy relevant for the Komi Republic.

Many areas of organic chemistry are beyond the large-scale wood chemistry (which is represented by Syktyvkarskiy LPK in the Komi Republic) and general agricultural chemicalization processes. Instead, they are integrated into pharmacology and pharmacy, as well as into forestry and productivity increase of small plots of land – gardens and farmland.

Experimental organic chemistry for medicine, veterinary medicine, forestry and local agriculture works mainly with "low doses" and "miniature" technologies, and therefore research and production enterprises themselves can be approximately the same in size and consist of a small number of machines for processing greenery, sawdust, wood shavings, bark. In addition to stationary equipment, it is advisable to include mobile equipment for the primary processing of greenery and wood waste directly at the logging site, covering the entire Sysolo-Vychegodskii forestry district. Syktyvkar and its surroundings will become the center of experimental forestry chemistry (Elyaty place, where the Vylgort experimental scientific biological station of the Komi Science Centre of the Ural Branch of RAS is located, and Zelenets village, where an industrial park is being created).

General conditions of the experimental approach

The general premise of the experimental approach to the engineering and siting of the production facilities discussed in the article in the Komi Republic is cooperation between research institutes and manufacturing enterprises. The basis of cooperation is long-term agreements on the generation of scientific knowledge right at production site in order to meet specific sci-tech or other innovative objectives (Lazhentsev, 2024b).

The experimental approach is also supported by the need for experimental verification of electronic technologies, geoinformatics, mining and geological information systems and remote control when resolving issues of development and use of natural resources of the arctic and northern territories. To do this, first of all, it is desirable to strengthen the role of scientific institutions at enterprises, which have been preserved in places since the Soviet period and significantly contribute to resolving complex issues of technological development.

Interest in the study and development of mineral deposits in the arctic and subarctic territories is usually within the framework of economic feasibility standards. Therefore, it will be correct to focus on selective and staged development, taking into account the real possibilities of introducing new technologies, constructing winter and year-round roads, using special vehicles and rotation villages. In this case, the objective is not the creation of new jobs and population growth, but obtaining extremely scarce products and their rational utilization in the Russian economy system. At the same time, the experience of economic activity in the conditions of extreme climate at the Far North periphery is also gaining value, that is why it is sometimes necessary to incur additional costs.

[9] Catalog of innovative developments. Syktyvkar: Komi Science Centre of the Ural Branch of RAS, 2024.

The author believes that the engineering of experimental production facilities in the North, and even more so in the Arctic, is possible only on the basis of management by objective carried out at the federal level, considering recommendations for the development of projects and programs of a full innovation cycle (Lenchuk, Filatov, 2024) and with a focus on the best performance of technology parks in Russia (Byvshev et al., 2024).

Conclusion

The combination of scientific, experimental and common economic activities in the northern and arctic regions is driven by the logic of technological development of natural resource sectors of the economy. We attempted to show the possibility of such a combination using the example of the Komi Republic, based on three grounds:

– the specific participation of the Komi republic in the Russian economy development, when the experience and result of engineering solutions to adapt to extreme climatic conditions and to resolve the issues of multipurpose utilization of natural raw materials are usefully transferred to other regions of the country;

– there is an urgent need to integrate scarce mineral and biological resources into the Russian economy, a significant part of such resources is located on the territory of the republic and neighboring regions;

– the uniqueness of natural objects, the study and use of which contribute to the development of science itself and generate public interest in learning about the environment.

It follows from the article that plants processing mineral and biological raw materials can be sited in the Komi Republic, release new types of products and also develop research and educational programs, design estimates, patents for discoveries and inventions in the field of relevant technologies. There will be few such enterprises, but they will play the driving role in the qualitative transformation of the Komi Republic's economy. In the commodity economy system, they could function in the form of small and medium-sized businesses with the organized scientific institutions and an access to the national system of technological cooperation.

The experimental approach to the engineering of new production facilities also has an economic-and-geographical aspect, when the natural resource potential of a particular geological or biological area is achieved through the organization of multipurpose production plants, which is especially relevant for the arctic and northern regions.

The pre-design demonstration of scientific-and-experimental approach advantages in the Komi Republic relate to:

– transformation of the "Yareganeft'" company into the Yarega mining-and-chemical combine with the integrated scientific-and-educational center;

– creation of a coal chemical plant on the basis of AO Vorkutaugol;

– construction of the Pechora technology park of hydrocarbon chemistry using coal, refined petroleum products, shale and peat;

– creation of the Inta mining, chemical and metallurgical combine with the inclusion of a plant producing carborundum and ferrous alloys;

– organization of Syktyvkar experimental forestry combine using the production sites of the Zelenets industrial park and the Vylgort scientific-and-experimental biological station of the Komi Science Centre of the Ural Branch of RAS.

In case these enterprises (fully or partially) receive the approval for design, it is necessary to include them in the Territorial Planning Scheme of the Komi Republic in order to optimize the development of infrastructure and the use of generic storage resources.

References

Aginei R.V. (Ed.). (2022). *Problemy geologii, razrabotki i ekspluatatsii mestorozhdenii, transporta i pererabotki trudnoizvlekaemykh tyazhelykh neftei (2022): materialy konferentsii, 8–10 dekabrya 2021 g.* [Problems of Geology, Field Development and Operation, Transport and Refining of Hard-to-Recover Reserves of Heavy Oils: Conference Proceedings, December 8–10, 2021]. Ukhta: USTU. Available at: https://www.ugtu.net/sites/default/files/vvn-2021.pdf

Askhabov A.M., Kuznetsov S.K., Tarbaev M.B. et al. (2015). Mineral resources of the Timan-North Urals region and prospects of their development. *Izvestiya Komi nauchnogo tsentra UrO RAN=Proceedings of the Komi Science Centre of the Ural Branch of the Russian Academy of Sciences*, 3, 79–90 (in Russian).

Belyaev I.M., Istomin P.V., Istomina E.I., Nadutkin A.V., Grass V.E. (2023). Leucoxene concentrate as an effective source for synthesizing MAX phase high-temperature ceramic composites. *Izvestiya Komi nauchnogo tsentra UrO RAN. Seriya: Nauki o Zemle=Proceedings of the Komi Science Centre of the Ural Branch of the Russian Academy of Sciences. Series "Earth Sciences"*, 2, 97–105 (in Russian).

Brusnitsyn A.I. (2015). *Parnokskoe margantsevoe mestorozhdenie, Polyarnyi Ural: mineralogiya, geokhimiya i genezis rud* [Parnok Manganese Deposit, Polar Urals: Mineralogy, Geochemistry and Ore Genesis]. St Petersburg: St Petersburg University.

Burtsev I.N., Bushnev D.A., Kotik O.S. et al. (2015). Nonconventional sources of hydrocarbonic raw materials of the Arctic area of the European northeast of Russia as the basis for development of new industries. *Izvestiya Komi nauchnogo tsentra UrO RAN=Proceedings of the Komi Science Centre of the Ural Branch of the Russian Academy of Sciences*, 3, 71–78 (in Russian).

Burtsev I.N., Kotova O.B., Kuzmin D.V. et al. (2016). Prototypes of new technologies for development of the mineral raw materials complex of the Timan-North Urals region. *Izvestiya Komi nauchnogo tsentra UrO RAN=Proceedings of the Komi Science Centre of the Ural Branch of the Russian Academy of Sciences*, 3, 79–88 (in Russian).

Byvshev V.I., Koroleva S.A., Panteleeva I.A., Pisarev I.V. (2024). Forecasting indicators of scientific, technological and innovative development of the region using recurrent neural networks. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 17(3), 102–117. DOI: 10.15838/esc.2024.3.93.6 (in Russian).

Goldin B.A., Grass V.E., Istomin P.V., Sekushin N.A., Ryabkov Y.I. (2010). Development of nanostructure ceramic composites. *Izvestiya Komi nauchnogo tsentra UrO RAN=Proceedings of the Komi Science Centre of the Ural Branch of the Russian Academy of Sciences*, 1, 16–23 (in Russian).

Hurshkainen T.V., Kuchin A.V. (2011). Woodchemistry for innovation in agriculture. *Izvestiya Komi nauchnogo tsentra UrO RAN=Proceedings of the Komi Science Centre of the Ural Branch of the Russian Academy of Sciences*, 1, 17–23 (in Russian).

Kalinina A.A., Kalinin E.P. (2013). Geoeconomic estimation of multipurpose utilization of the Yarega heavy oil. *Izvestiya Komi nauchnogo tsentra UrO RAN=Proceedings of the Komi Science Centre of the Ural Branch of the Russian Academy of Sciences*, 3, 110–117 (in Russian).

Kuznetsov D.S., Lazhentsev V.N. (2025). Arctic mining cities development of the Komi Republic. *Problemy razvitiya territorii=Problems of Territory's Development*, 29(2), 10–27. DOI: 10.15838/ptd.2025.2.136.2 (in Russian).

Lanina T.D., Karmanova O.A., Komissarova E.S. (2010). Intensification of the process of magnesium extraction from stratal waters of hydrocarbon raw mineral deposits. *Izvestiya Komi nauchnogo tsentra UrO RAN=Proceedings of the Komi Science Centre of the Ural Branch of the Russian Academy of Sciences*, 2, 70–72 (in Russian).

Lazhentsev V.N. (2020). On diversification of economic specialization of the Komi Republic. *EKO=ECO*, 12, 8–37. DOI: 10.30680/ECO0131-7652-2020 12-8-37 (in Russian).

Lazhentsev V.N. (2024b). Research and production cooperation – a key driver of the economy growth of the regions of the North of Russia. In: *Aktual'nye problemy, napravleniya i mekhanizmy razvitiya proizvoditel'nykh sil Severa: sbornik statei Devyatoi Vserossiiskoi nauchno-prakticheskoi konferentsii (s mezhdunarodnym uchastiem), g. Syktyvkar, 18–20 sentyabrya 2024 g.* [Current Problems, Directions and Mechanisms for the Development of Productive Forces of the North: Collected Works of the Ninth All-Russian Scientific and Practical Conference (with International Participation), Syktyvkar, September 18–20, 2024]. Voronezh: Stroki, Part I, 3–10 (in Russian).

Lazhentsev V.N. (2024a). Regional experience of studying and developing productive forces (case study of the Republic of Komi). *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 17(1), 79–90. DOI: 10.15838/esc.2024.1.91.4 (in Russian).

Lenchuk E.B., Filatov V.I. (2024). Technological sovereignty projects as a tool for innovative development of the Russian economy. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 17(3), 68–81. DOI: 10.15838/esc.2024.3.93.4 (in Russian).

Obukhova A.V., Kuznetsova L.I., Kamensky E.S., Kuznetsov P.N., Avid B. (2024). Production of needle coke from oil and coal raw material. *Zhurnal Sibirskogo federal'nogo universiteta. Tekhnika i tekhnologii=Journal of Siberian Federal University. Engineering & Technologies*, 17(6), 688–711 (in Russian).

Roshchevskaya L.P. (2025). Research engineer P.I. Tolmachev from the pleiad of academician A.P. Karpinsky. *Izvestiya Komi nauchnogo tsentra UrO RAN. Seriya: Nauki o Zemle=Proceedings of the Komi Science Centre of the Ural Branch of the Russian Academy of Sciences. Series "Earth Sciences"*, 3(79), 115–118 (in Russian).

Roshchevskii M.P., Timonin N.I. (Eds). (1994). *Problemy sozdaniya spetsial'nykh vidov keramiki na osnove prirodnogo mineral'nogo syr'ya* [Problems of Creating Special Types of Ceramics Based on Natural Mineral Raw Materials]. Syktyvkar: Komi Science Centre of UB RAS.

Ruzin L.M. (2010). Features and innovative areas of the development of high-viscosity oil resources. *Izvestiya Komi nauchnogo tsentra UrO RAN=Proceedings of the Komi Science Centre of the Ural Branch of the Russian Academy of Sciences*, 2, 92–97 (in Russian).

Ryabkov Yu.I., Istomin P.V., Nadutkin A.V. et al. (2013). Working out of scientific bases of technologies of complex processing of quartz-rutile raw materials for functional nanomaterials on the basis of titanium and silicon compounds. *Izvestiya Komi nauchnogo tsentra UrO RAN=Proceedings of the Komi Science Centre of the Ural Branch of the Russian Academy of Sciences*, 1, 19–24 (in Russian).

Vakhrusheva N.V., Ivanov K.S., Puchkov V.N., Shiryaev P.B. (2023). Subalkaline basaltoids in ultramafic rocks of the Rai-Iz massif (Polar Urals) and their petrogenetic significance. *Doklady Rossiiskoi akademii nauk. Nauki o Zemle=Doklady Earth Sciences*, 509(2), 208–214. DOI: 10.31857/S2686739722602538 (in Russian).

Vikentiev I.V. (2020). Metallogenic study at the Polar Urals and problems of exploration of its mineral resources. In: *Metallogeniya drevnikh i sovremennykh okeanov. Kriticheskie metally v rudoobrazuyushchikh sistemakh=Metallogeny of Ancient and Modern Oceans–2020. Critical Metals in Ore-Forming Systems*. Miass: South Urals Research Center of Mineralogy and Geoecology UB RAS, 36–40 (in Russian).

Yudin A.A. (2021). Directions of development of innovative processes in the conditions of the agro-industrial complex of the Komi Republic. *Izvestiya Komi nauchnogo tsentra UrO RAN. Seriya: Sel'skokhozyaistvennye nauki=Proceedings of the Komi Science Centre of the Ural Branch of the Russian Academy of Sciences. Series "Agricultural Sciences"*, 1(47), 75–79. DOI: 10.19110/1994-5655-2021-1-75-79 (in Russian).

Zhangabylov R.A. (2020). The first results of the application of the mine method for oil fields development in Yarega: Underground wells exploitation. *Izvestiya Komi nauchnogo tsentra UrO RAN. Seriya: Nauki o Zemle=Proceedings of the Komi Science Centre of the Ural Branch of the Russian Academy of Sciences. Series "Earth Sciences"*, 6, 108–112. DOI: 10.19110/1994-5655-2020-6-108–112 (in Russian).

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Leveling Regional Differences in the Living Standard of the Population in the Russian Federation: Estimates and Factors

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Abstract. From 2021 to 2024, Russia has been witnessing a growth in citizens' living standard, which can be traced by the dynamics of poverty, real income and real disposable income indicators. The aim of the study is to identify trends in leveling regional differences in the indicators of standard of living in constituent entities of the Russian Federation for the period of 2005–2023. The estimations of inequality in standard of living of the population of constituent entities of the Russian Federation and its changes over time are based on the analysis of dynamics of the certain indicators. They are as follows: the share of the population with monetary incomes below the subsistence level, the ratio of average per capita monetary incomes of the population to the subsistence level and to the cost of a fixed set of goods and services. The author uses variation analysis and the index method to identify the nature of the regional asymmetry in the indicators' values; a new indicator has been developed – the total regional index of monetary incomes of the population. Regional differences in the ratio of average per capita monetary incomes to the subsistence level have tended to decrease since 2021, while the ratio of average per capita monetary incomes to the cost of a fixed set of goods and services has tended to increase. The distribution of constituent entities of the Russian Federation by total regional income index value groups shows a steady increase in the share of regions with high and medium index values, and a decrease in the share of regions belonging to low-income groups. The author considers socio-economic and socio-governance factors as the major ones that determine the direction of regional differentiation; she also focuses on changing the methodology for calculating the subsistence level starting from 2021.

Key words: standard of living, average per capita income, regional differentiation, subsistence level, differentiation factors.

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Introduction

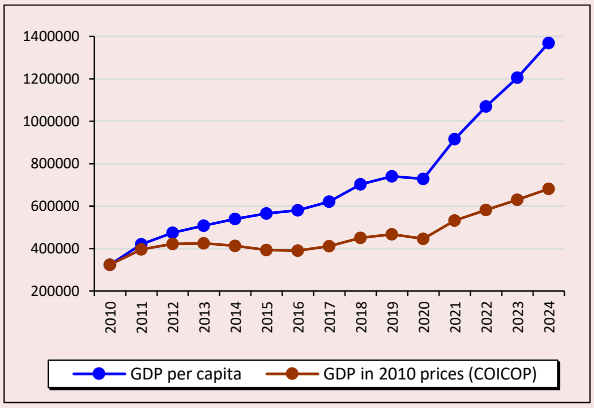
Improving the standard of living of the population of the Russian Federation not only remains a pressing issue in the field of socio-economic policy aimed at overcoming social inequality, but also acquires socio-political significance as a social criterion for ensuring the safe state of the Russian economy and its regions.

The dynamics of macroeconomic indicators in Russia as a whole demonstrate contradictory trends. The period of GDP growth in 2000–2007 was followed by a period of stagnation and partial decline during the years of crises (2009, 2015–2016, 2020). The values of real GDP per capita in the 2010 consumer prices[1] increased in 2010–2014, decreased in 2015–2017 and returned to the level of 2010. The upward trend recovered in 2018; the indicator declined again during the crisis of 2020; and from 2021 to 2023, real GDP per capita was steadily increasing (*Fig. 1*).

The real monetary incomes of the population were also increasing until 2013, while their growth rates decreased. From 2014 to 2017, there was a decrease in the indicator, the cumulative value of which was 9.1%. In 2018 and 2019, there was a slight increase, which was followed by a decline in the crisis year of 2020. The dynamics of the values of the indicator of real disposable incomes of the population repeated the trajectory of the values of real income of the population. Since 2021, the values of the indicators have been increasing annually, and in 2024, compared with 2023, the first indicator increased by 8.4%, the second by 7.3% (*Fig. 2*).

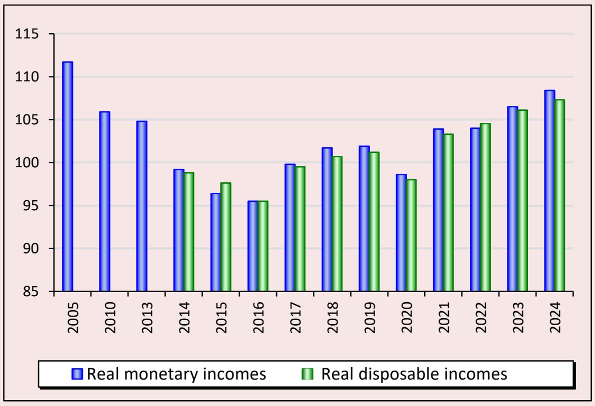
The trend toward an increase in real incomes of the population is an important incentive for Russia's economic development and the preservation of social stability. V.V. Ivanter regarded stagnation of living standards as a major threat to Russia[2]. However, the marked growth may be caused by the

Figure 1. Gross domestic product per capita and GDP per capita in consumer prices in 2010 in the COICOP grouping



Sources: Rosstat data. Available at: https://rosstat.gov.ru/statistics/accounts (accessed: 15.02.2025); https://rosstat.gov.ru/statistics/price (accessed: 15.02.2025); own calculation.

Figure 2. Real monetary incomes and real disposable monetary incomes of the population, 2005–2024, % compared to the previous year



Source: Rosstat data. Available at: https://rosstat.gov.ru/folder/13397 (accessed: 15.02.2025).

[1] Assessment based on Rosstat data on changes in consumer price indices for goods and services in the grouping of the classification of individual consumption according to purpose (COICOP).

[2] Ivanter V.V. (2016). The main threat to Russia is the stagnation of living standards. Available at: https://rg.ru/2016/05/16/viktorivanter-glavnaia-ugroza-dlia-rossii-stagnaciia-urovnia-zhizni.html (accessed: 10.02.2025).

influence of temporary factors, such as an increase in salaries and income from property (primarily due to high rates on deposits in banks and an increase in cash receipts from placing money on deposits), observed in 2023–2024. The trend toward rising incomes of the population is opposed by modern socio-economic and political conditions: a shortage of personnel, lagging labor productivity from wage growth rate, and the special military operation.

A significant factor in the stagnation of living standards is the persistence of regional socio-economic inequality. Regional differences in the level and pace of socio-economic development, quality of life and standard of living of the population are viewed as modern challenges and threats to economic security[3].

Modern research uses various indicators to assess the differentiation of the standard of living of the population, depending on the composition of the qualitative characteristics allocated for analysis. The indicators are presented both in official documents and in scientific literature.

The Economic Security Strategy for the period up to 2030, among the indicators assessing the social criteria of economic security, highlights the share of citizens with monetary incomes below the subsistence level, the decile coefficient, and the share of workers with wages below the subsistence level of the working-age population[4]. A number of indicators are contained and updated in a special section of Rosstat[5].

Poverty of the population is the most common qualitative indicator of the standard of living in modern scientific research. When defining boundaries that classify a population or household as poor, researchers use such approaches as absolute, relative, subjective, and deprivation (Ovcharova, 2008; Karabchuk et al., 2013).

Speaking about evaluation criteria for differences in income (including interregional ones), experts point out that they should reflect the economic provision of the standard of living, assessments of regional socio-economic inequality from the perspective of maintaining or overcoming the problem of focal poverty of the population (Bauer et al., 2018, p. 207). Specific indicators include the ratio of social expenditures of the consolidated budget per capita to the subsistence level (SL), the growth rate of consumer spending and real incomes of the population (Bauer et al., 2018; Mityakov, Nazarova, 2023), indicators of income differentiation, housing affordability (Novikova, Krasnikov, 2010), the ratio of price dynamics and income (Lev, 2017).

Experts take into account the impact of regional differences in the socio-demographic structure and the state of the population's living potential, which affect the size and structure of household income and expenses (Elizarov, Sinitsa, 2018; Ivanova, 2023). A special group of indicators consists of indicators of the standard of living of households based on data from sample surveys and sociological surveys: the results of a sample survey of household budgets, the NRU-HSE Economics and Health Monitoring, selective monitoring of income and participation in social programs, comprehensive monitoring of living conditions. V.N. Bobkov and co-authors evaluate the standards of monetary income and housing security in a monitoring study of living standards, and propose a two-criterion model of stratification of Russian society by income and housing security (Bobkov et al., 2018).

Regional estimates of the differentiation of the standard of living of the population take into account a different set of indicators. The most common classification is of constituent entities of the Russian Federation and municipalities of the region according to the structure and level of

[3] Economic Security Strategy of the Russian Federation for the period up to 2030. Approved by Presidential Decree 208, dated May 13, 2017. Pp. 5–6. Available at: http://www.kremlin.ru/acts/bank/41921 (accessed: 10.02.2025).

[4] Ibidem, p. 16.

[5] Available at: https://rosstat.gov.ru/storage/mediabank/pok-bezopasn.htm (accessed: 10.02.2025).

income and consumer spending of the population. Methodological recommendations have been developed to assess the impact of differences in the subsistence level on income inequality (Surinov, Luppov, 2021). (Fokin, 2015) investigates the combination of sources of income of the population, the influence of the size and structure of income on the turnover of retail trade. When assessing the interregional differentiation of the average per capita income of the population, the ratio of the subsistence level and the cost of a fixed set of consumer goods and services is studied (Tolmachev et al., 2017).

In the world, the problem of regional differentiation of living standards is studied both in individual countries to identify internal differences, and in macro regions to identify differences between countries. Studies of differences in the standard of living of the population of countries that are members of a supranational political and economic union (for example, members of the European Union) are conducted in line with the analysis of the results of macroeconomic changes and comprehensive assessments of regional differences in socio-economic indicators. To better understand inequality, experts assess household disposable income, employment levels, and regional GDP per capita (Palasca, 2015), distribution of personal income within regions (Longford et al., 2012; Fixler et al., 2019), and determine the dependence of the population's standard of living on the quality of government and the size of government spending (Negri, 2022).

Regional differences in poverty levels are estimated by identifying the relationship between self-assessment of poverty, socio-economic characteristics of a household, and social capital (Guagnano et al., 2015). Using a model that determines the dependence of poverty parameters, economic growth and income inequality, the relationship between economic growth and poverty reduction is proved, as well as the relationship between increased income inequality and increased poverty. When conducting cross-country comparisons in the European Union, a typology of countries is carried out according to these indicators: the authors identified four groups of countries with similar characteristics (Michálek, Výbošťok, 2019).

Topical studies show that regional differences do not smooth out with economic growth; on the contrary, economic growth exacerbates regional inequality (Martin, 2005, Zubarevich, 2010, p. 11). In 2015, OECD experts presented data on the growth of inequality in the countries leading in economic development. World Bank data, on the contrary, show that regional income inequality is gradually smoothing out. According to the World Bank data on the ratio of the four segments of the population with different income levels in Europe and Central Asia in 2023, the share of the population with incomes below the average level was only 3% (in 2010 – 7%), the share of the population with high incomes – 40% (in 2010 – 35%). In 2023, there was no low-income group; in 2010, its share was 2%[6].

Studies of the differentiation of the standard of living of the population within individual countries also consider the degree of income concentration in different segments of the population, from the richest to the poorest, taking into account regional differences. For example, in the regions of Italy, there are significant differences in income, growth, capital accumulation and well-being[7]. In their estimates of the degree of income concentration in various segments of the population by intra-national districts, experts take into account the classification of districts depending on the availability of basic public services to citizens (Guzzardi, Morelli, 2024).

[6] World Bank Group country classification by income level. Available at: https://blogs.worldbank.org/en/opendata/world-bank-country-classifications-by-income-level-for-2024-2025

[7] OECD (2019). OECD Economic Surveys: Italy 2019. Available at: https://www.oecd.org/en/publications/oecd-economic-surveys-italy-2019_369ec0f2-en.html

Our aim in this article is to identify the trend of differentiation of regional differences in the standard of living of the population of constituent entities of the Russian Federation in 2005–2023. The assessment of the standard of living is based on the calculation of indicators, which include the "subsistence level" category. The subsistence level is a socially recognized minimum income level necessary to ensure a person's livelihood and basic needs, used to measure the standard of living of the population in the regions. The indicators, which include the SL, make it possible to assess both the social living conditions of people and their economic opportunities, and to identify the adequacy of monetary income to the guarantees of improving the standard of living of the population in Russia contained in official documents. The results of the analysis of changes in indicators of the income level of the population, which include the SL, are interdisciplinary in the regional context.

Research methods

Among the indicators characterizing regional inequality in the standard of living of the population, we will focus on the indicators that include the "subsistence level" category: the first indicator is the proportion of the population with incomes below the subsistence level, the second is the ratio of average per capita income to the subsistence level (APCI/SL ratio). The indicator of the share of the population with incomes below the SL estimates the share of the poor population, the level of poverty (until the end of 2020, from 2021, the poverty level is estimated based on the poverty line[8]). The indicator of the APCI/SL ratio characterizes the purchasing power of the population.

The proportion of the population with incomes below the SL is a general relative value that estimates the proportion of the poor in the entire population. The APCI/SL ratio compares two calculated values having a qualitative content. Both indicators depend on changes in the methodology for determining the values of average per capita income and the subsistence minimum, as well as on changes in the size and age structure of the population.

The methodology for calculating the SL in the Russian Federation is not constant. Calculations of the SL until 2021 were based on the sum of the cost of the consumer basket, mandatory payments, and fees for a specific period of time. The composition and cost of the consumer basket were reviewed and adjusted. Calculations for 2005 and 2013 present the assessment of the SL taking into account the composition of the consumer basket, based on Law 134-FZ, dated October 24, 1997 and the "Rules for calculating the subsistence minimum per capita and for the main socio-demographic groups in the Russian Federation as a whole" (approved by RF Government Resolution 56, dated January 29, 2013). Since 2022, fundamental changes have taken place in the calculation methodology: the subsistence level is determined at 44.2% of the median per capita income[9].

[8] The values of the per capita poverty boundaries in the Russian Federation and its constituent entities for the corresponding reporting quarter or year, starting from the first quarter of 2021, are determined by multiplying the values of the basic poverty boundaries by the consumer price index for the reporting quarter or year to the fourth quarter of 2020, obtained by the chain method, in the Russian Federation as a whole and across its constituent entities. Source: On approval of the rules for determining the boundaries of poverty in the Russian Federation as a whole and in the context of constituent entities of the Russian Federation used in estimates of the indicator "Poverty level" in the Russian Federation as a whole and in the context of constituent entities of the Russian Federation, and on amendments to the federal statistical work plan: RF Government Resolution 2049, dated November 26, 2021 (with amendments and additions Available at: |https://base.garant.ru/403118943/#block_1000

[9] Setting the indicator for the Russian Federation as a whole is the responsibility of the Government of the Russian Federation, and for each constituent entity of the Russian Federation it is the responsibility of the authorities of constituent entities of the Russian Federation. See: On amendments to certain legislative acts of the Russian Federation: Federal Law 473-FZ, dated December 29, 2020. Article 1. Available at: https://www.consultant.ru/document/cons_doc_LAW_372636 (accessed: 05.04.2025).

The calculation of the median per capita income is based on the methodology determined by the federal executive authority. The value of the average per capita monetary income of the population up to and including 2012 is calculated in accordance with the Methodology for calculating the balance of monetary income and expenses of the population (Resolution 61 of the State Statistics Committee of Russia, dated July 16, 1996); since 2013 – in accordance with the Methodological Provisions for calculating indicators of monetary income and expenses of the population (Rosstat Order 465, dated July 2, 2014, as amended November 20, 2018)[10].

Changes in the SL calculation methodology affect the values of the indicators that it is included in the calculation of. Thus, estimates of the SL using the new methodology from 2022 may lead to a change in the direction of the dynamics of the maximum and minimum values of the indicators of the APCI/SL ratio. This is a subjective factor that limits the quality of the assessment and affects the comparability of indicators over time. Therefore, as a comparison, the dynamics of another indicator of the purchasing power of APCI are presented – the ratio of APCI to the cost of a fixed set of consumer goods and services.

Taking into account the trend toward an increase in real incomes of the population, it can be assumed that the main direction of interregional differentiation in the standard of living of the population for the period 2005–2023 is to equalize differences. To confirm the hypothesis, a comprehensive assessment of the population's income indicators (the proportion of the population with incomes below the SL and the APCI/SL ratio) for the period under consideration is carried out based on an index approach. The initial indicators were converted into indices using min-max normalization[11]:

$$I(n) = \frac{N - N_{min}}{N_{max} - N_{min}},$$

where *I(n)* – value of the private regional income index;

N – actual value of the indicator;

N_{max} – maximum value of the indicator;

N_{min} – minimum value of the indicator.

The values of N_{max} and N_{min} were determined based on empirical estimates for each of the two indicators. The greater the gap between the values of indicators for each region and their minimum estimates among constituent entities of the Russian Federation, the higher the index, respectively, this region occupies a higher position in the ranking relative to others.

The final value of the index, let us call it the "total regional income index", was obtained by summing two private indices. The index allows for a comprehensive assessment of changes in two indicators of living standards, taking into account both the social component (the proportion of the population with incomes below the SL in the total population of the region) and the economic component (the purchasing power of the population of the region).

The total income indices were calculated for 2005, 2013, 2021, 2022 and 2023. The values of the indicators for 2021–2023 characterize the state and changes in the standard of living of the population of the regions in the modern period. The year 2005 was taken as the initial year for comparison as a relatively favorable period in reducing regional differentiation

[10] EMISS. Available at: https://www.fedstat.ru/indicator/33460?ysclid=lt8af0v4j0829624780# (accessed: 02.04.2025).

[11] The method preserves the spread of indicator values, and interregional differences in indicators are reflected adequately. The method was used to determine human development indices (HDI), United Nations Development Program (UNDP). Available at: https://web.archive.org/web/20160825010830/http://hdr.undp.org/en/global-reports (accessed: 05.04.2025).

in terms of income levels. The disparity in the APCI between regions has been gradually decreasing since the early 2000s. In the mid-2000s, transfers to the regions increased dramatically, and the trend toward income equalization across the regions of the Russian Federation increased. After the crisis of 2008–2009, transfers began to decrease, and inequality began to increase (Aganbegyan, 2017, p. 73). The year 2013 preceded 2014, which saw a significant decrease in real monetary incomes of the population (the decline continued until 2016, see Fig. 2). In 2013, fundamentally new management approaches were introduced to ensure balanced socio-economic development of constituent entities of the Russian Federation, reducing the level of interregional differentiation in the quality of life of citizens: the state program "Regional policy and federal relations"[12] was adopted for eight years, including 2013. The effectiveness of its implementation and the activities of the executive authorities of constituent entities of the Russian Federation was assessed according to the main indicators of the socio-economic development of the territories, including the indicator "real disposable incomes of the population"[13].

Constituent entities of the Russian Federation were grouped according to the index values for each year and seven groups of regions were identified: the first with the highest index values, the seventh with the lowest index values. Accordingly, the population of the regional groups can be characterized as rich (group I), wealthy (group II), well-off (group III), middle-income (group IV), low-income (group V), poor (group VI), poverty threshold (group VII). The fourth (middle) group has a borderline character between groups of regions with relatively rich and relatively poor populations. This approach is based on the results of an expert assessment of population categories based on the values of the APCI/SL ratio[14].

The analysis of the dynamics of the indices in the context of the identified seven groups of RF constituent entities makes it possible to conduct a comprehensive assessment of the indicators of the income level of the population, which include the SL, as well as to present the change in regional differentiation over different periods.

The degree of intensity of regional variation is determined for each indicator, including the indices. The coefficients of variation in the share of the population with incomes below the SL and the APCI/SL ratio, as well as the total regional income index, are calculated using the formula:

$$V = \sqrt{\frac{1}{N}\sum_{i=1}^{N}\left(\frac{x_i}{\tilde{x}} - 1\right)^2},$$

where x_i – value of the indicator for the constituent entity of the Russian Federation i,

$\tilde{x}$ – constituent entities of the Russian Federation: calculated as the arithmetic mean for the regions,

N – number of regions.

The coefficient of variation makes it possible to compare the average deviations of the values of indicators and indices for RF constituent entities from their average values (the greater the deviation, the greater the value of the coefficient of variation). The degree of variation intensity was assessed according to the scale presented in scientific publications: weak if $v < 10\%$, moderate at $10\% < v < 25\%$, significant at $25\% < v < 33\%$,

[12] On approval of the state program of the Russian Federation "Regional policy and federal relations": RF Government Resolution 307, dated April 15, 2014.

[13] The state program "Regional policy and federal relations" was subsequently excluded from the list of state programs by amending RF Government Resolution 1950-R, dated November 11, 2010. According to experts, the program proved ineffective.

[14] Efimova M.R., Bychkova S.G. (2007). Social Statistics: Textbook. Moscow: Finance and Statistics Publishing. Pp. 241–242.

strong at v > 33%[15]. In statistics, it is generally assumed that the higher the value of the coefficient of variation, the relatively greater the spread and less alignment of the values in question. If the coefficient of variation is greater than 33%, the data set is heterogeneous.

Research results

Assessment of the degree of regional differentiation of constituent entities of the Russian Federation in terms of monetary income, taking into account the subsistence level

During the period 2005–2023, there was a significant decrease in interregional differences in the APCI of the population: the differences between the maximum and minimum values of the indicator decreased from 10.2 to 5.7 times. The change in the ratio of the maximum and minimum regional values of the SL is also significant: in 2005, the ratio was 7.5 times, in 2023 – 3.1 times.

Over the period 2005–2023, the share of the population with monetary incomes below the subsistence level in Russia as a whole has more than doubled, from 17.8% to 8.5%. During the same period, the minimum value for constituent entities of the Russian Federation decreased 4.5-fold, to 3.6% (Yamal-Nenets Autonomous Area), the maximum value decreased 3.6-fold, to 27.7% (Republic of Ingushetia). With a noticeable decrease in both the maximum and minimum values of the indicator over 18 years, the gap between them has remained significant and tends to grow: in 2019, it was at the level of 2005 (6.2 times), and increased to 7.7 times over the period 2019–2023.

Some growth in the share of the population with incomes below the SL occurred in 2013–2016 (*Fig. 3*), the proportion of the poor population increased in the Republics of Kalmykia and Tyva.

The APCI/SL ratio increased from 262% to 370% in 2005–2023, but the growth was uneven. During this period, the indicator changed in two directions in Russia as a whole (*Fig. 4*).

Figure 3. Proportion of the population with incomes below the SL in the Russian Federation as a whole, maximum and minimum values of the indicator for RF constituent entities, 2005–2023, %

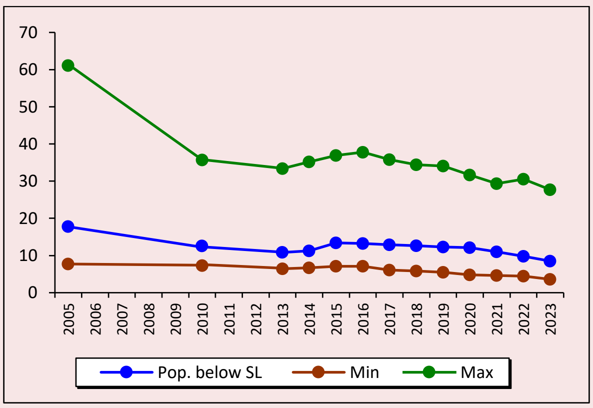
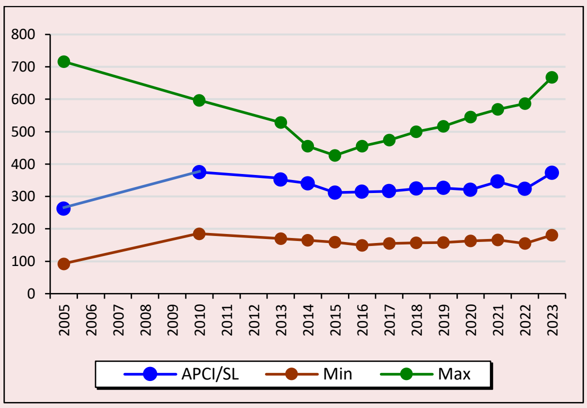


Figure 4. APCI/SL ratio in the Russian Federation as a whole, maximum and minimum values of the indicator f for RF constituent entities, 2005–2023, %



Source: Rosstat data. Available at: https://rosstat.gov.ru/folder/13723 (accessed: 15.02.2025).

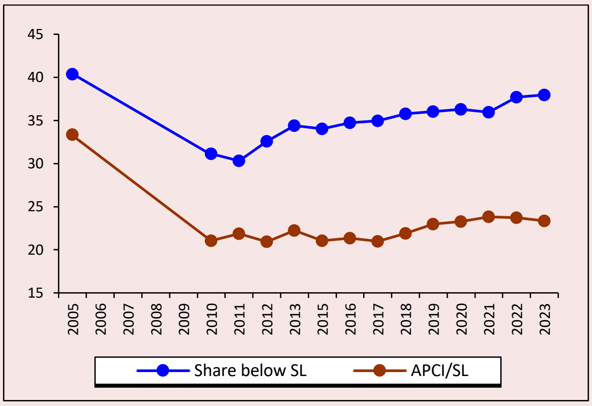
[15] Eliseeva I.I., Yuzbashev M.M. (2004). General Theory of Statistics: Textbook. 5th ed., revised and supplemented. Moscow: Finance and Statistics Publishing. P. 160; Krylov V.E., Muravyeva N.V. (2020). General Theory of Statistics: Textbook. Vladimir: VlGU Publishing. P. 48.

In 2005–2010, there was an increase in the minimum values and a decrease in the maximum values, as a result of which there was an equalization of interregional differences in the purchasing power of the APCI of the population. In 2005, the minimum value of the APCI/SL ratio was 135.4% in the Irkutsk Region (if we take into account the composition of RF constituent entities in 2005, the minimum value of APCI was lower than SL – in the Ust-Ordynsky Buryatsky Autonomous Okrug it was 91.7%; since January 1, 2008, this constituent entity of the RF is part of the Irkutsk Region). The maximum values were recorded in Moscow – 716.5%. By 2010, the maximum value of the ratio decreased to 596.6% (the population of Moscow retained the leadership), the minimum value increased to 184.8% (Republic of Kalmykia).

The decrease in the maximum values of the ratio of APCI to SL continued until 2015, the minimum values also decreased from 2010 to 2016 (to 149.4% in the Republic of Tyva). As a result of the parallel decrease in the indicators, the gap between them decreased to 2.7 times, which is the lowest level in the period under consideration. From 2016 to 2023, the gap between the values increased due to an increase in the value of the indicator in the leading regions: from 454.8% in 2016 to 667.5% in 2023 (since 2015, the Yamal-Nenets Autonomous Area has been the leader in terms of the indicator).

When assessing the values of the coefficient of regional variation (CRV) of the share of the population with incomes below the SL for 2005–2023, two directions of changes are noticeable (*Fig. 5*). In 2005–2011, differences between regions tended to decrease and smooth out. The CRV value in 2005 was 40% and reflected a high degree of heterogeneity in the indicator. By 2011, the CRV had decreased to 30%, which is the lowest value of the indicator for 2005–2023; however, this degree of coefficient heterogeneity remained significant. During 2012–2021 the coefficient had a stable upward trend, reflecting the asymmetric nature of changes in the share of the population with incomes below the SL in the regions. The trend toward an asymmetric change in indicators for RF constituent entities has significantly increased by 2022.

Figure 5. Coefficients of regional variation in the values of the share of the population with incomes below the subsistence level and the APCI/SL ratio



Source: own calculation.

The direction of the dynamics of the values of the CRV of the APCI/SL ratio generally follows the trajectory of changes in the indicator of the level of poverty of the population. The most significant changes were also observed in the period 2005–2010. However, the trend toward smoothing the values of the regional variation of the indicator in the regions in 2005–2010 was more significant: the value of the CRV decreased from 33 to 21% due to the equalization of differences between the largest and smallest APCIs in RF constituent entities: they decreased from 10.2 to 6.1 times. In 2005–2010, money transfers to the regions increased (during this period, the federal target program "Reducing differences in the socio-economic development of the regions of the Russian Federation (2002–2010 and up to 2015)" was in effect[16]); respectively, the disparity in the size of the APCI between regions decreased.

[16] On the federal target program "Reducing differences in the socio-economic development of the regions of the Russian Federation (2002–2010 and up to 2015)": RF Government Resolution 717, dated October 11, 2001.

The subsequent variability of the variation series is less pronounced compared to the poverty indicator series. Since 2011, fluctuations in the values of the CRV have been trending upward. From 2011 to 2017, there was a neutral type of dynamics, with minor changes relative to the level of 2010. Subsequently, the nature of the changes in the CRV of the APCI/SL ratio is closer to the asymmetric type. Over the period from 2011 to 2021, the CRV values increased from 22 to 23.8%, and decreased slightly from 2022 to 23.3% in 2023.

The dynamics of the coefficient of regional variation in the values of the share of the population with an income below the SL and the APCI/SL ratio allow us to conclude that their asymmetry persists in the regions of Russia. The spread of the indicators by 2023 was 38 and 23.3%, respectively. The high values of the CRV reflect a strong (the share with income below the SL) and significant (APCI/SL ratio) degree of heterogeneity of the territories of Russia according to these indicators.

Due to the transition to a new methodology for calculating the SL from 2021–2022, the value of the indicators that include the SL value differs from the values of previously calculated indicators. Experts' calculations show that estimates of the level of absolute poverty in terms of the subsistence level, established on the basis of the new official methodology for calculating the "poverty line" in 2021–2022, were underestimated by 1.7–2.1 percentage points compared with estimates under the rules of 2013–2020 (Bobkov et al., 2024).

According to our comparisons of the SL for 2020 using official Rosstat data (the calculation procedure is the same) and the new methodology (44.2% of the median APCI), the discrepancies are clear: in relatively rich regions, when calculated according to the new rules, the SL increases, while in poor regions, on the contrary, it decreases. As a result, an underestimation of the SL can lead to an increase in the estimates of the APCI/SL ratio, and an overestimation of the SL can lead to a decrease in the values of the APCI/SL ratio (see Appendix, Fig. 1).

Estimates of the SL using the new methodology may also contribute to a change in the direction of the dynamics of the indicator from 2022; therefore, it is necessary to assess the purchasing power of the APCI by comparing it with another indicator characterizing differences in the standard of living of the regions' population. As such an indicator, we use the ratio of APCI to the cost of a fixed set of consumer goods and services.

Dynamics of the ratio of the average per capita income of the population and the cost of a fixed set of consumer goods and services

Estimates of the cost of a fixed set of consumer goods and services (consumer basket, CB) when conducting interregional comparisons of the purchasing power of the population make it possible to determine the standard of living of the population based on data on the consumption of food, non-food products and paid services. The indicator characterizes the features of consumer behavior of the regions' population, expressed in terms of value.

A set of consumer goods and services is formed on the basis of a study of the consumer market of RF constituent entities, conducted by territorial bodies of the Federal State Statistics Service. The set comprises 83 items of goods and services, including 30 types of food products, 41 types of non-food products and 12 types of services)[17].

[17] On the techniques for calculating indicators for evaluating the effectiveness of the executive authorities of constituent entities of the Russian Federation: RF Government Resolution 1373, dated November 14, 2018. Pp. 2–3. Available at: https://d-russia.ru/wp-content/uploads/2018/11/metodiki-rascheta.pdf?ysclid=m71jduee27570398455 (accessed: 20.02.2025).

The minimum set of goods and services was the basis for estimating the minimum subsistence level until 2021, in accordance with the "Rules for calculating the minimum subsistence level per capita and for the main socio-demographic groups of the population in the Russian Federation as a whole" (approved by RF Government Resolution 56, dated January 29, 2013). Available at: https://www.garant.ru/products/ipo/prime/doc/70206880/?ysclid=m72yzog9cp638273369 (accessed: 20.02.2025).

Figure 6. Dynamics of the ratio of the APCI to the cost of a fixed set of consumer goods and services in the Russian Federation as a whole, minimum and maximum values of the indicator in RF constituent entities, 2005–2023

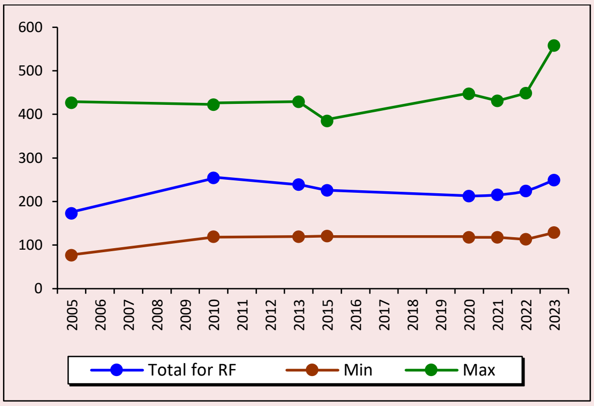
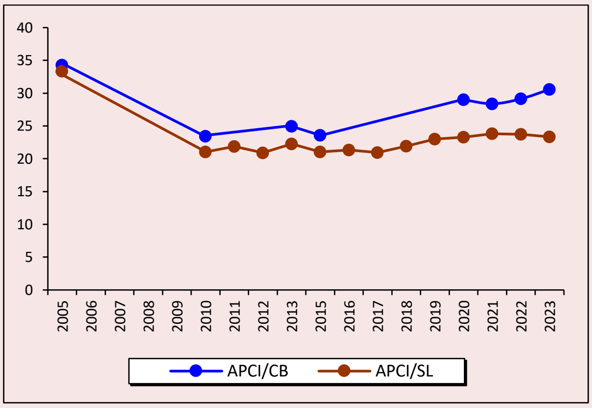


Figure 7. Dynamics of the coefficient of regional variation in the ratio of the APCI to the subsistence level (APCI/SL) and the ratio of the APCI to the cost of a fixed set of consumer goods and services (APCI/CB)



Sources: EMISS data. Available at: https://www.fedstat.ru/indicator/31052 (accessed: 15.02.2025); Rosstat data. Available at: https://rosstat.gov.ru/folder/13723 (accessed: 15.02.2025); own calculation.

The dynamics of the APCI/CB ratio for the period 2005–2023 is shown in *Figure 6*. Comparing it with the value of the APCI/SL ratio, we see that the trajectory of change in the two indicators is unidirectional. The highest value of the APCI/CB ratio was noted in 2010 – 254%, by 2020 it decreased to 212% and increased again to 249% by 2023.

The upward trend in 2005–2013 was determined by an increase in the well-being of the population of poor RF constituent entities: the minimum values were observed in the Republic of Kalmykia in 2005, amounting to 77%; and then they increased to 119% in 2010–2013. By 2015, a lower ratio was observed in the Republic of Altai – 120%, from 2020 – in the Republic of Ingushetia (by 2022 it decreased from 118% to 113%), by 2023 it amounted to 129%, and this is the most significant increase in 2005–2023.

The maximum values have decreased slightly since 2005 (427%) and in 2010 amounted to 422% (Moscow); in 2013 their value recovered to 428% (YaNAA). After a brief decline in 2014–2015, the highest values continued to rise in 2020 to 447% and then to the highest value of 558% in 2023. (YaNAA). As we see in Figure 6, the gap between the minimum and maximum values has widened in 2023.

The dynamics of the coefficient of regional variation in the APCI/CB ratio calculated for RF constituent entities for 2005–2020 repeat the trend typical for the APCI/SL ratio. However, the CRV values for the first indicator exceed the values of the second indicator throughout the entire period.

Differences between regions in the APCI/CB ratio decreased most noticeably in 2005–2010. The downward trend, despite fluctuations, persisted in 2010–2015, then it reversed to an increase, and in 2020 the CRV was 29% (*Fig. 7*).

Since 2021, the dynamics of the CRV of the two indicators of the purchasing power of the population has taken on a different direction. As we see in Figure 7, the degree of variation of deviations between the APCI/CB ratio from its average value by 2023 exceeded 30%. The high values of the CRV reflect a significant degree of heterogeneity of the indicator values in RF constituent entities. Comparing the directions of change in the two indicators of the purchasing power of household incomes allows us to draw another conclusion – the change in the methodology for calculating the SL since 2021 has affected the prospective values of the indicator itself and the indicators that take into account the value of the SL, including the APCI/SL ratio. The comparison showed that regional differences in the purchasing power of the average per capita income of the population, calculated as the APCI/CB ratio, tend to increase.

Differentiation of income levels of the population according to the values of the calculated total regional income index

The values of the total regional income index were divided into seven groups in descending order: the first group contains the highest index values, the seventh contains the lowest (*Tab. 1*). Depending on the index values, RF constituent entities were divided into groups. The classification was carried out for 2005, 2013, 2021, 2022 and 2023.

Table 1. Groups of constituent entities of the Russian Federation according to the calculated total income index

Group	Index value	Group	Index value
1	1.400 and higher	5	0.900–0.999
2	1.200–1.399	6	0.700–0.899
3	1.100–1.199	7	0.699 and lower
4	1.000–1.099		
Source: own calculation.			

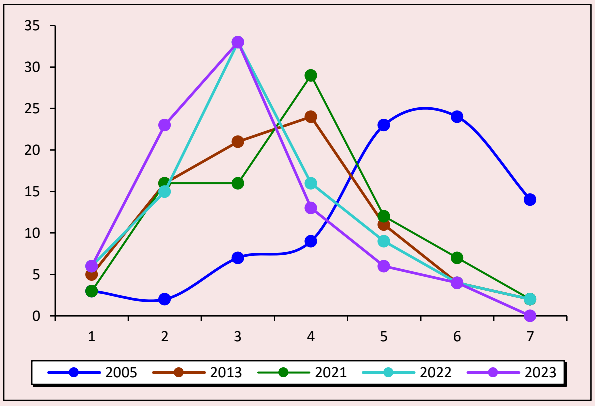
The distribution of RF constituent entities by groups of values of the total regional income indices of the population for the specified years is shown in *Figure 8*.

According to the values of the total index in 2005, 61 of the 82 RF constituent entities for which the index was calculated were classified into the fifth, sixth and seventh groups with low income indices. An assessment of regional social resources of innovation processes conducted in 2005 showed that out of 84 RF constituent entities, 21 regions with average and high social indicators of quality of life could be identified (Ivanova, 2007).

By 2013, a larger number of regions – 45 out of 83 – are observed in the third and fourth groups, with an average index value; groups 5–7 include 17 RF constituent entities. In 2021, the maximum number of regions (29) belonged to the fourth group. By 2022, the index values in constituent entities of the Central, Northwestern, and Far Eastern federal districts have increased significantly, and 33 regions have already been included in the third group.

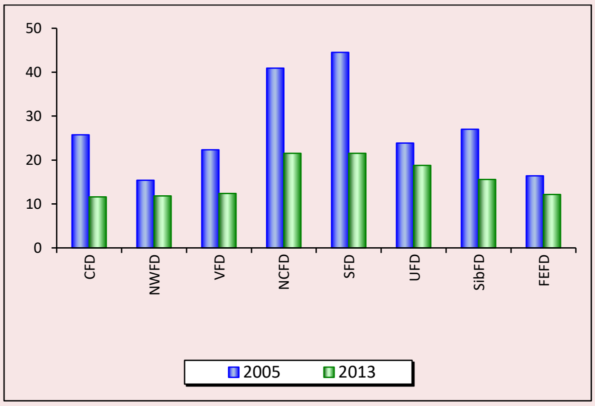
The number of RF constituent entities included in the groups with a low index value decreased 4-fold by 2022 and amounted to 15 (61 in 2005). The distribution of regions by group of values of complex income indices of the population showed a steady increase in the number of RF constituent entities with high and average values of the indicator, a decrease – with low ones. In 2022, relatively high income levels were observed in 54 RF constituent entities, which were included in the first three groups within the framework of the classification carried out. In 2005, there were 12 RF constituent entities in these groups.

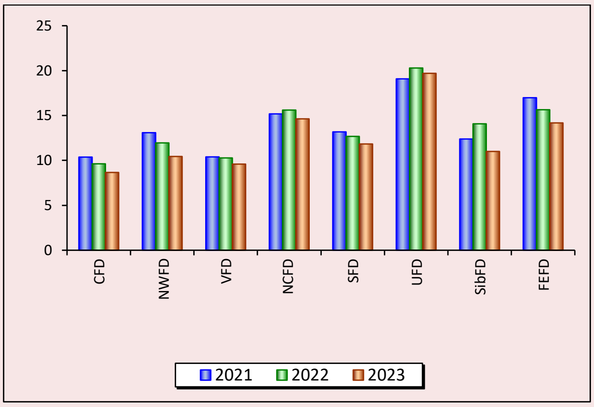
Figure 8. Distribution of RF constituent entities according to the groups of values of the total regional income indices of the population in 2005, 2013, 2021, 2022, 2023



Source: own calculation.

Figure 9. Coefficients of regional variation of total income indices in the subjects of RF federal districts in 2005, 2013, 2021, 2022, 2023.





Source: own calculation.

The distribution of regions by group of the total income index, which takes into account the values of two indicators, for 2023 indicates that the structure is dominated by regions with the high and highest index values – in 62 of the 85 RF constituent entities, the indices exceeded the average values. The number of regions with values below the average was 10, of which four RF constituent entities were included in the poorest group: the republics of Kalmykia, Ingushetia, Tuva and the Karachayevo-Circassian Republic.

The trend toward income equalization in 2021–2023 is clear and affects not only relatively rich regions, but also regions that were relatively poor.

However, the dynamics of the CRV values of the share of the population with an income below the SL and the APCI/SL ratio show that the degree of their asymmetry in all regions of Russia remains significant: in 2023, the CRV was 23.3% and 38%, respectively. The high degree of differences in indicators suggests further analysis of the uneven income levels across more homogeneous groups of regions, across constituent entities of federal districts, which will reduce the spread of values of indicators obtained in calculations for all RF constituent entities.

The dynamics of differentiation of total income indices for 2021–2023 had a levelling character in five federal districts: Central, Northwestern, Volga, Southern, and Far Eastern (Fig. 9). The levelling of the values of the indicators occurred due to the gradual approximation of the index values to the average values of constituent entities of federal districts where the level of population's income was low. By 2022, all regions in the Central Federal District had achieved a high level of the indicators: Moscow remained the leader, while high rates corresponding to the second group were observed in the Moscow, Belgorod, Lipetsk, Voronezh, Kursk, and Yaroslavl regions. The remaining regions were included in the third group.

In the Southern Federal District in 2013–2021, the gap in the index values decreased 1.6-fold, mainly due to an increase in the indicator in the bottom region, the Republic of Kalmykia. The composition of the groups remained virtually unchanged by 2023: the second group included the Krasnodar Territory, in 2021–2023 – the Republic of Adygea and the Rostov Region; the Volgograd Region and Sevastopol were included in the third group. The indices for the Republic of Crimea and the Astrakhan Region are lower than the average values, but even here their gradual increase is noted: by 2023, the values of the indices of the regions of the district corresponded to those in group 4 (see Appendix, Tables 1, 2).

In the Northwestern and Far Eastern federal districts, the minimum values of regional variation were observed in 2013. By 2021, there was a slight increase in asymmetry in the Northwestern Federal District due to a decrease in income indicators for the population of the Kaliningrad and Novgorod regions and the Republic of Komi. In 2022, the CRV decreased due to an increase in the income of the population in the Arkhangelsk and Vologda regions, as well as in the republics of Karelia and Komi. In the Novgorod and Kaliningrad regions, by 2023, indicators have increased to the level of the middle, third classification group. Values below the average income level were observed only in the Pskov Region (group 4).

In the Far Eastern Federal District, the growth of asymmetry was noticeable in 2013–2021. It is explained by the increase in the number of regions with the lowest and highest rates for the federal district. In 2021, the sixth group with low income values included the Trans-Baikal Territory, the Republic of Buryatia, and the Jewish Autonomous Region, whereas in 2013 it consisted only of the Jewish Autonomous Region. In 2021, the second group included three subjects of the district – the Chukotka Autonomous Area, the Sakhalin and Magadan regions, whereas in 2013 – only the first two regions. The situation in the Trans-Baikal Territory and the Republic of Buryatia has worsened – according to the value of the income index, the subjects of the district have moved from the fourth to the sixth group. But by the next year (2022), the indicators in these subjects had increased and only the Jewish Autonomous Region remained in the lagging group. Income indices have also increased in high-income regions – the Sakhalin and Magadan regions, and by 2022 these subjects of the district have taken leading positions in the first group. In 2023, the downward trend in the income index values continued due to an increase in the indicator in the Jewish Autonomous Region, the Trans-Baikal Territory, and Yakutia.

The value of the regional variation in the total income index in the North Caucasus Federal District decreased intensively during 2005–2013, almost halving from 41% to 21.5%. By 2021, the decline in the income index in the district continued, but mainly due to a decrease in the values of income indices in the richer subjects of the district – the Republic of Dagestan and the Stavropol Territory. None of the regions of the district was included even in the third classification group. The decrease in regional asymmetry was also caused by a parallel decrease in the index values in the republics with the lowest income levels – Kabardino-Balkaria and Ingushetia. In 2022, the CRV increased slightly due to a decrease in the index value in Ingushetia. Next year, in 2023, the CRV decreased: the index values increased in Ingushetia and Kabardino-Balkaria. Among the subjects of the district with relatively high values of the income index, the Republic of Dagestan came out on top.

By 2021, the trend toward a reduction in the CRV in the subjects of the Siberian Federal District was mainly due to an increase in the minimum values of the indicator in the subjects of the district (in the republics of Tyva and Altai). The decrease in the maximum values was not so pronounced. By 2022, the CRV increased due to a decrease in the minimum value (in the Republic of Tuva), as well as an increase in values in the richer subjects of the district – the Omsk and Kemerovo regions. In 2023, the income indicator increased in most of the subjects of the district: it reached the values of the second classification group for the Novosibirsk Region, and the values of the third group for the Krasnoyarsk Territory, Kemerovo, Omsk, and

Tomsk regions. In the groups with the lowest income indicator, growth was observed in the republics of Altai and Tyva, which moved to higher classification groups. In general, the direction of changes in the differentiation of the subjects of the Siberian Federal District is closer to the neutral type.

In the Ural Federal District in 2005, the CRV value was low compared to the that in the Southern and North Caucasus federal districts. During the period 2005–2013, the coefficient values decreased from 23.9% to 18.8%. In 2021 and 2022 it changed direction – there was an increase in values to 19% and 20.3%, in 2023 the CRV decreased slightly. The composition of the subjects of the district with high and low income index values is stable: the Yamal-Nenets Autonomous Area (in 2005 also the Khanty-Mansi Autonomous Area) is in the lead, the Kurgan Region remains a lagging region. The Ural Federal District retains the asymmetric nature of differences in the values of population income indices, the variability of a number of indicators is average, but in comparison with other federal districts it is the highest.

Analysis of the obtained results. Conclusions

The results of the assessment of the differentiation of RF constituent entities by income level, obtained on the basis of the calculated total regional income index, indicate the predominance of the levelling nature of the dynamics of regional variation in income indicators. The differences are levelled due to an increase in income index values both in regions with a relatively high level of well-being, and due to an increase in minimum values in lagging regions of the Russian Federation. Significant deviations from the average values for federal district remain only in the Ural Federal District.

The absence of pronounced asymmetry in the values of income indicators is proof of the levelling of regional differences in the income level of the population. This conclusion is important from the point of view of evaluating the effectiveness of the implementation of a number of federal and regional programs aimed at improving the quality of life and well-being of citizens. It is also important to draw a conclusion from the perspective of assessing the impact of income growth in the regions, reducing inequality in their level as a social factor in the economic development of the country, and increasing activity in consumer behavior of the population.

A significant degree of heterogeneity of Russia's territories remains in the two indicators of the purchasing power of the population. Regional differences in the indicator, calculated as the ratio of the APCI to the cost of a fixed set of consumer goods and services, have tended to increase since 2015, and it continued in 2021–2023. By 2023, the index's value margin exceeded 30%, which is greater than the degree of regional differences calculated based on the APCI/SL ratio (23%).

The trend toward leveling interregional differences in the income level of the population is quite stable. The fluctuations that have been occurring since 2015 are related to the impact of crisis factors, as they overcome which the trend is recovering. When studying the social structure of modern Russian society, taking into account its dynamism and exposure to external factors, the importance of setting and analyzing problems related to the processes of formation of social structures increases.

The reduction in regional differentiation of key indicators of the income level of the population is a consequence of the response to a set of public policy measures. Socio-managerial and socio-economic factors influence the maintenance of a steady trend toward levelling the key indicators of the standard of living, creating favorable conditions for the population in many regions. The formation of outstripping socio-economic development territories and the introduction of new management mechanisms aimed at creating favorable business conditions stimulate the development of regions, create new jobs, increase the profitability of enterprises and organizations, and contribute to the growth of real incomes of the population. Current socio-economic measures include tax reform, which takes into account the level of income of citizens; an increase in the minimum wage, and an increase in wages.

Along with socio-managerial, socio-economic factors, socio-demographic factors, the availability of high-quality social infrastructure, as well as latent behavioral factors affecting the characteristics and structure of spending and consumption of the population are important in reducing the income differentiation of the regions' population.

References

Aganbegyan A.G. (2017). Overcoming poverty and reducing income and consumption inequality in Russia. *ECO*, 9, 73 (in Russian).

Bauer V.P., Belyaev I.I., *Bulavin A.V. et al. (2018). Ekonomicheskaya bezopasnost' Rossii: metodologiya, strategicheskoe upravlenie, sistemotekhnika: monografiya* [Russia's Economic Security: Methodology, Strategic Management, System Engineering: Monograph]. Moscow: Ruscience.

Bobkov V.N., Gulyugina A.A., Odintsova E.V. (2024). About the risks in the sphere of living standards of the Russian population, opportunities and solutions to reduce them. *Uroven' zhizni naseleniya regionov Rossii*, 20(1), 59–75. DOI: 10.52180/1999-9836_2024_20_1_6_59_75 (accessed: 20.02.2025; in Russian).

Bobkov V.N., Herrmann P., Kolmakov I.B., Odintsova E.V. (2018). A two-criterion model of stratification of Russian society by income and housing security. *Ekonomika regiona*, 14(4), 1061–1075. DOI: 10.17059/2018-4-1 (accessed: 17.02.2025; in Russian).

Elizarov V.V., Sinitsa A.L. (2018). Poverty of families with children: Problems of definition and measurement, regional characteristics. *Uroven' zhizni naseleniya regionov Rossii*, 14(2), 24–33 (in Russian).

Fixler D., Gindelsky M., Johnson D. (2019). Improving the measure of the distribution of personal income. *AEA Papers and Proceedings*, 109, 302–306.

Fokin V.Ya. (2015). Classification of region's municipalities by structure and level of incomes and consumer spending. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 5(41), 89–103 (in Russian).

Guagnano G., Santarelli E., Santini I. (2015). Can social capital affect subjective poverty in Europe? An empirical analysis based on a generalized ordered logit model. *Springer Science+Business Media Dordrecht*. DOI 10.1007/s11205-015-1061-z

Guzzardi D., Morelli S. (2024). A new geography of inequality: Top incomes in Italian regions and inner areas. *LEM Working Paper Series*, 2024/16. Available at: https://wid.world/document/a-new-geography-of-inequality-top-incomes-in-italian-regions-and-inner-areas-world-inequality-lab-working-paper-2024-19/

Ivanova E.I. (2007). Regional differences in the social conditions of the development of innovative processes in modern Russia. *Nauchnye trudy INP RAN*, 722–745 (in Russian).

Ivanova E.I. (2023). Life potential as a factor of income differentiation and of expenditures of Russian population. *Munitsipal'naya akademiya*, 4, 245–258 (in Russian).

Karabchuk T.S., Pashinova T.R. Soboleva N.E. (2013). Poverty of Russian households: What we know about it from RLMS database. *Mir Rossii=Universe of Russia*, 22(1), 155–175. Available at: https://cyberleninka.ru/article/n/bednost-domohozyaystv-v-rossii-chto-govoryat-dannye-rmez-vshe?ysclid=m7fp2j3rpw240759760 (accessed: 15.02.2025).

Lev M.Y. (2017). The influence of consumer prices on the level of income in the economic security system of Russia. *Vestnik MFYuA*, 1, 93–102 (in Russian).

Longford N.T., Maria G.P., Zelli R., Massari R. (2012). Poverty and inequality in European regions. *Journal of Applied Statistics*. DOI:10.1080/02664763.2012.661705

Martin P. (2005). The geography of inequalities in Europe. *Swedish Economic Policy Review*, 12, 83–108.

Michálek A., Výbošťok J. (2019). Economic growth, inequality and poverty in the EU. *Social Indicators Research* 141, 611–630. DOI: https://doi.org/10.1007/s11205-018-1858-7

Mityakov S.N., Nazarova E.A. (2023). Empirical analysis of economic security short-term indicators. *Ekonomicheskaya bezopasnost'*, 6(3), 849–864. DOI: 10.18334/ecsec.6.3.118238 (in Russian).

Negri C. (2022). Exploring rising income inequality in the European Union – a public choice approach. *Bulletin of the Transilvania University of Braşov. Series V: Economic Sciences*, 15(64)(2). DOI: https://doi.org/10.31926/but.es.2022.15.64.2.16

Novikova I.V., Krasnikov N.I. (2010). Indicators of economic security of the region. *Vestnik tomskogo gosudarstvennogo universiteta*, 330, 132–138. Available at: sun.tsu.ru/mminfo/000063105/330/image/330-132.pdf (accessed: 15.02.2025; in Russian).

Ovcharova L.N. (2008). Poverty and economic growth in Russia. *Zhurnal issledovanii sotsial'noi politiki=Journal of Social Policy Studies*, 6, 439–456. Available at: https://cyberleninka.ru/article/n/bednost-i-ekonomicheskiy-rost-v- rossii?ysclid=m7fouhivq3825039791 (accessed: 10.02.2025; in Russian).

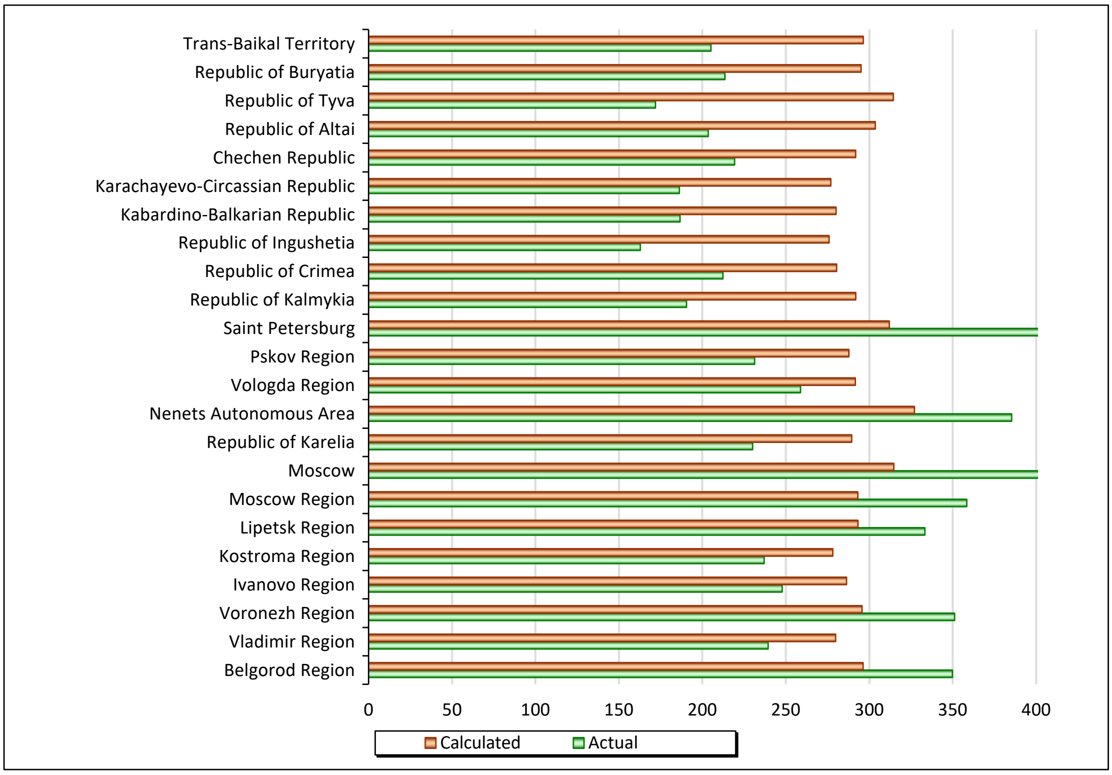
Surinov A.E., Luppov A.B. (2021). Influence of regional differences in the cost of living on national income inequality. *Ekonomika regiona*, 17(3), 814–827. DOI: https://doi.org/10.17059/ekon.reg.2021-3-7 (in Russian).

Tolmachev M.N., Barashov N.G., Latkov A.V. (2017). To the problem of estimating inter-regional differentiation of per capita incomes. *Journal Izvestiya of Saratov University. Economics. Management. Law*, 17(3), 266–273. DOI: 10.18500/1994-2540-2017-17-3-266-273 (in Russian).

Zubarevich N.V. (2010). *Regiony Rossii: neravenstvo, krizis, modernizatsiya* [Regions of Russia: Inequality, Crisis, Modernization]. Moscow: Nezavisimyi institut sotsial'noi politiki.

Appendix

Figure 1. Subsistence level in some regions of the Russian Federation, calculated using different methods, 2020



Row 1 – SL, calculated according to the new methodology, 44.2% of the average per capita median income[18].

Row 2 – official SL, set according to the previously used methodology[19].

[18] Taking into account the composition of the consumer basket on the basis of Law 134-FZ "On the subsistence level in the Russian Federation" dated October 24, 1997, and the Rules for calculating the value of subsistence level per capita, approved by RF Government Resolution 56, dated January 29, 2013.

[19] In accordance with RF Government Resolution 2406, dated December 31, 2020.

Table 1. Classification of subjects of the federal districts of the Russian Federation by value of the total regional income index, 2023

Group	CFD	NWFD	SFD*	NCFD
I	Moscow	Nenets Autonomous Area, Saint Petersburg		
II	the Belgorod, Voronezh, Kaluga, Kostroma, Kursk, Lipetsk, Moscow, Orel, Yaroslavl regions	the Arkhangelsk, Leningrad, Murmansk regions	Krasnodar Territory, Rostov Region, Republic of Adygea	
III	the Bryansk, Vladimir, Ivanovo, Ryazan, Smolensk, Tambov, Tver, Tula regions	the republics of Karelia and Komi, the Vologda, Kaliningrad, Novgorod regions	Volgograd Region, Sevastopol	Republic of Dagestan
IV		Pskov Region	Republic of Crimea, Astrakhan Region	Stavropol Territory, Republic of North Ossetia, Kabardino-Balkarian Republic
V				Chechen Republic
VI			Republic of Kalmykia	Karachayevo-Circassian Republic, Republic of Ingushetia
*Excluding the DPR, LPR, Zaporozhye and Kherson regions (no data available).				

Group	VFD	UFD	SibFD	FEFD
I	Republic of Tatarstan	Yamal-Nenets AA		the Magadan, Sakhalin regions
II	Perm Territory, Nizhny Novgorod Region	Sverdlovsk Region, Khanty-Mansi AA	Novosibirsk Region	Chukotka AA
III	Republic of Bashkortostan, Republic of Udmurtia, the Kirov Orenburg, Penza, Samara, Ulyanovsk regions	the Tyumen and Chelyabinsk regions	Krasnoyarsk Territory, The Kemerovo, Omsk, Tomsk regions	Republic of Sakha (Yakutia), Kamchatka Territory, Primorye Territory, Khabarovsk Territory, Amur Region
IV	Republic of Mordovia, Chuvash Republic, Saratov Region	Kurgan Region	Irkutsk Region, Altai Territory	Trans-Baikal Territory
V	Republic of Mari El		Republic of Altai, Republic of Khakassia	Republic of Buryatia, Jewish AR
VI			Republic of Tyva	

Table 2. Classification of the subjects of the federal districts of the Russian Federation according to the values of the total regional income index, 2005, 2013, 2021, 2022

Central FD

Group	2005	2013	2021	2022
I	Moscow	Moscow	Moscow	Moscow
II		the Moscow, Belgorod, Tambov, Lipetsk, Voronezh, Kaluga, Kursk regions	the Moscow, Belgorod, Voronezh, Lipetsk, Kursk regions	the Belgorod, Moscow, Lipetsk, Voronezh, Kursk, Yaroslavl regions
III		the Yaroslavl, Tula, Bryansk, Ryazan regions	the Yaroslavl, Kaluga, Tula, Tambov, Tver, Ryazan, Orel regions	the Kaluga, Tver, Tambov, Tula, Kostroma, Bryansk, Smolensk, Ryazan, Orel, Ivanovo, Vladimir regions
IV	the Lipetsk, Tambov regions	the Tver, Orel, Vladimir, Ivanovo, Kostroma regions	the Bryansk, Vladimir, Ivanovo, Kostroma, Smolensk regions	
V	the Yaroslavl, Bryansk, Belgorod, Moscow, Smolenskaya, Kaluga, Tula, Tver regions	Smolensk Region		
VI	the Kursk, Voronezh, Ryazan, Oryol, Kostroma regions			
VII	the Vladimir, Ivanovo regions			

Continuation of Table 2

Northwestern FD

Group	2005	2013	2021	2022
I		Nenets AA, Saint Petersburg	Saint Petersburg	Saint Petersburg, Nenets AA
II	Saint Petersburg		Nenets AA, Leningrad Region	the Leningrad, Murmansk regions
III	Komi Republic	Murmansk Region, Komi Republic, the Leningrad, Novgorod, Kaliningrad regions	Murmansk Region	the Arkhangelsk, Vologda regions, Republic of Karelia, Komi Republic
IV		Vologda Region, Republic of Karelia, Arkhangelsk Region	the Arkhangelsk, Vologda, Kaliningrad, Novgorod regions, Komi Republic, Pskov Region, Republic of Karelia	the Novgorod, Kaliningrad, Pskov regions
V	Nenets AA, the Vologda, Arkhangelsk regions, Republic of Karelia, the Murmansk, Kaliningrad, Pskov regions	Pskov Region		
VI	the Leningrad, Novgorod regions			

Southern FD

Group	2005	2013	2021*	2022**
II		Krasnodar Territory	Krasnodar Territory, Republic of Adygea	Krasnodar Territory, Rostov Region
III		Astrakhan region, Republic of Adygea, Rostov Region	the Rostov, Volgograd regions Sevastopol	Republic of Adygea, Volgograd Region, Sevastopol
IV	Rostov Region	Volgograd Region		Astrakhan Region
V	the Volgograd, Astrakhan regions		Astrakhan Region Republic of Crimea	Republic of Crimea
VI	Krasnodar Territory		Republic of Kalmykia	Republic of Kalmykia
VII	Republic of Adygea, Republic of Kalmykia	Republic of Kalmykia		

* In 2014, the district was supplemented by the Republic of Crimea and the city of Sevastopol.
**Excluding the DPR, LPR, Zaporozhye and Kherson regions (no data available).

North Caucasus FD

Group	2005*	2013	2021	2022
III	Republic of North Ossetia-Alania	Republic of Dagestan, Stavropol Territory		
IV		Republic of North Ossetia-Alania	Republic of Dagestan, Stavropol Territory, Republic of North Ossetia-Alania	Republic of Dagestan, Stavropol Territory, Republic of North Ossetia-Alania
V	Republic of Dagestan	Chechen Republic, Kabardino-Balkarian Republic	Chechen Republic	Kabardino-Balkarian Republic, Karachayevo-Circassian Republic
VI	Stavropol Territory, Karachayevo-Circassian Republic, Kabardino-Balkarian Republic	Republic of Ingushetia, Karachayevo-Circassian Republic	Kabardino-Balkarian Republic, Karachayevo-Circassian Republic	Karachayevo-Circassian Republic
VII	Republic of Ingushetia		Republic of Ingushetia	Republic of Ingushetia

* Excluding the Chechen Republic (no data available for 2005).

Continuation of Table 2

Volga FD

Group	2005	2013	2021	2022*
I		Republic of Tatarstan		Republic of Tatarstan
II		Nizhny Novgorod Region, Republic of Bashkortostan, Samara Region, Perm Territory	Republic of Tatarstan, Nizhny Novgorod Region	Nizhny Novgorod Region
III	Republic of Tatarstan, Republic of Bashkortostan, Samara Region	Orenburg Region, Udmurt Republic	Republic of Bashkortostan, Samara Region, Perm Territory	Republic of Bashkortostan, Samara Region, Perm Territory, Udmurt Republic, the Penza, Kirov regions
IV		the Penza, Ulyanovsk, Kirov, Saratov regions	Penza Region, Udmurt Republic, the Orenburg, Saratov, Kirov, Ulyanovsk regions	the Ulyanovsk, Orenburg, Saratov regions, Chuvash Republic
V	Nizhny Novgorod Region, Perm Territory	Chuvash Republic, Republic of Mordovia, Republic of Mari El	Chuvash Republic, Republic of Mordovia, Republic of Mari El	Republic of Mordovia, Republic of Mari El
VI	Orenburg Region, Udmurt Republic, Saratov Region, Chuvash Republic, the Penza, Kirov, Ulyanovsk regions			
VII	Republic of Mordovia, Republic of Mari El			
*There are no data available for the DPR, LPR, Zaporozhye and Kherson regions.				

Ural FD

Group	2005	2013	2021	2022
I	Yamal-Nenets AA, Khanty-Mansi AA – Yugra	Yamal-Nenets AA	Yamal-Nenets AA	Yamal-Nenets AA
II	Tyumen Region	Sverdlovsk Region, Khanty-Mansi AA – Yugra	Sverdlovsk Region, Khanty-Mansi AA – Yugra	Sverdlovsk Region, Khanty-Mansi AA – Yugra
III	Sverdlovsk Region	the Tyumen, Chelyabinsk regions		the Chelyabinsk, Tyumen regions
IV	Chelyabinsk Region		Tyumen Region	
V		Kurgan Region	the Chelyabinsk, Kurgan regions	Kurgan Region
VII	Kurgan Region			

Siberian FD*

Group	2005	2013	2021	2022
III	Kemerovo Region	Omsk Region	Novosibirsk Region	the Novosibirsk, Omsk, Kemerovo regions
IV	the Tomsk, Omsk, Irkutsk regions, Krasnoyarsk Territory	Novosibirsk Region, Krasnoyarsk Territory, the Kemerovo, Tomsk, Irkutsk regions	the Omsk, Kemerovo, Tomsk regions, Krasnoyarsk Territory	Krasnoyarsk Territory, Tomsk Region, Altai Territory, Irkutsk Region
V		Republic of Khakassia, Altai Territory	Irkutsk Region, Altai Territory, Republic of Khakassia	Republic of Khakassia
VI	Novosibirsk Region, Altai Territory	Republic of Altai	Republic of Altai	Republic of Altai
VII	Republic of Khakassia, Republic of Altai, Republic of Tyva	Republic of Tyva	Republic of Tyva	Republic of Tyva
* Within modern borders: on the basis of a Presidential Decree, on November 3, 2018, the Republic of Buryatia and the Trans-Baikal Territory were transferred from the Siberian Federal District to the Far Eastern Federal District.				

End of Table 2

Far Eastern FD

Group	2005	2013	2021	2022
I				the Sakhalin, Magadan regions
II		Chukotka AA, Sakhalin Region	Chukotka AA, the Sakhalin, Magadan regions	Chukotka AA
III		Magadan Region, Khabarovsk Territory	Primorye Territory	Khabarovsk Territory, Primorye Territory, Kamchatka Territory, Amur Region
IV	Magadan Region	Republic of Sakha (Yakutia), Amur Region, Republic of Buryatia, Trans-Baikal Territory, Primorye Territory	Khabarovsk Territory, Amur Region, Kamchatka Territory, Republic of Sakha (Yakutia)	Republic of Sakha (Yakutia),
V	Sakhalin Region, Republic of Sakha (Yakutia), Khabarovsk Territory	Khabarovsk Territory		Trans-Baikal Territory, Republic of Buryatia
VI	Primorye Territory, Chukotka AA, Jewish AR, Kamchatka Territory	Jewish AR	Trans-Baikal Territory, Republic of Buryatia, Jewish AR	Jewish AR
VII	Amur Region, Trans-Baikal Territory, Republic of Buryatia			

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Economic Transformation of Coal Mining Single-Industry Towns in China and Russia: The Experience of Pingxiang and Vorkuta

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Abstract. The problem of spatial development does not lose its relevance for large countries such as Russia and China. Single-industry towns deserve special attention. Making up a significant part of the country's economy, they are subject to numerous risks, many of which have already been realized. In particular, the risks manifested themselves in those cities where the economy is focused on coal mining, the availability of which began significantly reducing. The aim of the work is to propose scientifically substantiated promising directions of transformation of the economy of single-industry towns specializing in coal mining. We chose Pingxiang in Jiangxi Province of China and Vorkuta in the Komi Republic of Russia as examples. The choice of the cities is conditioned by the fact that coal mining will cease in them in the next 15 years. The article retrospectively analyzes their development and investigates their current state. As a result of the work, we proposed directions for the transformation of the economy of the cities

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under consideration: for Pingxiang, the preservation of industrialization trends, the development of cross-border interregional cooperation between Hunan and Jiangxi provinces in terms of creating logistical infrastructure, strengthening the development of agriculture and creating green infrastructure, ensuring the development of culture and tourism, and modernizing consumption; For Vorkuta, it is the development of the following economic activities: synthesis of artificial diamonds, production of new types of products from coal, extraction of useful elements from overburden dumps, as well as the development of the R&D sector, creative industries and tourism. Scientific novelty of the work consists in substantiating strategic priorities of the development of single-industry towns based on the existing prerequisites and competitive advantages of the territory.

Key words: economic transformation, single-industry towns, coal, coal mining, Pingxiang, Vorkuta.

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Introduction

Sustainable Development Goal 11 is “Resilient Cities and Communities” according to the document “Transforming our World: The 2030 Agenda for Sustainable Development”. Some of the most problematic in terms of sustainability are single-industry towns. Although they have been a significant part of the national economy for many decades (about 40% of Russia’s GRP), due to the undiversified nature of their economy, many risks arise in relation to such cities (Uskova et al., 2012; Zubarevich, 2010; Kozhevnikov, 2019). Their different types are considered in the works of leading scientists in the field of spatial economics and urbanism. For instance, works of N.V. Zubarevich, N.Y. Zamyatina[1], E.M. Buchwald, E.V. Manaeva (Zubarevich, 2010; Manaeva, 2018; Buchwald, Kol’chugina, 2019) study the economic problems of single-industry towns. The works of T.S. Lytkina, I.A. Sekushina disclose social risks of single-industry towns development (Lytkina, 2014; Sekushina, 2024).

A separate layer of works is devoted to various models of economic transformation of socio-economic systems with specialization in industries of low technological modes, which are characteristic of single-industry towns. The analysis of works by both Russian and foreign researchers has shown that most of them identify three models: a) development based on traditional industries (neo-industrialization), b) development based on alternative new industries and types of economic activity, c) hybrid, combining the first two (Tatarkin, Romanova, 2013; Shirokova, 2015; Kaigorodtsev, 2022; Aleshina, 2024; Gallas, 2025; Gulzar et al., 2025).

Neo-industrialization can be carried out in two directions: first, improvement of current production through modernization based on the introduction of various technologies (e.g., digital technologies, artificial intelligence, etc.) to reduce losses, enhance energy and resource saving, and increase labor productivity; second, the creation of production interfacing with traditional production to lengthen value chains by increasing the number of redistribution. In the process of neo-industrialization, the main dominant structures

[1] Zamyatina N.Yu. Salekhard and Vorkuta: On opposite sides. Go Arctic. Available at: https://goarctic.ru/news/salekhard-i-vorkuta-po-raznye-storony (accessed: 22.02.2025).

are large corporations that concentrate significant amounts of capital and production (Tatarkin, Romanova, 2013; Shirokova, 2015). This model requires significant costs, so the main tools for its stimulation are various kinds of state programs to support investment in industry, to provide subsidies and loans for development, and in some cases nationalization of enterprises. A significant advantage of neo-industrialization is the preservation and increase of productive capacity (Kaigorodtsev, 2022; Aleshina, 2024).

The model of formation of fundamentally new industries is usually used when it is necessary to change the structure of the economy, if neo-industrialization has not led to the desired results. In this case, key industrial production facilities are either closed or operate with rather low results, but at the same time other types of activities, often not related to industry, are developed. This model is less costly, and the main instruments of transition to it are grants for the creation of non-industrial business. Small business becomes the key subject. This model has worked well in some cities of Western Europe (Manchester, Bilbao, etc.) and negatively in the territories of developing countries (Gallas, 2025; Gulzar et al., 2025).

The problems concerning economic transformation are most typical for single-industry towns specializing in coal mining (e.g., Hanna, Bankhead, Aniox (Canada); Centralia (USA); Ordos and Pingxiang (China); Gukovo, Raichikhinsk, Inta, Vorkuta (Russia)), as a result of decreasing demand for coal in the world, including the desire to comply with the "green agenda" by switching to more environmentally friendly fuels and increasing the share of low-carbon energy sources in the energy balance of the territory (Kravchenko, 2022; Zhang et al. , 2023; Rudneva, 2024), abandoning coal combustion as the main source of carbon dioxide emissions into the atmosphere (Adekoya et al., 2023; Biddau et al., 2024). The development of other energy sources has led to a decrease in the economic efficiency of coal mining, which in turn has been followed by mine closures, displacement of labor force, which has caused a number of social and infrastructural problems (Knotter, 2015). The crisis affected the entire socio-economic system of the town because coal industry enterprises in such towns were town-forming enterprises. The social effects of mine closure were manifested in the high unemployment rate, reduction of social sphere, reduced access to social infrastructure, and growing social tension. Coal mining was carried out on a large scale, therefore, despite the huge reserves explored in due time, their quantity began to decrease and, in some cases, to be depleted, which further aggravates the already crisis situation in single-industry towns. Consequently, promising directions of transformation of their economy are needed.

The aim of this paper is to propose scientifically substantiated promising directions of transformation of the economy of single-industry towns specializing in coal mining.

To achieve the goal, we solve the following tasks: retrospective analysis of the development of single-industry towns specializing in coal mining (case study of Pingxiang and Vorkuta); analysis of the current management of the development of such towns; taking into account the availability and location of productive forces, promising directions for the development of single-industry towns to diversify their economy are proposed.

Materials and methods

The objects of the study are the single-industry towns of Pingxiang (China) and Vorkuta (Russia); the subject is their socio-economic development taking into account economic specialization in coal mining. The choice of these towns is conditioned by the problems characteristic for them, which are expressed in the decline in the level of socio-economic development caused by the curtailment of coal mining: the depletion of coal reserves in Pingxiang has been observed since 2007, coal mining in Vorkuta will cease due to its unprofitability from 2037.

We analyzed the economy's transformation of these towns in two stages:

1) highlighting the historical patterns of socio-economic development of the single-industry towns under consideration from the first half of the 20th century to 2023;

2) analyzing the economic development of towns at the current development stage on the basis of indicators available in statistics.

The work used general scientific research methods such as analysis, induction, deduction, synthesis, graphic and tabular visualization methods, as well as cartographic methods.

The information base was the data of the United Nations, the Federal State Statistics Service of Russia and its territorial department in the Komi Republic, the non-commercial web-mapping project Open Street Map, the National Bureau of Statistics of China, the Bureau of Statistics of Jiangxi Province of China.

Retrospective analysis of socio-economic development of the single-industry towns of Pingxiang and Vorkuta

Pingxiang is a town formed more than 1,700 years ago, with an area of 3,831 km^2 and a permanent population of about 2 million people; it is the westernmost town in Jiangxi Province and is located near the border of Jiangxi and Hunan provinces. In the past, with its large coal reserves, Pingxiang was one of the typical resource-oriented towns in China specializing in coal mining. There are three stages in its development: 1) coal-dependent industrial development (1900–1958); 2) culmination of resource exploitation (1958–2007); 3) forced transformation of the economy due to depletion of coal reserves (2007 – present time).

Coal-dependent industrial development (1900–1958). This stage began with the construction of the largest Anyuan coal mine, and with it the first Zhuzhou–Pingxiang railway. Later, in 1908, the joint-stock company Hanyeping Coal and Iron Works and Minus Co., Ltd. was founded in the town, which adopted Western methods of machine production, transportation, washing and coking of coal. After that, 1.1 million tons of coal were mined annually in Pingxiang, and more than 17,000 miners worked in its mines.

After the formation of the PRC during the first five-year plan (1953–1957), the state combined large and medium-sized mines to build one of China's key state-owned enterprises, the Pingxiang Mining Bureau (now known as Pingxiang Mining Industry Group Co., Ltd.). Since then, eight more new large and medium-sized state-owned coal mines have been built in Pingxiang.

Culmination of resource exploitation (1958–2007). Entering the period of the second five-year plan (1958–1962), Pingxiang emphasized the development of ferrous metallurgy and coal industry, but neglected traditional handicrafts and light industry, as a result of which the level of development of light industry significantly lagged behind that of heavy industry, and the industrial structure as a whole was undiversified. Basically, an industrial system was formed, including coal, machine-building, metallurgical and ceramic industries, and products such as steel, electric ceramics and industrial ceramics sold well at home and abroad. At the same time, not enough attention was paid to the light industry[2].

In the period from 1978 to 2008, Pingxiang's annual GDP growth averaged 12.1%. Coal and steel production accounted for more than 40% and 30% of the total production in the province, respectively. The sales volume of chemical fillers in Pingxiang accounted for 70% of the total sales in the country,

[2] *Records of Pingxiang Mining Bureau.* Pingxiang Mining Bureau, 1998.

and the market share of Pingxiang electro-ceramics in China reached more than 60%. In 2001, the volume of float glass production in Pingxiang reached 555 weight boxes (eighth in China). Intercity buses produced in Anyuan have become the best-selling in the country.

At its peak, Pingxiang had more than 1,000 coal mines with an annual coal production volume of 6 million tons, which were supplied in large volumes for industrial and domestic needs to the eastern and central-southern regions of China, as well as for export. The coal industry has created more than 200,000 jobs in Pingxiang and has made a great contribution to the economic and social development of the city itself and China as a whole.

More than 20 large enterprises of heavy industry were built in such areas as ferrous metallurgy, cement production, mining engineering, diesel engine production, industrial ceramics, etc. Thus, an old industrial base was formed in Pingxiang, which accounted for 57.3% of the value of Pingxiang's gross industrial and agricultural output and 74.8% of Pingxiang's tax revenues.

Forced transformation caused by resource depletion (2007 – present time). After more than a century of coal mining, by the beginning of the 21st century, Pingxiang's coal resources were on the verge of exhaustion. The remaining recoverable coal reserves here accounted for only 14% of the proven reserves in 2007. In such conditions, it was difficult to continue developing an industrial system focused on the production of coal, cement, ceramics, glass, and steel. Resource depletion, low mine efficiency in all areas, low added value of products, and an inefficient industrial structure (the share of the secondary sector in Pingxiang reached 61.1% in 2007) based on resource use have led to serious problems such as environmental pollution, lack of jobs, and unsustainable economic development.

In 2008, Pingxiang was included in the first list of Chinese towns with depleted resources as a city whose total recoverable reserves reached more than 70% of the initially estimated reserves, as well as a town that can only mine for five additional years based on existing technologies and production facilities (Li et al., 2021; Dou et al., 2023; Feng et al., 2024). Since then, local authorities have stepped up efforts to close outdated production facilities, as well as refurbish and close coal mines. Currently, only four state-owned coal mines in the town continue mining[3] (Aleksandrova, 2023; Stavrov, 2022).

There are also three stages in the history of Vorkuta's development: 1) the beginning of the development of the coal deposit and the accelerated construction of the city (1930–1962); 2) reaching maximum production capacity and standard of living (1963–1991); 3) the post–Soviet period (1992 – present time).

At the first stage (1930–1962), the coal deposit was developed, which began with the discovery of high-calorie coal in 1930 by geologist G.A. Chernov. A year later, their extraction was already started, and in 1932, the forced construction of a settlement, the construction of which involved the labor of prisoners. The urban district was originally a settlement of the Kapitalnaya mine (later Vorkutinskaya); the territory received town status only in November 1943. At that time, 7,000 people lived in the town (Astakhova, 2024; Cherepko, 2021).

Over the years, about 40 enterprises have been put into operation, including the cement plant, the Vorkutaugol combine, on the basis of which the Pechora branch of the All-Union Scientific Research Coal Institute, as well as processing plants and a lime plant, began operating. About 750,000 square meters of living space have been built, 192 cultural facilities have been built, a swimming pool and a television studio have appeared in the

[3] *Pingxiang Records*. Zhongzhou Ancient Books Publishing House, 2023.

city. The territory has a communal and transport infrastructure. Back in 1958, only 3–4 bus routes operated in Vorkuta, but in 1959 there were 12 of them; 28 buses transported passengers along the ring route. In the same year, an IL-14 aircraft operated daily from Vorkuta airfield to Moscow, Leningrad, Norilsk and Syktyvkar[4].

During the period of reaching maximum production capacity and standard of living (1963–1991), the town's population continued to grow until 1991. Labor productivity also increased. In just one day (January 8, 1963), the miners of Vorkuta produced 1,572 tons of coal in excess of the plan. During the year, more coal was mined in Vorkuta than in Italy, Bulgaria, Hungary, the GDR, Romania, Yugoslavia, Austria, Sweden, Norway combined[5]. The high pace of socio-economic development of the city was evidenced by the number of purchased TV-sets: their number approached 60 thousand, i.e. almost every Vorkuta family watched town television programs. The town was provided with telephones three times better than the capital: in Moscow, there were telephones in every 50th apartment, in Vorkuta – in every 20th[6]. Since 1965, the Northern Lights express train has been running[7].

In the 1970s, the Vorkutaugol Combine created a recreational social infrastructure for workers and their families in other regions. A recreation center for more than 2,000 people was organized in Gelendzhik. In addition, kindergartens, pioneer camps, and tourist bases were built both in the Komi Republic and in the resort regions of the USSR.

During this period, the economy was developing successfully, new housing was being built, and there was a significant influx of migrant workers for high earnings, including due to high "northern allowance"[8]. The town's population was 100,210 people in 1979.

After the collapse of the USSR, negative development trends began manifesting themselves in Vorkuta. Coal prices were liberalized and the coal industry was privatized. The Government was no longer able to subsidize the activities of coal enterprises in 1993. The share of government subsidies in the salaries of Vorkutaugol employees decreased from 80% to 1.5%. In 1993–1999, miners went on strikes demanding higher wages, indexation of working capital, and an end to rising energy prices. A program has been adopted to close unpromising mines.

The Tsentralnaya, Yur-Shor, Promyshlennaya, Yuzhnaya, Yun-Yaga, and Halmer-Yu mines were closed along with the village of the same name, and the Oktyabrskaya mine was liquidated during this period. The social infrastructure began to collapse along with the closure of the mines. In the village of Promyshlenniy, there is a closed school No. 15, and subsequently the village itself, which had 15 thousand inhabitants back in 1977[9], was liquidated. In 2003, OAO Severstal-Resurs bought a federal stake in OAO Vorkutaugol[10], and the task of the new owner was to make this organization profitable, as well as to pay the Vorkuta miners the wage debt. In 2009, a draft general plan of the

[4] Vorkuta is coal. *MV*. Available at: https://gazetamv.ru/vorkuta-eto-ugol.html (accessed: 01.02.2025).

[5] The Pechora coal basin is 90 years old. Coal industry – 1963. Available at: https://xn----7sbbgb7ar5anfxls.xn--p1ai/index.php/kulturno-prosvetitelskaya-deyatelnost/po-stranitsam-istorii/122-pechorskomu-ugolnomu-bassejnu-90-let-1963 (accessed: 16.02.2025).

[6] The history of Vorkuta. *Vorkuta Town*. Available at: http://www.vorcuta.ru/history.htm (accessed: 16.02.2025).

[7] The Pechora coal basin is 90 years old. 1966 was a golden year in the history of Vorkutaugl.Available at: https://xn----7sbbgb7ar5anfxls.xn--p1ai/index.php/kulturno-prosvetitelskaya-deyatelnost/po-stranitsam-istorii/129-pechorskomu-ugolnomu-bassejnu-90-let-1966 (accessed:16.02.2025).

[8] Vorkuta. Historical baggage: Non-profit informational historical and educational project. Available at: https://xn--80aabjhkiabkj9b0amel2g.xn--p1ai/city/vorkuta-%E2%80%94-samyy-vostochnyy-gorod-evropy-136 (accessed: 16.02.2025).

[9] The history of Vorkuta. Vorkuta Town. Available at: http://www.vorcuta.ru/history.htm (accessed: 16.02.2025).

[10] Vorkutaugol has been sold. Available at: https://www.vorkuta-cbs.ru/vorkutinskie-syuzhety/vorkutaugol-prodali (accessed: 17.02.2025).

Vorkuta Municipality was developed, implying the preservation of only the villages of Severny, Vorgashor, Seydu, Yeletsky, and Sivaya Mask within its borders.

Currently, some of the settlements in the town district have been transformed into Vorkuta microdistricts, but this has not prevented their depopulation. For example, the Sovetsky microdistrict (formerly an urban-type settlement with more than 2 thousand inhabitants), located next to the Yunyaginsky section, was completely resettled and disconnected from communications in 2021.

The availability of coal reserves in Vorkuta also played a role, but the key factor was not their depletion, but the unprofitability of mining. An analysis of the data on coal reserves shows that the explored balance reserves of coal at the current production level will last for almost 200 more years (*Tab. 1*), but one of the significant problems is the high level of coal losses during mining, which significantly reduces the service life of existing mines.

For the same reason, the termination of the town-forming enterprise AO "Vorkutaugol" in 2037 is seen as a significant threat to the development of Vorkuta[11]. A decrease in the possibility of profitable coal mining will be accompanied by a reduction in jobs, and at the same time an increase in the already large outflow of residents (Andrukhova, 2024).

Analysis of economic development of single-industry towns specializing in coal mining at the current stage of development

In Pingxiang's case, the implementation of the 10210 Action Plan for the Modernization of Key industrial chains in the manufacturing industry remains important (i.e., it is planned to achieve the following goals by 2026: comprehensively modernize 10 industrial chains, such as metal materials and resources processing, equipment manufacturing, energy conservation and environmental protection, electronic information, new energy, fireworks, construction materials, food, clothing and household items, medicine; to create two efficient and competitive production clusters in the sectors of materials processing and equipment production; to achieve an annual increase in the size of clusters by an average of 10%). To date, six industrial parks have been built in Pingxiang (one in each county), which in 2023 generated revenue of 92.195 billion yuan and profit of 4.284 billion yuan.

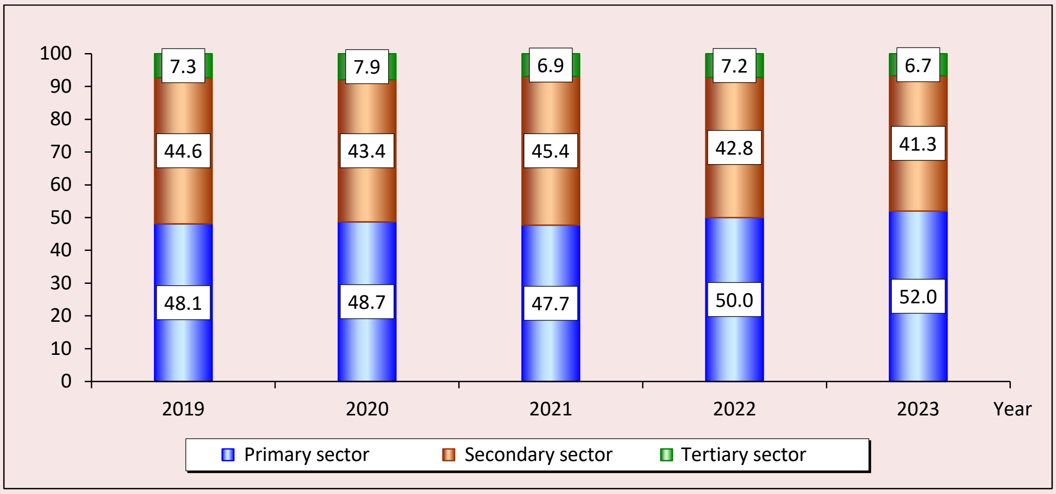
The share of the secondary sector is gradually increasing in the city's economy, but despite this, the primary sector still dominates it (*Fig. 1*). In our opinion, it is advisable to develop Pingxiang within the framework of a hybrid transformation model, that is, taking into account both existing industries and the prerequisites for creating new ones.

Table 1. Balance reserves of coal in Vorkuta, million tons

Deposit	2011	2015	2020	2021	2022	2023	2023 to 2010, %
Vorgashorskoye	1600.0	1530.0	1505.2	1501.1	1493.3	1589.4	99.3
Usinskoe	1460.0	1430.0	1431.6	1431.5	1431.5	1431.5	98.0
Vorkutskoye	920.0	900.0	752.5	748.9	744.7	740.9	80.5
Total	3980.0	3860.0	3689.3	3681.5	3669.5	3761.8	94.5
Mining, total	7.2	9.7	6.7	5.5	6.1	6.1	85.6
Losses, %	-	-	46.7	30.5	50.6	44.6	-
Source: Reports on the state and protection of the Komi Republic's environment in 2011, 2015, 2020, 2021–2023.							

[11] Vorkutaugol will stop producing thermal coal. BNK News Agency. Available at: https://www.bnkomi.ru/data/news/129437 (accessed: 16.02.2025).

Figure 1. Share of value added in the three sectors of the economy in Pingxiang's GRP in 2019–2023, %



Note: The primary sector includes agriculture and forestry, extractive industries, secondary – industry, energy, construction, tertiary – services, financial and insurance services, public administration, science and education.

Source: Statistical Communiqué of Jiangxi Province on the 2023 National Economic and Social Development. Jiangxi Provincial Bureau of Statistics.

In general, if we consider some indicators of economic development, we can see that in 2023, there was a sharp decrease in the volume of investments in fixed assets in the town, while it is most typical for the primary and secondary sectors (the rate of decline in investment was 56.8 and 29.7 percentage points, respectively; *Tab. 2*).

A more negative trend is typical for Pingxiang's budget revenues, which decreased by 23.3% in 2017–2023. Nevertheless, positive trends can also be noticed, such as an increase in household disposable income by almost one and a half times, as well as an increase in retail trade turnover by almost 86 percentage points.

While the results of economic transformation measures are already visible in Pingxiang, they have yet to manifest themselves in Vorkuta. The results of the analysis of the development tools of this territory have shown that their main forms are municipal programs, subsidies, grants, and financing is provided from the federal, regional, and local budgets, as well as with the support of the NPO "Fund for the Development of Single-Industry Towns". The town district receives the

Table 2. Economic development indicators of Pingxiang town

Indicator	2017	2018	2019	2020	2021	2022.	2023	2023 to 2017, %
Retail trade turnover, billion yuan	26.2	29.0	32.3	34.7	41.6	44.7	48.7	185.9
Growth rate of investments in fixed assets, percentage points compared to the previous year	12.8	10.5	9.7	8	10.9	7.8	-7.5	-
Disposable income per capita, yuan	33120.0	35763.0	38502.0	40405.0	43395.0	45278.0	46928.0	141.7
Budget revenues, billion yuan	14.6	16.1	17.2	10.6	10.8	10.7	11.2	76.7

According to: Pingxiang Town Statistical Report on National economic and social development in 2023. Available at: https://tjgb.hongheiku.com/djs/49144.html. (accessed: 10.05.2025); Pingxiang Town Statistical Report on National Economic and Social Development in 2020. Available at: https://tjgb.hongheiku.com/9370.html (accessed: 10.05.2025).

most extensive assistance from federal authorities as a single-industry town: Vorkuta is included in the list of single-industry towns and is classified as a single-industry town[12] with a stable socio-economic situation. The following development support measures are provided for such towns[13]:

– creation of territories of advanced socio-economic development (PSEDA – Priority Social and Economic Development Area / PDA – Priority Development Area); despite the intention expressed in 2017, work on the formation of PSEDA has not been completed at present;

– financial support for small and medium enterprises (SMEs) within the framework of municipal programs; the administration of Vorkuta, within the framework of the municipal program "Economic Development" for 2024, provides financial support for small and medium businesses in the town in the form of grants[14];

– support for investment projects implemented on the territory of the Russian Federation on the basis of project financing; the municipal program "Economic Development" provides for measures to provide organizational and advisory assistance to subjects of investment activity[15];

– support for socially oriented non-profit organizations (SONPO); in 2021, Vorkuta was allocated a subsidy for further distribution among SONPO on a competitive basis[16].

Some financial and organizational support is provided by the NPO "Fund for the Development of Single-Industry Towns"; in particular, it co-finances the expenses of municipalities to carry out measures for the construction and (or) reconstruction of infrastructure facilities necessary for the implementation of new investment projects in single-industry towns. The Fund for the Development of Single-Industry Towns allocated 104 million rubles in 2017. These funds were used to improve 10 yards and reconstruct the Alley of Pioneers and the town park[17].

The Ministry of Industry and Trade of the Russian Federation provides subsidies to Russian organizations in various sectors of the economy to reimburse part of the cost of paying interest on loans, implementing innovative projects, purchasing transport for urban facilities, etc. Subsidies are also provided for leasing and credit organizations.

In general, the Vorkuta town Administration implements 11 municipal programs aimed at developing the economy and social sphere[18]. For instance, the purpose of the Economic Development program is to create conditions for the growth of investment activity and promote the development of small and medium businesses. The main focus is on co-financing projects of the population within the framework of the National Budget project.

[12] List of single-industry municipalities of the Russian Federation (single-industry towns): Approved by RF Government Resolution 1398-r, dated July 29, 2014.Available at: http://static.government.ru/media/files/41d4f68fb74d798eae71.pdf (accessed: 16.02.2025).

[13] Unified list of support measures for single-industry municipalities of the Russian Federation (single-industry towns). Available at: https://xn----7sbckgukdcd3bza3ak.xn--p1ai/netcat_files/userfiles/ekonomika/Edinyy_perechen_mer_podderzhki_monogorodov.pdf (accessed: 10.02.2025).

[14] On Amendments to the order of the administration of the municipal formation of the Vorkuta town district 125, dated December 4, 2024 "On Approval of the comprehensive action plan for the implementation of the municipal program of the Vorkuta Town District Municipality "Economic Development" for the 2024 fiscal year". Available at: https://vorkuta-r11.gosweb.gosuslugi.ru/netcat_files/userfiles/Razvitie_ekonomiki/347_ot_28.12.2024_RS_661.pdf (accessed: 10.02.2025).

[15] Ibidem.

[16] Komi Republic to allocate additional subsidies to support NGOs. *KomiInform*. Available at: https://komiinform.ru/news/213906/ (accessed: 15.02.2025).

[17] The single-industry town of Vorkuta will be improved for 104 million rubles. *TASS*. Available at: https://tass.ru/v-strane/4509659 (accessed: 15.02.2025).

[18] Projects and programs. Administration of the Vorkuta municipal district. Available at: https://vorkuta.gosuslugi.ru/deyatelnost/proekty-i-programmy (accessed: 17.02.2025).

Due to the actualization of spatial development issues in recent years, a master plan has been developed for Vorkuta, which is a document of strategic spatial planning of the city, covering various aspects of development[19].

The current management tools have led to certain results (*Tab. 3*). For instance, despite the unfavorable trends in industry and the social sphere, the volume of shipped products in the urban district has been growing in recent years, as has the retail trade turnover. There are also positive trends in the level of average monthly wages, which increased by 62.9 percentage points during the period under review, and in the level of local budget revenues (an increase of 43.9 percentage points in 2023 compared to 2017).

At the same time, we should say that investment activity in Vorkuta has been curtailed: for most of the years of the period under review, there has been a significant reduction in the volume of investments in fixed assets, which is largely due to the gradual reduction of coal mining in this territory.

Social problems are becoming even more acute. The population of Vorkuta decreased by 12.7% during the period under review due to both natural decline and migration outflow, despite the fact that wages in Vorkuta in 2023 were 1.3 times higher than the national average (74.9 thousand rubles) and 4.5 times higher than the regional subsistence level (22.7 thousand rubles). However, the unfavorable economic situation is evidenced by a decrease in the number of business entities, including profitable ones, and an increase in the number of unprofitable organizations.

Table 3. Indicators of the development of Urban district Vorkuta

Indicator	2017	2018	2019	2020	2021	2022	2023	2023 to 2017, % (p. p.)
Retail trade turnover, million rubles	1346.0	2966.4	4287.7	5222.2	6324.5	7479.1	9108.4	In 6.7 times
Local budget revenues, million rubles	3434.6	3976.7	3992.6	4156.1	4692.0	5077.2	4941.3	143.9
Average monthly salary of employees of organizations, thousand rubles	62.2	69.5	74.5	80.7	82.7	93.9	101.3	162.9
Goods of own production were shipped, works and services were performed on our own, billion rubles	42.3	43.9	50	43.6	59.4	70.9	57.5	135.9
Growth rate of investments in fixed assets, percentage points compared to the previous year	-83.5	63.6	-17.5	27.5	-5.9	1.6	-22.4	26.8
Number of business entities, units	No data	No data	522	528	510	495	469	89.8
Number of unprofitable organizations, units	No data	No data	105	130	138	124	146	139.0
Number of profitable organizations, units	No data	No data	417	398	372	371	323	77.5
Average monthly salary of employees of organizations, thousand rubles	62.2	69.5	74.5	80.7	82.7	93.9	101.3	162.9
Natural increase (decrease), people	107	52	-84	-179	-328	-218	-154	-143.9
Migration increase (decrease), people	-2854	-2610	-1549	-515	-816	-204	-1	0.0
According to: Database of municipal indicators. Available at: https://rosstat.gov.ru/dbscripts/munst/ (accessed: 15.02.2025).								

[19] Vorkuta Master Plan. Available at: https://vorkutaugol.ru/pages/master-plan-vorkuty (accessed: 10.02.2025).

In addition to social issues, environmental issues are no less relevant in Vorkuta. For example, it got into the top 10 cities with the most polluted air in 2023[20]. There is also a deterioration in the quality of tap water caused by floods, which indicates the problem of pollution of natural water bodies[21].

Prospects for the transformation of the economy of single-industry towns specializing in coal mining

A special place in the framework of the transformation of the economy of the single-industry town of Pingxiang should be given to cross-border cooperation, in particular, the interaction of the neighboring provinces of Jiangxi and Hunan. This is facilitated by the good transport connectivity of the territories: a 140-kilometer high-speed train ride from Pingxiang to Changsha City takes only 30 minutes. Pingxiang is currently developing cooperation between the western part of Jiangxi Province and the Changsha–Zhuzhou–Xiangtan urban cluster in Hunan Province, as well as building the Hunan–Jiangxi cross-border cooperation center. There are prerequisites for the creation of storage and logistics bases in this territory, as well as bases for processing agricultural products along the Hunan-Jiangxi border (*Fig. 2*).

Taking into account that food security is one of their key priorities for China, the Pingxiang City authorities are making efforts to improve the mechanism by which managers at the city, county, township and village levels control grain accounting and crop cultivation. Currently, the town has six leading national agricultural industrialization companies and 24 large food industry enterprises (industrial enterprises with annual core business revenue of at least 20 million yuan). To the greatest extent, agricultural land occupies the territories of Lianhua and Luxi counties. In our opinion, the knowledge of the local population working on this land can allow not only increasing the collection of agricultural products, but also developing breeding areas, in particular, growing species resistant to certain factors, which is very important in the context of climate change. It will also contribute to the achievement of one of Pingxiang's strategic goals – to become a leader in the seed industry and the industrialization of agriculture.

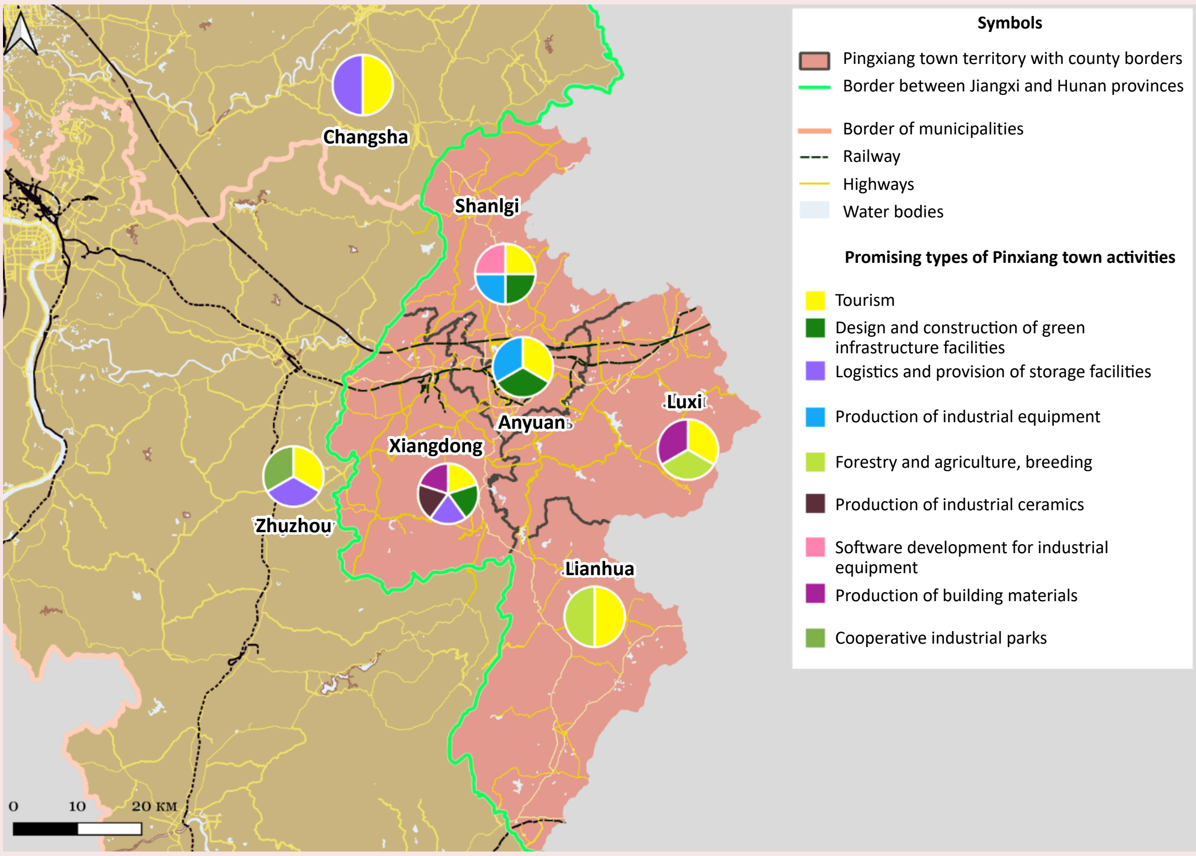
As in any city with a long history of development, Pingxiang has a number of prerequisites for the development of tourism. For instance, it makes sense to develop rural and ecological tourism in Luxi and Lianhua counties, which is facilitated by large areas of farmland, as well as mountains with elements of tourist infrastructure. In other counties, in addition to cultural tourism, it is possible to organize industrial tourism, especially in Shangli county, where the production of fireworks is developed, as well as Xiangdong county, where a number of enterprises producing various kinds of ceramics are located. In general, the town is actively using its rich tourist resources: more than 60 million domestic tourist trips were made here in 2023, which generated tourism revenue of 65.656 billion yuan, while record high income and number of tourists were recorded in the Wugong Mountains.

In our opinion, in the counties where industrial enterprises are most concentrated and, accordingly, there is an increased level of negative impact on the environment (Xiangdong, Shanlgi, Anyuan), the development of activities for working out and implementing green infrastructure elements is promising. This will reduce environmental damage, involve by-products of pyrotechnic and ceramic industries, and create an environmental barrier on the border with Hunan Province. In addition, Hanyuan county already has experience in transforming the economy toward a more environmentally friendly option. For example,

[20] Vorkuta is once again in the top 10 cities with the most polluted air. Available at: https://komionline.ru/news/vorkuta-vnov-popala-v-top-10-gorodov-s-samym-zagryaznennym-vozduhom (accessed: 10.02.2025).

[21] Available at: https://gazetamv.ru/rospotrebnadzor-ximicheskie-i-mikrobiologicheskie-pokazateli-vody-v-norme.html (accessed: 10.02.2025).

Figure 2. Promising types of economic activity in the single-industry town of Pingxiang



According to: Open Street Map service data.

38 large and small coal mines were once located in the village of Lyexia, and more than half of the village's 2,000 residents were employed in coal mining jobs. Many villagers were laid off as the coal mines closed one after another in 2003. In 2016, due to its location near the town, the presence of picturesque mountains and clear reservoirs, the village began gradually carrying out environmental rehabilitation of coal mining sites, following the idea of "restoration, protection and reorganization". At the same time, the village coordinated its resources to create the tourist attraction Sunshine Flower Sea, which is visited by over 200,000 people annually. A similar practice was implemented in the village of Wushi in the same county, which was once known as the "dark village" due to severe environmental pollution and high energy consumption caused by the functioning of its main industries (cement and coal) in the past. To improve the living conditions of the villagers and achieve a "green" transformation of development, land restoration work was actively carried out in Qingshan village, and about 66.67 hectares of land were allocated for the development of traditional agriculture. The Wuschi Yinxiang Rural Complex has been built, which houses a 20-hectare fruit farm and a 4-hectare grape farm, and the annual number of free-range chickens for slaughter has reached more than 20,000 units[22].

In Xiangdong and Luxi counties, there are prerequisites (an industrial ceramics factory in Xiangdong and coal mining dumps in Luxi) for the creation of a production facility for the production

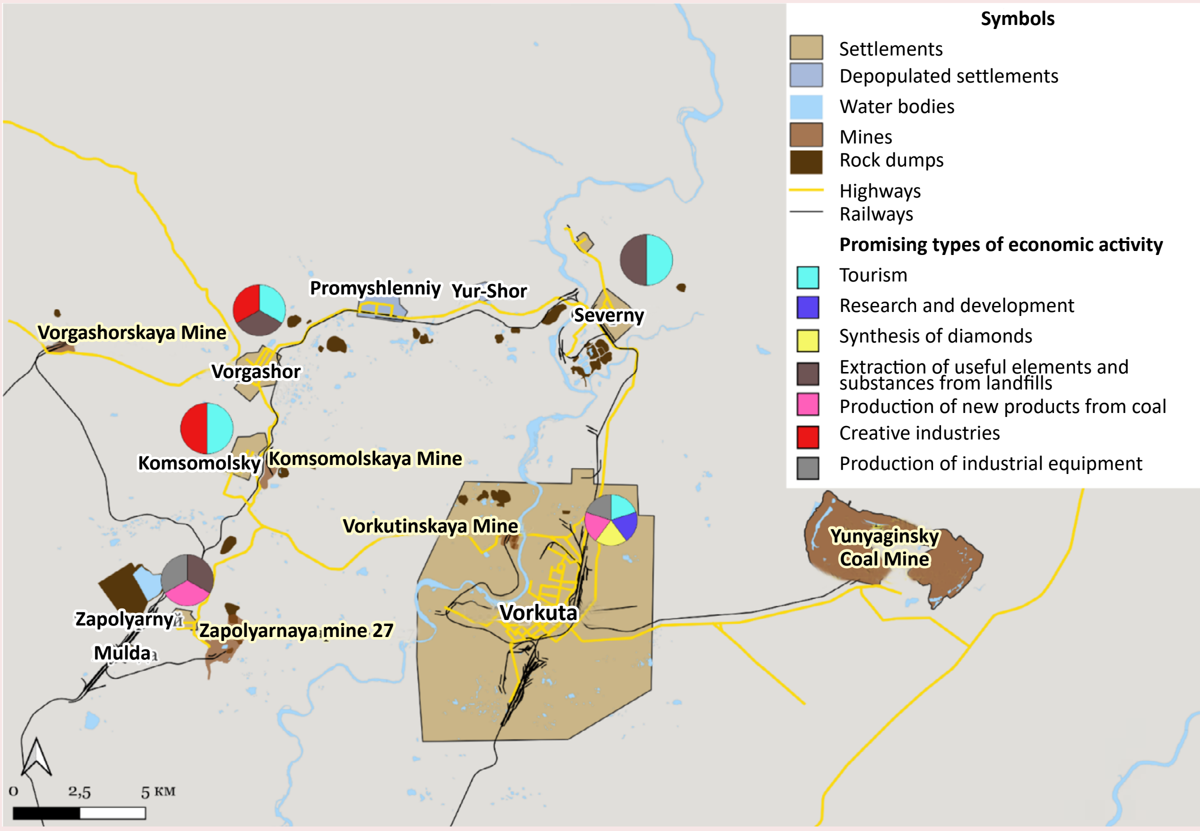
[22] Records of Anyuan District. Publishing House of Local Records, 2006.

of building materials with a new composition and consumer properties. In our opinion, Shanlgi and Anyuan counties have more prerequisites for the production of industrial equipment, which is facilitated by the industrial parks located on their territories that produce elements for electronic equipment.

It is worth noting that Pingxiang already has a successful experience of partial modernization of the economy. For example, in Shanlgi county, known as the "Birthplace of Fireworks" due to the 1,400-year history of their production, the gross sales volume of fireworks produced here accounts for 28% of the total volume in China. At the same time, for a long time such production was carried out manually, which created great risks for safety and the environment. In 2017, an explosion occurred at one of these facilities, which killed 7 people[23]. As a result of the closure of 342 backward fireworks manufacturing enterprises in Shangli, the county authorities began stimulating the mechanization and automation of all processes related to the production of fireworks. Currently, there are 174 fireworks manufacturers in the county, and the number of employees engaged in sales and management in this field is 60,000 people[24].

In the case of Vorkuta, in our opinion, the key direction of development within the framework of

Figure 3. Promising types of economic activity in the single-industry town of Vorkuta



According to: Open Street Map service data.

[23] Seven people were killed in an explosion at a fireworks factory in China. *Life*. Available at: https://life.ru/p/1045966 (accessed: 07.05.2025).

[24] *Records of Shangli County*. Jilin Literature and History Press, 2023.

the hybrid model of economic transformation should be its diversification based on available resources. Of particular importance is the development of the town in conjunction with the surrounding settlements: Vorgashor, Severny, Komsomolsky, Zapolyarny [25]. Given the presence of water bodies, highways, and railways in this area, as well as mines, overburden dumps, and "ghost" settlements, in our opinion, the most promising activities are those outlined in *Figure 3*.

The most diversified set of promising types of economic activity is expected directly for Vorkuta. First, it is the development of the research and development sector through cooperation between the research department of AO Vorkutaugol and the Vorkuta branch of Ukhta State Technical University in cooperation with researchers from other universities and scientific organizations. In addition, it is planned to create a data center for data processing in the town, which may also become an important component of this area[26]. The sector's activities should be aimed primarily at developing solutions to local problems (providing infrastructure, primarily transport, reducing environmental pollution, reducing coal losses during mining and transportation, eliminating a large number of overburden dumps, creating jobs, developing technologies that increase the safety of coal mining, etc.), which can be adapted or applied in other territories with similar problems.

Vorkuta's carbon resources are also a prerequisite for the creation of enterprises for the synthesis of artificial diamonds, which can later be used in jewelry, optics, electronics, as well as in mining to improve cutting and abrasive tools. In terms of physical properties, they are identical to natural ones, and their cost is 70–80% less, besides they are more environmentally friendly, since they do not require the development of entire deposits and the seizure of land[27]. The raw materials for such production can be coal dust and methane produced during coal mining. Production can be organized both on the basis of the HPHT method[28], which is more expensive in terms of costs, but allows for the production of larger diamonds, and the CDV method[29].

Given the presence in Vorkuta of the research department of AO Vorkutaugol and the Pechorskaya processing plant (part of AO Vorkutaugol) in Zapolyarny urban-type settlement, in our opinion, it is advisable to diversify the product line with coal fertilizers, adsorbents (for example, activated carbon), as well as to organize the production of industrial equipment that increases the safety of coal mining (for example, equipment for pumping methane from mines), and its improvement.

Due to the proximity of overburden dumps and water bodies, one of the promising activities for the Severny settlement is the extraction of useful elements from coal mining waste: coal from landfills, extraction of iron, aluminum, lime, and the production of sinter from a charge.

Taking into account the significant methane abundance of the Vorgashorskaya mine, which is extremely high in terms of hazard (in 2013, its relative methane abundance was estimated at 17.4 m^3/t, while mines with a methane abundance of

[25] The village of Mulda is not considered in the context of the search for promising economic activities, since 11 permanent residents were registered in it, and there was no permanent population from 2010 to 2020. There is a high probability that no one actually lives in the village.

[26] An investment project for the construction of data centers is being implemented in the Komi Republic. Available at: https://komigor.com/news/2024/09/13/v-respublike-komi-realizuyut-investicionnyj-proekt-po-stroitelstvu-data-centrov/ (accessed: 10.02.2025).

[27] Grown diamonds. Available at: https://tsarru.ru/product-category/diamond (accessed:20.02.2025).

[28] HPHT – High Pressure High Temperature. The temperature gradient method is used. Its essence is to recreate the natural conditions of diamond growth in the earth's interior. To do this, a growth cell with diamond seed, graphite and a catalytic mixture of metals is placed in a hydraulic press, where further transformations occur under the influence of a temperature of about 1,500 °C and a pressure of 50–70 thousand atmospheres. The carbon crystallizes on the seed, which grows into a diamond after a few weeks.

[29] CVD – Chemical Sarog Deposit. Film synthesis technology involves layer-by-layer deposition of diamond from an ionized hydrocarbon gas medium onto a substrate by means of ultrahigh-frequency radiation.

up to 5 m^3/t are considered the least dangerous) (Zaburdyaev, 2013), it seems important to ensure methane capture. This is advisable both from the point of view of ensuring safety and further use of methane, for example, in the production of synthetic diamonds.

Vorkuta, as well as the urban-type settlements of Vorgashor and Severny, have certain prerequisites for tourism development, in particular industrial and quest tourism. This is due to the regular transport links between these urban-type settlements and Vorkuta, as well as the proximity of "ghost" settlements that attract stalker tourists. To avoid accidents with such tourists, as well as to reduce the level of looting, it is advisable to make visits to such places organized. In this regard, it is necessary to ensure the construction of hotels and tourist infrastructure in these settlements.

In addition, it makes sense to develop creative industries in Komsomolskaya and Vorgashore, which will not only improve the quality of local labor potential, but can also become a source of attraction for event tourism participants.

Conclusion

Thus, the research results showed that it is advisable to ensure the transformation of the economy of single-industry towns specializing in coal mining on the basis of a hybrid model that will preserve the accumulated potential, as well as diversify risks through the development of new types of activities for the territories under consideration, which will increase the sustainability of such settlements.

A retrospective review of the development of both the town of Pingxiang and the Vorkuta urban district indicates that their economies are focused on exploiting the only exhaustible type of resource, which initially allows for high economic growth and a standard of living, but after a certain time poses threats to the socio-economic development of the territories in the form of reduced returns, reduced jobs and population. deterioration of the environmental situation. Therefore, the task of transforming the economy of single-industry towns in order to mitigate such risks is extremely important. Its solution can be carried out both on the basis of a town-forming enterprise due to its availability of material, personnel and organizational capabilities, as well as the creation and implementation of other various sectors of the national economy (a hybrid model of transformation).

Pingxiang's experience proved that some territories can receive a boost in the modernization of traditional activities (Shangli County in the north of Pingxiang, specializing in the manufacture of fireworks), while others require new activities, such as tourism and traditional farming (Anyuan County). At the same time, it is worth noting that counties that haveno industrial base in the present or in the past have fewer opportunities for economic transformation (Luxi and Lianhua counties). On the other hand, the practice of Vorkuta's development also shows the importance not only of controlling existing mineral reserves, but also of making sound policy decisions, in particular, conducting social and industrial policies, since the work of town-forming enterprises and, consequently, the level of town's development may depend on them.

The scientific novelty of the work consists in substantiating the strategic priorities of the development of single-industry towns on the basis of capitalizing on their competitive advantages, consolidating the potentials of towns and adjacent territories. In the long term, this will make it possible to diversify the economy of such towns, thereby increasing their resilience to the challenges of various nature, as well as solving problems such as a decrease in investment activity, a decrease in population, and a high level of environmental damage. The practical significance lies in the possibility of using the results of regional state authorities and local governments in the development of tools for the economic development of single-industry towns with urban coal mining enterprises.

References

Adekoya O.B., Kenku O.T., Oliyide J.A., Al-Faryan M.A.S. (2023). On the COP26 and coal's phase-out agenda: Striking a balance among the environmental, economic, and health impacts of coal consumption. *Journal of Environmental Management*, 328, 116872. DOI: 10.1016/j.jenvman.2022.116872

Aleksandrova M.V. (2023). Resource-based cities of the PRC: Historical background and issues. *Rossiiskoe kitaevedenie*, 3, 33–52. DOI: 10.48647/ICCA.2023.12.82.003 (in Russian).

Aleshina O.G. (2024). The place of technological sovereignty in the system of neo-industrial structural shift. *Ekonomika i upravlenie innovatsiyami*, 1(28), 16–26. DOI: 10.26730/2587-5574-2024-1-16-26 (in Russian).

Andrukhova O.V. (2024). State and prospects of development of the coal industry in the northern regions (on the example of the Komi Republic). In: *Aktual'nye problemy, napravleniya i mekhanizmy razvitiya proizvoditel'nykh sil Severa – 2024: sbornik statei IX Vserossiiskoi nauchno-prakticheskoi konferentsii (s mezhdunarodnym uchastiem), g. Syktyvkar, 18–20 sentyabrya 2024 goda* [Actual Problems, Directions and Mechanisms of Development of Productive Forces of the North – 2024: Collection of Articles of 9th All-Russian Scientific-Practical Conference (with International Participation), Syktyvkar, September 18–20, 2024]. Voronezh: Stroki (in Russian).

Astakhova I.S. (2024). From coal pebble finds to the discovery of deposits (to the 100th anniversary of the Pechora coal basin). *Vestnik geonauk*, 2 (350), 38–45. DOI: 10.19110/geov.2024.2.4 (in Russian).

Biddau F., Rizzoli V., Sarrica M. (2024) Phasing-out 'coal tradition' in favour of 'renewable colonialism': How the press contributes to the discursive (de)legitimization of coal and renewables in a coal region in transition. *Sustainable Science*, 19, 381–402. DOI:10.1007/s11625-023-01420-2

Buchwald E.M., Kol'chugina A.V. (2019). *Malye i monogoroda v Strategii prostranstvennogo razvitiya Rossiiskoi Federatsii: doklad* [Small and Monotowns in the Strategy for Spatial Development of the Russian Federation: Report]. Moscow: Institut ekonomiki RAN.

Cherepko V.A. (2021). Vorkuta – a city of permafrost. In: *Gumanitarnye nauki v sovremennom vuze: vchera, segodnya, zavtra: materialy IV Mezhdunarodnoi nauchnoi konferentsii, g. Sankt-Peterburg, 10 dekabrya 2021 g. T. 3* [Humanities in the Modern University: Yesterday, Today, Tomorrow: Materials of the 4th International Scientific Conference, Saint Petersburg, December 10, 2021. Volume 3]. Saint Petersburg: Sankt-Peterburgskii gosudarstvennyi universitet promyshlennykh tekhnologii i dizaina (in Russian).

Didyk V.V., Ryabova L.A. (2014). Single-industry towns of the Russian Arctic: Development strategy on the case of the cities/towns in the Murmansk Oblast). *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast,* 4 (34), 84–99. DOI: 10.15838/esc/2014.4.34.8 (in Russian).

Dou Sh., Zhu Yo., Xu De., Amuakwa-Mensah Fr. (2023). Ecological challenges in the economic recovery of resource-depleted cities in China. *Journal of Environmental Management*, 333, 117406. DOI: 10.1016/j.jenvman.2023.117406

Feng Ya., Gao Yu., Pan Yu. (2024). Identifying the antecedents for the green transformation of resource-exhausted cities in China. *Humanities and Social Sciences Communications*. DOI: 11.10.1057/s41599-024-03924-3

Gallas A. (2025). Deindustrialization and dwindling union density: *Labour in Western Europe*. DOI: 10.1332/policypress/9781529242225.003.0005

Gulzar F., Khalid Sh., Bibi K. (2025). Deindustrialization and poverty in developing countries: Examining economic shifts and policy responses (1990–2022). *Review of Applied Management and Social Sciences,* 8, 81–97. DOI: 10.47067/ramss.v8i1.436

Kaigorodtsev A.A. (2022). New industrialization as a condition for ensuring Russia's technological sovereignty. *Vestnik MFYuA*, 4. Available at: https://cyberleninka.ru/article/n/novaya-industrializatsiya-kak-uslovie-obespecheniya-tehnologicheskogo-suvereniteta-rossii (accessed: 27.01.2025; in Russian).

Knotter A. (2015). Migration and ethnicity in coalfield history: Global perspectives. *International Review of Social History,* 60, 1–27. DOI: 10.1017/S0020859015000413

Kozhevnikov S.A. (2019). Strategy for Russia's spatial development and prospects for Russian space transformation. *Voprosy territorial'nogo razvitiya=Territorial Development Issues,* 3(48). Available at: http://vtr.isert-ran.ru/article/28193/full?_lang=ru. DOI: 10.15838/tdi.2019.3.48.1 (in Russian).

Kravchenko A.A. (2022). Coal mining in the world: Geopolitical and regional aspects. In: *Ekonomika i marketing v XXI veke: problemy, opyt, perspektivy: sbornik materialov XVIII Mezhdunarodnoi nauchno-prakticheskoi konferentsii, posvyashchennoi 95-letiyu kafedry «Ekonomika i marketing», g. Donetsk, 24–25 noyabrya 2022 g.* [Economics and Marketing in the 21st Century: Problems, Experience, Prospects: Collection of Materials of 18th International Scientific and Practical Conference Dedicated to the 95th Anniversary of the Department of Economics and Marketing, Donetsk, November 24–25, 2022]. Donetsk: Donetskii natsional'nyi tekhnicheskii universitet (in Russian).

Li X., Xu Zh., Fu Yu. et al. (2021). Ecological security evaluation algorithm for resource-exhausted cities based on the PSR model. *Computers, Materials & Continua,* 69, 985–1001. DOI: 10.32604/cmc.2021.017357

Lytkina T.S. (2014). Social potential of a northern city: From neglect to recognition. *Zhurnal sotsiologii i sotsial'noi antropologii*, 17(3), 33–47 (in Russian).

Manaeva I.V. (2018). Cities and towns of Russia: Classification and typology. *Regional'naya ekonomika: teoriya i praktika=Regional Economics: Theory and Practice*, 16, 7(454), 1235–1249. DOI: 10.24891/re.16.7.1235 (in Russian).

Morozov N.A. (2017). Vorkuta: Socio-demographic aspect of regional development (to the 70th anniversary of the city). *Istoricheskaya demografiya*, 1(19), 43–50 (in Russian).

Rudneva A.O. (2024). Key factors in dynamics of Russia's coal export to Europe during the sanctions period in the context of the EU green agenda. *Vestnik universiteta*, 12, 102–114 (in Russian).

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).

Shirokova E.S. (2015). Neo-industrialization: Factors of sustainability and innovativeness. *Ekonomika, statistika, informatika*, 3, 139–144 (in Russian).

Stavrov I.V. (2022). China'a policy on the sustainable development of monocities between the end of the 20th and the beginning of the 21st centuries. *Rossiya i ATR*, 4, 175–186. DOI: 10.24412/1026-8804-2022-4-175-186 (in Russian).

Tatarkin A.O., Romanova O.A. (2013). On the possibilities and mechanism of neoindustrialization of old industrial regions. *Ekonomist*, 1, 21–37 (in Russian).

Uskova T.V., Iogman L.G., Tkachuk S.N. et al. (2012). *Monogorod: upravlenie razvitiem: monografiya* [Single-Industry Town: Development Management: Monograph]. Vologda: ISERT RAN.

Zaburdyaev V.S. (2013). Methane hazard in coal mines. *Bezopasnost' truda v promyshlennosti*, 8, 60–64 (in Russian).

Zhang F., Lu J., Chen L. (2023). When green recovery fails to consider coal pushback: Exploring global coal rebounds, production, and policy retrenchment post Covid-19. *Energy Research & Social Science*, 101, 103142. DOI 10.1016/j.erss.2023.103142

Zubarevich N.V. (2010). *Regiony Rossii: neravenstvo, krizis, modernizatsiya* [Russian Regions: Inequality, Crisis, Modernization.]. Moscow: Nezavisimyi institut sotsial'noi politiki.

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Assessing the Quality of Regional Finance Management: Methodological Issues and Areas of Improvement

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Abstract. Constituent entities of the Russian Federation play an important role in financing major social expenditures in the field of healthcare, education, social services and welfare. Their ability to finance the fulfillment of their spending obligations is of fundamental importance. At the same time, under political and economic instability the financial situation of RF constituent entities is most vulnerable, since, on the one hand, their budgets' revenue receipts are highly dependent on economic conditions, on the other hand, the burden on regional budgets is increasing. In this regard, the effectiveness of managing available financial resources is of particular importance. However, insufficient attention is paid to issues regarding the quality of financial resource management and the necessity and methodology of its assessment. Available economic publications contain only a description of the methodology for assessing the quality of regional finance management approved by Order 552 of the Ministry of Finance of the Russian Federation, dated December 3, 2010 "On the procedure for monitoring and assessing the quality of regional finance management", and an analysis of the monitoring results conducted by the Ministry of Finance of the Russian Federation based on this methodology. Scientific papers do not contain a critical analysis of the assessment methodology itself; this fact determines the relevance of research in this area. The aim of our study is to identify and systematize main shortcomings of the current methodology for assessing the quality of regional finance management and develop proposals for its improvement. We analyze Order 552 of the Ministry of Finance of the Russian Federation dated December 3, 2010 "On the procedure for monitoring and assessing the quality of regional finance management" and examine

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the areas and indicators on the basis of which the quality of regional finance management is assessed. Based on the results of the analysis, we put forward proposals regarding amendments to the methodology for assessing the quality of regional finance management in order to ensure an objective analysis of the organization of financial activities of Russia's constituent entities.

Key words: RF constituent entities, finance management, management quality.

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Introduction

An important condition for ensuring the effectiveness of financial management in any economic entity is the assessment of its quality to make subsequent management decisions aimed at improving the current situation. Public law entities are no exception. Moreover, the specifics of the activities of public law entities and the fact that they manage public financial resources actualize the assessment of the quality of their financial management and increase the importance of its results. The results of the assessment can be used to analyze the effectiveness of financial activities of public law education; objective characteristics of the financial situation of public law education, identification of problem areas related to the formation and use of budgetary funds; assessment of financial risks and potential opportunities of public law education.

Currently, only an assessment of the regional financial management quality is carried out on a regular basis in Russia. The assessment methodology is regulated by Order 552 of the Ministry of Finance of the Russian Federation, dated December 3, 2010 "On the Procedure for Monitoring and Evaluating the Quality of Regional Financial Management", according to which the assessment is carried out in seven areas:

1) budget planning;
2) budget execution;
3) public debt management;
4) financial relations with municipalities, including on the following activities:
   – effectiveness of intergovernmental relations at the regional level;
   – interaction of the state authority of the RF constituent entities with municipalities to ensure compliance with restrictions on the organization of the budget process at the regional level;
   – the activities of the state authorities of the RF constituent entities to improve the organization of local self-government and the development of citizens' initiative;
5) management of state property and provision of public services;
6) budget data openness;
7) indicators characterizing the implementation of the Presidential Decrees (dated May 7, 2012; 204, dated May 7, 2018, "On National Goals and Strategic Objectives for the Development of the Russian Federation for the period up to 2024"; 474, dated July 21, 2020, "On National Development Goals of the Russian Federation for the period up to 2030").

According to the assessment results, the RF constituent entities are included in one of three groups:

– regions with high quality regional finance management;
– regions with proper quality of regional finance management;

– regions with low (inadequate) quality of regional finance management.

The following regions have been characterized by high quality of regional financial management over the previous three years according to the Ministry of Finance of the RF: Moscow, the Altai Territory, the Bryansk, Kaluga, Moscow, Tula, Tyumen regions, the Kabardino-Balkarian Republic, the Republic of Tatarstan, the Khanty-Mansi and Yamal-Nenets autonomous areas; inadequate quality of regional financial management finance – in the Jewish Autonomous Region, the Udmurt Republic, the Magadan, Pskov, Ulyanovsk regions, the republics of Ingushetia, Kalmykia, Tyva, and Khakassia[1].

In our opinion, the methodology for assessing the regional financial management quality, approved by Order 552 of the Ministry of Finance of the Russian Federation, dated December 3, 2010, provides a general description of the organization of financial management in the RF constituent entities and allows taking their comparative assessment. However, we should say that the methodology was developed and approved more than ten years ago. During this time, the country's budget system and budget legislation have significantly changed, while the assessment methodology has not been critically analyzed and updated. This leads to a decrease in the objectivity of the assessment results, and therefore the methodology for assessing the quality of regional financial management needs to be improved.

The aim of the study is to identify and systematize the main shortcomings of the current methodology for assessing the quality of regional financial management. The scientific novelty of the work consists in the formulation of recommendations for improving the methodology for assessing the quality of regional financial management to increase the objectivity and completeness of the analysis of the organization of financial management in the RF constituent entities.

The theoretical significance of the research is determined by the development of methodological approaches to assessing the quality of financial management in the RF constituent entities, taking into account the specifics of the organization of their financial activities, as well as stimulating scientific discussion on the effectiveness of financial management in the RF constituent entities. The practical significance lies in the possibility of using the results to amend Order 552 of the Ministry of Finance of the Russian Federation, dated December 3, 2010 "On the Procedure for Monitoring and Evaluating the Quality of Regional Financial Management" to organize an objective analysis of the quality of financial management in the RF constituent entities.

Research materials and methods

The issues of assessing the quality of public finance management are raised in the works of many Russian scientists. Most often, scientific articles describe the current assessment methodology approved by Order 552 of the Ministry of Finance of the Russian Federation, dated December 3, 2010, and the results of an assessment of the quality of financial management in the RF constituent entities conducted by the Ministry of Finance of the Russian Federation. For instance, based on the analysis of the results of the assessment of the regional financial management quality over a number of years, the authors note the need for its implementation and its positive impact on the development trends of the RF constituent entities (Shchastyantsev, 2016; Pechenskaya-Polishchuk, 2024). At the same time, attention is focused on the shortcomings of the existing methodology, including the heterogeneity of indicators and monitoring directions (Azokhova, 2020); the absence of

[1] The results of the assessment of the quality of regional financial management for 2023. Official website of the Ministry of Finance of the Russian Federation. Available at: https://minfin.gov.ru/ru/document?id_4=309969-pismo_minfina_rossii_ot_15.10.2024__06-06-0999783_rezultaty_otsenki_kachestva_upravleniya_regionalnymi_finansami_za_2023_god

restrictive measures against the RF constituent entities, which for three years or more have shown poor quality of regional financial management, and, accordingly, incentive measures against the RF constituent entities, the quality of management regional finances in which it is at a consistently high level (Anesyants, Glushko, 2020; Osinin, 2018).

In some scientific papers, a detailed analysis of the assessment results in specific regions is presented in more detail. For instance, an assessment of the quality of regional financial management was carried out in the RF constituent entities of the North Caucasus Federal District (Akinin, Stupnikova, 2020), the Stavropol Territory (Alimova, Telichko, 2019), the Republic of Karelia (Antoshina, 2023), and the Ulyanovsk Region (Shiryaeva, 2023). Based on the results of the work, the authors draw conclusions about the possibilities of improving the quality of financial management in the respective regions.

The research focuses on the theoretical aspects of the organization of the assessment of the regional financial management quality. The content of the concept of "management quality" is structured according to five properties: stability, reliability, efficiency, openness, automaticity (Atrokhova, 2024). At the same time, the assessment methodology is proposed to be developed in accordance with the PDCA cycle (Plan – Do – Check – Act) subject to the following basic rules:

– the quality assessment should be comprehensive, that is, contain indicators characterizing the state of all components of regional financial management;

– the evaluation mechanism should be characterized by the presence of a mathematical apparatus that allows obtaining evaluation characteristics;

– the evaluation characteristics for a specific federal constituent entity should be formed solely on the basis of the state of the regional financial management components in it (without taking into account the state of the components in other federal constituent entities), which is proposed to be implemented by comparing the values of the indicators of the federal constituent entity with uniform, predefined "reference" values;

– based on the results of the assessment, measures should be taken to improve the regional financial management quality and identify those responsible for implementing such measures;

– the results of the assessment should be meaningful, since information about the situation in a particular federal constituent entity is the basis for planning and forecasting scenarios for increasing the degree of favorable financial and economic conditions to ensure its socio-economic development (Atrokhova, 2025).

In some publications, attention is paid to the development of author's approaches to the methodology for assessing the quality of financial management in the RF constituent entities. For example, the assessment methodology discussed in the article (Kolesov et al., 2019) includes three groups of indicators: a) indicators characterizing the quality of regional budget management at the budget planning stage; b) indicators characterizing the quality of regional budget management at the stage of recipient financing and budget spending; c) indicators characterizing the quality of regional budget management at the stage of formation of accounting and reporting information on the use of budgetary funds.

In recent years, the international practice of public finance management[2] has been actively

[2] Analyzing and Managing Fiscal Risks – Best Practices. IMF, 2016. Available at: https://www.imf.org/external/np/pp/eng/2016/050416.pdf; Principles of Budgetary Governance. OECD, 2015. Available at: https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0410/; OECD Journal on Budgeting, volume 2023, issue 3. Available at: https://doi.org/10.1787/ec1d2b4e-en; Public Financial Management, and Good Governance. PEFA, 2024. Available at: https://www.pefa.org/sites/default/files/resources/downloads/9781464814662.pdf; Financial Management Information Systems in OECD Countries. OECD Papers on Budgeting. OECD, 2024. Available at: https://www.oecd.org/en/publications/financial-management-information-systems-in-oecd-countries_ce8367cd-en.html

considered in the literature (Moynihan, Beazley, 2016) and the organization of public finance management quality assessment in foreign countries (Belenchuk, Lavrov, 2015; Belenchuk, Lavrov, 2016). At the international level, financial management quality assessment is conducted on the basis of the Public Expenditure and Financial Accountability Program (PEFA), designed to assess and report on the strengths and weaknesses of public financial management, which includes 94 parameters (measurements) for 31 key public financial management indicators (indicators) for 7 business components.: 1) budget reliability; 2) transparency of public finances; 3) asset and liability management; 4) policy-based fiscal strategy and budgeting; 5) predictability and control of budget execution; 6) accounting and reporting; 7) external control and audit[3].

In our opinion, the components, indicators and parameters provided by the Public Expenditure and Financial Accountability Program for assessing public finance management are more applicable for an interstate comparative analysis of the organization of general financial management and compliance with the rules recommended by international organizations or agreements of states.

Thus, there is currently no critical analysis in scientific research of the methodology used by the Ministry of Finance of the RF to assess the quality of regional financial management.

The main research methods are:

– analysis and synthesis: a detailed analysis of the provisions of Order 552 of the Ministry of Finance of the Russian Federation, dated December 3, 2010 “On the Procedure for Monitoring and Evaluating the Quality of Regional Financial Management”, including the structure, directions and indicators used to assess the quality of regional financial management;

– critical analysis: an assessment of the relevance, completeness and correctness of the indicators included in the methodology is given;

– summary: the shortcomings of the current methodology for assessing the quality of regional finance management have been identified and systematized, and proposals for its improvement have been formulated.

The study was conducted in several stages. At the first stage, the content of Order 552 of the Ministry of Finance of the RF, dated December 3, 2010 was reviewed, and the assessment directions and indicators were studied. At the second stage, a critical analysis of the indicators for each area of assessment was carried out. At the third stage, based on the identified shortcomings, proposals were formulated to amend the methodology for assessing the quality of regional financial management.

Results

In accordance with Order 552 of the Ministry of Finance of the RF, dated December 3, 2010, the quality of regional financial management is monitored in seven areas. Each area characterizes a separate aspect of financial management based on a group of indicators. In our opinion, not all indicators correspond to the intended purpose of monitoring and allow describing the quality of financial management in the RF constituent entities. Let us look at the indicators for each area of assessment separately.

For example, some of the proposed indicators do not relate to the field of “Budget planning” in terms of content, a number of indicators are common budgetary practice and do not indicate poor financial management (*Tab. 1*).

[3] Public Financial Management, and Good Governance. PEFA, 2024. Available at: https://www.pefa.org/sites/default/files/resources/downloads/9781464814662.pdf

Table 1. Indicators for assessing the quality of regional financial management in the field of budget planning

No.	Indicators provided by Order 552, dated December 3, 2010	Note
1.1	Share of budget expenditures of a constituent entity of the RF carried out within the framework of project activities in the total budget expenditures in the reporting financial year	The indicator content does not relate to the direction of “Budget planning” (does not characterize the quality of budget planning)
1.2	Approval of the budgets of the RF constituent entities with the inclusion of subsidies from the federal budget in the amount not exceeding the amounts provided for in the federal budget.	–
1.3	Execution of the budget of a constituent entity of the RF in terms of income, excluding gratuitous receipts, to the initially approved level	–
1.4	Availability of the results of the annual assessment of the effectiveness of tax expenditures of the RF constituent entities in accordance with the general requirements for assessing tax expenditures of the RF constituent entities and municipalities, approved by the RF Government Resolution 796, dated June 22, 2019	The indicator content does not relate to the direction of “Budget planning” (does not characterize the quality of budget planning)
1.5	The ratio of lost income from regional taxes and the simplified taxation system as a result of tax benefits (reduced tax rates) established by the legislative bodies of the RF constituent entities to the total income from regional taxes and the simplified taxation system	The indicator does not characterize the quality of regional financial management. The possibility of providing tax benefits is provided for by law and their provision is not a sign of poor financial management
1.6	Deviation of the approved amount of expenditures of the budget of a constituent entity of the RF for the next financial year from the amount of expenditures of the corresponding year when it is approved for the first year of the planning period in the year preceding the reporting financial year	–
1.7	The volume of budget loans planned to be attracted from other budgets of the budgetary system provided for as a source of financing the budget deficit of a constituent entity of the RF, with the exception of budget loans to replenish balances on the accounts of budgets of the RF constituent entities	Attracting budget loans to finance budget deficits is not a violation of the law or a sign of poor financial management.
1.8	Compliance of the number of amendments to the law on the budget of a constituent entity of the RF with the maximum allowable value	–
1.9	The share of draft laws of the RF constituent entities on amendments to the law on the budget of a constituent entity of the RF sent using the interdepartmental electronic document management system in the total number of draft laws of the RF constituent entities on amendments to the law on the budget of a constituent entity of the RF sent for approval to the Ministry of Finance of the RF	The indicator characterizes the use of modern technologies, but does not characterize the quality of financial management.
1.10	The share of incentive tax expenditures due to corporate income tax and corporate property tax benefits that have a positive cumulative budgetary effect in the total amount of such tax expenditures	The indicator content does not relate to the direction of “Budget planning” (does not characterize the quality of budget planning)
1.12	The share of reserved funds of the budget of a constituent entity of the RF in the volume of expenditures of the budget of the RF constituent entity	The indicator characterizes the possibility of forming budget reserves at the regional level, but its content does not relate to the field of “Budget planning” (it does not characterize the quality of budget planning)
1.14	Availability of an approved plan (“roadmap”) for repayment (restructuring) of overdue accounts payable of the budget of the constituent entity of the RF and budgetary and autonomous institutions of the constituent entity of the RF	–
1.15	The number of laws of the RF constituent entities on amendments to the law on the budget of the RF constituent entity, the approval of which took into account the comments (recommendations) Ministry of Finance of the RF, in the total number of draft laws of the RF constituent entities on amendments to the law on the budget of a constituent entity of the RF submitted for approval (conclusion) to the Ministry of Finance of the RF	In accordance with the principle of budget independence established by the Budget Code of the RF, public authorities and local governments independently carry out the budget process and determine the directions of spending funds. In this regard, the fact of non-compliance with the recommendations of the Ministry of Finance of the RF is not an unambiguous sign of poor financial management.
Source: own compilation.		

Regarding the indicators in the direction of "Budget execution" in general, the following aspects can be noted:

– there is no uniformity of indicators in terms of the indicators used. In one case, data on the consolidated budget of the RF constituent entity is used, in the second – on the budget of the RF constituent entity, in the third – on the budget of the RF constituent entity and the funds of budgetary and autonomous institutions;

– a number of indicators characterize the financial condition of the RF constituent entity, but these indicators reflect only individual aspects and do not provide a complete picture of the financial condition of the RF constituent entity;

– a number of indicators are related to the detection of violations of budget legislation, but only issues related to the use of inter-budget transfers are touched upon.

Table 2 gives the notes on the indicators.

Table 2. Indicators for assessing the quality of regional financial management in the budget execution area

No.	Indicators provided by Order 552, dated December 3, 2010	Note
2.1	Share of overdue accounts payable of the budget of the RF constituent entity and local budgets in the expenditures of the consolidated budget of the RF constituent entity	Since the methodology is aimed at assessing the quality of regional financial management, in this case it is more logical to consider only the indicators of the RF constituent entity without taking into account local budgets
2.2	The ratio of the volume of overdue accounts payable of the RF constituent entity and budgetary and autonomous institutions of the RF constituent entity to the volume of expenditures of the budget of the RF constituent entity	–
2.3	The amount of overdue accounts payable for the payment of wages and social assistance benefits to the population at the expense of the budget of the RF constituent entity	–
2.4	The ratio of the increase in expenditures of the budget of the RF constituent entity in the reporting financial year, not provided by a corresponding increase in budget revenues, to the volume of expenditures of the budget of the RF constituent entity	–
2.5	Availability of the results of the assessment of the quality of financial management of the chief administrators of budgetary funds of the RF constituent entity and the formation of their annual rating based on the methodology approved by the regulatory legal act of the RF constituent entity	The indicator does not characterize the quality of financial management
2.6	The coefficient of covering budget expenditures of the RF constituent entity with own funds without attracting borrowed funds	The indicator mostly characterizes the financial condition of the RF constituent entity
2.7	Deviation of the volume of expenditures of the budget of a constituent entity of the Russian Federation in the fourth quarter from the average volume of expenditures for the 1st–3rd quarters (excluding subsidies, subventions and other intergovernmental transfers with a targeted purpose received from the federal budget)	–
2.8	Share of funds recovered from the budget of RF constituent entity in connection with the identification of facts concerning misuse of inter-budget transfers in the total volume of these transfers	–
2.9	The degree to which the budget effect has been achieved from the implementation of programs (plans) aimed at improving the public finances of the RF constituent entity	The objectivity of the indicator is debatable from the point of view of comparing different regions according to this indicator

End of Table 2

No.	Indicators provided by Order 552, dated December 3, 2010	Note
2.10	The ratio of the deficit of the consolidated budget of the RF constituent entity to the volume of investment expenditures of the consolidated budget of the RF constituent entity (excluding inter-budget transfers from the federal budget)	1) The indicator characterizes to a greater extent the ability of RF constituent entity to finance investment expenses, rather than the quality of financial management; 2) since the methodology is aimed at assessing the quality of regional financial management, in this case it is more logical to consider only the indicators of the RF constituent entity without taking into account local budgets
2.11	The level of implementation of programs (plans) aimed at improving the public finances of the RF in the budget of RF constituent entity	The objectivity of the indicator is debatable from the point of view of comparing different regions according to this indicator
Source: own compilation.		

In our opinion, the indicators for the assessment of "Debt management" quite fully characterize this area of activity.

In accordance with Order 552 of the Ministry of Finance of the RF, dated December 3, 2010, the fourth group of indicators on "Financial relations with municipalities" includes three subgroups of indicators characterizing the following aspects: the effectiveness of intergovernmental relations at the regional level; the interaction of the state authority of the RF constituent entity with municipalities in the framework of ensuring compliance with restrictions on the organization the budget process at the regional level; the activities of the state authorities of the RF constituent entities to improve the organization of local self-government and the development of citizens' initiative.

It seems to us that only the indicators of the subgroup "Effectiveness of intergovernmental relations at the regional level" directly characterize the financial activities of the RF constituent entities. The indicators assigned to this subgroup make it possible to assess the organization of relations between a constituent entity of the RF and municipalities. However, this subgroup also has an indicator that is not directly related to the quality of regional financial management, but rather relates to local budgets. This is indicator 4.1.2. "The share of subsidies from other budgets of the budgetary system of the RF and (or) tax revenues under additional standards of deductions from personal income tax in the amount not exceeding the estimated amount of subsidies for equalizing budget provision (part of the estimated amount of subsidies), replaced by additional standards of deductions from personal income tax, in total income local budget with the exception of subventions and other inter-budget transfers, intergovernmental transfers from the budget of a constituent entity of the RF provided for the exercise of part of the powers to resolve issues of local importance in accordance with agreements concluded by the municipal district and settlements, the source of financial support for which are funds from the federal budget, funds from the Territorial Development Fund and gratuitous receipts from other funds".

Regarding the indicators of the subgroup "Interaction of the state authority of the RF constituent entity with municipalities to ensure compliance with restrictions on the organization of the budget process at the regional level", we should note that they reflect mainly the activities of municipalities in the RF constituent entity rather than the financial activities of the constituent entity itself. Whereas the methodology should provide an assessment of the quality of management of nominal regional finances. In the context of the implementation of one of the principles of the organization of the RF budget system, established by the Budget Code of the Russian Federation (the principle of budget independence), it seems incorrect to assess the quality of regional financial management, including the following indicators in the number of evaluation parameters characterizing the activities of local governments. For instance, both indicators assigned to this subgroup are indirectly related to the financial activities of a constituent entity of the RF: 4.2.2 "The share of municipalities with a subsidy level of 20% or more that did not establish or fulfill expenditure obligations in the reporting financial year that were not related to resolving issues related to the Constitution of the Russian Federation, federal laws, laws the RF constituent entities to the powers of the relevant local self-government bodies"; 4.2.3 "The share of municipalities with a subsidy level of 50% or more, as well as those that do not have annual reports on the implementation of the local budget for one year or more of the last three reporting financial years, in respect of whose budgets the financial authority of the RF constituent entity has prepared conclusions on the draft local budget for the next financial year (the next financial year and planning period) in the total number of such municipalities".

In the third subgroup, "Activities of state authorities of the RF constituent entities to improve the organization of local self-government and develop citizens' initiative", a number of indicators also do not characterize the quality of regional financial management. In addition, it is worth noting that this subgroup contains indicators that are not financial in content (*Tab. 3*).

Table 3. Indicators for assessing the quality of regional financial management in the area "Financial relations with municipalities", subgroup "Activities of state authorities of the RF constituent entities to improve the organization of local self-government and development of citizens' initiative"

No.	Indicators provided by Order 552, dated December 3, 2010	Note
4.3.1	Share of municipal districts in their total number, powers of the administration of settlements, administrative centers of which are executed by the administrations of municipal districts	1) The indicator does not characterize the quality of regional financial management, it refers to the activities of local governments; 2) the content indicator is not financial
4.3.2	Share of settlements, inner-city districts, inner-city territories of cities of federal significance, municipal districts, urban districts, and municipal districts that have settlements within inter-settlement territories in which self-taxation of citizens has been introduced and (or) the procedure for implementing citizens' initiative projects and making initiative payments has been established in accordance with the regulations, to the total number of municipalities of the RF constituent entity	The indicator does not characterize the quality of regional financial management, but refers to the activities of local governments
4.3.3	Share of deputies of representative bodies of municipalities who carry out their activities on an unpaid basis in their total number	1) The indicator does not characterize the quality of regional financial management, it refers to the activities of local governments; 2) the content indicator is not financial
4.3.6	Share of municipalities whose budgets have received inter-budget transfers to support local initiatives from the budget of the RF constituent entity in the total number of municipalities	–
4.3.8	Share of municipalities whose budgets provide for the provision of subsidies from the municipal budget to co-finance expenditure obligations arising from the exercise of the powers of local governments to resolve issues of local importance, including to ensure the implementation of concluded agreements on inter-municipal cooperation for joint infrastructure development, to which the city district is a party, the procedure for concluding which is determined by the charter of the municipality and (or) regulatory legal acts of the representative body of the municipality in accordance with the general requirements established by the RF Government in the total number of municipalities of the RF constituent entity	The indicator does not characterize the quality of regional financial management, but refers to the activities of local governments

End of Table 3

No.	Indicators provided by Order 552, dated December 3, 2010	Note
4.3.9	Establishment by the state authorities of the RF constituent entities of uniform standards for deductions from individual non-tax revenues received by the budgets of the RF constituent entities and local budgets	The possibility of establishing uniform standards for deductions from individual non-tax revenues received by the budgets of the RF constituent entities and local budgets is not a mandatory requirement, but the right of the state authorities of the RF constituent entities. In this regard, it is incorrect to use such an indicator as a criterion for assessing the quality of regional financial management
4.3.10	The presence in the RF constituent entity of programs (activities) on the implementation of initiative budgeting in its territory, approved as part of regulatory legal acts	–
4.3.11	Share of municipal districts in the total number of municipal districts and municipal districts	1) The indicator does not characterize the quality of regional financial management, it refers to the activities of local governments; 2) the content indicator is not financial
Source: own compilation.		

In the area of assessment "Management of state property and provision of public services", the provided indicators generally reflect the quality of regional financial management in this area. However, in our opinion, the methodology does not take into account the assessment of the effectiveness of management of all types of financial investments of the RF constituent entities (*Tab. 4*).

The sixth assessment area, "Budget data openness", includes indicators that characterize the posting of data on official websites, the timeliness of reporting to the Ministry of Finance of the RF, and the organization of events aimed at improving citizens' financial literacy. In our opinion, these indicators do not characterize the quality of regional financial management, but rather the discipline of the authorities in terms of compliance with the requirements established at the federal level in accordance with government programs and projects. Accordingly, these indicators are not applicable to assess the quality of the organization of financial activities of the RF constituent entities.

Table 4. Indicators for assessing the quality of regional financial management in the field "State property management and public services"

No.	Indicators provided by Order 552, dated December 3, 2010	Note
5.1	Share of heads of executive bodies of a constituent entity of the RF, heads of state institutions of a constituent entity of the RF, chief administrators and managers of budget funds of a constituent entity of the RF for whom remuneration is determined based on the results of their achievement of key performance indicators of professional activity	The indicator characterizes the quality of the management organization in the subject of the Russian Federation to a greater extent than the quality of regional financial management
5.2	Share of state institutions of the RF constituent entity that have fulfilled the state task by 100% in the total number of state institutions of the RF constituent entity that have state tasks set	–
5.3	Share of government agencies in a constituent entity of the RF for which quantifiable financial sanctions (fines, withdrawals) have been established for violating the conditions for fulfilling government assignments	–

End of Table 4

No.	Indicators provided by Order 552, dated December 3, 2010	Note
5.4	The effectiveness of managing financial investments carried out at the expense of the budget of a constituent entity of the RF	The methodology takes into account only investments in the form of shares in the authorized (pooled) capitals of business partnerships and companies, in shares owned by a constituent entity of the RF; other types of investments permitted by law are not taken into account
5.6	The ratio of the amount of overdue accounts payable of budgetary and autonomous institutions of the RF constituent entity to the amount of subsidies provided to these institutions from the budget of the RF constituent entity	–
5.8	Efficiency of use by state unitary enterprises of budget funds of the RF constituent entity	–
5.11	Share of autonomous and budgetary institutions of a constituent entity of the RF, for the management of personal accounts of which agreements have been concluded with the territorial body of the Federal Treasury, in the total number of such institutions	The content indicator is not financial
5.12	Share of financial support for a social order from the total volume of financial support for the provision of state (municipal) social services	-
5.13	Share of expenditures of the budgets of the RF constituent entities for the fulfillment of obligations arising from the fulfillment of the concession agreement (in the amount of the concessor's fee, including in the event of its early termination), obligations to legal entities that are parties to public-private partnership agreements, as well as for the payment of lease payments under a financial lease agreement (leasing), in the amount of budget revenues of a constituent entity of the RF, excluding the amount of gratuitous receipts	The indicator is not informative and does not characterize the quality of regional financial management
Source: own compilation.		

The seventh area of assessment, "Indicators characterizing the implementation of the Presidential Decrees", is also more devoted to analyzing the fulfillment of requirements defined by federal authorities than assessing the quality of regional financial management. In our opinion, the analysis of the implementation of federal projects and programs on the territory of a constituent entity of the RF should undoubtedly be carried out by higher authorities. However, it seems that it should not be integrated with the assessment of the quality of regional financial management. This may be a separate area of monitoring conducted by the Ministry of Finance of the RF.

Thus, based on the analysis, we can conclude that there are shortcomings in the current methodology for assessing the quality of regional financial management and the need to amend Order 552 of the Ministry of Finance of the RF, dated December 3, 2010 "On the Procedure for Monitoring and Evaluating the Quality of Regional Financial Management" (*Tab. 5*).

Table 5. Proposals for making changes to the methodology for assessing the quality of regional financial management

No.	Direction of assessment	Identified shortcomings	Suggestions for making changes to the assessment methodology
1	Budget planning	1) A number of content indicators are not related to the "Budget planning" area; 2) a number of indicators are budgetary practices prescribed by law, are not a violation and, accordingly, do not characterize the quality of regional financial management	1) Exclude from the list of evaluation indicators in this area indicators that do not correspond to the direction of "Budget planning"; 2) exclude from the list of analyzed indicators of parameters characterizing the activities of regional authorities that are not prohibited by law, which is a common budgetary practice
2	Budget execution	1) There is no unified approach to the choice of the object of analysis: the indicators use both data from the consolidated budget of the RF constituent entity and data from the RF constituent entity; 2) not all indicators are suitable for comparative analysis of the RF constituent entities; 3) a number of indicators do not characterize the quality of financial management	1) Use only data from the RF constituent entity as assessment indicators, excluding data from municipalities; 2) use indicators that allow for an objective comparative assessment of regions as assessment indicators
3	Debt management	–	–
4	Financial relations with municipalities	1) A number of indicators do not characterize the quality of regional financial management; they relate to the activities of local governments; 2) a number of content indicators are not financial; 3) a number of indicators are budgetary practices prescribed by law, are not a violation and, accordingly, do not characterize the quality of regional financial management	1) Use the data of the RF constituent entity as assessment indicators without taking into account the data of municipalities; 2) to assess the quality of financial management, use only indicators that characterize the financial activities of the RF constituent entities; 3) exclude from the number of analyzed indicators of parameters characterizing the activities of regional authorities that are not prohibited by law, which is a common budgetary practice
5	Management of State property and provision of public services	1) The assessment of the effectiveness of management of not all types of financial investments of the RF constituent entities is taken into account; 2) a number of content indicators are not financial	1) To supplement the list of indicators for assessing the effectiveness of treasury property management, funds in bank accounts, etc.; 2) to assess the quality of financial management, use only indicators that characterize the financial activities of the RF constituent entities
6	Budget data openness	The indicators do not characterize the quality of regional financial management	Exclude the areas of "Openness of budget data" and "Indicators characterizing the implementation of the Presidential Decrees" from the methodology for assessing the quality of regional financial management
7	Indicators characterizing the implementation of the Presidential Decrees		
Source: own compilation.			

Conclusion

The conducted research indicates that the methodology for assessing the quality of regional financial management, approved by Order 552 of the Ministry of Finance of the RF, dated December 3, 2010 "On the Procedure for Monitoring and Evaluating the Quality of Regional Financial Management", currently used for comparative assessment of the RF constituent entities, has a number of disadvantages. In the current methodology, it is the following:

1) there is no unified approach to grouping assessment indicators. The stages of the budget process ("Budget execution"), and part of the stages of the budget process ("Budget planning" as part of budgeting), and the activities of

financial authorities ("Public debt management", organization of intergovernmental relations), and compliance with the requirements are taken into account as assessment areas. established in government programs and projects ("Openness of data" and "Compliance with decrees of the RF President");

2) not all of the proposed assessment areas and indicators are financial or truly characterize the quality of financial management (for example, the indicators "Share of municipal districts in the total number of municipal districts and municipal districts", "Share of deputies working on an unpaid basis", etc.);

3) indicators used as assessment indicators are common budgetary practices that are not prohibited by law (for example, indicators "The volume of planned budget loans from other budgets of the budgetary system provided as a source of financing the budget deficit of a constituent entity of the RF, with the exception of budget loans to replenish balances on the accounts of budgets of the RF constituent entities", "The establishment of the state authorities of the RF constituent entities have unified standards for deductions from individual non-tax revenues received by the budgets of the RF constituent entities and local budgets");

4) a number of indicators relate more to the municipal level; these are mainly indicators in the area of "Financial relations with municipalities"; in our opinion, when assessing the quality of regional financial management, it is necessary to analyze what relates to the activities of the assessment object itself, that is, the RF constituent entity without taking into account the activities of municipalities; in this case, it is not we are talking about excluding indicators that characterize the organization of intergovernmental relations; we are talking about indicators that are not related to the activities of a constituent entity of the RF (for example, the indicator "Share of municipal districts in their total number, the powers of the administration of settlements – administrative centers of which are executed by the administrations of municipal districts");

5) there is no unified approach to the selection of indicators. In some cases, data from the budget of a constituent entity of the RF is used for evaluation, in others, from the consolidated budget of a constituent entity of the RF;

6) individual areas of assessment can be expanded with additional indicators, which will allow for a more comprehensive and comprehensive assessment of the quality of financial management (for example, this is relevant for areas such as Budget Execution, State Property Management and public services, etc.);

7) the methodology practically does not take into account the indicators reflecting the financial condition of the RF constituent entities. Indicators of financial independence and budgetary sustainability are important indicators of the effectiveness of financial management in public legal entities. Therefore, the inclusion of such indicators in the assessment system will allow for a more complete and objective assessment of the quality of financial management.

Based on this, it seems to us necessary to amend Order 552 of the Ministry of Finance of the RF, dated December 3, 2010 "On the Procedure for Monitoring and Evaluating the Quality of Regional Financial Management". In our opinion, it should be the following:

a) to provide a single criterion according to which the areas of quality assessment would be determined, for example, the stages of the budget process or the areas of financial activity of the RF constituent entities, which would systematize the indicators and prevent their duplication;

b) among the indicators, use indicators that characterize the financial activities of the RF constituent entities;

c) to exclude from the number of analyzed indicators of parameters characterizing the activities of regional authorities that are not prohibited by law, which are common budgetary practice;

d) to use indicators characterizing the budgetary indicators of the RF constituent entity without taking into account local budgets in the assessment;

e) to add indicators characterizing the effectiveness of the use of state property and the financial condition of the RF constituent entities.

In our opinion, amendments to Order 552 of the Ministry of Finance of the RF, dated December 3, 2010 will ensure an objective and fair assessment when analyzing the quality of financial management in the RF constituent entities.

References

Akinin M.A., Stupnikova O.E. (2020). Assessment of the quality of regional financial management in the regions of the North Caucasus Federal District. *Vestnik ekspertnogo soveta*, 4(23), 50–53 (in Russian).

Alimova I.O., Telichko D.Yu. (2019). Assessment of the quality of regional financial management using the example of the Stavropol Territory. *Vestnik Severo-Kavkazskogo federal'nogo universiteta*, 3(72), 28–33 (in Russian).

Anesyants S.A., Glushko N.V. (2020). Monitoring and quality assessment as an effective tool in managing regional finances. *Zametki uchenogo*, 1(44), 48–53 (in Russian).

Antoshina E.A. (2023). Assessment of the quality of municipal finance management: Karelian experience. *Byudzhe*t, 9(249), 16–19 (in Russian).

Atrokhova A.N. (2024). Decomposition of the quality category into properties in the context of regional finance management. *Vestnik Altaiskoi akademii ekonomiki i prava*, 4-2, 190–197 (in Russian).

Atrokhova A.N. (2025). Stages and principles of assessing the quality of regional financial management. *Fundamental'nye issledovaniya=Fundamental Research*, 4, 8–13 (in Russian).

Azokhova A.I. (2020). Analysis of the methodology for assessing the quality of regional financial management in the Russian Federation. *Nauchnyi zhurnal*, 7(52), 20–22 (in Russian).

Belenchuk A.A., Lavrov A.M. (2015). International experience in assessing the quality of public finance management. *Finansy*, 5, 13–20 (in Russian).

Belenchuk A.A., Lavrov A.M. (2016). Formation of a national system for assessing the quality of public finance management. *Nauchno-issledovatel'skii finansovyi institut. Finansovyi zhurnal=Financial Journal*, 2, 7–27 (in Russian).

Kolesov R.V., Sirotkin S.A., Tumanov D.V. (2019). A mechanism for assessing the quality of regional and municipal financial management to increase its effectiveness. *Teoreticheskaya ekonomika*, 9(57), 58–67 (in Russian).

Moynihan D., Beazley I. (2016). *Toward Next-Generation Performance Budgeting: Lessons from the Experiences of Seven Reforming Countries.* Washington, DC: The World Bank. Available at: https://openknowledge.worldbank.org/entities/publication/85474368-2eef-5873-bda7-03666bc94763

Osinin A.D. (2018). Monitoring and evaluation of the quality of regional finance management as a tool to improve the efficiency of public authorities of the Russian Federation. *Gumanitarnye nauki. Vestnik finansovogo universiteta=Humanities and Social Sciences. Bulletin of the Financial University*, 86–89 (in Russian).

Pechenskaya-Polishchuk M.A. (2024). Realization of the regions' budget capacity: A new integrative approach to the research. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 17(1), 126–141. DOI: 10.15838/esc.2024.1.91.7 (in Russian).

Schastlivtsev S.V. (2016). Subjects of the Russian Federation: Analysis of financial management quality assessment indicators. *Vestnik AKSOR*, 1(37), 120–125 (in Russian).

Shiryaeva N.V. (2023). Research on the quality of municipal finance management in the Ulyanovsk region. *Ekonomika i upravlenie: nauchno-prakticheskii zhurnal*, 6(174), 146–148 (in Russian).

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Comparative Assessment of the Allocative Efficiency of the Functioning of State, Commercial and Non-Profit Social Organizations

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Abstract. The relevance of the study is due to the increased competition of state, commercial and non-profit social organizations for the limited resources of the public sector of the economy. The development of methodological approaches to the comparative assessment of the performance of social sector organizations based on the principle of allocative efficiency will make it possible to analyze the output per unit of material and labor resources expended for organizations operating in the state, commercial and non-profit sectors of the economy. The aim of the study is to design and test a technique for comparative evaluation of the functioning of social sector organizations operating within the framework of market, hierarchical and social coordination models, in accordance with allocative efficiency methodology. Our research method is comparative analysis of relative indicators characterizing the ratio of output, material

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and labor costs of social organizations. The information base of the study includes data from the national accounts of Russia for the period from 2016 to 2022. The results obtained show that the predominant allocative efficiency of using direct costs is typical for organizations operating within a hierarchical coordination model, which is associated with the regulatory and distributive nature of resource attraction and expenditure, the presence of external control tools over resource expenditure, and the presence of a significant methodological base in the field of standardization of activities. The predominant allocative efficiency of using labor costs is observed in organizations operating within the framework of a market coordination model, due to the use of labor planning methods and remuneration systems that focus the staff on achieving the results. The use of the results obtained in determining the allocative efficiency of social sector organizations operating within the framework of market, hierarchical and social coordination models makes it possible to scientifically substantiate decisions on the allocation of limited social sector resources from the perspective of optimization.

Key words: social sphere, allocative efficiency, organization, coordination model, direct costs, labor costs, resources.

Introduction

The priority implementation of the social function determines the features of the target component for social sector organizations, which, in the framework of economic research, is a set of organizations that realize the tasks of satisfying the material and spiritual needs of a person to preserve and develop them. Solving problems in the fields of education, health and social services, culture, sports, leisure and entertainment is closely related to issues of improving the standard of living of the population (Andreeva et al., 2014), social stability (Dvoryadkina, Prostova, 2019; Maslov, Sherstobitova, 2024) and public safety (Kostomarova, 2013). Accordingly, when setting goals for the functioning of social sector organizations, indicators characterizing the implementation of a social function, rather than achieving profit indicators, are prioritized (Tambovtsev, Rozhdestvenskaya, 2024). At the same time, the implementation of the social function from the perspective of the organization's economy should be based on the principles of break-even and optimal use of limited resources. According to the research (Vetrova, Borodina, 2016), this task is solved by using new approaches related to the allocation of limited resources. The main role in optimizing the use of limited resources during the implementation of a social function belongs to social organizations. The functioning of an organization within the framework of a model of market, hierarchical and social coordination forms different parameters of the ratio of output and expenditure of material and labor costs, that is, different allocative efficiency of the producer.

The necessity for a comparative assessment of the allocative effectiveness of social sector organizations operating within the framework of market, hierarchical and social coordination models is increasing due to the growing competition for resources between the designated sectors, the need to justify the prudent and expedient use of funds received from various sources (Ogorodnikova et al., 2022). The current stage of development of the social sphere is characterized by the active development of a hybrid coordination model that unites social organizations and sources of resource coverage that initially relate to utilitarian coordination models. This process leads to the use of management methods that are naturally applied in utilitarian coordination models (for example, balancing supply and demand based on the determination of an equilibrium price, typical for the market coordination model; rationing and resource allocation based on standards, which is characteristic of the hierarchical coordination model). The development of methodological foundations aimed at solving the problem of comparative assessment of the allocative effectiveness of social sector organizations makes it possible to use the organizational potential of a new hybrid coordination model (Cameron, 1980; Cameron, 1986; Sharma, Singh, 2019) due to the validity of decisions related to stimulating the development of models of market and public coordination and the allocation of resources to organizations operating with the best parameters of allocative efficiency.

The aim of our research is to develop and test a methodology for comparative evaluation of the functioning of social sector organizations operating within the framework of models of market, hierarchical and social coordination, in accordance with the methodology of allocative effectiveness.

Achieving the goal involves consistently solving the following tasks:

– generalization of theoretical and methodological approaches to assessing the effectiveness of social sector organizations;

– justification of the use of a universal approach in evaluating the effectiveness, based on determining the allocative effectiveness of the functioning of social organizations;

– development of the provisions of the methodology for comparative evaluation of the functioning of social sector organizations operating within the framework of models of market, hierarchical and social coordination;

– working out of the provisions of the methodology for comparative evaluation of the functioning of social sector organizations operating within the framework of models of market, hierarchical and social coordination;

– implementation of analytical data processing, formulation of conclusions and recommendations.

Theoretical and methodological foundations of the research

The assessment of the processes of interaction between social organizations allows identifying three coordination models that differ significantly from the point of view of the methodology of functioning: the hierarchical coordination model, the market coordination model, and the public coordination model. The imperatives of hierarchical coordination include the justification of consumption standards, standards and procedures for the provision of services, resource provision through centralized public funds and the formation of a network of government organizations providing social services (Bel'chuk, Marien, 2011). The limitations associated with the possibilities of centralized redistribution of economic resources in the social sector have led to the development of a market-based coordination methodology, in which the main resource is directly the means of the population, distributed based on the competitiveness parameters of the service provider. The market model of social sector coordination operates on the principles of free allocation of investment resources by private investors, provision of social services by commercial organizations to make a profit. The active use of the market coordination model has made it possible to expand the supply of services to solvent consumers, but at the same time conditions have been created for the growth of social stratification and discrimination of insolvent consumers. An attempt to overcome the limitations of the growth of the social sphere is the use of a model of public coordination, in which the main producer of social services is a socially oriented non-profit organization, and the source of resources is donations. *Table 1* presents the characteristics of the social coordination models.

Table1. Limitations of using utilitarian models of social coordination

Characteristic	Hierarchical model of social sphere coordination	Market coordination model of social sector	Model of public coordination of social sphere
Consumers of social services	Consumers are determined as part of the distribution process	Consumers have the opportunity to compensate the manufacturer's costs	All those in need
Technologies for the provision of social services	Defined in the standards and procedures for the provision of social services	Standard services are complemented by comfort services	They should comply with the standards and procedures for the provision of social services
Manufacturers of social services	State and municipal organizations	Commercial organizations	Non-profit organizations
Resource base	Budget and state extra-budgetary funds	Public funds	Donations
Source: own compilation.			

The issues concerning comparative analysis of the effectiveness of social sector organizations related to different coordination models attract the attention of scientists. Summarizing the results of the studies devoted to this issue, we can conclude that the general methodology of the coordination model determines the approach to effectiveness assessment. Within the framework of hierarchical coordination, efficiency assessment methods aimed at determining compliance with the norms and standards of the provision of social services are common, within the framework of the market coordination model, methods aimed at assessing the ratio of profit to invested assets or operating income are used, and survey methods for determining consumer satisfaction with social services are relevant for the methodology of public coordination.

In the works carried out within the framework of the normative approach, complex indicators can be used that characterize the provision of social institutions, the fulfillment of individual standards (number of hospital beds, medical staff, social workers), budget provision, the formation of integral indices, etc. (Il'chenko et al., 2016; Popov, Semyachkov, 2018; Yashina et al., 2018). Derived methods based on data on regulatory security are statistical and cluster analysis methods, which allow taking into account a number of specific indicators of security in assessments of territorial economic systems.

Evaluation of the effectiveness of organizations operating within the framework of the market coordination model is based on the investment design methodology, that is, the profit received by the organization is estimated in relation to the resources expended. Options for evaluating efficiency within the framework of the market model include modifications to indicators of profitability of operating activities, return on assets, net present income, etc. (Grabar, Sozinova, 2017).

Most of the works that take into account empirical data and prove the effectiveness of non-profit organizations in the social sphere are based on survey methods for evaluating effectiveness. The survey methods for evaluating the effectiveness of social sector organizations are based on the methodology set out in the Order of the Ministry of Labor of the RF 995n, dated December 08, 2014[1], which presents 52 indicators of an independent assessment of the quality of the relevant organizations. There are various interpretations of this methodology, which involve generalizing the results of surveys of service users and interviewers

[1] On the approval of indicators characterizing the general criteria for assessing the quality of services provided by social service organizations: Order 995n of the Ministry of Labor of the Russian Federation, dated December 08, 2014.

conducting surveys (Petrova, Aleksentseva, 2019; Romanychev, 2022). Summarizing the results of using survey techniques, the authors (Vasil'eva et al., 2016; Savinskaya et al., 2017) note an overestimation of the positive characteristics of social sector organizations: the completeness of filling out questionnaires is satisfactory, employees of the institutions being evaluated provide the necessary assistance to the interviewees and interviewers, and the survey results indicate sufficient satisfaction with the recipients of services.

The solution to the problem of obtaining comparable evaluation results for organizations operating within the framework of hierarchical, market and social coordination models is presented in a set of scientific papers devoted to a comparative analysis of the functioning of organizations in the public, commercial and non-profit economic sectors. Within the framework of this research area, a number of original approaches can be identified.

A significant number of works contain data on the impact of various factors on producers of the social sphere. For example, E.A. Yurmanova notes: "The level of production efficiency depends on the following interrelated groups of factors: a) from factors related to the quality and effectiveness of the complex impact of the managing entity on the optimization of internal relations; b) from factors related to the effectiveness of the division of labor, from the productivity of certain types of management activities; c) on factors related to the development of the environment and the real possibilities of changing them in the direction of increasing business efficiency" (Yurmanova, 2012).

T.Yu. Bukhareva's work evaluates the ambiguous impact of particular factors on social sector organizations related to the public, commercial and non-profit sectors. Such factors include product parameters, competition, sources of financing, political factors, etc. According to the author, an important issue concerning approaches to comparative evaluation of the effectiveness of organizations remains open (Bukhareva, 2010). Summarizing the conclusions regarding the factor nature of the effectiveness of the social sphere organization confirms the assumption that it is necessary to develop tools for comparative evaluation of social sphere producers operating within the framework of market, hierarchical and social coordination models, followed by testing the degree of influence of factors on the parameters of allocative efficiency.

Survey methods are often used for comparative evaluation of social sector producers. The most complex models using survey methods include processing the results obtained using econometric models that link the effectiveness of the organization and the expert estimates obtained. For example, the article (Herman, 1990) presents an assessment of the dependence of the integral indicator of the effectiveness of organizations providing emergency assistance to the poor and homeless on a set of expert assessments of private indicators, including both financial performance and consumer assessments. The articles (Forbes, 1998; Sowa et al., 2004) provide examples of complex models for evaluating the effectiveness of an organization's functioning in the social sphere, including diverse indicators: the availability of technology, indicators of mental well-being of employees, financial and human resources, staff confidence in the effectiveness of implemented measures in the provision of social services, etc. The nature of these indicators involves taking into account detailed subjective assessments from employees, service recipients, and representatives of local communities and the subsequent integration of the results obtained with a number of objective indicators characterizing the volume of services provided and the cost of resources.

The experience of using survey methods for comparative effectiveness assessment using the example of Russian non-profit organizations is presented in the works of I.V. Mersiyanova and V.B.

Benevolenski (Mersiyanova, Benevolenski, 2016). The results show significant advantages of using organizational forms of public coordination in the social sphere, such as complexity in solving social problems, a small number of recipients of social services served by one organization, the ability to attract volunteers and use donations as a source of cost compensation, flexibility and adaptability. At the same time, the data obtained during the surveys are not confirmed by the corresponding calculations of objective indicators characterizing the ratio of output and the volume of attracted resources.

The methodology for evaluating comparative efficiency based on the construction of a production function, presented in the works (Koopmans, 1951; Hurwicz, 1973; Fu et al., 2019), is based on the position that efficiency is the full use of an organization's production capabilities at a given cost of resources. Accordingly, a comparison of the output (volume of services provided) of social sector organizations operating under different coordination models, carried out at a given cost of resources, will determine the advantage of using a particular coordination model for a specific segment of the social sector. It is advisable to use tools for comparative assessment of social sector organizations based on the determination of allocative efficiency in a given territorial location to avoid distortions in calculations caused by the differentiation of territories related to climatic conditions, access to energy resources and other economic factors affecting resource allocation. Also, territorial localization in the construction of the analytical model is due to the local nature of the activities of social organizations serving residents of several municipalities.

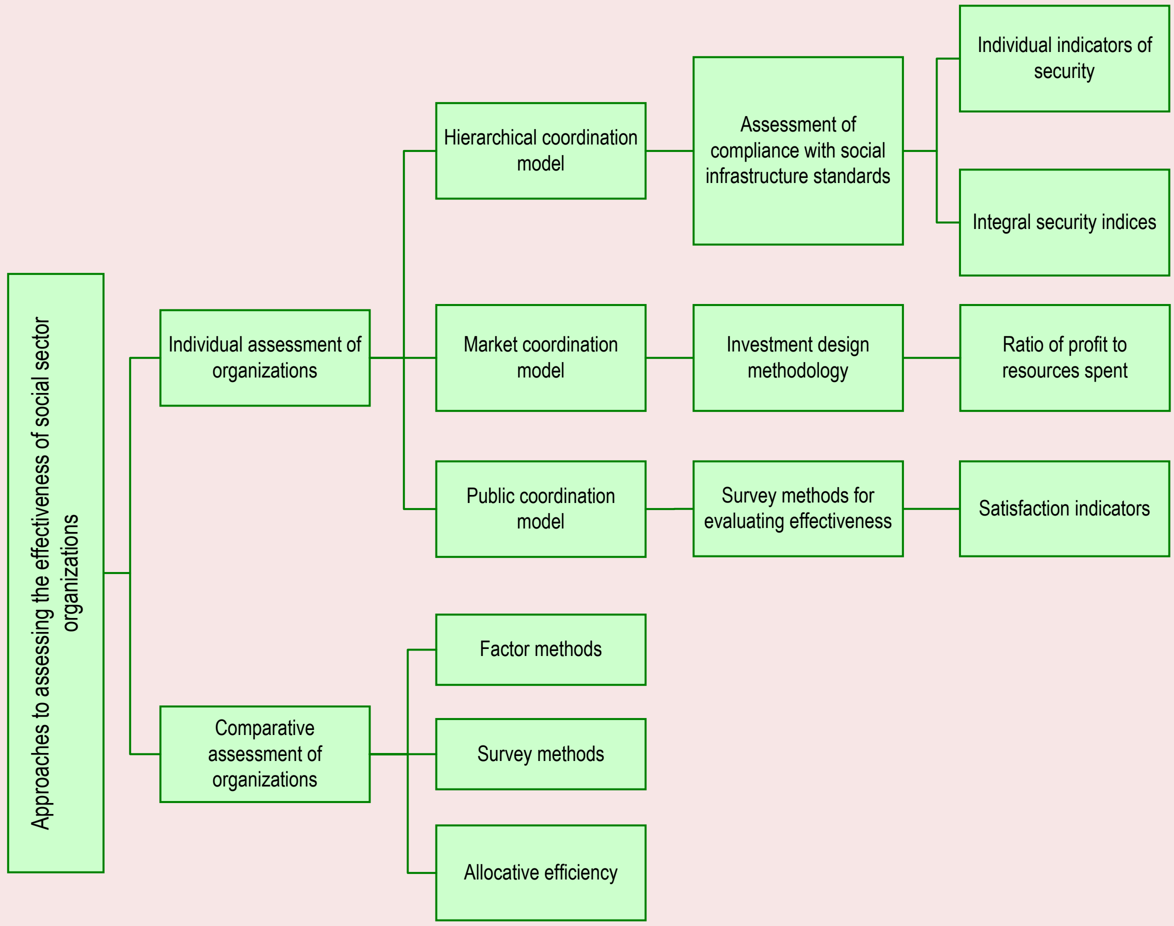
The term "allocative efficiency" does not refer exclusively to the methodology of market regulation. Literally, allocative efficiency is "resource allocation efficiency", and resource allocation can be based on both a market allocation mechanism (Voronin, Uspen'ev, 2014; Stryabkova et al., 2025) and non-market mechanisms (Radygin, Entov, 2012; Kononova et al., 2019). The specificity of the social sphere, which consists in the availability of state guarantees for the provision of social services to the population and the lack of saturation of the need for these services, creates the prerequisites for the formation of an allocation model of resource use based on a comparison of the ratio of output and use of the main types of resources for organizations belonging to the public, commercial and non-profit sectors of the economy. If the comparison of organizations will indeed be carried out through movement toward an equilibrium price within the framework of the market model of coordination, the search for the optimum between volume and output, then within the framework of other coordination models such a mechanism does not work, it is necessary that there be a tool for comparing organizations that will provide a basis for decision-making to the person distributing funds.

As noted in the article (Borisova, Polishchuk, 2009), difficulties in assessing the allocative effectiveness of organizations in the public and non-profit sectors of the social sphere are associated with the spread of a "costly" approach, when the development of an allocated budget is automatically equated with the organization's adequate output, without calculating a relative indicator comparing the result and the costs incurred. Using the allocative efficiency calculation tools will allow solving this problem.

Figure 1 summarizes approaches to assessing the effectiveness of social sector organizations.

In this context, the methodology of allocative efficiency (Keeper, Knack, 2005; Nichols, 2013) allows presenting comparable data on the comparative effectiveness of social organizations in the public, commercial and non-profit sectors. The research is carried out on the basis of a comprehensive system of indicators describing the features of the internal economy of organizations and the ongoing production of products and

Figure 1. Approaches to assessing the effectiveness of social sector organizations



Source: own compilation.

services in the social sphere (Emerson, 2003). The calculation of the allocative effectiveness of social sector organizations belonging to different sectors helps to identify the comparative advantages of using limited resources. Particular performance indicators, defined within the framework of the methodology of the production function, make it possible to determine the marginal product obtained by using a unit of resource (Zhurukhin et al., 2023). This approach in the study of the comparative effectiveness of organizations from various institutional sectors of the economy can be put into practice using models of intersectoral balance, containing information on the cost items of organizations (Rumyantsev, Lukin, 2024). It allows taking into account objective data on the statistics of organizations' activities and does not require subjective assessments (Hanushek, 1995). The development of a methodology for the comparative assessment of social sector organizations operating within the framework of hierarchical, market and social coordination models lies in the field of supplementing the research model with factor indicators characterizing coordination tools and their impact on the allocative effectiveness of social sector organizations.

Comparative assessment methodology of the functioning of social sector organizations operating within the framework of market, hierarchical and social coordination models

The scientific task of comparative analysis of the functioning of social sector organizations operating within the framework of market, hierarchical and social coordination models is solved through the sequential implementation of several stages.

At the first stage of the study, a statistical database is being formed, including data on the output (volumes of services) of social sector organizations in the context of industries and coordination models. Data on organizations are selected from the following tables of the federal statistical office "National Accounts of Russia" for the period from 2016 to 2022: tables 1.4.17–1.4.22 – output by industry and sector of the economy; tables 1.4.31–1.4.36 – intermediate consumption by industry and sector; tables 1.4.6–1.4.69 – remuneration of employees by industry and sector; tables 1.4.70–1.4.75 – gross profit by industry and sector.

Taking into account the duration of the report formation, the period up to and including 2022 is being investigated.

At the second stage, indicators are calculated that characterize the allocative effectiveness of organizations operating within the framework of models of market, hierarchical and social coordination (*Tab. 2*).

Using this technique, it is insufficient to obtain reliable results of a comparative analysis of the allocative effectiveness of the functioning of social organizations, since decisions on the allocation of resources are made by organizations of different coordination models in a fairly uniform manner, since their activities should comply with approved standards and procedures for public services (Ogorodnikova, 2022).

The results obtained make it possible to determine the highest priority type of organization for the social sphere of a particular location, depending on the parameters of the allocative efficiency of using limited resources, as well as the architecture of the management contour in the model of coordination of social organizations, the nature of coordination methods used to influence organizations providing social services.

Table 2. Formulas for calculating the coefficients of return on direct and labor costs

Indicator name	Calculation formula
Direct cost return ratio	$\mathrm{A}_{R_d}^{cm} = \frac{V_{cm}}{R_d}$, where $\mathrm{A}_{R_d}^{cm}$ – direct cost-benefit ratio according to the coordination model, V_{cm} – volume of output of organizations operating within the framework of models of market, hierarchical and social coordination, R_d – direct costs of organizations operating within the framework of market, hierarchical, and social coordination models
Labor cost efficiency ratio	$\mathrm{A}_{R_{lab}}^{\mathrm{lc}} = \frac{R_{lab}}{V_{cm}}$, where $\mathrm{A}_{R_{lab}}^{\mathrm{lc}}$ – coefficient of return on labor costs of organizations operating within the framework of models of market, hierarchical and social coordination, V_{cm} – volume of output of organizations operating within the framework of models of market, R_{lab} – labor costs of organizations operating within the framework of market, hierarchical, and social coordination models
Source: own compilation.	

Research results

Next, we will provide information on the indicators of allocative efficiency.

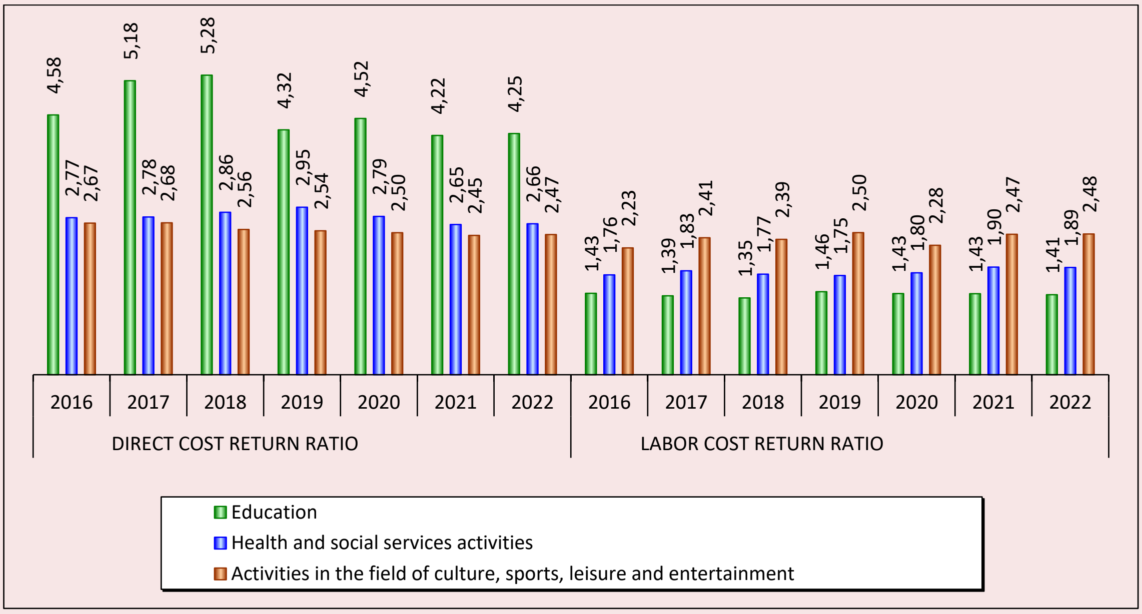
According to *Figure 2*, output per unit of material costs decreased in all sectors of the social sphere. This indicator decreased by 7.2% for the education sector, healthcare and social services – by 3.9%, activities in the field of culture, sports, leisure and entertainment – by 7.6%, while the change in the coefficient of return on labor costs shows an increase in healthcare by 7.4%, activities in the field of culture, sports, organization leisure and entertainment – by 10.9%. This situation, while generally maintaining the share of wages in the output structure, indicates a general optimization of processes and changes in technologies that have reduced the complexity of providing social services.

Next, we will present information regarding changes in the indicators of allocative effectiveness of social sector organizations in the context of coordination models.

As *Figure 3* shows, during the study period, educational organizations operating under the hierarchical coordination model generated from 4.87 rubles of output in 2016 to 4.35 rubles of output in 2022 per ruble of direct costs, which exceeds the values of organizations operating under the market coordination model by 28% in 2022 and in two times – the values of organizations operating within the framework of the model of public coordination. The return on labor costs indicator indicates that the largest output per ruble of labor costs is carried out by organizations operating within the framework of a market coordination model. This allows drawing a conclusion about the effectiveness of using labor resources in these organizations, optimizing the number of employees, and using remuneration systems that focus staff on results. The use of distance learning technologies and digital educational products has a significant impact on the coefficient of return on labor costs in education.

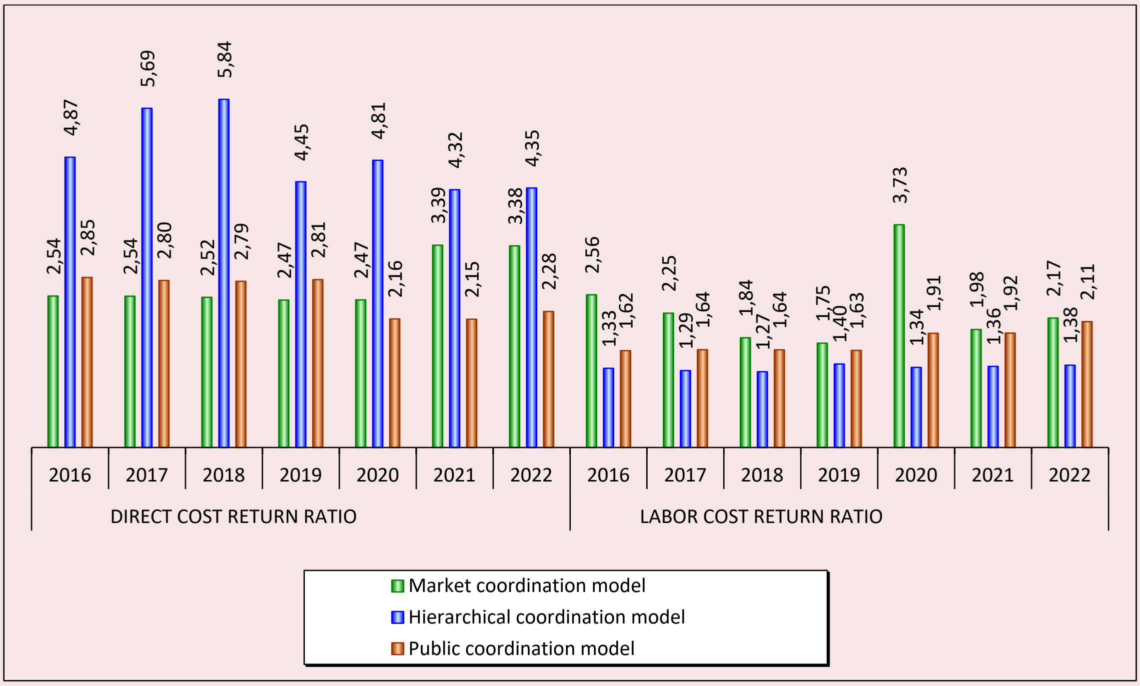
Figure 4 proves that during the study period, healthcare and social service organizations operating under the hierarchical coordination model generated from 3.01 rubles of output in 2016 to 3 rubles of output in 2022 per ruble of direct costs,

Figure 2. Indicators of allocative efficiency by social sector, 2016–2022, units



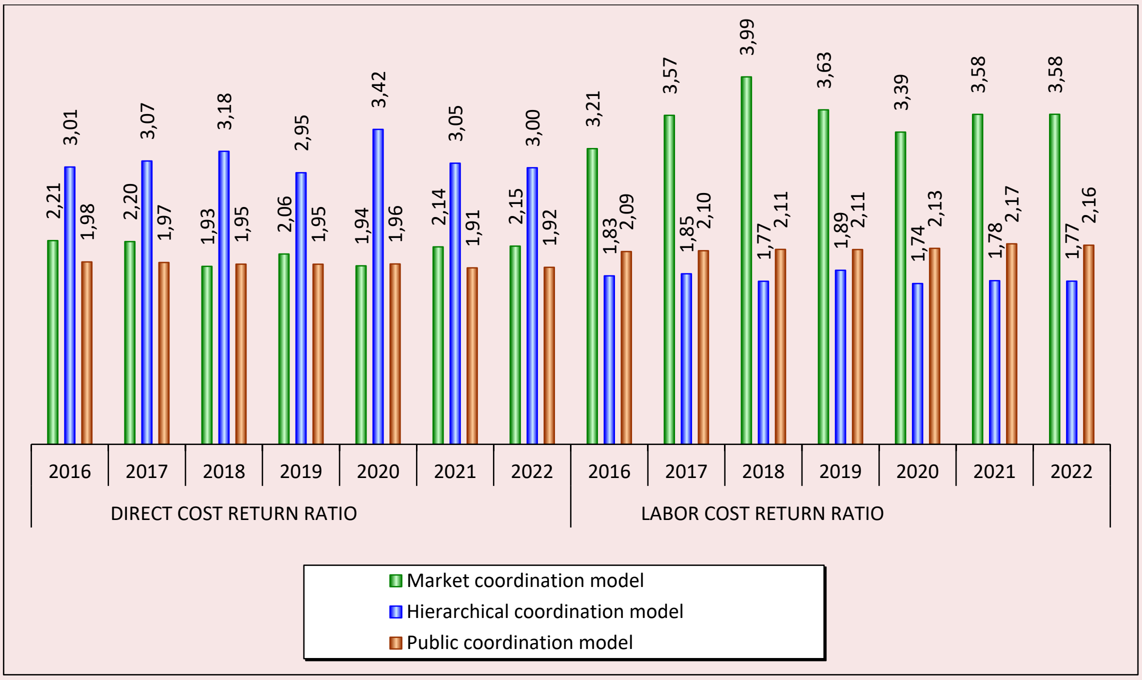
Source: own compilation.

Figure 3. Indicators of allocative efficiency of social sphere for education sector, 2016–2022, units



Source: own compilation.

Figure 4. Indicators of allocative effectiveness of social sphere for healthcare and social services industry, 2016–2022, units



Source: own compilation.

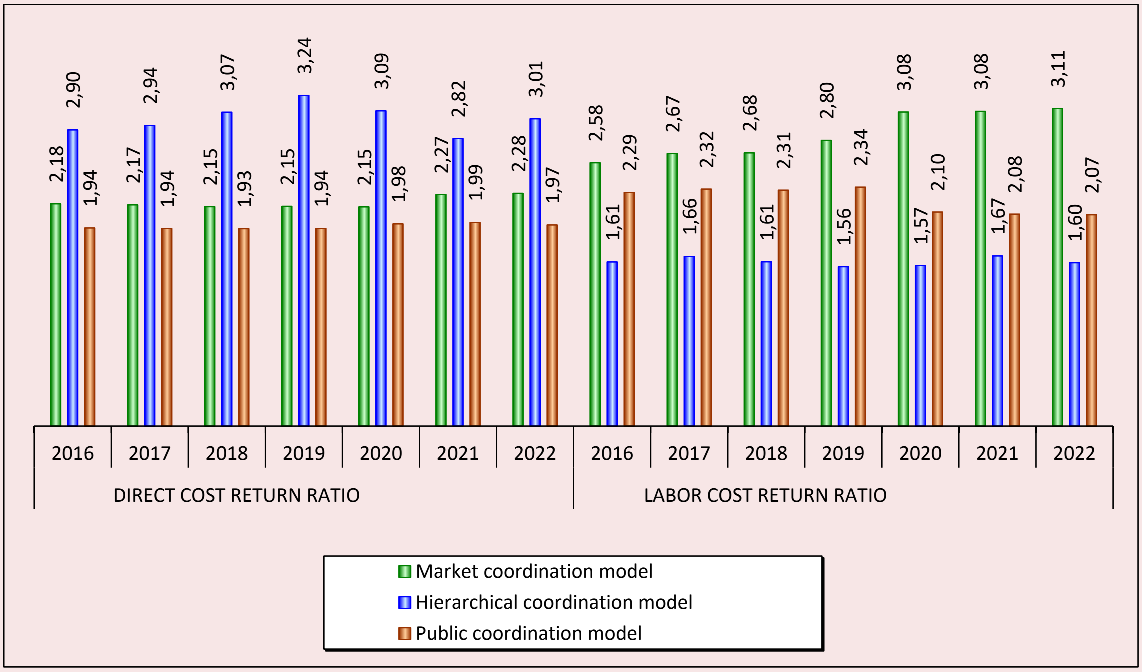
which exceeds the values of organizations operating under the market coordination model by 1.39 times; according to the indicators of 2022 and 1.56 times the values of the indicator of organizations operating within the framework of the model of public coordination. The coefficient of return on direct costs for the study period remains in a stable range. The exception was in 2020, when the graduation rate of health and social care organizations increased due to the need to overcome the consequences of the coronavirus pandemic. The return on labor costs for healthcare and social care organizations is most significant in the market coordination segment, it exceeds the values of organizations operating under the hierarchical coordination model by two times, and the values of organizations operating under the public coordination model by 1.65 times.

The closest values of indicators of allocative effectiveness are observed in organizations operating in the field of culture, sports, leisure and entertainment. During the study period, organizations operating under the hierarchical coordination model generated output per unit of direct costs 1.32 times higher in 2022 than organizations operating under the market coordination model, and 1.52 times higher than organizations operating under the public coordination model (Fig. 5). The return on labor costs for organizations operating in the field of culture, sports, leisure and entertainment is the most significant in the market coordination segment. It exceeds the values of organizations operating under the hierarchical coordination model by 1.94 times, and the values of organizations operating under the public coordination model by 1.5 times.

Discussion

Summing up the work, we should note that the results obtained confirm the data of the previous authors' studies. For the considered branches of the

Figure 5. Indicators of allocative effectiveness of social sphere for sector of activity in the field of culture, sports, leisure and entertainment, 2016–2022, units



Source: own compilation.

social sphere, a similar pattern of output formation is observed, depending on the coordination model within which organizations operate. The predominant allocative efficiency of using direct costs is typical for organizations operating within the hierarchical coordination model, which is associated with the regulatory and distributive nature of attracting and spending resources in them, the presence of external control tools over resource expenditure, and the presence of a significant methodological base in the field of standardization of activities.

The predominant allocative efficiency of using labor costs is observed in organizations operating within the framework of the market coordination model, due to the use of labor planning methods, optimization of the number of labor resources, the use of remuneration systems that focus staff on results, information and digital technologies. The results obtained become key indicators for the formation of a hybrid model of social coordination, as they ensure the identification and reasonable application of management methods related to hierarchical, market and social coordination, allowing the implementation of the principle of maximizing output with allocative efficiency of using limited resources.

The research results can be used in the activities of decision makers regarding the allocation of limited resources between social organizations that are in direct contact with the public and provide services. For the hierarchical coordination model, these are budget allocators: federal executive authorities (for example, for universities), regional (for example, the social protection system), and municipal (for example, the general education system) levels. For the model of public coordination, these are the decision makers on the allocation of funds accumulated by charitable organizations. For the hybrid coordination model, these are those who make decisions about the allocation of funds, or those who choose a partner for a public-private partnership project.

The state is responsible, as stipulated in the Constitution of the Russian Federation, for improving the quality of life of the country's population, including through the quality and accessibility of social services, but this function should be economically ensured.

Conclusion

The research results confirm the thesis about the possibility of prioritizing the implementation of social functions by social organizations using the principle of allocative efficiency in the framework of building the hybrid coordination model of the social sphere. The expansion of output by social sector organizations using appropriate management methods will help solve problems related to the expansion of public consumption of services in the fields of education, health and social services, culture, sports, leisure, and entertainment.

The conducted research has shown that the main volumes of social sphere output are carried out within the framework of a hierarchical coordination model, government institutions prevail in the structure of social sphere producers, whose output is 91% in the field of education, 74% in the field of healthcare and social services, and 50% in the field of culture, sports, leisure and entertainment. There is a moderate increase in the development of a market-based coordination model, which confirms the assumption that commercial organizations are not interested in working in social sectors due to low allocative efficiency.

The results obtained indicate that, despite the unification of social services based on the developed standards and procedures for the provision of services, social sector producers operating within the framework of market, hierarchical and social coordination models have performance characteristics that affect the allocative efficiency of resource use. A comparative analysis of the coefficient of return on direct costs and the coefficient of return on labor costs of organizations operating under different coordination models showed the preferential allocative efficiency of using direct costs by organizations operating under a hierarchical coordination model, and the allocative efficiency of using labor costs by organizations operating under a market coordination model. Despite the growth of the public coordination segment, there have been no significant changes in the parameters of the output-cost ratio for organizations operating under this model.

References

Andreeva E.L., Zakharova V.V., Ratner A.V. (2014). The evolution of the welfare state: Theory and practice of the issue. *Zhurnal ekonomicheskoi teorii*, 3, 66–73 (in Russian).

Bel'chuk E.V., Marien L.S. (2011). Interregional differentiation of the social complex in modern Russia. *Journal of Economic Regulation*, 2(2), 32–44 (in Russian).

Borisova E.I., Polishchuk L.I. (2009). Performance analysis in the non-profit sector: Problems and solutions. *Ekonomicheskii zhurnal Vysshei shkoly ekonomiki*, 13(1), 80–100 (in Russian).

Bukhareva T.Yu. (2010). Three sectors of the social sphere: The specifics of organizational structures. *Sotsial'naya politika i sotsiologiya*, 5, 90–101 (in Russian).

Cameron K.S. (1980). Critical questions in assessing organizational effectiveness. *Organizational Dynamics*, 9(2), 66–80. DOI: https://doi.org/10.1016/0090-2616(80)90041-8

Cameron K.S. (1986). Effectiveness as paradox: Consensus and conflict in conceptions of organizational effectiveness. *Management Science*, 32(5), 539–553. DOI: https://doi.org/10.1287/MNSC.32.5.539

Dvoryadkina E.B., Prostova D.M. (2019). Nonprofit organisations in the regional economy: A theoretical approach to the research. *Journal of New Economy*, 20(4), 47–69. Available at: https://doi.org/ 10.29141/2073-1019-2019-20-4-3 (in Russian).

Emerson J. (2003). The blended value proposition: Integrating social and financial returns. *California Management Review*, 45(4), 35–51.

Forbes D.P. (1998). Measuring the unmeasurable: Empirical studies of nonprofit organization effectiveness from 1977 to 1997. *Nonprofit and Voluntary Sector Quarterly*, 27(2), 183–202.

Fu L., Liao S., Liu Z., Lu F. (2019). An investigation of resource allocation mechanism for exploration and exploitation under limited resource. *IEEE Transactions on Engineering Management*, 68(6), 1802–1812.

Grabar A.A., Sozinova A.A. (2017). Implementation of investment projects and assessment of the effectiveness of social infrastructure development. *Uchenye zapiski Sankt-Peterburgskogo imeni V.B. Bobkova filiala Rossiiskoi tamozhennoi akademii*, 3(63), 52–55 (in Russian).

Hanushek E.A. (1995). Interpreting recent research on schooling in developing countries. *The World Bank Research Observer*, 10(2), 227–246.

Herman R. (1990). Methodological issues in studying the effectiveness of nongovernmental and nonprofit organizations. *Nonprofit and Voluntary Sector Quarterly*, 19, 293–306.

Hurwicz L. (1973). The design of mechanisms for resource allocation. *The American Economic Review*, 63(2), 1–30.

Il'chenko A.N., Syan Syao Gan, Stepanov V.S. (2016). A model study of the impact of the level of socio-economic infrastructure on the quality of life of the population. *Sovremennye naukoemkie tekhnologii. Regional'noe prilozhenie*, 4(48), 10–20 (in Russian).

Keefer P., Knack S. (2005). Social capital, social norms and the new institutional economics. *Handbook of New Institutional Economics*, 701–725.

Kononova G.A., Tsiganov V.V., Kovalenko L.V. (2019). Allocative efficiency ensuring methods in regulation of regional process social and economic development. *Zhurnal pravovykh i ekonomicheskikh issledovanii= Journal of Legal and Economic Studies*, 1, 129–134 (in Russian).

Koopmans T.C. (1949). Efficient allocation of resources. *Econometrica*, 19(4). DOI: https://doi.org/10.2307/1907467

Kostomarova A.A. (2013). The space of social policy in the context of the socially oriented economy of Russia. *Ekonomicheskie i gumanitarnye nauki*, 2, 15–19 (in Russian).

Maslov G.A., Sherstobitova Yu.A. (2024). Standards of living and human potential development: Assessing risks to regions' economic security. *Journal of New Economy*, 25(4), 24–46 (in Russian).

Mersiyanova I.V., Benevolenski V.B. (2016). The comparative advantages of NPOs as social welfare services providers: An examination in the Russian context. *Voprosy gosudarstvennogo i munitsipal'nogo upravleniya=Public Administration Issues*, 4, 7–26 (in Russian).

Nicholls A. (2013). The social entrepreneurship–social policy nexus in developing countries. *Social Policy in a Developing World*. DOI: https://doi.org/10.4337/9781849809931.00018

Ogorodnikova E.S. (2022). *Kontseptual'nye i metodicheskie osnovy formirovaniya gibridnogo organizatsionno-ekonomicheskogo mekhanizma sfery sotsial'nykh uslug* [Conceptual and Methodological Foundations for the Formation of a Hybrid Organizational and Economic Mechanism in the Field of Social Services]. Kazan: Buk.

Ogorodnikova E.S., Plakhin A.E., Rostovtsev K.V. (2022). Hybrid model for the social services sphere: Organizational and economic aspects. *Journal of New Economy*, 23(1), 131–148 (in Russian).

Petrova S.A., Aleksentseva Yu.A. (2019). Information and analytical resources and tools for assessing the quality of social services. *Evraziiskoe nauchnoe ob"edinenie*, 3-4, 262–266 (in Russian).

Popov E.V., Semyachkov K.A. (2018). Social development index of Russian federal districts. *Ekonomicheskoe vozrozhdenie Rossii*, 3(57), 63–70. Available at: https://doi.org/10.29141/2658-5081-2022-23-1-7 (in Russian).

Radygin A., Entov R. (2012). Government failures: Theory and policy. *Voprosy ekonomiki*, 12, 4–30. Available at: https://doi.org/10.32609/0042-8736-2012-12-4-30 (in Russian).

Romanychev I.S. (2022). Social service in the assessments of the recipient of social services: Towards overcoming contradictions. *Nauchnyi al'manakh Tsentral'nogo Chernozem'ya*, 4–7, 134–139 (in Russian).

Rumyantsev N.M., Lukin E.V. (2024). Input-output modeling of economic development in the region. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast,* 17(6), 118–133. Available at: https://doi.org/10.15838/esc.2024.6.96.6 (in Russian).

Savinskaya O.B., Dudchenko O.N., Mytil A.V. (2017). The methodical audit of independent quality evaluation in social sphere: Possibilities and limitations. *Zhurnal issledovanii sotsial'noi politiki=The Journal of Social Policy Studies*, 15(1), 97–112. Available at: https://doi.org/10.17323/1727-0634-2017-15-1-97-112 (in Russian).

Sharma N., Singh R.K. (2019). A unified model of organizational effectiveness. *Journal of Organizational Effectiveness: People and Performance,* 6(2), 114–128. DOI: https://doi.org/10.1108/JOEPP-10-2018-0084

Sowa J.E., Selden S.C., Sandfort J.R. (2004). No longer unmeasurable? A multidimensional integrated model of nonprofit organizational effectiveness. *Nonprofit and Voluntary Sector Quarterly,* 33, 711–728.

Stryabkova E.A., Chistnikova I.V., Dobrodomova T.N., Mokina A.V., Khrebtov D.V. (2025). Allocative efficiency of spatial organization of the Russian coal industry. *Ugol'*, 1189(2), 83–87. Available at: http://dx.doi.org/10.18796/0041-5790-2025-2-83-87 (in Russian).

Tambovtsev V.L., Rozhdestvenskaya I.A. (2024). What is special about the public service logic? *Upravlenets= The Manager*, 15(4), 41–51 (in Russian).

Vasil'eva E.I., Kuzina L.V., Levashova T.A., Shakirova E.F. (2016). Criteria and indicators for assessing the quality of social services in the offices of the territorial social service center. *Sotsial'nye otnosheniya*, 4(19), 100–106 (in Russian).

Vetrova E.A., Borodina M.I. (2016). Social entrepreneurship as a factor in the development of society. *Sotsial'no-ekonomicheskie yavleniya i protsessy*, 11(12), 18–22. Available at: https://doi.org/10.20310/1819-8813-2016-11-12-18-22 (in Russian).

Voronin V.G., Uspen'ev P.N. (2014). The essence of evaluating the effectiveness of industrial production in terms of allocative efficiency. *Innovatsionnaya ekonomika i obshchestvo*, 1, 2–7 (in Russian).

Yashina N.I., Emel'yanova O.V., Malysheva E.S., Pronchatova-Rubtsova N.N. (2018). A methodology to evaluate the efficiency of public health financing in Russia. *Bukhgalterskii uchet v byudzhetnykh i nekommercheskikh organizatsiyakh=Finance and Credit*, 14(446), 13–26 (in Russian).

Yurmanova E.A. (2012). Institutionalization of public goods production field. *Vestnik Tambovskogo universiteta. Seriya: Gumanitarnye nauki*, 12, 27–33 (in Russian).

Zhurukhin G.I., Mokronosov A.G., Illarionov I.V. (2023). Fair cost standards for social services. *Journal of New Economy*, 24(2), 104–125 (in Russian).

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Demographic Resources of Russia: Variability of Approaches and Assessments

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Abstract. In the context of a deep demographic crisis faced by many countries in the world, the issue of identifying and using demographic development resources as a key component of national security is becoming important. This article continues a series of publications by the authors devoted to the study of fundamental concepts of demographic science. The aim of the article is a critical understanding and systematization of existing approaches to defining the term "demographic resource", identifying common and contradictory interpretations in order to unify and clarify the terminology of demographic science. For this purpose, the article provides an overview of current studies by Russian and foreign authors in the field of population, presents their definitions of the listed terms, and identifies common and contradictory features. The authors identified four groups of the most common interpretations of "demographic resources": population size, labor force, English-language and alternative interpretations. The authors also offer an interpretation of "demographic resources" as "prosperous young families with

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children”. An attempt was made to critically understand and generalize disparate approaches in order to systematize and unify the terminology of research in the field of population. The study used methods of comparative analysis, content analysis of scientific literature, as well as statistical analysis using current data from Rosstat. The novelty of the work lies in the proposal of the authors’ definition of the concept of “demographic resources”, taking into account the specifics of modern demographic challenges and meeting the tasks of public administration in the field of population. The main results are presented by a grouping of approaches, accompanied by a statistical assessment of the demographic resources of Russia. Future research will be aimed at a more in-depth analysis of each of the identified types of demographic resources, as well as the development of methodological recommendations for their practical use in the state demographic policy of Russia.

Key words: demographic resource, human resource, migration resource, labor resource, prosperous young family, demography, demographic development, demographic development resource.

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Introduction

The demographic crisis spreading around the world has determined the relevance of research devoted to the search for tools for Russia’s demographic development as a key area of public administration, identified by the President of the Russian Federation as a priority (Demographic Development ..., 2022, pp. 8–9). The current state of demographic science does not allow giving an unambiguous answer to the question of what is the source of demographic development, its root cause. Nevertheless, the classical interpretation of the fundamental concepts developed by Professor L.L. Rybakovskii, whose followers of the scientific school are the authors of this article, has become fundamental for the Russian demographic school.

His recommendations on improving the demographic situation and stimulating the birth rate were reflected in the state policy of the Russian Federation and helped in the development of effective measures to regulate migration flows. For more information on the formation of demographic knowledge, the formation and evolution of the scientific school of L.L. Rybakovskii, see the published scientific work *Demographic Development of Russia: Formation and Evolution of the Scientific School of L.L. Rybakovskii* (Rostovskaya et al., 2025), presented in April 2025 at the 1st Readings in memory of the outstanding demographer of our time.

L.L. Rybakovskii defines demographic security as “a state of demographic processes that is sufficient for the reproduction of the population without significant external influence and the provision of human resources for the geopolitical interests of the state” (Rybakovskii, 2003). This definition not only formed the basis of strategic and long-term documents in the field of demographic development of the country, but also served as an important milestone in the formation of modern approaches to ensuring demographic stability.

In turn, T.K. Rostovskaya supplemented this concept by introducing the concept of “demographic stability”. Demographic stability refers to “the formation of such qualitative and quantitative characteristics of matrimonial, reproductive, self-preservation and migration parameters that lead to a stable state and development of demographic processes that ensure the natural reproduction of the population at a level that meets the national interests of the country" (Rostovskaya, Zolotareva, 2022).

It is from the perspective of ensuring demographic security and stability that the structuring and unification of the terminological apparatus used in demographic science are of particular importance. As part of their research, the team of authors proposed the concept of "demographic development resources" aimed at identifying and explaining the determinants of demographic development and their management. In 2023, in a previous paper, we presented the author's interpretation of demographic development resources as "a set of tangible and intangible assets available to demographic policy actors that can be used to manage demographic and migration processes in order to achieve demographic stability" (Rostovskaya, Sitkovsky, 2024).

In continuation of the previously initiated research, this article aims to critically comprehend and summarize disparate approaches to defining the concept of "demographic resource" for further systematization and unification of the terminological apparatus, which is a key condition for developing effective measures to overcome the demographic crisis and ensure national security.

Methodology and methods

The study of the definitions of fundamental demographic concepts revealed significant discrepancies in their interpretation. To systematize the terminological apparatus of demographic science, the previous article reviewed the literature and proposed author definitions for the following concepts: demographic development, demographic policy, tools of demographic development (policy), mechanism of demographic development (policy), demographic potential, demographic sustainability, and also focused on the synthesis of a new concept – demographic development resources (Rostovskaya, Sitkovskii, 2024).

Our article is the second in a series of studies devoted to the issue of defining and measuring the resource of demographic development, which, in accordance with our own vision, acts as the basis (source) of demographic development. Understanding, defining and measuring the demographic development resource marked the beginning of a study of the possibilities of its expansion and management, which, ultimately, should lead to a situation of demographic development management.

Our theoretical and methodological concept of demographic development resources is largely based on the works of L.L. Rybakovskii and was presented on September 15, 2023 at the Institute for Demographic Research of FTAS RAS as part of a special scientific and methodological seminar "Demographic Development Resources: Concept, Essence", which was led by L.L. Rybakovskii, Doctor of Sciences (Economics), Professor, Chief Researcher and head of department of theory and methodology at the mentioned institute[1].

In the previous work, the term "demographic resources" was mentioned, in relation to which significant discrepancies were also identified. Despite the similarity with demographic development resources, demographic resources have a different content. The problem lies in the very significant fragmentation of definitions of demographic resources, which required the systematization of groups of approaches in the framework of this study.

To achieve the aim of the study, we used the following methods: literature review, grouping of approaches, content analysis of concepts, and statistical illustration based on relevant data.

[1] The program of the methodological seminar "Demographic development resources: concept, essence". Institute for Demographic Research of FCTAS RAS, September 15, 2023. Available at: https://cloud.idrras.ru/wp-content/uploads/2023/09/ПРОГРАММА-семинара-по-ресурсам-дем.развития-15.09.-.-2.pdf (accessed: 13.04.2025).

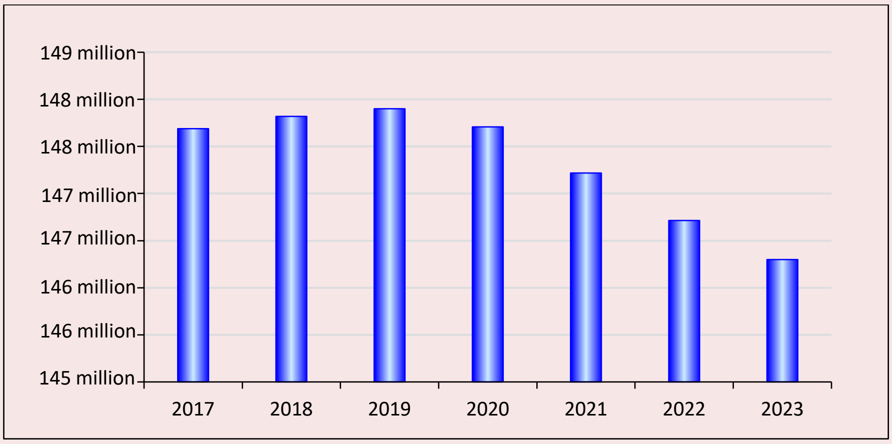
All sources available to us that use the term "demographic resource" are used as an information base (about 50 publications, mainly works by Russian demographers from 2001–2024). The base for the review was formed based on the aim of the study, and not in connection with the preferences of the authors. As a result, it is represented mainly by the works of the most famous demographic researchers in contemporary Russia, since the research topic is highly specialized and rarely found in the works of non-specialists. The demographic resources of Russia are illustrated and evaluated using up-to-date statistical information within the framework of the identified groups of approaches.

These sources were classified into four main groups, depending on the interpretation of the concept. An analysis of the content of definitions and terminology used was carried out for each group. In addition, we performed a quantitative illustration for each group, i.e. the corresponding statistical indicators characterizing the demographic resources of Russia within the framework of this approach are presented. The logical sequence of the work provided for a movement from collecting and selecting relevant sources (based on the availability of the desired term) through their grouping and meaningful analysis to a comparative assessment of the identified approaches and the formulation of a refined our definition.

Population size as a demographic resource

The most common interpretation is that the authors understand the demographic resource as the population (Galetskii, 2005; Kapitsa, 2013; Zhukov, 2013). The same approach is found in the dissertation of I.V. Aleksandrova[2], in the article by A.Z. Aliyev, E.K. Bizhanova (Adiev, Bizhanova, 2019) and many other authors. L.N. Andronova and N.M. Lantsova write that "the demographic resources of a country are one of the most important factors of its economic growth" (Andronova, Lantsova, 2022). We cannot but agree that in an applied, mathematical and statistical sense, the demographic resource of a state is its entire population. Let us consider the dynamics of Russia's demographic resources from this point of view.

Figure 1. Number and dynamics of the Russian population on average for the year, 2017–2023, people



According to: Number of permanent residents per year on average. Statistical data showcase. EMISS. Moscow, 2024. Available at: https://showdata.gks.ru/report/278928 (accessed: 17.05.2025).

[2] Aleksandrova I.V. (2005). Reproduction of the population as an object of social management (case study of a mono-industrial town): Candidate of Sciences (Sociology), thesis. Kazan. Available at: https://new-disser.ru/_avtoreferats/01002852333.pdf (accessed: 07.05.2025).

Figure 1 presents the average annual population of Russia from 2017 to 2023. These data can be considered as Russia's demographic resource. Therefore, an increase in the population is an increase in the demographic resource, which, of course, should be assessed positively. Official data from Rosstat shows that Russia's demographic resource in the study period ranges from 146.3 to 147.9 million people. The dynamics of the change is contradictory and undulating, and is probably explained by the change in the share of population in the reproductive age groups in accordance with demographic waves.

It is worth noting that in the historical perspective, the most noticeable increase in the population was observed in 2014, which is associated with the annexation of new territories. L.L. Rybakovskii suggests calling such an increase "mechanical", along with natural and migratory. Previously, this was the name given to migration growth, including in the Demographic Conceptual Dictionary[3], but today this interpretation is practically not used in the scientific community. When considering population size as a demographic resource, it does not really matter whether population growth is natural, migratory, or mechanical. The very fact of growing demographic resources is important as a guarantee for further increasing the pace of socio-economic development, ensuring the sovereignty of the country and raising its role in the international arena.

It is also necessary to note a sharp increase in the population by the end of 2022 compared to 2021 (+0.61%, or 890 thousand people). The natural increase in 2022 remained negative and amounted to 595 thousand people[4], while the migration increase was 7 times lower than a year earlier and amounted to 62 thousand people (*Fig. 2*). Thus, the nature of the 1.4 million additional population is not entirely clear. We can assume that in this case we are talking about a partial assessment of the population of new territories of the Russian Federation. However, this explanation is not exhaustive either, since the population of each of the four affiliated regions is estimated at more than a million people. According to V.N. Arkhangelskii, in this case we are talking about an increase in the total number due to additional accounting of the previously unaccounted population in accordance with the results of the "All–Russian Population Census 2020". Such a significant difference is not explained by recalculating previously published data.

The consideration of the total population as a demographic resource is typical for researchers dealing with issues of socio-economic development, political science and philosophy. Demographic researchers, as a rule, do not allow themselves to interpret demographic resources so narrowly and straightforwardly. Our team of authors of this article also considers it unjustified to replace one narrower concept with a broader one that includes not only and not so much the total population. However, in those studies where the typology of the territory's resources (economic, demographic, administrative, etc.) is given, this assumption is possible, but still in this case it is better to use the concept of "human resource" or "manpower resource".

We should also say that some authors identify socio-demographic resources rather than demographic ones. T.G. Nefedova, exploring the problems of rural areas, writes that demographic dynamics is more due to other socially significant processes, as a result of which "we can talk not so much about demographic as about socio-demographic resources" (Nefedova, Pallot, 2006, p. 103). On the issue of allocating socio-demographic resources, the same point of view is held because

[3] Rybakovskii L.L. (Ed.). (2003). *Demographic Conceptual Dictionary*. Moscow: TSSP. Available at: https://studylib.ru/doc/2234370/demograficheskij-ponyatijnyj-slovar_(accessed: 07.05.2025).

[4] Birth rate, mortality, and natural growth. Population. Rosstat. Available at: https://rosstat.gov.ru/storage/mediabank/demo21_2022.xls (accessed:19.01.2025).

Rostovskaya, pointing out in her work that youth is a strategic socio-demographic resource of the state (Rostovskaya, 2014). It can be concluded that by a socio-demographic resource, the authors mean not just the size of the population, but that part of it that is able to effectively influence the size and structure of the population.

Labor resources as a demographic resource

The second large group of demographic studies consists of those in which the terms "demographic resource" and "labor resource" are used as identical. We observe this in the work of V.L. Shabanov (Shabanov, 2013), in the article by V.A. Lyadov (Lyadova, 2012), the MGIMO team of authors adheres to the same point of view. In addition, many authors note the displacement and substitution of these concepts, especially for research in the field of labor economics (Mosunova, 2004; Batrakova, 2013; Ivannikova, 2015, etc.). This circumstance has predetermined the need for a more detailed consideration of the definition of "labor resource" in the framework of this article.

"Labor resource is a population engaged in economic activity, as well as able to work, but not working for one reason or another" reads the definition from the Rosstat Order[5]. Academician N.K. Dolgushkin believes that the labor force is "a part of the country's population that has important physical development, health, education, culture, opportunities, qualifications, and professional knowledge to work in the field of socially useful activities" (Dolgushkin, Novikov, 2001). Rybakovskii considers labor resources as citizens and non-citizens (migrants) of working age (Rybakovskii, 2011). A.V. Kashepov examines the labor resources of the USSR and, based on this, understands them as the entire employed population of the country (Kashapov, 2023). Summarizing the above, we can note that labor resource is part of demographic resources, therefore, these terms should not be understood as identical.

The monograph by V.A. Gnevasheva, A.V. Topilin, and O.D. Vorobyeva proposes to distinguish the synonymous definitions of "labor resource" and "labor potential", by which the authors mean "a set of developed demographic, social, spiritual characteristics and qualities of working-age population, which are realized in the current system of economic and socio-labor relations in the process of labor and social activity" (Gnevasheva et al., 2023, p. 11). The paper also suggests distinguishing between the potential labor force – the entire population aged 15–72 years, highlighting the most active part of it – the working-age population, as well as the real labor force – economically active population, including those employed in the economy and unemployed.

Let us analyze the Russian labor resources in accordance with the terminology and methodology proposed in the monograph (Gnevasheva et al., 2023). *Table 1* shows data for 2017–2023. The number of economically active population is calculated as the sum of the employed and unemployed in accordance with the proposed methodology. The entire population of the country in the age group of 15–72 years is considered as a potential labor resource, as well as the working-age population separately from it (for men 16–59 years, for women 16–54 years). The data is given in thousands of people, and the proportions of the Russian population are calculated. The data presented is dated January of the year following that indicated in the table (2022 is January 2023, etc.).

"Real labor resource" in the entire study period (2017–2022) ranges from 51.2–51.8% of the country's population. The "potential labor resource" is 75.1–76.2% in the broad sense, 55.4–58.0% in the narrow sense (the working-age population). Thus, almost the entire working-age population of the country is employed or

[5] On approval of the Methodology for calculating the balance of labor resources and estimating labor costs: Rosstat Order 647, dated 29.09.2017. Available at: https://www.consultant.ru/document/cons_doc_LAW_279671/1eb2644866cba18ea6723cfbf666f7e492455a67/ (accessed: 19.01.2025).

Table 1. Number of labor resources and their share in the total population of Russia, 2017–2023

Population	Unit of measurement	2017	2018	2019	2020	2021	2022	2023
Real labor resource								
Economically active	thousand people	76108.5	76011.4	75398.0	74922.7	75350.0	74924.3	76036.6
	share in %	*51.8*	*51.8*	*51.4*	*51.3*	*51.8*	*51.2*	*52.0*
Employed	thousand people	72142	72354.4	71933.1	70601.4	71719.49	71973.59	73636.1
	share in %	*49.1*	*49.3*	*49.0*	*48.3*	*49.3*	*49.1*	*50.4*
Unemployed	thousand people	3966.5	3657.0	3464.9	4321.3	3630.5	2950.7	2400.5
	share in %	*2.7*	*2.5*	*2.4*	*3.0*	*2.5*	*2.0*	*1.6*
Potential labor resource								
Aged 15–72 years	thousand people	110558.9	110575.8	110369.5	109734.2	110922.9	110181.8	109703.0
	share in %	*75.3*	*75.3*	*75.2*	*75.1*	*76.2*	*75.2*	*75.1*
At working age	thousand people	82264.1	81361.7	82677.7	81881.1	84400.0	83440.4	84711.5
	share in %	*56.0*	*55.4*	*56.3*	*56.0*	*58.0*	*57.0*	*58.0*

According to: Number of employees by gender and age groups. Statistical data showcase. EMISS. Moscow, 2024. Available at: https://showdata.gks.ru/report/277902 (accessed: 19.01.2025); Number of unemployed by gender and age groups. Statistical data showcase. *EMISS*. Moscow, 2024. Available at: https://showdata.gks.ru/report/277906 (accessed: 19.01.2025); Number of permanent Russian population by age as of January 1. Statistical data showcase. *EMISS*. Moscow, 2024. Available at: https://showdata.gks.ru/report/274848 (accessed: 19.01.2025).

unemployed. The dynamics of changes in these indicators is undulating. By the end of 2022, a record low number of unemployed people was recorded – 2.0% of the country's population. It is worth saying that the change in the share of the working-age population seems to be due more to migration processes than to the processes of natural population movement (demographic waves). The share of the working-age population (as well as the employed) is about half, which leads to a twofold tax burden on each employee, from whose funds payments and social guarantees are formed not only for themselves, but also for social dependents.

From the above interpretations and data analysis, it follows that, as in the previous case, labor resources are part of demographic resources, but not all of them. This assumption is often found among researchers, economists and specialists in the field of labor economics. We believe that replacing a narrower concept with a broader one is not fully justified. Undoubtedly, labor resources are demographic resources, as a result of which these concepts are sometimes used synonymously in works. However, in this case, the idea of demographic resources is narrowed down to "labor force" or "population able to work", which is only an indirect determinant of demographic processes.

Demographic resources in English-language literature

English-language literature usually determines demographic resources in a completely different meaning. Resources are treated as sources of literature, respectively, demographic resources in English-language materials are sources of information about demography. For example, this understanding has been demonstrated in the work of Thomas Green of Princeton University (Grin, 1997), Brian Queen of Texas Tech University (Quinn, 1999), Rebecca King of the University of Delaware (King, 2010) and others.

Demographic resources in the English-speaking sense include both traditional and innovative sources of demographic data. Traditional demographic resources include population censuses, national surveys, and administrative records (Corsi et al., 2012; Baker et al., 2017). Innovative demographic resources include digital traces of social media, digitized historical records, and large-scale datasets offering previously unavailable scale and resolution for demographic analysis (Ruggles, 2014; Vikstr m et al., 2023; Breen, Feehan, 2024).

Some English-speaking researchers identify the concept of “demographic resources” with specific databases such as the Demographic Frame and Demographic Data Base (DDB), which combine individual-level data from multiple sources, providing opportunities for advanced analysis and innovation in the collection and processing of demographic data (Ortman, 2024; Velkoff, 2024). Other researchers refer to online platforms as demographic resources that allow users to visualize demographic data (for example, gendar and age pyramids, heat maps of mortality, etc.) and upload datasets for further analysis (Pomazkin, Filippov, 2022).

In the case of English speakers, there are original interpretations of demographic resources. For example, in one of the relevant papers on the migration crisis in Europe in 2015, the term refers to the number of people ready to move (Komušanac, 2021); in another study – a complete family, healthy psychoemotionally and financially secure (Gesthuizen et al., 2005). Demographic resources also mean the demographic situation, i.e. the dynamics of the population and the prospects for its change (Pashalich et al., 2020; Marinkovich, Trifunovich, 2023).

In the case of English-language studies, we cannot assess the correctness of the use of the term “demographic resources”, we state the established practice. In Russian-language studies, we do not find a similar understanding of a demographic resource as a source of demographic data, and probably never will find. On the contrary, among all the English-language works in which the demographic resource would be understood as something else, we find only English-language publications by Russian-speaking authors (Bagirova, Voroshilova, 2014).

Thus, in the English-language literature, the term “demographic resources” has a generally accepted interpretation, it refers to sources (websites, databases) of demographic information. This interpretation is not found in Russian-language sources and should not be blindly borrowed for Russian demographic science due to the difference in speech norms. The main conclusion to be drawn is that when translating Russian-language publications into English and vice versa, close attention should be paid not only to the correctness of the translation of the term, but also to the established practice of its interpretation, which may vary significantly.

Alternative and outdated interpretations of the concept of “demographic resources”

In addition to the three identified groups of interpretations of the term “demographic resources”, the literature review revealed original authorial interpretations that cannot be grouped. We present some of them. For example, G.A. Drobot writes that a demographic resource is “the workers and soldiers of a country”[6]. A.G. Maiorova understands a demographic resource as “the population, its size, structure, and processes occurring in it”[7].

T.A. Zhernakova explores the topic of demographic resources in a political science perspective in her dissertation. She points out that the demographic resource “is multifunctional and can act in many guises, ensuring the reproduction of other resources and the creation of new ones. <...> Human participation and labor represent an indispensable integral element of the reproduction of tangible and intangible benefits and conditions for the development of socio-political practices and institutions”. The dissertation also introduces the

[6] Drobot G.A. (2019). *World Politics: Textbook for Universities. 3rd Ed., Rev. and Add.* Moscow: Izdatel’stvo Yurait. Available at: https://studme.org/1299101029659/politologiya/vneshnepoliticheskie_resursy_rossii (accessed: 07.05.2025).

[7] Maiorova A.G. (2022). *Demography Resources. Directory: Educational Portal.* Available at: https://spravochnick.ru/gosudarstvennoe_i_municipalnoe_upravlenie/demograficheskaya_politika/resursy_demografii/ (accessed: 07.05.2025).

term “demographic resource conservation”, which means “modeling state Russian and foreign policy in such a way that demographic costs are minimal (limiting the use of military force, preventing man-made disasters, promising investments in healthcare, education, and science)”. The author also notes that in the issue of demographic resource conservation, “spiritual factors play an important role, designed to influence mental and behavioral aspects to develop moral and moral counterbalances to spiritual and intellectual degradation”[8].

A popular but outdated and currently unused group of common interpretations include those that identify their demographic resources with migrant workers. The current Concept of the state Migration Policy for 2019–2025 states that “the purpose of migration policy is to create a migration situation that contributes to solving problems in the field of socio-economic, spatial and demographic development of the country”. However, it is further clarified that “migration policy is an auxiliary tool for solving demographic problems”[9]. In the action plan for implementation in 2016–2020. The concept of demographic policy of the Russian Federation for the period up to 2025 indicates as one of the goals “ensuring migration growth at the level of at least 200 thousand people annually”[10], which indicates the normative legal consolidation of migrants as one of the demographic resources in that period of Russian history.

A.G. Vishnevskii, a well-known researcher and demographer, writes in one of his works that “migration is the most important resource for replenishing the Russian population” (Vishnevskii, 2013). In another work, he introduces the term “migration resource” and points out that “closing the doors to immigrants means accepting the continuous decline of the population, its aging, loss of place in the global demographic hierarchy, the continuous deterioration of the already poor ratio of population and territory, etc.” (Vishnevskii, 2004). In one of the issues of Demoscope Weekly, A.G. Vishnevskii devoted the section “migration as a demographic resource”, where he assessed the dynamics of migration replacement[11].

Another leading demographer, S.V. Ryazantsev, also understands migrant workers as one of the demographic resources. In an English-language article on “migrant workers as a resource for demographic development”, he points out: “Russia, as the main host country, has not yet fully taken advantage of the demographic advantages of the Eurasian migration corridor. <...> Migration should be one of the resources of demographic development” (Ryazantsev, 2021, p. 210). In 2019, edited by S.V. Riazantsev published a collection of articles entitled “migration as a resource for socio-economic and demographic development”, in which many Russian and foreign demographic researchers devoted their research to this issue, as well as sections devoted to the relationship between migration and demographic, socio-economic and innovative development[12]. Let us consider the current dynamics of Russia’s demographic resources as migration dynamics.

[8] Zhernakova T.A. (2003). Demographic resource in the system of resources of political power in post-Soviet Russia: Candidate of Sciences (Politics), thesis. Available at: https://www.dissercat.com/content/demograficheskii-resurs-v-sisteme-resursov-politicheskoi-vlasti-v-postsovetskoi-rossii (accessed: 07.05.2025).

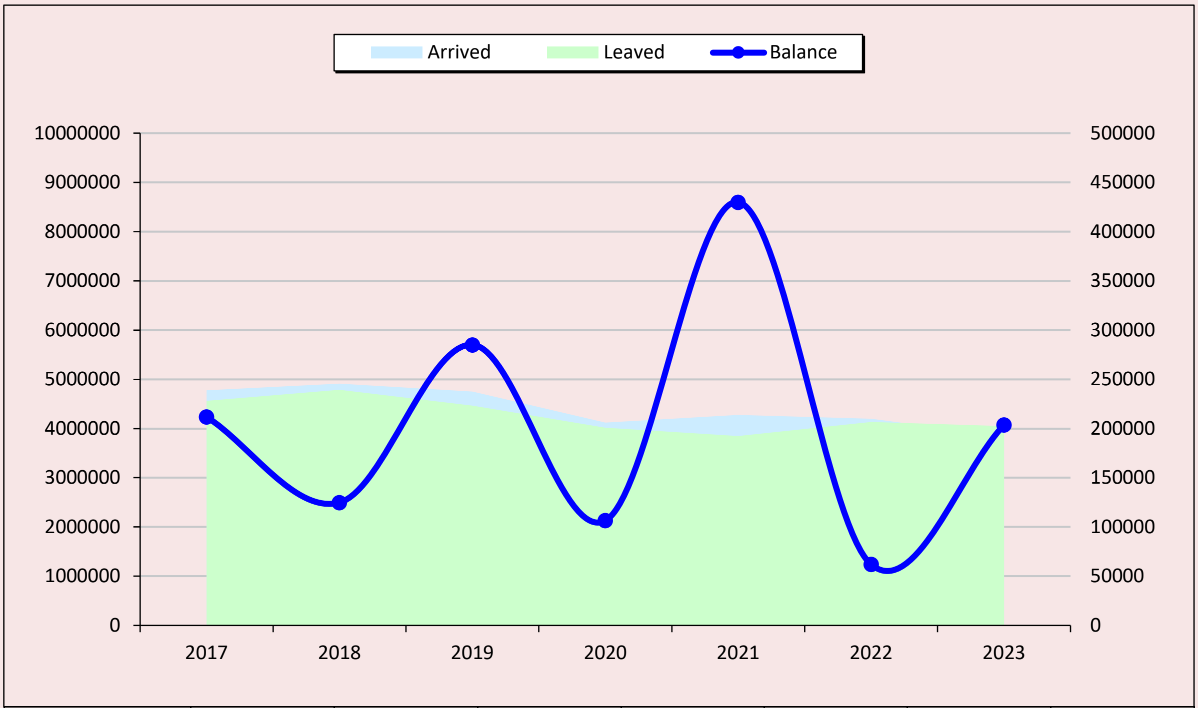
[9] On the concept of the state migration policy of the Russian Federation for 2019–2025: Presidential Decree 622, dated October 31, 2018. Official publication of legal acts. Available at: http://publication.pravo.gov.ru/Document/View/0001201810310046 (accessed:19.01.2025).

[10] On the action plan for the implementation in 2016–2020 of the “Concept of Demographic Policy of the Russian Federation for the period up to 2025”: RF Government Resolution 669-r, dated April 14, 2016. Available at: https://www.garant.ru/products/ipo/prime/doc/71281980/ (accessed:19.01.2025).

[11] Vishnevskii A.G. (2012). Demographic breakthrough or circular movement? Part two. *Demoscope Weekly,* 535–536. Available at: http://www.demoscope.ru/weekly/2012/0535/tema01.php (accessed: 07.05.2025).

[12] Ryazantseva S.V., Khramova M.N., Maksimova A.S. (Eds.). (2019). *Migration as a Resource for Socio-Economic and Demographic Development: Collection of Articles. In 5 Volumes. Volume 3.* Moscow: Izd-vo Ekon-Inform. Available at: https://испи.рф/wp-content/uploads/2019/09/ДСЭ_Рязанцев_т5в3_2019-ok.pdf (accessed: 07.05.2025).

Figure 2. Number of arrivals, number of departures and migration balance, 2017–2023, people



	2017	2018	2019	2020	2021	2022	2023
Balance	211 878	124 854	285 103	106 474	429 902	61 958	203 629
Leaved	4 561 622	4 786 712	4 46 4666	4 014 269	3 847 540	4 133 671	3 847 808
Arrived	4 773 500	4 911 566	4 749 769	4 120 743	4 277 442	4 195 629	4 051 437

According to: Migration population growth by gender, age and movement flows. Statistical data showcase. EMISS. Moscow, 2024. Available at: https://showdata.gks.ru/report/278004/ (accessed: 19.01.2025); Number of dropouts by gender, age, and movement patterns.Statistical data showcase. EMISS. Moscow, 2024. Available at: https://showdata.gks.ru/report/278006/ (accessed: 19.01.2025); Number of arrivals by gender, age, and movement patterns. Statistical data showcase. EMISS. Moscow, 2024. Available at: https://showdata.gks.ru/report/278008/ (accessed: 19.01.2025).

Figure 2 provides information on the dynamics and abundance of Russia's demographic resources in terms of migration processes. Throughout the study period (2017–2023), the number of arrivals prevailed over the number of departures. In 2021, there is a sharp increase in the migration balance due to a record low number of retirees. This is due to the closure of borders for those leaving due to the COVID-19 pandemic, which, apparently, were not as closed to migrant workers entering Russia. By the end of 2022, the migration balance decreased sevenfold, due to the effect of a high base. At the same time, in 2022, although the migration balance remains positive, despite the complexity of the ongoing foreign policy processes, it is still the lowest in the entire study period. The migration balance has a wave-like trend, which indicates a general downward trend with the inclusion of compensatory state mechanisms for attracting migrants. These mechanisms are reactive in nature and are applied in the year following the recorded insufficiently high migration balance. If this trend in migration management continues, it is reasonable to expect a record high migration growth by the end of 2024, including due to the return of those who had previously left.

Prosperous young families with children (large families)

In addition to the listed most common approaches, we will offer our vision of demographic resources. In our opinion, the key strategic demographic resource of the state is a prosperous young family, by which we mean "a family that carries out its life activities in the first registered marriage, is focused on the birth of two or more children, has them, is engaged in their upbringing and development based on the interaction of the spaces of family, public and state education" (Rostovskaya, Kalachikova, 2022). Let us consider the volume of demographic resources in Russia from this point of view.

According to the proposed definition, the demographic resource is young families with children. A successful young family in general is one in which at least one person is under 35 years old and in which there are two or more children (Rostovskaya, Knyaz'kova, 2022). Since it is impossible to analyze statistics on whether a particular family is involved in the upbringing and development of children, in this study we will assume that all young Russian families belong to these groups. *Table 2* shows the data and calculations, which were based on "Volume 9. Birth rate" according to the results of the All–Russian Population Census 2020", namely the tables: "1. Women living in private households, by age group and number of children born in the RF constituent entities" and "3. Married women living in private households, by age group and the number of children born in the RF constituent

Table 2. Number of married women by age group and number of children born, according to the results of the "All–Russian Population Census 2020"

Indicator	Unit of measurement	Women aged (years)							*Share of youth, %*
		15 and older	15–17	18–19	20–24	25–29	30–34	**15-34**	
Total women	*Total people*	67 235 894	2 161 150	1 471 052	3 726 614	3 986 377	6 140 866	17 486 059	*26.0*
	Married people	30 113 156	13 778	83 235	909 918	1 966 823	3 590 667	6 564 421	*21.8*
	Share in marriage, %	44.8	0.6	5.7	24.4	49.3	58.5	37.5	–
Women who indicated the number of children	*Total people*	49 318 214	1 224 843	855 512	2 190 072	2 679 088	4 355 425	11 304 940	*22.9*
	Married people	25 766 198	9 707	63 594	715 447	1 651 985	3 055 616	5 496 349	*21.3*
	Share in marriage, %	52.2	0.8	7.4	32.7	61.7	70.2	48.6	–
Women with no children	*Total people*	9 209 184	1 216 639	819 204	1 686 261	1 133 386	964 680	5 820 170	*63.2*
	Married people	2 373 679	6 576	39 239	320 078	402 879	383 401	1 152 173	*48.5*
	Share in marriage, %	25.8	0.5	4.8	19.0	35.5	39.7	19.8	–
Women with 1 or more children	*Total people*	40 109 030	8 204	36 308	503 811	1 545 702	3 390 745	5 484 770	13.7
	Married people	23 392 519	3 131	24 355	395 369	1 249 106	2 672 215	4 344 176	18.6
	Share in marriage, %	58.3	38.2	67.1	78.5	80.8	78.8	79.2	–
Women with 2 or more children	*Total people*	23 436 131	1 281	4 699	137 100	636 466	1 809 693	2 589 239	11.0
	Married people	14 571 403	372	3 158	115 313	549 086	1 541 374	2 209 303	15.2
	Share in marriage, %	62.2	29.0	67.2	84.1	86.3	85.2	85.3	–

According to: Table 1. Women living in private households, by age group and number of children born in the RF constituent entities. Results of the VPN2020. Volume 9. Birth rate. All–Russian Population Census – 2020. Moscow: Rosstat, 2022. Available at: https://rosstat.gov.ru/storage/mediabank/Tom9_tab1_VPN-2020.xlsx (accessed: 19.01.2025); Table 3. Married women living in private households, by age group and number of children born in the RF constituent entities. Results of the VPN2020. Volume 9. Birth rate. All–Russian Population Census – 2020. Moscow: Rosstat, 2022. Available at: https://rosstat.gov.ru/storage/mediabank/Tom9_tab3_VPN-2020.xlsx (accessed:19.01.2025).

entities". We should note that according to the results of the census, "married" persons are considered to be those who independently indicated this in the questionnaire, and not the legal fact of the marriage.

The data in Table 2 indicate the following characteristics of Russia's demographic resource in terms of prosperous young families. First, the shareof married women among women with children is higher than among the total number of women (58.3% vs 44.8%). Among young women (15–34 years old), the difference is even more noticeable (79.2% vs 37.5). It follows from this that the position that children should not be born out of wedlock still prevails in young families. Second, among young women who have two or more children, 85.3% are married. This contingent makes up the demographic resource of Russia. However, the share of young women who are married and have two or more children is only 12.6% of the total number of women aged 15–34 (19.5% of the number of women who indicated the number of children), which indicates a great potential for increasing the demographic resource of Russia by intensifying efforts to spread traditional family spiritual and moral values. Third, the number of women who have no children at all (among those who indicated) is 18.7%, and among young women – 51.5%. This is due to the tendency to postpone the first births, which, apparently, in half of the cases occur after 35 years or do not occur at all. Fourth, when comparing groups of women without children and with children, there is a clear correlation between marriage and childbearing: the older the age group, the greater the difference and the greater the dependence. For example, in the age group of 15-17 years, women without children are married in 0.5% of cases, with children in 38.2% of cases. The priority of state demographic policy should definitely be to ensure that women with children, especially young ones, are married in more than 90% of cases. Fifth, young women with two or more children make up 47.2% of all women with children, which indicates a high potential for second, third and subsequent births among families with their first child. The data indicate that it is necessary to prioritize the second and subsequent births as the most likely ones. Sixth, when we look in more detail at the share of married women, depending on the number of children in the category of women with more than two children, we do not see a significant difference between the categories of two, three, four children, five, six, seven or more children. Among all women, the share of married women ranges from 47.3–63.5% and decreases with an increase in the number of children, due to an increase in the age of women themselves. In the category of young women, the share of married women, depending on the number of children, ranges from 86.8–83.2% and also decreases with the increase in the number of children. Seventh, among all Russian women, the 15–34 age group accounts for 26.0% of the total number of women over the age of 15. This circumstance is due to demographic waves, and also largely determines the decline in the birth rate observed in recent years. The share of childless women among young women is significantly higher than among all women, which indicates the priority of intensifying efforts to stimulate fertility in young families.

Russia's demographic resource, enclosed in prosperous young families, remains poorly explored and is deprived of due attention from the state demographic policy. In our opinion, to solve Russia's demographic problems, it is primarily necessary to financially stimulate prosperous young families as they have the greatest reproductive and qualitative potential. In addition, efforts to increase the number of well-off young families and their share of the total number of families also need to be intensified. To do this, it is necessary to popularize a large family, involved fatherhood, an even distribution of unpaid household work among family members, etc.

Discussion of the results

Combining disparate approaches, we can conclude that a demographic resource is not only a concept and a term, but also a theoretical and methodological approach that considers the population itself, its number as a resource (source, means) to achieve any goals. We are talking about demographic resources only when there is a goal or a problem that needs to be solved. Thus, the approach to determining a demographic resource varies depending on the goal set, as well as the approaches and concepts that the researcher adheres to (*Tab. 3*).

A comparison of different approaches has shown the lack of a common understanding of the concept of "demographic resources". Some interpretations reduce it to a purely quantitative indicator (the total population), others limit it to labor potential, and others offer original or expanded interpretations (up to information resources or specific population groups). This diversity indicates a pronounced heterogeneity in interpretations. At the same time, all these aspects can be considered as components of a single comprehensive view of demographic resources. An integrated approach combining quantitative and qualitative characteristics (number, structure, reproductive potential of the population) has the advantage of a more complete assessment of the demographic potential of the country.

From a scientific point of view, the unification of the understanding of demographic resources is important for the consolidation of terminology and comparability of research. From the point of view of state demographic policy, the interpretation of this concept directly affects the prioritization and choice of measures. For example, if demographic resources

Table 3. Comparative analysis of theoretical approaches to the definition of demographic resources

Approach	Authors	Essence of the definition	Terminology used	Evaluation method	Statistical operationalization
Population	S.P. Kapitsa; V.I. Zhukov; V.F. Galetskii; I.V. Aleksandrova; A.Z. Adiev; E.K. Biizhanova; L.N. Andronova; N.M. Lantsova; T.G. Nefedova; J. Pallot et al.	Demographic resources are treated as the total population of a country (demographic resource = the entire population). Population growth means an increase in demographic resources.	Population (all residents of the country); sometimes the related term "demographic potential" is used	Analysis of the total population and its dynamics (increase/decrease) without component details	Total population (as of a certain date or average annual rate); population growth rates in absolute terms and percentages
Human resources	V.L. Shabanov; V.A. Lyadova; A.I. Shcherbakov; M.G. Mdinaradze; A.D. Nazarov; E.A. Nazarova; L.G. Batrakova; Zh.S. Ivannikova; L.N. Mosunova; N.K. Dolgushkin; V.G. Novikov; L.L. Rybakovskii; A.V. Kashepov; V.A. Gnevasheva; A.V. Topilin; O.D. Vorob'eva et al.	Demographic resources are identified with the workforce, which is a part of working-age population (including those who are employed and potentially able to work). In fact, the demographic resource is reduced to the labor potential of the country.	Terms: "labor resources", "economically active population", "labor potential"; concepts of "real labor resource" (employed + unemployed) and "potential labor resource" (population 15–72 years) are introduced	Calculation of working-age population and the labor force; assessment of their share in the total population; analysis of employment and unemployment dynamics	Number of working-age population; number of economically active population (employed + unemployed); share of these categories in the total number (in %)

Continuation of Table 3

Approach	Authors	Essence of the definition	Terminology used	Evaluation method	Statistical operationalization
English-language interpretations	T.A. Gryn; B. Quinn; R. King; D. Corsi; M. Neuman; J. Finlay; S.V. Subramanian; J. Baker; D. Swanson; J. Tayman; L. Tedrow; C. Breen; D. Feehan; S. Ruggles; P. Vikström; J. Ortman; V. Velkoff; D. Pomazkin; V. Filippov; M. Komušanac; M. Gesthuizen; P.M. de Graaf; G. Kraaykamp; S. Pašalić; Z. Mastilo; A. Đurić; D. Marković; D. Marinković; M. Trifunović; A. Bagirova; A. Voroshilova et al.	In English–language literature, the term demographic resources usually means demographic information resources – sources of population data (information resources, databases, etc.). Other uses of the term are extremely rare.	Demographic resources in the meaning of information resources; names of specific projects: e.g. Demographic Data Base, Demographic Frame	Not applicable (the term does not refer to the size of the population, but to information resources)	Not applicable
Original interpretations	G.A. Drobot, A.G. Maiorova, T.A. Zhernakova	Individual author definitions that do not relate to the main groups; cover different aspects of demographic development. For example, G.A. Drobot considers a demographic resource as the labor and military potential of a country (“workers and soldiers”). A.G. Maiorova includes in the content of the concept the entire population, its size, structure and processes occurring in it. T.A. Zhernakova gives the concept a multifunctional character, linking it with the reproduction of other resources, and introduces the term “demographic resource conservation”.	Diverse terminology depending on the author: “workers and soldiers” (Drobot), “population, its size, structure, processes” (Maiorova), “demographic resource conservation” (Zhernakova)	Quantitative assessment methods are not explicitly proposed (definitions are conceptual in nature)	They are not statistically operationalized (there are no specific indicators for measurement)

End of Table 3

Approach	Authors	Essence of the definition	Terminology used	Evaluation method	Statistical operationalization
Migration as a demographic resource (outdated approach)	A.G. Vishnevskii, S.V. Ryazantsev et al.	Number of works interpret the influx of migrants as a demographic resource capable of replenishing the country's population. Migration is considered as the most important reserve for population growth in Russia. In particular, in the strategic documents of the 2000s, migrant workers were identified as one of the demographic resources of the state.	Migration resource, migrant workers as a demographic resource, migration population growth	Assessment of migration's contribution to population dynamics: analysis of arrival, departure and migration balance indicators; comparison of migration growth with natural growth	Indicators of migration growth (net migration balance for the year); targets for attracting migrants (for example, ≥ 200 thousand people annually according to the Concept of Demographic Policy of the Russian Federation until 2025)
Prosperous young families (our own approach)	T.K. Rostovskaya; A.M. Sitkovskii; O.N. Kalachikova; E.A. Knyaz'kova	We propose to define demographic resources through a set of prosperous young families with children – families in their first marriage, focused on at least two children and their successful upbringing. Such families are considered as the basis of demographic development and the main reserve of population reproduction.	A prosperous young family is a family in which the spouses are married for the first time, have two or more children and are actively engaged in their upbringing and development.	Comparison of socio-demographic characteristics of young families with children; content analysis of the concept of family and statistical illustration (marriage and fertility rates) to demonstrate the contribution of such families to demographic development	Indicators of the status of young families (e.g., the proportion of married women among mothers; the number of young families with children; the average number of children in a young family, etc.) are used to assess the demographic resource in this category.
Source: own compilation based on the results of the conducted research.					

are understood solely as the size of the population, then the emphasis shifts to increasing it by any means, without due consideration of structural and qualitative characteristics. If migration is primarily considered a resource, there is a risk of excessive hope for an external influx of the population. On the contrary, a broader understanding that takes into account the quality of human potential (family well-being, level of labor participation, etc.) allows for more balanced and long-term measures. Thus, the focus on supporting prosperous young families stands out as a key resource for Russia's demographic development. In the context of the demographic crisis, the clarification and unification of interpretations of demographic resources is of strategic importance for developing effective measures and ensuring the demographic security of the country.

Conclusion

Thus, different authors interpret the definition under study in their own way, which is demonstrated in the article. Interpretations are determined by the branch of knowledge within which a study using this terminology has been prepared. The most common groups of interpretations of the concept of "demographic resource" are highlighted: human resource, labor resource, migrants, and prosperous young families.

The review showed that the concept of "demographic resource" does not have a universal content: in different scientific traditions, it covers both the entire population and its individual subsets: working-age, migrants, prosperous young families. In the English-language literature, it refers to sources of demographic data. This variability is due to the tasks that the researcher solves: for macroeconomic analysis, the absolute size of the population is important, for assessing the production potential – the volume and structure of the labor force, for replenishing the natural decline – migration flows, and for ensuring sustainable natural reproduction – the reproductive potential of young families.

The demonstrated multiplicity of interpretations indicates the need for a clear terminological distinction. In the framework of this work, we propose to consider demographic resources as a flexible, context-dependent concept reflecting any quantifiably or qualitatively measurable characteristics of the population that can be mobilized to solve a specific scientific or managerial task. At the same time, the term "demographic development resources" should be used in a broader sense – as a set of not only demographic, but also institutional, financial, informational and cultural factors that serve to achieve demographic stability.

A systematic comparison of approaches leads to three fundamental conclusions.

1. It is impossible to find a single indicator of a demographic resource – it should be selected taking into account the purpose of the study and the level of analysis (country, region, company, family).

2. In management practice, the quality of a resource should be taken into account, not just its volume. Relying solely on population size or migration attraction without assessing age, professional, and family structure can produce short-term effects, but it does not ensure long-term demographic growth.

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Thus, the development of demographic science requires further unification of concepts, and demographic policy requires an integrated approach, where each component of the demographic resource is considered not in isolation, but in conjunction with other socio-economic and cultural factors. Future research should focus on the operationalization of integrated demographic resource indices and the development of tools that make it possible in practice to balance its quantitative and qualitative aspects in the interests of sustainable demographic development in Russia.

References

Adiev A.Z., Biizhanova E.K. (2019). Migration processes and demographic resource of Dagestan: Trends and municipal features. *Vlast'=The Authority*, 6, 172–178. Available at: https://cyberleninka.ru/article/n/migratsionnye-protsessy-i-demograficheskiy-resurs-dagestana-dinamika-i-munitsipalnye-osobennosti (accessed: 07.05.2025; in Russian).

Andronova L.N., Lantsova N.M. (2022). Demographic trends and state demographic policy: Russia and foreign experience. *Nauchnye trudy: Institut narodnokhozyaistvennogo prognozirovaniya RAN=Scientific Works: Institute of Economic Forecasting of the Russian Academy of Sciences*, 20, 320–341. DOI: 10.47711/2076-318-2022-320-341. Available at: https://cyberleninka.ru/article/n/demograficheskie-tendentsii-i-gosudarstvennaya-demograficheskaya-politika-rossiya-i-zarubezhnyy-opyt (accessed: 07.05.2025; in Russian).

Bagirova A., Voroshilova A. (2014). The formation of demographic competencies of public servants as a new feature of Russian education. *International Multidisciplinary Scientific Conferences On Social Sciences and Arts SGEM 2014: Conference Proceedings*, Albena (Bulgaria), II(1), 955–962. DOI: 10.5593/sgemsocial2014/B12/S2.122. Available at: https://www.researchgate.net/publication/329776035_THE_FORMATION_OF_DEMOGRAPHIC_COMPETENCIES_OF_PUBLIC_SERVANTS_AS_A_NEW_FEATURE_OF_RUSSIAN_EDUCATION (accessed: May 7, 2025).

Baker J., Swanson D., Tayman J., Tedrow L. (2017). Sources of demographic information. *Cohort Change Ratios and Their Applications*, 35–44. DOI: 10.1007/978-3-319-53745-0_3. Available at: https://www.researchgate.net/publication/316343946_Sources_of_Demographic_Information (accessed: May 7, 2025).

Batrakova L.G. (2013). Demographic conditions to form labor resources. *Yaroslavskii pedagogicheskii vestnik*, 1, 68–71. Available at: https://cyberleninka.ru/article/n/demograficheskie-usloviya-formirovaniya-trudovyh-resursov (accessed: 07.05.2025; in Russian).

Breen C., Feehan D. (2024). New data sources for demographic research. *Population and Development Review*, 1(1), 539–573. DOI: 10.1111/padr.12671. Available at: https://ideas.repec.org/a/bla/popdev/v51y2025i1p539-573.html#download (accessed: May 7, 2025).

Corsi D., Neuman M., Finlay J., Subramanian S. (2012). Demographic and health surveys: A profile. *International Journal of Epidemiology*, 41(6), 1602–1613. DOI: 10.1093/ije/dys184. Available at: https://pubmed.ncbi.nlm.nih.gov/23148108/ (accessed: May 7, 2025).

Dolgushkin N.K., Novikov V.G. (2001). Categories labor resources, labor force, personnel – the essence and content. *Agrarnaya nauka*, 4, 11–12. Available at: https://elibrary.ru/item.asp?id=47201105 (accessed: 07.05.2025; in Russian).

Galetskii V.F. (2005). Demographic aspects of Russia's sustainable development. *Problemy prognozirovaniya=Studies on Russian Economic Development*, 6, 161–171. Available at: https://cyberleninka.ru/article/n/demograficheskie-aspekty-ustoychivogo-razvitiya-rossii (accessed: 07.05.2025; in Russian).

Gesthuizen M., Graaf P.M., Kraaykamp G. (2005). The changing family background of the low-educated in the Netherlands: Socio-economic, cultural, and socio-demographic resources. *European Sociological Review*, 21(5), 441–452. DOI: 10.1093/esr/jci031. Available at: https://www.researchgate.net/publication/30483640_The_Changing_Family_Background_of_the_Low-Educated_in_the_Netherlands_Socio-Economic_Cultural_and_Socio-Demographic_Resources (accessed: May 7, 2025).

Gnevasheva V.A., Topilin A.V., Vorob'eva O.D. (2023). *Protsess vosproizvodstva trudovykh resursov v sovremennoi Rossii: monografiya* [The Process of Reproduction of Labor Resources in Modern Russia: Monograph]. Moscow: Prospekt. 200 c. DOI: 10.19181/monogr.978-5-89697-363-8.2021. Available at: https://www.fnisc.ru/publ.html?id=11203&type=publ (accessed: 07.05.2025; in Russian).

Gryn T.A. (1997). Internet resources for demographers. *Population Index*, 63(2), 189–204. DOI: 10.2307/3645564. Available at: https://www.jstor.org/stable/3645564 (accessed: May 7, 2025).

Ivannikova Zh.S. (2015). Labor resources and demographic situation in Russia. *Nauchnyi zhurnal molodykh uchenykh*, 2(5), 97–98. Available at: https://cyberleninka.ru/article/n/trudovye-resursy-i-demograficheskaya-situatsiya-v-rossii (accessed: 07.05.2025).

Kapitsa S.P. (2009). Demography – the limits of human growth. *Pryamye investitsii*, 5, 20–26. Available at: https://cyberleninka.ru/article/n/demografiya-predely-rosta-chelovechestva (accessed: 07.05.2025; in Russian).

Kashepov A.V. (2023). *Post-SSSR: ekonomika, zanyatost' i demografiya* [Post-USSR: Economy, Employment and Demography]. Moscow: OOO "MAKS Press". DOI: 10.29003/m3161.978-5-317-06959-9. Available at: https://ecchro.ucoz.ru/_ld/0/77_-___.pdf (accessed: 07.05.2025; in Russian).

King R. (2010). Consumer demographics: Use demographic resources to target specific audiences. *Journal of Financial Planning*. 23(12), 4–6.

Komušanac M. (2021). Demographic resources and potentials of the Middle East Mediterranean Area and national security? What can we expect in the future? In: *14th Annual International Conference on Mediterranean Studies*. Available at: https://www.atiner.gr/abstracts/2021ABST-MDT.pdf (accessed: May 7, 2025).

Lyadova V.A. (2012). On forecasting population growth and efficiency of its transformation into quality human resources. *Rossiiskoe predprinimatel'stvo=Russian Journal of Entrepreneurship*, 3, 60–64. Available at: https://cyberleninka.ru/article/n/k-probleme-prognoznoy-otsenki-prirosta-demograficheskih-resursov-i-effektivnosti-ih-transformatsii-v-ispolzuemye-trudovye-resursy (accessed: 07.05.2025; in Russian).

Marinkovic D., Trifunović M. (2023). Influence of demographic processes on multifunctional use of natural resources. In: *Natural Resources for the Development of Society in the 21st Century*, 7(7), 299–337. DOI: 10.7251/EORU2307299M. Available at: https://www.researchgate.net/publication/374452816_Uticaj_demografskih_procesa_na_multifunkcionalno_koriscene_prirodnih_resursa_Influence_of_demographic_processes_on_multifunctional_use_of_natural_resources (accessed: May 7, 2025).

Mosunova L.N. (2004). The impact of demographic processes on the reproduction of labor resources. *Vestnik OmGU. Seriya: Ekonomika*, 2, 46–49. Available at: https://cyberleninka.ru/article/n/vliyanie-demograficheskih-protsessov-na-vosproizvodstvo-trudovyh-resursov (accessed: 07.05.2025; in Russian).

Nefedova T.G., Pallot J. (2006). *Neizvestnoe sel'skoe khozyaistvo, ili zachem nuzhna korova?* [Unknown Agriculture, or why Do You Need a Cow?]. Moscow: Novoe izdatel'stvo. Available at: https://www.biznesbooks.com/components/com_jshopping/files/demo_products/nefedova-t-g-pellot-dzh-neizvestnoe-selskoe-khozyajstvo.pdf (accessed: 07.05.2025; in Russian).

Ortman J. (2024). The demographic frame. *International Journal of Population Data Science*, 9(5), 421. DOI: 10.23889/ijpds.v9i5.2914. Available at: https://ijpds.org/article/view/2914/6044 (accessed: May 7, 2025).

Pašalić S., Mastilo Z., Đurić A., Marković D. (2020). Demographic trends and the educational system of the Republic of Srpska. *ECONOMICS*, 8, 93–113. DOI: 10.2478/eoik-2020-0007. Available at: https://www.researchgate.net/publication/342910884_Demographic_Trends_and_the_Educational_System_of_the_Republic_of_Srpska (accessed: May 7, 2025).

Pomazkin D., Filippov V. (2022). Demographic resource for data analysis and visualization. *Population and Economics*, 6(3), 117–124. DOI: 10.3897/popecon.6.e81027. Available at: https://www.researchgate.net/publication/365493624_Demographic_resource_for_data_analysis_and_visualization (accessed: May 7, 2025).

Quinn B. (1999). Exploring statistics and demography resources on the web. *Internet Reference Services Quarterly*, 4(1), 9–33. DOI: 10.1300/J136v04n01_03. Available at: https://ttu-ir.tdl.org/bitstreams/9dde0b3f-7aed-4fc7-95d6-d2fe357e5631/download (accessed: May 7, 2025).

Rostovskaya T.K. (2014). Youth as strategic socio-demographic resources of Russia and the European Union. *Voprosy upravleniya*, 2(8), 176–179. Available at: https://cyberleninka.ru/article/n/molodezh-kak-strategicheskiy-sotsialno-demograficheskiy-resurs-rossii-i-evrosoyuza (accessed: 07.05.2025; in Russian).

Rostovskaya T.K. (Ed.). (2022). *Demograficheskoe razvitie Rossii v kontekste natsional'noi bezopasnosti: monografiya* [Demographic Development of Russia in the Context of National Security: Monograph]. Moscow: Prospekt. DOI: 10.19181/monogr.978-5-392-36915-7.2022. Available at: https://www.isras.ru/files/File/publ/publ2022/Demograf_razvitie_Rossii_monograf_2022.pdf (accessed: 07.05.2025; in Russian).

Rostovskaya T.K., Kalachikova O.N. (2022). The value of the first registered marriage as a determinant of a successful young family: A sociological analysis. *Logos et Praxis*, 21(1), 54–65. DOI: 10.15688/lp.jvolsu.2022.1.6. Available at: https://cyberleninka.ru/article/n/tsennost-pervogo-zaregistrirovannogo-braka-kak-determinanta-blagopoluchnoy-molodoy-semi-sotsiologicheskiy-analiz (accessed: 07.05.2025; in Russian).

Rostovskaya T.K., Knyaz'kova E.A. (2022). State policy towards a young family: Expert review. *Zhenshchina v rossiiskom obshchestve=Woman in Russian Society*, 1, 22–31. DOI: 10.21064/WinRS.2022.1.2. Available at: https://cyberleninka.ru/article/n/gosudarstvennaya-politika-v-otnoshenii-molodoy-semi-ekspertnyy-obzor (accessed: 07.05.2025; in Russian).

Rostovskaya T.K., Ryazantsev S.V. et al. (2025). *Demograficheskoe razvitie Rossii: stanovlenie i evolyutsiya nauchnoi shkoly L.L. Rybakovskogo: monografiya, posvyashchennaya pamyati vydayushchegosya uchenogo v oblasti demografii d.e.n., professora Leonida Leonidovicha Rybakovskogo* [Demographic Development of Russia: Formation and Evolution of the Scientific School of L.L. Rybakovskii: Monograph Dedicated to the Memory of an Outstanding Scientist in the Field of Demography, Doctor of Economics, Professor Leonid L. Rybakovskii]. Yaroslavl:

Filigran'. Available at: https://cloud.idrras.ru/wp-content/uploads/2025/04/Демографическое-развитие-России-монография-с-обложкой-1.pdf (accessed: 07.05.2025; in Russian).

Rostovskaya T.K., Sitkovskii A.M. (2024). Demographic development resources: On the unification of concepts in demographic research. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast,* 17(1), 178–200. DOI: 10.15838/esc.2024.1.91.10. Available at: https://cyberleninka.ru/article/n/resursy-demograficheskogo-razvitiya-k-voprosu-ob-unifikatsii-ponyatiy-v-demograficheskih-issledovaniyah (accessed: 07.05.2025; in Russian).

Rostovskaya T.K., Zolotareva O.A. (2022). Demographic stability as a priority of the RF demographic policy. *Voprosy upravleniya=Management Issues*, 3, 6–18. DOI: 10.22394/2304-3369-2022-3-6-18. Available at: https://cyberleninka.ru/article/n/demograficheskaya-stabilnost-kak-prioritet-demograficheskoy-politiki-rossiyskoy-federatsii (accessed: 07.05.2025; in Russian).

Ruggles S. (2014). Big microdata for population research. *Demography*, 51, 287–297. DOI: 10.1007/s13524-013-0240-2. Available at: https://ideas.repec.org/a/spr/demogr/v51y2014i1p287-297.html (accessed: May 7, 2025).

Ryazantsev S.V. (2021). Migrant workers as a resource for the demographic development of Russia and the Republic of Kazakhstan. *Bulletin of the National Academy of Sciences of the Republic of Kazakhstan*, 2(390), 204–212. DOI: 10.32014/2021.2518-1467.71. Available at: https://journals.nauka-nanrk.kz/bulletin-science/article/view/221/97 (accessed: May 7, 2025).

Rybakovskii L.L. (2003). *Demograficheskaya bezopasnost': populyatsionnye i geopoliticheskie aspekty* [Demographic Security: Population and Geopolitical Aspects]. Moscow: Ekon-Inform.

Rybakovskii L.L. (2011). Migrant workers and their contribution to the replenishment of Russia's labor potential. *Izvestiya vysshikh uchebnykh zavedenii. Povolzhskii region. Obshchestvennye nauki*, 1(17), 47–55. Available at: https://cyberleninka.ru/article/n/trudovye-migranty-i-ih-vklad-v-popolnenie-trudovogo-potentsiala-rossii (accessed: 07.05.2025; in Russian).

Rybakovskii O.L. (2023). Demographic potential: Essence, structure and main factors. *Uroven' zhizni naseleniya regionov Rossii=Living Standards of the Population in the Regions of Russia,* 19(3), 319–326. DOI: 10.52180/1999-9836_2023_19_3_1_319_326. Available at: https://cyberleninka.ru/article/n/demograficheskiy-potentsial-suschnost-struktura-i-osnovnye-faktory (accessed: 07.05.2025; in Russian).

Shabanov V.L. (2013). Demographic resources of the village: Problems and prospects. *Nikonovskie chteniya*, 18, 432–435. Available at: https://cyberleninka.ru/article/n/demograficheskie-resursy-sela-problemy-i-perspektivy (accessed: 07.05.2025; in Russian).

Velkoff V. (2024). Modernizing the U.S. Census Bureau's demographic programs. *International Journal of Population Data Science*, 9(5), 421. DOI: 10.23889/ijpds.v9i5.2913. Available at: https://ijpds.org/article/view/2913/6042 (accessed: May 7, 2025).

Vikström P., Larsson M., Engberg E., Edvinsson S. (2023). The demographic database – history of technical and methodological achievements. *Historical Life Course Studies*, 13, 89–102. DOI: 10.51964/hlcs12163. Available at: https://www.researchgate.net/publication/369671739_The_Demographic_Database_-_History_of_Technical_and_Methodological_Achievements (accessed: May 7, 2025).

Vishnevskii A.G. (2004). Five Challenges of the new century: Report at the conference "Russia facing Demographic Challenges of the 21st Century" (Moscow, December 18–19, 2003). *Mir Rossii*, 2, 3–23. Available at: https://mirros.hse.ru/article/view/5259/5634 (accessed: 07.05.2025; in Russian).

Vishnevskii A.G. (2013). The new role of migration in Russia's demographic development. In: *Migratsiya v Rossii 2000–2012. Khrestomatiya v 3 tomakh. T. 1: Migratsionnye protsessy i aktual'nye voprosy migratsii* [Migration in Russia 2000–2012. Anthology in 3 Volumes. Vol. 1: Migration Processes and Current Migration Issues]. Moscow: Spetskniga. Available at: https://publications.hse.ru/pubs/share/folder/muxlip35sh/117638510.pdf (accessed: 07.05.2025; in Russian).

Zhukov V.I. (2013). Demographic potential of Russia and the countries of the world. *Uchenye zapiski Rossiiskogo gosudarstvennogo sotsial'nogo universiteta*, 1(1), 4–15. Available at: https://elibrary.ru/qcrrly (accessed: 07.05.2025; in Russian).

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Age-Related Features of Preparing for Old Age: Population Strategies in the Context of Implementation of State Programs for Older Adults

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Abstract. Against the background of global population aging and the transformation of public perceptions of old age, it becomes relevant to search for effective measures to ensure a high quality of life for the elderly. Of particular interest is the understanding of how the efforts undertaken by different socio-demographic groups to prepare for old age correlate with support measures and conditions created in the framework of state social policy for older adults (national projects “Older Generation” and “Long and Active Life”, strategy of actions in the interests of senior citizens in the Russian Federation, etc.). Thus, the aim of the work is to identify strategies for preparing for old age in different age groups. This will make it possible to trace the consistency of individual practices with the public policy, and to assess its potential and limitations. The empirical basis includes data from a sociological survey of the adult population of the Vologda Region (N = 1,500) conducted in January – February 2025. We use cluster and factor

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analysis methods to study the relationship between value concepts of a prosperous old age and strategies for preparing for it, as well as to establish age-specific features of their perception and formation. We find that good health, financial stability and family ties form the basis of subjective ideas about prosperous old age. Cluster analysis reveals the variability of their combinations, which indicates the absence of a single normative image of prosperous old age. We identify four main components that form strategies for preparing for old age: activity, labor, social, and health. It is proved that each age group chooses its own trajectories to prepare for old age. The revealed imbalances between the ideas of prosperous old age and the practices of achieving it indicate a low level of preparation for old age. The findings of the study provide useful information for the development and revision of targeted social policy programs and national projects aimed at improving the quality of life at any age.

Key words: prosperous old age, strategy, social policy, clusters, health, labor activity, social ties.

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Introduction

Modern social sciences consider old age not as a regular biological period, but as a dynamic and multidimensional social phenomenon formed by the interaction of individual strategies, cultural norms and structural conditions (Pavlova et al., 2021; Vidiasova, Grigoryeva, 2023). Old age, historically perceived as a time of near death, dependence, weakness and loneliness, is now perceived as a special period of life due to global population aging, adulthood of cohorts born in times of population explosion and increase in the required quality of life (Rogozin, 2012; Grigoryeva, Vidiasova, 2024). Within the "successful aging" and "active longevity" paradigms, widely represented in domestic and foreign works and often used as the conceptual basis of social policy toward the older adults in different countries, the elderly are positioned not only as recipients of assistance, but also as active subjects of social life and carriers of resources – social capital, professional experience, civic engagement. However, this progressive narrative faces persistent contradictions.

On the one hand, the value of maintaining productivity and autonomy in later life is declared, which implies maintaining physical and cognitive function, and social integration (Rowe, Kahn, 1987; Kerschner, Pegues, 1998). On the other hand, stereotypes of helplessness and vulnerability of older people persist, exacerbated by agism in the labor market and in the public space. In particular, according to a "Romir" study, about 25% of Russians agree to some extent with the statement that "older adults are a burden for young people"[1,2]. Moreover, over half of the respondents faced cases of agism in their professional activities, including denial of jobs or forced retirement due to old age[3]. Moscow scholars, based on data from the 2022 initiative study "When does old age begin?", emphasize that despite "the prevalence of values of respect for the elderly with a positive assessment of their contribution to society", "there is a risk

[1] One in four Russians called old people a burden for young people. RBC. Available at: https://www.rbc.ru/society/09/12/2020/5fcf9ae39a7947784667e267?fbclid=IwAR1KWOwDCLkOknmNRlX7BxxBM6MaH6cxoIF4cBypewXToMHbyYONvgZeCJQ (accessed: April 25, 2025).

[2] Assessment of the well-being of older adults based on open statistical data, 2019. To be accurate. Available at: https://tochno.st/materials/starost-v-regionakh-rossii#source102 (accessed: April 25, 2025).

[3] Agism. About cases of agism at work and beyond. FOM. Available at: https://fom.ru/TSennosti/14482 (accessed: April 25, 2025).

that a significant proportion of respondents have fixed negative stereotypes about the elderly, which not always correspond to reality" (Lyalikova et al., 2023, pp. 112–113). The image of old age developing in such a context reinforces normative expectations in the public consciousness, which subsequently have a regulating effect on the behavior of individuals (Anikina, Ivankina, 2019).

It is important to note that the growing awareness of the need to prepare for old age, fueled by the popularization of gerontological knowledge, does not lead to a massive transformation of behavioral patterns of this period of life. Sociological data show that only about a quarter of Russians (24%) are taking active steps to prepare for old age: they work a lot, make savings, and arrange housing[4]. Retirement savings remain a rare practice: only 16% of working Russians save for this purpose (mostly people aged 25–44, residents of Moscow, Saint Petersburg and million-plus cities)[5]. Current research (December 2024) also shows skepticism about the new long-term savings program: about one in five (22%) expresses a potential willingness to participate in it, but only 5% of them are ready to participate in the next 1–2 years, while the rest postpone the decision for 3–5 years6. This may indicate both low confidence in such initiatives or an intention to verify the effectiveness of the program, and the predominance of short-term priorities in individual planning. In terms of health-saving behavior, the conclusions about the types of population by health-saving attitudes are indicative (Korolenko, 2021). The existence of a cluster "not motivated to take care of health, caring little or not caring at all, but recognizing personal responsibility for it", which mainly consists of men aged 30–60 and women over 55 years old, and shows that many positive practices (abstinence from smoking, timely medical care, regular hours, healthy eating, sports, etc.) are ignored in this group (Korolenko, 2021).

The gap between the cognitive acceptance of the norms of healthy aging and their practical implementation is due to a set of objective and subjective constraints. The former ones include structural aspects: economic inequality, which hinders the use of pension, insurance, and investment tools, a shortage of affordable disease prevention programs, lack of legislative mechanisms to protect from agism, etc. Subjective constraints include socio-cultural and psychological factors: an inner belief in the irresistibility of age-related changes, a tendency to short-term planning, the perception of old age as a "period of natural decline", the hope for family as the main source of support, as well as the conflict between individual values and dominant cultural scenarios.

National projects and government programs, such as "The Older Generation", "Long and Active Life", and the strategy of actions in the interests of senior citizens in the Russian Federation up to 2030, declare goals for developing the personal potential of older adults, maintaining their health, social inclusion, and financial stability. However, these initiatives often ignore the actual life strategies of citizens, which are formed under the influence of the limitations outlined above. These programs do not take into account spatial inequality: access to high-quality medicine, educational courses for the elderly, and digital services is sharply reduced outside of large cities and has restrictions depending on the region. There is a contradiction between the normative prescriptions "how to age correctly and successfully" and the everyday practices of the population, which in many ways turn out to be reactive, being a response to crises, rather than the

[4] Old age. Are there advantages in old age and do I need to prepare for it in advance? FOM. Available at: https://fom.ru/Obraz-zhizni/15082 (accessed: April 25, 2025).

[5] The non-accumulative effect, or Russians about retirement savings. VCIOM. Available at: https://wciom.ru/analytical-reviews/analiticheskii-obzor/nenakopitelnyi-ehffekt-ili-rossijane-o-pensionnykh-sberezhenijakh (accessed: April 25, 2025).

[6] Time is money, or About the long–term savings program. VCIOM. Available at: https://wciom.ru/analytical-reviews/analiticheskii-obzor/vremja-dengi-ili-o-programme-dolgosrochnykh-sberezhenii (accessed: April 25, 2025).

result of conscious planning. In such circumstances, the concepts of active longevity and successful aging promoted by the state can remain a rhetorical construct unrelated to the real lives of most citizens.

All government initiatives imply that prosperous old age is formed in the context of "a life perspective that considers the influence of experience gained in the early periods of life on the nature of human aging in the future" (Golubeva, 2015, p. 635; Korolenko, 2022, p. 5), which means that old age ceases to be predetermined, and its construction increases request for individual training and provision of necessary conditions for the implementation of life strategies. This requires a review of social policy aimed not only at promoting "correct" practices, but also at removing systemic constraints that turn agency into the privilege of educated and economically stable segment. Understanding these processes is necessary to predict future scenarios where old age can become both a period of realization of accumulated capital and a period of marginalization, aggravated by the inability to adapt to the speed of technological and social changes.

Consequently, *the research issue* lies in the contradiction between the universality and inevitability of old age as a life period and the heterogeneity of ways of preparing for it, due to the socio-cultural, economic and institutional features of Russia. Despite the general understanding of the need for advance planning, as well as the implementation of national projects and programs such as "The Older Generation", "Long and Active Life", strategy of actions in the interests of senior citizens in the Russian Federation, etc., Russia is characterized by a significant gap between the declaration of the importance of health, financial independence, labor or other activity, social inclusion in old age and the actual behavior of the population. This contradiction requires an analysis of individual life strategies.

In this regard, the aim of our study was to identify strategies for preparing for old age in different age groups based on the analysis of the relationship between their concept of "prosperous old age" and actual practices of preparing for it. This will allow tracing the consistency of individual practices with the measures of public policy, assess their potential and limitations in supporting the population. The logic of the study involves determining the dominant values of "prosperous old age" in Russian society (using the example of the Vologda Region), analyzing strategies for preparing for old age with the emphasis on their prevalence in different age groups, identifying gaps between values and behavior by distinguishing the points where the declared goals are not transformed into actions (for example, the high importance of "health in old age" with disregard of preventive measures and health-saving practices).

Such studies are important for government authorities, social institutions, non-profit organizations, and other agents working with the elderly, because identifying "gaps" between stated goals (for example, "I want to be healthy in old age") and actual practices (lack of savings, low physical activity, disregard of therapy for chronic diseases) will help develop targeted management actions. In addition, the findings will contribute to the development of research on prosperous old age and strategies for achieving it based on studying old-age-related preventive practices and values.

Literature review

In numerous socio-gerontological studies of old age, one of the most discussed paradigms is successful aging, which was introduced into scientific community in the 1960s by R. Havighurst. An American lecturer and researcher in the field of psychology and sociology of aging held the view of the natural scenario of the relationship between an elderly and society and defined "successful aging" as an inner feeling of happiness and satisfaction with present and past life (Havighurst, 1963). Subsequently, as part of the evolution of gerontological approaches, such areas as healthy aging (physical health and disability prevention), active aging (continued work and social engagement), productive aging (long-term employment as a benefit to society), positive aging (subjective perception of old age as a period of opportunities), etc. (Evseeva, 2020). Despite the terminological differences, all these models share a focus on achieving an optimal aging scenario that combines objective indicators (physical health, social activity) and subjective life satisfaction (Belekhova et al., 2024).

Empirical studies based on these theories identify such key components of the life strategies of the elderly as work providing identity and economic stability, health care through prevention and management of age-related changes, as well as social inclusion aimed at maintaining connections and overcoming isolation. The analysis of such strategies is carried out both retrospectively through the lens of biographical experience and in the context of current practices using sociological surveys, which allows us to take into account the diversity of aging trajectories depending on cultural, economic and individual factors.

In many foreign works, the study of behavioral practices in old age is based on the concept of successful aging by Rowe and Kahn, who developed the ideas of R. Havighurst. Within this concept, the analytical model of aging strategies is determined by a combination of components such as the absence of disease and disability, as well as difficulties in performing daily activities, high cognitive function, and active social engagement (Rowe, Kahn, 1987). Based on data from national surveys of several Asian countries (China, Japan, South Korea; 6479 participants aged 65 to 75 years in total) conducted in 2008–2011, it was found that the proportion of older adults who fully met the criteria for successful aging was less than a fifth of the sample (17.6%) (Nakagawa et al., 2021). Generalized and country-specific indicators of successful aging varied within and between countries, even after taking into account individual socio-demographic factors (age, gender, and education). The analysis showed that the chances to successfully age were highest in Japan and lowest in China, especially in rural areas. In addition, younger age and male gender increased the likelihood of successful aging (Nakagawa et al., 2021). Based on the results of the Health and Retirement Study (HRS) for 1998–2004, American scientists assessed the prevalence of the successful aging among older Americans (65 years and older) and showed a decrease in its prevalence over time, including after considering individual socio-demographic factors (age, gender, education and ethnicity) (McLaughlin et al., 2010). Such results indicate the significant role of macro-level social factors (health and social protection system, economic conditions) in ensuring successful aging, which is also confirmed by the conclusions based on the data from the Survey of Health, Aging, and Retirement in Europe (SHARE), conducted in 2004–2007 in Israel and 14 European countries based on a sample of the population aged 65 years and older (Hank, 2011).

Other studies of life strategies in old age, carried out by foreign authors, reveal the complex relationship between the subjective perception of aging, the stability of personality patterns and available resources. The work of Keller and his colleagues (Keller et al., 1989), based on in-depth interviews with 32 adults aged 50–80 years, demonstrated the paradoxical perception of old age: despite the predominance of negative associations with age-related changes (loss of health, loss of loved ones), the majority of respondents assessed this period as positive. Effective coping strategies, including compensation for limitations, stress management, maintenance, social engagement, and changes in life orientations, have become key factors in this contradiction (Keller et al., 1989). At the same time, there are five models of positive and negative aging experiences:

1) aging as a natural and gradual process without remarkable features;

2) aging as a period of life evaluation, philosophical reflection;

3) aging as a period of increased freedom, new interests, and fewer demands;

4) aging as a period associated with physical health difficulties;

5) aging as a period of losses, both interpersonal and job related.

The key message of the paper, which is in the fact that subjective well-being in old age is formed not by the absence of problems, but by the ability to cope with them through internal activity, laid the foundation for studying aging as a process controlled by personal resources.

A longitudinal study by Coleman and co-authors (Coleman et al., 1998) complemented these findings by revealing the persistence of life themes in old age. Scholars have shown that family relations, the desire to maintain independence in everyday life and own home are central elements of the identity of older people, even in conditions of physical and social limitations. Further studies of life strategies in old age once again showed the multidirectional nature of aging, consisting in the connection between positive and negative characteristics of this period, and also confirmed the link between individual resources (health, income, education, social ties, etc.) and the perception of aging. For example, a high subjective assessment of health and a low level of loneliness shift the focus from physical decline, reinforcing a positive perception of personal growth and self-empowerment (Steverink et al., 2001).

The reviewed foreign studies allow us to identify two complementary aspects of the development of life strategies in old age. On the one hand, they reflect the persistence of basic life values, on the other, they require flexible adaptation to changing conditions through resource mobilization. Thus, understanding personal resources and capabilities becomes a key factor in effectively addressing the problems of aging and forming successful coping strategies that ensure a high level of subjective well-being in old age.

The Russian scientific tradition has also accumulated a significant amount of theoretical and applied works on the image and lifestyle of older people, strategies for their social behavior and problems of adaptation to modern conditions. Some of the studies are based on the conceptual foundations of the active longevity paradigm. In particular, based on a 2023 survey of senior citizens of the Sverdlovsk Region over 60 years old (417 people), it was found that active longevity for people of the Urals is primarily associated with maintaining health (90.7%), physical activity (66.9%), confidence in the future (38.1%), communication and social relations (27.8%) (Kas'yanova et al., 2023). Such social roles as "mentor", "parent", "friend", and "enthusiastic person engaged in what they love" are identified as the most typical for the elderly. Older people of the Urals are aware of the importance of different types of activity, but they are poorly implementing them in practice. Also, many of them do not try to plan their activities for the future: plans are limited to a week or a month. The preferred activities of older adults are those for their own pleasure (hobbies) and to keep fit, paid for mainly with their own funds (Kas'yanova et al., 2023).

Another example of studying old-age-related life strategies within the concept of active longevity is a study conducted by scientists from Vologda Research Center of RAS. According to the sociological survey "Active longevity and its factors" conducted in 2021 in the Vologda Region, respondents named maintaining good health throughout their lives as a key component of active longevity (53%), while maintaining social ties took the second position (31%), the possibility of long-term work – the third (25%). The practices of self-development, education, and hobbies were given low priorities (Korolenko, 2022). At the same time, almost one in five (18%) does not take aimed actions to maintain a long and active life, and among the measures implemented, the most common are maintaining family relations and regular communication with friends. Health-saving practices such as physical activity, proper diet, stress management, abstinence from bad habits, and trips to doctors are even less common. The study highlights the main contradiction: the expressed attitudes toward active longevity among the inhabitants of the region do not transform into systemic actions. Measures to maintain health, which is given top priority among values, are actually less frequent than those to maintain social ties (Korolenko, 2022).

In the socio-psychological research, the authors identify several strategies for adaptation in old and very old age – a closed-loop strategy, which means preserving oneself as an individual, and an alternative strategy, which means preserving oneself as a person. It is noted that women's and men's adaptation to old age has specific differences due to gender-specific lifestyle features: men identify themselves as specialists in their area, while women more often associate themselves with family responsibilities and household management (Dvoryanchikov, Sokolinskaya, 2017).

In studies on the life strategies of the elderly, special attention is paid to the role of work as a key factor of adaptation in a post-industrial society. This "work-oriented approach" is implemented in a study within the project "Peculiarities of employment and career of the elderly in modern Russia", based on the 2022 all-Russian survey of pensioners (55–59 years old; 60–65; 66–74; 75+) from 71 constituent entities. Two basic life strategies of pensioners have been identified: active – orientation toward continuing to work (typical for those who work and plan to continue working, as well as for those who do not work but are seeking to find work); passive – orientation toward life without work (typical for those who have completed their work or plan to complete it) (Barkov et al., 2022). The choice of an active strategy correlates with gender, age, and educational characteristics: it is more often followed by men, relatively young respondents, and people with higher education. The study found that women are guided by social motives (the desire to avoid loneliness) and passion for the profession, while for men over 65 it is important to work because it is their habit. It is separately noted that pensioners with high incomes (for example, if they are helped by their children) consider work primarily as a tool for self-realization, which emphasizes the link between economic stability and the possibility of choosing meaningful practices (Barkov et al., 2022).

A similar logic is found in the works of Penza researchers who, based on data from their interregional surveys of pensioners (2018–2019) and employers (2018), studied the behavioral practices of older people associated with improving well-being (Shchanina, 2021). The typology was based on the nature of social activity. It was determined that 66% of elderly people implement active behavioral practices, and 34% – passive ones. At the same time, active practices are divided into constructive and reactive ones. In constructive behavioral practices, an elderly person either influences the social environment, or realizes his or her potential through creative activities and new forms of social interaction, or maintains current social ties without changing the environment. In reactive practices, older adults try to compensate for losses and reduce the damage caused by retirement age. The paper shows that among the most common practices aimed at improving one's well-being, in addition to receiving a retirement pension, include work, financial behavior, and self-sufficient farming in order to generate additional income. At the same time, the level of activity of pensioners varies and is determined by the number of simultaneously selected and implemented practices (Shchanina, 2021).

Leaving aside the "life strategy" concept and a large number of synonymous terms (model, attitude, behavioral practices, etc.), we note that a very apt definition of life strategy in old age is presented in the study (Budyakova et al., 2024): life strategy is a general plan in line with a goal that is vital for the functioning and development of a person, which requires the mobilization of resources both of previous ages and current to ensure a safe comfortable life of older adults. The authors of this study used biographical, autobiographical methods and meaningful content analysis to research the life strategies of older people. The analysis was carried out on biographies of famous personalities and information from websites where the problems of the elderly are actively discussed. Such strategies as work, family, home/dacha, sports, hobbies, religion and sacrifice were identified and described. It is determined that the leading activity of older adults is work. However, the work strategy cannot be implemented by everyone in old age for a number of objective reasons: job specifics, state of health, requirements of employers, regulatory restrictions, etc. The researchers emphasize that positive strategies for living in old age should meet a number of conditions:

1) be meaningful;

2) continue the general logic of personality development in ontogenesis, so there should be conscious preparation for this period of life;

3) include different activities, at least one of which should be leading and influence all others, give them meaning;

4) be developed ensuring security of the individual, allowing to preserve dignity and self-respect in old age, to resist agism (Budyakova et al., 2024, pp. 102–103).

So, the analysis of existing works allows us to identify two key vectors. The first one focuses on structural factors: economic conditions, access to medical services, agism, etc., while the second one is based on individual resources: health, education, job prospects, and social ties. Most of the analyzed papers are either retrospective (they study the already established practices of the elderly), or consider well-being as a generalized term, without associating it with a specific period of life. Researchers record the aggregated level of life satisfaction or well-being, but rarely reveal how respondents imagine prosperous old age and what they are doing to prepare for it.

In our opinion, prosperous old age as an optimal future life is based, on the one hand, on favorable objective living conditions (environmental factors), on the other hand, on the development and implementation of appropriate individual attitudes and behavioral practices (an individual's attitude). The present study is characterized by the use of specialized methodological tools. Using survey data structured around a cluster of questions about old age, we focus on its perception as a separate period requiring preparation. Respondents are gradually guided from common associations ("What is prosperous old age?") to specific practices ("What do you currently do to achieve it?"), which allows identifying not only the declared values, but also the gap between them and everyday actions.

Data and methods

The research is based on data from the sociological survey "Population well-being" conducted by Vologda Research Center of RAS in January –

February, 2025. Data were collected with a handout survey of adults of the Vologda Region in the cities of Vologda and Cherepovets, and in eight municipal districts. The sample size was 1,500 people. The sample is representative, quota controlled by gender (men, women), age (18–24 years old, 25–34 years old, 35–44 years old, 45–54 years old, 55–64 years old, 65–74 years old, 75+ years old), economic activity (employed, unemployed, economically inactive). The sampling error is no more than 3–4%.

The logic of the paper is based on the study of the relationship between subjective ideas about prosperous old age and strategies for preparing for it in various age groups. The first part is devoted to identifying the key components of prosperous old age. To substantiate the complexity of the issue, in addition to frequency distribution of features, cluster analysis was applied, which allowed us to identify various combinations of opinions and determine the priority of components. In the second part of the paper, attention is paid to strategies for preparing for prosperous old age. Based on the data obtained on its perception, a descriptive and factorial analysis of the practices that people use to improve their lives in old age was carried out. An emphasis is on the search for age differences in behavioral strategies: from professional self-realization among young people to health care and social activity in more mature groups. The last part examines the influence of the subjective perception of prosperous old age on the choice of strategies to achieve it. For this purpose, as in the previous part, the factor weights of the components of preparation for prosperous old age are assessed by age groups of the population.

Findings

The perception of prosperous old age

The starting point for the study was to explore what people mean by prosperous old age (*Tab. 1*). According to the survey results, it is viewed mainly through the lens of good physical and mental

Table 1. Distribution of answers to the question “What does prosperous old age mean to you?”* by age group, %

Answer options	Age, years					Mean
	18–24	25–34	35–54	55–64	65+	
Good physical and mental health	83.6	77.7	75.0	71.6	76.5	**75.8**
Financial stability and adequate pension	62.3	70.5	65.5	63.1	66.8	**65.8**
Access to high-quality medical services	56.6	57.3	53.9	50.9	54.2	**54.1**
Good relations in the family and with relatives	54.9	47.3	47.9	52.8	51.1	**49.9**
Convenient and safe housing	46.7	32.3	35.4	36.5	37.9	**36.6**
Friends and a pleasant social circle	35.2	31.4	29.9	33.6	27.6	**30.7**
The opportunity to live comfortably and not work	37.7	28.6	26.8	21.0	21.9	**25.9**
Social security and access to legal aid	18.0	23.6	22.0	19.9	20.7	**21.3**
Absence of loneliness and isolation	23.8	16.4	16.0	17.7	23.2	**18.5**
The opportunity to do what I love, hobbies	23.8	18.6	13.0	17.0	11.9	**15.2**
The opportunity to continue working	11.5	9.5	10.2	10.3	5.6	**9.3**
A feeling of importance to society, family, and friends	13.1	7.7	9.2	8.5	6.3	**8.5**
Respect from others	17.2	8.2	6.2	8.5	7.5	**8.1**
Participation in social and cultural life	8.2	5.5	5.8	6.6	5.3	**6.0**
Absence of agism	6.6	4.5	5.1	5.9	6.6	**5.6**

* Respondents were allowed to choose no more than 5 options.
Note: the main components of prosperous old age that will be used in further analysis are highlighted in gray; the data are ranked by the last column of the table.
Calculated based on: data from the 2025 sociological survey of adults of the Vologda Region “Population well-being”, Vologda Research Center of RAS.

health (76%), financial stability and adequate pension (66%), access to high-quality medical services (54%), good relations in the family and with relatives (50%). Since the respondents were offered to choose up to five possible answers, we can highlight convenient and safe housing, which was considered as important by over a third (37%) of them. All other components of prosperous old age are much less significant. In particular, issues related to agism (6%), participation in social and cultural life (6%), and respect (8%) are on the periphery of public opinion. Based on this, prosperous old age is perceived primarily as a high physical and cognitive functional capacity, security, financial prosperity and stable family ties, which, in the aggregate, allows meeting basic human needs and therefore has much in common with traditional ideas about a decent life (Smoleva, Morev, 2015).

It is interesting that estimates of the main components of prosperous old age do not dramatically change by age groups. As a rule, young people get the highest share, for example, in choosing good physical and mental health, or convenient and safe housing. The latter aspect particularly stands out among people aged 18 to 24, which once again indicates the acuteness of the issue of acquiring own real estate (Savenkova, 2022). Using a broader list of characteristics of prosperous old age does not significantly improve the overall picture. For younger people, the importance of being able to live comfortably and not work, have hobbies and get respect from others is more pronounced. At the same time, the absence of loneliness and isolation is equally emphasized not only by the youngest, but also by the oldest age group.

In the process of studying the subjective perception of prosperous old age, it should be remembered that its content is determined by a set of various components that combine with each other depending on individual ideas and life experience of a person, the socio-cultural context, thereby forming an integral, but very heterogeneous image. This is clearly demonstrated in *Table 2*, which shows the results of cluster analysis. The respondents' responses were used as initial data, characterizing agreement (1) or disagreement (0) with the five key components of prosperous old age. Clusters were based mainly on two of them: convenient and safe housing (1.00), as well as good physical and mental health (0.77).

Table 2. Characteristics of clusters created based on the distribution of answers to the question "What does prosperous old age mean to you?"

Cluster	1	2	3	4	5	6
Share	15.7%	15.7%	17.5%	19.1%	19.4%	12.6%
Input field (predictor significance)	**Convenient and safe housing (1.00)**					
	0 (100.0%)	0 (100.0%)	1 (100.0%)	1 (100.0%)	0 (100.0%)	0 (100.0%)
	Good physical and mental health (0.77)					
	0 (100.0%)	1 (100.0%)	1 (100.0%)	1 (55.4%)	1 (100.0%)	1 (100.0%)
The most common response option (percentage of respondents who have chosen it)	**Financial stability and adequate pension (0.52)**					
	0 (51.5%)	0 (100.0%)	1 (79.0%)	1 (64.8%)	1 (100.0%)	1 (100.0%)
	Good relations in the family and with relatives (0.37)					
	0 (63.8%)	0 (62.7%)	1 (61.8%)	1 (57.1%)	1 (100.0%)	0 (100.0%)
	Access to high-quality medical services (0.28)					
	0 (64.7%)	1 (52.1%)	1 (100.0%)	0 (80.5%)	1 (67.4%)	0 (51.3%)

Note: since binary categorical variables were used in the cluster analysis, gray cells indicate that the most common category is 1.
Calculated based on: data from the 2025 sociological survey of adults of the Vologda Region "Population well-being", Vologda Research Center of RAS.

The optimal number of clusters was estimated with the Bayes information criterion. As a result, six stable clusters with internal consistency and differentiation were identified. All of them have approximately the same share, which varies from 13 to 19%. The silhouette value of cohesion and separation is in the middle zone (0.4), which indicates an acceptable quality of the model: the resulting clusters are distinguishable, although not completely clearly separated from each other, they make it clear how the selected components of prosperous old age intersect.

The analysis showed that the health factor is given top priority in the public perception of prosperous old age. It occurs in all clusters, with the exception of cluster 1, where negative responses dominate in all the considered positions. The importance of financial stability and adequate pension is also almost universally noted (except for clusters 1 and 2). The remaining components of prosperous old age are rarer, and they variously combine with each other. As a result, the content of the clusters is rather vague. Excluding cluster 1, we can observe that the number of components of prosperous old age ranges from two (focus on health and financial prosperity or health and medical care) to all five. Such a variety of meanings prevents the unambiguous interpretation of clusters and, consequently, their use in further work.

Strategies for preparing for prosperous old age

At the next stage of the study, we turned to the issues of preparing for prosperous old age. According to the survey data, more than half of Vologda residents noted such practices as maintenance of good relations with family members (60%), regular communication with friends and acquaintances (58%), efforts to avoid stressful situations (56%) and maintenance of their own health (55%). Actions aimed at ensuring job security are slightly less common: priority to the official employment with a salary reported for tax (45%), accumulation of uninterrupted working experience (42%) and professional development (39%). A lot of people also maintain cognitive activity (42%), use modern technologies to prolong and maintain youth and health (36%), attend cultural institutions (35%), etc. The full list of options is diverse and includes a variety of practices for preparing for prosperous old age. Among them, respondents are the least likely to engage in spiritual practices (23%), create their own sources of passive income (24%), and participate in public life (26%). Only 16% said they were doing nothing at all.

Obviously, depending on a person's age, strategies for preparing for prosperous old age will change. For some, they may be influenced by idealized pictures of distant future, while for others, they may be related to current living conditions. Exploration of these features requires the use of additional methods to reduce the set of options as characteristics of individual behavioral patterns to a small number of meanings. One of these tools is the factor analysis, which we applied to the question of actions to achieve prosperous old age using principal components analysis and orthogonal rotation (varimax with Kaiser normalization). A pre-check showed that the sample is suitable for factorization7.

Four components were extracted, reflecting integrated strategies for preparing for prosperous old age and explaining 66% of the total variance (*Tab. 3*). Based on the meaning of variables and factor weights, the components received the following symbols:

– activity component: combines practices aimed at internal development, financial independence, psychological stability and cultural

[7] The data were pre-checked before performing factor analysis. The measure of sampling adequacy according to the Kaiser – Meyer – Olkin test was 0.857, which indicates a high degree of its suitability for factorization. In addition, the presence of significant correlations between variables and the validity of the use of factor analysis are confirmed by the results of Bartlett's test of sphericity ($\chi2 = 10533.534$; df = 136; $p < 0.005$).

Table 3. A rotated matrix of components created based on the distribution of answers to the question "What do you currently do to achieve prosperous old age?"

Answer option (variable)	Component name			
	activity component	work component	social component	health component
I am engaged in spiritual practices (meditate, pray, train mindfulness)	0.775			
I create my own sources of passive income (purchase real estate for rent, invest, purchase securities)	0.767			
I prepare mentally and psychologically: learn to understand myself better, work on positive thinking, deal with my psychological struggles and traumas	0.763			
I am engaged in public life (environmental actions, book club, solving household issues together with other owners, etc.)	0.756			
I save up for a living in old age	0.708			
I visit cultural institutions (theaters, cinemas, libraries)	0.619			
I use modern technologies to prolong and maintain youth and health (for example, cosmetology)	0.447	0.400		0.432
I improve my professional qualifications		0.823		
I gain continuous working experience		0.817		
I try to work officially with a salary reported for tax		0.693		
I get additional education	0.463	0.636		
I try to get state awards that guarantee benefits and pension increase	0.488	0.562		
I maintain cognitive activity		0.416		0.410
I maintain good relations with family members			0.873	
I regularly communicate with friends and acquaintances			0.870	
I try to avoid stress				0.860
I take care of my health (visiting doctors, eating, sleeping, exercising)				0.845

Note: gray color indicates the cells with the largest contribution of the variable to the corresponding component; coefficients with values over 0.4 are displayed.
Calculated based on: data from the 2025 sociological survey of adults of the Vologda Region "Population well-being", Vologda Research Center of RAS.

activity, which may indicate a conscious preparation for prosperous old age;

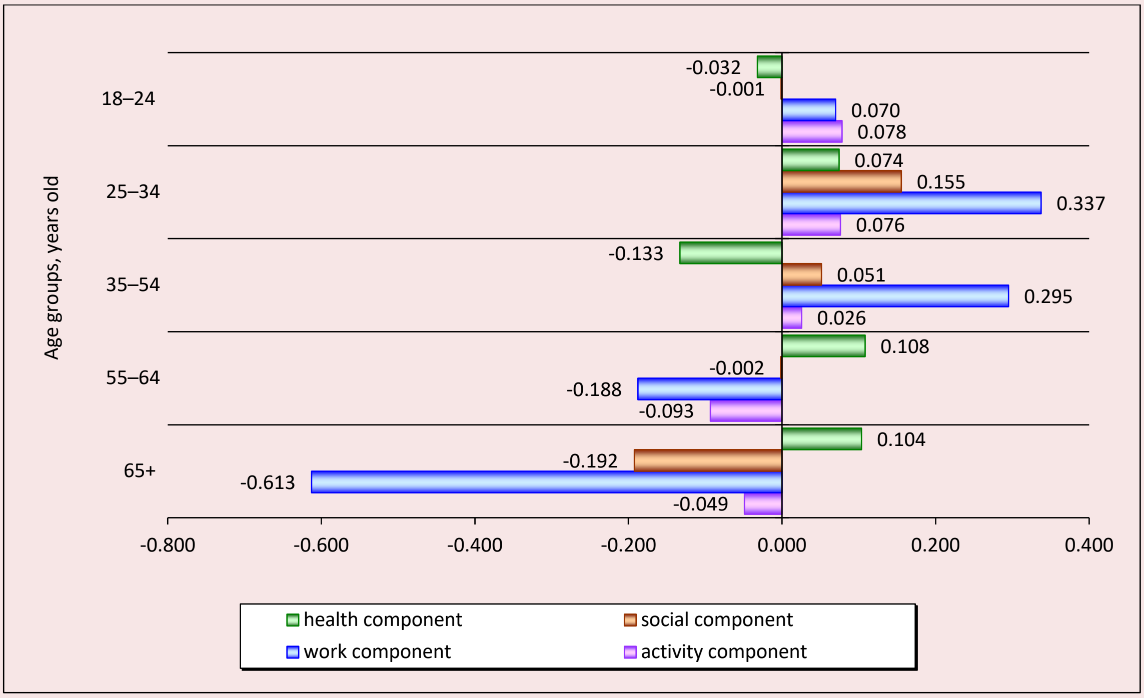
– work component: focuses on actions related to professional self-realization, proposes that prosperous old age is a result of continuous and uninterrupted working experience;

– social component: focuses on the importance of interpersonal relations, since prosperous old age largely depends on stable and deep social connections;

– health component: focuses on taking care of physical and psycho-emotional health, which emphasizes the importance of supportive practices in ensuring active longevity and prosperous old age.

Later, the selected components were used to combine with age groups in order to track changes in behavioral patterns (*Fig. 1*). For this, average factor scores for each component were calculated, which could take both positive and negative values: the former indicated a clearer manifestation of the related strategy for preparing for prosperous old age, whereas the latter indicated a lesser degree of manifestation. The results of the analysis vividly showed how priorities for living change with age.

Figure 1. Factor weights of the components of preparation for prosperous old age by age groups



Calculated based on: data from the 2025 sociological survey of adults of the Vologda Region “Population well-being”, Vologda Research Center of RAS.

Young people aged 18–24 try to achieve prosperous old age primarily through professional self-realization and various activities, while issues of health and interaction with loved ones are on the periphery of everyday practices. An older group (25–34 years old) is characterized by an increased share of the work component, reaching its maximum among all ages, which emphasizes the importance of career development as a key strategy for well-being in old age. The activity component maintains high levels, while the importance of health and social ties begin to grow, though remaining on the periphery.

In mature age (35–54 years old), the orientation toward professional self-realization continues to dominate, although its influence is reducing. The range of proactive life strategies and the frequency of interpersonal contacts are noticeably lower, while the health component value becomes negative, which indicates changes for the worse in self-preservation behavior. In the next age group (55–64 years old) the situation is changing dramatically. The only component in the positive area is health, the care of which can be perceived as a key direction for maintaining the quality of life in conditions of decreasing importance of work and reducing social activity in general.

The age group over 65 is characterized by the development of the previously outlined trends. The work component shows the greatest negative value, obviously indicating career ending. The focus remains on taking care of the physical and psycho-emotional health. Also, while the activity component is even growing slightly, the social component shows a sharp drop, which may be due to a natural reduction in the range of social ties, including due to the loss of loved ones. Thus, with age, the hierarchy of strategies for preparing for prosperous old age changes from focusing on activities and professional self-realization in youth to increasing attention to health in old age.

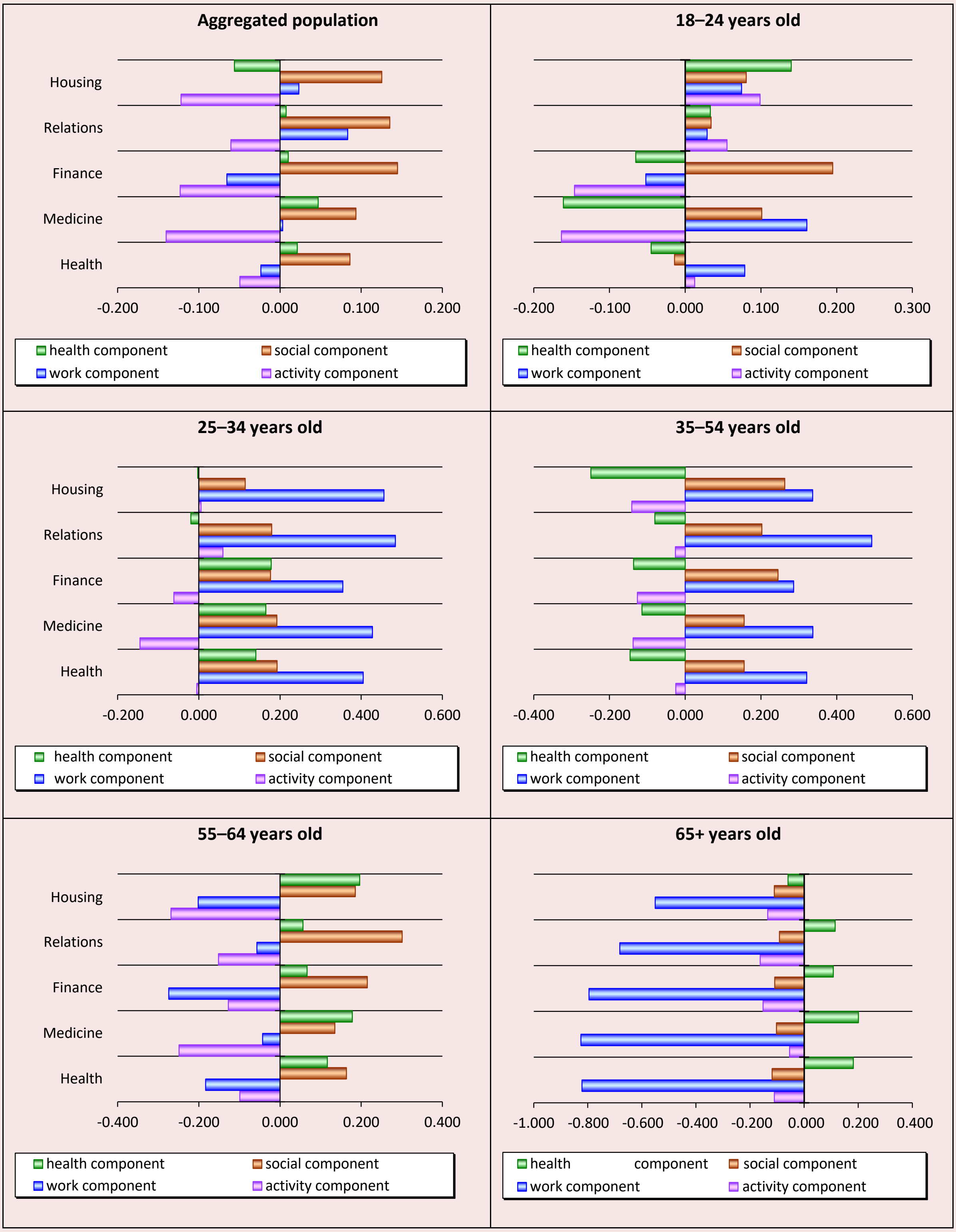
The results of the analysis demonstrate a dynamic transformation of strategies for ensuring prosperous old age, which reflects both age-related changes in priorities and contradictions between the ideas of successful aging and the actual possibilities of their implementation. In youth, the dominant attitude is toward active future building through professional self-realization and multitasking, which corresponds to the concepts of active longevity and successful aging, emphasizing continuous development and social inclusion. However, the hyperfocus on career and productivity in middle age (25–54 years old) is accompanied by less attention to health and social connections, which contradicts the basic principles of successful aging (Rowe, Kahn, 1997), requiring a balance between physical, cognitive and social well-being. After 55 years of age, health becomes the only supported component, while work and social strategies lose their importance. This may indicate that the idea of remaining active in all areas of life inevitably faces the realities of age restrictions and objective losses (narrowing social circle, career ending, decreasing health potential), which in turn imposes restrictions on the universality of the paradigms of active longevity and successful aging. The collected data emphasize that social programs supporting the elderly should take into account the non-linearity of life trajectories, rather than using a single pattern like active longevity or successful aging, and develop flexible solutions that support health as the basis of the well-being in old age and create conditions for the reestablishment of social ties and alternative forms of self-realization after retirement.

The influence of subjective perception of prosperous old age on strategies for preparing for it

In addition to age characteristics (including generational), strategies for preparing for prosperous old age depend on how it is viewed by people. Previously, we identified five main components of it: good physical and mental health, financial stability and adequate pension, access to high-quality medical services, good relations with family and relatives, comfortable and safe housing. To make their indication more straightforward, they were further referred to as “health”, “finance”, “medicine”, “relations” and “housing”. The predominance of one or another vision of prosperous old age, despite the complexity of combining different perspectives, as demonstrated by cluster analysis, should have an impact on behavioral patterns. The assessment of factor weights fully confirms this thesis, although in some cases it is problematic to explain the results (*Fig. 2*).

The example of the aggregated population clearly shows how the perception of prosperous old age through the lens of health or medicine leads to pronounced self-preservation behavior strategies. However, such positive relationship is not observed when it comes the emphasis on financial prosperity and professional self-realization. It would be logical to expect that in such a situation people would put efforts into accumulating resources through hard work, but actually such correlation is very rare and often occasional. At the same time, prosperous old age viewed as good relations with family and relatives is closely linked to work, which is hardly obvious. Such a bias can be caused both by the limitations of the methodological tools used and by the specifics of cognitive processes. In particular, the inclination toward short-term goals, as well as systematic errors in predicting the future, can disrupt the integrity of the perception of ways to achieve prosperous old age, reducing the consistency and stability of appropriate behavioral attitudes.

Figure 2. Factor weights of the components of preparation for prosperous old age, considering its subjective perception by age groups



Calculated based on: data from the 2025 sociological survey of adults of the Vologda Region “Population well-being”, Vologda Research Center of RAS.

Subjective ideas about prosperous old age have the least impact on the strategies of people over 35 years of age. The average factor scores for each component here do not change their sign and differ by several tenths. The only exception is the oldest group, in which the perception of prosperous old age as comfortable and safe housing causes a decrease in health indicators. The main changes relate to young people, which underlines the need for in-depth analysis to identify more well-founded patterns and a deeper understanding of the mechanisms of influence of ideas about prosperous old age on strategies to achieve it in different age groups. In further research, additional factors will be considered that allow clarifying the observed differences and conclusions drawn.

Nevertheless, the present study clearly demonstrates the inconsistency between subjective ideas about prosperous old age and actual (declared) strategies for preparing for it. The fact that the emphasis on health and access to high-quality medical care is reflected in self-preservation behavior, while the focus on financial prosperity is hardly translated into active accumulation of resources, indicates the difficulty of materializing existing ideals into behavioral practices (for example, people tend to declare the importance of financial stability, but are not always willing to sacrifice current comfort for the sake of long-term goals). It is significant that subjective beliefs have little effect on life strategies for people over 35 years of age. This suggests that in mature age, the goals become less flexible, and attempts to change behavior encounter developed habits and limited resources. The collected data emphasize that the concepts of successful aging and active longevity, which involve conscious future building, face constraints due to both thinking patterns and structural barriers (environmental features, limited personal resources). Social programs aimed at supporting prosperous old age should take into account this duality and not only promote long-term planning, but also create an environment that minimizes the gap between intentions and actions.

Conclusion

Aging and reaching retirement age represent special period of life, accompanied by a transformation of social roles, a revision of priorities and the need to adapt to changing living conditions. These processes involve not only the development of new attitudes, such as health care or maintenance of social ties, but also the restructuring of behavioral strategies in response to changes in age, physical and status characteristics of a person.

The conducted research revealed the key features of the development of life strategies of different age groups aimed at preparing for prosperous old age (using the example of latest empirical data on the Vologda Region). It was found that good physical and mental health (76%), financial stability (66%), access to high-quality medicine (54%) and stable family ties (50%) form the basis of subjective ideas about prosperous old age. Housing conditions, despite their importance for young people (37%), remain supplementary, while issues of social engagement and agism are on the periphery (6–8%). Cluster analysis confirmed the dominance of health and financial security in the structure of perception, but revealed significant variability in their combinations, which indicates the absence of a single normative image of old age in the public consciousness.

The identification of four key components of preparation for prosperous old age: activity, work, social component and health – helped to understand the structure of strategies for preparing for it. Young people (18–34 years old) are characterized by a focus on professional self-realization and various activities (professional development, financial planning), while health care and social connections become relevant in mature age (35–54 years old). In the group of people aged 55–64, the emphasis on health care dominates, and for people over 65, the decrease in work and social activity is compensated by increased attention to physical and psycho-emotional health.

The relationship between the subjective perception of prosperous old age and the actual preparation practices turned out to be ambiguous. While the focus on health and access to medicine correlates with self-preservation behavior, the attention to financial well-being does not lead to systematic actions in the field of finance and employment. An unobvious relationship has been established between the importance of family relations and work activity, which may reflect the compensatory nature of employment as a way of maintaining social ties. It has been revealed that ideas about prosperous old age have a minimal impact on the actual strategies for people over 35 years old, which casts doubt on the ability of educational resources and outreach materials to influence changes in the behavior of the population. In general, these data confirm the occasional nature of long-term planning, which is often developed as a response to current challenges rather than as a conscious strategy.

Russia's state policy toward the older generation is represented by a set of initiatives, including the national project "Long and Active Life", aimed at ensuring access to high-quality medical care, disease prevention and timely rehabilitation, including in remote and sparsely populated areas of the country, and the "Strategy of Actions in the Interests of Senior Citizens up to 2030", which is aimed at growth in prosperity and life expectancy of senior citizens. This policy comprehensively covers key areas of well-being – health protection and active longevity, strong family values and respect for the elderly, conditions for the realization of personal potential and social participation, a system of social services and comfortable infrastructure, increasing financial security of the elderly – and thereby creates an institutional environment designed to minimize structural barriers to decent life in old age. However, the findings of this study, revealing significant variability in subjective perceptions of prosperous old age and heterogeneity, often occasional, of actual strategies for preparing for it at different ages, as well as persistent gaps between values and practices, emphasize the difficulty of achieving full harmony between policy goals and the diversity of individual life trajectories. Consequently, effective promotion of prosperous old age requires government social programs not only to create common institutional conditions, but also to develop flexible solutions adapted to the age specifics and actual practices of the population, with an emphasis on supporting health as a foundation and creating opportunities for various forms of social inclusion and self-realization in old age.

The findings underscore the need to consider age-related and structural constraints (economic, territorial) when developing programs aimed at supporting the elderly. In addition, they substantiate further research on the mechanism of development of ideas about prosperous old age and their impact on behavioral strategies, as well as the creation of targeted programs that stimulate rational planning of old age. The revealed gaps between values and actual behavior require targeted measures aimed not only at promoting "correct" practices, but also at removing barriers that hinder their implementation for various socio-demographic groups. The paper contributes to understanding the mechanisms of old age building as a period of life when individual resources, cultural norms and institutional conditions intersect, determining the trajectories of well-being.

References

Anikina E.A., Ivankina L.I. (2019). Attitude toward age as a factor of safe ageing process. *Vektory blagopoluchiya: ekonomika i sotsium=Journal of Wellbeing Technologie*s, 2(33), 63–71. DOI: 10.18799/24056537/2019/2(33)/964 (in Russian).

Barkov S.A., Markeeva A.V., Kolodeznikova I.V. (2022). Life and work strategies of pensioners in contemporary Russia. *Vestnik RUDN. Seriya: Sotsiologiya=RUDN Journal of Sociology*, 22(4), 828–843. DOI: 10.22363/2313-2272-2022-22-4-828-843 (in Russian).

Belekhova G.V., Natsun L.N., Soloveva T.S. (2024). Prosperous old age: From scientific theories to the fundamentals of its programming. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 17(2), 220–238. DOI: 10.15838/esc.2024.2.92.12 (in Russian).

Budyakova T.P., Pronina A.N., Antipina E.A. (2024). Strategies for living in old age. *Psikhologiya i Psikhotekhnika=Psychology and Psychotechnics*, 2, 98–113. DOI: 10.7256/2454-0722.2024.2.70478 (in Russian).

Coleman P.G., Ivani-Chalian C., Robinson M. (1998). The story continues: Persistence of life themes in old age. *Ageing and Society*, 18(4), 389–419. DOI: 10.1017/S0144686X98006989

Dvoryanchikov N.V., Sokolinskaya E.V. (2017). Socio-psychological adaptation in later age and conditions of successful aging. *Sovremennaya zarubezhnaya psikhologiya=Journal of Modern Foreign Psychology*, 6(3), 53–62. DOI: 10.17759/jmfp.2017060306 (in Russian).

Evseeva Ya.V. (2020). The theory of successful ageing: Contemporary studies: Introduction to the thematic section. *Sotsial'nye i gumanitarnye nauki. Otechestvennaya i zarubezhnaya literatura. Seriya 11: Sotsiologiya=Social Sciences and Humanities. Domestic and Foreign Literature. Series 11: Sociology*, 1, 6–13. DOI: 10.31249/rsoc/2020.01.01 (in Russian).

Golubeva E.Yu. (2015). Modern directions of scientific and practical research of the policy of active and healthy longevity: Experience and perspectives. *Uspekhi gerontologii=Advances in Gerontology*, 28(4), 634–638 (in Russian).

Grigoryeva I.A., Vidiasova L.A. (2024). Delayed aging and late adulthood: Analysis of the dynamics of academic publications using thematic mapping method. *Zhurnal issledovanii sotsial'noi politiki=The Journal of Social Policy Studies*, 22(2), 225–242. DOI: 10.17323/727-0634-2024-22-2-225-242 (in Russian).

Hank K. (2011). How "successful" do older Europeans age? Findings from SHARE. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 66(2), 230–236. DOI: 10.1093/geronb/gbq08

Havighurst R.J. (1963). Successful aging. In: Williams R.H., Tibbitts C., Donohue W. (Eds). *Processes of Aging: Social and Psychological Perspectives. Vol. 1.*

Kas'yanova T.I., Voronina L.I., Zaitseva E.V. (2023). Active longevity: Opportunities, life attitudes and social practices of elderly. *Sotsial'noe prostranstvo=Social Area*, 9(2). Available at: http://socialarea-journal.ru/article/29642. DOI: 10.15838/sa.2023.2.38.3 (in Russian).

Keller M.L., Leventhal E.A., Larson B. (1989). Aging: The lived experience. *The International Journal of Aging and Human Development*, 29(1), 67–82. DOI: 10.2190/DEQQ-AAUV-NBU0-3RMY

Kerschner H., Pegues J.A. (1998). Productive aging: A quality of life agenda. *Journal of the American Dietetic Association*, 98(12), 1445–1448. DOI: 10.1016/S0002-8223(98)00327-7

Korolenko A.V. (2021). Health-saving attitudes as a factor promoting self-preservation behavior: Approaches to the study and experience in typology. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 14(4), 59–76. DOI: 10.15838/esc.2021.4.76.4 (in Russian).

Korolenko A.V. (2022). Active ageing in the life practices of the Vologda Oblast population. *Sotsial'noe prostranstvo=Social Area*, 8(1). Available at: http://socialarea-journal.ru/article/29201. DOI: 10.15838/sa.2022.1.33.2 (in Russian).

Lyalikova S.V., Nazarova I.B., Karpova V.M. (2023). Features of elderly people perception in Russian society. *Sotsiologicheskie issledovaniya=Sociological Studies*, 10, 104–115. DOI: 10.31857/S013216250028308-1 (in Russian).

McLaughlin S.J., Connell C.M., Heeringa S.G., Li L.W., Roberts J.S. (2010). Successful aging in the United States: Prevalence estimates from a national sample of older adults. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 65B(2), 216–226. DOI: 10.1093/geronb/gbp101

Nakagawa T., Cho J., Yeung D. (2021). Successful aging in East Asia: Comparison among China, Korea, and Japan. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 76(Supplement_1), S17–S26. DOI: 10.1093/geronb/gbaa042

Pavlova I.A., Nedospasova O.P., Barysheva G.A., Rozhdestvenskaya E.M. (2021). *Resursnyi potentsial starshego pokoleniya: monografiya* [Resource Potential of the Older Generation: Monograph]. Tomsk: STT.

Rogozin D.M. (2012). Liberalization of ageing, or labor, knowledge and health in old age. *Sotsiologicheskii zhurnal=Sociological Journal*, 4, 62–93 (in Russian).

Rowe J.W., Kahn R.L. (1987). Human aging: Usual and successful. *Science*, 237(4811), 143–149. DOI: 10.1126/science.3299702

Rowe J.W., Kahn R.L. (1997). Successful aging. *The Gerontologist*, 37(4), 433–440. DOI: 10.1093/geront/37.4.433

Savenkova A.S. (2022). Housing strategies of Moscow youth. *Teoriya i praktika obshchestvennogo razvitiya=Theory and Practice of Social Development*, 2, 44–49. DOI: 10.24158/tipor.2022.2.5 (in Russian).

Shchanina E.V. (2021). Behavioral practices of senior citizens aimed at improving their well-being in contemporary Russia. *Monitoring obshchestvennogo mneniya: ekonomicheskie i sotsial'nye peremeny=Monitoring of Public Opinion: Economic and Social Changes*, 2, 138–161. DOI: 10.14515/monitoring.2021.2.1702 (in Russian).

Smoleva E.O., Morev M.V. (2015). Living standard and value orientations of population in the region. *Problemy razvitiya territorii=Problems of Territory's Development*, 6(80), 108–126 (in Russian).

Steverink N., Westerhof G.J., Bode C., Dittmann-Kohli F. (2001). The personal experience of aging, individual resources, and subjective well-being. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 56B(6), 364–373. DOI: 10.1093/geronb/56.6.p364

Vidiasova L.A., Grigoryeva I.A. (2023). Subject field of active/delayed aging research: Results of scientometric analysis and mapping. *Vestnik Sankt-Peterburgskogo universiteta. Sotsiologiya=Vestnik of Saint Petersburg University. Sociology*, 16(1), 4–26. DOI: 10.21638/spbu12.2023.101 (in Russian).

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The Importance of Research on Reproductive Intentions for Fertility Forecasting

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Abstract. In the context of depopulation and demographic aging, the importance of forecasting population dynamics is increasing. Due to the high behavioral determinism of fertility, special attention should be paid to reproductive intentions, since they play an essential role in shaping birth rate, which in turn determines population reproduction by more than 90%. Research on reproductive behavior is carried out at both the federal and regional levels, which indicates that the array of data on reproductive intentions and their implementation has been accumulated. The aim of the work is to assess the possibility of using data on reproductive intentions in forecasting fertility. Based on the data from a reproductive plans survey carried out by Rosstat, we assess the prospects for using the empirical indicator “expected number of children”, modifying it to “expected number of more children” if the parents already have children, in comparison with the number of children born during the period in question in real generations of women born in 1970–1994. The findings of the research indicate a fairly high stability of the gap between the expected and actual number of children, which suggests the possibility of using information about reproductive intentions in order to predict fertility. We reveal that for the generations who completed fertility the mentioned difference was 0.19, for women of the last fifteen (out of 35) years of fertility – 0.3. For women under 35, the gap is more significant – 0.72. We substantiate the possibility of using data on reproductive intentions to predict births of various order, which is especially important when planning the total fertility rate and the proportion of large families. The results obtained expand methodological foundations for forecasting fertility, which is of practical importance for improving the effectiveness of family and demographic policy in Russia.

Key words: population, reproductive behavior, sociological data, fertility forecasting.

Introduction

Forecasting changes in demographic processes is one of the key tasks of demography as a science. Demographic forecasts support the validity of demographic policy targets, ensuring their feasibility or demonstrating inaccuracies in tactical and strategic planning. A number of demographic development indicators are included in the system of target indicators of national projects implemented in Russia and aimed at stopping depopulation and ensuring at least simple reproduction. In this regard, special attention is paid to stimulating fertility.

When developing demographic forecasts, it is important to take into account that the measures introduced by demographic, family, and social policies affect fertility indirectly, through demographic behavior of the population. Ideas about the future family, number of children (Kopeikina, 2006), their desired gender, the timing of pregnancies, family planning, etc. influence life trajectories, regulating, in fact, the length of intervals between marriage and first birth and between successive births, and the realized number of children. It is the behavioral nature of this fertility determinant that contributes to the lability of the population to implemented and new supportive measures for families with children, the effect of “getting used to” them and the need to monitor the characteristics of reproductive behavior for the permanent modernization of mechanisms to support and stimulate fertility, whereas the development of reproductive pro-family intentions is becoming a separate important objective on the way to saving people.

Special attention is paid to the formation of values, including family values, at the federal level. In 2022, the President of the Russian Federation signed Decree 809 “On the approval of basic principles of national policy on the preservation and strengthening of traditional Russian spiritual and moral values”, which considers traditional values as the foundation of Russian society, allowing protecting and strengthening Russia's sovereignty. The national project "Family" includes a separate federal project "Family values and cultural infrastructure", which is aimed, among other things, at the formation of traditional family values. Given the intention of the majority to have few children and pronounced signs of marriage devaluation (Shabunova, Kalachikova, 2024), such measures and a clear government position seem particularly relevant, and systematic monitoring of reproductive plans is one of the key tools for assessing the effectiveness of family and demographic policy aimed at an increase in fertility.

The aim of the study is to assess the possibility of using data on the reproductive intentions in predicting fertility.

Forecasting fertility in real generations in Russian and foreign studies

The fertility forecast is usually made on the basis of time series of calendar indicators (age-specific and total fertility rates) and an analysis of their determination. However, fertility rates in real generations can also be used for forecasting (in fact, they reflect the results of the reproductive behavior). This is most appropriate for long-term fertility forecasts, as well as in cases when the previous changes in fertility rates could have been significantly influenced by "timing shifts", i.e. when due to one reason or another there are many early or, conversely, postponed births. The calendar fertility rates depend on them, whereas the realized fertility in real generations is not affected by "timing shifts". The obtained predicted average numbers of children born in real generations are transformed into age-specific and total fertility rates.

In Russia, fertility forecasts in real generations are very rarely calculated. In 2007, specialists from the Institute of Demography of the Higher School of Economics made forecasts both on the number of children born in real generations and on the total fertility rate. However, there is no mention in the paper that one of these forecasts was calculated using the other (Zakharov et al., 2008). The forecast on the average number of children born in real generations was given in one of our works, and the forecast on the total fertility rate was calculated on its basis (Kozlova, Arkhangelskiy, 2021).

P.A. Kishenin, on the contrary, calculates forecasts on the average number of children born in real generations based on forecasts on total and age-specific fertility rates (Kishenin, 2023). Predictions for real generations based on the forecast of age-specific fertility rates for Russia and the Ozersk atomgrad (atom-city) were carried out by V.I. Telnov (Telnov, 2014; Telnov, 2021).

Among the foreign works on forecasting fertility rates in real generations, the report of T. Sobotka, K. Zeman, R. Lesthaeghe and T. Frejka (Sobotka et al., 2011) should be noted.

Unlike forecasts on total and age-specific fertility rates, if the fertility forecast is based on fertility rates of real generations, research data on reproductive intentions can be used.

The possibilities of use and degree of consistency of data on reproductive intentions for making fertility forecasts have not yet been studied sufficiently. First of all, of course, we note the paper by E.M. Andreev and G.A. Bondarskaya. The authors used data of generations of married and all women on the average expected number of children and the number of children born, according to the surveys conducted by the Demography Department of the Central Statistical Administration of the USSR since 1967, the 1985 and 1994 micro-censuses, as well as on the number of children born, according to the 1979 and 1989 censuses. Findings of the study on married women show that "on average, women perform their reproductive intentions quite accurately". However, the authors note that "for young cohorts, information about the expected number of children can be used in forecasting with great caution" (Andreev, Bondarskaya, 2000).

Foreign works containing the findings on reproductive intentions themselves and the influence of “uncertainty” factors on them are quite numerous. Depending on the field of research, reproductive intentions are measured considering either plans to have a certain number of children, or the ideal parity. Among foreign studies on the predictive validity of reproductive intentions, we primarily underline the work (Hendershot, Plaek, 1985), as well as the papers (Westoff, Ryder, 1977; Toulemon, Testa, 2005; Beaujouan, Toulemon, 2013).

Scholars actively discuss the role of socio-economic and demographic factors in shaping reproductive intentions, which should be taken into account when predicting fertility. The most common studies are those assessing the impact of education, financial security and the economic status of both women and men on reproductive intentions (Norling, 2022). The role of contraception availability, on the one hand, and reproductive technologies, on the other, is also analyzed (Alazbih et al., 2017).

There are works based on a multidimensional analysis of genealogical data, the authors of which use intergenerational approach to identifying the desired or ideal parity. The results of these studies confirm the high probability of transmission of reproductive behavior, as well as fertility-related life-course events, across generations (Anderton et al., 1987).

Modern publications suggest a new (it can be called psychological) approach to the study of the relationship between economic uncertainty and fertility using the Narrative Framework concept, suggesting that people act “according to or despite uncertainty”, linking reproductive intentions with their imagined futures created under the influence of their social environment (parents, other relatives, friends), which is to some extent related to an intergenerational approach (Vignoli et al., 2020).

Here we can also mention the results of a study based on binary longitudinal data on couples who participated in a panel analysis of the changes in their relationship over a year. Given a favorable emotional background in the couple’s relationship, the authors assessed the consistency between fertility expectations and intentions as high (Heiland et al., 2005).

To conclude, we note that, despite all the diversity, most foreign studies analyzing the predictive validity of reproductive intentions do not contain reliable methods for predicting fertility. As researchers admit, currently available prediction models are far from ideal and there is an urgent need to develop the “design” of such studies (Maheshwari et al., 2008). In this regard, we decided to evaluate the predictive validity of data on the expected number of children by comparing the intended and actual parity of women in Russia based on representative and relevant information sources.

Methodology and information base of the study

Our approach is to assess the degree of realization of reproductive intentions, recorded by statistics on births. The identification of a gap between intentions and performance (realized number of children) will become the basis for calculating correction factors that will allow assuming realized fertility in real generations of women. To do this, we will determine for each generation the average number of children born, the average expected number of children, and calculate their difference. It will show the degree of realization of reproductive intentions, and its value will measure the predictive validity of this empirical indicator. In addition, we will see intergenerational differences in reproductive intentions and the degree of their realization. Next, we will determine the average number of children born in a specific time period (2013–2023) and compare it with the reproductive intentions for this period, taking into account the data on the intention to have more children. In the sample survey of reproductive plans in 2012, a question was asked about the expected number of children ("How many children (including those you have) do you intend to have?") and the number of children born. The difference between them can be interpreted as the "expected number of more children". The data from population surveys allow assessing each respondent and calculating the average aggregate value for women of one generation.

There are changes in reproductive behavior at different parities which influence fertility rates and make it necessary to predict fertility rates differentially by parity. This is substantiated by the objective "annual growth in the total fertility rate in terms of the third and subsequent children" included in Presidential Decree 309, dated July 5, 2024 "On the national development goals of the Russian Federation for the period up to 2030 and for the future up to 2036". To this end, the answers to the question of the intention to have another child can be used differentially by parity. The corresponding question was not included in the micro-census in 2015, but it is used in the selective monitoring of reproductive intentions by Rosstat. Such a study was carried out in 2012, 2017 and 2022. The necessary microdata of the 2017 survey are not available, so we will appeal to the 2012 survey, which was conducted in only 30 regions. In this regard, a correct comparison of intentions to have another child by women cohorts based on the 2012 survey with the average number of children born in 2013–2023 in real generations by parity is possible only for individual regions or for a group of regions.

For individual regions, the number of respondents surveyed in 2012 is relatively small and random fluctuations in indicators may occur, so it is advisable to use data for a group of regions. The choice of regions for the group is determined by the following criteria:

– participation in the selective monitoring of reproductive intentions in 2012;

– accuracy of calculated fertility rates in real generations based on one-year age-specific fertility rates for a given region (accuracy degree was estimated earlier in one of our studies by comparing estimated and actual (according to the 2002 and 2010 censuses) average number of children born in real generations of women) (Arkhangelskiy, 2016);

– availability of annual age-specific fertility rates by parity for 2013–2023.

Taking into account these criteria, a comparative assessment of reproductive intentions of real generations by parity (according to the data of the 2012 sample survey of reproductive intentions) and the average number of children born over the period 2013–2023 can be made for a group that includes 20 regions: republics of Bashkortostan, Buryatia, Komi and Khakassia; Amur, Astrakhan, Belgorod, Vologda, Kaliningrad, Kaluga, Kostroma, Orenburg, Rostov, Ryazan, Samara, Sverdlovsk, Smolensk, Tver, Ulyanovsk and Chelyabinsk regions.

There are 3179 women surveyed in 20 regions born in 1967–1994. Based on the objectives of the study, it is advisable to consider the generations of women born in 1970–1994 (2911 people).

In 2023, women born in 1994 turned 29, women born in 1967 turned 56, which is significantly higher than the limit of reproductive age, while women born in 1970 turned 53 (49 years – born in 1974).

In other words, the survey allows assessing the similarity of reproductive intentions and realized fertility of generations older than 1974, identifying relevant correction factors and, on their basis at the next stage of the study, assuming realized fertility for childbearing-aged women over 29.

Findings

Let us consider the average number of children born at the time of the survey (average parity), the average expected number of children and the difference between them ("total" fertility potential), the average number of children born in the period after the survey (2013–2023) and the difference between the fertility potential (the "expected number of more children") and fertility realized in 2013–2023. The calculation was performed for women of each year of birth (from 1970 to 1994) and for five five-year groups (*Tab. 1*).

It is advisable to compare the average expected number of more children with the number of children born in the period after this survey. The average expected number of more children, according to the 2012 sample survey of reproductive intentions, is about 0.3 more than the actual number of children born in the period 2013–2023.

Of course, it should be mentioned that, unlike the 2015 micro-census, the sample of this survey is small and this may affect data representativeness. But if it caused inconsistency in the results, the ratio of the average expected number of more children and the average number of children born in 2013–2023 could differ significantly across women cohorts.

Таблица 1. Reproductive intentions of women, according to the 2012 sample survey of reproductive intentions, and the average number of children born among 1970–1994 women cohorts in 2013–2023

Women's year of birth	Number of respondents	Average parity	Average expected number of children	Difference between the average expected number of children and average parity ("average expected number of more children")	Average number of children born in 2013–2023	Difference between the "average expected number of more children" and the average number of children born in 2013–2023
1970	108	1.41	1.62	0.21	0.01	0.20
1971	114	1.61	1.85	0.24	0.01	0.23
1972	118	1.59	1.72	0.13	0.02	0.11
1973	115	1.69	1.90	0.21	0.04	0.17
1974	117	1.62	1.90	0.28	0.06	0.22
1975	150	1.51	1.87	0.36	0.09	0.27
1976	155	1.48	1.89	0.41	0.13	0.28
1977	139	1.53	1.98	0.45	0.18	0.27
1978	115	1.57	2.03	0.46	0.24	0.22
1979	122	1.42	1.92	0.50	0.30	0.20
1980	123	1.35	2.00	0.65	0.36	0.29
1981	111	1.40	2.07	0.67	0.44	0.23
1982	142	1.18	2.04	0.86	0.52	0.34
1983	142	1.15	2.02	0.87	0.62	0.25
1984	118	0.93	2.01	1.08	0.70	0.38
1985	131	0.94	1.92	0.98	0.76	0.22
1986	130	0.98	1.97	0.99	0.83	0.16
1987	160	0.74	1.93	1.19	0.93	0.26
1988	137	0.66	2.02	1.36	0.97	0.39
1989	101	0.55	2.00	1.45	0.99	0.46
1990	99	0.37	1.91	1.54	0.99	0.55
1991	89	0.24	1.99	1.75	1.01	0.74
1992	81	0.17	1.86	1.69	1.01	0.68
1993	52	0.06	1.96	1.90	0.98	0.92
1994	42	0.07	1.89	1.82	0.96	0.86
1970–1974	572	1.58	1.80	0.22	0.03	0.19
1975–1979	681	1.50	1.93	0.43	0.18	0.25
1980–1984	636	1.20	2.03	0.83	0.53	0.30
1985–1989	659	0.78	1.96	1.18	0.89	0.29
1990–1994	363	0.21	1.92	1.71	0.99	0.72

Considering the generations of women born in 1970–1987, only in three of them the discrepancy between these indicators was less than 0.2 and only in two of them it was more than 0.3 (Tab. 1). In other words, we can say that this difference between generations of women is sufficiently stable. This is very important when evaluating the predictive validity of data on reproductive intentions. The discrepancy is greater in younger generations, as they are more likely to have more children and, consequently, to reduce the gap between the expected number of children (according to the 2012 survey) and the realized number of children.

Aggregating the data for five-year groups of women, we see that in the generations that are above the childbearing age, the discrepancy between the actual number of children born in 2013–2023 and the expected number was less than 0.19, so we note that the differences are relatively low for these generations of women. For generations aged 44–49 for the analysis period (the last 5 years of reproductive age), the discrepancy is higher – 0.25, for women aged 39–44 (born in 1980–1984) – 0.3, for women aged 34–39 – 0.29, and for women aged 29–34 – 0.72.

As already noted, the data from the 2012 sample survey of reproductive intentions allow comparing reproductive intentions and the realized number of children, differentiated by parity. To do this, the answers to the question "Do you intend to have a child (the first one if you do not have children, or another one)?" are used. As evidence of the intention to have another baby we considered the answers: "I am already pregnant", "yes, in the near future", "yes, but a little later, we are postponing for now".

The number of such responses was differentiated by parity: for those at zero parity – as an intention to have the first child, for those at one parity – as an intention to have the second child, for those at two parity – as an intention to have the third child. However, when comparing with the average number of children born by corresponding parity in 2013–2023, it is correct to consider the share of such responses among all surveyed women of a given generation, rather than among those at particular parity, since the one-year age-specific fertility rates by parity, which is used to calculate the average number of births by corresponding parity, are calculated aggregately for all women of a given age, and not for particular parity.

The share of women intending to have their first child among all surveyed women of this generation is slightly higher than the average number of first births in 2013–2023. In the 1970–1974, 1975–1979, and 1980–1984 generations of women, the discrepancy is 0.02–0.04, so we note answering the question about the intention to have the first child as having fairly good predictive validity (*Tab. 2*). For women born in 1990–1994, the discrepancy is greater (0.08), but in 2023 they were 29–33 years old, and some of them may still have their first child.

The situation is somewhat different for second births (*Tab. 3*). For the 1970–1974, 1975–1979, and 1980–1984 generations, the number of women intending to have a second child is slightly (by 0.04–0.07) higher than the average number of second births in 2013–2023, according to the 2012 sample survey of reproductive intentions. We think that it is the evidence of certain predictive validity of answers to the question about the intention to have a second child. In the 1985–1989 and 1990–1994 generations, the average number of second births in 2013–2023 is higher than the share of those planning to have a second child, revealed by the data of the 2012 sample survey of reproductive intentions (by 0.09 and 0.25, respectively). But, apparently, it would be wrong to talk about the "overfulfilling" of reproductive plans in these generations. Given their age in 2013–2023 and the length of this period, it can be assumed that some of the women, who had

Table 2. The share of women intending to have their first child, according to the 2012 sample survey of reproductive intentions, and the average number of first births among 1970–1994 women cohorts in 2013–2023

Women's years of birth	Number of respondents	Number of childless women	Number of women intending to have a first child (childless, whose answers to the question about the intention to have a child was: "I am already pregnant", "yes, in the near future", "yes, but a little later, we are postponing for now")	The share of women intending to have their first child		Average number of first births in 2013–2023	Gap between the share of women intending to have their first child among respondents and the average number of first births in 2013–2023
				among childless women	among respondents		
1970–1974	572	48	15	0.31	0.03	0.00	0.03
1975–1979	681	73	44	0.60	0.06	0.02	0.04
1980–1984	636	116	88	0.76	0.14	0.10	0.04
1985–1989	659	260	199	0.77	0.30	0.28	0.02
1990–1994	363	296	205	0.69	0.56	0.48	0.08

Table 3. The share of women intending to have a second child, according to the 2012 sample survey of reproductive intentions, and the average number of second births in the 1970–1994 women cohorts in 2013–2023

Women's years of birth	Number of respondents	Number of women at one parity	Number of women intending to have a second child (childless, whose answers to the question about the intention to have a child was: "I am already pregnant", "yes, in the near future", "yes, but a little later, we are postponing for now")	The share of women intending to have their second child		Average number of second births in 2013–2023	Gap between the share of women intending to have their second child among respondents and the average number of second births in 2013–2023
				among women at one parity	among respondents		
1970–1974	572	223	30	0.13	0.05	0.01	0.04
1975–1979	681	279	96	0.34	0.14	0.07	0.07
1980–1984	636	319	198	0.62	0.31	0.25	0.06
1985–1989	659	291	202	0.69	0.31	0.40	-0.09
1990–1994	363	57	41	0.72	0.11	0.36	-0.25

not yet had a single child at the time of the 2012 survey, had their first and second children in 2013–2023. Therefore, they could not get into the share of those who were intending to have a second child, since the question was asked about the intention to have only one more child.

In this regard, it may be advisable to reduce the time period for calculation of second births from 11 to 5 years, namely to use the period 2013–2017 to consider second births only (*Tab. 4*). In this case, the share of those intending to have a second child is less than the average number of second births only in the 1990–1994 generation. It should be noted that this small generation was born in difficult socio-economic conditions and has its own socio-cultural peculiarities.

The situation is similar for third births. The average number of third births in 2013–2023 is 0.04 less than the share of those intending to have a third child in the 1970–1974 generation.

For women born in 1975–1979, these indicators coincide. In younger generations, the average number of third births in 2013–2023 is higher than the share of those intending to have a third child, as revealed by the 2012 sample survey of reproductive intentions. Moreover, the younger the generation, the higher the discrepancy between the indicators: for 1980–1984 cohort it is 0.03; for 1985–1989 cohort – 0.08; for 1990–1994 cohort – 0.10 (*Tab. 5*).

Table 4. The share of women intending to have a second child, according to the 2012 sample survey of reproductive intentions, and the average number of second births in the 1970–1994 women cohorts in 2013–2017

Women's years of birth	Number of respondents	Number of women at one parity	Number of women intending to have a second child (childless, whose answers to the question about the intention to have a child was: "I am already pregnant", "yes, in the near future", "yes, but a little later, we are postponing for now")	The share of women intending to have their second child		Average number of second births in 2013–2017	Gap between the share of women intending to have their second child among respondents and the average number of second births in 2013–2017
				among women at one parity	among respondents		
1970–1974	572	223	30	0.13	0.05	0.01	0.04
1975–1979	681	279	96	0.34	0.14	0.06	0.08
1980–1984	636	319	198	0.62	0.31	0.18	0.13
1985–1989	659	291	202	0.69	0.31	0.25	0.06
1990–1994	363	57	41	0.72	0.11	0.15	-0.04

Table 5. The share of women intending to have a third child, according to the 2012 sample survey of reproductive intentions, and the average number of third births in the 1970–1994 women cohorts in 2013–2023

Women's years of birth	Number of respondents	Number of women at two parity	Number of women intending to have a third child (childless, whose answers to the question about the intention to have a child was: "I am already pregnant", "yes, in the near future", "yes, but a little later, we are postponing for now")	The share of women intending to have their third child		Average number of third births in 2013–2023	Gap between the share of women intending to have their third child among respondents and the average number of third births in 2013–2023
				among women at two parity	among respondents		
1970–1974	572	239	28	0.12	0.05	0.01	0.04
1975–1979	681	260	34	0.13	0.05	0.05	0.00
1980–1984	636	162	65	0.40	0.10	0.13	-0.03
1985–1989	659	100	44	0.44	0.07	0.15	-0.08
1990–1994	363	9	4	0.44	0.01	0.11	-0.10

Table 6. The share of women intending to have a third child, according to the 2012 sample survey of reproductive intentions, and the average number of third births in the 1970–1994 women cohorts in 2013–2017

Women's years of birth	Number of respondents	Number of women at two parity	Number of women intending to have a third child (childless, whose answers to the question about the intention to have a child was: "I am already pregnant", "yes, in the near future", "yes, but a little later, we are postponing for now")	The share of women intending to have their third child		Average number of third births in 2013–2017	Gap between the share of women intending to have their third child among respondents and the average number of third births in 2013–2017
				among women at two parity	among respondents		
1970–1974	572	239	28	0.12	0.05	0.01	0.04
1975–1979	681	260	34	0.13	0.05	0.04	0.01
1980–1984	636	162	65	0.40	0.10	0.07	0.03
1985–1989	659	100	44	0.44	0.07	0.06	0.01
1990–1994	363	9	4	0.44	0.01	0.03	-0.02

If we compare the average number of third births with the share of those intending to have a third child not for 2013–2023, but for the five-year period (2013–2017), then this share is slightly higher than the average number of third births in all generations, except for women of the 1990–1994 cohort (*Tab. 6*).

Therefore, the duration of the analysis period used for forecasting is important for second and subsequent births. However, the predictive validity of reproductive intentions of women aged over 35 is fairly high.

Conclusion

Finding relevant options for predicting fertility inevitably leads to the need to understand the mechanisms of shaping reproductive behavior, family size preferences and the conditions for their realization. In turn, this requires monitoring of reproductive intentions using sociological methods, which is implemented by the Federal State Statistics Service through regular surveys of reproductive intentions. A number of organizations carry out similar research using similar and our methodology. Earlier, the co-authors of this paper analyzed estimates of Russians' reproductive intentions (Arkhangelskiy, Kalachikova, 2021). This indicates that there is a certain sociological database on reproductive behavior, which can be used to predict fertility. Regional studies are especially relevant in constituent entities with a pronounced ethno-cultural identity, such as the republics of the North Caucasus. However, in order to obtain up-to-date and complete information, it is necessary to continue regular monitoring of reproductive intentions.

One of the previous studies has already included the comparison between the average expected number of children among women aged 35–39 and 40–44 according to the 2015 micro-census and the average number of children born among women aged 40–44 and 45–49, respectively, according to the 2020 census (Arkhangelskiy et al., 2024). The discrepancy between the average expected number of children among women aged 40–44, according to the 2015 micro-census, and the average number of children born among women aged 45–49, according to the 2020 census, is 0.11, and the difference between these indicators among women aged 35–39 and 40–44, respectively, is 0.13. These results already suggest that, with appropriate correction, data on the expected number of children can be used in predicting fertility.

The results of this paper indicate that, considering the correction factors, data on reproductive intentions reflect fertility in real generations. An analysis of data on the realization of expected parity in real generations of women showed that in the generations above the childbearing age, the gap between the actual fertility in 2013–2023 and the "expected number of more children" was less than 0.19, so for these women cohorts, the discrepancies are stable and relatively low. For generations of women aged 44–49 during the analysis period (the last 5 years of childbearing age), the difference is higher – 0.25, for women aged 39–44 (born in 1980–1984) – 0.3, for women aged 34–39 – 0.29, and for women aged 29–34 it is 0.72. This fact alone suggests that the reproductive intentions of the youngest group of women are still far from being realized (at least judging by the observed difference between 0.72 and 0.30). We understand that reproductive intentions of different generations were developed in different conditions, especially for those who were socialized in different countries and under different political systems, but in the analyzed period they are realized in one social, political, and economic environment.

Predictive validity of intentions to have second and third children shows even higher consistency, considering that the period for fertility realization is cut to exclude the interval between marriage and first birth.

The novelty of the paper lies in the empirical assessment of the degree of realization of reproductive intentions in real generations of women, including by parity. Correction factors have been determined, which will allow predicting cohort fertility and calculating the total fertility rate. It is assumed that the influence of living conditions on fertility is reflected in the discrepancy between intentions and realized family size. Accordingly, the higher it is, the stronger the impact of external conditions on fertility. On the other hand, a lower gap between intended and actual fertility indicates subjectively more favorable conditions for having family, including due to certain demographic policy measures.

At the next stage of the study, we plan to test the revealed patterns, develop correction factors and calculate fertility forecasts, considering the reproductive intentions of women in Russia.

References

Alazbih N.M., Tewabe G.N., Demissie T.D. (2017). Contraception and the low fertility transition in the Amhara region of Ethiopia: An application of the BONGAARTS model. *Fertil Res and Pract*, 3(12). DOI: https://doi.org/10.1186/s40738-017-0039-8

Anderton D.L., Tsuya N.O., Bean L.L., Mineau G.P. (1987). Minault Intergen-erational Transmission of Relative Fertility and Life-Course Patterns. *Demography*, 24(4), 467–480. DOI: https://doi.org/10.2307/2061386

Andreev E.M., Bondarskaya G.A. (2000). Can we use data on the expected number of children in population forecasts? *Voprosy statistiki=Bulletin of Statistics*, 11, 56–62 (in Russian).

Arkhangelskiy V.N. (2016). Cohort fertility – The opportunity to appreciate the past and look to the future. In: *Dinamika i inertsionnost' vosproizvodstva pokolenii v Rossii i SNG: materialy VII Ural'skogo demograficheskogo foruma s mezhdunarodnym uchastiem=Dynamics and the Inertia of the Reproduction of the Generations in Russia and the CIS. Materials of VII Ural Demographic Forum with International Participation*. Yekaterinburg: Institute of Economics. Ural branch of RAS, 1, 24–38 (in Russian).

Arkhangelskiy V.N., Kalachikova O.N. (2021). Women and men: Differences in fertility and reproductive behavior indicators. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 14(5), 165–185. DOI: 10.15838/esc.2021.5.77.10 (in Russian).

Arkhangelskiy V.N., Zolotareva O.A., Kuchmaeva O.V. (2024). Two approaches to assessing the effectiveness of demographic policy (using the example of federal maternity capital). *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 17(6), 77–97. DOI: 10.15838/esc.2024.6.96.4 (in Russian).

Beaujouan É., Toulemon L. (2013). On the predictive value of individual fertility preferences at the cohort macro-level. *IUSSP Conference 2013. Busan, Korea, August 26–31.*

Bhattacharjee N., Schumacher A., Vollset S.E. et al. (2024). Global fertility in 204 countries and territories, 1950–2021, with forecasts to 2100: A comprehensive demographic analysis for the Global Burden of Disease Study 2021. *Lancet*, 403(10440), 2057–2099. DOI: 10.1016/S0140-6736(24)00550-6

Heiland F., Prskawetz A., Sanderson W.C. (2005). Do the more educated prefer smaller families? In: *Vienna Institute of Demography Working Papers, 03/2005.* Available at: https://www.econstor.eu/bitstream/10419/97003/1/511745508.pdf

Hendershot G.E., Plaek P.J. (Eds). (1985). *Predicting Fertility. Demographic Studies of Birth Explanation*. Toronto: LexingtonBooks.

Kishenin P.A. (2023). Cohort total fertility in demographic projections: A comparative analysis of the prospects for fertility changes in the countries of the former USSR. *Demograficheskoe obozrenie=Demographic Review,* 10(1), 79–107. DOI: 10.17323/demreview.v10i1.17261 (in Russian).

Kopeikina M.A. (2006). Economic and mathematical modeling of reproductive behavior of the region's population. *Ekonomicheskie i sotsial'nye peremeny v regione: fakty, tendentsii, prognoz=Economic and Social Changes in the Region: Facts, Trends, Forecast*, 1(32), 55–63 (in Russian).

Kozlova O.A., Arkhangelskiy V.N. (2021). Russian fertility forecast: Approaches, hypotheses, and results. *Vestnik RAN=Herald of the Russian Academy of Sciences*, 91(9), 845–855. DOI: 10.31857/S0869587321090061 (in Russian).

Maheshwari A., Bhattacharya S., Johnson N.P. (2008). Predicting fertility. *Hum Fertil (Camb)*, 11(2), 109–117. DOI: 10.1080/14647270701832346

Norling J. (2022). Using intentions to predict fertility. *Journal of Population Economics*, 88(3), 257–282. DOI: https://doi.org/10.1017/dem.2020.32

Shabunova A.A., Kalachikova O.N. (2024). Modern Russian family: Crisis or evolution. *Sotsial'noe prostranstvo=Social Area*, 10(2). DOI: 10.15838/sa.2024.2.42.2 Available at: http://socialarea-journal.ru/article/30014 (in Russian).

Sobotka T., Zeman K., Lesthaeghe R., Frejka T. (2011). Postponement and recuperation in cohort fertility: New analytical and projection methods and their application. In: *European Demographic Research*. Papers 2. Vienna: Vienna Institute of Demography. Available at: http://www.humanfertility.org/Docs/Symposium/Sobotka-Zeman-Lesthaeghe-Frejka.pdf

Telnov V.I. (2014). Comparison characteristics of dynamics and prediction of total fertility rate in actual and hypothetical female generations. In: *Instituty razvitiya demograficheskoi sistemy obshchestva: sbornik materialov V Ural'skogo demograficheskogo foruma s mezhdunarodnym uchastiem=Institutes for the Development of the Demographic System of Society: Proceedings of the V Ural Demographic Forum with International Participation*. Yekaterinburg, 426–431 (in Russian).

Telnov V.I. (2021). Comparative analysis of fertility trend in actual, hypothetical and potential female generations in the Russian Federation. Forecasting issues. In: *Demografiya i global'nye vyzovy: sbornik materialov Mezhdunarodnogo demograficheskogo foruma=Demography and Global Challenges: Proceedings of the International Demographic Forum*. Voronezh, 325–330 (in Russian).

Toulemon L., Testa M.R. (2005). Fertility intentions and actual fertility: A complex relationship. *Population & Societies*. Available at: https://www.ined.fr/fichier/s_rubrique/18747/publi_pdf2_pop.and.soc.english.415.en.pdf

Vignoli D., Guetto R., Bazzani G., Pirani E., Minello A. (2020). A reflection on economic uncertainty and fertility in Europe: The narrative framework. *Genus*, 76(1). DOI: 10.1186/s41118-020-00094-3

Westoff C.F., Ryder N.B. (1977). The predictive validity of reproductive intentions. *Demography*, 14(4), 431–453. DOI: https://doi.org/10.2307/2060589

Zakharov S.V., Vishnevskii A.G., Sakevich V.I. (2008). Possible changes in fertility in the future. In: *Naselenie Rossii 2006: chetyrnadtsatyi ezhegodnyi demograficheskii doklad=Population of Russia 2006: The Fourteenth Annual Demographic Report.* Moscow: Publishing House of the State University Higher School of Economics, 148–164 (in Russian).

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Volunteering at the Modern Stage of Its Development in Russia: Dynamics and Resources of Social Capital

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Abstract. The paper analyzes the dynamics and resources of volunteering in Russia for 2016–2024. The relevance of the study is due to the growing interest in volunteering, especially during the COVID-19 pandemic, as well as active government support, including the federal project "Social Activity". The main aim of the work is to study the involvement of citizens in volunteering and identify key resources for its development, taking into account demographic and social changes. Scientific novelty of the research lies in a comprehensive analysis of volunteering through the prism of a resource-based approach, including social capital. The transformation of forms of volunteering from traditional to digital and occasional is shown, which distinguishes the work from previous studies. Special attention is paid to gender and territorial imbalances. The methodology includes an analysis of the results of a Rosstat labor force survey (2016–2024) and a sociological study in the Tyumen Region (N=1,430). The methods of structural and

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dynamic analysis, clustering, as well as statistical criteria ($\chi2$, Student's t-test) are applied. The number of volunteers in Russia has tripled, despite its population decline. Such activities as fundraising, social assistance and animal welfare prevail, but their coverage does not exceed 3% of the population. A gender bias has been identified: women make up 72% of volunteers and spend more time volunteering. Engaging in volunteering depends to a great extent on social capital (trust, membership in organizations). The limitations of the study are related to incomplete representativeness of the data and predominance of government sources. Prospects for further research include studying the motivation of men, the effectiveness of digital volunteering formats, and development of programs for young people and retirees.

Key words: volunteering, social capital, dynamics, resources, gender imbalance.

Introduction

Numerous observations and statistics from recent decades demonstrate a steady increase in interest in volunteering in Russia, which is usually associated with the intensification of volunteering during the COVID-19 pandemic and the development of digital platforms to engage in this activity. Government initiatives, such as declaring 2018 the Year of Volunteers[1], and the implementation of the Federal Project "Community-Minded Activity"[2] in 2019–2024, have helped to increase public awareness of volunteering. According to the Ministry of Education of the Russian Federation, 320 new volunteer centers were organized in 2020 alone, 2.5 million people took part in the WeAreTogether[3] project. According to the same sources, by 2025, more than 7.4 million people use the information system for the development of volunteering and generally 13% of Russian citizens were engaged in volunteering through volunteer support centers (communities, associations). It is also noted that among companies with state participation, the growth of volunteerism has exceeded 40% per year[4]. Large companies try to highlight their attention to volunteer activities, but such publications provide information which is more like an advertisement rather than objective statistics. These data come into some conflict with the results of mass labor force surveys conducted by Rosstat annually since 2006, and the findings of Russian scholars. However, the scientists themselves have not reached a consensus on identifying the volume of volunteer activity in Russia. This contradiction determined the problem and scientific objectives of our research.

In general, the vast majority of Russian citizens approve of volunteer activities. However, the answer to the question about their involvement in volunteering practices is not so positive. An extensive database of Rosstat labor force surveys is publicly available, as well as the results of sociological studies in which questions were asked about the involvement of respondents in volunteering. It is important to analyze data on the resources of Russian citizens' participation in volunteering, as this allows us to assess the potential for social mobilization of the population.

Research objectives: 1) to assess the level of Russians' involvement in volunteering and its trend in 2016–2024, taking into account socio-demographic characteristics; 2) to determine significant

[1] On the Year of Volunteers in the Russian Federation: Presidential Decree 583, dated December 06, 2017. Available at: http://www.kremlin.ru/acts/bank/43027 (accessed: March 04, 2025).

[2] Community-Minded Activity: Federal Project. Ministry of Education of the Russian Federation. Available at: https://edu.gov.ru/national-project/projects/soc_activity (accessed: May 19, 2025).

[3] WeAreTogether. The official website of the project. Available at: https://мывместе.рф (accessed: May 19, 2025).

[4] Corporate volunteering has become a form of investment in the brand of Russian companies. Mail.ru. Available at: https://news.mail.ru/economics/65246351 (accessed: March 12, 2025).

resources for the development of volunteering in the context of a changing demographic structure.

Literature analysis

Historically, volunteering has been studied more in foreign than in Russian-language literature. In addition, the obvious lag in the development of the support system for such activities in modern Russia requires a study of international experience. In one of the classic works by R. Cnaan and co-authors four key features of volunteering were identified: free choice (no coercion, personal motivation), no or minimal remuneration, structure (formal and informal), and beneficiaries (from helping strangers to participating in self-help groups, where the volunteer is also a beneficiary) (Cnaan et al., 1996). In this definition, volunteering is one of the types of economic activity and ranges from purely altruistic activities without remuneration to more flexible forms, including self-help and support for loved ones. Phenomenologically, volunteering is considered as a conscious and planned action involving prior consideration, long-term commitment, and an organized form of assistance (Wilson, 2000; Penner, 2004).

M.L. Salamon and co-authors noted that, despite volunteering is carried out in free time and without monetary remuneration, it is a form of work that brings both tangible and intangible benefits not only to the help receivers, but also to the volunteers themselves (Salamon et al., 2003, p. 222). Volunteering is often motivated by a sense of personal, cultural, religious, or moral obligation and is determined by personality traits such as altruism, a need for learning, and a focus on the present, but not by a need for activity. It is also driven by a number of functional motives, including helping others, learning, social connections, self-affirmation, career growth, and self-defense (Mowen, Sujan, 2015). The early 2000s were marked by a shift from a collective to a reflective style of volunteering (Hustinx, Lammertyn, 2003). The former is characterized by stability and long-term involvement of volunteers, whereas the latter reflects an individualized, flexible approach based on personal interests and the desire for self-realization. Modern volunteering is becoming sporadic and fragmentary: participation is increasingly temporary, in a project format with an emphasis on visible results and freedom to choose tasks. The ontology of volunteering, as uncoerced, conscious and long-term assistance carried out without expectation of reward, often through official organizations and aimed at the benefit of others, relies on organizational and personal resources (Snyder, Omoto, 2008, p. 3).

In the Russian scientific tradition, volunteering is considered as a social phenomenon with pronounced institutional, managerial, and socio-cultural characteristics (Mersiyanova, Yakobson, 2009; Kholina, 2011; Pevnaya, 2016). Researchers emphasize the connection of voluntary work with historical models: charitable (pre-revolutionary), state-organized (Soviet) and democratic (post-Soviet) (Hvorostyanova, 2017). Modern Russian volunteering is developing against the background of the active participation of the state, which contributes to its institutionalization (Zborovsky et al., 2018; Ulyanova, 2019). The paper by colleagues from the Ural scientific school shows that the greatest willingness to volunteer is observed in people with a pronounced altruistic orientation and an attitude toward social action (activism) (Pevnaya, Tarasova, 2024).

An important contribution was made to the understanding of volunteering (Wilson, Musick, 1997) by proposing an integrated model combining three key resources of activity: human, social and cultural capital. The influence of these factors on volunteering has been emphasized in both early and modern studies (Smith, 1994; Bekkers, 2003; Taniguchi, 2013). In this case, it is necessary to clarify that volunteering is not only a form of productive work, but also a kind of collective action, ethically oriented and socially regulated. From this perspective, social capital is an important resource.

R. Putnam's concept of social capital includes networks, norms, and social trust (Putnam, 1995). According to P. Bourdieu's definition, social capital can promote coordination and cooperation for mutual benefit and thus promote collective action (Bourdieu, 1986). Later, studies confirmed the positive impact of social capital on voluntary work through social networks and generalized trust (Forbes, Zampelli, 2014; Wang, Graddy, 2008).

One of the most stable ontological observations is the positive influence of the breadth of social networks on the inclination for formal and informal volunteering. Larger networks promote engagement because they increase access to information about opportunities to volunteer (Musick, Wilson, 2008). The same mechanisms apply to charity: people with broad social involvement are more likely to respond to requests for help and donate (Schervish, Havens, 1997). Extended social connections not only inform, but also develop norms of participation, creating expectations of mutual support and commitment.

Along with social networks, generalized trust is considered as an important component of the motivational base for socially oriented behavior. By definition (Gambetta, 1988; Hardin, 2002), trust is the foundation for joint action and coordination of efforts, especially in conditions of uncertainty. It creates an expectation that other members of society will also act in the interests of the common good, which increases the likelihood of participating in volunteer initiatives. A high level of generalized trust creates a sense of interdependence and willingness to cooperate (Neilson, Paxton, 2010). This is confirmed by experimental and field studies where trust correlates with volunteerism (Bekkers, 2012) and donations (Brooks, 2005).

According to Z. Wu and co-authors, institutional trust has a significant impact on the capacity for volunteering and donations, especially in politically centralized systems such as China (Wu et al., 2018). Chinese researchers have argued with R. Bekkers, according to whom differences in charitable behavior are more related to the individual characteristics of donors than to macrosocial or regional conditions (Bekkers, 2016). Moreover, a study (Wu et al., 2018) showed that high acquaintance trust, contrary to expectations, is negatively associated with donations, although it does not have a significant impact on voluntary work. This may indicate that focusing solely on the inner circle reduces the importance of generalized norms of social responsibility and participation in a broader social context. Volunteering can contribute to the extension of horizontal and vertical social ties and the growth of social capital at the individual and community levels (Telepaeva et al., 2018; Sukharkova, 2021; Iarskaia-Smirnova et al., 2024).

Methodology and data

The study includes two sets of empirical data. The first source is microdata from the Rosstat labor force survey for 2016–2024[5]. This large-scale sample of households contains information about people aged 15 and older across Russia. For example, in 2024, data were obtained on 4366 thousand people engaged in volunteering. The following variables formulated in the volunteering section were used for the analysis: involvement in volunteering last month; number of hours spent on it last month; number of activities over the year; type of activity; form of participation (individual or through an organization); type of organization-beneficiary. Additionally, socio-demographic characteristics of the respondents were taken into account: gender, age, type of settlement (city/village).

The second source is the database "Socio-cultural profile of the Tyumen Region 2023"[6]

[5] Microdata of the sample labor force survey. Rosstat. Available at: https://rosstat.gov.ru/labour_force (accessed: May 22, 2025).

[6] Database of the survey "Socio-cultural profile of Russian regions – 2023". Certificate of database registration RU 2024623834, dated August 30, 2024. Application 2024623498, dated August 15, 2024.

(N = 1430) (Agafonova, Romashkina, 2024). The sample is zoned, representative by gender and age structure, education and type of settlement, the sampling error for one parameter does not exceed 1.5%. The main studied (dependent) variable is the respondent's involvement in non-political volunteering, it is a binary indicator. The respondents were assigned one if they took part in at least one of the six types of volunteer activity during the year, and zero otherwise. The independent variables include the resources of social capital. For further calculations, all scales were recalculated on a scale from 0 (minimum) to 1 (maximum). Social capital included trust and a communicative resource. Generalized trust was measured with the question "In general, do you think that most people can be trusted or, on the contrary, should you be careful when dealing with people?" on a ten-point scale. The institutional trust index was calculated as the average value of trust ratings for ten key public and state institutions on a five-point scale. Volunteering to public organizations is represented as a binary variable: 1 if the respondent belongs to any organization, and 0 if not. A communicative resource is determined with the question "Where do you find mutual understanding?" The option "in the family" corresponds to the value 0 (the main resource of mutual understanding is limited to the family circle). Other answers (friends, neighbors, colleagues, co-religionists, people of my nationality) correspond to 1, reflecting the extended communication resource.

The analysis includes information from the Ministry of Economic Development of the Russian Federation, an analytical review of existing state programs to support volunteerism, including the implementation of the Federal Project "Community-Minded Activity"[7] (2019–2024), and institutional measures aimed at developing the volunteering infrastructure. Types of volunteering were identified, and volunteer activities were classified and periodized. When analyzing the data, methods such as structural-dynamic analysis, calculation of variation coefficients, factor analysis, clustering by k-means, comparison of averages by Fischer's F-criterion, Student's t-criterion, and Pearson's χ^2 (chi-squared) criterion were used. The data were analyzed in IBM SPSS Statistics 26, Python Data Analysis Library.

Trend of volunteering in Russia (2016–2024)

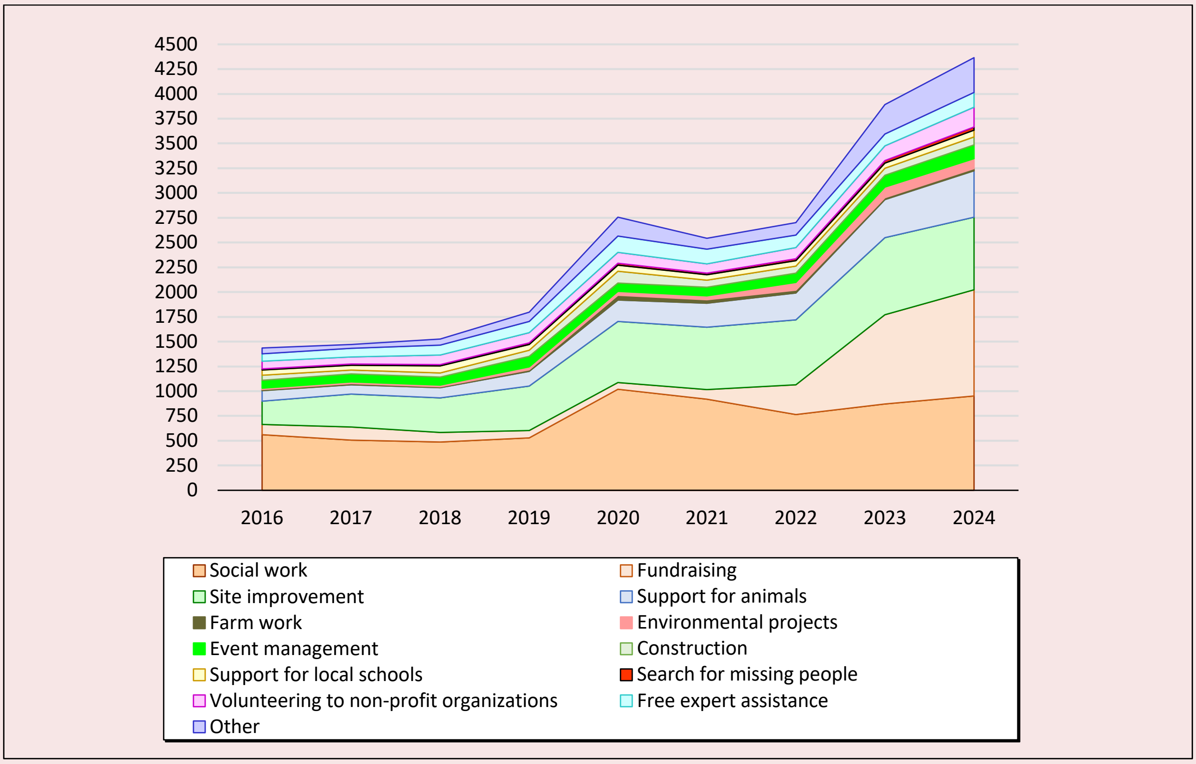
Figure 1 shows the trend of population engagement in volunteer activities for 2016–2024, extrapolated from the data of the All-Russian sample labor force surveys.

In eight years, there has been a qualitative change in the structure of volunteerism. Social work (assistance to socially vulnerable groups) has moved from the first place to the second place in the rating of volunteer activities, reaching about 1% of the population in 2024. Having experienced a surge during the pandemic, this type of activity returned to the "pre-pandemic" trend of steady growth.

The most common type of activity in 2024 is fundraising for charity or social projects. About 1% of the Russian population participated in it, most often citizens supported state or municipal social projects (25% of the number of volunteers). In 2016, only about 7% of volunteers mentioned participating in fundraising. In eight years, their number has increased 10-fold. This is where the results of government support and promotion of socially significant projects have been most evident. Since 2017, the Presidential Grants Foundation has been operating in Russia, which has funded 32 115 projects totaling over 71 billion rubles. In parallel, regional grant programs and subsidies at the local government level are being developed. Today, the main sources of income for non-profit organizations are private donations (38%), subsidies and grants from regional authorities (37%), and grants from the Presidential Grants Foundation

[7] "Community-Minded Activity" within the National Project "Education": Federal Project. Ministry of Education of the Russian Federation. Available at: https://edu.gov.ru/national-project/project/social-activity (accessed: May 22, 2025).

Figure 1. Trend of volunteering in Russia (2016–2024), number of volunteers by type of activity, thousand people



Calculated based on: primary microdata of the Rosstat Labor Force Survey for 2024. Available at: https://rosstat.gov.ru/labour_force (accessed: May 22, 2025).

(37%)[8]. Separately, it is worth noting the social tax deduction for philanthropists, which has been implemented since 2000: individuals are provided with a personal income tax deduction for the amount of donations to non-profit organizations. Endowments (endowment funds) are actively developing in Russia: as of the end of 2023, more than 300 such funds have been registered, mainly in educational and social organizations[9]. Since 2023, the Institute of Fundraising Development under the Social Information Agency has been operating, which offers comprehensive training programs for fundraising specialists and contributes to the further professionalization of the sector. All these measures have jointly created favorable conditions for volunteer fundraising to shift from a rare practice into one of the key tools of civic engagement. In addition, the increasing number of online platforms, crowdfunding and charity marathons on social networks, and the development of new payment vehicles (cashback transfers, points, rounding payments and percentages in favor of the organization, and QR codes) have greatly simplified fundraising.

A change in fundraising goals should be considered. Since 2022, various types of assistance have appeared that are directly or indirectly related to the special military operation (SMO), such as targeted

[8] Fundraising in 2024: what will change in the practice of collecting donations? Social Information Agency. Available at: https://asi.org.ru/2024/02/26/fandrajzing-v-2024-godu-chto-menyaetsya-v-praktike-sbora-chastnyh-pozhertvovanij (accessed: June 22, 2025).

[9] Endowment funds of higher education institutions. Ministry of Science and Higher Education of the Russian Federation. Available at: https://www.minobrnauki.gov.ru/about/deps/dep/funds (accessed: June 22, 2025).

assistance to Russian military personnel, volunteers participating in SMO, and their family members, assistance to victims and refugees[10].

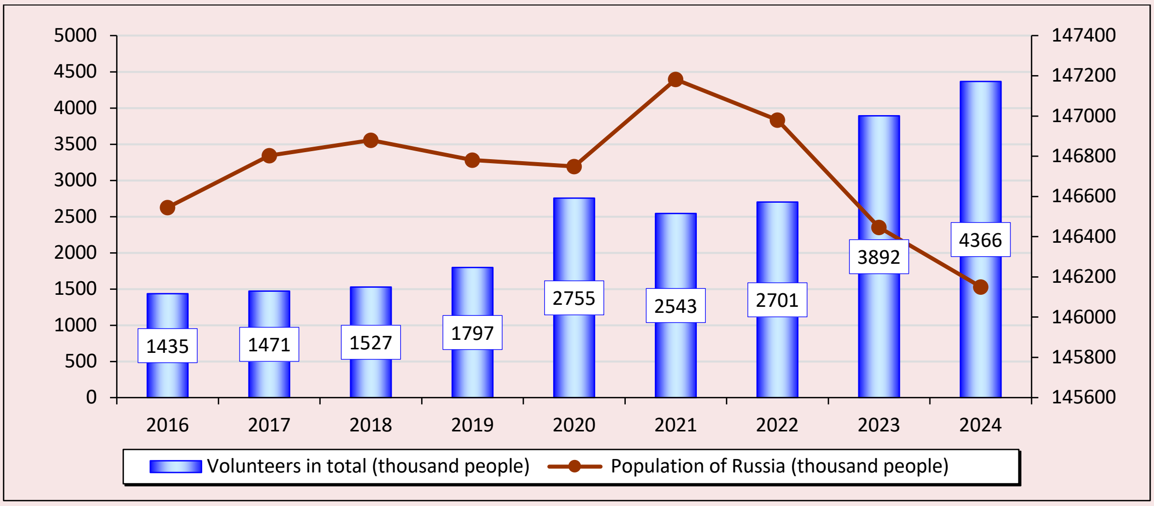
Site improvement (clean-up days, urban land improvement projects) is primarily carried out through local governments, the coverage of this area has increased 3-fold. One type of independent volunteering – support for animals (work in shelters, animal protection campaigns) – has quadrupled in volume, being in third place in the 2024 rating (see Fig. 1).

In general, the trend in 2016–2024 shows the transition from labor-intensive, offline-oriented forms of volunteerism to more flexible, indirect and digital formats. The place of traditional activities that require physical participation and long-term commitment (social and even more physically demanding work) is decreasing in the participation rating. Areas that allow a wide range of people to volunteer with a lower entry threshold come to the fore: fundraising, online activities, or emotionally attractive promotions. This corresponds to global changes in the nature of volunteerism – there is an increase in occasional volunteering and micro-participation via the Internet. The COVID-19 pandemic has accelerated these processes, making remote assistance and virtual platforms a common reality. This shift generates a discussion about the quality and sustainability of volunteer activities. On the one hand, the involvement of many people in at least short-term campaigns is positive, as it expands the volunteer base and the general culture of charity. On the other hand, the government's great attention to volunteerism is displacing non-profit organizations, whose activities require regularity and high qualifications.

As a result, the number of volunteers has almost tripled, from 1.435 million to 4.366 million people. This growth occurred against the background of a decrease in the population of Russia, crisis phenomena, both external and internal (*Fig. 2*).

The trend of volunteer activity can be divided into three periods. In the first period, from 2016 to 2019, there was stable moderate growth at an average annual rate of about 8%. In the second period, 2020–2021, there was a 53% jump in the

Figure 2. Trend of the number of volunteers and the population of Russia in 2016–2024*, thousand people



* The left axis (columns) shows the number of volunteers; the right axis (line) shows the total population of Russia.
Calculated based on: primary microdata of the Rosstat Labor Force Survey for 2024.

[10] Help of the distrustful. Russians donate less often to charities and more often to SMO participants. Kommersant. Available at: https://www.kommersant.ru/doc/6185069 (accessed: June 22, 2025).

number of volunteers due to the crisis with further stabilization. The third period, from 2022 to 2024, provided a high growth rate followed by stabilization at a new level (+44% in 2023, +12% in 2024).

These data differ from the information in the reports of the state information resources that we have provided above. Most likely, the large figures of the Ministry of Education reflect the use of information resources, primarily from state educational organizations, rather than actual volunteer activity, so they are overestimated. Nevertheless, the presence of significant positive dynamics of volunteerism in Russia is noted by almost all studies, which is confirmed not only by Rosstat data, but also by our regional data.

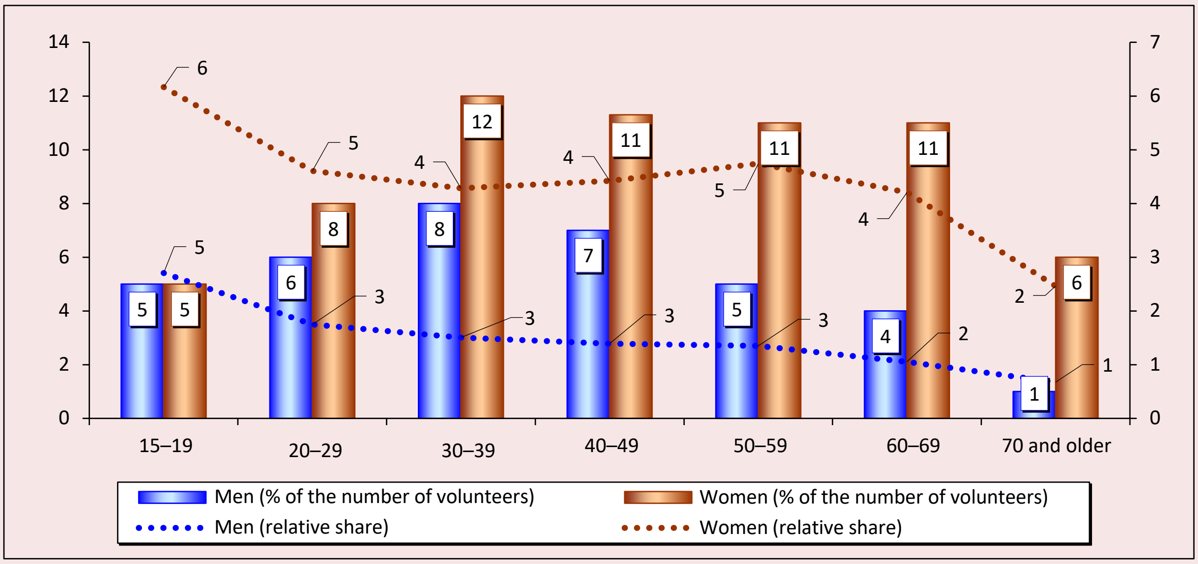
An analysis of the workload by type of volunteer activity shows that the largest number of man-hours spent on social work (6596 thousand hours), as well as on fundraising (3760) and site improvement (2343). In terms of the average workload per volunteer, the least common but time-consuming types are in the lead, such as search for missing people (10.6 hours per week) and volunteering to non-profit organizations (9.9 hours per week).

We note the main effects that are important for further analysis. Firstly, there is an inverse correlation between population size and volunteer activity, confirming a significant increase in the share of volunteering. Secondly, the COVID-19 pandemic has become a catalyst for civil mobilization and has led to the formation of sustainable patterns of volunteerism that require further study in the context of demographic changes. The third effect is institutional in nature and is explained by increased government support for volunteerism, especially in times of crisis, as well as the development of infrastructure for volunteer organizations.

Social resources of volunteer activity

An analysis of the demographic structure of volunteer activity showed a significant gender and age bias (*Fig. 3*). Significant differences are confirmed by statistical tests ($\chi^2 = 119.2$; $p < 0.001$). Women are not only more likely to be involved in volunteering, but also provide a longer duration of participation.

Figure 3. Structure of volunteer activity in 2024*



*The left axis (columns) is % of the total number of volunteers; the right axis (lines) is the share of volunteers in the total number of respondents, %

Calculated based on: primary microdata of the Rosstat Labor Force Survey for 2024.

The share of volunteers in Russia, according to the 2024 survey, is 4.2% among women and 2.9% among men. The gender imbalance is increasing. International comparisons show that Russia belongs to the countries with the so-called "reverse gender gap" in volunteer activities, when women spend significantly more time on volunteer work than men. For example, according to the World Values Survey, in Russia, women collectively work about 14% more volunteer hours than men, while in more gender-equal societies this difference is 0–3%[11]. In 2024, women in Russia completed about 72% of all total man-hours of volunteer work, while men completed 28%. On average, a woman spends 8.3 hours per month volunteering, which is significantly more than a man (6.5 hours per month). The gender gap was explained by Russian sociologists by traditional gender roles, value differences, women's greater focus on social assistance and caring for vulnerable groups, and organizational asymmetries (Ermilova, Isakova, 2021).

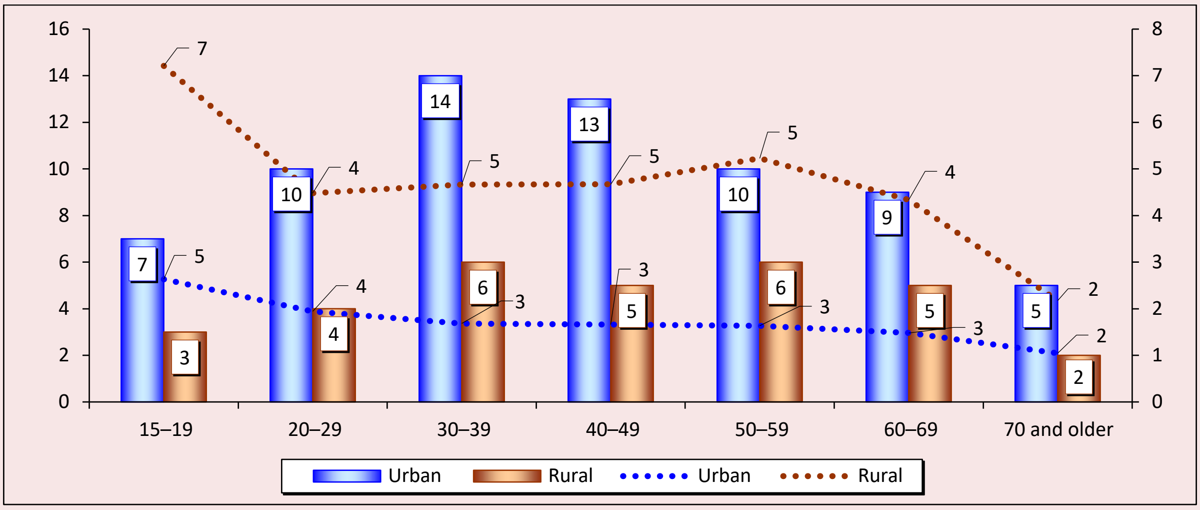
The distribution of forms of volunteer activity by age cohorts reflects both the life cycle of an individual and the socio-cultural characteristics of age groups. Youth cohorts (15–29 years old) are mainly involved in short-term, project-based, and initiative-based events. Volunteers aged 20–29 are more likely to participate in event management and environmental projects, and their involvement in more labor-intensive activities is also increasing. The 30–39 cohort is most involved in almost all types of volunteering. Probably, the peak of involvement is associated with a stable position in the labor market, accumulated social capital, marriage, which determine a higher level of responsibility and motivation for a systematic contribution to socially significant activities. Representatives of the 40–59 cohort volunteer relatively evenly with a focus on social assistance, but their activity is decreasing. It is interesting to note the relative stability of volunteering to non-profit organizations (13–18%) throughout life. In general, the age structure of volunteerism demonstrates a natural transition from events and activism in youth to institutionalized and stable practices in adulthood, followed by a shift toward individualized and less intensive forms of participation among the elderly.

Based on the results of Rosstat microdata, we conclude that there are differences in volunteering among residents of urban and rural settlements (*Fig. 4*). More volunteers live in cities than in villages. However, the recalculation to the total population showed that the proportion of volunteers among the rural population is higher than among the urban population (3.3% versus 4.5%). The settlement gap is particularly significant in the youth group under 20 and the pre-retirement cohort aged 50–69. When three criteria are fixed: age, gender, and type of settlement, there is a significant excess of the proportion of volunteers among women of pre-retirement and early retirement age living in rural areas over the average labor force distribution (see the lines in Fig. 4). This conclusion differs from the usual opinion that volunteerism is more developed in cities than in villages due to better infrastructure (Kholina, 2011; Hvorostyanova, 2017; Ermilova, Isakova, 2021).

The individual workload of volunteers does not depend on the type of settlement. On average, an urban volunteer spends about 7.7 hours per month, while a rural volunteer spends 7.6 hours. Probably, when people become involved in volunteering, their personal contribution does not depend on the place of residence. In general, the structure of volunteer activity is not determined by a person's role in the labor market, but the gender bias is still there. Men are more likely to combine social activities with their main job. Non-working women (for example, retired women or those temporarily unemployed due to caring for family members) are more prominent among female volunteers.

[11] World Values Survey Association. World Values Survey Database. Available at: https://www.worldvaluessurvey.org/ (accessed: May 22, 2025).

Figure 4. Settlement structure of volunteering in 2024*

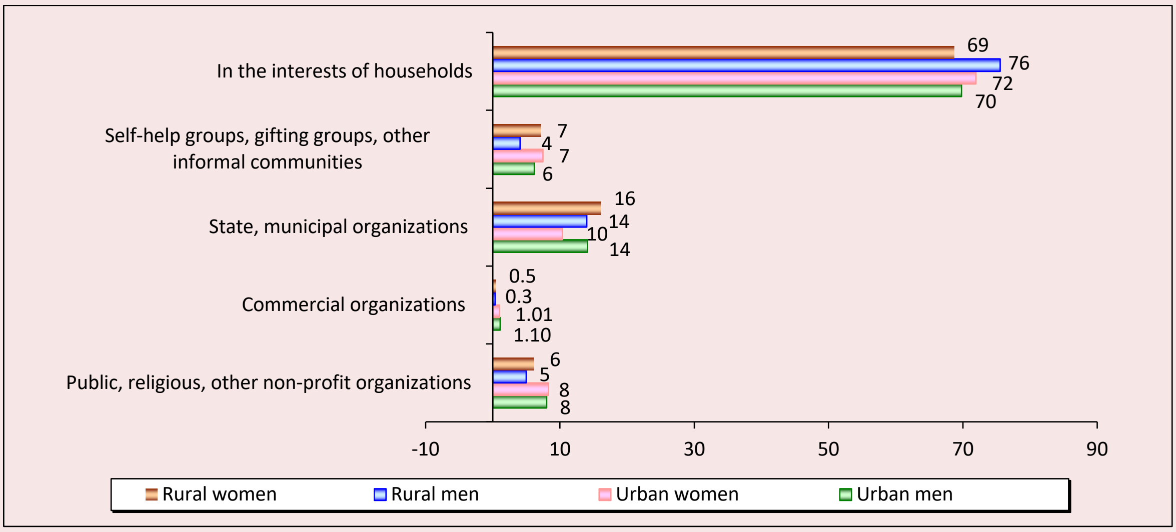


*The left axis (columns) is % of the total number of volunteers; the right axis (lines) is the share of volunteers in the total number of respondents, %

Calculated based on: primary microdata of the Rosstat Labor Force Survey for 2024.

Let us consider the structure of volunteering in the interests of specific economic units: formal (state, municipal, commercial, public organizations) and horizontal (households, gifting groups, *Fig. 5*). Formal organizations are focused on large-scale, collective actions, they take the longest time to participate, but in terms of the total share of people involved their share does not reach

Figure 5. Structure of volunteering in the interests of economic units in 2024, % of volunteers by gender and type of settlement



Calculated based on: primary microdata of the Rosstat Labor Force Survey for 2024.

20%. Informal organizations implement personal, emotionally motivated initiatives that cover about 80% of the number of gender-settlement social groups of volunteers.

Involvement patterns: cluster analysis of volunteering

To identify the structure of volunteering, we applied cluster analysis to data on the intensity of involvement in various types of volunteering. The analysis includes information on public participation in 13 types of volunteering in four categories: "weekly", "monthly", "several times a year/from time to time" and "once a year" (*Fig. 6*).

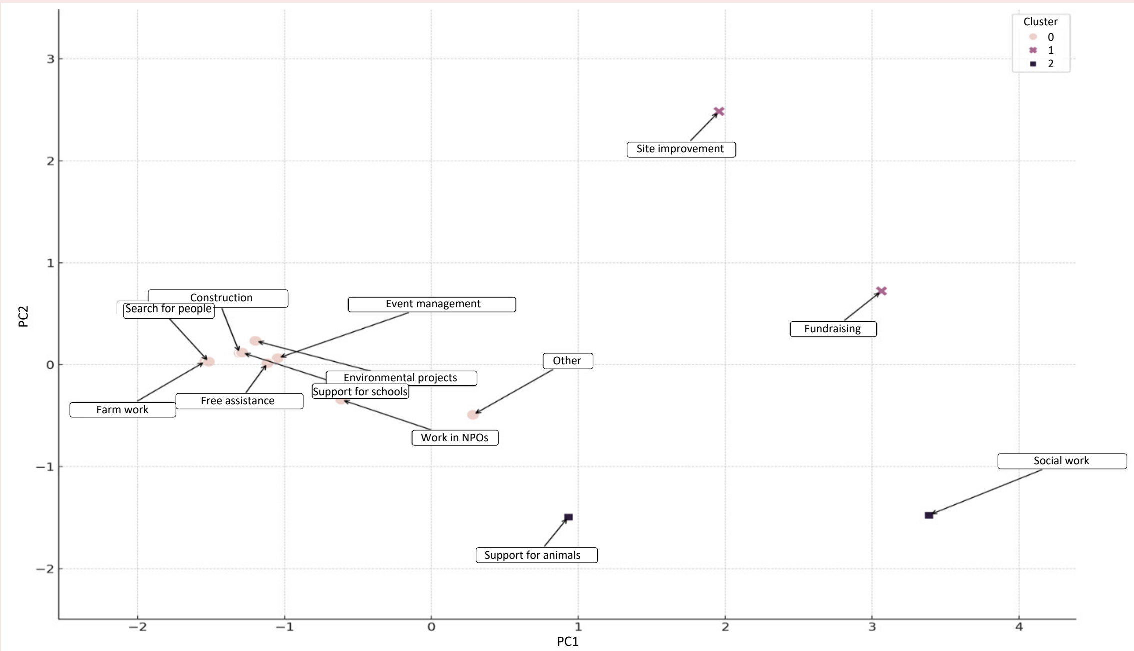
Each type of activity is presented as a four-dimensional vector reflecting the quantitative parameters of involvement. To ensure comparability of variables, all values are standardized using the Z-transform method, which eliminates the impact of differences in measurement scales. The K-Means algorithm is chosen as the clustering method. The division into three clusters, providing an interpretable data structure, was empirically justified. The clustering quality was assessed using the silhouette coefficient, which was 0.59, indicating that the groups were classified quite well.

For interpretation, the principal component analysis (PCA) method is used for dimension reduction. The first two components explained the main part of the variance and allowed visualizing clusters' location in a two-dimensional space. Each point on the diagram is a separate type of activity, colored as a corresponding cluster (see Fig. 6).

As a result, three patterns of involvement were identified.

Cluster 0: occasional involvement. This includes activities with low regularity. Participation is mainly carried out "several times a year" or occasionally. It includes such types as environmental projects,

Figure 6. Cluster analysis of volunteering, 2024



Calculated based on: primary microdata of the Rosstat Labor Force Survey for 2024.

construction, farm work, event management, support for schools, search for people, volunteering to NPOs, free expert assistance (medical care, legal advice, unpaid classes, training, consulting) and more. It is characterized by infrequency and flexible schedule. A separate explanation is required for "volunteering to NPOs" where the majority of respondents answered that they do not volunteer regularly, but rather in individual projects, events, or campaigns. This does not reflect the institutional nature of NPOs, but it characterizes the respondents' behavior – they cooperate with NPOs from time to time, not regularly.

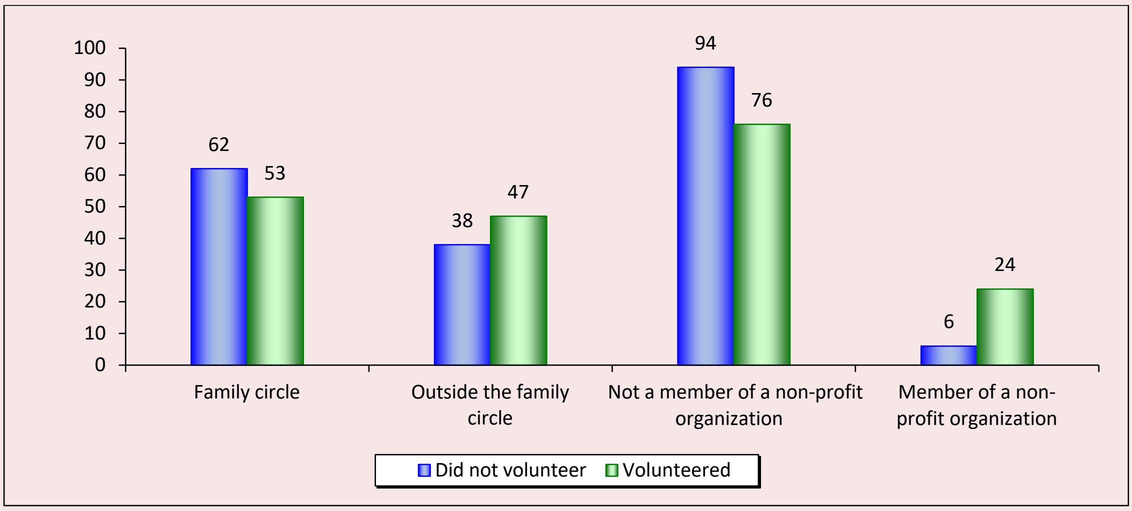
Cluster 1: massive short-term involvement. This cluster includes work involving a large number of volunteers for a short time. Examples are site improvement and fundraising. They attract a wide range of volunteers, and are often held as actions, clean-up days, and campaigns.

Cluster 2: regular (systemic) involvement. It includes activities characterized by high levels of weekly and monthly participation, such as social work and support for animals. They require volunteers' constant engagement and long-term motivation. Our results indicate that there are stable patterns of volunteering, depending on the type of activity.

Social capital as a volunteering resource

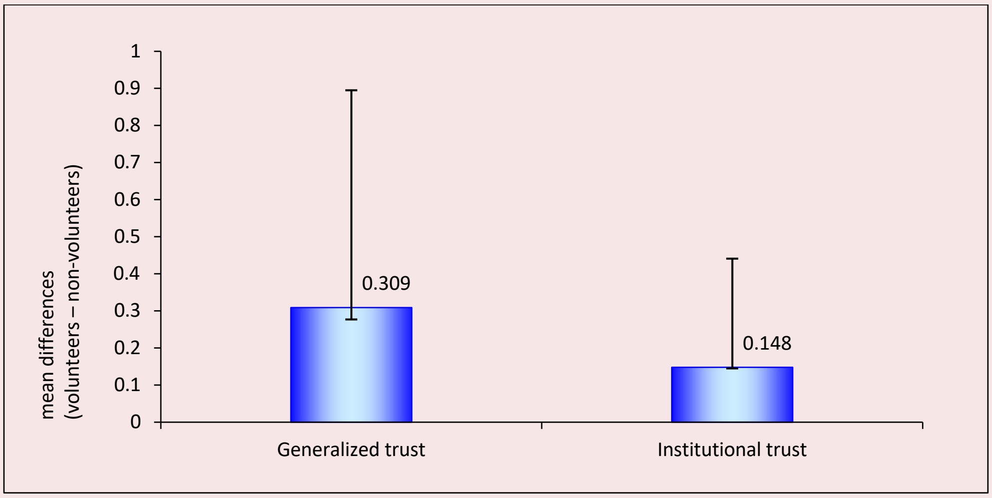
Characteristics such as age and gender have an impact on volunteering not directly, but implicitly, through the amount of available capital (Wilson, 2000). In order to assess the impact of social capital on involvement in various types of volunteer activities, we identified two groups of respondents who volunteered or did not volunteer. According to the results of a regional survey in 2023, 655 respondents volunteered over the past year, which is 45.8% of the total number of respondents. These data demonstrate a high level of participation, but unlike the labor force survey, there is no interpretation in terms of frequency and forms of volunteering, so the numbers and types of volunteering cannot be directly compared here. However, a broad range of tools allows us to study

Figure 7. Social resources of volunteering, % of the corresponding group in the column



Calculated based on: data from our sociological research.

Figure 8. Mean differences in trust (95% confidence intervals) between volunteers and non-volunteers



Calculated based on: data from our sociological research.

social resources. Next, we constructed contingency tables and evaluated mean differences by activity rate according to the χ^2, Student and Fisher criteria. The first two groups in Figure 6 reflect the answers to the question "Where do you find mutual understanding?": in the family (family circle), all other options (outside the family circle). We can consider these two options as a proxy-assessment of a communicative resource. Prioritizing communication outside the family circle increases the likelihood of volunteering by 9% ($\chi^2 = 10.5$; $p = 0.001$). Volunteering of respondents to public organizations reveals an organizational resource. The presence of an organizational resource for social activity increases the probability of volunteering four times ($\chi^2 = 86.3$; $p < 0.001$; *Fig. 7*).

Volunteering is associated with a higher level of trust. After taking into account socio-demographic factors (age, education, type of settlement), standardized mean difference in generalized trust indices is 0.309 ($p = 0.029$), while in the institutional trust it is 0.148 ($p = 0.045$). The difference is small, but statistically significant. The conclusion is consistent with the concept of social capital: involvement in cooperative activities fosters trust in other people and is expanded by communicative resources. The most pronounced influence on institutional trust is exerted by the level of education ($p < 0.001$), which underlines the importance of educational differences in interpreting trust in institutions (*Fig. 8*).

Main findings and conclusion

The research revealed that in 2016–2024, though the population in Russia decreased, the number of volunteers in the country increased more than 3-fold. The largest increase was observed during the COVID-19 pandemic (+53% in 2020) and continued after 2022, underscoring the role of crises as catalysts for civil mobilization. However, this growth is not so significant in terms of personal initiatives in volunteering. The main types of volunteering are fundraising, social work and support for animals. However, according to Rosstat monitoring data, in general, no more than 3% of the population is involved in these types of activities, while their structure reflects contradictions and constraints to volunteer. The regional study shows a much broader involvement in volunteering. All the data confirm the growth of volunteering in Russia, supported by social capital resources.

There has been a transition from traditional, labor-intensive forms (offline assistance) to digital and occasional volunteering: fundraising (increased 10-fold), and other online activities. The pandemic has accelerated the development of distance learning formats, making them part of daily practice.

External and internal volunteering resources were considered. External resources, such as government support, membership in NPOs and volunteering centers, access to information resources, membership in support structures and organizations such as trade unions, have had the strongest impact on the growth of volunteering over the past 8 years. Internal (personal) resources determine an individual's social capital. For example, generalized and institutional trust are internal resources, and their accumulation and manifestation depend on gender and age. In general, the impact of internal resources was significantly reduced compared to the external. Institutional and infrastructural gaps determine structural biases in volunteer activities.

There are gender and intergenerational biases in the Russian volunteering movement. Women and middle-aged people create the basis of the volunteer movement. Urban residents are more likely to engage in institutionalized forms of volunteering, while rural residents more often engage in local initiatives. In terms of involvement, rural residents are relatively more likely to volunteer than urban residents.

As a result of changes in volunteering, three main involvement patterns have developed. The first pattern is occasional or irregular (environmental projects, work in NPO). The second is a massive short-term involvement (clean-up days, fundraising). The third manifests itself as regular and systematic (social assistance, support for animals).

Volunteering in the interests of formal economic units (state, municipal, commercial, public organizations) takes the longest time, but in terms of the total share of people's involvement, their share does not reach 20%. The dominance of volunteering in the interests of households highlights the need for society to develop mechanisms to support personal, occasional volunteering that does not require formal status or institutional recognition. The vanishingly small share of commercial organizations (<1%) can be considered as a potential for the development of corporate volunteering.

Let us formulate some recommendations based on the results of our analysis. It is necessary to develop flexible formats of participation, including digital platforms for involving citizens in public activities. In addition, when developing volunteer support programs, it is useful to take into account age and gender characteristics. The potential includes corporate programs based on professional skills (doctors, teachers, educational programs, civic science) (Romashkina et al., 2024).

This study opens up new questions, such as motivation of men to volunteer, evaluation of the effectiveness of various forms of involvement, which require further consideration. Limitations of the study include the incomplete representativeness of the data, predominance of government sources. There are contradictions between official statistics and research results. Volunteering in Russia demonstrates steady growth and transformation, but remains uneven along demographic and territorial lines. The development of social capital and adaptation of support institutions can enhance its potential.

References

Agafonova D.Yu., Romashkina G.F. (2024). Social capital: Trust and public participation (case study of Tyumen Region). *Sotsiologicheskie issledovaniya=Sociological Studies*, 8, 146–154. DOI: 10.31857/S0132162524080122 (in Russian).

Bekkers R. (2003). Trust, accreditation, and philanthropy in the Netherlands. *Nonprofit and Voluntary Sector Quarterly*, 32(4), 96–615. DOI: https://doi.org/10.1177/0899764003258102

Bekkers R. (2012). Trust and volunteering: Selection or causation? Evidence from a 4-year panel study. *Political Behavior*, 34(2), 225–247. DOI: https://doi.org/10.1007/s11109-011-9165-x

Bekkers R. (2016). Regional differences in philanthropy. In: Jung T., Phillips S.D., Harrow J. (Eds). *The Routledge Companion to Philanthropy*. London: Routledge.

Bourdieu P. (1986). The forms of capital. In: Richardson J.G. (Ed.). *Handbook of Theory and Research for the Sociology of Education*. New York: Greenwood Press.

Brooks A.C. (2005). Does social capital make you generous? *Social Science Quarterly*, 86(1), 1–15. DOI: https://doi.org/10.1111/j.0038-4941.2005.00287.x

Cnaan R.A., Handy F., Wadsworth M. (1996). Defining who is a volunteer: Conceptual and empirical considerations. *Nonprofit and Voluntary Sector Quarterly*, 25(3), 364–383. DOI: https://doi.org/10.1177/0899764096253006

Ermilova A.V., Isakova I.A. (2021) Gender and age characteristics implementing of volunteer activities: Sociological aspect. *Vestnik Nizhegorodskogo universiteta im. N.I. Lobachevskogo. Seriya: Sotsial'nye nauki=Vestnik of Lobachevsky State University of Nizhni Novgorod. Series: Social Sciences*, 1(61), 90–96. DOI: 10.52452/18115942_2021_1_90 (in Russian).

Forbes K.F., Zampelli E.M. (2014). Volunteerism: The influences of social, religious, and human capital. *Nonprofit and Voluntary Sector Quarterly*, 43(2), 227–253. DOI: https://doi.org/10.1177/0899764012452670

Gambetta D. (Ed.). (1988). *Trust: Making and Breaking Cooperative Relations*. Oxford: Basil Blackwell.

Hardin R. (2002). *Trust and Trustworthiness*. New York: Russell Sage Foundation.

Hustinx L., Lammertyn F. (2003). Collective and reflexive styles of volunteering: A sociological modernization perspective. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 14, 167–187. DOI: https://doi.org/10.1023/A:1023948027200

Iarskaia-Smirnova E.R., Yarskaya-Smirnova V.N., Kononenko R.V. (2024). Types of capital in the field of "silver volunteering". *Sotsiologicheskie issledovaniya=Sociological Studies*, 3, 71–82. DOI: https://doi.org/10.31857/S0132162524030067 (in Russian).

Kholina O.I. (2011). Volunteering as social phenomenon of modern Russian society. *Teoriya i praktika obshchestvennogo razvitiya=Theory and Practice of Social Development*, 8 (in Russian).

Khvorostianov N.I. (2017). Volunteer work in Russian society and Russian sociology: A glance from abroad. *Sotsiologicheskii zhurnal=Sociological Journal*, 23(2), 136–152. DOI: https://doi.org/10.19181/socjour.2017.23.2.5162 (in Russian).

Mersiyanova I.V., Yakobson L.I. (2009). *Praktiki filantropii v Rossii: vovlechennost' i otnoshenie k nim naseleniya* [Philanthropy in Russia: Public Attitudes and Participation]. Moscow: Publishing House of the State University Higher School of Economics.

Mowen J.C., Sujan H. (2005). Volunteer behavior: A hierarchical model approach for investigating its trait and functional motive antecedents. *Journal of Consumer Psychology*, 15(2), 170–182. DOI: https://doi.org/10.1207/s15327663jcp1502_9

Musick M.A., Wilson J. (2008). *Volunteers: A Social Profile*. Bloomington, IN: Indiana University Press.

Neilson L.A., Paxton P. (2010). Social capital and political consumerism: A multilevel analysis. *Social Problems*, 57(1), 5–24. DOI: https://doi.org/10.1525/sp.2010.57.1.5

Penner L.A. (2004). Volunteerism and social problems: Making things better or worse? *Journal of Social Issues*, 60, 645–666. DOI: https://doi.org/10.1111/j.0022-4537.2004.00377.x

Pevnaya M.V. (2016). Managing Russian volunteers' efforts: Essence and contradictions. *Sotsiologicheskie issledovaniya=Sociological Studies*, 12, 69–77. Available at: https://www.socis.isras.ru/article/6476 (accessed: May 21, 2025) (in Russian).

Pevnaya M.V., Tarasova A.N. (2024). Young people's propensity to volunteer: A typology based on a regional study. *Sotsiologicheskie issledovaniya=Sociological Studies*, 10, 55–68. DOI: 10.31857/S0132162524100057 (in Russian).

Putnam R.D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy,* 6(1), 65–78. DOI: https://doi.org/10.1353/jod.1995.0002

Romashkina G.F., Andrianova E.V., Khudyakova M.V. (2024). Youth participation in citizen science: Problems and opportunities of engagement in Russian context. *Changing Societies & Personalities*, 8(1), 108–127. DOI: 10.15826/csp.2024.8.1.266

Salamon M.L., Sokolowski S.W., Haddock M.A. (2011). Measuring the economic value of volunteer work globally: Concepts, estimates and a roadmap to the future. *Annals of Public and Cooperative Economics*, 82(3), 217–252. DOI: https://doi.org/10.1111/j.1467-8292.2011.00437.x

Schervish P.G., Havens J.J. (1997). Social participation and charitable giving: A multivariate analysis. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 8(3), 235–260. DOI: https://doi.org/10.1007/BF02354199

Smith D.H. (1994). Determinants of voluntary association participation and volunteering: A literature review. *Nonprofit and Voluntary Sector Quarterly*, 23(3), 243–263. DOI: https://doi.org/10.1177/089976409402300305

Snyder M., Omoto A.M. (2008). Volunteerism: Social issues perspectives and social policy implications. *Social Issues and Policy Review*, 2(1), 1–36. DOI: https://doi.org/10.1111/j.1751-2409.2008.00009.x

Sukharkova M.P. (2021). Social, human and political capital of Olympic volunteers. *Sotsial'naya kompetentnost'=Social Competence*, 6, 3(21), 362–372. Available at: http://sociacom.ru/journals/2021-6/n3/a10 (accessed: May 19, 2025) (in Russian).

Taniguchi H. (2013). The influence of generalized trust on volunteering in Japan. *Nonprofit and Voluntary Sector Quarterly*, 42(1), 127–147. DOI: https://doi.org/10.1177/0899764011434554

Telepaeva D.F., Pevnaya M.V., Kuzminchuk A.A. (2018). Social capital of sports volunteers in the large Russian region. *Nauchnyi rezul'tat. Sotsiologiya i upravlenie=Research Result. Sociology and Management*, 4(3), 108–120. DOI: https://doi.org/10.18413/2408-9338-2018-4-3-0-9 (in Russian).

Ulyanova E.V. (2019). Peculiarities of volunteer movement institutionalization in modern Russian society. *Vestnik Tambovskogo universiteta. Seriya: Gumanitarnye nauki=Tambov University Review. Series: Humanities*, 24(178), 85–92. DOI: 10.20310/1810-0201-2019-24-178-85-92 (in Russian).

Wang L., Graddy E. (2008). Social capital, volunteering, and charitable giving. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 19(1), 23–42. DOI: https://doi.org/10.1007/s11266-008-9055-y

Wilson J. (2000). Volunteering. *Annual Review of Sociology*, 26, 215–240. DOI: https://doi.org/10.1146/annurev.soc.26.1.215

Wilson J., Musick M. (1997). Who cares? Toward an integrated theory of volunteer work. *American Sociological Review*, 62(5), 694–713. DOI: https://doi.org/10.2307/2657355

Wu Z., Zhao R., Zhang X. (2018). The impact of social capital on volunteering and giving: Evidence from urban China. *Nonprofit and Voluntary Sector Quarterly*, 47(6), 1201–1222. DOI: https://doi.org/10.1177/0899764018784761

Zborovsky G.E., Pevnaya M.V., Vedernikov A.A. (2018). Volunteering in the field of regional management (the case of Sverdlovsk Region). *Vestnik PNIPU. Sotsial'no-ekonomicheskie nauki=PNRPU Sociology and Economics Bulletin*, 4, 48–57. DOI: 10.15593/2224-9354/2018.4.1 (in Russian).

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SCIENTIFIC REVIEWS

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Applying Biotechnology in Agriculture: Initial Performance Results of VolRC RAS Laboratory for Bioeconomics

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Abstract. The development of the agro-industrial complex is one of the state priorities in the context of ensuring food security in the Russian Federation. At the same time, the vector of development of ecological agriculture has recently become more pronounced (Strategy for Scientific and Technological Development of the Russian Federation No. 145, dated February 28, 2024; Strategy for the Development of Organic Production until 2030 No. 1788-r, dated July 4, 2023; FAO documents, etc.). Given that the Northwestern Federal District specializes in dairy farming, it is of particular importance to improve the system of cattle feeding, forage production and forage harvesting in the region. Enzymatic and probiotic preparations in animal feeding, microbial growth-stimulating preparations, and biopesticides represent an environmentally safe way to improve the agro-industrial complex. In modern geopolitical conditions, with a high level of sanctions pressure on Russia, the need to develop domestic biological products and their implementation is becoming more obvious. One of the tasks for Vologda Research Center of the Russian Academy of Sciences (VolRC RAS) in such conditions is to implement research projects related to ensuring economic growth and sustainable development of territories based on the use of biotechnology achievements. In this regard, in December 2018, a laboratory for bioeconomics and sustainable development was created at VolRC RAS. During the six years of the laboratory's existence, its team has carried out significant work on the development of this research area. The aim of the article is to analyze and summarize the experience of conducting research on the use of biological drugs that, when being used in the agro-industrial complex, can contribute to addressing the issue of food security. As part of the work, the laboratory's research results have been disseminated on the territory of the Vologda Region: the potential economic effect of using the technology on the entire dairy livestock of the Vologda Region can reach 1.1 billion rubles annually.

Key words: agriculture, laboratory for bioeconomics and sustainable development, agrobiotechnology, enzymatic and probiotic drugs, microorganisms, mycotoxins.

Introduction

Food security is one of the main directions of ensuring the national security of the Russian Federation in the long term, a factor in preserving its statehood and sovereignty, and an essential component of socio-economic policy[1]. The main directions of the state policy to ensure the country's food security include the development of agriculture, as well as the improvement of its scientific potential (Mel'nikov et al., 2021; Mukhametgaliev et al., 2021; Vartanova, 2023).

The role of science in modern economic conditions is to identify and work out measures to improve the agro-industrial complex, develop competitive scientific and technical products in accordance with the needs of agro-industrial production, and innovate based on scientific and technical achievements.

One of the ways to increase the efficiency of the agro-industrial complex is to use the achievements of biotechnology in agricultural production. It is possible to raise the productivity of animals and plants, the quality of feed and agricultural products, increase the use time of farm animals, and minimize the impact on the environment with the help of their rational use (Skryagin, Zabaikin, 2023; Temraleeva, 2024).

Dairy cattle breeding is the most important branch of the agro-industrial complex in the Northwestern Federal District of Russia. According to V.N. Surovtsev, it has comparative advantages

[1] On the approval of the Food Security Doctrine of the Russian Federation: Presidential Decree 20, dated January 21, 2020. Administration of the President of Russia. Available at: http://www.kremlin.ru/acts/bank/45106/page/1

in milk production in relation even to the Central Chernozem Economic Region with a higher agro-biological potential and to European countries, which is due to the wide possibilities of concentrating milk production and realizing economies of scale in dairy farming in the region (Surovtsev et al., 2016).

Numerous studies prove that cattle's productivity depends on the feeding system by 50–60%. However, it is the feed base that is one of the limiting factors in the development of cattle breeding in Russia. For instance, even in a significant part of advanced farms, the development rate of the feed base does not allow animals to fully realize their genetically programmed productive potential: the average content of exchangeable energy in feed from their own harvest rarely exceeds 9 MJ per kg of dry matter. At the same time, as A.L. Zinovenko notes, for a herd with a productivity of 6–7 thousand kg of milk per year, the exchange energy in feed should be at least 10 MJ, for a herd with a productivity of 8 thousand kg – 10.5–11.0 MJ (Zinovenko, 2015). In connection with the above, it is obvious that for the agro-industrial complex of the Northwestern Federal District of the RF, one of the priorities is the problem of increasing the production of high-quality feed and making it cheaper (Platonov et al., 2023a).

High intensity of modern agriculture has led to natural changes in animal husbandry and crop production, expressed in the overly intensive use of animals and water and soil resources. Currently, the transition to more environmentally friendly forms of agriculture is underway. Minimizing the use of various chemicals in crop production, avoiding feed antibiotics in animal husbandry, increasing the efficiency of coarse feed assimilation and reducing the proportion of compound feed in ruminants due to an increase in the nutritional value of harvested feed represent different aspects of environmentally friendly agriculture. The available advantages of biological preparations lead to an increased interest in them among agricultural producers (Petrov et al., 2022).

The use of microorganisms with various enzymatic activities and/or synthetic abilities is a global trend in modern agriculture. This trend can also be seen in the increased publication activity of researchers regarding the use of biological farming products. For example, on the PubMed portal, the query "biopreparations" found 52 publications over the ten-year period 1990–1999, 53 publications were in 2000–2009, 91 publications – in 2010–2019, and 111 publications – over the five-year period 2020-2024. In addition, experts from the Food and Agriculture Organization of the United Nations (FAO) have been carrying out technical work for a long time in the field of management of microorganisms and invertebrates for food production and agriculture, including their use in integrated plant protection programs. FAO experts also pay attention to the high retention of pesticides (40%) in food when used for plant protection (Maksimov et al., 2011).

In the current geopolitical situation and the strengthening of sanctions restrictions against Russia, the development of Russian production of biological drugs, as well as the expansion of their use in the agro-industrial complex, is of particular relevance. This will increase the productivity of agricultural crops and improve the characteristics of finished products, which is an important factor in strengthening the food independence of the state. It is worth noting that the significant dependence of the Russian agro-industrial complex on imported supplies, including seeds, pesticides and feed additives, has led to serious problems in the work of certain sectors of the agro-industrial sector (Eregina, Kuznetsova, 2024; Shelamova, 2023).

The list of studies has significantly expanded after the formation of Vologda Research Center of the Russian Academy of Sciences (VolRC RAS) in 2017 by joining the Northwestern Dairy Farming and Grassland Management Research Institute

(NWDFGMRI) as a separate subdivision. One of the key tasks of the center was the scientific and methodological support for improving the existing system of agricultural activities. For example, the Institute's staff investigated the role and methods of using promising varieties of leguminous crops, the widespread use of low-spread species and varieties of perennial grasses in pasture phytocenoses, effective agrotechnical techniques for creating agrophytocenoses of different maturation periods. Resource-saving technologies for creating highly productive agrophytocenoses of forage crops are presented, ensuring an increase in their productivity and nutritional value by 5–20% (Vakhrusheva et al., 2024). In addition, the effects of mineral fertilizers and a microbiological preparation based on the Gram-positive spore-forming bacterium *Bacillus subtilis* on the yield and nutritional value of spring rapeseed and pasture grasses were studied. It was noted that inoculation of seeds and modification of fertilizers with Bisolbi-T contribute to an increase in the yield of green mass (Pryadil'shchikova et al., 2024; Chernysheva et al., 2025). The Institute's researchers also studied the formation of standardized animal feeding systems, including the use of biological products (Gusarov, Obryaeva, 2023). A significant amount of the Institute's work is devoted to cattle breeding in the European North of Russia (Abramova et al., 2024). The research results served as the basis for the development of the database "Array of microsatellite profiles of the Holstein cattle of the Vologda Region", which contributes to the study of the frequency of occurrence of cattle alleles in the Holstein population of the Vologda Region and genetic diversity in the population[2].

The list of tasks of VolRC RAS expanded even further in December 2018, since the creation of the new youth Laboratory for Bioeconomics and Sustainable Development within the framework of the national project "Science and Universities". The laboratory was created with the aim of implementing research projects related to ensuring economic growth and sustainable development of territories based on the use of biotechnology achievements. Over the previous six years, the laboratory's scientists have made a significant qualitative step forward in the development of research, the results of which have shown the practical importance of biological preparations for agricultural producers, as well as other agricultural entities.

In this regard, the article aims to analyze and summarize the experience of the Laboratory for Bioeconomics and Sustainable Development of VolRC RAS in the use of biological preparations, the introduction of which in agriculture can contribute to solving the problem of the country's food security.

Taking into account the dairy specialization of the Vologda Region agro-industrial complex, the laboratory's research activities developed in three directions:

1) studying the issues concerning the spread of mycotoxins in the feed harvested in the region, as well as the factors influencing this (research began in 2023, the main contribution was made by the following laboratory staff: A.V. Platonov, I.V. Artamonov, D.E. Falaleeva, I.I. Rassokhina, S.V. Eregina);

2) studying the effect of biological preparations on the growth and productivity of fodder crops, as well as the search for promising bacterial strains for agriculture (research began in 2019, the main contribution was made by the following laboratory staff: A.V. Platonov, I.I. Rassokhina, L.V. Sukhareva, S.V. Eregina, M.M. Kuznetsova, A.S. Nikulina);

[2] Selimyan M.O., Kozhevnikova T.V., Khenerina E.V., Murzaeva A.V., Surnacheva S.V. (2025). Certificate of State registration of the database 2025621624, Russian Federation. Array of microsatellite profiles of the Holstein cattle of the Vologda Region: Application: December 13, 2024: published: April 14, 2025.

3) studying the effect of enzymatic probiotic drugs in cattle feeding (research began in 2019, the main contribution was made by the following laboratory staff: Yu.M. Smirnova, A.V. Platonov, A.S. Litonina, S.V. Surnacheva, N.V. Burtseva).

Laboratory tests were carried out at VolRC RAS using the equipment of the Common Use Center "Center for Agricultural Research and Biotechnology".

Studying the issues concerning the spread of mycotoxins in the forages harvested in the region, as well as the factors influencing this

The implementation of this laboratory area was initiated as part of the work on the RSF project (23-26-00163). The assessment of the content of various groups of toxins in harvested feed was carried out in accordance with GOST 31653-2012 on the AIFR-01 UNIPLAN enzyme immunoassay analyzer (Picon, Russia), using standard MULTISCREEN® test systems manufactured by Komprodservice (Belarus) and R-Biopharm (Germany). During the research, samples in which their content was less than the lower detection limit of the test systems were considered to be free of mycotoxins. The maximum accepted concentration (MAC) levels, which are reflected in the veterinary and sanitary requirements of the Customs Union (approved by the decision of the Eurasian Economic Community of the CIS countries 317, dated June 18, 2010), regulate the content of mycotoxins in feeds such as wheat, barley, oats, corn, etc., ignoring juicy and coarse feeds. The values of the MAC level for the above cultures do not have significant differences, therefore, some in their work were guided by these standards: the amount of aflatoxins (according to aflatoxin B1, taking into account the fact that the main part of this amount is aflatoxin B1) is 5 micrograms/kg, ochratoxin–A is 5 micrograms/kg, toxin T-2 – 60 mcg/kg, zearalenone – 500 mcg/kg, DON – 1,000 mcg/kg (Platonov et al., 2024b).

In total, 404 samples of feed harvested by farms of the Vologda Region were examined for mycotoxin content in 2023–2024. The samples are represented by hay (28 pieces), haylage (18 pieces), grain (12 pieces), grain (18 pieces), green mass (38 pieces), silage (30 pieces) and silos of various compositions (257 pieces): legume, grain, corn and mixed grass silage. 318 samples of feed, ochratoxin-A – 308, zearalenone – 246, disoxynivalenol (DON) – 238, and T-2 toxin – 178 were analyzed for the amount of aflatoxins. A comprehensive determination of 4–5 toxins was carried out in 234 samples of harvested feed.

The research results presented that 99% of the studied samples were infected with mycotoxins to some extent, while all the analyzed samples were infected with aflatoxins and zearalenone, 97% with ochratoxin–A and less than a third of the samples with DON, and a significant part of the samples were contaminated with two or more mycotoxins. The samples of grain, green mass and haylage contained mycotoxins below the MAC level, in the hay samples the predominant contaminant was T-2 toxin, the content of which is 9 times higher than the MAC level. According to the results of analyses of silos of different composition, we found that the most infected were legumes and cereal monospecies silos: the excess of the maximum permissible concentration in the amount of aflatoxins averaged 4.1–4.2 times, for ochratoxin-A – 1.1–1.3 times. Monitoring of the mycotoxin content showed that the content of a number of mycotoxins in the samples of grain and legume silage increases with increasing shelf life. For instance, the amount of aflatoxins three to four weeks after harvesting was 3.27 mcg/kg, after 4 months – 5.74 mcg/kg, after 10 months – 22.31 mcg/kg. A similar trend was observed in the determination of zearalenone. The content of ochratoxin-A, on the contrary, decreased slightly. Silage, silage and haylage were the most susceptible to mycotoxin contamination, where the mycotoxin content often exceeded the maximum permissible concentration. At the same time, the botanical composition of the silos did not significantly contribute to the spread of mycotoxins. Aflatoxin and ochratoxin-A turned out to be the most dangerous in terms of distribution and quantitative content (Platonov et al., 2024a; Platonov et al., 2024b).

The results obtained in the work give an idea of the breadth of the problem and the need for timely analysis of feed for mycotoxin content. Agricultural enterprises should implement practices/measures to avoid the possibility of contamination of feed, food raw materials and livestock products with mycotoxins, as well as implement measures to reduce the negative effects on the animal body when using contaminated feed.

One of the possible ways to reduce the level of contamination of feed with toxins is the use of biological preparations in the cultivation of biomass, its silage, as well as in animal feeding (Kuchinsky et al., 2023). These issues are addressed in the research of the Laboratory for Bioeconomics and Sustainable Development.

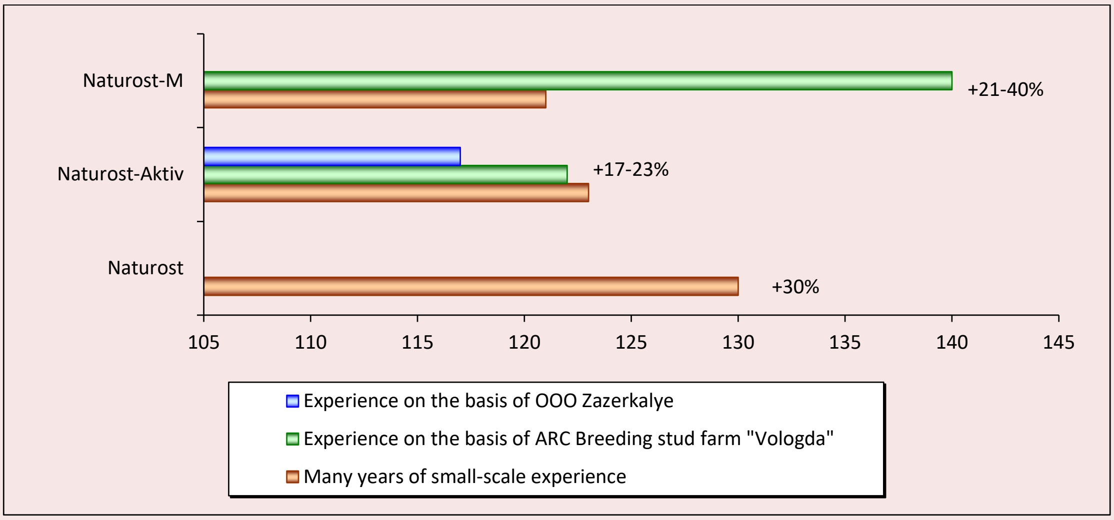
Studying the effect of biological preparations and suspensions of strains of promising microorganisms on the growth and productivity of crops

As part of the research, we used the following experimental preparations to stimulate plant growth and increase plant productivity: Naturost (based on the bacteria *B. subtilis* 111), Naturost-M (based on *B. megaterium* B–4801) and Naturost-Aktiv (based on *Lactobacillus buchneri* 600). During the production of the preparations, the bacteria were cultivated on a nutrient medium that included beet molasses (2%) and mineral salts, with sodium nitrate as the nitrogen source. In 1 ml of the preparation, the content of live bacteria of the initial strain was at least 1×10^8 CFU. The evaluation of the effect of these experimental preparations was carried out by setting up laboratory, small-scale (2019–2023) and production (4 experiments for the period 2020–2023) field experiments. In small-scale field experiments, biologics were introduced by pre–soaking seeds on the day of sowing for 1–2 hours (1 ml of the preparation/1 liter of water), re-application by spraying vegetative organs with a solution of the drug in the same concentration (in cereals – during the tillering phase, in forage grasses – a month after germination/after 3 weeks after mowing). In production conditions, pre-sowing treatment of grain seeds with a mordant was carried out together with a biological preparation of 1 liter/100 liter of the working solution, the second application to the tillering phase together with foliar top dressing of 1–2 l/ha (consumption of the working solution was 200–250 l/ha), in experiments with forage grasses, the preparation was applied in the same concentrations during foliar top dressing after mowing the groundcover crop or after overwintering.

The evaluation of the effect of experimental preparations on forage grasses in the framework of small-scale field experiments was carried out with ryegrass (Platonov et al., 2021), clover-thistle grass mixture (Platonov, Rassokhina, 2023; Platonov et al., 2023c; Rassokhina et al., 2023c), and pea grass mixture (Platonov et al., 2024c). Production experiments of experimental preparations were carried out with a clover-thymophage herb mixture on the basis of farms of OOO Zazerkalye (Platonov et al., 2023c) and Agricultural Production Cooperative (APC) Breeding Stud Farm "Vologdsky" (Platonov, Rassokhina, 2023).

The works of I.I. Rassokhina and co-authors show that under the influence of the studied microbial preparations, the yield of green and dry mass of clover-thymus grass mixture increased by 17–33 and 21–30%, while an increase in metabolic energy to 8% and the content of feed units to 17% was observed (Rassokhina et al., 2023). The effect of the preparation Naturost-M on the productivity and nutritional value of the clover-

Figure 1. Increase in the mass of the dry matter of clover-thymophage herb mixture under the action of experimental microbial preparations (2020–2023)



Source: (Platonov et al., 2023s; Rassokhina et al., 2023).

thymus grass mixture was confirmed in production experience in the fields of the APC Breeding Stud Farm "Vologdsky": the green mass of the grass mixture increased by 36% when the preparation Naturost-M was applied, the dry mass increased by 40%, the protein content in the dry mass increased by 36%. (Platonov, Rassokhina, 2023). The results of studying the effect of the preparation Naturost-Aktiv have also been confirmed in the conditions of a real economy (OOO Zazerkalye). It was shown that the green mass collection increased by 10–17% when the drug was applied, the dry mass by 9–22%, and the nutritional value of the total content of feed units per 1 kg of biomass by 6% (*Fig. 1*).

In addition to the effect of the studied microbial preparations on a long-term clover-thymus grass mixture, field small-scale studies have shown the effect of Naturost series preparations on the pea grass mixture: the biomass of the pea grass mixture increased to 26%. There was a slight growth in the nutritional value of both the grass itself and the silage harvested from it (Platonov et al., 2024c). A similar effect of the preparations was revealed on annual ryegrass: an increase in the productivity of the green mass of ryegrass to 41% and the preservation of nutrients in the resulting silage was found. The yield of feed units and exchange energy in the silage mass of ryegrass of the experimental variants exceeded the control by up to 53 and up to 43%, respectively (Platonov et al., 2021).

Evaluation of the effect of experimental drugs on grain crops in the framework of small-scale field experiments (*Tab. 1*) was carried out on Sonnet barley (Platonov et al., 2023b; Platonov et al., 2024d; Rassokhina, Platonov, 2023a), Lev oats (Platonov et al., 2022; Rassokhina et al., 2024) and Yakov (Platonov et al., 2022; Platonov et al., 2023), as well as wheat of Darya variety (Rassokhina et al., 2024). Production experience with test preparations based on Sonnet spring barley was delivered in 2020 to the fields of the IAPC (Integrated Agricultural Production Center) Collective Farm "Peredovoi" (Rassokhina, Platonov, 2023a) and in 2022 to APC (Collective Farm) "Plemzavod Prigorodny" (Platonov et al., 2024d).

Table 1. Grain addition of experimental crops using experimental preparations (small-scale experiments), %

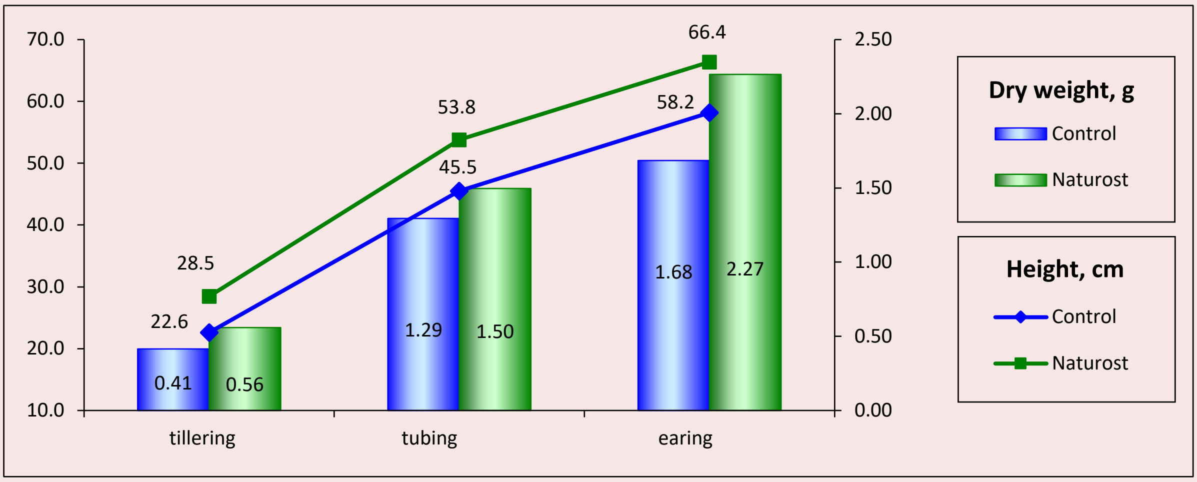
Preparation	Barley of Sonnet variety	Oat of Lev variety	Oat of Yakov variety	Wheat of Daria variety
Naturost	+ 7–19	+ 6–29	+ 14–35	+ 5–6
Naturost-Aktiv	+ 8–26	+ 13–29	+ 2–25	+ 9
Naturost-M	+ 7–9	+ 15–17	+ 12–31	+ 5–10
Source: results of our own research.				

The research of A.V. Platonov and co-authors proved that the preparation Naturost within the framework of three-year small-scale field experiments contributed to an increase in the growth and productive parameters of barley: dry weight increased by 29–33%, chlorophyll content – by 3–16%, grain productivity – by 7–19%. The 2022 production experience confirmed the results obtained earlier, an increase in plant height was detected when applying Naturost by 14–26%, raw and dry weight by 14–46% (*Fig. 2*), grain productivity by 14% (Platonov et al., 2024d).

The results of studying the effect of the preparation Naturost-M on the growth and productivity of barley indicate that the area of the assimilation surface of barley raised by 15%, and the content of photosynthetic pigments increased by 10–36%, which suggests a greater energy supply of experimental plants compared with the control. This assumption is consistent with the indicators of dry weight (increases by 3–19%) and grain productivity (by 7–9%, see Tab. 1) (Platonov et al., 2023b).

The effect of the preparation Naturost-Aktiv led to growth in the yield of Sonnet barley by 8–26%. In addition, the application of the preparation Naturost-Aktiv increased the area of a single barley leaf to 16%, the content of chlorophylls – by 18–49%, carotenoids – by 13–17%, dry weight – by 12–65%. The results of the growth-stimulating effect of the preparation were confirmed in real farming conditions: the grain productivity of barley exceeded the control by 14% (Rassokhina, Platonov, 2023a).

Figure 2. Dynamics of growth parameters of barley in production experience on the basis of APC (Collective farm) "Plemzavod Prigorodny" (2022)



Source: (Platonov et al., 2024d).

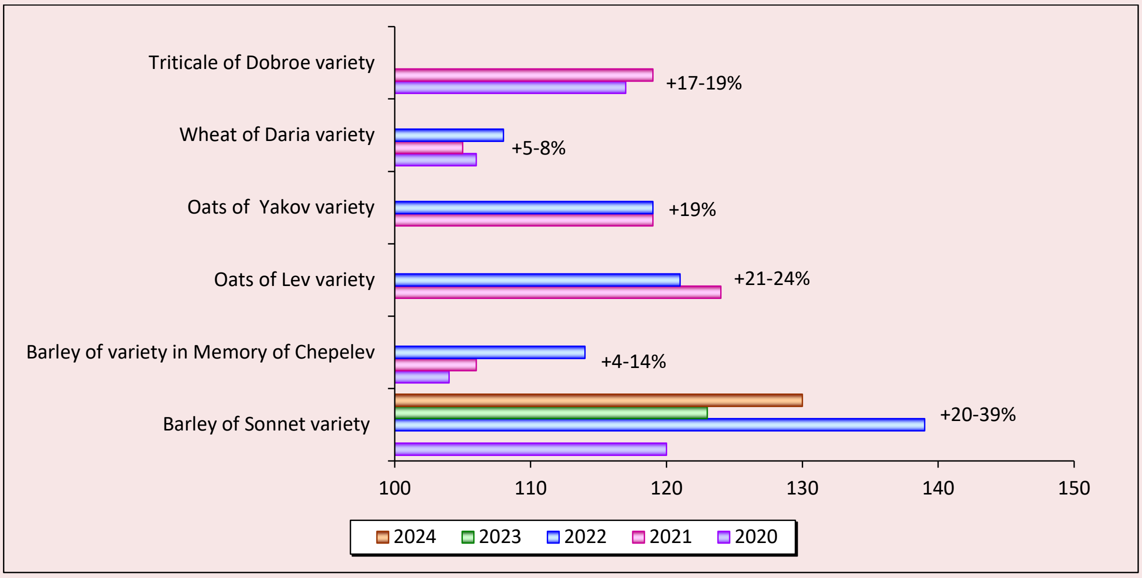
The leaf surface area of Yakov oats when applying Naturost and Naturost-M preparations exceeded the control by 12–40 and 15–33%, the dry weight by 9–59 and 9–58%, respectively. Activation of the growth of experimental variants contributed to an increase in the final grain productivity of oats by 20–25% (Platonov et al., 2023). The effect of these preparations has also been demonstrated on oats of Lev variety: during the tubing phase, the differences in dry weight are 38-59%, and in raw weight – 41–66%. In terms of grain yield, the differences between the experimental variants relative to the control reach 6–29% and 15–17% (see Tab. 1) according to the preparations Naturost and Naturost-M (Platonov et al., 2022). The preparation Naturost-Aktiv significantly increased the dry weight of Lev oats by 16–48%, and the wet weight by 18–37%. Grain productivity of oats exceeded the control by 13–29% (Rassokhina et al., 2024).

The effectiveness of the preparation Naturost-M has also been demonstrated on soft wheat in the region. The dry mass accumulation rate of the experimental version exceeded the control by 17–55% in 2020, by 9–21% in 2021 and by 6–22% in 2022. The grain productivity of wheat in the framework of field experiments reached 28.3–34.5 c/ha, the preparation Naturost-M increased this indicator by 5–10% (Rassokhina et al., 2024).

In addition to studying the effect of ready-made experimental preparations on the growth and productivity of crops, the laboratory has been studying a suspension of a promising strain of *Pseudomonas* sp. GEOT18 since 2020. The bacteria *Pseudomonas* sp. GEOT18 were isolated from the internal tissues of stem tuberoids of generative individuals *Dactylorhiza incarnata* (L.) Soó in the Laboratory for Molecular Genetics and Biotechnology of P.G. Demidov Yaroslavl State University. The strain was identified by molecular genetic analysis of the nucleotide sequence of the 16S rRNA gene fragment, and the resulting sequence was deposited in the GenBank database (MT180656). A suspension of the *Pseudomonas* sp. GEOT18 strain was obtained on LB medium under constant stirring conditions at a temperature of 24 ° C for 16–18 hours. Plants were treated with a suspension of the strain twice: before sowing (seed inoculation for 30 minutes) and in the tillering phase (spraying the phyllosphere until fine dew drops appear). For the treatment of plants in the control variant, water was used according to the same scheme (Rassokhina, Marakaev, 2023; Rassokhina, Platonov, 2023b).

Laboratory experiments using water and soil culture methods on Lev oats have shown the possibility of suspension to activate plant growth already at the first stages of vegetation (Rassokhina et al., 2020), and field experiments in 2020–2024 have confirmed the effectiveness of using suspension as a growth stimulator for grain crops: oats, barley (Rassokhina, Marakaev, 2023; Rassokhina, Platonov, 2023b), wheat (Rassokhina, Platonov, 2021) and triticale (Rassokhina et al., 2022). It has been shown that in the 2020 experiment, treatment with a suspension of *Pseudomonas* sp. GEOT18 strain causes a growth in dry weight (up to 53%) and assimilation surface area (up to 21%) in barley, while an increase in pigment content is observed in Sonnet barley plants throughout the growing season. As a result, the grain productivity of Sonnet barley increases by 20% relative to the control (Rassokhina, Marakaev, 2023). At the same time, the differences between the experimental and control versions of Sonnet barley in the 2022 studies become even more pronounced throughout the growing season, with the difference in grain productivity reaching 46% (Rassokhina, Platonov, 2023b). In barley, as in other crops, regardless of the conditions of the growing season, grain productivity increased when using a suspension of *Pseudomonas* sp. GEOT18 strain (*Fig. 3*).

Figure 3. Grain productivity of crops under the action of suspension of Pseudomonas sp. GEOT18 strain, % relative to control



Source: results of our own research.

Currently, the laboratory's research in this area is deepening and is limited to the search for promising bacterial strains from various parts of local plants from the point of view of agricultural production. The agricultural production development by environmentally sound methods is one of the priority areas of activity in Russia, which is reflected in current regulatory documents: the Strategy of Scientific and Technological Development of the Russian Federation (approved by Presidential Decree 145, dated February 28, 2024) and the Strategy for the Development of Organic Production until 2030 (RF Government Resolution 1788-r, dated July 4, 2023).

Studying the effect of enzymatic probiotic drugs in cattle feeding

Scientific and economic experiments to study the effects of probiotic preparations were conducted in the livestock farms in the Vologda Region: AO Plemzavod Rodina (Vologdsky District), IAPC Collective Farm Peredovoy (Vologdsky District), APC Andoga Collective Farm (Kaduysky District), OOO Zarya (Chagodoshchensky District), OOO Zazerkalye (Gryazovetsky District). As part of the laboratory's research, the effect of probiotic drugs for feeding cattle was studied: Cellobacterin+, Rumit, Rumit-V.

The Rumit preparation is an association of bacteria isolated from reindeer rumen (*Rangifer tarandus*) (genera Bacillus, Bacteroides, Porphyromonas, Pseudomonas, etc.) applied to sunflower meal in an amount of 2×10^7 CFU/g and dried to obtain a dry concentrate in powder form. The results of laboratory studies made it possible to identify the most promising strain from the bacterial association, *Bacillus velezensis*. The staff of OOO Biotrof has established that this strain promotes the decomposition of cellulose, has antagonistic properties against a number of pathogenic microorganisms, and is not devoid of the ability to biodegrade mycotoxins. The preparation Rumit-V is based on a strain of *B. velezensi*, which is applied to sunflower meal in an amount of 2×10^7 CFU/g. At the initial stages of the study, the widely known probiotic Cellobacterin+ was used in a comparative aspect, which is represented by the *Enterococcus faecium* 1-35 strain applied to sunflower meal in an amount of at least 10^6 CFU/g.

Studying the effect of enzymatic probiotic preparations on the health and productivity of cattle was carried out as part of experiments on the Russian Black Pied cattle (Litonina et al., 2020; Smirnova, Platonov, 2020; Smirnova et al., 2023b; Smirnova et al., 2023c; Platonov et al., 2024e; Surnacheva et al., 2024) and the Ayrshire (Smirnova et al., 2023a) breeds. In addition, studies were conducted on calves during breastfeeding (Litonina et al., 2022; Smirnova et al., 2022).

The results of the evaluation of the effect of the preparations Rumit and Cellobacterin + on the basis of OOO Zazerkalye are shown in the works (Litonina et al., 2020; Smirnova, Platonov, 2020). It is worth noting that these preparations raised the base fat content by 7–11 and 5%, respectively, the milk fat yield by 5–11 and 4–5%, the milk protein yield by 6–10 and 2–8%, which allowed for additional profit per day of 24.50–77.95 and 15.44–29.51 rubles, respectively, for the preparations Rumit and Cellobacterin+ (*Tab. 2*).

The research of Yu.M. Smirnova and co-authors noted that the use of the probiotic Rumit in feeding cows of the Ayrshire breed (experience on the basis of OOO Zarya) raises the activity of the scar microflora by 28%, increases the total protein content in the blood by 14%, reduces urea by 19% and bilirubin by 21%. As a result, the use of probiotics increased the dairy productivity of the Ayrshire cows by 7%. As a result, the cost of energy feed units for production decreased by 5%. The additional profit from the sale of milk in the experimental group amounted to 37.32 rubles per head per day (Smirnova et al., 2023a).

As follows from the data obtained, the preparation Rumit proved to be more effective in comparison with the preparation Cellobacterin +, and therefore research and modernization of this preparation continued. Its improved form is Rumit-V, the production of which turned out to be more profitable. The effectiveness of the new form of the drug was studied on the basis of OOO Zazerkalye (*Tab. 3*).

We can see that the basic fat content when feeding the preparation Rumit-V increases by 5% relative to the control (the preparation Rumit is 1% higher than the control), the milk fat yield is 8% (7%), the milk protein yield is 2% (1%). The

Table 2. Results of studying preparations Cellobacterin+ and Rumit in scientific and production experiments on dairy cows

Indicator	IAPC Collective Farm Peredovoi			AO Plemzavod Rodina		
	Control	Rumit	Cellobacterin+	Control	Rumit	Cellobacterin+
Above the base fat content, kg	31.8 ± 1.1	35.4 ± 1.4*	33.3 ± 1.5	30.9 ± 1.9	33.2 ± 1.1	32.4 ± 2.0
Gross milk fat yield, kg	84.4 ± 3.1	94.0 ± 3.7*	88.7 ± 4.0	79.8 ± 4.80	83.6 ± 3.33	82.6 ± 5.03
Gross milk protein yield, kg	74.4 ± 2.3	82.1 ± 3.0*	80.6 ± 3.4	74.9 ± 4.74	79.1 ± 5.52	76.6 ± 4.17
Gross income for the period of experience, kg [a]	2481	2764	2609	2346	2458	2429
The cost of additional milk, rubles [b]	-	7960.78	3600.64	-	3150.56	2334.79
Additional profit per day, rubles	-	77.95	29.51	-	24.50	15.44

Note: * – The difference with the control is statistically significant at $p<0.05$; [a] – calculated based on the amount of milk of the basic fat content; [b] – the average selling price of milk is 28.13 rubles.
Source: (Litonina et al., 2020; Smirnova, Platonov, 2020).

Table 3. Results of studying the preparations Rumit and Rumit-V in scientific and production experience on dairy cows on the basis of OOO Zazerkalye

Indicator	Control	Rumit	Rumit -V
Above the base fat content, kg	31,3 ± 0,7	31,6 ± 1,0	33,0 ± 0,4*
Gross milk fat yield, kg	32,9 ± 1,5	35,2 ± 2,9	35,6 ± 0,5
Gross milk protein yield, kg	32,7 ± 1,1	32,9 ± 1,3	33,4 ± 0,1
Gross income for the period of experience, kg [a]	2881 ± 127	2906 ± 122	3032 ±1 31
The cost of additional milk, rubles [b]	-	6167,92	7566,46
Additional profit per day, rubles	-	56,03	71,57

Note: * – The difference with the control is statistically significant at $p < 0.05$; [a] – calculated based on the amount of milk of the basic fat content; [b] – the average selling price of milk is 28.13 rubles.
Source: (Smirnova et al., 2023; Platonov et al., 2024e; Surnacheva et al., 2024).

observed increase in productivity when feeding the preparation Rumit-V allowed receiving an additional 71.57 rubles per day, when using the preparation Rumit – 56.03 rubles per day. We also noted that the inclusion of Rumit and Rumit-V feed additives in animal diets contributed to an increase in the density of the infusion fauna by 68% and 3 times, respectively, compared with the control group (Platonov et al., 2024e; Surnacheva et al., 2024). The research also revealed that cows fed Rumit had a 45% increase in the density of ciliates in the rumen (Smirnova et al., 2023b). In addition, we found that the probiotics studied led to the stimulation of eating behavior: cows ate 13–26% longer, chewing time increased by 9–14% (Smirnova et al., 2023c).

The effectiveness of the probiotic Rumit has also been proven in studies on the Russian Black Pied cattle calves aged 1.5–2 months on the basis of the APC Andoga Collective Farm (Kaduisky district): when feeding a probiotic in the amount of 15 g/head/day, there is a gross increase in animal weight to 74.2 kg, which reduces feed costs per unit of production by 4% (Litonin et al., 2022). The research also noted that in calves of the experimental group, the blood content of total protein increased by 8%, glucose – by 22%, urea content decreased by 13%, bilirubin and cholesterol – by 6 and 12%, respectively (Smirnova et al., 2022).

Thus, the scientific results obtained by the Laboratory for Bioeconomics and Sustainable Development demonstrate the effectiveness of the use of biological preparations in feeding cattle (both dairy cows of different breeds and calves), in activating plant growth processes, increasing productivity and quality of feed harvested by agricultural enterprises. The importance of mycotoxicological analysis of feed harvested by farms in the region has also been proven.

To assess the economic effect for the region from the use of the investigated developments (new preparations Rumit and Rumit-V), calculations were carried out based on the results of experiments on the basis of four livestock farms in the Vologda Region. We revealed that in 90 days, the additional profit in the group of cows receiving the probiotic Rumit for the main diet amounted to 2205.0–7015.5 rubles per head, and in the group using Rumit-V – 6441.3 rubles per head. Thus, the additional profit per head per lactation will amount to 7428.5–23 777.8 rubles (*Tab. 4*).

Table 4. Economic effect of the use of biological products Rumit and Rumit-V by agricultural enterprises

Indicator	Preparation Rumit				Preparation Rumit-V	Average data
	IAPC Collective Farm Peredovoi	AO Plemzavod Rodina	OOO Zarya	OOO Zazerkalye		
Additional profit per day, rubles per head	77.95	24.50	37.61	56.03	71.57	53.53
Annual economic effect, thousand rubles per head	23.78	7.48	11.47	17.09	21.83	16.33

Note: the total duration of lactation is 305 days per year; the calculation was based on the prices of the research year.
Source: results of our own research.

Table 5. Potential economic effect for the region from the introduction by agricultural enterprises of the results of the production experiments

Indicator	Effect from one head	Vologodsky District	Vologda Region
Size of the milking herd, units	1	17,387	69,507
Annual economic effect, thousand rubles	16.33	283929.71	1135049.31

Note: the average data for two drugs is taken, the total duration of lactation is 305 days per year.
According to: Agriculture, hunting and forestry (2025). Vologdastat: Federal State Statistics Service. Available at: https://35.rosstat.gov.ru/sel%27skoe%20hozyajstvo (accessed: 20.04.2025).

Table 5 demonstrates the results of scaling up the laboratory's experience in the use of enzymatic probiotic preparations Rumit and Rumit-V in the Vologda Region. At the same time, the potential economic effect of using the technology on the entire dairy livestock of the Vologda Region can reach 1.1 billion rubles annually.

Conclusion

Thus, technological solutions by the Laboratory for Laboratory for Bioeconomics and Sustainable Development of VolRC RAS through the introduction of preparations of microbial origin into agricultural production (both in the feeding system and feed production) can increase the efficiency of the Vologda Region agro-industrial complex. This, in turn, will have an impact on ensuring Russia's food security.

In summary, we should say that the laboratory is at the stage of formation. The research team is faced with the task of identifying a key research area, as well as forming its own research profile. Based on the existing state tasks, as well as the capabilities of the infrastructure of VolRC RAS and the staff, it seems advisable to move toward creating our own microbial preparations for agricultural production in the region. The implementation of this direction will make it possible to provide agricultural producers with biological preparations that will prove to be the most effective in the conditions of the Vologda Region. To achieve such an ambitious goal, the laboratory staff has already begun exploratory research, which boils down to isolating, studying and selecting biotechnologically promising bacterial strains from various parts of native plants. A separate branch of the search will focus on the ability of bacteria to destroy mycotoxins.

References

Abramova N.I., Khromova O.L., Selimyan M.O., Zenkova N.V. (2024). *Sovershenstvovanie plemennykh i produktivnykh priznakov krupnogo rogatogo skota v usloviyakh Severo-Zapada: monografiya* [Improvement of Breeding and Productive Characteristics of Cattle in the North-West: Monograph]. Moscow; Vologda: Infra-Inzheneriya.

Chernysheva O.O., Vakhrusheva V.V., Pryadil'shchikova E.N. (2025). Effect of mineral fertilizers and microbiological preparation on yield and nutrition of spring rape. *AgroZooTekhnika=Agricultural and Lifestock Technology,* 8(1). DOI: 10.15838/alt.2025.8.1.3 (in Russian).

Eregina S.V., Kuznetsova M.M. (2024). Potential for using of microorganisms *Bacillus* genus in crop production. *Izvestiya Sankt-Peterburgskogo gosudarstvennogo agrarnogo universiteta=Izvestia of Saint-Petersburg State Agrarian University*, 3(77), 19–35. DOI: 10.24411/2078-1318-2024-3-19-35 (in Russian).

Gusarov I.V., Obryaeva O.D. (2023). *Sistema normirovannogo kormleniya vysokoproduktivnykh korov* [The System of Standardized Feeding of Highly Productive Cows]. Vologda: VolNTs RAN.

Kuchinsky M.P., Krashevskaya T.P., Kuchinskaya G.M. (2023). Biological methods for reducing mycotoxin the contents of mycotoxins in animal diets (review). *Epizootologiya. Immunobiologiya. Farmakologiya. Sanitariya=Epizootology. Immunobiology. Pharmacology. Sanitation*, 2, 52–58 (in Russian).

Litonina A.S., Platonov A.V., Smirnova Yu.M. (2020). The use of enzymatic probiotic drugs in feeding lactating cows at JSC "Rodina Breeding Plant". *Agrarnyi nauchnyi zhurnal*, 8, 62–65. DOI: 10.28983/asj.y2020i8pp62-65 (in Russian).

Litonina A.S., Smirnova Yu.M., Platonov A.V. (2022). The effect of the probiotic "Rumit" on the growth activity of black-and-white calves. *Agrarnaya nauka Evro-Severo-Vostoka=Agricultural Science Euro-North-East*, 23(3), 395–401. DOI: 10.30766/2072-9081.2022.23.3.395-401 (in Russian).

Maksimov I.V., Abizgil'dina R.R., Pusenkova L.I. (2011). Plant growth promoting rhizobacteria as alternative to chemical crop protectors from pathogens (review). *Appl Biochem. Microbiol.*, 47, 333–345.

Melnikov A.B., Mikhaylushkin P.V., Kotok N.Yu. (2021). Assessment of the level of food security in the world. *Mezhdunarodnyi sel'skokhozyaistvennyi zhurnal=International Agricultural Journal*, 1, 4–6 (in Russian).

Mukhametgaliev F.N., Sitdikova L.F., Lukin A.S., Madyshev I.Sh., Zakirova F.F. (2021). Agro-industrial complex in the implementation of the food security doctrine. *Finansovyi biznes*, 11, 322–327 (in Russian).

Petrov V.B., Chebotar' V.K., Kazakov A.E. (2022). Microbiological preparations in the biologization of agriculture in Russia. *Dostizheniya nauki i tekhniki APK*, 10, 16–20 (in Russian).

Platonov A.V., Eregina S.V., Artamonov I.V. (2024a). Results of mycotoxicological monitoring of cattle feed harvested in the Vologda Region. *Agrarnaya nauka Evro-Severo-Vostoka=Agricultural Science Euro-North-East*, 25(6), 1124–1136. DOI: 10.30766/2072-9081.2024.25.6.1124-1136 (in Russian).

Platonov A.V., Eregina S.V., Rassokhina I.I. (2023a). About the state of forage harvesting in the Vologda region. *Izvestiya Gorskogo gosudarstvennogo agrarnogo universiteta*, 60(3), 21–33. DOI: 10.54258/20701047_2023_60_3_21 (in Russian).

Platonov A.V., Eregina S.V., Rassokhina I.I. (2023b). The reaction of spring barley to the introduction of an experimental biological product. *Vestnik Altaiskogo gosudarstvennogo agrarnogo universiteta*, 10(228), 5–10. DOI: 10.53083/1996-4277-2023-228-10-5-10 (in Russian).

Platonov A.V., Rassokhina I.I. (2023). The productivity of the clover-thymophage herb mixture when grown using a preparation based on *Bacillus megaterium* bacteria. *Kormoproizvodstvo*, 3, 31–35. DOI: 10.25685/krm.2023.71.28.001 (in Russian).

Platonov A.V., Rassokhina I.I., Artamonov I.V. (2024b). Monitoring the prevalence of mycotoxins in cattle feed in the Vologda Oblast. *Zootekhniya*, 11, 14–16. DOI: 10.25708/ZT.2024.68.21.003 (in Russian).

Platonov A.V., Rassokhina I.I., Eregina S.V. (2024c). Changes in the productivity and nutritional value of the pea-grass mixture under the influence of biological preparations based on bacteria of the genus *Bacillus*. *Trudy Kubanskogo gosudarstvennogo agrarnogo universiteta*, 113, 220–225. DOI: 10.21515/1999-1703-113-220-225 (in Russian).

Platonov A.V., Rassokhina I.I., Il'ina L.A., Iyldyrym E.A., Laptev G.Yu. (2024d). Practical justification of the possibility of using an experimental biological product in the cultivation of barley. *Siberian Journal of Life Sciences and Agriculture*, 16(2), 271–291. DOI: 10.12731/2658-6649-2024-16-2-809 (in Russian).

Platonov A.V., Rassokhina I.I., Laptev G.Yu. (2022). The effect of biologics based on bacteria of the genus *Bacillus* on the productivity of oats. *Kormoproizvodstvo*, 6, 44–48. DOI: 10.25685/krm.2022.2022.6.007 (in Russian).

Platonov A.V., Rassokhina I.I., Laptev G.Yu., Bol'shakov V.N. (2021). Changes of the productivity and nutritional value of ryegrass under the influence of biologics. *Agrarnyi nauchnyi zhurnal=The Agrarian Scientific Journal*, 10, 42–46. DOI: 10.28983/asj.y2021i10pp42-46 (in Russian).

Platonov A.V., Rassokhina I.I., Laptev G.Yu., Bolshakov V.N. (2023). Preparations use based on bacteria of the genus Bacillus to increase the yield of oats (*Avena sativa* L.). *Agrivita*, 45, 1, 48–55. DOI: 10.17503/agrivita.v45i1.3757

Platonov A.V., Rassokhina I.I., Laptev G.Yu., Khoshtariya E.E. (2023c). Effect of preparation, based on the bacteria *Lactobacillus buchneri*, on the productivity of clover and timothy mixture. *Agrarnaya nauka=Agrarian Science*, 9, 105–109. DOI: 10.32634/0869-8155-2023-374-9-105-109 (in Russian).

Platonov A.V., Smirnova Yu.M., Laptev G.Yu., Khoshtariya E.E. (2024e). The experience of using the Rumit feed additive in the diets of lactating cows. *Zootekhniya*, 8, 13–17. DOI: 10.25708/ZT.2024.54.20.00 (in Russian).

Pryadil'shchikova E.N., Vakhrusheva V.V., Chernysheva O.O. (2024). Influence of mineral fertilizers and biopreparations on productivity indicators of pasture agrophytocenoses. *AgroZooTekhnika=Agricultural and Lifestock Technology,* 7(3). DOI: 10.15838/alt.2024.7.3.2 (in Russian).

Rassokhina I.I., Eregina S.V., Platonov A.V. (2024). Effect of experimental preparation based on bacteria *Lactobacillus buchneri* on growth and productivity of oats (*Avena sativa*). *Agrarnyi vestnik Urala=Agrarian Bulletin of the Urals*, 24(12), 1613–1623. DOI: 10.32417/1997-4868-2024-24-12-1613-1623 (in Russian).

Rassokhina I.I., Marakaev O.A. (2023). Assessment of morphophysiological parameters and productivity of *Hordeum vulgare* under the action of *Pseudomonas* sp. GEOT18 strain suspension. *Izvestiya vysshikh uchebnykh zavedenii. Povolzhskii region. Estestvennye nauki=University Proceedings. Volga Region. Natural Sciences*, 3(43), 92–104. DOI: 10.21685/2307-9150-2023-3-8 (in Russian).

Rassokhina I.I., Platonov A.V. (2021). The effect of bacteria of the genus Pseudomonas sp. on biological and economic productivity of soft wheat in the Vologda Oblast conditions. *Mezhdunarodnyi sel'skokhozyaistvennyi zhurnal=International Agricultural Journal*, 64(5). DOI: 10.24411/2588-0209-2021-10356 (in Russian).

Rassokhina I.I., Platonov A.V. (2023b). Effect of suspension of Pseudomonas sp. GEOT18 strain on growth and productivity of barley variety Sonnet. *Vestnik agrarnoi nauki*, 6(105), 50–55. DOI: 10.17238/issn2587-666X.2023.6.50 (in Russian).

Rassokhina I.I., Platonov A.V. (2023a). The effect of a microbiological product based on *Lactobacillus buchneri* on barley growth and productivity of in the Vologda region. *Zernovoe khozyaistvo Rossii=Grain Economy of Russia*, 15(5), 63–69. DOI: 10.31367/2079-8725-2023-88-5-63-69 (in Russian).

Rassokhina I.I., Platonov A.V., Laptev G.Yu., Chernikova N.V. (2023). Productivity of the Clover-thymophage herb mixture when using microbiological preparations. *Agrarnyi nauchnyi zhurnal=The Agrarian Scientific Journal*, 1, 41–47. DOI: 10.28983/asj.y2023i1pp41-47 (in Russian).

Rassokhina I.I., Platonov A.V., Marakaev O.A., Zaitseva Yu.V. (2020). The effectiveness of inoculation of oat seeds with the Pseudomonas sp. GEOT18 strain, promising for the creation of a biological product. *Mezhdunarodnyi sel'skokhozyaistvennyi zhurnal=International Agricultural Journal*, 5(377), 52–55. DOI: 10.24411/2587-6740-2020-15093 (in Russian).

Rassokhina I.I., Platonov A.V., Platonov A.A. (2022). The genus *Pseudomonas sp.* bacteria on the *Triticosecale* growth and productivity. *Vestnik KrasGAU=Bulletin KrasSAU*, 1 (178), 93–99. DOI: 10.36718/1819-4036-2022-1-93-99 (in Russian).

Rassokhina I.I., Platonov A.V., Sukhareva L.V. (2024). Grain yield of soft wheat under the conditions of the Vologda region when applying Naturost-M microbial preparation. *Vestnik Altaiskogo gosudarstvennogo agrarnogo universiteta=Bulletin of Altai State Agricultural University*, 12(242), 5–10. DOI: 10.53083/1996-4277-2024-242-12-5-10 (in Russian).

Shelamova N.A. (2023). The impact of sanctions on the development of agriculture and the agro-food market in Russia. *Ekonomika, trud, upravlenie v sel'skom khozyaistve=Economy, Labor, Management in Agriculture*, 9(103), 45–53. DOI: 10.33938/239-45 (in Russian).

Skryagin Yu.V., Zabaikin Yu.V. (2023). Modern biotechnologies in the agricultural sector. *Ekonomika: vchera, segodnya, zavtra=Economics: Yesterday, Today, Tomorrow*, 13(2B), 426–434. DOI: 10.34670/AR.2023.47.76.009 (in Russian).

Smirnova Yu.M. Platonov A.V. (2020). The effect of enzymatic probiotic drugs on the nutritional behavior and milk productivity of first-calf cows. *Molochnoe i myasnoe skotovodstvo*, 5, 47–50. DOI: 10.33943/MMS.2020.70.45.009 (in Russian).

Smirnova Yu.M., Platonov A.V., Kotelevskaya V.A. (2023a). The effectiveness of using the probiotic "Rumit" in the diet of dairy cows of the Ayrshire breed. *Agrarnaya nauka Evro-Severo-Vostoka=Agricultural Science Euro-North-East*, 24(3), 468–477. DOI: 10.30766/2072-9081.2023.24.3.468-477 (in Russian).

Smirnova Yu.M., Platonov A.V., Laptev G.Yu. (2022). Biochemical composition of blood and growth dynamics of dairy calves when feeding biological products. *Molochnoe i myasnoe skotovodstvo*, 4, 42–45. DOI: 10.33943/MMS.2022.86.54.007 (in Russian).

Smirnova Yu.M., Platonov A.V., Surnacheva S.V., Khoshtariya E.E. (2023c). The manifestation of nutritional and productive characteristics of cows when probiotics are included in the diet. *Permskii agrarnyi vestnik*, 4(44), 128–133. DOI: 10.47737/2307-2873_2023_44_128 (in Russian).

Smirnova Yu.M., Platonov A.V., Surnacheva S.V., Laptev G.Yu. (2023b). Practical justification of the possibility of using an experimental probiotic in feeding dairy cows. *Molochnoe i myasnoe skotovodstvo*, 5, 44–48. DOI: 10.33943/MMS.2023.19.43.009 (in Russian).

Surnacheva S.V., Smirnova Yu.M., Platonov A.V. (2024). The effect of the probiotics "Rumit" and "Rumit-V" on the scar activity and productivity of dairy cows. *Vestnik agrarnoi nauki*, 3(108), 74–79. DOI: 10.17238/issn2587-666X.2024.3.74 (in Russian).

Surovtsev V.N., Nikulina Yu.N., Zhutyaeva S.A. (2016). Comparative advantages of milk production and prerequisites for the formation of the "milk belt" of Russia. *Ekonomika sel'skogo khozyaistva Rossii*, 3, 21–29 (in Russian).

Temraleeva A.D. (2024). Modern biotechnologies in crop production: Achievements and development trends. *Biologia et Biotechnologia*, 1. DOI: 10.61847/pbcras.bbt.2024.1.1 (in Russian).

Vakhrusheva V.V., Bezgodova I.L., Konovalova N.Yu., Pryadil'shchikova E.N. (2024). *Nauchno-obosnovannye tekhnologii vyrashchivaniya vysokoproduktivnykh agrofitotsenozov kormovykh kul'tur* [Scientifically Based Technologies for Growing Highly Productive Agrophytocenoses of Forage Crops]. Vologda: VolNTs RAN.

Vartanova M.L. (2023). The strategy of development of the Russian agro-industrial complex is the basis of the country's economic security. In: *Problemy i osnovnye napravleniya povysheniya effektivnosti funktsionirovaniya APK regiona v usloviyakh globalizatsii i importozameshcheniya* [Problems and Main Directions of Increasing the Efficiency of the Agro-Industrial Complex of the Region in the Context of Globalization and Import Substitution]. Penza (in Russian).

Zinovenko A.L. (2015). Chemical composition and nutritional value of cereal crops. *Aktual'nye problemy intensivnogo razvitiya zhivotnovodstva*, 18–1, 268–275 (in Russian).

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MONITORING STUDIES

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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 (April 2025) and for the period from June 2024 to June 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].

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[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.

In April – June 2025, the President's approval rating did not change significantly and amounted to 64–66%. The share of negative judgments is 19–21%, which is noticeably lower than that of positive ones.

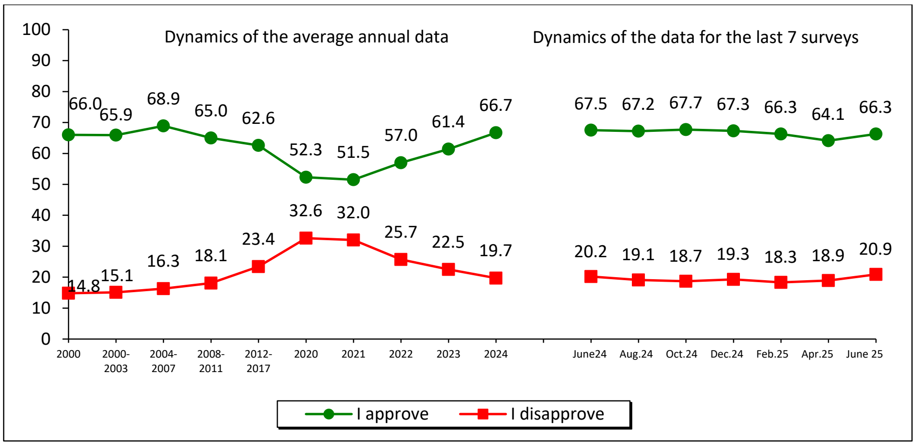
From June 2024 to June 2025, the share of positive assessments of the activities of the head of state remains stable, as well as that of negative ones[3].

How would you assess the current work of…? (% of respondents)

Response	Dynamics of the average annual data									Dynamics of the data for the last							Dynamics* (+/-), June 2025 to	
	2000	2007	2012	2018	2020	2021	2022	2023	2024	June 2024	Aug. 2024	Oct. 2024	Dec. 2024	Feb. 2025	Apr. 2025	June 2025	June 2024	Apr. 2025
RF President																		
I approve	66.0	75.3	51.7	66.4	52.3	51.5	57.0	61.4	66.7	67.5	67.2	67.7	67.3	66.3	64.1	66.3	-1	+2
I disapprove	14.8	11.5	32.6	21.7	32.6	32.0	25.7	22.5	19.7	20.2	19.1	18.7	19.3	18.3	18.9	20.9	+1	+2
Chairman of the RF Government																		
I approve	-	-	49.6	48.0	38.7	39.9	45.4	50.1	54.1	53.5	55.3	53.7	55.6	54.7	53.9	53.0	-1	+2
I disapprove	-	-	33.3	31.6	40.4	37.6	32.0	27.6	24.8	23.4	24.1	25.5	25.3	23.8	22.3	22.9	+1	+2
Vologda Region Governor																		
I approve	56.1	55.8	41.9	38.4	35.0	36.7	40.9	48.1	51.7	51.6	53.4	51.9	50.8	46.8	42.9	39.9	-12	-3
I disapprove	19.3	22.2	33.3	37.6	42.5	40.5	35.8	30.9	28.4	28.0	26.7	28.0	29.8	31.4	34.6	37.2	+9	+3

Wording of the question: "How would you assess the current work of ...?"
*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.

How would you assess the way that the RF President is handling his job?
(% of respondents, VolRC RAS data)*



Response	Dynamics (+/-), June 2025 to	
	June 2024	Apr. 2025
I approve	-1	+2
I disapprove	+1	+2

* 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.

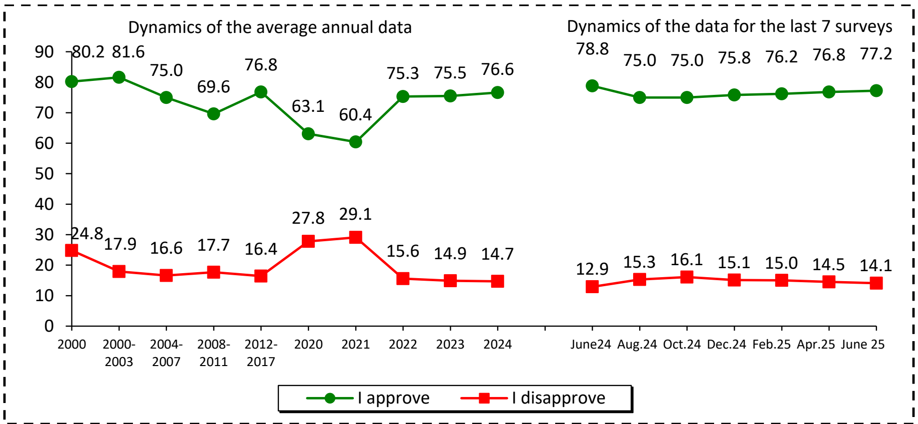
[3] Here and further in the text, the results of a comparative analysis of the data from the survey conducted in June 2024 with the results of the monitoring carried out in June 2025 are given in the frame.

For reference:

According to VCIOM, the President's approval rating in April – early June 2025 did not change and amounted to 77%, while the proportion of negative assessments was significantly lower (14%).

There are no significant changes in the level of support for the activities of the head of state in June 2025 compared to the same period in 2024.

Do you approve or disapprove of the way that the RF President is handling his job?
(% of respondents; VCIOM data)



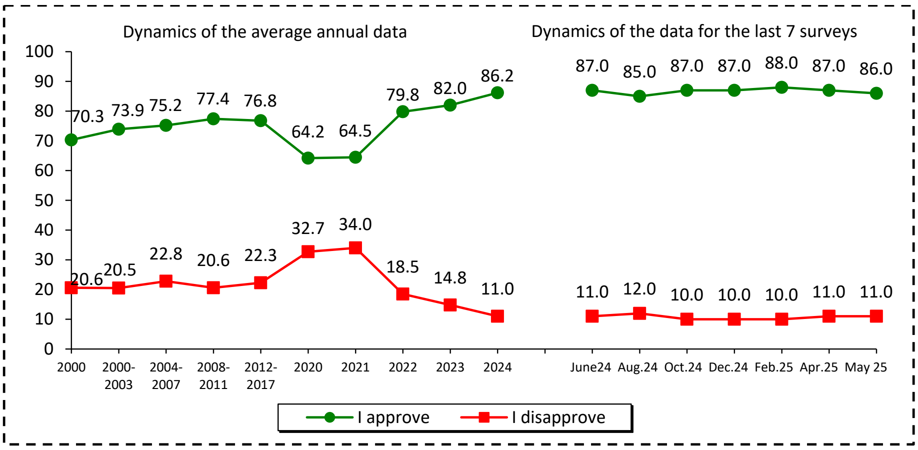
Response	Dynamics (+/-), June 2025 to	
	June 2024	Apr. 2025
I approve	-2	0
I disapprove	+1	0

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 June 2025 – for one survey as of June 1, 2025.
Source: VCIOM. Available at: https://wciom.ru/

*According to **Levada-Center***, the assessments of the activities of the President of the Russian Federation for April – May 2025 have not changed significantly: the approval rating is 86–87%. The proportion of negative judgments is 11%.*

In May 2025, the President's approval rating remained high, as in June 2024, amounting to 86–87%.

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 (+/-), June 2025 to	
	June 2024	Apr. 2025
I approve	-1	-1
I disapprove	0	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/

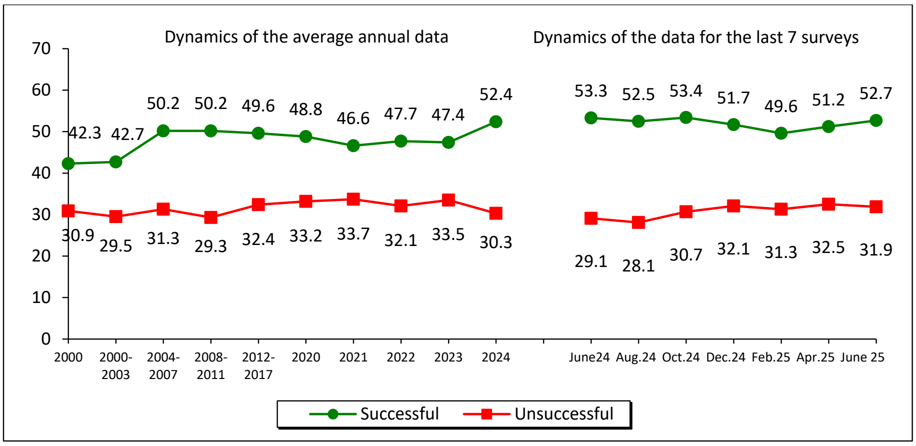
* Included in the register of foreign agents.

In your opinion, how successful is the RF President in handling challenging issues?(% of respondents; VolRC RAS data)

The share of residents of the region who consider the actions of the President of the Russian Federation to strengthen Russia's international position to be successful was 53% in April – June 2025. The proportion of those who adhere to the opposite point of view was significantly lower (32%).

Compared to June 2024, the proportion of positive ratings remained unchanged in June 2025. The proportion of negative judgments increased by 3 percentage points (from 29 to 32%).

Strengthening Russia's international position

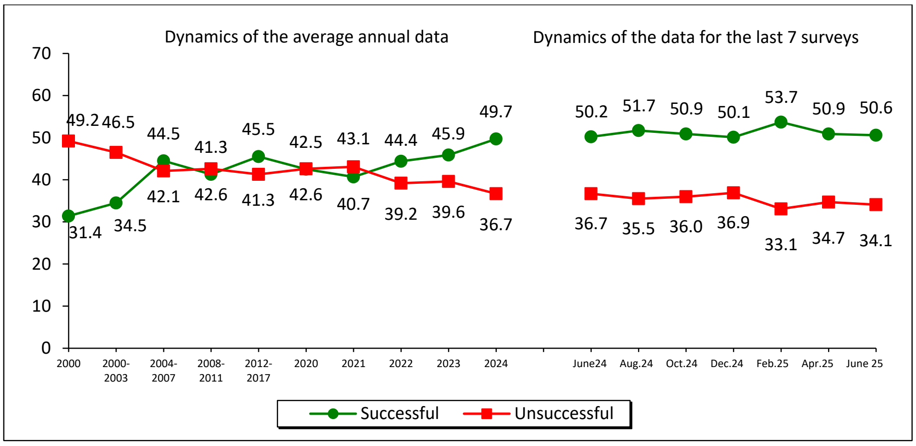


Response	Dynamics (+/-), June 2025 to	
	June 2024	Apr. 2025
Successful	-1	+2
Unsuccessful	+3	-1

Over the past two months, the opinion of the residents of the region about the activities of the head of state to restore order in the country has remained the same: the share of positive judgments was 51%, negative – 34–35%.

From June 2024 to June 2025, the proportion of people who believe that the President of the Russian Federation is unsuccessfully managing to restore order in the country remains stable (37–34%). The share of positive ratings has not changed and stands at 51%.

Imposing order in the country

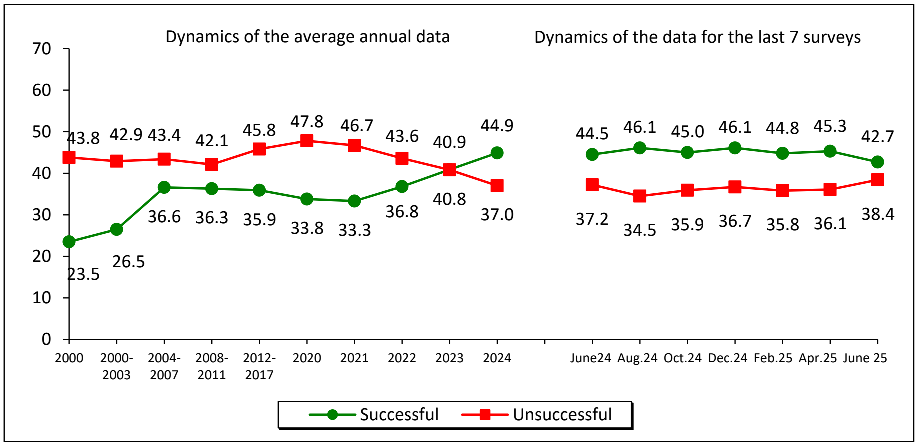


Response	Dynamics (+/-), June 2025 to	
	June 2024	Apr. 2025
Successful	0	0
Unsuccessful	-3	-1

In June, compared with April 2025, the share of residents of the region who positively assess the activities of the President of the Russian Federation to protect democracy and strengthen citizens' freedoms decreased slightly (from 45 to 43%); the proportion of opposing opinions remains stable.

The population estimates have not changed in 12 months. The proportion of those approving the head of state's work to protect democracy and strengthen citizens' freedoms was 43–44%; the proportion of negative judgments was lower (37–38%).

Protecting democracy and strengthening citizens' freedoms

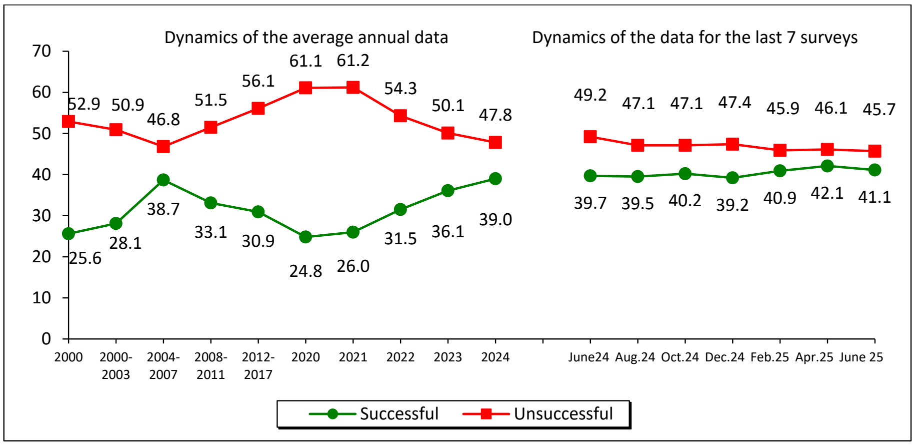


Response	Dynamics (+/-), June 2025 to	
	June 2024	Apr. 2025
Successful	-2	-3
Unsuccessful	+1	+2

The share of positive assessments of the success of the Russian President's solution to the problem of economic recovery and the growth of citizens' well-being in April – June 2025 did not change and amounted to 41–42%.

From June 2024 to June 2025, the proportion of negative judgments regarding the activities of the head of state in addressing economic issues decreased by 4 percentage points, from 49 to 45%.

Economic recovery, increase in citizens' welfare



Response	Dynamics (+/-), June 2025 to	
	June 2024	Apr. 2025
Successful	+1	-1
Unsuccessful	-4	0

The political preferences of Vologda Region residents remained stable in April – June 2025. As before, the share of people whose interests are expressed by the United Russia party was 41–42%, the Communist Party – 8–9%, the Liberal Democratic Party – 7–9%, Just Russia – 3%, New People – 3–4%.

In the period from June 2024 to June 2025, the level of support for the represented political parties did not change.

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 (+/-), June 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	June 2024	Aug. 2024	Oct. 2024	Dec. 2024	Feb. 2025	Apr. 2025	June 2025	June 2024	Apr. 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	43.7	42.5	41.8	42.3	39.9	40.5	41.6	-2	+1
KPRF	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	8.2	9.7	8.7	9.1	8.8	8.0	9.1	+1	+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	7.1	6.1	7.5	8.8	7.5	7.1	9.4	+2	+2
New People*	–	–	–	–	–	–	–	–	5.3	2.3	1.5	1.9	2.0	2.7	3.5	4.2	4.4	3.1	2.9	3.9	+1	+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	2.3	1.6	2.3	2.3	2.3	3.0	2.5	0	-1
Other	0.9	1.9	–	2.1	0.3	–	0.7	0.5	–	0.2	0.3	0.1	0.2	0.1	0.0	0.3	0.3	0.3	0.0	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	26.1	25.1	24.1	26.3	28.4	27.7	24.9	-1	-3
Difficult to answer	20.3	13.2	–	11.7	12.0	–	11.2	11.1	–	10.0	10.1	11.1	10.3	9.8	11.5	11.0	6.5	9.7	10.8	8.5	-1	-2

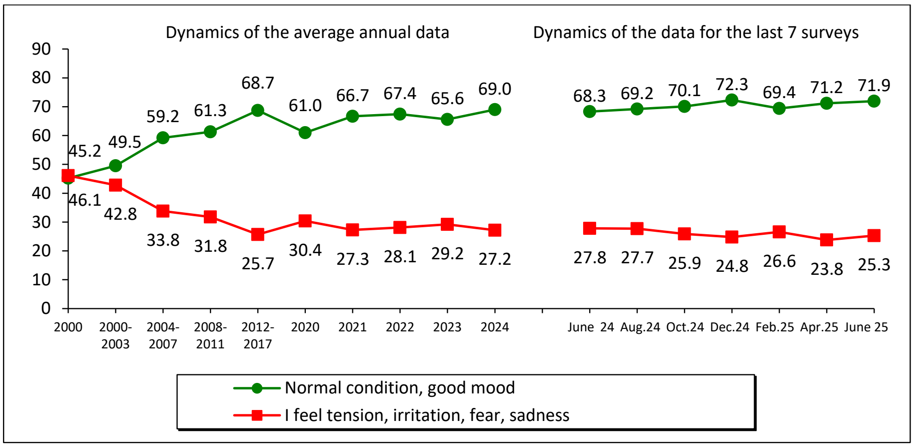
* The New People party was elected to the State Duma of the Russian Federation for the first time following the results of the election held on September 17–19, 2021.

Estimation of social condition (% of respondents; VolRC RAS data)

Over the past two months, the share of positive assessments of social mood amounted to 71–72%; the share of negative characteristics was 24–25%.

Over the past 12 months, the proportion of people describing their mood as "normal, fine" increased by 4 percentage points (from 68 to 72%). The proportion of those who more often experience «tension, irritation, fear, sadness» decreased by 3 percentage points, from 28 to 25%.

Social mood

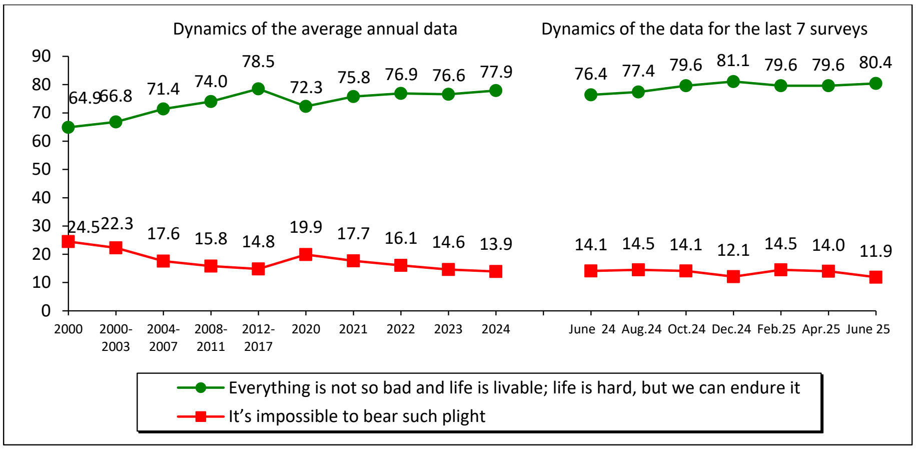


Response	Dynamics (+/-), June 2025 to	
	June 2024	Apr. 2025
Normal condition, good mood	+4	+1
I feel tension, irritation, fear, sadness	-3	+2

The reserve of patience remains at a consistently high level: 80% of residents of the region in April – June 2025 noted that "everything is not so bad and life is livable". The proportion of those who believe that it is "no longer possible" to bear their plight was 12–14%.

In June 2025, compared with June 2024, we observe a positive trend: the share of positive assessments of the stock of patience increased by 4 percentage points, from 76 to 80%

Stock of patience

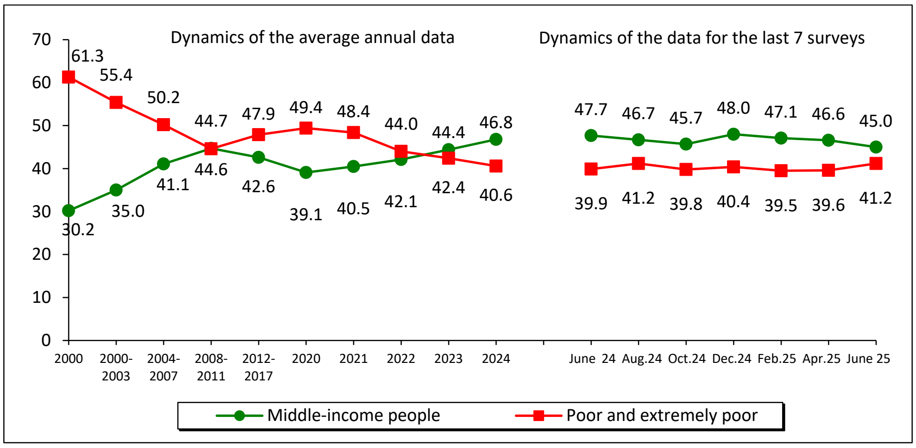


Response	Dynamics (+/-), June 2025 to	
	June 2024	Apr. 2025
Everything is not so bad and life is livable; life is hard, but we can endure it	+4	+1
It's impossible to bear such plight	-2	-2

As in April, in June 2025 the share of residents of the region subjectively classifying themselves as "middle-income" people was 45–47%. The proportion of those who identify themselves as "poor and extremely poor" did not change as well (40–41%).

In June 2025, compared with June 2024, the proportion of those who consider themselves to be middle-income people decreased by 3 percentage points (from 48 to 45%).

Social self-identification



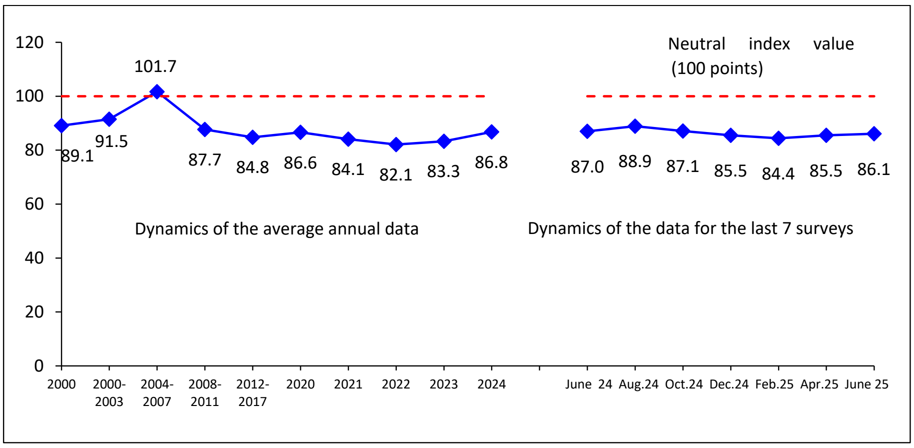
Response	Dynamics (+/-), June 2025 to	
	June 2024	Apr. 2025
Middle-income people	-3	-2
Poor and extremely poor	+1	+2

Wording of the question: "What category do you belong to, in your opinion?"

The Consumer Sentiment Index (CSI) in April – June 2025 amounted to 86 points.

There were also no significant changes in the CSI over the year (86–87 points).

Consumer Sentiment Index
(CSI, points; VolRC RAS data for the Vologda Region)



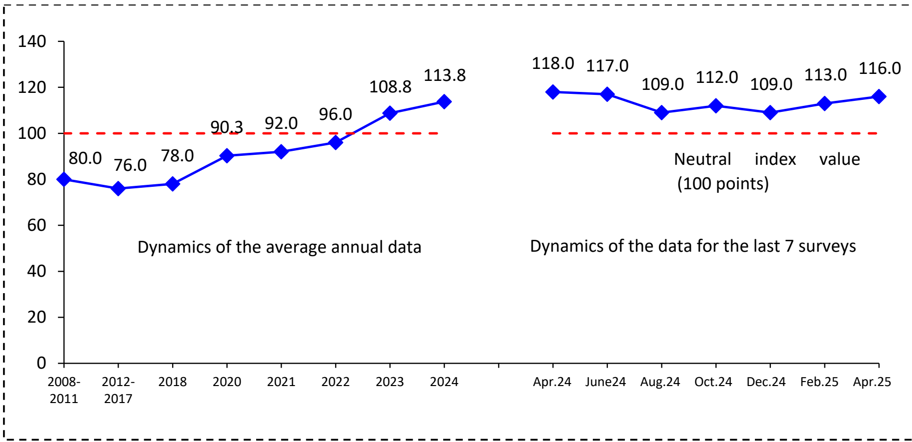
CSI	Dynamics (+/-), June 2025 to	
	June 2024	Apr. 2025
Index value, points	-1	+1

For reference:

According to the latest data from the all-Russian Levada-Center surveys (for the period from February to April 2025), the Consumer Sentiment Index amounted to 113–116 points.*

From April 2024 to April 2025, the CSI has not undergone any significant changes.

Consumer Sentiment Index (CSI, points; Levada-Center* data for Russia4)



CSI	Dynamics (+/-), June 2025 to	
	Apr. 2024	Feb. 2025
Index value, points	-2	+3

The index is calculated since 2008. The latest data – as of April 2025.

Source: Levada-Center*. Available at: https://www.levada.ru/indikatory/sotsialno-ekonomicheskie-indikatory/

During the period from April to June 2025, there were no significant changes in the dynamics of the share of positive assessments of social mood in all socio-demographic groups.

During the year (from June 2024 to June 2025), the share of positive assessments of social mood increased in most major socio-demographic groups (in 9 out of 14). The largest increase is observed in men (by 8 percentage points); people with secondary education (by 9 percentage points); people under the age of 30 and over 55 (by 5 percentage points), as well as in all income groups. An increase in the values of social mood is recorded in Vologda (by 4 percentage points) and districts of the Vologda Region (by 5 percentage points).

[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-potrebitelskih-nastroenij-pokazateli-fevralya-2025-goda/

*Included in the register of foreign agents.

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							Изменение (+/-), июнь 2025 к	
	2000	2007	2012	2018	2020	2021	2022	2023	2024	June 2024	Aug. 2024	Oct. 2024	Dec. 2024	Feb. 2025	Apr. 2025	June 2025	June 2024	Apr. 2025
Gender																		
Men	50.1	65.9	69.1	72.8	60.8	65.7	66.8	65.5	66.5	63.5	67.1	65.2	69.2	70.1	68.8	71.6	+8	+3
Women	43.3	61.7	65.8	69.8	61.2	67.4	67.9	65.7	70.9	72.1	70.9	74.0	74.7	68.8	73.1	72.2	0	-1
Age																		
Under 30	59.1	71.3	72.3	79.9	67.6	73.5	77.6	75.0	76.6	71.8	76.1	78.0	81.3	79.9	76.7	76.7	+5	0
30–55	44.2	64.8	67.9	72.6	61.8	69.5	69.4	68.8	71.3	71.8	72.8	69.8	73.2	70.2	74.1	74.1	+2	0
Over 55	37.4	54.8	62.1	65.2	57.4	60.5	61.1	58.2	63.3	62.7	62.1	67.4	67.8	64.6	65.8	67.6	+5	+2
Education																		
Secondary and incomplete secondary	41.7	58.4	57.2	64.8	56.1	62.1	64.6	62.0	64.6	65.5	65.3	62.5	65.5	64.6	65.6	68.4	+3	+3
Secondary vocational	46.4	64.6	66.7	72.1	63.5	66.7	68.3	66.1	70.3	65.2	70.7	75.2	76.5	71.8	74.8	74.1	+9	-1
Higher and incomplete higher	53.3	68.6	77.0	76.7	63.3	71.5	69.5	68.8	72.3	76.0	72.1	72.3	74.2	71.4	73.4	73.0	-3	0
Income group																		
Bottom 20%	28.4	51.6	51.5	57.2	43.4	54.6	57.0	50.1	53.5	51.3	53.7	54.8	55.7	55.9	56.9	56.1	+5	-1
Middle 60%	45.5	62.9	68.7	72.1	62.6	67.3	68.1	67.4	70.7	70.0	71.0	73.6	74.2	70.5	72.6	74.4	+4	+2
Top 20%	64.6	74.9	81.1	82.4	75.6	79.9	78.3	73.9	77.6	78.5	75.9	78.4	80.6	77.9	81.3	84.1	+6	+3
Territory																		
Vologda	49.2	63.1	73.6	71.0	60.9	60.3	59.8	59.6	66.0	65.2	66.4	67.9	69.6	66.7	68.6	69.5	+4	+1
Cherepovets	50.8	68.1	76.2	75.7	60.4	71.0	71.2	68.1	69.8	69.4	70.2	70.7	73.0	69.9	71.5	72.5	+3	+1
Districts	42.2	61.6	59.8	68.6	61.4	67.8	69.5	67.7	70.2	69.4	70.3	71.0	73.4	70.7	72.7	73.1	+4	0
Region	46.2	63.6	67.3	71.2	61.0	66.6	67.4	65.6	69.0	68.3	69.2	70.1	72.3	69.4	71.2	71.9	+4	+1

RESUME

The latest round of the public opinion monitoring took place in May – June 2025 against the background of two key events. On the one hand, the 80th anniversary of Victory in the Great Patriotic War was widely celebrated, which was accompanied by nationwide large-scale events, patriotic actions and media coverage. According to a VCIOM study, "for Russians, this day is far from just a holiday, but a symbol of national pride and unity, a sacred, memorable date associated with liberation from fascism and the value of peace"[5]. On the other hand, negotiations were actively underway: two rounds of Russian-Ukrainian talks (on May 16 and June 2, 2025 in Istanbul); contacts between Russia and the United States (on May 19 and June 4,

[5] The 80th anniversary of the Great Victory! VTSIOM. Available at: https://wciom.ru/analytical-reviews/analiticheskii-obzor/velikoi-pobede-80-let

heads of state D. Trump and V. Putin held telephone talks). In general, this period was characterized by a complex intertwining of the patriotic upsurge associated with the Victory anniversary and the cautious expectation of the results of international negotiations.

Given the significance of these events for society, it is important to note that the monitoring results show the stability of the population's assessments of key indicators of public administration effectiveness both over the two months of measurements and over the year.

In June 2024, the RF President's approval rating remained consistently high (64–66%), which is confirmed by assessments of his work in key areas. At the same time, we observe a positive trend in the field of economics and improving the well-being of citizens: from June 2024 to June 2025, the proportion of negative judgments about the activities of the head of state on economic issues decreased by 4 percentage points, from 49 to 45%.

The political preferences of Vologda Region residents remain stable, the United Russia party is in the lead (41–42%), the population's support for other parties has not changed (2–9%).

There are also no significant negative shifts in the dynamics of self-assessments of the standard of living (the share of "the poor and extremely poor" remained at the level of 40–41%, the proportion of people of "average income" – 45–48%) and prospects for its development (consumer sentiment index was 86–87 points).

The situation regarding the purchasing power of household incomes is also stable: almost half of the region's residents (according to data for June 2025) note that "they have enough money to buy the necessary goods, but large purchases have to be postponed for later" (49%). While the share of those who "have enough money for food at best" is 30%, which is 2 times more than the proportion of people for whom "the purchase of most durable goods (refrigerator, TV) does not cause difficulties" (15%).

At the same time, we should note that over the past 27 years (from 1997 to 2024), the standard of living in the two groups – "the poor and extremely poor" and "rich and middle-income people" – has increased significantly. In other words, while the problem of social inequality remains highly relevant, the modern "poor and extremely poor" people are not what they used to be in the past: among them, for example, there is a signifncant increase in the proportion of those who own a motor vehicle (from 6 to 26%), a TV-set (from 31 to 64%), etc.

Assessment of provision of non-food products depending on social self-identification, % of respondents

"Provided to a sufficient extent"	The poor and extremely poor		Rich and middle-income people	
	1997	2024	1997	2024
TV-set	30.9	63.9	69.1	80.7
Vacuum cleaner	31.8	55.9	60.7	75.3
Washing machine	50.9	62.4	74.3	81.1
Fridge	53.8	64.7	76.2	83.1
Furniture	32.0	54.6	55.6	80.1
Motor vehicle	5.8	26.2	24.4	55.2
Source: VolRC RAS public opinion monitoring.				

Positive changes are observed in the social mood. From June 2024 to June 2025, the proportion of people describing their mood as "normal, fine" increased by 4 percentage points (from 68 to 72%), and the proportion of those experiencing negative emotions decreased slightly (by 3 percentage points). This indicates an improvement in the psychological climate in society. A high level of patience is also an important factor for stability: during the year, the share of positive assessments of the stock of patience increased by 4 percentage points, from 76 to 80%. In general, indicators of social mood remain consistently positive for the main socio-demographic groups, and estimates have improved in 9 out of 14 categories over the year.

Nevertheless, it should be borne in mind that the improvement in social mood may be due to seasonal factors, such as the holiday period, as shown by long-term annual observations. In order to maintain positive dynamics and prevent an increase in social tension, further work is required to improve the economic situation and raise the standard of living, which corresponds to the tasks set out in the state social policy and national projects.

Prepared by K.E. Kosygina and I.M. Bakhvalova

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