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GENNADY FEDOROV. LEGACY OF SCIENTIFIC EXCELLENCE

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Managing editor:

Tatyana Kuznetsova
tikuznetsova@kantiana.ru

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PROFESSOR GENNADY FEDOROV: LEGACY OF SCIENTIFIC EXCELLENCE AND PERSONAL MAGNETISM

A. G. Druzhinin
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Holding the title of Merited Scientist of Russia, Dr hab. Prof. Gennady M. Fedorov, who passed away prematurely at the height of his creative powers in the year of his 75th anniversary, was an unparalleled figure in Russian education and human geography, acclaimed nationally and internationally. The scope and productivity of his research, and academic and organisational contributions place him among Russia's most distinguished human geographers. The founder of the unique Kaliningrad school of geographical thought, exemplifying excellence in education and research, he stood as one of the most active integrators of human geography in north-western Russia and the Eurasian region.

Prof. Fedorov's contribution to Russian human geography is both fundamental and indisputable, with his scientific legacy encompassing comprehensive geo-demographic studies, analyses of trends and development priorities in the Kaliningrad region — a territory that became an exclave in the early 1990s — and works on cross-border regionalisation in the Baltic Sea area, particularly notable in light of the geoeconomic and geopolitical transformations of the late 20th and early 21st centuries. He left behind an extensive body of publications exploring the influence of the 'maritime factor' on the socio-economic dynamics of territories, investigations into the socio-economic resilience of regions to external and internal challenges, and a broad spectrum of other subjects.

All of Prof. Fedorov's works were, in many ways, pioneering, characterised by a blend of methodologically rigorous approaches and a strong practical focus. His publications tackled urgent administrative challenges while advancing the development of a modern, cohesive and realistic geographical perspective of the world.

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The foundation of Prof. Fedorov's multifaceted and fruitful creative career was laid at Leningrad State University. His education started at the university's boarding school specialising in physics, mathematics, chemistry and biology, the predecessor of today's Academic Gymnasium of St. Petersburg State University. From 1967, he studied at the Faculty of Geography at Leningrad State University, where, from his second year, he focused on economic geography under the guidance of Dean Prof. Boris Semyansky. As a student, his primary scientific interests were shaped by his academic mentors, and esteemed authorities in population geography: Associate Prof. (later Full Prof.) Anatoly Anokhin and Prof. Nikolai Agafonov, under whom Gennady Fedorov wrote his coursework and diploma thesis. He regarded them as his teachers throughout his life and maintained close relationships with them.

A key influence on Prof. Fedorov's development as a researcher was his involvement, beginning in his student years, with the Population Geography and Demography Laboratory at the Research Institute of Geographical Economics at Leningrad State University. Headed by Profs. Nikolai Agafonov and Sergey Lavrov, the laboratory was one of the USSR's leading centres for research in the field, initially specialising in issues related to the North-Western region. The laboratory naturally served as the breeding ground for the topics of student courseworks and diploma theses, including those of Gennady Fedorov. There, he became interested in the North-Western region's geography and demography, which would become the focus of his student and postgraduate research. This enduring fascination was closely tied to his beloved home region of Novgorod, where he grew up and where his family and relatives lived.

After graduating from the department in 1972 and completing his postgraduate studies in 1975, Gennady Fedorov began his career at Kaliningrad State University as a lecturer in the Department of Economic Geography, headed by his mentor and postgraduate supervisor, Prof. Agafonov, who had invited him to the position. This collaboration defined Prof. Fedorov's subsequent decades-long, fruitful career in research and education. Throughout the years, he held various roles across the academic hierarchy, both in teaching and administration, including department head, vice-rector for research, and university rector.

In embracing and advancing the ideas and approaches of his academic supervisor, Gennady Fedorov successfully defended his doctoral dissertation in 1977, titled The Economic and Demographic Situation in the Rural Areas of the Kaliningrad Region. Demographic problems, particularly their economic-geographical aspects, continued to captivate him and remained central to his research, culminating in a series of publications, including two substantial monographs that received positive recognition from the research community. These were: Fedorov, G. M. Geodemograficheskaya obstanovka: Teoreticheskie i metodicheskie osnovy [Geo-Demographic Situation: Theoretical and Methodological Foundations]. Edited by N. T. Agafonov, Leningrad: Nauka, 1984; and Fedorov, G. M. Geodemograficheskaya tipologiya [Geo-Demographic Typology]. Edited by N. T. Agafonov, Leningrad: Leningrad State University Press, 1985.

A key innovation in these works was the introduction of the concept of '**geo-demographic situation**' and the identification of the multiple factors influencing it, including residential, economic and ecological. This groundwork allowed Gennady Fedorov to defend his post-doctoral thesis, Scientific Foundations of the Concept of the Geo-Demographic Situation, at Leningrad State University in 1987. A revised version of this work, retaining the same title, was published as an independent monograph in 1991.

Prof. Fedorov remained devoted to geo-demographic research — a field he played a key role in shaping — throughout the following years. This focus later galvanised his work on '**rural issues**', given the particular acuteness of demographic challenges in Russia's non-urban areas. Prof. Fedorov advanced research in the field by adhering to rigorously applied geographical approaches, which encompassed territoriality, comprehensiveness and detailed consideration of development factors at both regional and local levels.

This work produced a series of articles, which were published in leading journals, and two conceptual, data-rich monographs. These two titles were: Kalinigradskoye selo v nachale XXI veka: proizvodstvo, rasselenie, sotsialnye innovatsii: monografiya [Kaliningrad's Countryside in the Early 21st Century: Production, Settlement, Social Innovations]. Edited by G. M. Fedorov, Kaliningrad: IKBFU Press, 2022; and Povyshenie tsennosti selskoj mestnosti v Rossii: opyt i puti vnedreniya sotsialnykh innovatsii v Kaliningradskoy oblasti: monografiya [Enhancing the Value of Rural Areas in Russia: Experience and Approaches to Implementing Social Innovations in the Kaliningrad Region]. Edited by G. M. Fedorov, Kaliningrad: IKBFU Press, 2023.

Alongside geo-demography and its application to the study of rural areas, Prof. Fedorov consistently maintained a strong interest in **local studies**, addressing a broad range of socio-economic geography topics related to the Kaliningrad region. Yet, he did not limit himself to purely academic pursuits, giving equal attention to collaboration with government authorities — particularly in strategic planning for the socio-economic development of the region and its municipalities — and to the dissemination and popularisation of geographical knowledge. For instance, in 1982, he published the widely recognised and well-received book for schoolchildren, Znaete li vy Kaliningradskuyu oblast? [Do You Know the Kaliningrad Region?], which was reissued in 2006 and 2009. Moreover, for his significant contribution to developing the Territorial Comprehensive Scheme for Urban Development in the Kaliningrad Region, Prof. Fedorov, as part of the authorship team, was awarded the First Prize by the Federal Agency of Construction, Housing and Housing Services of the Russian Federation in 2004.

In the early 1990s, the Kaliningrad region became a Russian exclave, acquiring distinctive characteristics and encountering specific challenges. This geopolitically driven transformation demanded focused attention from federal institutions and the research community, alongside the development of targeted strategies and measures to ensure the region's sustainable socio-economic development. One of

the most significant measures within this framework, as seen by Prof. Fedorov, his colleagues and students, involved transforming the Kaliningrad region into a key communication corridor in Western Russia — a 'region of cooperation' or 'island of cooperation'. Its positive future was envisioned as being closely tied to cross-border integration in the Baltic and the creation of a distinctive international socio-economic entity: the Baltic region. This concept, owing significantly to Prof. Fedorov's scientific stance and intellectual vigour, laid the foundation for Russian Baltic studies, with Kaliningrad emerging as one of its leading and most productive centres. To advance this direction, Prof. Fedorov initiated and co-authored the book Russia in the Baltic: 1990—2007, first published in 2008 and reissued in an updated version in 2013. Moreover, considerable effort was devoted to defining the Baltic region, its borders, structure, economy, settlement patterns and geopolitical characteristics, often in collaboration with colleagues from Poland, Lithuania and Germany. The concept of **cross-border and transboundary regionalisation**, adapted to the Kaliningrad region, was further developed within Baltic studies. The applied aspect of this research field was closely linked with attempts to construct effective spatial structures for Russian-Polish and Russian-Lithuanian cross-border and transboundary cooperation in the form of Euroregions.

The priority given to socio-geographical structures and processes within Baltic region studies rekindled Prof. Fedorov's interest in **maritime issues**. His first article exploring marine themes, 'Foundations of the Geography of Population and Settlement in the World Ocean', co-authored with prominent Russian economic geographer Prof. Vadim Pokshishevskii, was published in 1988. Prof. Fedorov's growing focus on this topic was reinforced by his pivotal role in the Russian Scientific Foundation (RSF)-funded project Cross-border Cluster Formation in the Dynamics of Economic and Settlement Systems of the Coastal Areas of European Russia, conducted from 2015 to 2017. Yet another major project, also supported by the RSF, was carried out at the Baltic Federal University under the leadership of Prof. Fedorov. Titled Ensuring the Economic Security of the Regions of Russia's Western Borderlands in Conditions of Geopolitical Turbulence (2018—2020), it emphasised the multi-faceted socio-geographical phenomenon of **Russia's Western borderlands**, highlighting the growing urgency of economic security concerns that intensified after 2014 amid shifting geoeconomic and geopolitical dynamics in the Baltic region and beyond. The research conducted in this area resulted in a series of books: *Problemy ekonomicheskoy bezopasnosti regionov Zapadnogo porubezh'ya Rossii: monografiya* [Problems of Economic Security of the Regions of Russia's Western Borderlands: A Monograph]. Edited by G. M. Fedorov. Kaliningrad: IKBFU Press, 2019); *Zapadnoe porubezh'ye Rossii: modelirovaniye razvitiya i obespecheniye ekonomicheskoy bezopasnosti: monografiya* [Russia's Western Borderlands: Modelling Development and Ensuring Economic Security: A Monograph]. Edited by G. M. Fedorov. Kaliningrad: IKBFU Press 2020; *Ekonomicheskaya be-*

zopasnost' regionov Zapadnogo porubezh'ya Rossii: monografiya [Economic Security of the Regions of Russia's Western Borderlands: A Monograph]. Edited by G. M. Fedorov. Kaliningrad: IKBFU Press, 2021; *Prigranichnoye sotrudnichestvo vdol' gosudarstvennoy granitsy Rossii. Chast' 1: Regiony Dal'nego Vostoka, Sibiri, Urala i Povolzh'ya: monografiya* [Border Cooperation Along the State Border of Russia. Part 1: Regions of the Far East, Siberia, Ural and Volga: A Monograph]. Edited by A. P. Klemeshev, Ya. A. Vorozheina, I. S. Gumenyuk, G. M. Fedorov. Kaliningrad: IKBFU, 2021.

In studying Russia's western, particularly Baltic, territories and the Kaliningrad region, Prof. Fedorov focused on **territorial resilience** to external shocks and challenges, a central theme in Russian regional studies at the time. His thoughtfully developed, analytically grounded scientific approach was reflected in numerous promptly published monographs and analytical reports, such as: Fedorov G. M., Zverev Yu. M. Kaliningradskie alternativy: 25 let spustya: monografiya [Kaliningrad Alternatives: 25 Years Later: Monograph]. Kaliningrad: IKBFU Press, 2020; Vyzovy i perspektivy razvitiya Kaliningradskoy oblasti: geopolitika i geoekonomika: Monografiya [Challenges and Prospects for the Development of the Kaliningrad Region: Geopolitics and Geo-economics: Monograph]. Edited by G. M. Fedorov. Kaliningrad: IKBFU Press, 2021; Fedorov G. M., Voloshenko K. Yu., Zhdanov V. P. Strategiya razvitiya i ekonomicheskaya bezopasnost Kaliningradskoy oblasti: analiticheskiy doklad [Strategy for Development and Economic Security of the Kaliningrad Region: Analytical Report]. Kaliningrad: IKBFU Press, 2023; Fedorov G. M., Novikova A. A. Restrukturizatsiya vneshnikh torgovykh svyazey Kaliningradskoy oblasti (2014—2022): informatisonno-analiticheskiy doklad [Restructuring Foreign Trade Relations of the Kaliningrad Region (2014—2022): Information-Analytical Report]. Kaliningrad: IKBFU Press, 2023; Fedorov G. M., Zverev Yu. M. Rossiya na Baltike: 2014—2023 gody: Monografiya [Russia in the Baltic: 2014—2023: Monograph]. Kaliningrad: IKBFU Press, 2024; Fedorov G. M. Rossiya na Baltike — 2023: informatisonno-analiticheskiy doklad [Russia in the Baltic — 2023: Information-Analytical Report]. Kaliningrad: IKBFU Press, 2024; Fedorov G. M., Voloshenko K. Yu., Mikhailova A. A., Novikova A. A. Aktualnye problemy ekonomiko-demograficheskoy, prodovolstvennoy, innovatsionnoy i vneshneekonomicheskoy bezopasnosti Kaliningradskogo regiona: analiticheskiy doklad [Current Issues of Economic-Demographic, Food, Innovation, and Foreign Economic Security in the Kaliningrad Region: Analytical Report]. Kaliningrad: IKBFU Press, 2024.

A significant portion of these works was written within the framework of another project led by Prof. Fedorov and funded by the RSF, Justification for the Restructuring of International Relations and Measures to Ensure the Military-Political Security of Russian Regions in the Baltic Amid Deepening Geopolitical Contradictions. This project, in particular, argued for the necessity of strengthen-

ing Kaliningrad's connections with other Russian regions and creating a multi-sector interregional spatially distributed cluster linking Saint Petersburg and the Leningrad and Kaliningrad regions.

Prof. Fedorov authored over 600 research and popular works, published in prestigious periodicals, such as Regional Research of Russia, Baltic Region, Polis. Political Studies, Vestnik of Saint Petersburg University. Earth Sciences, *Regionalnye issledovaniya* [Regional Studies], and others. His works, with their innovative ideas, concepts and analyses, consistently garner attention, remain highly sought after and are extensively cited.

Responding to the challenges of evolving socio-geographical circumstances and creatively shaping the research trajectory of the teams he led, Prof. Fedorov continuously and tirelessly advanced the unique Kaliningrad (Baltic) scientific school of human geographical thought, which continues to operate productively within the Immanuel Kant Baltic Federal University. A researcher of exceptional professional competence and a veritable 'universal soldier' in human geography, capable of independently addressing nearly any task, Prof. Fedorov consistently cultivated and expanded his circle of colleagues and students, building a strong and numerous professional community of social geographers and regional studies experts in Kaliningrad. At the same time, he maintained strong academic and friendly ties with a wide network of friends and colleagues across many Russian regions.

Prof. Fedorov maintained particularly close and productive ties with colleagues from St. Petersburg (formerly, Leningrad), establishing a paradigm of multiple-level research and educational collaboration between the two university-based socio-geographical schools. At the undergraduate level, it includes summer field training sessions for St. Petersburg and Kaliningrad human geography students held in their respective home regions. At the postgraduate level, collaboration occurs through the annual enrolment of St. Petersburg State University graduates in IKBFU's postgraduate programme. At the research level, examples include membership in doctoral thesis committees for Economic, Social, Political and Recreational Geography at St. Petersburg State University and the Herzen Russian State Pedagogical University, regular participation in organising and programme committees for research conferences, reviewing academic publications, and acting as opponents for doctoral and postdoctoral dissertations.

In 2007, during a visit to St. Petersburg State University (SPSU), Prof. Fedorov proposed the creation of a joint interdisciplinary bilingual journal, Baltic Region, the idea which was wholeheartedly supported by his colleagues. The journal's editorial board included experts from the two founding universities, later joined by researchers from the Higher School of Economics, the Institute of Geography of the Russian Academy of Sciences (RAS), the Institute of Europe of the RAS, and invited colleagues from eight universities in Baltic region countries.

The journal's first issue was published in 2009. Under Prof. Fedorov's effective leadership, it steadily gained academic prestige within national and interna-

tional research communities, becoming a key integrator of socio-geographical research in Russia. The journal quickly achieved top indexing results among geography-focused academic publications, entering the Russian Science Citation Index, the RSCI Core, the Higher Attestation Commission's list, the Emerging Sources Citation Index (since 2015) on the Web of Science platform, Scopus Q1 (since 2018), and the Chinese CNKI database.

Prof. Fedorov consistently devoted attention to international cooperation, which became one of the priorities of his work. For example, with his active involvement, the department he headed and the university joined the Baltic University Programme (BUP), initiated by Uppsala University, as early as the mid-1990s. Its Russian co-organisers were St. Petersburg State University (SPSU) and IKBFU, with their regional programme branches implementing joint academic and research projects.

Undoubtedly, Prof. Fedorov played a key role in integrating universities from the Baltic region states to pursue the study of various Baltic issues, particularly transboundary and cross-border cooperation. His most precious brainchild was the annual international research conferences on this topic, organised by the IKBFU. The most recent, eighth occurrence, titled 'Borderland Issues: New Trajectories of International Cooperation', held from 16 to 18 October 2024, was dedicated to the memory of the founder of this initiative.

One of the promising inter-university cooperation projects between IKBFU and SPSU was discussed in 2020 during the preparation of IKBFU's new development programme. It was a joint 'flagship', as Prof. Fedorov termed it, an interdisciplinary master's programme in strategic and territorial management (its name was yet to be determined) to be launched at the Institute of Regional Studies. However, this initiative ultimately did not materialise.

Another of Prof. Fedorov's cherished projects was the postgraduate programme he led in economic, social, political and recreational geography, the largest in Russia in terms of annual enrolment and graduation. The programme brings together young researchers from various universities, including human geographers from SPSU.

In 2010, Prof. Fedorov became one of the co-founders of the Association of Russian Human Geographers (ARGO) and served as its vice president while simultaneously heading the Kaliningrad regional branch of the organisation. He participated in the activities and modernisation of the Russian Geographical Society as a member of its Academic Council and the Commission on Territorial Organisation and Planning. Previously, he was also a member of the Council on Territorial Organisation Issues, one of whose sessions he organised at the IKBFU in the late 1980s, thereby introducing the university, Kaliningrad, and the region to Soviet human geographers.

Today, the professional legacy of Gennady Fedorov is successfully continued by the team of human geographers from the Kaliningrad University School of Geodemography and Regional Studies, which he founded and whose members are

respectfully referred to as the 'Fedorovites'. A worthy successor to Prof. Fedorov's academic and educational work is his daughter, Elena Kropinova, a professor at IKBFU and a recognised authority in recreational geography and tourism. Like her father, she defended her post-doctoral dissertation in geography at SPSU.

Prof. Fedorov tirelessly advanced our science, loved and valued the people around him, and lived a strong, productive and vibrant life. This is how we all knew him. We carefully preserve this memory by cherishing his legacy and addressing the research tasks he set, as evidenced by the special issue of the Baltic Region, prepared by Prof. Fedorov's closest colleagues, his allies and students.

The authors

Prof Alexander G. Druzhinin, Director, North Caucasus Institute of Economic and Social Problems, Southern Federal University, Russia; Chief Research Fellow, Institute of Economic Forecasting of the Russian Academy of Sciences, Russia; Senior Research Fellow, Institute of Geography of the Russian Academy of Sciences, Russia.
E-mail: alexdru9@mail.ru
https://orcid.org/0000-0002-1642-6335

Dr. Nikolai V. Kaledin, Saint Petersburg State University, Russia.
E-mail: n.kaledin@spbu.ru
https://orcid.org/0000-0003-1436-7527

Prof Andrei P. Klemeshev, Immanuel Kant Baltic Federal University, Russia.
E-mail: AKlemeshev@kantiana.ru
https://orcid.org/0000-0002-6343-3263

ECONOMY

EVIDENCE-BASED ECONOMIC POLICY AT THE REGIONAL LEVEL

E. G. Kropinova[1]
A. E. Shastitko[2, 3]

[1] Immanuel Kant Baltic Federal University,
14 A. Nevskogo St., Kaliningrad, 236106, Russia

[2] Lomonosov Moscow State University,
1 Leninskie Gory, Moscow, 119991, Russia

[3] Russian Presidential Academy of National Economy and Public Administration,
82 Vernadsky Ave., Moscow, 119571, Russia

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This article revisits approaches to regional development by exploring both previously proposed and new policy opportunities for regions facing the greatest challenges in adapting to emerging geo-economic conditions. This revision is based on the methodology of comparative analysis of discrete structural (institutional) alternatives — an essential component for ensuring the necessary evidential level in selecting economic policy instruments, complementing other applied research tools. The Kaliningrad region is one of Russia's most complex due to its geographical isolation and historical background. The most comprehensive and consistent review of development options, or structural alternatives, for this area is found in the works of Gennady Fedorov, a professor at the Immanuel Kant Baltic Federal University. This study elucidates the need to draw on the ideas of regional and spatial economic development of the Kaliningrad region reflected in the works of Prof. Fedorov and his colleagues from 1991 to 2023, when developing scenarios for Russia's westernmost region. The main advantage of their findings is that they are presented through the lens of interdisciplinary discourse, utilising concepts from new institutional economic theory to provide an economic perspective. This study reveals the fundamental ideas behind the concept of the geo-demographic situation, the so-called 'Fedorov matrix' highlighting structural alternatives for the development of the Kaliningrad region and the spatially distributed clusters. The article examines the three main development strategies of the Kaliningrad region, as analysed by Fedorov, to trace the evolution of the region's economic activity regulation regime. A conclusion is drawn regarding the demand for industrial policy instruments for the development of the region's economy, while also emphasising their insufficient efficiency in application. The viability of Fedorov's forecasts, as outlined in his works, is assessed through the example of planning a spatially distributed tourism and recreation cluster.

Keywords:
regional economy, development strategies, geodemographic situation, discrete structural alternatives, clusters, tourism, master planning, Kaliningrad Oblast

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Introduction

Employing evidence-based practices in economic policy is an attempt to re-establish the role of economic science in public discourse. The problem of sceptical attitudes towards economic studies has been highlighted and discussed, for instance, by Abhijit Banerjee and Esther Duflo. In their work 'Good Economics for Hard Times: Better Answers to Our Biggest Problems' [1, p. 16—17], they acknowledge the tough challenge of remedying this situation, which was partly due to the failure of many economic theories to align with the facts. Yet, this observation represents only a small part of a larger problem. Despite the simplicity of this principle, which dictates that decision-making in economic policy must be evidence-based, its implementation in practice is difficult. Indeed, this raises several questions: how decisions can be made when data and facts contradict them, on what basis we can predict the effects of applied economic policy measures, and what to do when assessments do not fully align with the chosen priorities.

These questions can also be posed in relation to research on current socio-economic development issues within interdisciplinary discourse at the supranational, national and regional levels. In this article, we offer a perspective on applying the principle of evidence-based economic policy within interdisciplinary discourse.

After exploring the context of the issue of concern, we will highlight one of the most important methodological principles in research and expert practice, as followed by Prof. Fedorov, which fits well within interdisciplinary discourse. This scholarly effort also explores the potential application of concepts from new institutional economic theory to discussions on defining the status, prospects and development mechanisms of the Kaliningrad region. Special attention will be given to the regulatory regimes that have governed economic activity in the region over the past 35 years.

Context

During the collapse of the Soviet Union and the transition to market relations in the early 1990s, questions about the development prospects of individual regions within the Russian Federation became increasingly urgent, with Kaliningrad being no exception. The complicated history of this area has made the study of the possibilities, limitations, and development scenarios of the Kaliningrad region particularly intriguing, especially for specialists in regional economics, whose interest extended to both the regional economy as a whole and its specific

sectors. Discussions that began in the early 1990s continue to this day, driven not only by the historical context but also by a series of events that have occurred over the past nearly 35 years.

The discussion of regional development issues was not always based on a solid understanding of the actual circumstances. This problem was particularly acute in the case of Kaliningrad, as decisions on many important aspects of regional economic development were made at the federal level, where the necessary knowledge for these decisions was often scarce. This was partly due to the region's special status during the Soviet period, when entry was restricted even for Soviet citizens. Furthermore, the dramatic change in the region's demographic and geopolitical positioning, which occurred in the late 1940s and early 1950s, necessitated research at the intersection of geography, demography and socio-economic studies.

At the same time, there was a growing demand for comprehensive applied research and a thorough understanding of the region's development challenges, as it became a semi-enclave for the EU and an exclave for Russia.[1] The objective reasons for this were twofold: the urgent need to establish relations with the Baltic States, particularly those bordering the Kaliningrad region, and the limited financial resources the federal government could allocate through its industrial policy to a region for pursuing selected development priorities. Even the 1998—2005 federal target programme for the special economic zone (SEZ) in Kaliningrad was funded at only 3 %[2] [2].

When assessing the impact of the special economic zone regime, the amount of resources spent is likely significant but not particularly indicative. 'The region's development is largely determined by factors that are international in nature: the conditions for cargo transit through foreign territories, the visa regimes of neighbouring countries, the state of the goods and services market in Central Europe, and the economic policies implemented in this part of Europe' [3, p. 2]. For example, the Russian railways' favourable tariff policy towards the Kaliningrad route between 2001 and 2003', which significantly reduced additional transit costs through the territory of the Republic of Lithuania [4, p. 5]. However, an obstacle to the full utilisation of the SEZ regime before the adoption of the

[1] Unlike an enclave, a semi-enclave has access to the sea.

[2] On the Federal Target Programme for the Development of the Special Economic Zone in the Kaliningrad Region for 1998—2005, Decree of the Government of the Russian Federation of 29 September 1997 № 1259 (as amended on 31 December 1999), Electronic Repository of Legal and Regulatory-Technical Documents, URL: https://www.consultant.ru/document/cons_doc_LAW_16494/ (the document was repealed in 2001) (accessed 28.07.2024).

2006 SEZ law was that neither the initial SEZ law's preferential taxation of investments nor its guarantees for foreign investments, with the region's property pledged as collateral, were realised [4].

In this context, it is worth recalling that industrial policy instruments, including special economic zones, involve not only the allocation of resources but also the creation of resource endowment effects [5; 6]. The latter is done through special economic conditions without the direct transfer of resources in the form of grants or subsidies. Some tools that do not require the transfer of state resources to private companies may be just as effective, or in some cases even more so. A notable example is the large-scale production of large-diameter pipes (LDPs) in Russia in the early 2000s. These pipelines, designed for the construction of trunk pipelines, were primarily intended for Gazprom's infrastructure projects and international endeavours such as Nord Stream, Nord Stream 2 and Turkish Stream. This production effort required no funding from the state budget but relied solely on guarantees of future demand for pipes and temporary prioritisation over imported large-diameter pipes (LDPs) [7].

A comprehensive assessment of the current situation and development prospects for the Kaliningrad region was largely the result of a research group led by Fedorov actively participating in public discussions. The research to which Fedorov has contributed covers virtually the full spectrum of significant socio-economic issues in the region — from geographic and demographic aspects to the development of specific industries. Given the historical context, of particular importance was the choice of a methodological framework for the studies, at the core of which was Fedorov's theory of geo-demographic situation (GDS). The recommendations derived from these findings held particular significance [8; 9].

A hallmark of Fedorov's GDS concept is that it accounts for both systemic and situational factors. Systemic factors are internal and driven by demographic processes, as indicated by statistical data on the population (such as birth rates, mortality, and migration), whereas situational factors are external and primarily encompass socio-economic influences. Factors in the latter group may be a product of the territorial socio-economic system (TSES) where the study processes occur or from external TSESs through economic, settlement, social and ecodemographic links. The GDS has a dual nature: systemic and geosituational. As a geosituation, the GDS reveals the presence of external causes, while as a system, it embodies relative stability and self-development potential,' Fedorov notes in the abstract of his doctoral dissertation.[1]

[1] Fedorov, G. M. 1987, Scientific foundations of the concept of geodemographic situation, a thesis of dissertation, Leningrad. p. 9.

This concept is ideally suited for strategic planning in the region, where geopolitical, geo-economic and demographic factors have played a key role, as it provides for a 'comprehensive study of the regional aspects of demographic processes and their dependence on both internal (demographic) and external (economic, settlement, social, ethnic, ecological and political) factors' [10, p. 8].

Long before the term 'sustainable development' became common in the Russian scientific discourse, the theory of GDS largely aligned with the principles of sustainable development. It is not coincidental that, nearly 20 years after establishing the scientific foundations of the GDS concept, Fedorov observed: 'What is termed sustainable development — a region's dynamic and balanced development — is characterised not so much by economic or social indicators as by geo-demographic ones' [10, p. 10].

Unfortunately, regional sustainable development strategies often neglect the geo-demographic component, focusing instead on economic indicators of growth. However, as the socio-economic development measures implemented in regions primarily aim to enhance living standards, as reflected in the quality of the population, this quality serves both as a result and as an indicator of the socio-economic transformations undertaken. It is not by chance that Fedorov emphasised the quality of the population as the most general category of the geo-demographic situation [9].

Discussing the various issues addressed in Fedorov's studies reveals an important principle: in his research, the idealisation of desired outcomes is replaced by a pragmatic recognition of the imperfection of any realistic alternative, accompanied by a comparison of available options to select the most preferable one.

Adherence to this principle is essential within the framework of new institutional economic theory [11—13], whose systematic application in analysing the structure, opportunities and constraints of regional economic development is yet to be fully realised. In this article, we examine the development challenges characteristic of the Kaliningrad regional economy by applying elements of the research approach used in new institutional economic theory.

The most general question to consider is that of the region's status, in which Fedorov has participated from the early 1990s [14—18]. Building on the corresponding discussion, we present our perspective on the applicability of institutional analysis methodology. The principles underpinning Fedorov's research will be explained and described in greater detail, with this analysis contextualised within the evolution of the regulatory regime governing economic activity in the region.

Structural alternatives in defining the status of the Kaliningrad region

A hallmark of new institutional economic theory is its use of comparative analysis of discrete structural alternatives, setting it apart from marginal analysis, which aims to identify optimal conditions for resource deployment that maximise the profits and utility of exchanging agents [12; 19; 20]. The number of structural alternatives is not a continuum; rather, it is always finite and tangible, which is particularly important for applied research, whose findings can inform regulatory and business decisions.

Notable structural alternatives in institutional research include coordination mechanisms[1] [19; 20], property rights regimes[2] [21] and approaches to internalising externalities[3] [22]. The merit of this methodology lies in recognising that the most appealing or potentially ideal state, one that promises 'everything at once', is ultimately unattainable. In an imperfect world, making an important choice often necessitates relinquishing a different option. Yet, the value of what is forgone need not necessarily exceed that of the chosen option; quite the opposite. To implement this principle, a comprehensive understanding of the details that make up the entire picture is essential. Consequently, recent socio-economic development strategies are moving away from traditional planning frameworks based on short-, medium- and long-term horizons, as well as from the classic optimistic, pessimistic and realistic scenarios. Instead, there is an increasing preference for planning within a framework of baseline, optimistic and target development scenarios. In practice, however, the target scenario, rather than focusing on specific objectives pertinent to an individual region, tends to align with broader goals outlined in national programmes.

[1] Coordination mechanisms are extensively explored within the transaction cost theory, a branch of new institutional economic theory. Following Oliver Williamson, three basic forms of transaction organisation are typically distinguished: the price mechanism, hierarchy, and hybrid models [19; 20].

[2] Economic property rights theory explores four basic regimes: open access and common, private and public ownership. Importantly, an ownership regime does not necessarily align with the form of ownership. They may share similar names, but, as noted by Lee Alston et al. (1995), a resource may formally be state-owned yet operate under an open-access or even a private ownership regime [21].

[3] Externalities — costs and benefits not captured by the price system — are among the most widely known forms of coordination mechanism failures, which raises the question of possible adjustments to the mechanism. The options include not only regulatory measures that compensate for the failure (the most prominent being the Pigouvian tax/subsidy) and improvements to the efficiency of the price mechanism itself, but also, often overlooked, the maintenance of the status quo [22].

The discussion of structural alternatives defining the status of the Kaliningrad region and the associated socio-economic development options involves highlighting characteristics of the regional politico-economic system whose combinations would appear mutually exclusive when compared. Fedorov presented a most comprehensive set of structural alternatives in a series of works, including co-authored contributions [3; 14; 18]. These alternatives, as seen in Russian and international publications of the 1990s and 2000s, are systematised in the Fedorov 'matrix', whose analytical framework helps explore the possibilities, prospects, and scenarios for the development of the Kaliningrad region through the lens of discrete structural alternatives. Each alternative is defined by two fundamental characteristics: the political and economic rules that form the institutional foundation for the functioning and development of the regional economy (Table). At its core, this is a politico-economic approach to examining regional development issues through a toolkit that, despite being labelled differently across various social science disciplines, reveals significant potential for interdisciplinary collaboration.

Fedorov matrix

Politics	Economics			
	1 Region dependent on federal subsidies	2 Standard economic regime for Russian regions	3 Special economic zone	4 Exit from the economic space of the Russian Federation
A: Federal territory governed by the Centre	A1	A2	A3	A4
B: Ordinary region, a constituent entity of the Russian Federation	B1	B2	B3	B4*
C: Territory with a special political statusc	C1	C2*	C3	C4
D: Independent state	D1*	D2*	D3*	D4

*Technically impossible options.

Source: [23, p. 11].

Although constructing a structural alternatives matrix may seem a methodologically universal approach, applying it to a specific region requires a deep understanding of the territory under study. The 'Fedorov matrix' presents 16 options. Notably, from an applied perspective, some structural alternatives are considered unfeasible or non-viable due to incompatibility between the rules governing the region's political status and the economic rules regulating relations within the region and with neighbouring areas, including foreign states. These are options D1—D3, B2, and B4. This matrix implements the principle of weak selection, a fundamental concept in the comparative analysis of discrete institutional alternatives [19; 20]. The principle states that normative conclusions can only be drawn from comparing achievable, feasible alternatives — of which there are 11 in the matrix. Including an unattainable alternative, which may be an ideal and thus desirable scenario, in the selection matrix can lead to decision-making errors with grave consequences.

At the time the matrix was developed, the status of the Kaliningrad region was defined by structural alternative B3: an ordinary region, a subject of the Russian Federation and a special economic zone. Currently, the matrix could be expanded with an additional component that creates new opportunities for the region's socio-economic development, primarily by attracting international businesses and investments, including those of Russian origin but operating from foreign jurisdictions.[1] This new component is the establishment of a special administrative region (SAR) on Oktyabrsky Island in Kaliningrad.[2]

The practice of establishing SARs was launched in Russia in 2018 as an alternative to foreign offshore zones. SAR residents benefit from tax incentives and a range of other preferences.[3] SARs also constitute a reaction to changes in tax systems in foreign offshore areas, accounted for by the termination of double taxation agreements (DTAs) with Russia. The sanctions imposed on Russian companies operating abroad provided further incentives for their re-registration in the offshore zones established by the federal law on Oktyabrsky Island in the Kaliningrad region and Russky Island in Primorsky Krai. For example, from the beginning of 2024 to the time of writing this article, the number of residents on

[1] Special Administrative Districts, *Ministry of Economic Development of the Russian Federation,* URL: https://economy.gov.ru/material/directions/investicionnaya_deyatelnost/specialnye_administrativnye_rayony/ (accessed 28.07.2024).

[2] On Special Administrative Districts in the Territories of the Kaliningrad region and Primorsky Krai. Federal Law № 291-FZ of 03.08.2018 (as amended on 04.08.2023), *Electronic Repository of Legal and Regulatory-Technical Documents*. URL: https://www.consultant.ru/document/cons_doc_LAW_304082/ (accessed 28.07.2024).

[3] The number of SAR residents has increased by a third since the beginning of the year, 15.07.2024, *SBER.Pro*, URL: https://sber.pro/publication/chislo-rezidentov-sar-s-nachala-goda-uvelichilos-na-tret/ (accessed 28.07.2024).

Oktyabrsky Island has increased by 23 %. In comparison, as of 31 May 2024, the registry for residents of the Kaliningrad special economic zone listed 315 active investment projects.

In December 2023, a group of Russian senators initiated the adoption of additional measures that grant the most beneficial business conditions in the SAR, alongside the previously mentioned registration requirements.[1] Amendments to the Tax Code, established by Federal Law № 595 on 19 December 2023, allow companies in Russian offshore zones to contribute 300 million roubles directly to the budgets of the Kaliningrad region or Primorsky Krai, enabling the recipient regions to utilise these funds for infrastructure projects.[2] This is especially pertinent given the development of priority industries for the region, as identified by regional authorities.[3] Whether companies will opt to take advantage of these maximum benefits remains to be seen. However, the increase in the number of companies preceding the introduction of the law suggests that the primary incentive for registering in the SAR is the desire to avoid political risks and the associated organisational and economic complexities of conducting business abroad.

Certainly, each alternative entails gains, on the one hand, and losses, costs and risks, on the other. Moreover, these benefits, costs and risks are distributed among various interest groups, shaping their responses in terms of supporting, opposing or remaining neutral toward a given alternative. The expected, and even actual, distribution is not always evident, resembling the coexistence of various conflicting theories based on incomplete or incorrect information. This is why a crucial aspect of the comparative analysis of structural alternatives lies in research that seeks, on the one hand, to gain knowledge of actual circumstances and, on the other, to understand trends of change — not necessarily only those associated with development.

Even if a structural alternative has been identified, and it is maintained as the status quo, it requires an interpretation as an institutional choice. In this context, a central question pertains to the effects of implementing the special economic

[1] Including by Aleksandr Shenderyuk-Zhidkov, Deputy Chairman of the Committee on Budget and Financial Markets, representing the Kaliningrad region in the Federation Council.

[2] On Amending Parts One and Two of the Tax Code of the Russian Federation and Article 9 of the Federal Law On Amending Parts One and Two of the Tax Code of the Russian Federation and Certain Legislative Acts of the Russian Federation, Article 2, Federal Law № 595-FZ of 19.12.2023, *Electronic Repository of Legal and Regulatory-Technical Documents*, URL: https://www.consultant.ru/document/cons_doc_LAW_464781/ (accessed 28.07.2024).

[3] Businesses in Russian offshore zones offered to donate to regions in exchange for tax benefits. 05.12.2023, *Forbes.ru*, URL: https://www.forbes.ru/finansy/501853-biznesu-v-russkih-ofsorah-predlozili-pozertvovat-den-gi-regionam-v-obmen-na-l-goty (accessed 28.07.2024).

zone mechanism. The findings of this analysis will provide an answer to an even more sensitive question, whether the Kaliningrad region has been, or become, a region of economic growth, or the special economic zone is a mechanism merely camouflaging an unpromising periphery sustained by federal resources.

Fedorov's research suggests that the Kaliningrad region's economy has substantial development potential rooted in internal sources, including those specific to its location. However, realising this potential required establishing conditions adequate to overcome past constraints[1] [24; 25].

The wide array of tools employed indicates that decision-makers at both federal and regional levels responsible for shaping the regulatory regime for economic activity align with this position. These tools include not only the mechanism of, at first, a free economic zone and, later, a special economic zone[2] but also a special administrative region, region-specific national projects, industrial parks, technology parks and clusters, whose performance and effectiveness have been studied across various research institutes and academic schools. Notable works in the field include contributions by Nataliya Smorodinskaya (2011) [26], Olga Kuznetsova (2016) [27], Konstantin Nilov (2018) [28], Alexander Sebentsov and Maria Zotova (2018) [29], Alexey Streltstov and Gennady Yakovlev (2018) [30], Leonid Vardomsky (2022) [31] and others.

Research conducted over a relatively extended period and focusing on events significant to regional development has shown that Kaliningrad, while 'middling' nationwide in terms of the level and pace of development, also exhibits distinctive characteristics, including high volatility in economic dynamics. During economic downturns, the region's economy shows results markedly below the Russian average, whereas recovery generally occurs at a faster pace. However, industry-specific structural effects have also played a role [32—34].

In a recent work, Natalya Zubarevich emphasises the difficulty for regions to progress from underachievers to average performers, or from the latter to leaders, highlighting the developmental traps present at both low and mid-levels. Another finding requiring further elaboration is that, during the study period, polarisation occurred within the largest group of 'middling' regions, comprising nearly three-quarters of all regions [35]. Statistical data for the period in question [34, p. 25; 36; 37, p. 6, 8—9] place Kaliningrad within the mentioned category. Thus, despite various forms of support for the region's economy, the

[1] Some of the works exploring development paths for the region investigate the so-called path dependence effect — a concept illustrating the influence of the past on the present and future. These studies (see, for example, the contribution by Rustem Nureev and Yuri Latov [24; 25]) may prove useful for addressing the development issues facing the Kaliningrad region.

[2] The uniqueness of the case lies in that, contrary to standard practice, an entire region has been designated as a special economic zone.

measures and mechanisms aimed at mitigating its unstable geo-economic position appear to fall short of securing long-term levels of social and economic development and growth rates.

Mechanism for regulating the Kaliningrad region's economy from 1991 to 2022

The structural alternatives discussed in the previous section possess a crucial temporal dimension, as a changing world inevitably impacts the matrix of discrete structural alternatives, including the current alternative with its inherent status quo features. Therefore, a special question to consider is how the regime regulating economic activity evolved over the study period. This evolution is traced in Fedorov's work "Three Strategies for the Development of the Kaliningrad Region from 1991 to 2018", which, while outlining principal strategies for the region's development, shapes alternative regional visions of the future within the baseline variant B3 of the Fedorov matrix. These successive visions emerged between 1991 and 2018 in the following order:

— special (free) economic zone;

— region of cooperation;

— international development corridor [38];

— spatially distributed clusters operating within the region's priority areas of specialisation [34].

The mechanisms of the special economic zone, first introduced in 1996 with the initial law on the Yantar free economic zone, remain relevant and continue to be central to the region's development strategies, despite some changes over time (in 2006, the free economic zone law was replaced by a federal law on the special economic zone[1]). Despite some criticism of using these mechanisms as tools of economic policy [26], they are designed to fulfil the crucial role of offsetting the region's exclave position. In this way, as Zubarevich emphasises, they ensure the current geopolitical priorities of regional policy [39], which is particularly relevant in today's geopolitical and geo-economic conditions. In addition, centralisation has been supported and continues to be driven by federal target programmes up to 2013 and by state programmes thereafter. The 'cooper-

[1] On the Special Economic Zone in the Kaliningrad Region and Amendments to Certain Legislative Acts of the Russian Federation (as amended and supplemented, effective from 19 March 2024), Federal Law of 10 January 2006 №16-FZ (version of 25 December 2023), Electronic Repository of Legal and Regulatory-Technical Documents, URL: https://www.consultant.ru/document/cons_doc_LAW_57687/ (accessed 28.07.2024).

ation region' strategy[1] manifested in the visions of 'an island of cooperation' and a platform for Russia-EU collaboration, gained momentum in the late 1990s, following the 1997 Partnership and Cooperation Agreement between Russia and the EU. In 2003, it was formalised as the Strategy for the Development of the Kaliningrad Region as a Region of Cooperation, a document repealed in 2007. However, with the neighbouring countries joining NATO, this strategy became unrealistic.

Experts at IKBFU investigated the 'Greater Eurasia' concept even before the 'cooperation region' strategy was fully discontinued. This concept builds on the Belt and Road Initiative promoted by the governments of China and Russia. George Friedman's 'development corridor' concept [40] was particularly suited to the geographical position of Kaliningrad — a territory positioned between core regions linked by sea routes. The region's coastal location and the influence of the 'maritime factor' facilitated the materialisation of this concept [41]. Today, this strategy is unfolding as logistics companies provide Kaliningrad businesses with a new transport route to and from China's port of Shanghai: via Arkhangelsk along the Northern Sea Route, then by rail to St. Petersburg, and finally by sea to Kaliningrad. Although this route takes between 40 and 45 days to traverse, a duration comparable to the existing option via India and the Suez Canal, it holds promise given the current geopolitical climate.[2]

A new concept for the formation of spatially distributed clusters, one that has not yet been formalised in a document, has been developed by Fedorov. This proposal encompasses economic entities from Saint Petersburg and the Leningrad and Kaliningrad regions. Drawing on insights from cluster studies [42], we concur with Fedorov et al. that the sectors with the highest potential for cluster formation include shipbuilding, fisheries, IT, automotive manufacturing (in collaboration with other Russian regions), education, healthcare, tourism and recreation [43]. In particular, clustering aligns with national tourism policy, which seeks to bolster the development of interregional tourism. Amid the geographical restructuring of Russia's external ties, the Baltic coast is emerging as a key area for the development of domestic tourism. Moreover, clusters can and should form

[1] On the Strategy for the Socio-Economic Development of the Kaliningrad Region as a Region of Cooperation until 2010, Resolution of the Administration of the Kaliningrad Region of 15 July 2003 № 392, Electronic Repository of Legal Documents, URL: http://pravo.gov.ru/proxy/ips/?docbody=&prevDoc=126019878&backlink=1&&nd=126012532 (nullified in 2007) (accessed 28.07.2024).

[2] From the speech by Fominsky, Logistics and Development Director of Novik group of companies (resident of the SEZ since 2005) at the Vostok forum (Chernyakhovsk, 26.07.2024); Po Sevmorputi zapustili dostavku iz Kitaya v Peterburg [Delivery from China to St. Petersburg has been launched via the Northern Sea Route]. *Delovoy Peterburg: the news portal*. 06.08.2024 URL: https://www.dp.ru/a/2024/08/06/dostavku-iz-kitaja-v-peterburg (accessed 08.08.2024).

not only within neighbouring regions but also across maritime boundaries, with the Silver Necklace tourist route[1] serving as a prime example of a spatially distributed tourism cluster. Despite its geographical separation from other areas in this cluster, Kaliningrad ranks second among the cities on the route in terms of tourist growth dynamics, following Saint Petersburg, with a 26 % increase in June 2024 compared to the same period in 2023.[2] In addition, the North-West Federal District is a leader in terms of domestic and inbound tourism density [44]. The concept of the spatially distributed cluster fits well within the aforementioned 'development corridor' strategy and, to some extent, represents an advanced variant thereof. The establishment of regular transport connections is a significant step towards forming sustainable cluster structures.

In outlining a framework for the region's economic development, Fedorov produced a master plan for the territory. It is now evident that the majority of his research, whether conducted independently or under his supervision, centres on strategic master planning for the region. A master plan functions as both a tool for planning territorial development and a vision for future development in view of the whole range of available economic and geographic, including cartographic, instruments.

For example, several studies led by Fedorov, some of them involving the authors of this article, focus on the Kaliningrad region's coastal tourism and recreation zone [45—47, etc.]. Over 20 years ago, his approach identified the area near the settlement of Yantarny as a prime location for the Coastal Functional Zone (see Fig.), an area that nearly aligns with the site designated in 2023 for the new 'Belaya Dyuna' [White Dune] resort.[3] This recreation area is part of the Five Seas and Lake Baikal federal project launched at the request of President Vladimir Putin under the Tourism and Hospitality National Project.[4]

Notably, Fedorov proposed establishing a financial investment corporation (FIC) as a key mechanism to attract substantial new investments beyond those existing or planned as of 2006. Today, this role has been assumed by the Tourism.RF corporation, the Government of the Kaliningrad region, Gazprombank,

[1] The Silver Necklace is a tourist route connecting cultural and natural landmarks located in Russia's 11 northwestern regions.

[2] Russians visiting the Golden Ring and Silver Necklace towns, *Tourism.rf. Territory Development Corporation:* the official portal, URL: https://xn--g1abnnjg.xn--p1ai/news/rossiyane-stali-aktivnee-poseshchat-goroda-zolotogo-koltsa-i-serebryanogo-ozherelya/ (accessed 28.07.2024).

[3] Belaya Duna is located within the same municipality — Yantarny Urban District. It is shown in the figure, just south of Yantarny, near the coast in the environs of Povarovka.

[4] Putin instructed that the Five Seas and Lake Baikal federal project be approved by November. *Izvestiya*, 29.05.2024, URL: https://iz.ru/1703772/2024-05-29/putin-poruchil-do-noiabria-utverdit-federalnyi-proekt-piat-morei-i-ozero-baikal (accessed 28.07.2024).

and the Golfstrim specialised developer. These organisations signed an agreement at the 2024 St. Petersburg International Economic Forum, pledging to cooperate in the Belaya Dyuna year-round federal resort project in the Kaliningrad region.[1]

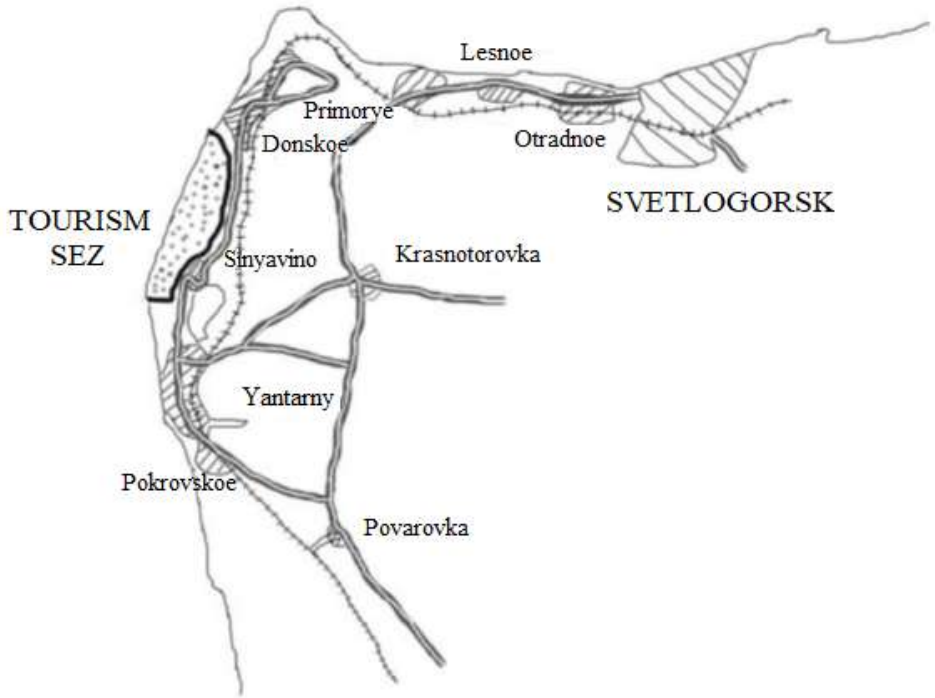

Fig. The location of the tourism SEZ — a site for implementing a large-scale FIC project

Source: [46, p. 15].

The authors share Zubarevich's view that assessing the "corridor of opportunities" is a key task when developing a strategy capable of aligning goals and implementation mechanisms with the constraints posed by the persistence of entrenched spatial development trends [48, p. 51]. For the Kaliningrad region, tourism is undeniably a 'corridor of opportunities', enabling this average performer on other socio-economic indicators to maintain robust tourism appeal even amid a challenging geo-economic landscape. The region is positioned within the top

[1] An agreement on cooperation regarding the implementation of the «Belaya Duna» project signed at the St. Petersburg International Economic Forum 2024, 07.06.2024, *Tourism.rf. Territory Development Corporation:* the official portal, URL: https://xn--g1abnnjg.xn--p1ai/news/na-pmef-2024-podpisano-soglashenie-o-sotrudnichestve-v-chasti-realizatsii-proekta-belaya-dyuna/ (accessed 28.07.2024).

'gold' tier of the tourism attractiveness rating, known as the 'Leaders' group, ranking 17th with a score of 85.8 points. For comparison, Moscow ranks 1st with 110.2 points and the Leningrad region 18th with 84.5 points.[1]

It can therefore be concluded that a diverse array of industrial (structural) policy measures has been implemented within the Kaliningrad region's economy over a relatively brief historical period. This underscores the region's significance and the comparatively high demand for research in the area.

Conclusion

In summary, studies on regional development issues overseen or conducted by Fedorov are grounded in a methodology widely employed in new institutional economic theory. The approaches applied — comparative analysis of discrete structural development alternatives in a political-economic context, comprehensive regional studies using the concept of the geo-demographic environment, and assessments of prospective spatially distributed clusters in regional economic sectors — provide a solid foundation for an evidence-based policy, primarily industrial one. Additionally, it bolsters the development of the Kaliningrad region and encourages productive interdisciplinary research.

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References

1. Banerjee, A., Duflo, E. 2021, Good economics for hard times. Better answers to our biggest problems, Moscow, Gaidar Institute Publishing House, Saint Petersburg: Faculty of Liberal Arts and Sciences, St. Petersburg State University (in Russ.).

2. Gimbitsky, K.K., Kuznetsova, A.L., Fedorov, G.M. 2014, The development of the Kaliningrad region economy: A new stage of restructuring, *Baltic Region*, vol. 1, № 19, p. 41—53, http://doi.org/10.5922/2079-8555-2014-1-4

3. Klemeshev, A.P., Fedorov, G.M. 2003, Possible Paths to Transforming the Status of the Kaliningrad Oblast, *Region of Cooperation*, № 3, p. 11—16. EDN: KUAWGB (in Russ.).

4. Klemeshev, A.P., Fedorov, G.M. 2004, On improving the management of the development of the Kaliningrad region, *Region of cooperation*, № 1, p. 5—20. EDN: KUDUWT (in Russ.).

5. Shastitko, A.E. 2014, Why competition policy, if there is industrial?, *Economic policy*, № 4, p. 42—59. EDN: SJWFRX (in Russ.).

[1] Rating information communications centre. *Otdykh v Rossii* [*Recreation in Russia*], URL: https://russia-rating.ru/info/22275.html (accessed 06.08.2024).

6. Kurdin, A., Shastitko, A. 2020, The new industrial policy: A chance for the BRICS countries, *BRICS Journal of Economics*, vol. 1, №1, p. 60—80, http://doi.org/10.38050/2712-7508-2020-5 (in Russ.).

7. Shastitko, A.E., Shabalov, I.P., Filippova, I.N. 2018, Russian Production of Large-Diameter Pipes Organization: The Context, Results, and Prospects, *Russian Management Journal*, vol. 16, №3, p. 435—464, https://doi.org/10.21638/spbu18.2018.306 (in Russ.).

8. Fedorov, G.M. 1984, *Geodemographic situation: theoretical and methodological foundations*, Leningrad, "Nauka" Publishing House, 112 p. EDN: XVWGLL (in Russ.).

9. Fedorov, G.M. 1991, *Scientific foundations of the concept of geodemographic situation*, Leningrad, Publishing house of St. Petersburg State University, 180 p. EDN: XVOTMF (in Russ.).

10. Fedorov, G. 2014, Current Issues in the Geodemographic Studies in Russia, *Baltic Region,* №2, p. 4—21, https://doi.org/10.5922/2079-8555-2014-2-1

11. Furubotn, E., Richter, R. 2005, *Institutions and Economic Theory: The Contribution of the New Institutional Economics*, Michigan, University of Michigan Press.

12. Shastitko, A.Y. 2010, *New institutional economic theory*, 4th ed., Moscow, TEIS, 828 p. EDN: QTUZBD (in Russ.).

13. Eggertsson, T. 1990, *Economic Behavior and Institutions*, Cambridge University Press, https://doi.org/10.1017/CBO9780511609404

14. Fedorov, G.M., Zverev, Yu.M. 1995, Kaliningrad Alternatives. Socio-Economic Development of the Kaliningrad Region in the New Geopolitical Conditions, Kaliningrad, IKBFU Publishing House, 158 p. EDN: YVFBTQ (in Russ.).

15. Fedorov, G.M., Zverev, Yu.M., Korneevets, B.S. 1996, *Baltic comparisons and forecasts*, Kaliningrad, KSU Press , 45 p. (in Russ.).

16. Fedorov, G.M., Zverev, Yu.M., Korneevets, B.S. 1997, *Russian exclave in the Baltic*, Kaliningrad, KSU Publishing House, 312 p. (in Russ.).

17. Klemeshev, A., Kozlov, S., Fyodorov, G. 2001, The concept of federal social-economic policy towards the Kaliningrad oblast, *Kommersant Nauka*, p. 6 (in Russ.).

18. Klemeshev, A.P., Fedorov, G.M. 2004, From an isolated exclave to a "development corridor." Alternatives for a Russian Exclave in the Baltic, Kaliningrad, IKBFU Press, 250 p. EDN: XYCQLN (in Russ.).

19. Williamson, O.E. 1985, *The Economic Institutions of Capitalism. Firms, Markets, and Relational Contracting*, London, Collier Macmillan, New York, Free Press.

20. Williamson, O.E. 1996, *Mechanisms of Governance*, New York, Oxford University Press.

21. Alston, L.J., Libecap, G.D., Schneider, R. 1995, Property Rights and the Preconditions for Markets: The Case of Amazon Frontier, *Journal of Institutional and Theoretical Economics*, №150 (1), p. 89—107.

22. Shastitko, A.E., Pavlova, N.S. 2022, Pigouvian vs. Coasian approach: Ideas, values, perspectives, *Voprosy Ekonomiki*, №1, p. 23—46, https://doi.org/10.32609/0042-8736-2022-1-23-46 (in Russ.)

23. Klemeshev, A. P., Mau, V. A. (eds.). 2007, Development strategies of the Kaliningrad region, Kaliningrad, IKBFU Press, 472 p. EDN: YVFBPM (in Russ.).

24. Nureev, R., Latov, Yu. 2010, Chapters of the institutional economic history of Königsberg/Kaliningrad, *Baltic Region*, vol. 2, № 4, p. 78—102, https://doi.org/10.5922/2079-8555-2010-2-8 (in Russ.).

25. Nureev, R. M., Latov, Yu. V. 2009, Russia and Europe: path dependence (an attempt at institutional analysis of the history of economic development), Kaliningrad, 294 p. (in Russ.).

26. Smorodinskaya, N. V. 2011, Organization of the special economic zones in the world and the Russian practice: conceptual aspects, *Bulletin of the Institute of Economics of the Russian Academy of Sciences*, № 3, p. 16—36. EDN: SZCBIF (in Russ.).

27. Kuznetsova, O. V. 2016, Special economic zones: effective or not?, *Spatial Economy*, № 4, p. 129—152, https://doi.org/10.14530/se.2016.4.129-152 (in Russ.).

28. Nilov, K. N., 2018. The special economic zone in the Kaliningrad region: towards a more effective legal regime, *Baltic Region*, vol. 10, № 4, p. 74—87, https://doi.org/10.5922/2079-8555-2018-4-5

29. Sebentsov, A. B., Zotova, M. V. 2018, The Kaliningrad region: challenges of the exclave position and the ways to offset them, *Baltic Region*, vol. 10, № 1, p. 89—106, https://doi.org/10.5922/2079-8555-2018-1-6

30. Streltsov, A. V., Yakovlev, G. I. 2018, Peculiarities of doing business in special economic zones of the Russian Federation, *Russian Journal of Entrepreneurship*, vol. 19, № 4, p. 895—906, https://doi.org/10.18334/rp.19.4.38973 (in Russ.).

31. Vardomskiy, L. B. 2022, Special regime as a factor in the economic development of the Kaliningrad region in changing external conditions, *Pacific geography*, № 1, p. 35—44, https://doi.org/10.35735/26870509_2022_9_3 (in Russ.).

32. Fedorov, G. M. 2021, Volatility of regional economic growth rates, in: Fedorov, G. M. (ed.), *Challenges and Prospects for the Development of the Kaliningrad Region: Geopolitics and Geoeconomics*, Immanuel Kant Baltic Federal University Press, p. 99—101. EDN: GJHTNR (in Russ.).

33. Fedorov, G. M. 2021, The Share of the Kaliningrad Region in the Economy of the Russian Federation, in: Fedorov, G. M. (ed.), *Challenges and Prospects for the Development of the Kaliningrad Region: Geopolitics and Geoeconomics*, Immanuel Kant Baltic Federal University Press, p. 90—98. EDN: KETQDO (in Russ.).

34. Fedorov, G. M. 2022, The economy of Russian Baltic regions: development level and dynamics, structure and international trade partners, *Baltic Region*, vol. 14, № 4, p. 20—38, https://doi.org/10.5922/2079-8555-2022-4-2

35. Zubarevich, N. V., Safronov, S. G. 2024, Interregional Inequality in Russia and Post-Soviet Countries in the 21st Century, *Regional Studies*, № 1, p. 4—18, https://doi.org/10.5922/1994-5280-2024-1-1 (in Russ.).

36. Zubarevich, N. V. 2022, Regions of Russia in the new economic conditions, *Journal of the New Economic Association*, № 3, p. 226—234, https://doi.org/10.31737/2221-2264-2022-55-3-15 (in Russ.).

37. Fedorov, G.M. 2024, *Russia in the Baltic — 2023: Information and analytical report*, Kaliningrad, Immanuel Kant Baltic Federal University Press. EDN: KKQYAS (in Russ.).

38. Fedorov, G.M. 2019, Three development strategies of the Kaliningrad region (1991—2018), *Vestnik of Immanuel Kant Baltic Federal University. Series: Natural and Medical Sciences*, № 3, p. 5—19. EDN: HXPYPA (in Russ.).

39. Zubarevich, N.V. 2009, Regional development and regional policy in Russia during ten years of economic growth, *Journal of the New Economic Association*, № 1-2 (1-2), p. 161—174. EDN: KZCXVN (in Russ.).

40. Friedmann, J. 1968, *Regional development policy. A case study of Venezuela*, Cambridge.

41. Druzhinin, A.G. Dong, Ya. 2018, One Belt — One Road Initiative: A Window of Opportunity for Russia's Western Border Regions, *Baltic Region,* vol. 10, № 2, p. 39—55, https://doi.org/10.5922/2079-8555-2018-2-3

42. Shastitko, A. 2009, Clusters as a Form of Spatial Organisation of Economic Activity: Theory and Practical Observations, *Baltic Region*, № 2, p. 7—25, https://doi.org/10.5922/2079-8555-2009-2-2

43. Fedorov, G.M., Voloshchenko, K. Yu., Zhdanov, V.P. 2023, Development Strategy and Economic Security of the Kaliningrad Region: Analytical Report, Kaliningrad, Immanuel Kant Baltic Federal University Press. EDN: YJLJWD (in Russ.).

44. Kondratieva, S.V. 2023. Travel preferences of Russian Citizens: Destinations and Trends, *Regional Studies*, № 4 (82), p. 95—104, https://doi.org/10.5922/1994-5280-2023-4-8 (in Russ.).

45. Dedkov, V.P., Fedorov, G.M. 2006, Spatial, Territorial and Landscape Planning in the Kaliningrad Region, Kaliningrad, Immanuel Kant State University of Russia Press. EDN: QRNWAV (in Russ.).

46. Fedorov, G.M. 2006, On the formation of a single tourist and recreational system "Kaliningrad — Primorskaya zone", in: Korneevets, V.S. (ed.), *Actual problems of tourism*, Kaliningrad, Immanuel Kant Baltic Federal University Press, p. 6—20. EDN: YSLNZZ (in Russ.).

47. Pustovgarov, V.I., Fedorov, G. M. 2002, *Primorskaya zone,* Kaliningrad, Publishing House of Kaliningrad State University (in Russ.).

48. Zubarevich, N.V. 2008, Strategies of the spatial development of Russia during the period of economic growth, *Vestnik Moskovskogo Universiteta, Seriya Geografiya*, № 1, p. 51—57. EDN: JVHBPL (in Russ.).

The authors

Prof Elena G. Kropinova, Immanuel Kant Baltic Federal University, Russia.

E-mail: EKropinova@kantiana.ru

https://orcid.org/0000-0002-6971-7275

Prof Andrey E. Shastitko, Head of the Department of Competition and Industrial Policy, Faculty of Economics, Lomonosov Moscow State University, Russia; Director, Centre for Competition and Economic Regulation Studies, Russian Presidential Academy of National Economy and Public Administration, Russia.

E-mail: aes@ranepa.ru

https://orcid.org/ 0000-0002-6713-069X

ECONOMIC SECURITY AS A DRIVER OF RUSSIAN EXCLAVE DEVELOPMENT IN ALIGNMENT WITH NATIONAL INTERESTS

K. Yu. Voloshenko

Immanuel Kant Baltic Federal University,
14 A. Nevskogo St., Kaliningrad, 236041, Russia

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Economic security in border regions emerged as a new area of inquiry in human geography, under the supervision of Prof Fedorov and with the active involvement of researchers from Kaliningrad, Rostov-on-Don, Saint Petersburg, Smolensk, and Simferopol, within the framework of the Russian Science Foundation project № 18-17-00112, titled Ensuring the Economic Security of the Regions of Russia's Western Borderlands under Conditions of Geopolitical Turbulence. This study is the first attempt at a comprehensive examination of economic security, considering a multitude of contributing factors: economic, social, domestic and foreign policy-related, ethnic and environmental. The socio-geographical approach to economic security provides insight into its spatial conditionality, informing our studies on regional and sectoral economics.

This article examines the Kaliningrad region's economic development from the perspective of its exclave position, border functions and potential for ensuring Russia's national interests. The assessment of the economic security of the region from 2000 to 2019, cited in earlier works, reveals a lack of resilience to external challenges and threats. In this article, we examine these results in the context of economic development quality and determinants, applying structural and resource-oriented approaches. It is demonstrated that, until 2022, the economic development of the Russian exclave did not fully align with national interests due to a prioritisation of international ties, often at the expense of interregional ones. Additionally, the region's openness was increasing, with insufficient attention given to ensuring its sustainability under external constraints. Seeking to address existing shortcomings, this article presents and substantiates proposed modifications that give due consideration to economic security. Specifically, it emphasises functional and structural transformations within the regional management system.

Keywords:
economic security, national interests, factors of economic development, Russian exclave, external restrictions, Kaliningrad region

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Introduction

A critical question in the economic development of any region is identifying the factors influencing its processes and unique characteristics. Studying the economic development of the Kaliningrad region, Russia's only exclave and an enclave within NATO and the EU, is crucial due to the external constraints imposed by the transformed international environment after 2022. A general understanding of regional development factors is framed by theoretical models such as economic growth, agglomerations, growth poles, new economic geography, and convergence. However, the emergence of new factors and the increasing complexity of regional development conditions perpetuate the scientific challenge of their study.

The analysis of regional development factors serves several key purposes. The first is to identify and classify the diverse factors, establishing a comprehensive typology [1—3]. The second is to investigate the influence of specific factors—such as geographical location, human capital, technology, and resources—on regional economic development, or alternatively, to explore their effects on particular types of regions, including internal, border, export-oriented, agrarian, resource-based, and northern regions [4; 5; 6—8]. Lastly, quantitative analyses of these factors often employ economic and mathematical modelling to provide deeper insights [9; 10].

In the context of the exclave Kaliningrad region, given its border location, the primary focus is on the influence of the border phenomenon on its economic development. The study of this phenomenon forms the basis for analyzing the effects of other factors [11—13]. Indeed, on the one hand, the defining role in the region's economic development has been attributed to the functions and regime of the border, which shape its relations with neighbouring territories and the gradient of its development. On the other hand, the exclave region operates as a complex socio-economic system with inherent patterns and specific features of transformation.

Focusing predominantly on the border factor in studying the economic development of the exclave essentially limited its perceived role in the national economy to geostrategic, foreign trade, transit, and other international functions. In the context of the territory's exclave position, this created risks of orienting the economic system toward international markets at the expense of internal sources of development. Consequently, the economic system became increasingly vulnerable, faced challenges in maintaining stability, and developed a high dependency on even minor changes in geopolitical or geo-economic conditions. This issue became fully apparent after 2022 and aligns with broader questions of ensuring the economic security of territories.

Therefore, the objective of this study is to substantiate economic security as a factor in the economic development of the Russian exclave, which, under contemporary conditions, represents a highly non-trivial task. Traditionally, the study of regional economic security has overlooked its spatial dimension. Moreover, in the context of economic development in exclave and border regions, issues of eco-

nomic security have not been adequately addressed. Although the number of works addressing this problem has increased in recent years [14—18], a systemic understanding of the economic development of the Russian exclave in terms of ensuring the national economic security interests of the state has not yet been developed.

The object of this study is the Russian exclave, whose economic situation after 2022 has become more challenging compared to other regions of Russia, including border regions, with the clear exception of territories located near the line of military engagement during Russia's Special Military Operation (SMO) in Ukraine. In the economic sphere, the proximity of unfriendly EU countries plays a significant role, while in the military-political domain, the influence of the NATO bloc is evident. As a result, the geostrategic role of the Russian exclave has significantly increased, along with its importance in safeguarding the national interests of the country.

In this study, continuing the examination of regional economic security and building upon the results of earlier publications [16—18], we attempt to address the following questions: how does the exclave position, along with the potential and functions of the border region, correlate with the tasks of ensuring Russia's economic security; to what extent has the existing level of economic security of the Russian exclave determined the quality and drivers of its economic development; and what changes are required in the regional management system to ensure economic security.

Factors of Economic Development

The typologization of regional development factors is usually conducted based on various criteria: 1) source of origin (external and internal factors, etc.); 2) functional characteristics (natural, labour-related, economic, political, etc.); 3) control by regional authorities (controllable and uncontrollable factors); 4) impact on regional potential (legislative, labour, innovation, production, infrastructure, consumer, financial, environmental, etc.); 5) causes of regional differentiation by development level (objective and subjective factors); 6) type of resources and conditions (energy, water, transport, raw materials, etc.); 7) sphere of emergence and influence (economic and non-economic factors, with varying levels of detail); 8) direction of influence on regional development (catalysts and inhibitors); 9) nature and volume of resources (extensive and intensive factors); 10) level of impact (general, sectoral, local (regional), etc.). Examples of typologies and authorial approaches can be further extended. However, several key observations stand out. Firstly, the list of factors depends on the methodological approach used to identify and evaluate their impact on specific processes within a region. Secondly, the identified typologies often overlap due to the interaction of factors, forming subcategories, such as economic-demographic or production-financial factors. Thirdly, the set of economic development factors for individual regions or their types is unique. This set is neither static nor fixed; instead, it becomes more complex and expands over time.

For border regions, economic development factors are characterized by greater variability compared to internal regions. This is explained, all else being equal, by their openness and the predominance of the external vector in their development, which allows them to leverage the advantages of their economic-geographical position. However, this statement does not hold true for all border regions of Russia. The balance between external and internal vectors depends on the location of border regions along Russia's borders, the established level and forms of cooperation with neighbouring countries, the existing border regime, and overall proximity to certain international markets (e. g., European, East Asian, etc.).

In the economic development of the Russian exclave, external interactions have played a decisive role compared to internal ones. As a result, the conditions for the exclave's economic development have been shaped by unpredictable and poorly manageable processes. Therefore, an essential quality for the region is its ability to respond to ongoing changes, adapt to them, and ensure the sustainable functioning of its economy. For the Russian exclave, as well as for certain open border regions of Russia, it is proposed that factors of economic development be identified by considering the nature of the required and occurring changes based on two criteria: adaptation and integration. The choice of these criteria is linked to the direction of necessary changes within the economic system. Adaptation processes are associated with the adjustment of the economic system by utilizing internal potential. Integration processes involve the active use of the exclave's and/or border region's positional potential. At different levels of adaptation and integration processes, four groups of regional economic development factors emerge (Fig. 1).

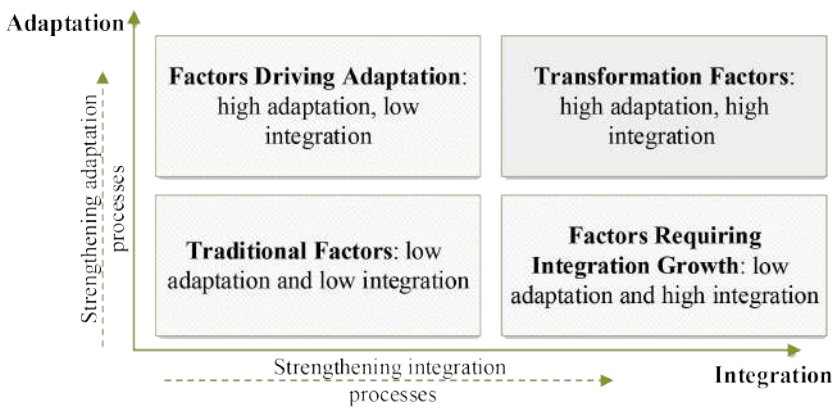

Fig. 1. Factors of Border Region Development Based on Required Changes

Traditional factors are associated with low levels of adaptation and integration within the economic system under relatively stable geopolitical and geo-economic conditions. These factors shape the conditions for economic development that are rarely, minimally, or only in the distant future subject to change. Therefore, traditional factors may include natural and climatic conditions, the structure of the economy, infrastructure, settlement systems, demo-

graphy, and similar elements. Factors driving the growth of adaptation processes are linked to abrupt or wave-like changes, both external and internal, within the economic system. These require the development of adaptive qualities within the economic system and its adjustment to ongoing changes. Examples include the challenges posed by the COVID-19 pandemic, financial crises, reductions in labour resources, changes in standards and regulations (customs, taxation, certification, and standardization), fluctuations in international market conditions, and similar developments. Transformation factors demand qualitative changes within the economic system, such as shifts in technological paradigms, reindustrialization, increased economic complexity of products, or higher labour productivity. For exclave and border regions characterized by openness, these factors are also associated with significant changes in the geopolitical and geo-economic environment. Factors necessitating the growth of integration processes concern the strengthening of both interregional and international cooperation. This depends on the direction of ongoing changes in international relations. For instance, under external constraints, integration factors may involve processes of complex formation, while under favourable external conditions, they may include cross-border and border cooperation, neighbourhood programmes, and similar initiatives.

Among the factors mentioned, particular interest lies in those driving the growth of adaptation processes and those related to transformation. The first group of factors, in our view, correlates with regional resilience [19—21], shaping such properties of the economic system as shock resistance, stress tolerance, viability, and others, which have recently become a subject of active study among Russian researchers [22—25]. The second group correlates with ensuring economic security, as these factors contribute to the region's protection against challenges and threats, which is impossible without qualitative changes in the economic system itself and its transformation [16—18]. Thus, economic security emerges as a factor in economic development. As noted in our earlier works [16], economic security facilitates changes in the economic system through the following mechanisms: 1) achieving balance by adjusting reproductive proportions (functional approach); 2) improving territorial and sectoral structures and forming new economic linkages (process-based approach); 3) transforming the internal spatial architecture through processes of integration and system consolidation (spatial approach). Moreover, the economic development of each region is directed toward ensuring Russia's national interests in the economic domain. In this regard, for the Russian exclave, under conditions of external constraints, studying economic security as a factor in economic development becomes a critical task.

Materials and Methods

Considering the changes in the economic system potentially generated by economic security, its substantiation as a factor in the economic development of the Russian exclave is based on: 1) the assessment of the region's level of economic

security; 2) the analysis of the quality of its economic growth using structural and resource-oriented approaches; 3) the identification of the functional characteristics (tasks) of economic security that require changes in the regional management system. The selection of these criteria shaped the research framework and guided its overall logic. In this study, all measurements and corresponding calculations were conducted using publicly available data from Rosstat, EMISS, and the Federal Customs Service of Russia. The author's methodology and the results of measuring the level of economic security in the regions of Russia's Western Borderlands were presented in a series of monographs [16—18]. In general terms, the level of economic security is assessed by calculating an integrated index that includes general, specific, and specialized subindices. Each subindex is formed based on groups of indicators of the same name. General indicators characterize the region's role in addressing national tasks for ensuring economic security, specific indicators reflect the characteristics of economic security for certain types of regions, such as border and exclave regions, and specialized indicators evaluate specific types of economic security (food, financial, transport, etc.).

In total, the group of general indicators includes 20 indicators, the group of specific indicators includes 15, and the group of specialized indicators includes 35, covering 10 types of economic security [16, p. 208—212]. The justification for the selection of indicators into these groups is provided as follows: for general indicators, by their compliance with the metrics established in the Russian regulatory framework; for specific indicators, by the establishment of qualitative and quantitative correspondence to the dangers and threats arising from the border and/or exclave position factor; and for specialized indicators, by their targeted purpose, including at least three indicators for each type of security. The methodology provides for the selection of a normalization function for the indicators and the delineation of economically justified risk zones in accordance with the methodology described in [26]:

- catastrophic — below 0.25,
- critical — from 0.25 to 0.50,
- significant — from 0.50 to 0.75,
- moderate — from 0.75 to 1.0,
- stable — above 1.0.

The measurement was conducted for the period from 2000 to 2019, prior to the impact of the COVID-19 pandemic, which is more associated with resilience characteristics and less with economic security. Since 2022, measurements have been limited by the absence of publicly available data from the Federal Customs Service of Russia regarding the foreign trade of regions.

Assessment of the quality of economic growth in the Russian exclave helps to explain the extent to which the level of economic security achieved by 2022 protects the region from the materialization of latent threats into real events, thereby mitigating potential negative impacts and damage. This study applies structural and resource-oriented approaches. Using the widely known shift-share

analysis method in regional studies [28—31], the growth in gross value added is decomposed into national, sectoral, and regional components across three periods: a) 2007 compared to 2004 — the period before the global financial crisis of 2008; b) 2013 compared to 2008 — the period before the imposition of EU and US sanctions against Russia; c) 2019 compared to 2014 — the period before the onset of the COVID-19 pandemic.

The problem of discrepancies between classifications OKVED, OK 029-2001 (NACE Rev. 1), and OKVED 2, OK 029-2014 (NACE Rev. 2) was resolved by merging and aggregating them. Calculations were conducted using 2019 constant prices. The national component (NS) reflects the impact of changes in the national economy on the region's gross value-added growth. The sectoral component (MS) captures sectoral shifts, while the regional component (RS) represents the combined influence of factors specific to the region (human capital, investment potential, economic specialization, etc.). The calculations employed well-established formulas for evaluating the components of structural shifts [28]:

$$NS_i^t = \mathrm{GRP}_i^{t-1} \cdot \left(\frac{GRP_{RF}^t}{GRP_{RF}^{t-1}} - 1 \right), \quad (1)$$

where *NS* is the national component; $\mathrm{GRP}_{\mathrm{RF}}$ is the total of the gross regional product (GRP) of all Russian regions; *t* and *t* – 1 represent the current and preceding (base) years, respectively; *i* denotes the type of economic activity according to the OKVED classification; GRP_i is the gross value added for the *i*-th type of economic activity in the region.

$$MS_i^t = \mathrm{GRP}_i^{t-1} \cdot \left[\left(\frac{GRP_{i(RF)}^t}{GRP_{i(RF)}^{t-1}} \right) - \left(\frac{GRP_{RF}^t}{GRP_{RF}^{t-1}} \right) \right], \quad (2)$$

where *MS* is the sectoral component; $\mathrm{GRP}_{i(\mathrm{RF})}$ is the total of the gross regional product (GRP) of all Russian regions for the *i*-th type of economic activity.

$$RS_i^t = \mathrm{GRP}_i^{t-1} \cdot \left[\left(\frac{\mathrm{GRP}_i^t}{\mathrm{GRP}_i^{t-1}} \right) - \left(\frac{\mathrm{GRP}_{i(\mathrm{RF})}^t}{\mathrm{GRP}_{i(\mathrm{RF})}^{t-1}} \right) \right], \quad (3)$$

where *RS* is the regional component.

The resource-oriented approach complements the structural approach by accounting for the share of primary resource production. This reflects the extent to which raw material industries dominate the economic system and their significance. For the Russian exclave, the analysis considers the share of raw material exports and the dynamics of imports of consumer goods, intermediate goods (raw materials, components, and materials), and investment goods (technologies, machinery, and equipment). The identification of functional characteristics (tasks) of economic security was based on the need to integrate it into the target subsystem of regional management according to the following criteria: a) the conditions for regional development to ensure economic security; b) the alignment of the

region's economic development model with the objectives of economic security; c) the implementation of a strategic national priority in the economic sphere — the region's contribution to ensuring Russia's economic security.

Results

Assessment of Economic Security Levels. The results of measuring the level of economic security in the Russian exclave indicate that by early 2020, it was within the economically justified zone of moderate risk (Fig. 2).

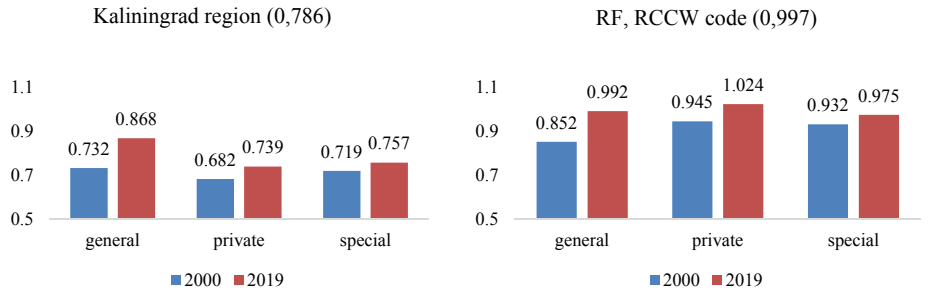

Fig. 2. Integrated Index and Subindices of Economic Security in 2000 and 2019

Note: The value of the integrated index for 2019 is indicated in parentheses.

During the study period, significant progress was made in strengthening economic security; however, its level remained low and significantly below the national average. There was considerable variability in subindices throughout the observed period. The unfavourable situation was revealed through the values of specific and specialized subindices, which reflect the impact of the exclave position on the level of economic security. Growth in the subindices occurred alongside minor positive changes in the indicators representing the region's weakest areas of security. For instance, throughout the study interval, industries with low added value predominated, and the economy demonstrated a high dependency on budgetary investments, coupled with low labour productivity. The most significant influence came from the region's substantial involvement in foreign trade activities, with relatively simple industries dominating the economic structure.

Even after 2014, the exclave's economy continued to be characterized by high import dependency, and the region's economic development relied on increasing budgetary investments. The greatest challenges were in ensuring financial, scientific-technological, transport, and production security. However, notable successes were achieved with federal support in improving food and energy security. There was an annual increase in the harvest of grain and oilseed crops, as well as significant growth in the production of milk, meat, eggs, vegetables, fruits, and berries.

To ensure uninterrupted and reliable energy supply to the region, between 2017 and 2020, in addition to the Kaliningrad CHP-2 power plant (900 MW), the

following power plants were commissioned: Talahovskaya (156 MW), Mayakovskaya (156 MW), Pregolskaya (455 MW), and Primorskaya TPP (155 MW). Underground gas storage facilities (UGS) were built, along with Russia's only floating regasification unit, the *Marshal Vasilevsky*. The total installed capacity of the region's power system increased to 1,918.7 MW, including hydropower, thermal power, and wind power plants, while the peak consumption slightly exceeded 800 MW.[1]

The issue of transport accessibility persisted, affecting the delivery of fuel, goods for the population, and raw materials, components, and equipment for production. Transport and logistics issues became critically important for the exclave's livelihood after 2022. Despite the implementation of urgent measures to organize and expand ferry services, these problems remain unresolved. Challenges include increasing the carrying capacity of vessels, particularly for specific classes (container ships, roll-on/roll-off vessels, passenger transport), as well as developing infrastructure, regulating tariffs, and creating subsidy mechanisms for maritime transportation.[2]

Analysis of the Quality of Economic Growth: A Structural Approach. Challenges in Ensuring Economic Security Until 2022. The challenges of ensuring economic security until 2022 were shaped by the specific characteristics of the economic development of the Russian exclave, as evidenced by indicators of structural shifts (Table).

Indicators of Structural Shifts in the Russian Exclave, %

Growth of GRP	Total	National component (NS)	Sectoral component (MS)	Regional component (RS)
2007 to 2004	43.2	26.2	1.4	15.6
2013 to 2008	8.9	6.9	0.9	1.1
2019 to 2014	7.9	6.6	0.5	0.8

Source: Calculated based on Rosstat data.[3]

[1] Fuel and Energy Complex, Ministry of Infrastructure Development of the Kaliningrad Region, URL: https://infrastruktura.gov39.ru/activity/fuel.php (accessed 13.07.2024).

[2] At the beginning of 2024, approximately 28 vessels operated on the route between the Kaliningrad Region and the ports of St. Petersburg and the Leningrad Region. To fully meet the region's needs, about 40 vessels are required (Maritime Cargo Delivery to Kaliningrad Increased by 54% Compared to the First Quarter of 2023, June 7, 2024, TASS, URL: https://tass.ru/ekonomika/21039669?utm_referrer = korabel.ru%2Fnews%2Fcomments%2Fmorskaya_dostavka_gruzov_v_kaliningrad_v_yanvare-marte_vyrosla_vpolovinu.html (accessed 13.07.2024)).

[3] Gross Regional Product by OKVED 2007 (since 2004), *Rosstat*, URL: https://rosstat.gov.ru/storage/mediabank/VRP_OKVED2007.xlsx (accessed 13.06.2024) ; Gross Regional Product by OKVED 2 (since 2016), *Rosstat*, URL: https://rosstat.gov.ru/storage/mediabank/VRP_OKVED2_s2016.xlsx (accessed 13.06.2024).

From 2004 to 2007, the dynamics of gross value-added production were determined by national factors, a trend generally characteristic of Russian regions, as noted in [27]. However, in subsequent years, the impact of these factors diminished due to the slowdown in the growth of the national economy. While the sectoral factor exerted a positive influence, its contribution to GRP changes was relatively minor.

The increase in value-added was primarily driven by fast-growing industries compared to the overall growth rates of the national economy, including construction (+ 5.5 %), public administration (+ 3.4 %), trade (+ 2.7 %), and real estate activities (+ 1.1 %). Conversely, slow-growing industries included agriculture (– 2.6 %) and manufacturing (– 1.2 %). At the same time, certain industries grew at a slower rate than the national average, such as trade (– 2.2 %), manufacturing (– 2.1 %), and transport and communications (– 1.1 %), while the social sector grew faster (+ 1.5 — 1.7 %). Overall, the specific characteristics of the region had a more significant impact on economic growth (+ 15.6 %) than sectoral factors. This was primarily due to preferential regimes and federal support aimed at compensating for the exclave position. Particular expectations were associated with changes in the SEZ regime in the Kaliningrad region, notably the adoption of Federal Law №16 dated January 10, 2006.

In 2008 — 2013, the development of the exclave was primarily driven by national support measures due to the lack of sufficient internal potential, compounded by the more severe impacts of the crisis and the slow recovery of the economy. During this period, the nationwide component contributed + 6.9 % to the growth of GRP. The influence of sectoral and regional factors on the increase in gross value added declined. The slow recovery and subsequent growth lagging behind the national average were characteristic of mining (– 5.3 %), construction (– 4.8 %), trade (– 3.4 %), and the social sector (ranging from – 0.3 % to – 0.7 %). At the same time, manufacturing (+ 7.7 %), real estate operations (+ 6.9 %), and energy production and distribution (+ 1.0 %) experienced active growth.

In 2014 — 2019, following the imposition of the EU and US sanctions against Russia, the development of the Kaliningrad region also relied on federal support, with minimal contributions from sectoral (+ 0.5 %) and regional (+ 0.8 %) factors. During this period, certain sectors grew much faster than the national average, including energy production and distribution (+ 2.6 %), transport and communications (+ 2.6 %), real estate operations (+ 2.2 %), construction (+ 1.6 %), and agriculture (+ 1.3 %). However, manufacturing (– 7.1 %), mining (– 1.6 %), and public administration (– 1.1 %) lagged behind in growth rates.

Indicators of structural shifts at various stages of Kaliningrad region's development highlight the strong influence of its exclave position and its high dependency on imports. The economic development of the exclave was essentially determined by the following factors: 1) institutional, primarily changes in

the SEZ regime; 2) foreign trade activity, which declined during crises or unfavourable geopolitical conditions but increased under favourable circumstances; 3) the volume of federal support and preferences provided through government programs, subsidies, and other mechanisms. Under these conditions, ensuring the economic security of the Russian exclave did not play a significant role in its development. Periods of decreased economic security coincided with positive economic growth in the region, and vice versa. Calculations using Pearson's correlation coefficient (R^2) indicate no relationship between changes in the level of economic security and gross regional product. However, similar calculations for national averages reveal the opposite — a strong direct correlation (Fig. 3, *a* and *b*).

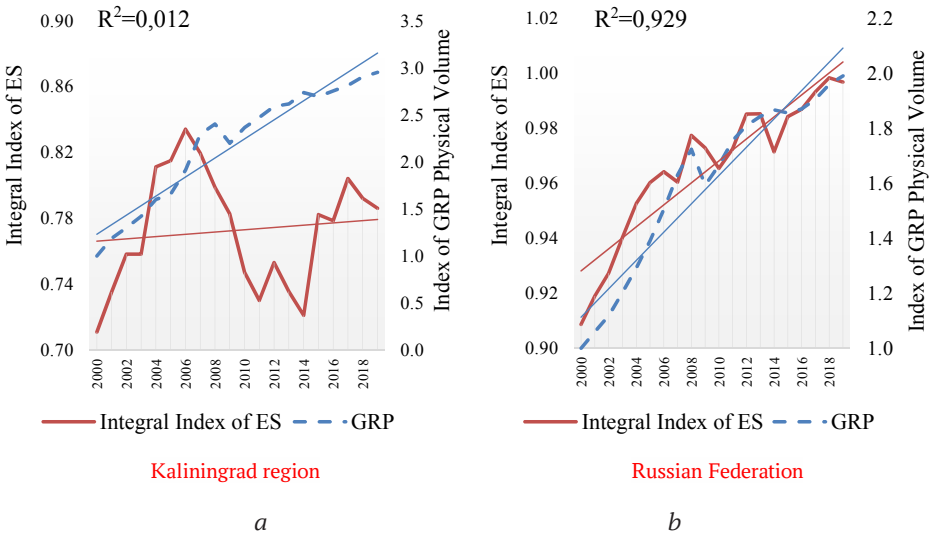

Fig. 3. Integral Index of Economic Security (ES) and the Index of GRP Physical Volume (2000 = 100 %), 2000—2019: *a* — Kaliningrad region; *b* — Russia

Thus, the external openness of the exclave exerted a significant influence on its economic development, albeit at the expense of economic security. An inverse relationship is observed between changes in the level of the exclave's economic security and external economic conditions (Fig. 4). The assessment of changes in the integrated index of economic security and import dynamics was conducted over intervals that differ somewhat from those identified in the analysis of structural shifts. This discrepancy is explained by the following. The economic situation in the exclave was shaped not only by factors common to all Russian regions but also by specific intra-regional factors mentioned earlier. Therefore, the following periods are evaluated: the phase of active growth (2000—2006), the 'survival' phase (2007—2014), and the security phase (2015—2019).

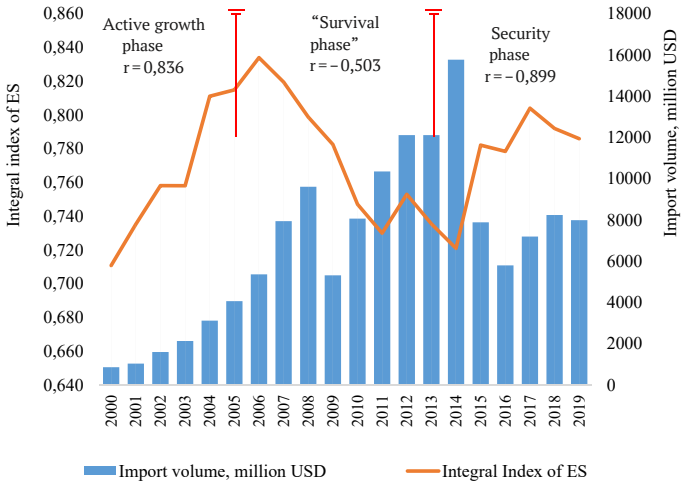

Fig. 4. Integral Index of Economic Security (ES) and Import volume, million USD

During the phase of active growth before 2006, primarily driven by an increase in industrial production, the correlation coefficient (r) indicates a strong positive relationship between economic security and imports. In the 'survival' phase, when the SEZ regime underwent significant changes and the 2008 crisis exerted its influence, the relationship between foreign trade activity and the region's economic security was weak. Transformational processes affecting regional industries played a key role. These were driven by stricter criteria for sufficient processing of goods[1] required for export without paying customs duties, as well as the establishment of a transitional period until 2016, after which goods exported to the rest of Russia were subject to full customs payments. In the security phase after 2014, when active implementation of state measures to strengthen the exclave's security (transport, energy, food supply, etc.) began, a strong inverse relationship was noted: as imports grew, the level of economic security declined, and vice versa.

Despite the development of the exclave's internal potential after 2014 and some strengthening of economic security, its role in economic development did not increase ($R^2 = 0.181$). This is explained by the continued external orientation of the exclave's development, which heightened the region's economic vulnerability to external conditions and restrictions.

Analysis of Economic Growth Quality: A Resource-Based Approach. The exclave hosts industries that produce economically simple goods — widely available products on external markets — with a poorly diversified export basket [32]. Consequently, the established industrial structure, combined with a low level of accumulated knowledge, lost production competencies since the 1990s, and

[1] On the Special Economic Zone in the Kaliningrad Region and Amendments to Certain Legislative Acts: Federal Law №16 dated January 10, 2006 (Article 24), *ConsultantPlus*, URL: https://www.consultant.ru/document/cons_doc_LAW_57687/ (accessed 13.07.2024).

weak absorptive capacity of economic systems contributes to vulnerability and increases the exclave's dependence on geopolitical and geo-economic conditions. Significant progress in restructuring could have been achieved by the exclave through the implementation of an import substitution model after 2014. However, the development of industries occurred while maintaining resource and technological dependency. The share of intermediate (raw materials, components) and investment (technologies, machinery, and equipment) goods in total imports increased. Notably, in the Russian exclave, this share is significantly higher than in other border regions of the Northwest (Fig. 5).

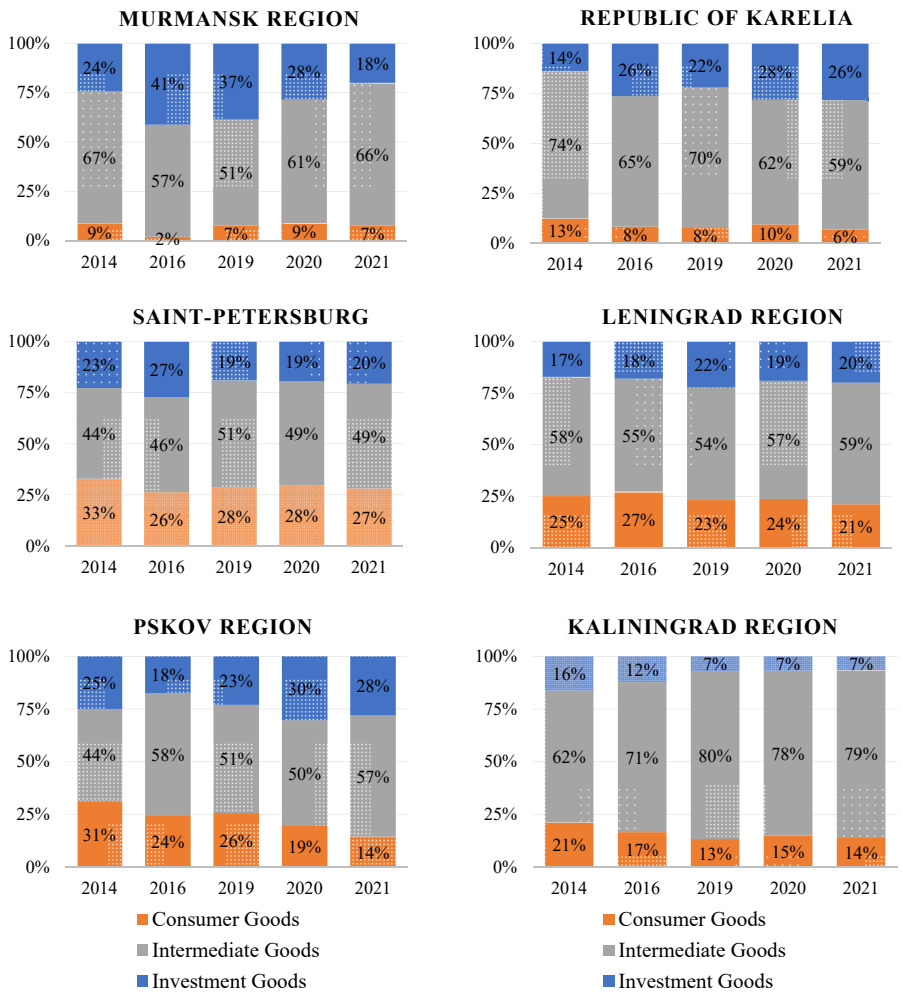

Fig. 5. Share of Intermediate, Consumer, and Investment Goods in Total Regional Imports, 2014—2021

Source: Calculations based on data from the Federal Customs Service of Russia.

Note: The column totals do not add up to 100 % because some goods lack HS (Harmonized System) codes in the Federal Customs Service database, or they are complex goods that cannot be definitively grouped into specific categories.

In the import structure of the Kaliningrad region, intermediate goods consistently account for approximately 80 %, with a lesser presence of capital goods. After the sharp decline in imports in 2014, the volume remained relatively stable. This indicates difficulties in substituting certain product categories through interregional trade flows or is likely associated with increasing production costs.

A similar issue emerged at the national economic level, becoming evident after 2022,[1] when critical import dependence arose across industries due to the absence of Russian equivalents or their extremely limited availability from foreign suppliers. This was particularly pronounced in components, machinery and equipment, and services (engineering, design, planting, and repair) across sectors such as pharmaceuticals, automotive manufacturing, computers and electronics, light industry, and others.

Functional Characteristics (Tasks) in the Management System. For the Kaliningrad region, after 2022, under the conditions of transport, production, scientific-technological, and other constraints, ensuring economic security has transitioned from being merely a factor in economic development to becoming a comprehensive strategy for sustaining the Russian exclave. Consequently, a key issue is the integration of economic security into the regional management system, driving its transformation and structural changes. Overall, the changes in the region's management system are linked to the emergence of additional functions (Fig. 6).

Functional characteristics of economic security in the system of regional management are associated with the following tasks: forecast-analytical tasks, which allow for the evaluation of conditions for ensuring the economic security of the region; planning and project tasks, which involve the selection and justification of strategic directions for the region's economic development; and organizational and economic tasks, which concern the implementation of strategic (regional) priorities to ensure and protect national interests in the economic sphere.

The boundaries of regional economic security, as well as their functions and roles in ensuring national interests, differ. Therefore, the formation of the following key blocks in the regional management system of the Russian exclave becomes fundamentally important: 1) regional diagnostics; 2) goal setting within the framework of economic security; and 3) monitoring of economic security in addressing national objectives.

Regional diagnostics makes it possible to identify economic problems that need to be addressed by state economic policy and regional government authorities. Based on its content, regional diagnostics should be conducted periodically, in accordance with the strategic planning cycles for the development of the border region. In goal setting, the critical issues are assessing the boundaries

[1] Import Substitution in the Russian Economy: Yesterday and Tomorrow, Analytical Report, HSE University, February 2023, URL: https://www.hse.ru/mirror/pubs/share/814560067.pdf (accessed 12.06.2024).

of economic security for the border region, the level of economic security depending on changes in the potential and resources of the region, and the region's positions in solving national objectives related to ensuring the economic security of the state. Monitoring involves assessing changes in the exclave's position in terms of ensuring economic security and the level of achievement of the set goals for the region's economic development. Based on the results of annual monitoring of economic security, an information-analytical database is formed for subsequent regional diagnostics of the challenges in ensuring economic security.

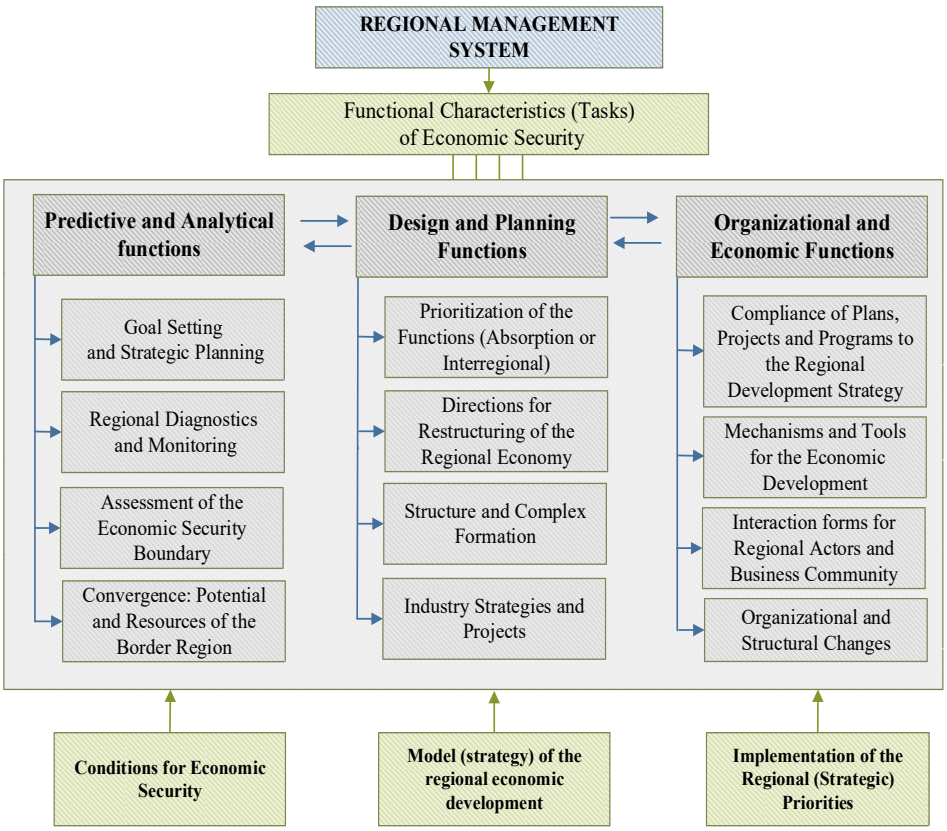

Fig. 6. Functional Characteristics (Tasks) of Economic Security in the Regional Management System

In general, economic security imposes requirements for substantiating and selecting a new model for the economic development of the Russian exclave. Firstly, it is necessary to assess the current situation in the region from the perspective of using its potential and resources and their alignment with key types of economic activity, the need and opportunity for restructuring the regional economy based on diagnostics of economic development problems, and the analysis of regional (strategic) priorities and the choice of directions for implementing

the exclave's interregional and functional roles in protecting national interests. Secondly, the key functions of the exclave, provided that they can be realized and are of high importance for protecting national interests, should be preserved, and the development of the corresponding economic sectors should involve special federal regulatory measures (for example, shipbuilding, metal processing, chemistry and pharmaceuticals, automotive manufacturing, etc.). Thirdly, the economic development of the Russian exclave should aim to strengthen its role and position in ensuring the economic security of the state, which requires corresponding changes in Russia's federal spatial policy. This is related to defining the unique status of the exclave and the approach to its economic development. Special mechanisms for the economic development of the exclave need to be developed, solidifying its position within the unified economic space of the country.

Conclusions

The study substantiates that, under current conditions, economic security must become a key factor in the economic development of the Russian exclave. On the one hand, this is dictated by the need to ensure and protect the country's national interests in the economic sphere, in which regions, including the Russian exclave, play an important role due to its unique position. On the other hand, proximity to international markets has often oriented the economic development of the Kaliningrad region toward extracting additional rent at the expense of national interests, raising concerns in the past. In conditions of openness, orientation toward external rather than internal markets, and strengthening international rather than interregional ties, the exclave's economic development did not contribute to solving national objectives related to ensuring the economy's resilience to external and internal threats. This is confirmed by the assessment of the exclave's economic security level during 2000—2019, which, prior to the COVID-19 pandemic and external restrictions after 2022, was below the national average.

An analysis of structural shifts revealed that the economic development of the Russian exclave after 2008 was predominantly supported by the national component, expressed in increased federal support and additional preferences. Sectoral and regional factors combined did not significantly influence the growth of gross regional product. Against this backdrop, the strengthening of economic security positions occurred slowly, and its changes were weakly correlated with the region's economic development rates. Moreover, during periods of increased foreign trade activity in the region, the level of economic security declined. The greatest challenges were associated with ensuring industrial, transport, and scientific-technological security, which were explained by the ex-

clave's geographical position. However, ensuring economic security did not become a priority for the economic development of the Russian exclave, even after 2014, against the backdrop of EU and US sanctions and the active implementation of the import substitution model in Russia. Despite a reduction in foreign trade turnover, intermediate goods (raw materials, components, etc.) continued to constitute a significant share of imports. As a result, by 2022, a strong dependency on specific imported goods, including technological items, had formed.

The contemporary status of the Russian exclave, shaped by external restrictions, a shifting global order, and emerging threats, calls for prioritizing its economic development to enhance economic security. This task is not only critical for addressing the region's sustainability challenges but also for reinforcing its geostrategic role in advancing Russia's national interests. Ensuring the exclave's economic security must be legally codified at both the federal and regional levels and integrated into the regional management framework. Strategic planning for the economic development of the Russian exclave should align with the objective of bolstering its economic security. Consequently, changes in the regional management system should incorporate forecasting, analytical, planning, and organizational-economic functions within its target subsystem. Goal setting within the framework of ensuring economic security is impossible without high-quality regional diagnostics and ongoing monitoring, which require corresponding methodological developments. Highlighting economic security as a regional factor determines the need to substantiate and adopt a new model of economic development, which today represents a complex challenge. It is necessary to ensure a balance of interests (military-political, industrial, scientific-technological, transport, social, etc.) within a limited decision-making space, taking into account the low internal potential and existing resources for development under the exclave's conditions.

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References

1. Kuznetsova, O. V. 2014, Typology of factors governing the social-economic development of Russian regions, *Vestnik Moskovskogo Universiteta. Seriya Geografiya*, № 2, p. 3—8. EDN: SEOPGR (in Russ.).

2. Grigoriev, L., Zubarevich, N., Urozhaeva, Yu. 2008, Scylla and Charibdis of Regional Policy, *Voprosy Ekonomiki*, № 2, p. 83—98, https://doi.org/10.32609/0042-8736-2008-2-83-98 (in Russ.).

3. Uskova, T. V. 2009, *Management of sustainable development in the regio*n, Vologda, ISEDT RAS. EDN: QDFWAD (in Russ.).

4. Bozhechkova, A. V. 2013, Econometric Modeling of the Impact of Human Capital on Economic Growth in Russian Regions, *Audit i Finansovyy Analiz = Audit and Financial Analysis*, № 1, p. 90—99. EDN: QYVNCX (in Russ.).

5. Zemtsov, S. P., Smelov, Y. A. 2019, Factors of Regional Development in Russia: Geography, Human Capital and Regional Policies, *Journal of the New Economic Association*, № 40, p. 84—108, https://doi.org/10.31737/2221-2264-2018-40-4-4 (in Russ.).

6. Ivanov, V. A. 2022, Agricultural sector of the North and the Arctic: historical aspect, directions of development, *Arctic: Ecology and Economy*, vol. 12, № 4, p. 559—571, https://doi.org/10.25283/2223-4594-2022-4-559-571 (in Russ.).

7. Vardomsky, L. B. 2017, Neighborhood factor in the economic development of the new border regions of Russia, *Mir peremen*, № 3, p. 91—104. EDN: ZHTSRX (in Russ.).

8. Doroshenko, S. V., Posysoeva, K. A. 2021, Econometric estimation of strategic development factors of Russian border regions, *Economy of Regions*, vol. 17, № 2, p. 431—444, https://doi.org/10.17059/ekon.reg.2021-2-6 (in Russ.).

9. Dokholyan, S. V., Petrosyants, V. Z., Sadykova, A. M. 2013, Assessment of factors of development of the regional system, carried out from positions of providing the sustainable development, *Regionalnye problemy preobrazovaniya ekonomiki*, № 4 (38), p. 105—108 (in Russ.).

10. Drobyshevsky, S. M. (ed.). 2005, *Factors of Economic Growth of the Russian Economy*, Moscow, Institute for the Economy in Transition. EDN: QRDDDR (in Russ.).

11. Druzhinin, P. V. 2023, Economic development of Russia's north-western regions and migration to the St. Petersburg agglomeration, *Baltic Region*, vol. 15, №3, p. 100—116, https://doi.org/10.5922/2079-8555-2023-3-6

12. Kotilko, V. V., Nemirova, G. I. 2013, Functional and geopolitical approaches to managing the economically safe development of border regions, *National Interests: Priorities and Security*, vol. 35, № 224, p. 57—60. EDN: RBJGVZ (in Russ.).

13. Khmeleva, G. A., Tot, B. I., Kostromin, K. O. 2023, Mechanism for the development of cross-border trade and economic cooperation in the context of the territorial capital growth, *Journal of International Economic Affairs*, vol. 13, № 3, p. 427—446, https://doi.org/10.18334/eo.13.3.118830 (in Russ.).

14. Alklychev, A. M., Zoidov, K. Kh., Bogatyrev, S. I. 2019, Economic security of the border region of the Russian Federation: the essence, problems and ways to ensure, *Scientific review Series 1. Economics and Law*, № 6, p. 54—69, https://doi.org/10.26653/2076-4650-2019-6-05 (in Russ.).

15. Kotilko, V. V., Nemirova, G. I., Pashennykh, F. S. 2013, Competitiveness and economic security of border regions: realities and prospects, *National Interests: Priorities and Security*, vol. 9, № 46, p. 2—7. EDN: RNLKOT (in Russ.).

16. Voloshenko, K. Yu. 2021, Economic security of the border region, Kaliningrad, Immanuel Kant Baltic Federal University. EDN: VNJMZY (in Russ.).

17. Fedorov, G. M. (ed.). 2019, Problems of economic security in Russia's western border regions, Kaliningrad, Immanuel Kant Baltic Federal University. EDN: LJKKFA (in Russ.).

18. Fedorov, G. M. (ed.). 2020, *Western frontier of Russia: Modelling of development and provision of economic security*, Kaliningrad, Immanuel Kant Baltic Federal University. EDN: JOANPD (in Russ.).

19. Staníčková, M., Melecký, L. 2018, Understanding of resilience in the context of regional development using composite index approach: The case of European union NUTS-2 regions, *Regional Studies, Regional Science*, vol. 5, № 1, p. 231—254, https://doi.org/10.1080/21681376.2018.1470939

20. Wolman, H., Wial, H., Clair, T., Hill, E. 2017, Shocks and Regional Economic Resilience, in: *Coping with Adversity: Regional Economic Resilience and Public Policy*, https://doi.org/10.7591/cornell/9780801451690.003.0002

21. Martin, R. 2012, Regional Economic Resilience, Hysteresis and Recessionary Shocks, *Journal of Economic Geography*, vol. 12, № 1, p. 1—32, https://doi.org/10.1093/jeg/lbr019

22. Akberdina, V. V. 2021, Resilience Factors in the Russian Economy: The Comparative Analysis for 2000—2020, *National Interests: Priorities and Security*, vol. 17, № 8, p. 1412—1432, https://doi.org/10.24891/ni.17.8.1412 (in Russ.).

23. Klimanov, V. V., Mikhaylova, A. A., Kazakova, S. M. 2018, Regional resilience: theoretical basics of the question, *Ekonomicheskaya Politika*, vol. 13, № 6, p. 164—187. EDN: YSWQFV (in Russ.).

24. Malkina, M. Yu. 2020, Assessment of resilient development of the regional economies based on Mahalanobis distances, *Terra Economicus*, № 3, p. 140—159, https://doi.org/10.18522/2073-6606-2020-18-3-140-159 (in Russ.).

25. Kazantsev, S. V., Mityakov, E. S. 2022, Assessing the significance of the viability dynamics factors of the subjects of the Russian Federation, *Economic security*, vol. 5, № 1, p. 155—174, https://doi.org/10.18334/ecsec.5.1.114267 (in Russ.).

26. Mityakov, E. S., Mityakov, S. N. 2014, Adaptive approach to calculation of the generalized index of economic security, *Sovremennye problemy nauki i obrazovaniya*, № 2, p. 415—421. EDN: SBWILJ (in Russ.).

27. Mikheeva, N. N. 2018, Macroeconomic effects of structural shifts in economy of regions, *Region: Economics & Sociology*, № 4, p. 42—68 (in Russ.).

28. Kotov, A. V. 2021, Spatial Shift-Share Analysis as a Tool for Studying the Economic Development of Russia's Macroregions, *Economy of regions*, vol. 3, p. 755—768, https://doi.org/10.17059/ekon.reg.2021-3-3 (in Russ.).

29. Esteban, J. 2000, Regional convergence in Europe and the industry mix: a shift-share analysis, *Regional Science and Urban Economics*, vol. 30, № 3, p. 353—364, https://doi.org/10.1016/S0166-0462(00)00035-1

30. Montanía, C. V., Márquez, M. A., Fernández-Núñez, T., Hewings, G. J. D. 2021, Spatial shift-share analysis: Some new developments, Papers in Regional Science, vol. 100, № 2, p. 305—325, https://doi.org/10.1111/pirs.12575

31. Melnikova, L. V. 2021, Spatial Analysis of the Dynamics of Structural Shifts in the Economies of Russian Regions in 2004—2019, *Regional Research of Russia*, vol. 11, № 4, p. 454—463, https://doi.org/10.1134/S2079970521040249

32. Roos, I., Voloshenko, K. Yu., Drok, T. E., Farafonova, Yu. Yu. 2020, An Economic Complexity Analysis of the Kaliningrad Region: Identifying Sectoral Priorities in the Emerging Value Creation Paradigm, *Baltic Region*, vol. 12, № 1, p. 156—180, https://doi.org/10.5922/2079-8555-2020-1-9

The author

Dr. Ksenia Yu. Voloshenko, Associate Professor, Director, Centre for Socio-Economic Research of the Region, Immanuel Kant Baltic Federal University, Russia.

E-mail: KVoloshenko@kantiana.ru

https://orcid.org/0000-0002-2624-0155

STRUCTURAL SHIFTS IN THE BALTIC STATES' FOREIGN TRADE

V. G. Varnavskii

Primakov National Research Institute of World Economy and International Relations of the Russian Academy of Sciences, 23, Profsoyuznaya St., Moscow, 117997, Russia

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Professor Gennady Fedorov, Doctor of Geography and a distinguished Soviet and Russian researcher, made a significant contribution to the study of economic development in the Baltic states, particularly in their economic relations with Russia. His work consistently underscored the importance of trade with Russia for the Baltic economies and its impact on regional production of goods and services. Recent geopolitical shifts have triggered profound structural changes in international trade. This article examines the trade in goods within the Baltic states, as well as between these states and third countries, including Russia. It evaluates the long- and short-term structural shifts in commodity flows, utilizing a comparative analysis of export and import trends based on the latest international statistics. The study covers the period from 2004 to 2024, drawing on annual statistics from 2004—2023 and more granular quarterly and monthly data for 2021—2024, sourced from UN/UNCTAD, Eurostat, WTO, and the World Bank. Employing methods of statistical and structural analysis and Trade Intensity Index (TII) calculations, the article investigates two hypotheses. The first hypothesis, proposing a general increase in the TII between the Baltic states from 2004 to 2023, is partially supported; Lithuania's exports deviate from the overall trend due to the country's strong trade links with Poland and Germany. The second hypothesis, asserting the adaptability of Baltic business to geo-economic and geopolitical stresses — including sustained trade with Russia—has been fully confirmed. The article identifies commodity groups where export and import flows between the Baltic states and Russia increased between 2021 and 2023, highlighting potential niches for Russia to maintain or expand its presence.

Keywords:
Baltic states, foreign trade, trade intensity index, Lithuania, Latvia, Estonia, Russia

Introduction

The three Baltic states of Latvia, Lithuania, and Estonia are open economies with a significant proportion of their gross domestic product, GDP, and household incomes generated at external markets. Since 2010, the ratio of total foreign trade (i. e., the sum of exports and imports) to GDP in these countries has been

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consistently exceeding 100 %, according to the World Bank. Thus, in 2023 this indicator reached the value of 132 % for Latvia, 153 % for Lithuania, and 156 % for Estonia; against the EU average of 97 %.[1]

Such a high dependence on foreign trade and integration into the global economy has both advantages and disadvantages. The former include access to new markets for national businesses, which allows them to optimize costs, increase profits, boost productivity and efficiency, acquire advanced knowledge and technologies. The latter, however, concern increased competition between domestic producers, higher sensitivity of local economies to fluctuations in external markets and prices, as well as to global economic crises, shocks and stresses. This paper demonstrates that being so integrated into the global economy means that the Baltic states are more susceptible to external crises than the EU countries generally tend to be.

As of 2010, the Baltic states have been facing serious issues connected with economic reproduction and the structure of foreign trade. Some of these have been external, such as the global economic downturn following the 2008/2009 crisis and the lengthy struggle to overcome its aftershocks; the decline in global trade between 2015 and 2016; the COVID-19 pandemic; the global geopolitical upheaval and the imposition of anti-Russian sanctions. Some have been internal, such as relatively weak — compared to the EU average — national economies with their heavy reliance on subsidies and external (foreign) investment; high unemployment and poverty rates with low social welfare; and so on. However, the main factor contributing to economic problems in the Baltic states has been their drastic and overly aggressive anti-Russian policy that has led to the curtailment of many trade connections with Russia to the detriment of their own national output, and, as a consequence, to the undermining of domestic economic reproduction. To this day, the Baltic states have not yet managed to overcome these issues.

The study aims to use the latest official statistical data from a number of international organizations to conduct a comparative analysis of export-import flows between the three Baltic states as well as between these states and the rest of the world, including Russia, and to assess the directions and scale of long- and short-term structural shifts in their foreign trade.

To this end, the study will attempt an economic and statistical analysis of commodity flows between the three Baltic states as well as between these states and external economies; it will evaluate structural shifts and directions of international trade flows and calculate the Trade Intensity Index (TII) values; it will also identify commodity niches that Russia can maintain and/or develop in its trade with the Baltic states.

[1] Trade (% of GDP) — Estonia, Latvia, Lithuania, *World Bank Database,* URL: https://data.worldbank.org/indicator/NE.TRD.GNFS.ZS?locations=EE-LV-LT (accessed 22.10.2024).

The study covers the period from 2004 to 2024. It is based on the open annual (for the entire period) and quarterly/monthly (for 2021—2024) data published by the UN/UNCTAD, Eurostat, WTO, and the World Bank.

Two hypotheses have been tested in the course of the study. The first, on the general increase in the TII between the Baltic states in 2004—2023, has been partially confirmed. The second hypothesis, on the high degree of adaptability of the region's non-sanctioned business to geo-economic and geopolitical stresses, its ability to navigate the current difficult situation of trading in international markets, including trade with Russia, has been fully confirmed.

State of research

Russian economic studies in general and the studies of trade relations in particular have always paid increased attention to the Baltic states. This interest is stimulated by the shared historic past and the strategic importance that the Baltic states bear as a buffer, or a link, between Russia and the West. While not claiming to provide a comprehensive review of literature, we will highlight the most notable works that focus on the trade relations of the Baltic states and, specifically, on their trade with Russia [1—3].

Over the last decade, international trade has been increasingly influenced by geopolitics. As a result, the entirety of global, multi- and bilateral economic and trade relations has shifted towards being determined by the geopolitical agenda. Among the many recent Russian studies on the topic as applied to the Baltic region, we would like to draw attention to [4; 5] in particular.

The emerging world order and global transformation of trade relations are also actively studied internationally, especially by researchers from Europe (see, for example, [6]). For the EU, the problem of geopolitics and its impact on trade relations is now so relevant that academic journals devote entire issues to it — a phenomenon that has not been observed outside of the 2008/2009 crisis and the COVID-19 pandemic. For example, in July 2024, the Journal of Common Market Studies, the EU's leading publication on economic integration and the common market, published a special issue on the geo-economic pivot of the European single market. It includes 11 articles on theoretical issues and empirical research. A number of these concern the EU trade policy which forms the framework for current trends and structural shifts in foreign trade of the EU countries [7—10].

Much of the literature looks at structural changes in global and European trade [11-14]. Thus, [11] researches the prospects of ongoing structural transformations in international trade and suggests a number of ways in which the mechanisms of such transformations can be further explored.

Economists have identified and analyzed the following features that characterize foreign trade of the Baltic states: lack of consistency and sustainability; high volatility and major structural changes [15].

Another important focus of research is the link between economic development and structural changes in trade flows in the Baltic states [16—18]. In [16], the authors analyze the long- and short-term relationship between economic growth and liberalization of trade in 13 EU countries, including Estonia, Latvia and Lithuania.

In [17], the researchers identify a causal link between the openness of trade and economic growth in the period between 1990 and 2020. The model developed by the authors demonstrates the cross-industry dependence within the Baltic states which indicates shared influences and economic ties.

One study, [18], analyzes economic indicators of the Baltic states between 1993 and 2014 (GDP, FDI, export / import). The results confirm, for these countries, causal interdependence between economic growth, foreign direct investment (FDI) dynamics and trade volatility [18, p. 8].

The impact of FDI and the openness of trade on the economic development of the Czech Republic, Slovakia, Estonia and Lithuania is estimated in [19] on the basis of long series for the 1995-2021 period. The results demonstrate that both factors have a positive influence on economic growth in all countries [19, p. 598].

Several publications are devoted to the comparative analysis of regional trade problems of Central and Eastern European (CEE) countries [20; 21]. Thus, [20] tests the hypothesis of the dual impact of trade openness on the economy in the context of globalization: that of strengthening and weakening of the economic influence of the state. The study is based on statistical data for the period from 1996 to 2021 for 11 CEE countries, including the Baltics. In [21], structural shifts in the regional trade of ten CEE countries are studied over the period between 2004 and 2018.

Some works draw cross-regional comparisons of international trade flows. Thus, [22] compares the consequences of the 2008/2009 crisis, and foreign trade of the countries of the Iberian Peninsula, CEE and the Baltic states. The paper identifies specific features of changes in foreign trade indicators. One conclusion is that the economies of the countries under review have become much more open and export-dependent.

A significant body of research is dedicated to analyzing bilateral trade between the Baltic states as well as between these states and other EU countries and major EU partners, i.e., China, the US and Russia. For example, [23] traces the evolution of trade relations between Latvia and China, while evaluating the potential and diversification possibilities for Latvian exports to the People's Republic of China.

In [24], the authors look at the mutual complementarity of trade relations between China and the Baltic states. They note that distance is the main obstacle to the development of trade between these countries [24, p. 802].

China has been the focus of economic analysis for the last few years, and the literature reflects that. In [25], for example, the authors describe the structure and trends of bilateral trade imbalances between the EU and China and test the hypothesis that the existing lack of balance in bilateral trade tends to work in favour of China. Having calculated export and import indicators for the EU countries (including Latvia, Lithuania and Estonia) and analyzed their growth rates over

the five-year period between 2016 and 2021, the authors have been able to identify commodity groups with growing and declining competitiveness in the EU in trade with China.

In [26], trade between the Baltic states and the USA is examined. The researchers identify current trends and assess the importance of the USA as a trade and investment partner.

At the same time, there is a lack of studies on integration and structural shifts in trade, including those in the Baltic states, in the literature. This fact is mentioned, in particular, in one of the publications discussed above: "The study found a significant literature gap concerning CEE regional trade integration and its determinants. Its limitations refer to: lack of product-groups-level trade data and narrow scope of trade flows (in goods only)" [21, p. 225]. With dramatic events surrounding deep restructuring on the supply side of the Baltics' main imported commodity — energy sources — brought about by large-scale anti-Russian sanctions and the consequent displacement of Russia from this market, the topic of structural trade shifts is especially relevant. This article aims to investigate the latest developments in this process.

Methods

The following methods and approaches to economic analysis have been used in this study:

1. Long-time series statistical analysis; trend analysis (identification and mapping); comparative cross-country analysis. Here, we also used some methods of structural analysis: calculating indicators of structural shifts; identifying shares and their dynamics; calculating rates and dynamics of both growth and increment of annual, quarterly and monthly data, etc.

2. Trade Intensity Index (TII) calculation. To calculate the TII between the Baltic states, we used the formula developed by [27, p. 71]

$$IIT_{ij} = (Ex_i^j / SumEx_i) / (WorldEx_j / SumEx_w), \quad (1)$$

where IIT_{ij} is the intensity index for export from the country i to the country j;

Ex_i^j us the export from the country i to the country j;

$SumEx_i$ is the total volume of the country i exports;

$WorldEx_i$ is the global export to the country j;

$SumEx_w$ is the total global export.

The value of calculating TII for economic analysis lies in the fact that it allows researchers to compare the bilateral trade of two countries with their participation in global trade. This is important for this study as it helps test one of the hypotheses and assess structural changes in the bilateral trade intensity between the Baltic states over the past 20 years.

3. Statistical data: approaches to selection. To avoid significant errors in the calculations, we made sure to use compatible data for all countries, including Russia. Therefore, the main source of statistical information for this study was the United Nations, and the Trade Map database created under its auspices (devel-

oped and maintained by the UNCTAD/WTO International Trade Centre). Additionally, the study relies on data from the EU (Eurostat), WTO (WTO Stats), and the World Bank (World Bank Open Data) databases.

Results

In the Baltic states, foreign trade is largely shaped by the general trends of the economic development of the European Union and by the decisions made by its governing bodies. At the same time, much is determined by trade policies of national governments and the general situation within the countries themselves, as well as by the global economy.

Exports

Shortly after joining the EU, the three Baltic states experienced a period of rapid growth of foreign trade that lasted up until the global financial and economic crisis of 2008/2009 (Fig. 1).

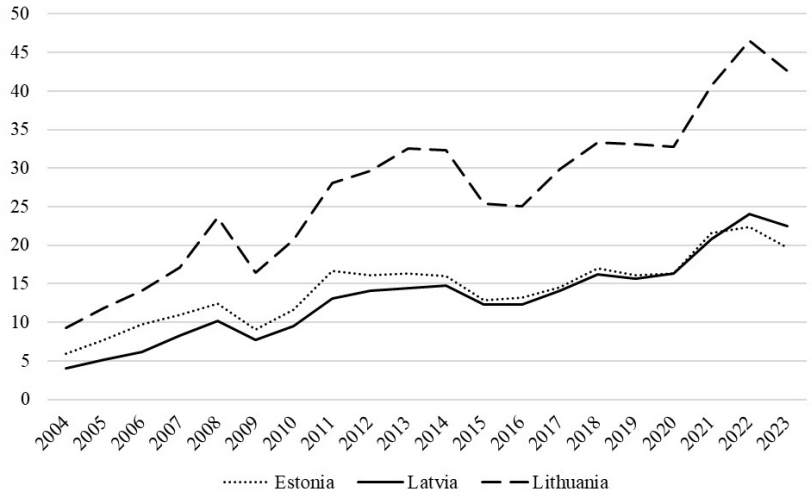

Fig. 1. Exports in goods from the Baltic counties, US dollars, billion

Calculated by the author based on WTO data: Merchandise exports by product group — annual (Million US dollars), *WTO Stats*, URL: https://stats.wto.org/ (accessed 22.10.2024).

Before the crisis hit, the annual incremental growth rates would routinely reach 30 % or higher; however, the comeback from the economic downfall was long and sluggish, and none of the Baltic states was able to reach their pre-crisis dynamics after 2011. The economic development of the Baltic states in that period of time has been the subject of extensive research (see, for example, [1; 28—30]), and we will refer the reader to these studies.

Since the Baltic states are more sensitive to fluctuations in global markets, they are also more susceptible to the effects of external economic and trade crises than the other EU member states. Thus, the slumps in exports during the econom-

ic crises of 2009, 2015/2016 and 2023 were much more pronounced for the Baltic states than for the EU in general. For example, while in 2009 exports from the Baltic states dropped by 28.2 %, the EU only lost 22.5 % of its exports. In 2015, the decline was about 10 % less steep, but its structure remained the same: 19.9 % drop for the Baltic states against 12.8 % for the EU. In 2023, as Baltic exports fell by 8.8 %, the EU was able to demonstrate an overall growth of 0.2 % in this area (Fig. 2).

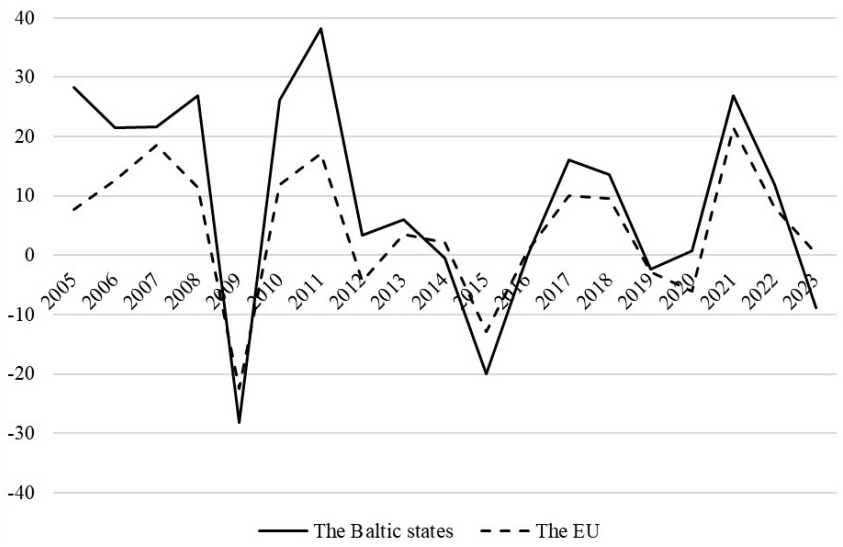

Fig. 2. Annual incremental growth in exports in goods for the Baltic states and the EU, %

Calculated by the author based on WTO data: Merchandise exports by product group — annual (Million US dollar), *WTO Stats*, URL: https://stats.wto.org/ (accessed 22.10.2024).

Analyzing the data from Figures 1 and 2, we can arrive at a number of conclusions on the dynamics and structural shifts in the commodity trade.

1. Over the entire EU tenure of the Baltic states, the bloc experienced four major external trade upheavals, the first three being the global financial crisis of 2008/2009; the global trade crisis of 2015/2016[1] with the anti-Russian sanctions;

1 In the 2017, Bulletin on Current Trends in Global Economy, dedicated to the Baltic states, the experts of the Analytical Center for the Government of the Russian Federation claim that the global trade crisis had been brought about by the global economic situation: "In 2012—2014, the dollar trade was growing gradually (with the exception of Estonian exports), but in 2015 it fell by 15—20 %, mostly following the global price drop for a variety of goods". Focus On: the Baltics — Revival after the Great Recession, 2017. The Bulletin on the Current Trends in Global Economy. Analytical Center for the Government of the Russian Federation, vol. 20, p. 7. URL: https://ac.gov.ru/files/publication/a/13165.pdf?ysclid=m0z1pjc1xt22871867 (accessed 22.10.2024).

and the crisis surrounding the COVID-19 pandemic. The latest, or the fourth, crisis started in 2022 in the Baltic states with the announcement of unprecedented anti-Russian sanctions and hit with full force in 2023.

2. According to the Eurostat data, Estonia's exports went from 30.9 billion euros in 2022 to 29.5 billion euros in 2023, Latvia's exports dropped from 28.0 billion euros to 25.9 billion euros in the same period, and Lithuania's — from 58.5 billion euro to 56.5 billion euro[1]; all the while the EU exports stagnated at 8.9 trillion euros.

3. Exports increment growth rates during economic upswings in all three countries exceeded the EU average not only at the initial stage after their accession to the Union (2004—2007) but also in the subsequent period up to 2022. We estimate that between 2004 and 2022 the average growth of EU exports amounted to 4.6 % annually, while the Baltic states' exports grew at double this rate: Estonia — by 8.1 % annually, Latvia — by 10.8 %, and Lithuania — by 9.9 %. Low base effect in production output levels accounts for some of these numbers, as well as the high competitiveness of the goods produced in the Baltic states. The latter is explained by two factors: a) production means used in the Baltic states are comparable to the state-of-the-art manufacturing facilities, technologies, equipment, etc. employed by some of the EU's best producers (such as Germany or France); b) labour costs are relatively low. The Baltic states were lagging behind in wages throughout the entire reporting period, reaching levels that were 2 to 3 times lower than the European average over the last few years. According to the Eurostat data for the last available year, in 2018 the average hourly wage was 15.43 euros across the EU27, 7.46 euros in Estonia, 6.28 euros in Latvia, and 5.28 euros in Lithuania.[2] So, while the first of the two factors discussed above allows the manufacturers from the Baltic states to compete in quality, the second — lower labour costs — gives them more freedom to vary (i. e., reduce) prices, the latter being a major factor in determining the competitiveness of goods.

4. Foreign trade volatility in the Baltic states is consistently higher than the EU average: external trade crises hit these countries harder, and recovery follows steeper trajectories. This is explained, firstly, by a higher degree of dependence of the Baltic states on the situation in the global economy, and, secondly, by relatively weak domestic governance and legislative system. The latter is manifested, in particular, in low indicators of socio-economic development and in the attitude of society to the authorities. Thus, one of the leading Russian experts on the Baltic states Olenchenko notes: "The results of the governments' activities, assessments of politicians' activities in the public opinion of the Baltic states testify to the low authority of the Baltic leaders. They apply their efforts not to advance the Baltics prosperity, but to promote the Euro-Atlantic ideology" [1, p. 75].

[1] Goods and services, imports and exports, *Eurostat*, URL: https://ec.europa.eu/eurostat/databrowser/view/tec00110/default/table?lang=en (accessed 20.10.2024).

[2] Hourly earnings by economic activity and contractual working time (enterprises with 10 employed persons or more), *Eurostat*, URL: https://ec.europa.eu/eurostat/databrowser/view/earn_ses18_hftpt/default/table?lang=en (accessed 20.10.2024).

Exports by commodity

There were no large structural shifts in the Baltic states' exports by commodity groups, which is typical for many economies with well-developed production. In 2023, the Baltic states exported the same types of goods as in 2004 (Table 1).

Table 1

Shifts in the structure of commodity exports of the Baltic states, 2004—2023, % of total exports

Products (arranged by share in total exports, 2023)	2004	2023
Exported by Latvia		
Wood and articles made of wood	27.56	15.1
Electrical machinery and equipment	3.96	10.76
Mineral fuels	4.63	7.39
Exported by Lithuania		
Mineral fuels	25.07	14.32
Vehicles	5.42	7.53
Furniture	6.06	7.51
Exported by Estonia		
Electrical machinery and equipment	21.9	13.95
Wood and articles made of wood	11.63	10.45
Machinery and mechanical appliances	4.71	9.25

Calculated by the author based on Trade Map: List of products exported by Latvia, *Trade Map*, URL: https://www.trademap.org/Product_SelCountry_TS.aspx (accessed 22.10.2024).

Nevertheless, there were significant structural shifts within the complex of the main export-oriented industries. For example, the share of wood as a traditional export commodity decreased almost 2-fold for Latvia, while the share of other types of manufactured goods doubled or even tripled (electrical machinery and equipment). In Lithuania's exports, the share of mineral fuels decreased, but the industry remained in the 1st place in terms of exports. In Estonia, while the shares of electrical machinery and wood in total exports dropped, these commodities still retained their top positions in the structure of exports.

Exports by country

The ratio of the Baltic economies in relation to each other in the region's exports (intra-regional structure) is slow to change, and the share of each country roughly correlates to the country's population numbers and its level of economic and industrial development. Thus, Lithuania accounts for almost 50 % of the region's exports; Latvia, for 23—25 %; and Estonia, for 26—27 %.

The Trade Intensity Index (TII) between the Baltic states calculated according to the formula specified above (1) has shown that four out of six intra-regional trade flow directions demonstrated a significant increase in commodity exports (2004 vs. 2023):

- Estonia to Latvia: 77.0 vs. 115.1;
- Estonia to Lithuania: 46.2 vs. 80.1;

• Latvia to Estonia: 85.1 vs. 111.3;
• Latvia to Lithuania: 113.4 vs. 171.6;
• Lithuania to Latvia: 79.0 vs. 52.5;
• Lithuania to Estonia: 39.5 vs. 26.3.

Thus, our hypothesis on the general increase in the TII between the Baltic states in 2004—2023 is only partially confirmed. Lithuania's exports to Latvia and Estonia are outliers of the otherwise upward trend, which can be explained by:

a) relatively low growth of Lithuania's exports to neighbouring Baltic states in 2004—2023 (4.8 times to Latvia and 5.0 times to Estonia) compared to the increase of Lithuanian GDP, which grew by a factor of 6.4;

b) redirection of Lithuanian commodity flows to Poland, Germany, the Netherlands and other EU countries. For example, Lithuania's exports to Poland increased from 449 million euros in 2004 to 3,944 million euros in 2023, i. e., by 8.8 times.

Exports outside the Baltic states

The destination structure of commodity exports outside the Baltic states changed significantly over the reporting period. Table 2 summarizes data on the main importing countries for goods produced in the Baltic states in 2004 and 2023.

Table 2

Key importing countries for goods produced in the Baltic states (in brackets: their share in exports, %)

Ranking, 2023	2004	2023
Exported by Latvia		
1	Germany (12.2)	Lithuania (18.1)
2	Great Britain (12)	Estonia (11.6)
3	Sweden (9.8)	Germany (7)
4	Lithuania (8.7)	Russia (6)
5	Estonia (7.6)	Sweden (5.9)
6	Russia (6.5)	Great Britain (4.8)
Exported by Lithuania		
1	Latvia (10.2)	Latvia (10.8)
2	Germany (10.2)	Poland (9.3)
3	Russia (9.3)	Germany (7.8)
4	France (6.3)	The Netherlands (5.9)
5	Great Britain (5.3)	Estonia (5.5)
6	Sweden (5.1)	Russia (5.4)
Exported by Estonia		
1	Finland (20.6)	Finland (15.4)
2	Sweden (13.9)	Latvia (11.6)
3	Russia (11.9)	Sweden (9.1)
4	Latvia (7.7)	Lithuania (8.1)
5	Germany (7.5)	Germany (6.4)
6	Lithuania (4.1)	Russia (5.9)

Calculated by the author based on Trade Map: List of importing markets for a product exported by Latvia, *Trade Map*, URL: https://www.trademap.org/Country_SelProduct-Country_TS.aspx (accessed 22.10.2024).

Results

1. Overall, destinations of exports from the Baltic states remained unchanged over the 20 years in the study: goods were primarily exported to neighbouring states and the states with access to the Baltic Sea, including Russia, although the latter had lost top positions in many commodity groups of the Baltic exports by 2023. All of the Baltic states were mostly involved in internal macro-regional trade, with 'macro-region' understood as encompassing all the Baltic Sea countries. According to our estimates based on the Trade Map database, in 2023 such trade accounted for more than 60 % of Estonia's and Latvia's exports, and for almost 50 % of Lithuania's exports.

2. The restructuring of export destinations for all three Baltic states was most pronounced within a rather narrow group of countries. The six leading importers of Latvian and Estonian products remained unchanged between 2004 and 2023. In the import of Lithuanian products, the relatively distant France and Great Britain conceded their leadership positions to the geographically closer Poland and the Netherlands.

3. Having remained a major consumer of goods produced in the Baltic states, Russia moved from the 3rd to the 6th position in the ranking of top importers from Lithuania and Estonia. As for the Latvian imports, our country moved up from the 6th place in 2004 to the 4th place in 2023 (Russia had already taken the 4th place in 2022).

Another notable trend concerns the changes in the structure of trade flows within the EU: here, the Baltic states' monthly exports had dropped by 25—30 % since September 2022 and by March 2024 had been fluctuating around the 4-billion-euro mark (Fig. 3).

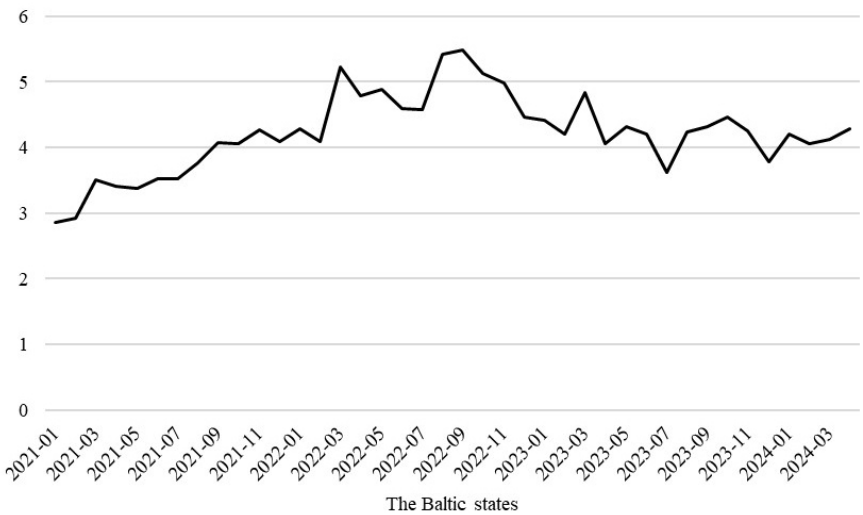

Fig. 3. Monthly exports from the Baltic states to the EU member states, billion euros

Calculated by the author based on Eurostat data: EU trade since 1999 by SITC, *Eurostat*, URL: https://ec.europa.eu/eurostat/databrowser/view/ds-018995__custom_12161354/default/table?lang=en (accessed 22.10.2024).

This indicates that in recent years the Baltic states lost a significant part of their competitive positions in trade on the EU market. In our view, this is mainly a consequence of the sharp decline in economic relations with Russia.

Imports

Between 2004 and 2023, trends in imports to the Baltic states mostly echoed their exports. Latvia increased its purchases abroad by a factor of 4.3, Lithuania — by a factor of 5.3, and Estonia — by a factor of 4.4. The volume of imports in 2023 amounted to 27.4 billion euros in Latvia, 53.7 billion euros in Lithuania, and 29.3 billion euros in Estonia.[1]

In 2023, imports fell dramatically alongside exports: Latvia saw an 11.5 % decrease, Lithuania — a 12.1 % decrease, and Estonia — a 15 % fall.[2] Such a major drop in foreign trade indicators resulted from a combination of factors, including the EU economic stagnation, long-term systemic economic and social issues in the Baltic states, and unfavourable general economic conditions in partner countries.

Imports by commodity

The structure of the main imports in all three countries changed little over the 20 years in this study. In all of them, four commodity groups maintained their position as top imported goods: mineral fuels, electrical machinery and equipment, vehicles, and machinery and mechanical appliances. In 2023, these accounted for between 40 and 50 % of each country's total imports.[3]

The shares of each group in total imports also remained fairly stable over the reporting period, except for 2022, when, due to the frenzied demand for energy sources caused by the EU sanctions against Russian oil supplies, the Baltic companies, taking advantage of the gap between the announcement of the sanctions and them coming into effect[4], dramatically increased purchases of all types of mineral fuels to create reserves, having thus driven the share of these products in imports to an unprecedented 21 % (for Latvia and Estonia) and 28 % (for Lithuania). Already in 2023, however, the balance of the imports

[1] GDP and main components (output, expenditure and income), *Eurostat*, URL: https://ec.europa.eu/eurostat/databrowser/view/nama_10_gdp__custom_12157892/default/table?lang=en (accessed 22.10.2024).

[2] List of supplying markets for a product imported by Latvia, *Trade Map*, URL: https://www.trademap.org/Country_SelProductCountry_TS.aspx (accessed 22.10.2024).

[3] List of products imported by Latvia, *Trade Map*, URL: https://www.trademap.org/Product_SelCountry_TS.aspx (accessed 22.10.2024).

[4] The EU imposed sanctions on Russian oil in June 2022, with exemptions both for deadlines and for deliveries.

structure was restored to the levels of 2021, and the share of imported mineral fuels returned to the average numbers: 11 % for Latvia and Estonia, and 20 % for Lithuania.

Imports by country

The country structure of imports to the Baltic states underwent dramatic structural shifts caused by Russia's withdrawal from the top positions in the list of exporters (Table 3).

Table 3

Key commodity exporters to the Baltic states (in brackets: their share in imports, %)

Ranking, 2023	2004	2023
Imported by Latvia		
1	Germany (13.5)	Lithuania (21.2)
2	Lithuania (11.9)	Germany (11.1)
3	Russia (9.3)	Poland (10.6)
4	Estonia (6.9)	Estonia (8.5)
5	Sweden (6.2)	The Netherlands (4.3)
6	Finland (6.1)	Finland (4.0)
Imported by Lithuania		
1	Russia (23.1)	Germany (13.8)
2	Germany (16.7)	Poland (13.2)
3	Poland (7.7)	Latvia (8.1)
4	The Netherlands (4.0)	The US (6.4)
5	Latvia (3.8)	The Netherlands (5.0)
6	Sweden (3.4)	Norway (4.5)
Imported by Estonia		
1	Russia (12.1)	Germany (11.1)
2	Finland (10,9)	China (9.3)
3	Germany (9.3)	Finland (8.6)
4	Sweden (5.8)	Lithuania (6.6)
5	China (4.7)	Poland (6.4)
6	Lithuania (3.9)	Latvia (5.2)

Calculated by the author based on Trade Map: List of supplying markets for products imported by Latvia, *Trade Map*, URL: https://www.trademap.org/Country_SelProductCountry_TS.aspx (accessed 22.10.2024).

The data in Table 3 confirm the earlier conclusion that the main foreign trade partners are neighbouring and nearby countries, excluding Russia.

Shifts in trade with Russia

At the initial stage after the introduction of the first sanctions (from March 2022 to January 2023), the decline in the Baltic states' imports from Russia was

sharp (Fig. 4). Then, as the volume of imports from Russia decreased, so did the rate of decline, and in 2023 imports had already entered stationary trajectories at a much lower level.

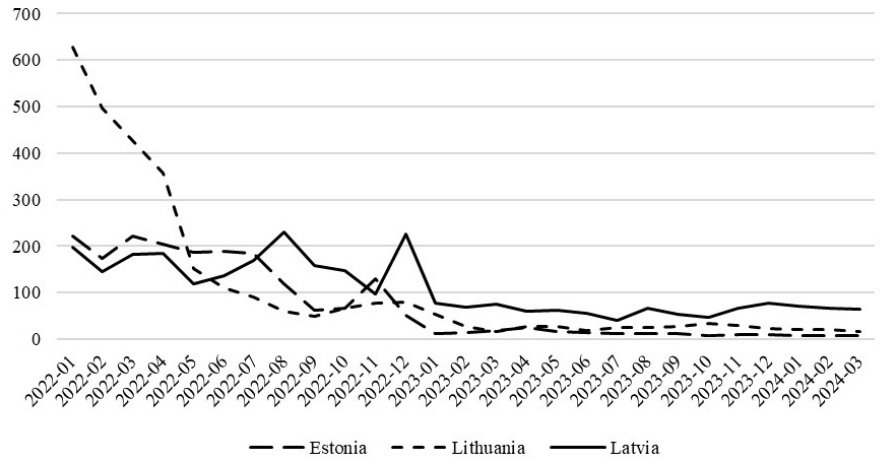

Fig. 4. Monthly imports from Russia to the Baltic, million euro

Calculated by the author based on Eurostat data: EU trade since 1999 by SITC, *Eurostat*, URL: https://ec.europa.eu/eurostat/databrowser/view/ds-018995__custom_12032993/default/table?lang=en (accessed 22.10.2024).

Although the EU also imposed sanctions on exports of goods to Russia (particularly for high-tech products), there were weaker downward trends here until November 2023 (Fig. 5). In general, Baltic exports to Russia decreased, but not as significantly as imports.

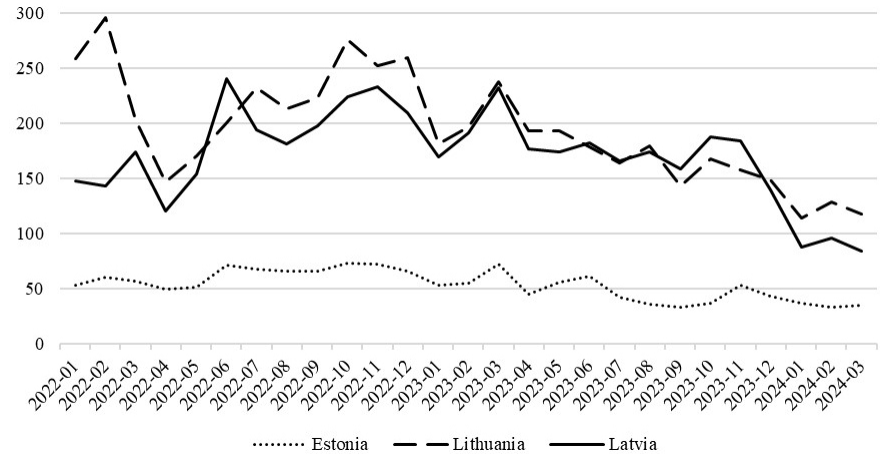

Fig. 5. Monthly exports of goods from the Baltic states to Russia, million euros

Calculated by the author based on Eurostat data: EU trade since 1999 by SITC, *Eurostat*, URL: https://ec.europa.eu/eurostat/databrowser/view/ds-018995__custom_12032993/default/table?lang=en (accessed on 22.10.2024).

Deep structural shifts discussed above fit into the generally negative trends of the EU trade with Russia: the 2022 drop was followed by a recovery to numbers lower than those of 2021 in both exports and imports (Fig. 6).

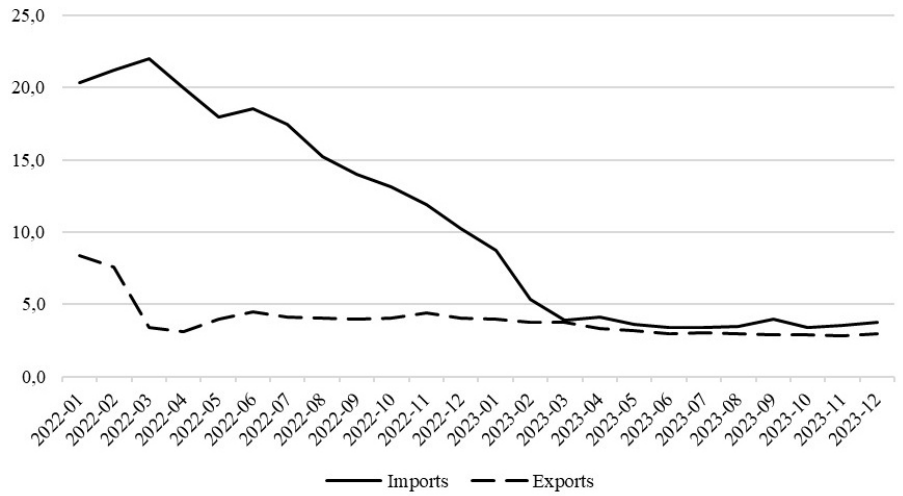

Fig. 6. Monthly EU-Russia trade, billion euros

Calculated by the author based on Eurostat data: EU trade since 1999 by SITC, *Eurostat*, URL: https://ec.europa.eu/eurostat/databrowser/view/ds-018995__custom_12032993/default/table?lang=en (accessed 22.10.2024).

At the same time, in 2023, Russia's purchases increased for a significant group of food and light industry products, which form the basis of Russian imports from the Baltics (Table 4).

Table 4

Commodity groups with increased exports to Russia in 2021—2023

Exported from	Products	US dollars, million		
		2021	2022	2023
Latvia	Beverages and spirits	359.4	358.6	500,9
	Articles of apparel and clothing; footwear	92.8	101.8	152,5
	Rubber and articles thereof	17.2	30.6	44,2
Lithuania	Beverages and spirits	300.0	297.0	394,5
	Perfumery and cosmetic preparations	250.1	210.5	296,8
	Articles of apparel and clothing; footwear	148.7	111.2	188,4
Estonia	Animal, vegetable or microbial fats and oils	221.1	359.3	409,9
	Cocoa and cocoa preparations	89.6	100.8	110,5
	Miscellaneous edible preparations	5.5	28.3	62,4
	Total	1484.4	1598.1	2160.1

Calculated by the author based on Trade Map: Bilateral trade between Latvia and Russian Federation, *Trade Map*, URL: https://www.trademap.org/Bilateral_TS.aspx (accessed 22.10.2024).

In total, only for the commodity groups highlighted in Table 4, the increase in exports from the Baltic states to Russia in 2023 amounted to 50 % compared to 2021 and reached 2.2 billion US dollars. These groups represent product import niches that Russia can maintain and/or expand.

Moreover, compared to the other EU countries, Baltic exporters managed to strengthen their positions on the Russian market in 2022/2023. According to our calculations based on the Trade Map database, the share of the Baltic states in EU exports of manufactured goods to Russia kept growing over this period: from 6.4 % in 2021 to 10.1 % in 2022, having reached 13.2 % in 2023.

Sector-wise, the largest structural shifts over the long-term period from 2013 to the present have occurred in the imports of the main commodity — mineral fuel — by the Baltic states. The scale of imports and main importers are shown in Table 5.

Table 5

The share of the main mineral fuel exporters to the Baltic states, % of total imported value

Supplying country*	Year			
	2013	2021	2022	2023
Imported by Latvia				
1. Lithuania	43.5	32.7	55.9	62.4
2. Estonia	2.9	17.5	18.5	10.3
3. The Russian Federation	28.1	34.4	19.2	10.1
Imported by Lithuania				
1. The USA	0.3	7.6	21.8	25.1
2. Norway	0	0.1	15.4	23.1
13. The Russian Federation	84.6	50.3	10.8	0.6
Imported by Estonia				
1. Lithuania	23.3	10.6	14.8	22.3
2. The USA	0	0.2	3.8	9.1
14. The Russian Federation	42.0	40.2	27.3	0.6

* Indicating the place among other exporters as of 01.01.2024.

Calculated by the author based on Trade Map: List of supplying markets for a product imported by Latvia, *Trade Map*, URL: https://www.trademap.org/Country_SelProduct-Country_TS.aspx (accessed 22.10.2024).

In 2023, the list of key suppliers of energy sources to the Baltic states started featuring the USA and Norway, two countries that had been almost completely absent from this market only 3 years prior. New suppliers also emerged in the form of Saudi Arabia, the United Arab Emirates and other countries.

By now, Russia has almost completely stopped supplying mineral fuel to Lithuania and Estonia, and its share in Latvian imports of this commodity amounted to 10.1 % as of January 1, 2024.

In Q2 2024, Latvia imported only $37.3 million worth of energy sources from Russia, including $28.0 million worth of gas, $4.5 million worth of oil, $4.9 million worth of electricity; Lithuania — $4.4 million (of them, $3.5 million worth of gas, $1.1 million worth of electricity); and Estonia — $2.4 million (all gas).[1]

Yet, trade with Russia continues. While most energy-related and non-energy-related commodities saw a decrease in imports from Russia to the Baltic states, there are a number of niches with positive dynamics between 2021 and 2023 (Table 6).

Table 6

Commodity groups with increased imports from Russia to the Baltic states in 2021—2023

Products	Million US dollars		
	2021	2022	2023
Imported by Latvia			
Residues and waste from the food industries	7.6	76.5	102.0
Cereals	33.0	83.0	84.6
Pearls and precious metals	23.5	5.5	44.0
Imported by Lithuania			
Residues and waste from the food industries	14.2	35.1	53.8
Rubber and articles thereof	33.5	33.2	35.6
Vegetables	14.8	10.1	30.2
Imported by Estonia			
Animal, vegetable or microbial fats and oils	5.1	13.7	12.3
Cereals	0.4	1.4	8.7
Polygraphy	4.5	4.6	4.8

Calculated by the author on the basis of Trade Map: Bilateral trade between Latvia and Russian Federation, *Trade Map*, https://www.trademap.org/Bilateral_TS.aspx (accessed 22.10.2024).

Thus, many companies from the Baltic states and Russia continue to maintain mutual trade and increase trade in certain goods. Long-standing trade, industrial and personal relations going back to Soviet and early post-Soviet times, familiar and understandable business environment, compatible infrastructure and logistics, and minimal transaction and transportation costs form the foundation for mutual trade between the Baltic states and Russia.

Conclusion

Geopolitical upheavals, downward trends of economic development in Europe and the West's course towards confrontation with Russia determine the directions, scope and depth of structural shifts in the foreign trade of the Baltic states. Therefore, the sharp drop in their export and import indicators in 2023

[1] Bilateral trade between Latvia and Russian Federation, *Trade Map*, URL: https://www.trademap.org/Bilateral_MQ_TS.aspx (accessed 22.10.2024).

can no longer be explained by 'the Russian factor', but rather by unfavourable general economic conditions in their domestic economies and in those of their current trade partners, as well as by long-term problems and an actual stagnation of the EU economy.

The Baltic states are characterized by a high degree of interdependence and regional trade integration. Only Lithuania's exports stand out from the overall trend of the growing mutual trade intensity index, which is explained by the country's heavy reliance on trading with Poland and Germany.

The main long-term (decade-long), politically motivated structural shift within the framework of Brussels' general confrontational policy towards Russia was to squeeze our country out of the internal markets of the EU and the Baltic states. For this purpose, the instrument of sanctions was utilized; initially with limited success: while visible, the downward trend in the Baltic states' trade with Russia had remained relatively unpronounced until 2022.

The main short-term structural shift in trade with Russia, which took only a few months, happened in 2022. As shown by our study of a long series of monthly data from January 2022 to March 2024, the Baltic states' imports from Russia decreased many times over. As a result, imports from Russia had to undergo an unprecedentedly deep restructuring. Russian energy imports were reduced to statistically insignificant figures. It can even be said that now Russia has stopped participating in the energy supply to the Baltic states.

At the same time, for a significant range of products, the Baltic states' trade relations with Russia both in terms of exports and imports have managed to withstand the weight of the problems that have emerged. For goods that are not subject to sanctions, the trade between Baltic and Russian companies remains relatively resistant to both economic and geopolitical challenges, albeit with lower intensity than in 2021. There has even been an increase in trade turnover indicators for certain types of products (certain foodstuffs, products of the light industry, and some branches of the manufacturing industry). These constitute the product niches where, in our view, Russian companies could maintain and/or strengthen their positions in trade with the Baltic states.

In 2022/2023, Baltic exporters also achieved significant success in competing with other European companies for the Russian market in a number of non-sanctioned commodity groups. Thus, during these years, the share of the Baltic states in the total volume of EU manufactured goods exported to Russia more than doubled and amounted to 6.4 % in 2021, 10.1 % in 2022 and 13.2 % in 2023.

All this testifies to the high adaptive capacity of a certain segment of the Baltic business, whose products were not subject to sanctions, to withstand geo-economic and geopolitical stresses. It also points to the businesses' ability to navigate the complex conditions of contemporary trade in foreign markets, including that of the Russian Federation. Many of the Baltic companies with trade ties with Russia are looking for opportunities to maintain them and, as our research has shown, even expand them in certain product niches. This is understandable,

because conquering new foreign markets is a long, complicated and painstaking process, and trade with Russia has always been a well-known, well-established, and profitable endeavour for the companies in the Baltic states.

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References

1. Olenchenko, V. 2021, The Baltic States in the European Union: Main Characteristics of Membership and Their Anti-Russian Orientation, *Obshchestvennye nauki i sovremennos*t, № 4, p. 64—76, https://doi.org/10.31857/S086904990016456-3

2. Mezhevich, N. M. 2017, *Problems and prospects of economic relations between Russia and the Baltic states under the conditions of sanctions regimes*, M., Association of Book Publishers «Russian Book» (in Russ.).

3. Simachev, Y. Y., Fedyunina, A. A., Averyanova, Y. Y. 2020. Transformation of global value chains in Russia and the Baltics amid COVID-19: prospects for regionalization and implications for economic policy, *Baltic Region*, vol. 12, № 4, p. 128—146, https://doi.org/10.5922/2079-8555-2020-4-7

4. Druzhinin, A. A. 2023. The geopolitical effect of the maritime factor on the spatial development of post-soviet Russia: the Baltic case, *Baltic Region*, vol. 15, № 4, p. 6—23, https://doi.org/10.5922/2079-8555-2023-4-1

5. Stryukovaty, V. V. 2024, Russia's geostrategic position in the Baltic area as a threat of naval blockade in the current circumstances, *Vestnik of Immanuel Kant Baltic Federal University. Series: Natural and Medical Sciences*, № 1, p. 57—75, https://doi.org/10.5922/gikbfu-2024-1-4 (in Russ.).

6. Baur, A., Dorn, F., Flach, L., Fuest, C. 2023, Rethinking Geoeconomics: Trade Policy Scenarios for Europe's Economy, *EconPol Policy Report*, № 44.

7. Eckert, S. 2024, Business Power and the Geoeconomic Turn in the Single European Market, *Journal of Common Market Studies*, vol. 62, № 4, p. 973—992, https://doi.org/10.1111/jcms.13604

8. Fiott, D. 2024, From Liberalisation to Industrial Policy: Towards a Geoeconomic Turn in the European Defence Market?, *Journal of Common Market Studies*, vol. 62, № 4, p. 1012—1027, https://doi.org/10.1111/jcms.13600

9. Freudlsperger, C., Meunier, S. 2024, When Foreign Policy Becomes Trade Policy: The EU's Anti-Coercion Instrument, *Journal of Common Market Studies*, vol. 62, № 4, p. 1063—1079, https://doi.org/10.1111/jcms.13593

10. Christou, A., Damro, C. 2024, Frames and issue linkage: EU trade policy in the geoeconomic turn, *Journal of Common Market Studies*, vol. 62, № 4, p. 1080—1096, https://doi.org/10.1111/jcms.13598

11. Alessandria, G., Johnson, R. C., Yi, K.-M. 2023, Perspectives on trade and structural transformation, *Oxford Development Studies*, vol. 51, № 4, p. 455—475, https://doi.org/10.1080/13600818.2023.2279665

12. Lewis, L., Monarch, R., Sposi, M., Zhang, J. 2022, Structural change and global trade, *Journal of the European Economic Association*, vol. 20, № 1, p. 476—512, http://doi.org/10.1093/jeea/jvab024

13. Kumar, R. 2023, Global value chains and structural transformation: evidence from the developing world, *Structural Change and Economic Dynamics*, vol. 66, p. 285—299, http://doi.org/10.1016/j.strueco.2023.05.006

14. Lund, S., Manyika, J., Woetzel, J., Bughin, J., Krishnan, M., Seong, J., Muir, M. 2019, *Globalization in Transition: The Future of Trade and Value Chains*, McKinsey Global Institute, 131 p.

15. Afonso, A., Huart, F., Jalles, J. T., Stanek, P. 2019, Long-run relationship between exports and imports: current account sustainability tests for the EU, *Portuguese Economic Journal*, vol. 19, № 2, p. 155—170, https://doi.org/10.1007/s10258-019-00168-x

16. Erkisi, K., Ceyhan, T. 2019, Trade liberalization and economic growth: a panel data analysis for transition economies in Europe, *Journal of Economics, Finance and Accounting*, vol. 6, № 2, p. 82—94, http://doi.org/10.17261/Pressacademia.2019.1047

17. Dritsaki, M., Dritsaki, C. 2020, Trade openness and economic growth: a panel data analysis of Baltic countries, *Asian Economic and Financial Review*, vol. 10, № 3, p. 313—324, https://doi.org/10.18488/journal.aefr.2020.103.313.324

18. Irandoust, M. 2016, Structural changes, FDI, and economic growth: evidence from the Baltic states, *Journal of Economic Structures*, vol. 5, № 14, p. 1—9, https://doi.org/10.1186/s40008-016-0045-8

19. Yeboah, E. 2023, Does foreign direct investment and trade openness support economic development? Evidence from four European countries. *Scientific Annals of Economics and Business*, vol. 70, № 4, p. 585—601, https://doi.org/10.47743/saeb-2023-0033

20. Tekin, A., Çınar, İ. T., Sağdıç, E. N., Yıldız, F. 2023, Trade openness and sustainable government size: evidence from Central and Eastern European countries, *Sustainability*, vol. 15, № 15, p. 11836, https://doi.org/10.3390/su151511836

21. Kulbacki, M., Michalczuk, A. 2021, Regional trade integration in Central and Eastern Europe: state of play after 15 years of EU membership, *Journal of Economics & Management*, vol. 43, p. 225—250, https://doi.org/10.22367/jem.2021.43.11

22. Elteto, A., Antaloczy, K. 2017, Export Promotion Aims and Reality: A Comparison of the Iberian, Baltic and Central European Region, *Baltic Journal of European Studies*, vol. 7, № 1, p. 43—53, https://doi.org/10.1515/bjes-2017-0004

23. Priede, J., Feng, H. 2017, Evaluation of Latvia-China Trade Potential, *European Research Studies Journal*, vol. XX, № 3A, p. 931—941, https://doi.org/10.35808/ersj/755

24. Zheng, X., Jia, L., Bao, J., Chen, J. 2018, A study of trade complementarity between China and the Baltic states and its development strategies, *Amfiteatru Economic*, vol. 20, № 49, p. 788—803, https://doi.org/10.24818/EA/2018/49/788

25. Ditsiou, A., Darvidou, K., Siskos, E. 2024, The bilateral trade imbalances between the EU and China: Structure and trends, *Problems and Perspectives in Management*, vol. 22, № 2, p. 137—149, https://doi.org/10.21511/ppm.22(2).2024.12

26. Purju, A. 2023, *The economic interaction between the USA and the littoral states of the Baltic Sea*, BSR Policy Briefing series, № 3.

27. Sherov-Ignatev, V. G., Nikolayuk, T. R., Sumenkova, M. V. 2021, Free trade agreement between the EAEU and Indonesia: who will benefit?, *International Trade and Trade Policy*, vol. 7, № 1, p. 62—80, https://doi.org/10.21686/2410-7395-2021-1-62-80 (in Russ.).

28. Khesin, E. S. (ed.). 2020, *The european union in the world economy: competitiveness issue*, M., IMEMO RAS. EDN: OXQLAB

29. Kondratieva, N. 2020, *The European model of market integration. Formation and perspective*, Institute of Europe of the Russian Academy of Sciences. EDN: OOEPAD (in Russ.).

30. Chetverikova, A. 2024, European Union Development Trends: Some Aspects of Economic Integration, *World Economy and International Relations*, vol. 68, № 1, p. 95—104, https://doi.org/10.20542/0131-2227-2024-68-1-95-104 (in Russ.).

The author

Prof Vladimir G. Varnavskii, Head of Research Centre for Industrial and Investment Studies, Primakov National Research Institute of World Economy and International Relations of the Russian Academy of Sciences, Russia.

E-mail: varnavsky@imemo.ru

https://orcid.org/0000-0003-1772-1800

DYNAMICS OF DIFFERENTIATION OF RURAL NORTH-WEST OF RUSSIA: MAIN TRENDS AND FEATURES

A. I. Kostyaev
G. N. Nikonova

Saint Petersburg Federal Research Centre
of the Russian Academy of Sciences,
14th Line, Vasilyevsky Island, Saint Petersburg, 39, 199178, Russia

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Excessive differentiation and polarisation in rural development lead to spatial compression, fragmentation, and social desertification, increasingly evident across many regions. This study aims to identify the trends, features and patterns of rural population differentiation in Russia's North-West at interregional and intraregional levels. Methodologically, it adopted an approach that views rural space differentiation as a product of the combined influence of the agro-industrial complex system and the 'urban-rural' system. The changes of interest were studied from the industrial, demographic and settlement perspectives, with a focus on indicators such as changes in acreage and livestock between 1989, 2007 and 2023, and the size of the rural population and the number of residents per rural settlement between 2002, 2010 and 2020. The trends are investigated at the levels of regions — Leningrad, Novgorod and Pskov — and their municipalities. Hypotheses regarding the impact of the rental mechanism and core-periphery relations on the development differentiation of district territories were tested and largely confirmed. In the study regions, areas with varying rates of increase and decrease in acreage and livestock, including zones of compression and fragmentation, were identified, along with areas where the rural population grew or declined. Spatial differentiation in terms of resident per settlement ratio is shown to largely coincide with areas experiencing the most dynamic rural population change. The study concludes that, under the baseline scenario, the development of rural spaces in the Novgorod and Pskov regions will likely intensify their polarisation with the Leningrad region and lead to socio-demographic desertification of non-urbanised areas. The findings highlight the need for significant organisational and economic measures, engaging both public and private investments from outside these regions.

Keywords:
regions of Russia's North-West, municipalities, areas of dynamics, rental potential, core-periphery relations, rural settlement, population of settlements

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Introduction

Numerous scientific works both in Russia and abroad are devoted to the study of spatial differentiation of rural areas. At the same time, the issues of differentiation, including polarisation, compression and fragmentation of rural space, are considered mainly in relation to the central regions of European Russia [1; 2] and the regions of the European North [3; 4]. For the North-West there are publications on some aspects of this problem: Manakov on the population dynamics and depopulation processes in the Pskov region [5], Romanova and co-authors — on the effect of compression of socio-economic space in the Pskov Region [6], Sobolev — on the structural and socio-functional aspects of the problem. Sobolev — on the structural and functional features of spatial development of urban and rural settlements [7], Dementiev — on the typology of districts by the level of development of the settlement system [8], Krasnov and Bizyukov — on the dynamics of the population of the Pskov region in the post-Soviet period in the context of rural settlements [9].

These publications show that the territories of the regions of North-West Russia are highly differentiated. However, comprehensive works covering the process of spatial differentiation of rural areas, such as the study for the Kaliningrad region by Gennady Fedorov, including "territorial and branch production system, settlement system and economic and demographic situation" [10], are not available for the North-West of Russia as a whole [10]. The articles were published mainly in 2015—2016 and do not take into account the latest trends in this process.

In this context, the aim of this research was to identify the features, trends, and patterns of rural spatial differentiation in the North-West at both interregional and intra-regional levels. The focus of observation is the rural areas within the North-West Economic Region (North-West), specifically in the Leningrad, Novgorod, and Pskov regions. The study examines the phenomena and processes that have occurred in the rural spaces of the Russia's north-west during the post-Soviet period. The subject of the research is the characteristics, trends, and patterns of rural spatial differentiation in the North-West.

Theoretical background of the study

The key concept in this article — "rural space" — is defined based on Tkachenko's interpretation of the term "rural area", which, in his opinion, is "geographically specific, necessarily implies a spatial component" and can be considered in different hypostasis, including "as a socio-geographical space formed in the process of life activity of the population". At the same time, as Tkachenko notes, "unpopulated spaces are not rural areas", and rural areas are "non-urban spaces with a permanent population" [11, p. 4]. Consequently, rural space is a non-urban space both with and without a permanent population. The space where human activity ceased began to be actively formed due to the changes that took

place in rural areas after 1990. The last two decades saw a sharp increase in the number of rural settlements of a new type — "settlements without population" [12, p. 42].

In relation to rural space, transformational changes such as "economic polarisation of space", socio-economic polarisation", "polarisation of rural space", "social desertification", and "compression of developed space" are considered.

In one of his recent publications, Gennady Fedorov rightly noted that "the development of economy and settlement of rural areas around the world is largely conditioned by the regularities of centre-periphery relations, the polarization of the territory" [10, p. 118]. When using the concept of 'centre-periphery' in the studies of rural areas, there are different approaches to the differentiation of space: "near suburban zone, far suburban zone and periphery" are distinguished [10], "near, middle and far periphery" [13], "suburbs, suburbs, far suburban zone and periphery" [13], "suburb, semi-suburb, semi-periphery, semi-periphery, periphery, far periphery" [14], and "inner periphery" [15].

Despite the different terminology, the essence of considering the differentiation of rural space from the perspective of the concept of 'centre-periphery' in the publications is clear from their context. Regardless of the variant of spatial area allocation, there is a growing gap between central-urban areas and peripheral-rural territories due to low density, loss and ageing of rural population in the periphery, differences in technological achievements and economic development [16]. At the same time, the difficulties faced by peri-urban areas are inevitably linked to those of declining rural peripheral areas [17].

The concept of "internal periphery" is introduced to describe rural areas that are not geographically peripheral but have limited access to essential services such as education, healthcare, and transport. Over time, this lack of accessibility leads to the accumulation of problems, rendering these areas increasingly unattractive for investment [15]. Some authors distinguish intermediate rural and isolated areas. The common features of such areas are low accessibility, negative migration balance, low level of education, and lack of potential for endogenous development [17].

Regarding the development prospects of central and peripheral areas, there are different points of view: a) the traditional one, based on the centre-periphery theory, where the polarized development process produces, on the one hand, a tendency to concentrate growth in the centres and, on the other hand, a downward spiral of underdevelopment in the periphery [18]; b) the modern one, based on the prospects of digitalization, which argues that geographical remoteness does not lead to marginalization and that a central location does not promise prosperity [19].

When studying spatial differentiation, the concept of polarisation is used, i. e. the presence of two differently directed vectors of development of this process, acting simultaneously, when "in some places, there is growth and development, in other places there is loss and decline" [20, p. 55].

The main causes of differentiation include differences in the size and natural conditions of the territories, a sparse network of large cities, incompleteness of the urbanization process, historical legacy of the past, specificity of Russian institutions, and social inequality [1]. Uskova considers the historical legacy of the past to include the consequences of market reforms of the 1990s, which had a significant impact on the transformation of Russia's production and settlement framework [3]. Novosibirsk scientists attribute the differentiation of rural space to factors such as disparities in the volume of investment in fixed capital and variations in the policies implemented by the authorities [21]. Foreign publications note that investments aimed at creating innovations are more effective in the central areas compared to the peripheral territories [16]. Confirmation of this is also found in articles by Russian authors: "Investments under the influence of market mechanisms are concentrated in the territories near the centres of regions or municipal districts that are distinguished by a more advantageous location" [4, p. 9].

Publications have drawn attention to the differences in urban and rural development [22—25]. It is noted that while most large cities are growing, many rural areas and small towns are facing economic stagnation or decline [23], and the differences between urban areas and rural areas are increasing [22; 27]. It is indicated that "the gap between rural and urban areas is more noticeable today than ever before, and rural life is still not so attractive for people, especially for young people" [25, p. 1]. Rural residents are inferior to the urban population in terms of income, living conditions, and social infrastructure [22]. The most important problem of the village is associated with depopulation and ageing of the population in rural areas, the depopulation of villages [25].

The processes of spatial differentiation have formed a special segment — depressed territories, which in Europe are called marginal areas. They usually include remote and less prosperous rural areas with socio-economic and cultural decline, characterized by unemployment, population outflow, ageing and depopulation, rural poverty and social isolation, loss of infrastructure and services, biodiversity depletion, and land abandonment [25—28].

The presence of such a negative phenomenon as 'social desertification' is pointed out by Nefedova, linking it "with the outflow of rural population to cities and with the abandonment of developed agricultural land", which "is stimulated by continuing urbanization and polarisation of socio-economic space" [29, p. 69—70]. Academician Petrikov writes in the same vein: "The rural population is gradually concentrating in suburban areas, which leads to social desertification of rural areas, creating geopolitical risks" [30, p. 461].

Differentiation of rural space with Russia's entry into the era of market relations has sharply increased, and polarisation of agrarian production and rural areas has occurred. Against the background of areas with intensively developing agrarian production and growth in the number of rural residents, the territories with depopulation and general depressiveness stood out [13].

The problem of space compression was raised by Harvey, who distinguished "absolute space" in the traditional concept and "relative space", the compression of which occurs under the influence of the development of communication and transport [31, p. 266]. In this case, the compression of "relative space" is considered a positive phenomenon, leading to "the growth of accessibility of places due to communications", and the compression of "absolute space" (locational, physically visible) — as a negative phenomenon, predetermining "the loss of inhabited, developed, economically active land" [2, p. 33]. The compression of rural space and social polarisation, as Gennady Fedorov noted, "occurs in the directions from north to south, from east to west, from the periphery to the centre, along the axes north-south, west-east and suburb-periphery" [32, p. 6].

Closely related to the compression of space is the concept of its spatial fragmentation, one of the first to write about it was Harvey. He saw the reason for its emergence in the presence of a paradox: "The less important spatial barriers are, the more sensitive capital is to changes in location in space and the more incentives for differentiation of places attractive for capital" [31, p. 265—266]. Regarding the Russian reality fragmentation is understood as a process of "formation of islands of active economic life in the ocean of demo-economic depression" [14, p. 71]. The compression and fragmentation of space violate the general provisions of the concept of 'centre — periphery', as in the territories remote from the centres, separate areas of active economic life emerge, usually due to the emergence of agricultural holdings. Therefore, the analysis of the processes of differentiation of rural space in the North-West will consider their consequences: polarisation, compression, fragmentation, and social 'desertification'.

Methodology, methods and materials

Following Gennady Fedorov [10], the system approach is taken as a methodology of the study, based on the fact that rural space, which includes demographic, production and settlement components, is differentiated as a result of the interrelation of two systems: the system of agro-industrial complex (AIC) and the system of interaction 'centre-periphery' (Fig. 1).

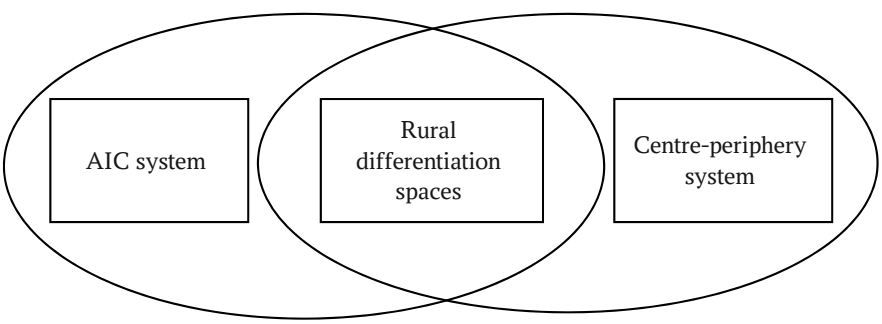

Fig. 1. Differentiation of rural space under the influence of the agro-industrial complex and centre-periphery relations

In the system of agro-industrial complex differentiation occurs under the influence of the rent mechanism, and in the system 'urban-rural' — under the influence of regularities of centre-periphery relations. All this determines the differentiation of rural space and affects the transformation of rural settlement.

The rent mechanism acts as a chain of interrelations between the dynamics of demand for agricultural products, the dynamics of cultivated areas and the competitiveness of agribusiness in the regions depending on their rent potential. When demand for food grows, the expansion of cultivated areas takes place first of all in areas with higher land rent, then in areas with medium and, finally, low levels of land rent. When the demand decreases, the area under crops decreases to a greater extent in the regions with low and to a lesser extent with high land rent potential [32, p. 126]. As a consequence, rural space with developing agricultural production and positive population dynamics is formed in the territories with high rent potential. The districts with low rent potential are characterized by the focal intensity of agricultural production, fragmentation and compression of rural space.

The effect of the rent mechanism has been repeatedly tested in the European part of Russia with 53 subjects of the Federation, where natural and socio-economic conditions of agricultural production in spatial terms are highly differentiated [33]. On the scale of the regions of the North-West, the level of spatial differentiation is much lower than between the regions of European Russia. Therefore, without stating in advance that the rent mechanism affects the differentiation of rural space, we define this position as a scientific hypothesis that is tested in the course of the study. With regard to the North-West, we also consider the hypothesis of rural space differentiation under the influence of centre-periphery relations. Special attention is paid to those districts that do not fit into the hypotheses put forward. They are tested for compression and fragmentation of rural space separately.

It is proposed to determine the rent potential through indicators of the cadastral value of 1 hectare of agricultural land occupied by agricultural land, based on the following formula

$$C = (R_D + R_A)/K_R, \quad (1)$$

where C — cadastral value of 1 ha; $(R_D + R_A)$ — potential rent income from 1 ha; R_D — differential rent; R_A — absolute rent; K_R — rent capitalization coefficient equal to 0.0303, based on the capitalization term (33 years) adopted for agricultural land. In this case

$$R_D = C \cdot K_R - R._A \quad (2)$$

Information on cadastral land value indicators (C) is taken from resolutions of the executive bodies of the Leningrad, Novgorod and Pskov regions.[1] The absolute rent indicator (R_A) is unified throughout the Russian Federation — 26 RUB/ha.

In each region, groups of municipal districts (okrugs) (hereinafter generalised as districts) with high, medium and low rent potential were identified. The differentiation of districts between the above groups was determined by dividing the ordered rank scales using tertiles Q_1 and Q_2, on the basis of which the trends and regularities of spatial dynamics in the production and demographic spheres were studied.

Trends in changes in the level of spatial heterogeneity were identified using the well-known Gini coefficients (indices) (K_G), reflecting differentiation, and coefficients of funds (K_F), characterizing polarisations. We used an ordinal scale with its division using quartiles Q_1, Q_2 and Q_3.

In the production sphere, the indicators of agricultural production, sown areas, livestock and poultry population in conventional units are taken as indicators at the rate of: 1.0 — cows; 0.6 — other cattle; 0.3 — pigs; 0.1 — sheep; 0.02 — poultry of all kinds.

In the study of centre-periphery patterns , the rural space was divided according to the principle of the remoteness of districts from the centres of the regions: 1 — central districts (up to 100 km); 2 — intermediate districts (100—200 km); 3 — peripheral districts (over 200 km).[2]

Given the roughly similar quality of modern roads in the single-level taxa of the regions, this division was universally accepted.

The key dates in the study of the agricultural sector are 1989 — the last year of the planned economy, when there were no signs of its collapse, 2007 — the year before the beginning of the programme approach to agricultural development, and 2023 — the last year for which official statistics are available. The information base for the study of agricultural production for 1989 was statistical collections of the Leningrad, Novgorod and Pskov statistical offices,[3] and from 2007 to 2023 — databases of municipalities of Rosstat.[4]

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[1] On approval of the average values of specific indicators of the cadastral value of land plots located on the territory of the Leningrad Region, Resolution of the Government of the Leningrad Region of 24.11.2022 №859*, Regional Legislation of the Leningrad Region*, URL: https://npa.lenobl.ru/docs/governor/view/98994/ (accessed 01.07.2024) ; On approval of the results of determining the cadastral value of land plots within the agricultural lands on the territory of the Novgorod region and the average level of the cadastral value of agricultural lands, Resolution of the Government of the Leningrad region of 24.11.2022 № 859, *Regional Legislation* of the Leningrad region, URL: https://npa.lenobl.ru/docs/governor/view/98994/ (accessed 01.07.2024).

[2] The choice of these taxa was made based on the ability of the population of central districts, using personal transport, to visit 1—2 social objects in the regional centre and return home within 6—7 h; when visiting intermediate districts — within 12—14 h; peripheral districts — 34—36 h (with an overnight stay in the centre).

[3] Main indicators of production and economic activity of state farms of the Leningrad region in 1989. Statistical collection. Lenoblgorstat, 1990; Collection of agriculture of Novgorod region in 1989. Novgorod, Novgorodoblstat, 1990.

[4] Calculated based on the database of municipalities, *Rosstat*, URL: https://rosstat.gov.ru/storage/mediabank/munst.htm (accessed 18.08.2024).

To assess spatial differentiation in the demographic sphere, we limited ourselves to the dynamics of the rural population as the most informative indicator reflecting in the long-term retrospective the effects of fertility, mortality, and natural and migration growth. In the study of the settlement system, we used indicators of the average inhabitancy of rural settlements (RSCs) and their groupings by population size. Data from the 1989, 2002, 2010 and 2020 population censuses were used as information.

Spatial differentiation of the agrarian production development process

Interregional differentiation

Sown areas in the regions of the North-West from 1989 to 2023 decreased at a faster rate than in Russia as a whole, where after 2007 a tendency of their growth was formed due to the significantly higher rent potential of the lands of the southern territories in the conditions of the emerging growth of demand for agricultural products. In the Leningrad region, with its more favourable conditions for the formation of differential rent, sown areas decreased to a lesser extent than in the Novgorod and Pskov regions (Fig. 2).

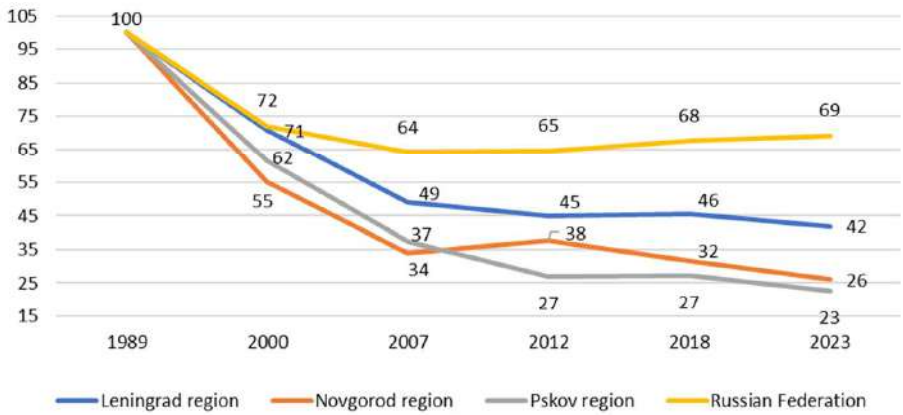

Fig. 2. Differentiation of the North-West regions by sown areas of agricultural crops in farms of all categories in comparison to 1989, %

The current dynamics of the sown areas have increased spatial differentiation between the regions. This is especially true for the Pskov region, which in 2000 had a gap with the Leningrad region of 9.2, in 2012 — 18, in 2023 — already 19.3 percentage points (p. p.). — 18, in 2023 — already 19.3 percentage points (p. p.).

The second important indicator of spatial differentiation of the agricultural sector is the indicator of livestock and poultry population. Calculations revealed that the dynamics of this indicator were complicated due to the fragmentation of space associated with poultry and pork holdings (Fig. 3).

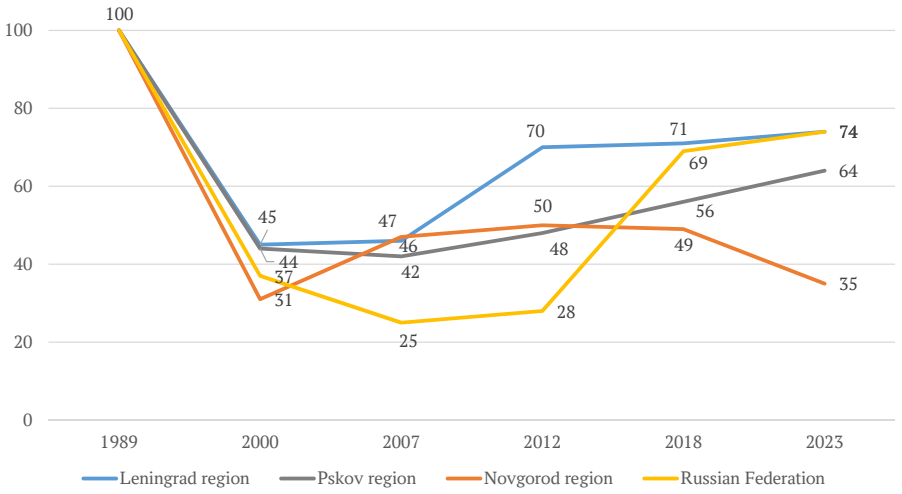

Fig. 3. Differentiation of the regions of the North-West by the indicator of livestock and poultry in farms of all categories in conventional units, % to 1989

The Leningrad region is home to Russia's largest poultry farms, Severnaya, Roskar and Sinyavinskaya; the Pskov region is home to the pig farms of Velikoluksky Meat Processing Plant; and the Novgorod region is home to Belgrankorm Veliky Novgorod. Due to the fact that pork and poultry complexes of the North-West are among the largest agroholdings in the country, the growth rates of livestock and poultry in the Leningrad region since 2000, and in the Pskov region since 2018, have exceeded the dynamics in Russia as a whole. Before 2000, differentiation in the North-Western regions, like in the country, occurred naturally along a downward trend reflecting the free market situation of the 1990s. In the Pskov region, this trend continued until the mid-2000s. The emergence of agricultural holdings changed the situation. The Novgorod region has experienced a sharp decline in livestock and poultry population in the last five years due to the epidemic of swine fever, which also had a high share in the livestock structure here.

It should be noted that large pig and poultry complexes have an ambiguous impact on the development of rural areas, polluting the environment and having a positive socio-economic impact only locally, as they hardly involve the local population as the labour force and use imported concentrates for fodder production. Large holdings, becoming monopolists, oust from the market the relevant products of small, medium and even large farms, and with a high concentration of livestock there are risks of mass mortality due to periodic epidemics. The preservation of rural areas is to a greater extent connected with cattle and small ruminants, which require coarse and succulent fodder produced locally and, consequently, areas for their crops. The differentiation of the North-West regions in terms of the number of cattle and small ruminants has a steady trend associated with its widespread reduction, which intensifies the interregional gap (Fig. 4).

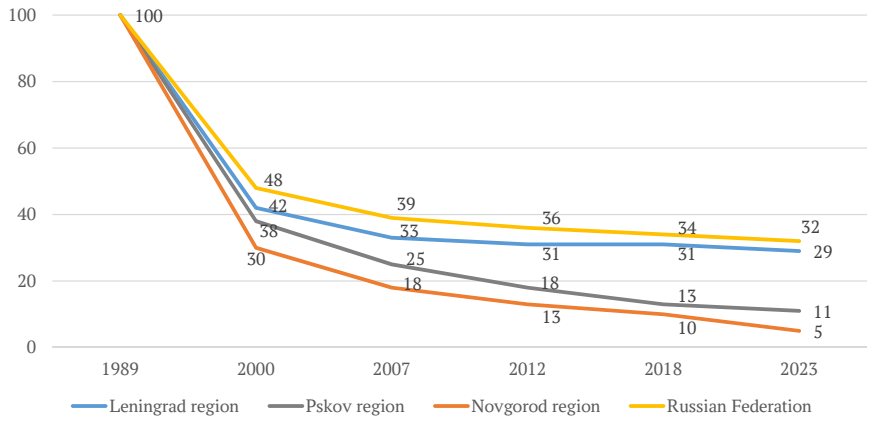

Fig. 4. Differentiation of the regions of the North-West based on the number of large and small livestock in farms of all categories in conventional units, % to 1989

At the same time, the trend line for the decrease in the number of cattle and small ruminants in the Leningrad region by 2023 is as close as possible to the indicators for the Russian Federation.

Intra-regional differentiation. Testing hypotheses about the influence of the rent mechanism and centre-periphery relations on differentiation

The grouping of the districts of the North-West regions by the growth rate of sown areas showed that the Novgorod and Pskov regions accounted for the largest number of districts with the highest rates of reduction of sown areas in 2007—2023 (less than 50 % growth) (Table 1).

Table 1

Grouping of districts in the regions of the North-West by the growth rate of sown areas from 2007 to 2023

Group of neighbourhoods	Leningrad region		Novgorod region		Pskov region*		North-West, total	
	Number of districts	Share, %	Number of districts	Share, %	Number of districts	Share, %	Number of districts	Share, %
Up to + 20	2	11.8	3	14.3	...	...	5	8.0
Over + 20	1	5.9	4	19.0	1	4.2	6	9.7
Up to – 50	13	76.5	9	42.9	16	66.7	38	61.3
Below – 50	1	5.9	5	23.8	7	29.1	13	21.0
Total	17	100.0	21	100.0	24	1000	62	100.0

Calculated based on the database of municipalities, *Rosstat*, URL: https://rosstat.gov.ru/storage/mediabank/munst.htm (accessed 18.08.2024).

* The analysis of the differentiation of sown areas over time is limited to the period from 2007 to 2023. This is due to the absence of data for the Pskov region for 1989 and the need to ensure comparability with other regions.

The map scheme (Fig. 5) clearly shows an area with a positive growth of sown areas covering a chain of districts with an area of 15.6 thousand km^2, including Luzhsky (Leningrad region), Batetsky, Shimsky, Volotovsky, Poddorsky and Kholmsky (Novgorod region), stretching for more than 200 km along the border with Pskov region.

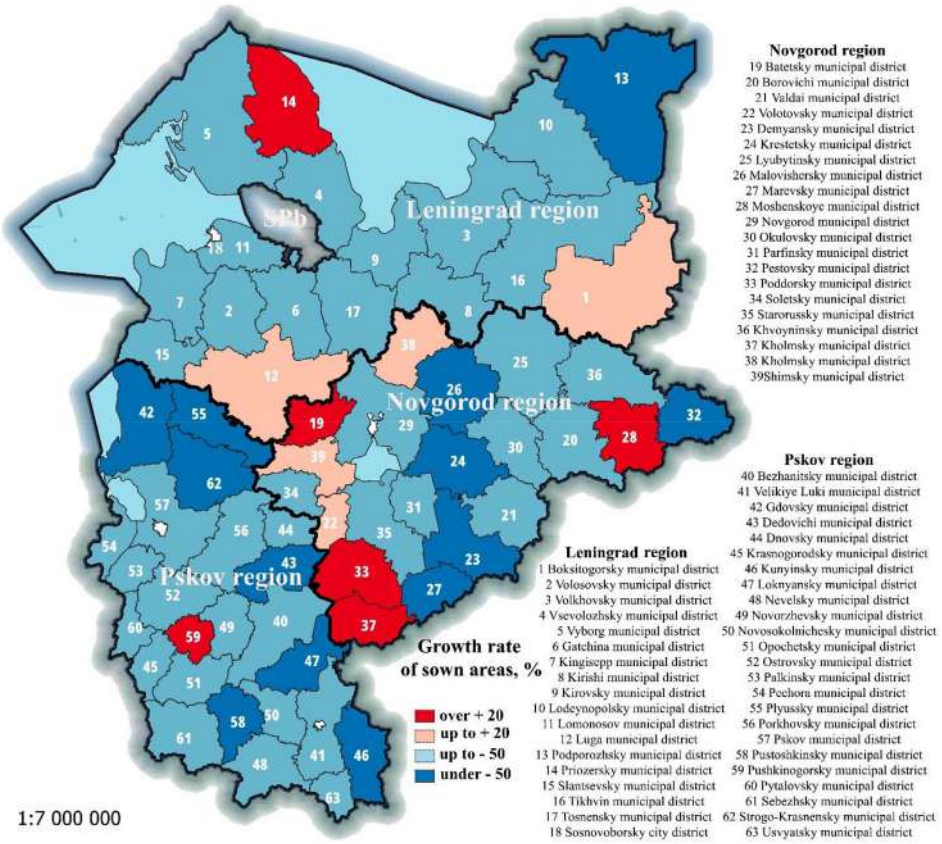

Fig. 5. Spatial differentiation of crop area growth rates in the regions of the North-West in 2007—2023

However, the growth of sown areas in the Poddorsky and Kholmsky Districts is not of a systemic nature, but is related to the low comparative base of 2007 — indicators close to zero.

Attention is drawn to the fragmentedly located Pervomaysky and Boksitogorsky districts of the Leningrad Region, Moshensky district of the Novgorod region, Pushkinogorsky district of the Pskov region with positive growth rates of sown areas, which is somewhat illogical from the point of view of their location and requires additional verification of the factors that determined these dynamics.

In parallel with the above-mentioned area in the centre of the Novgorod region from north to south, a chain of bordering districts with the largest reduction

of cultivated areas (growth below – 50 %) was formed, including Malovishersky, Krestetsky, Demyansky and Marevsky districts with a total area of 11.1 thousand km^2. The same indicators were formed in the north of the Pskov region, including Gdovsky, Plusky and Strugo-Krasnensky districts.

The test of hypotheses about the influence of rent potential and location of districts on the dynamics of sown areas from the position 'centre — periphery' showed that these hypotheses were mostly confirmed (Table 2).

Table 2

Changes in the structure of sown areas by groups of districts in the regions of the North-West with different rent potential and different remoteness from the centres from 1989 to 2023

Indicator	Leningrad region			Novgorod region			Pskov region	
	1989	2007	2023	1989	2007	2023	2007	2023
Group of districts by rent potential, %								
High	51.1	56.8	59.2	32.6	40.8	38.4	47.5	47.4
Medium	21.4	16.2	14.7	34.2	39.1	38.4	28.1	31.3
Low	27.5	27.0	26.0	33.2	20.1	23.2	24.4	21.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Group of districts by remoteness, km								
Up to 100	46.0	45.5	50.4	49.5	56.4	60.7	32.7	34.8
101—200	40.7	41.0	43.4	28.3	25.8	23.6	44.5	45.0
Over 200	13.3	13.5	6.2	22.2	17.8	15.8	22.8	20.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100,0

Calculated based on the database of municipalities, *Rosstat*, URL: https://rosstat.gov.ru/storage/mediabank/munst.htm (accessed 18.08.2024).

With the general reduction of cultivated areas, there is a tendency for the share of cultivated area to decrease in the group of districts with low rent potential and to increase in the territories whose lands allow to receive higher differential income. This pattern is perfectly traceable in the Leningrad region and as a trend in other regions of the North-West, especially if we take into account extreme periods.

The trends in the change in the structure of sown areas of the districts of these regions of the North-West from the position 'centre — periphery' became even clearer. In all peripheral districts their shares consistently decreased, while in the central districts there was an increase. In the Leningrad and Pskov regions, the share of intermediate districts also increased.

Due to the fact that in the conditions of the North-West livestock breeding is a system-forming branch of agricultural production, the main sphere of employment and source of income of the rural population, the rate of its development predetermines the fragmentation of rural space. Calculations of livestock and poultry population growth rates in conventional units showed positive results only in seven districts (11.3 %) of the macro-region under study (Table 3).

Table 3

Grouping of districts in the North-West regions by growth rate of livestock and poultry population from 1989 to 2023

Neighbourhood groups	Leningrad region		Novgorod region		Pskov region		North-West, total	
	Number of districts	Share, %	Number of districts	Share, %	Number of districts	Share, %	Number of districts	Share, %
Up to + 50	1	5.9	1	4.8	1	4.2	3	4.8
Over + 50	1	5.9	1	4.8	2	8.3	4	6.5
Up to – 50	3	17.6	—	—	2	8.3	5	8.1
Below – 50	12	70.6	19	90.4	19	79.2	50	80.6
Total	17	100.0	21	100,0	24	100.0	62	100.0

Calculated based on the database of municipalities, *Rosstat*, URL: https://rosstat.gov.ru/storage/mediabank/munst.htm (accessed 18.08.2024).

In most districts in these regions of the North-West, the number of livestock and poultry decreased by more than 50 %, which significantly narrowed the socio-economic space for employment of the rural population. Only pig breeding (Kunyinsky, Nevelsky, Usvyatsky districts of the Pskov region) and poultry farming (Vyborgsky and Kirovsky districts of the Leningrad region; Krestetsky and Valdai districts in the Novgorod region) saw an increase in the number of livestock.

The test of the hypothesis about the influence of the rent potential on the dynamics of the process of differentiation of districts by the number of livestock and poultry showed the following:

1. When considering the entire population, including pigs and poultry, the hypothesis was partially confirmed.

2. The hypothesis was fully confirmed when considering the process of differentiation of the dynamics of the number of livestock, when only those cattle and small ruminants, whose breeding is based on the use of local fodder base, were taken into account in the calculations (Table 4).

Table 4

Changes in the structure of livestock distribution by groups of districts in the regions of the North-West with different rent potential and different remoteness from the centres from 1989 to 2023

Rent potential and remoteness of districts from centers	Leningrad region			Novgorod region			Pskov region		
	1989	2007	2023	1989	2007	2023	1989	2007	2023
Groups of districts by rent potential including all types of livestock and poultry, %									
High	49.4	43.1	20.4	33.6	63.4	89.7	60.3	70.4	24.7
Medium	14.4	4.5	7.1	50.3	21.7	6.7	5.9	3.2	44.2
Low	36.2	52.4	72.4	16.1	14.9	3.7	33.8	26.5	31.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The end of Table 4

Rent potential and remoteness of districts from centers	Leningrad region			Novgorod region			Pskov region		
	1989	2007	2023	1989	2007	2023	1989	2007	2023
Groups of districts by rent potential excluding pigs and poultry, %									
High	46.2	51.7	50.2	38.2	41.9	41.4	40.2	46.3	51.5
Medium	22.1	15.6	15.1	33.6	34.8	38.3	33.2	30.5	25.6
Low	31.7	32.7	34.7	28.3	23.2	20.3	26.6	23.2	22.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Groups of districts by remoteness, km									
Up to 100	64.1	69.8	71.9	40.0	68.1	82.8	37.2	41.2	16.3
101-200	28.9	28.2	27.1	49.0	20.6	14.3	42.8	34.4	5.4
Over 200	7.0	2.0	1.0	11.0	11.4	2.9	20.0	24.4	78.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Calculated on the basis of the database of municipalities, *Rosstat*, URL: https://rosstat.gov.ru/storage/mediabank/munst.htm (accessed 18.08.2024).

Checking the influence of centre-periphery relations on the dynamics of structural changes in the distribution of livestock showed that in the Leningrad and Novgorod regions the hypothesis was fully confirmed: the share of livestock and poultry in the central areas from 1989 to 2023 had a steady tendency of growth, and in the intermediate and especially peripheral areas — of reduction. In the Pskov region, due to the fragmentation of space under the influence of agricultural holding Velikoluksky Meat Processing Plant, which placed the number of pigs in the most remote areas of the region, a situation opposite to the hypothesis was formed.

Quantitative assessment of the dynamics of the process of intra-regional differentiation of agrarian production

Significant differences in the rates of change of sown areas and livestock population have intensified the intra-regional differentiation of agricultural production. To the greatest extent this applies to the agricultural production of the Pskov region, where the indicators of the Gini index and fund coefficients in 2022 reached the maximum value among other regions of the North-West (Table 5).

Table 5

Indicators of spatial differentiation and polarisation of agricultural production, sown areas and livestock and poultry population in the regions of the North-West from 1989 to 2023

Year	Leningrad region	Novgorod region	Pskov region
Gini index score $(K)_G$			
Agricultural products			
1989	0.354	0.354	...
2007	0.412	0.393	0.368
2022	0.472	0.524	0.647

The end of Table 5

Year	Leningrad region	Novgorod region	Pskov region
Planted areas			
1989	0.243	0.234	...
2007	0.327	0.404	0.294
2023	0.377	0.392	0.326
Livestock and poultry			
1989	0.389	0.403	0.219
2007	0.572	0.397	0.401
2023	0.630	0.609	0.687
Funds ratio indicator $(K)_F$			
Agricultural products			
1989	15.51	14.08	...
2007	22.28	19.05	10.97
2022	46.41	89.12	190.97
Planted areas			
1989	6.37	4.84	...
2007	14.79	35.57	7.36
2023	33.60	79.42	29.37
Livestock and poultry			
1989	16.65	19.50	5.47
2007	93.64	24.02	6.61
2023	332.70	277.69	14 351,24

Calculated based on the database of municipalities, *Rosstat*, URL: https://rosstat.gov.ru/storage/mediabank/munst.htm (accessed 18.08.2024).

This situation was formed due to livestock breeding, which can be traced by the indicators of the dynamics of livestock and poultry population.

The Novgorod region has an increased level of differentiation and polarisation of districts in terms of agricultural production due to changes in crop production, which are reflected in the dynamics of sown areas (the indicators K_G and K_F in 2023 here were the highest in the North-West). The Leningrad region is characterized by indicators of increased differentiation and polarisations of districts by livestock population.

Thus, it is obvious that the differentiation of districts took place against the background of the interregional gap in the indicators of the dynamics of changes in sown areas and livestock between the Leningrad region, on the one hand, and the Novgorod and Pskov regions, on the other.

Spatial differentiation of rural population dynamics

The data of the All-Union population censuses show that in all regions of the North-West in the period from 1939 to 1989 downward trends in the number of rural population were formed: in the Leningrad region from 904.2 to 564 thou-

sand people (by 37.4 %), in the Novgorod region from 909.8 to 230.2 thousand people (4 times), in the Pskov region from 1349.7 to 314.8 thousand people (4.3 times). The differences in the rate of decline in the rural population in the Novgorod and Pskov regions from the Leningrad region increased year by year.

After 1989, this gap increased even more against the background of the formation of an upward trend of rural population growth in the Leningrad region (Fig. 6).

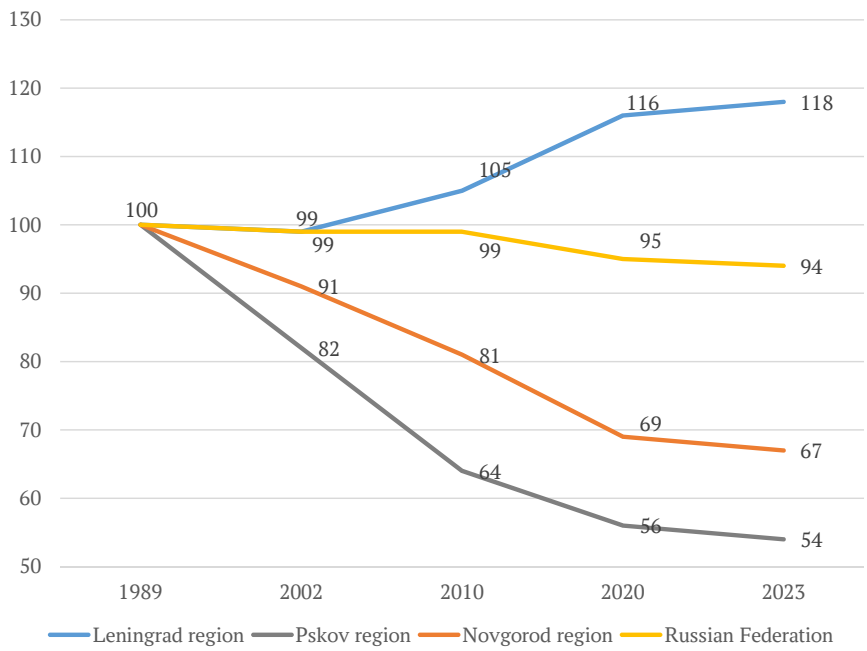

Fig. 6. Differentiation of the regions of the North-West by the rate of change in the rural population according to the censuses of 1989, 2002, 2010 and 2020 current records of Rosstat as of 1 January 2023, % to 1989

In the period between the censuses of 2002 and 2010, interregional differentiation moved to the stage of polarisation, and by the beginning of 2023 the gap in the growth rates of the rural population between the Leningrad region and the Russian Federation, the Novgorod region and the Pskov region amounted to 24.1, 51 and 63.8 p. p. respectively.

The grouping of districts in the regions of the North-West by the rate of rural population growth from 1989 to 2023 reflected positive growth in the Leningrad Region in nine districts (totalling about 53 % for the two groups), and in the Novgorod and Pskov regions in only one district each, respectively 4.8 and 4.2 % of their population (Fig. 7, 8).

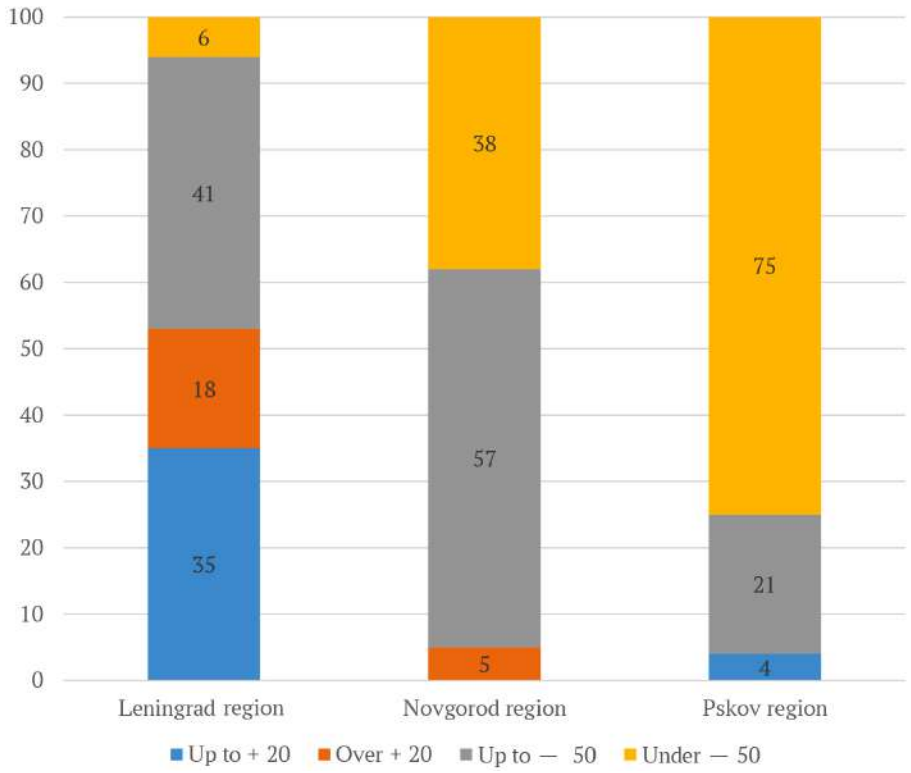

Fig. 7. The share of groups of districts in the regions of the North-West with different rural population growth rate from 1989 to 2023, % to 1989

An area with a rural population growth of over 20 % was formed, which united the territories of the Vsevolozhsk, Gatchina and Tosno districts of the Leningrad Region, located compactly near St. Petersburg, and the territory of the adjacent Novgorod district (Fig. 8).

This area in the Leningrad region borders the territories of six districts with rural population growth rates of up to 20 %. The rest of the rural areas had a negative growth rate (up to – 50 %), except for the peripheral Podporozhsky district with a growth rate below – 50 %. In the Novgorod region, the majority of peripheral districts (Marevsky, Kholmsky, Poddorsky, Pestovsky and Lyubytinsky) also belong to the group of districts with rural population growth below – 50 %.

Only the central Pskov region with the adjoining Pechora, Palkinsky and Strugo-Krasnensky districts had positive growth rates in the Pskov region, while the rural population decreased by less than 50 %. This group still includes Velikoluksky district, the centre of which is the Region's second most populous city, as well as Sebezhsky district with its unique nature and national park. The remaining 18 (75 %) districts were included in the group with negative rural population growth below – 50 %.

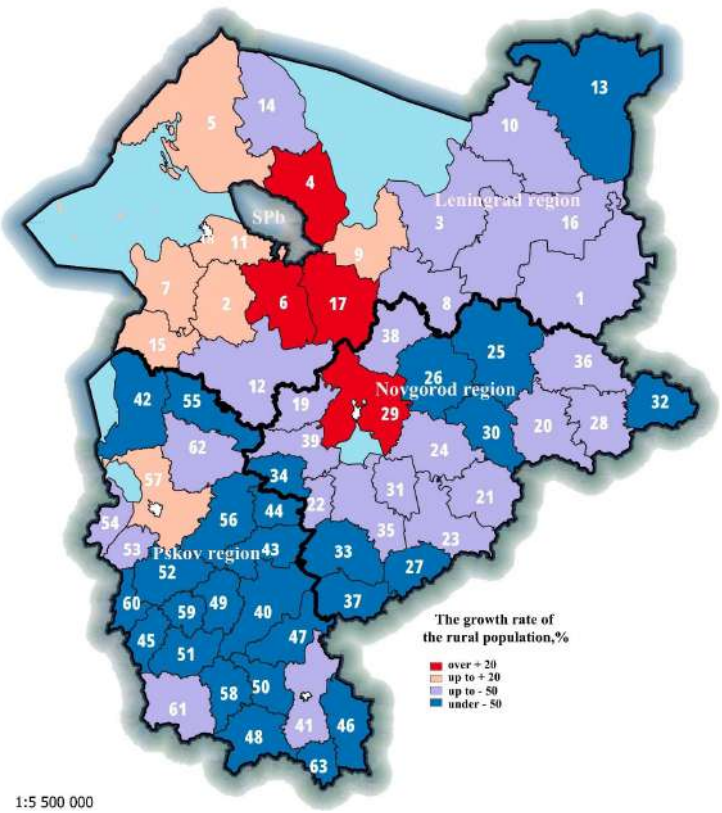

Fig. 8. Spatial differentiation of rural population growth rates in the North-West regions from 1989 to 2023

Differences in the growth rates of the rural population by districts and regions of the North-West have increased the differentiation of rural space. This is especially true for the Leningrad Region, where the process of spatial polarisation is clearly manifested: nine districts have formed upward and the rest — downward trends in the number of rural population. This is indicated by the higher than in other regions indicators K_G and K_F, the value of which is consistently increasing (Table 6).

Table 6

Indicators of spatial differentiation and polarisation of rural population distribution by districts of the North-West regions

Indicator	Leningrad region	Novgorod region	Pskov region
Gini index $(K)_G$			
1989	0.335	0.228	0.244
2002	0.370	0.250	0.263
2010	0.415	0.277	0.290
2020	0.439	0.339	0.334

The end of Table 6

Indicator	Leningrad region	Novgorod region	Pskov region
Funds ratio (K_F)			
1989	8.84	5.30	6.45
2002	11.93	6.76	7.36
2010	18.97	8.92	9.26
2020	26.08	14.02	12.14

Calculated on the basis of the all-Russian population censuses.

In the Novgorod and Pskov regions the distribution of rural population by districts is less differentiated than in the Leningrad region. The K_G indicators in them in 2020 were at the level of 1989 in the Leningrad region. However, even here there is a tendency of growth in the level of spatial differentiation and K_F indicators. This process is mainly due to the different rates of decline in the rural population.

Spatial differentiation of rural population dynamics depending on the remoteness of districts relative to the centres of the North-West regions is clearly visible only in the Leningrad region (Fig. 9).

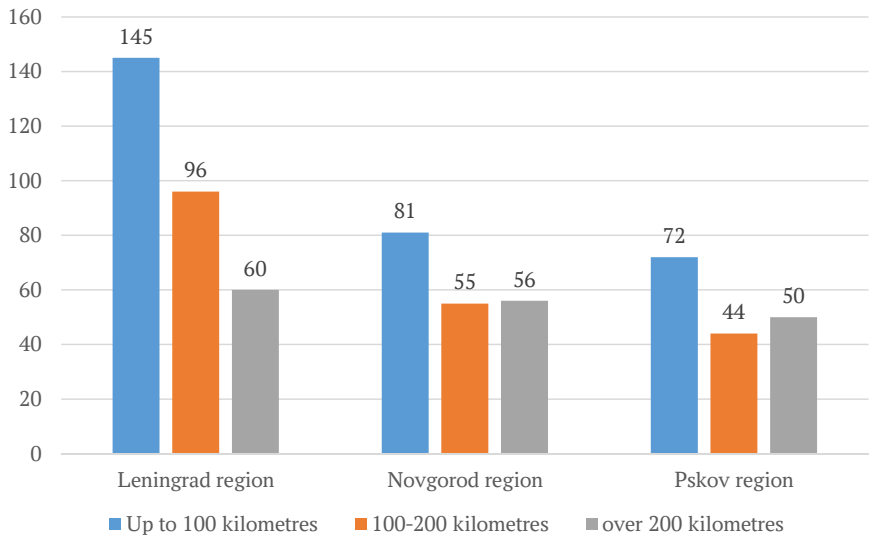

Fig. 9. Rural population growth rates from 1989 to 2023 in groups of districts with different remoteness from the centres of the North-West regions, %

In the Novgorod and Pskov regions, even in the central districts, the rural population decreased, although to a lesser extent than in more remote areas. At the same time, in the peripheral areas the reduction was less than in the intermediate areas.

Nevertheless, the trends in the change in the structure of rural population in the districts of the regions of the North-West from the positions ‘centre — pe-

riphery' can be traced quite clearly. In all regions, the share of population in the central districts steadily increased at the expense of its decrease in the rest of the territories (Table 7).

Table 7

Change in the structure of the rural population of the North-West regions by groups of districts, distinguished by their remoteness from the centres, from 1989 to 2023, %

Distance	1989	2002	2010	2020	2023	Structural shift 2023 / 1989, p. p.
Leningrad region						
Up to 100 kilometres	52.2	54.6	58.0	63.3	64.3	12.1
100—200	37.7	37.3	35.5	31.4	30.6	–7.1
Over 200	10.1	8.2	6.5	5.3	5.1	–5.0
Total	100.0	100.0	100.0	100.0	100.0	0
Novgorod region						
Up to 100 kilometres	47.9	49.4	53.4	57.0	57.5	9.6
100—200	34.6	33.0	30.9	28.2	28.0	–6.6
Over 200	17.5	17.6	15.7	14.8	14.5	–3.0
Total	100.0	100.0	100.0	100.0	100.0	0
Pskov region						
Up to 100 kilometres	34.0	35.1	38.1	43.6	44.4	10.4
100—200	41.4	42.4	37.6	34.0	33.4	–8.0
Over 200	24.6	22.5	24.3	22.4	22.2	–2.4
Total	100.0	100.0	100.0	100.0	100.0	0

Calculated on the basis of the All-Union and All-Russia population censuses. The data as of 1 January 2023 are taken from the current statistics of Rosstat.

Growth has been driven more by the intermediate districts, which have experienced greater structural shifts than the peripheral districts with their lower rates of rural population decline.

Spatial differentiation of rural settlement

The analysis has shown that rural settlement is spatially more stable than the demographic or, even more so, the production sphere. The number of rural settlements (SNP) decreased at a lower rate than the indicators of agricultural production and rural population: by 2020 compared to 1989 in the Leningrad region — by 4 %, in the Novgorod region — by 20 %, in the Pskov region — by 31 %, while the area under crops from 1989 to 2023 in the Leningrad region decreased by 2.4 times, and the number of livestock — by 1.3 times, while the population grew by 18 %. In the Novgorod region, the area under crops decreased 3.8 times, livestock — 3.6 times, and the population — only 1.5 times. As a

result, the gap in the rate of reduction of the number of SNPs in the Novgorod and Pskov regions from the Leningrad region by 2020 reached 16 and 27 p. p., respectively (Fig. 10).

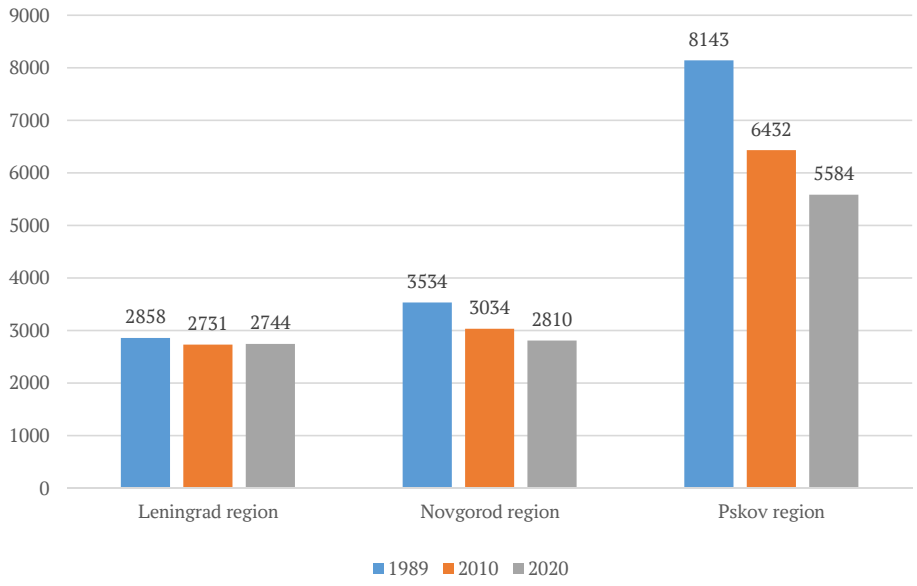

Fig. 10. Dynamics of the number of SNPs with population, according to census data, units

There is a strong polarisation in the dynamics of the indicator of the average SNP crowdedness, which grew by 21.3 % in the Leningrad region over this period, which is 8 p. p. higher than in the Russian Federation as a whole, by 35.2 p. p. in the Novgorod region and by 41.8 p. p. in the Pskov region (Table 8).

Table 8

Average inhabitancy of rural settlements in the regions of the North-West,according to population censuses, people

Territory	1989	2002	2010	2020	2020 to 1989, %
Russian Federation	255	272	288	289	113.3
Leningrad region	197	202	216	239	121.3
Novgorod region	65	63	61	56	86.1
Pskov region	39	35	31	31	79.5

Intra-regional spatial differentiation in the context of ‘centre-periphery’ is also visible in rural settlements. The expected regularities are most clearly seen in the Leningrad and Novgorod regions: as the districts move away from the centres of the regions, the share of SNPs without population increases and their inhabitancy decreases (Table 9).

In the Pskov region, these patterns are not clearly visible, as the Velikoluksky region with an average population of 56 people, with a share of 23 % of SNPs without population and an increased share (13.2 %) of larger SNPs is again fragmented among the remote areas.

Table 9

The main indicators of rural settlement differentiation in the regions of the North-West in the context of 'centre — periphery', based on the 2020 census

Remoteness from the centres of the regions	Number of SNPs		Average inhabitancy, persons	Share of Population by Groups Categorised by Remoteness from the Regional Total, %	Share of SNPs in groups with different inhabitancy, %	
	Total, units	Of which without population, %			Up to 100 people	More than 100 people
Leningrad region						
Up to 100 kilometres	915	1.3	459	31.9	54.7	45.3
100—200 kilometres	1.315	4.8	164	45.8	76.1	23.9
Over 200 kilometres	642	8.3	59	22.4	82.6	17.4
Total	2.872	4.5	239	100.0	70.8	29.2
Novgorod region						
Up to 100 kilometres	1.391	16.0	65	37.7	88.5	11.5
100—200 kilometres	1.474	27.7	30	39.8	94.2	5.8
Over 200 kilometres	834	30.8	28	22.5	94.0	6.0
Total	3.699	24.0	56	100.0	89.5	10.5
Pskov region						
Up to 100 kilometres	2.577	32.6	44	32.9	93.3	6.7
100—200 kilometres	3.673	34.2	25	46.9	93.7	6.3
Over 200 kilometres	1.582	28.4	34	20.2	92.0	8.0
Total	7.832	32.5	31	100.0	93.5	6.5

A detailed analysis of the SNP structure in the North-West regions revealed significant spatial differences, both between the central, intermediate, and peripheral districts within each region and across the districts of the Novgorod and Pskov regions. Notably, as these districts extend farther from St. Petersburg, the proportion of unpopulated settlements and those with low population density (up to 11 people) increases, while the share of all other groups, particularly those with a population density of 51 or more, declines (Fig. 11).

The exception is again the group of districts of the Pskov region, distant from its centre at a distance of more than 200 km, due to the above-mentioned peculiarity of rural settlement in the Velikoluksky district.

The distribution of the rural population by groups of average SNP inhabitancy depending on the remoteness of districts from the centres of the regions shows al-

most the opposite pattern. The central districts of all three regions have the maximum number of the rural population: from 49.3 in the Pskov region to 81.2 % in the Leningrad region (Fig. 12).

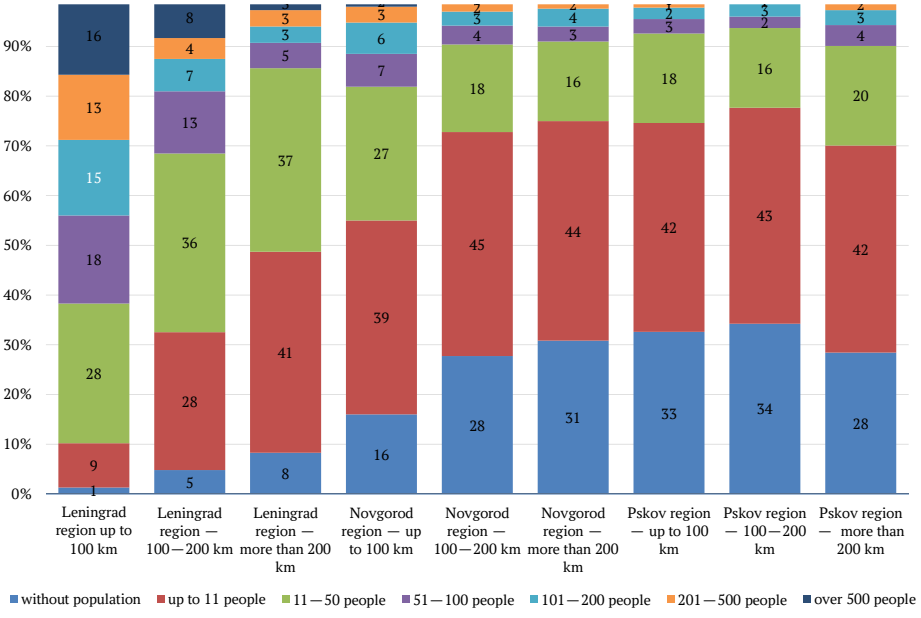

Fig. 11. Structure of rural settlements in the regions of the North-West in groups with different remoteness of districts from regional centres, according to the 2020 census, %

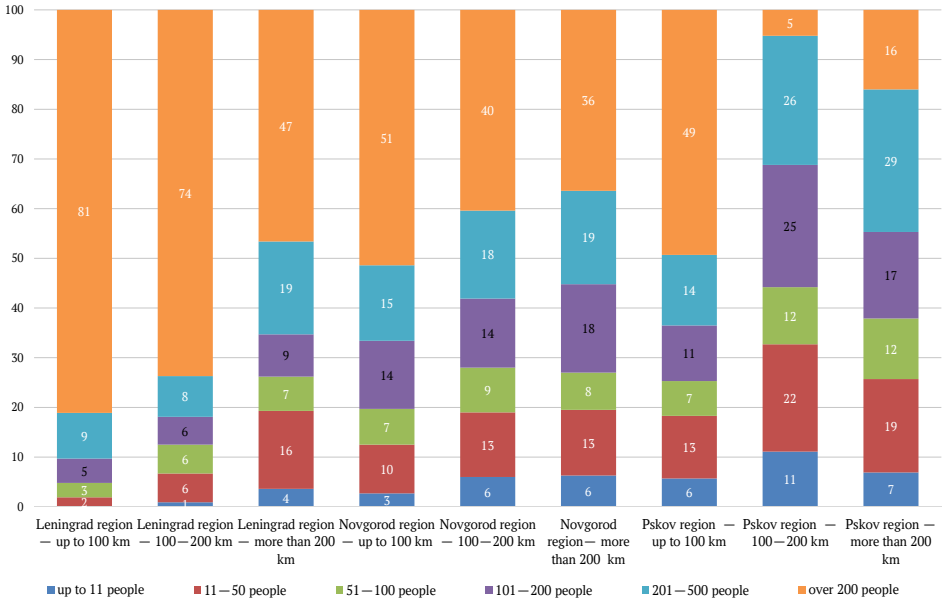

Fig. 12. Structure of the rural population of the North-West regions in the groups of SNPs with different remoteness of districts from regional centres, according to the population census in 2020, %

The spatial differentiation of the districts of the North-West regions in terms of the SNP population (Fig. 13) is largely similar to their differentiation in terms of the rural population growth rate in the period from 1989 to 2023. The area of districts with SNP population of more than 100 people covers those where the growth rate was positive over the period in question, with some expansion of its boundaries in the south of the Leningrad region.

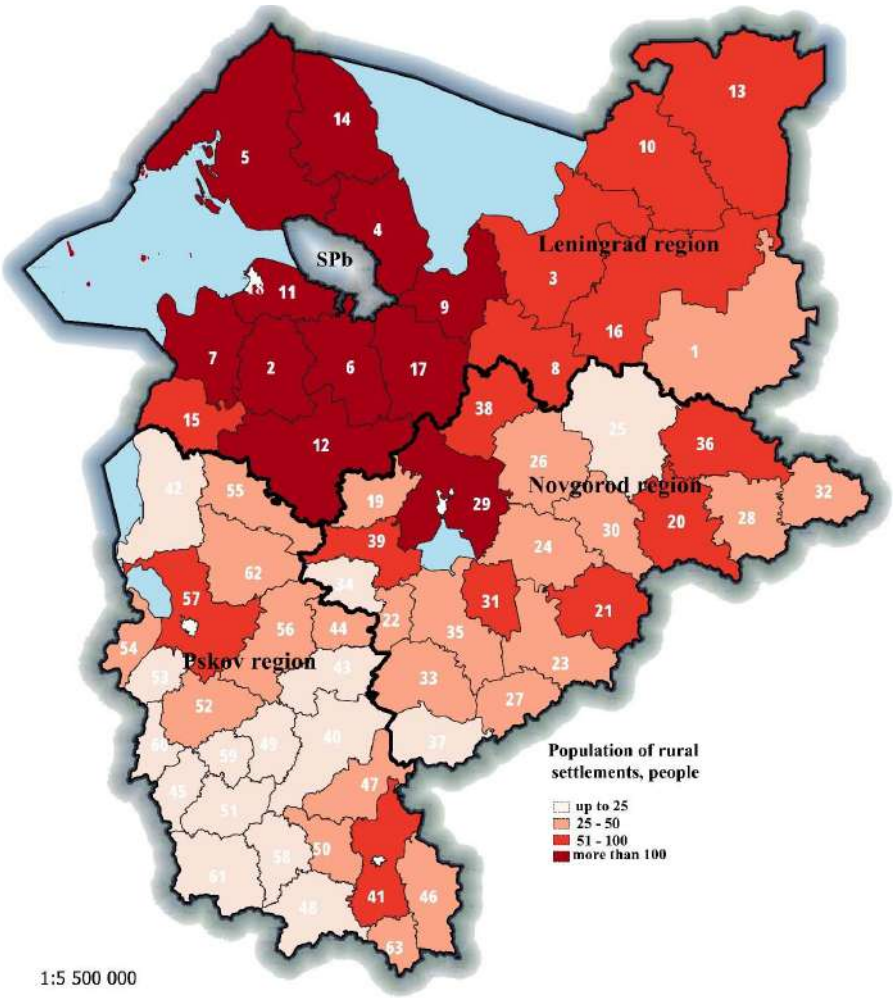

Fig. 13. Spatial differentiation of SNPs in the North-West areas, based on the 2020 census data

The area of the districts of the Pskov and Novgorod regions with the SNP population of up to 20 people includes those where the rates of rural population decline in 1989—2022 were the highest in the North-West. This also applies to the Gdovskiy (Pskov region), Soletskiy, Kholmskiy, and Lyubytinskiy districts (Novgorod region), which are not included in this area. There are coincidences in other districts as well, which allows us to conclude that the long-term dynamics of rural population and SNP inhabitancy are interdependent.

This conclusion suggests that the population decline will accelerate in districts with a population of up to 50 people, as the share of persons older than working age reaches 45 per cent, while the share of persons younger than working age barely reaches 10 per cent (Soletsky district, Novgorod region).

Conclusion

The study confirmed the hypotheses about the impact on the differentiation of rural space of differences in the rent potential of district territories and their place in the system of relations 'centre-periphery' both at the interregional and intraregional levels.

The Leningrad region, being adjacent to St. Petersburg—the largest economic and scientific centre in the country—and possessing one of the highest rent potentials for agricultural land in Russia (ranked 3rd), has created conditions that have shaped the polarised socio-economic development of rural areas within the North-West.

The Novgorod and, especially, Pskov regions without population growth dynamics even in the regional centres, with low population density and decreasing number of residents in the remaining cities, with low rent potential of the land (the Pskov region — 43rd, the Novgorod region — 45th place out of 53 regions of the European part of Russia) objectively occupy a subordinate place in the system of rural space differentiation at the interregional level.

Further inertial development of rural space in the Novgorod and Pskov regions, as the current trends show, will further increase the outflow of rural residents and lead to its socio-demographic "desertification". It is necessary to take special organisational and economic measures based on the intensification of large-scale investment attraction in these regions.

The current programme and organisational measures cannot even slow down the downward trends, let alone change the current negative trends into positive ones. The State Programme for Integrated Development of Rural Areas, which has been implemented since 2020. The State Programme for Integrated Development of Rural Areas, which is being implemented from 2020, assumes co-financing from regional and municipal budgets, which are extremely limited in the Novgorod and Pskov regions.

Formal actions on the adoption of legal acts on the transformation of municipal districts into municipal districts, the creation of rural agglomerations and anchor settlements without the implementation of a system of comprehensive measures supported by financial and other resources will not yield any positive results.

The combination of socio-economic problems of rural development in the Novgorod and Pskov regions, which cannot be solved by conventional methods, requires the adoption of separate state programmes for each of them, implemented on the basis of public-private partnership, mainly with financing from the federal budget and involvement of federal ministries and agencies in their implementation. The programmes should provide for the secondary settlement of rural areas by the population from other regions, including under the programme of voluntary resettlement of compatriots from abroad, and the implementation of large investment projects with the introduction of special taxation and lending

regimes for entrepreneurs. Investment should be focused "on the mobilisation of local resource, human, social and entrepreneurial potential in order to overcome the depressive state in agricultural production and development of rural areas in these regions" [13, p. 165].

Most of the territories within the districts of the Novgorod and Pskov regions should be prioritised as targets for specific programme initiatives. At the same time, the current dynamics of rural spatial differentiation, including its fragmentation, tendencies towards contraction, and social 'desertification', as identified in this study, must be considered.

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References

1. Nefedova, T. G. 2021, Polarization of the social-economic space and prospects of rural areas in the old-developed regions of Central Russia, *Russian Peasant Studies*, vol. 6, № 1, p. 126—153, https://doi.org/10.22394/2500-1809-2021-6-1-126-153 (in Russ.).

2. Nefedova, T., Treyvish, A. 2020, Polarization and shrinkage of active space in the core of Russia: trends, problems and possible solutions, *Demographic Review*, vol. 7, № 2, p. 31—53, https://doi.org/10.17323/demreview.v7i2.11138 (in Russ.).

3. Uskova, T. V., Patrakova, S. S. 2021, Rural development in the context of spatial compression of a northern region, *Economic and Social Changes: Facts, Trends, Forecast*, vol. 14, № 5, p. 34—52, https://doi.org/10.15838/esc.2021.5.77.2

4. Kostyaev, A. I. 2016, Differentiation of rural areas: background and the role of investment, *Economics and Management*, № 11 (133), p. 4—10. EDN: XKPCDV (in Russ.).

5. Manakov, A. G. 2016, Depopulation processes in the Pskov Oblast against the background of population polarisation in North-Western Russia, *Voprosy geografii*, № 141, p. 313—337 (in Russ.).

6. Romanova, E., Vinogradova, O., Frizina, I. 2015, Social and economic space compression in border areas: the case of the Northwestern Federal District, *Baltic Region*, № 3, p. 38—61, https://doi.org/10.5922/2079-8555-2015-3-3

7. Sobolev, A. V. 2015, Structural and functional characteristics of the spatial development of rural and urban areas in the Northwestern economic district, *Baltic Region*, № 1, p. 143—158, https://doi.org/10.5922/2079-8555-2015-1-9

8. Dementiev, V. 2020, Typology of regions of the North-West of Russia by the level of development of the settlement system at the beginning of the 21st century, *Pskov Journal of Regional Studies*, № 1 (41), p. 38—50, https://doi.org/10.37490/S221979310008533-9 (in Russ.).

9. Krasnov, A. I., Bizyukov, D. 2021, Population dynamics of the Pskov region in the post-soviet period according to rural settlement points, *Proceedings of the Russian Geographical Society*, vol. 153, № 5, p. 21—33, https://doi.org/10.31857/S0869607121050050 (in Russ.).

10. Fedorov, G. M. 2023, Spatial differentiation of rural territories in the Kaliningrad region: implications for socio-economic policies, *Baltic Region*, vol. 15, № 3, p. 117—139, https://doi.org/10.5922/2079-8555-2023-3-7

11. Tkachenko, A. A. 2023, Rural areas: a concept and approaches to typology, *Lomonosov Geography Journal*, vol. 78, № 2, p. 3—9, https://doi.org/10.55959/MSU0579-9414.5.78.2.1 (in Russ.).

12. Alekseev, A. I., Safronov, S. G., Savockul, M. S., Kuznetsova, G. Yu. 2019, The main trends in the evolution of rural settlement in Russia in the XX — early XXI centuries, *ECO*, № 4 (538), p. 26—49. EDN: FYBUBX (in Russ.).

13. Kostyaev, A. I., Nikonova, G. N. 2021, Developing territorial differentiation processes of agricultural production in the Non-Black Earth Region and their current trends, *Economic and Social Changes: Facts, Trends, Forecast*, vol. 14, № 4, p. 150—168, https://doi.org/10.15838/esc.2021.4.76.9 (in Russ.).

14. Ioffe, G. V., Nefedova, T. G. 2003, Fragmentation of rural space of Russia, *Vestnik Evrazii*, № 4, p. 69—92. EDN: HYRHCH (in Russ.).

15. Pělucha, M. 2019. Smart Villages and Investments to Public Services and ICT Infrastructure: case of the Czech rural development program 2007—2013, *European Countryside*, vol. 11, № 4, p. 584—598, https://doi.org/10.2478/euco-2019-0032

16. Löfving, L., Kamuf, V., Heleniak, T., Weck, S., Norlén, G. 2022, Can digitali-zation be a tool to overcome spatial injustice in sparsely populated regions? The cases of Digital Västerbotten (Sweden) and Smart Country Side (Germany), *Euro-pean Planning Studies*, vol. 30, № 5, p. 917—934, https://doi.org/10.1080/09654313.2021.1928053

17. Naldi, L., Nilsson, P., Westlund, H., Wixe, S. 2015, What is smart rural development?, *Journal of Rural Studies*, vol. 40, № 8, p. 90—101, https://doi.org/10.1016/j.jrurstud.2015.06.006

18. Slee, B. 2019, Delivering on the Concept of Smart Villages — in Search of an Enabling Theory, *European Countryside*, vol. 11, iss. 4, p. 634—650, https://doi.org/10.2478/euco-2019-0035

19. Bock, B. 2016, Rural Marginalizations and the Role of Social Innovation; A Turn Towards Nexogenous Development and Rural Reconnection, *Sociologia Ruralis*, vol. 56, № 4, p. 552—573, https://doi.org/10.1111/soru.12119

20. Nefedova, T. G., Streletsky, V. N., Treyvish, A. I. 2022, Polarization of the socio-economic space of modern Russia: causes, directions and consequences, *Herald of the Russian Academy of Sciences*, № 6 (92), p. 551—563. EDN: CDTMTR

21. Kalugina, Z. I., Fadeeva, O. P., Bratyushchenko, S. V., 2015, Socio-economic polarization of rural areas in Russia, *Region: Economics and Sociology*, № 3 (87), p. 123—145, https://doi.org/10.15372/REG20150905 (in Russ.).

22. Bondarenko, L. V. 2020, City and village: distance and ways to overcome it, *AIC: economics, management*, № 12, p. 103—118, https://doi.org/10.33305/2012-103 (in Russ.).

23. Haefner, L., Sternberg, R. 2020, Spatial implications of digitization: State of the field and research agenda, *Geography Compass*, vol. 14, № 12, p. 1—16, https://doi.org/10.1111/gec3.12544

24. Salemink, K., Strijker, D., Bosworth, G. 2017, Rural development in the digital age: A systematic literature review on unequal ICT availability, adoption, and use in rural areas, *Journal of Rural Studies*, vol. 54, p. 360—371, https://doi.org/10.1016/j.jrurstud.2015.09.001

25. Stojanova, S., Lentini, G., Niederer, P., Egger, T., Cvar, N., Kos, A., Stojmenova Duh, E. 2021, Smart Villages policies: Past, present and future, *Sustainabil-ity*, vol. 13, № 4, p. 1663, https://doi.org/10.3390/SU13041663

26. Wiesinger, G. 2007, The importance of social capital in rural development, network-ing and decision-making in rural areas, *Journal of Alpine Research*, vol. 95, № 4, p. 43—56, https://doi.org/10.4000/rga.354

27. Chatzichristos, G., Nagopoulos, N., Poulimas, M. 2021, Neo-Endogenous Rural Development: A Path Toward Reviving Rural Europe, *Sociologia Ruralis*, vol. 86, № 4, p. 911—937, https://doi.org/10.1111/ruso.12380

28. Basile, G., Cavallo, A. 2020, Rural Identity, Authenticity, and Sustaina-bility in Italian Inner Areas, *Sustainability*, vol. 12, № 3, p. 1272, https://doi.org/10.3390/su12031272

29. Nefedova, T. G., Treivish, A. I., Sheludkov, A. V. 2022, Spatially uneven development in Russia, *Regional research of Russia*, vol. 12, № 1, p. 4—19, https://doi.org/10.31857/S2587556622010101

30. Petrikov, A. V. 2018, Economic growth in Russian agriculture: factors and problems, *Scientific Works of the Free Economic Society of Russia*, vol. 214, № 6, p. 450—469. EDN: IIKXDK (in Russ.).

31. Harvey, D. 1989, The Condition of Postmodernity. An Enquiry into the Origins of Cultural Change, BLACKWELL, Cambridge MA &- Oxford UK.

32. Fedorov, G. M. 2021, On strengthening the territorial differentiation of the rural population and the agrarian sector of the economy in the Russian Federation, *Vestnik of IKBFU. Series: Natural and Medical Sciences*, № 2, p. 5—22. EDN: UUCZNP (in Russ.).

33. Kostyaev, A. I. 2023, Rural space differentiation: regularities and driving forces, *AIC: economics, management*, № 8, p. 123—134, https://doi.org/10.33305/238-123 (in Russ.).

The authors

Prof Alexander I. Kostyaev, Member of the Russian Academy of Sciences; Chief Researcher, Institute of Agrarian Economics and Rural Development, St. Petersburg Federal Research Centre of the Russian Academy of Sciences, Russia.

E-mail: galekos@yandex.ru

https://orcid.org/0000-0003-4041-6935

Prof Galina N. Nikonova, Corresponding Member of the Russian Academy of Sciences; Chief Researcher, Institute of Agrarian Economics and Rural Development, St. Petersburg Federal Research Centre of the Russian Academy of Sciences, Russia.

E-mail: galekos@yandex.ru

https://orcid.org/0000-0002-7605-0237

COMPREHENSIVE TYPOLOGY OF RURAL SETTLEMENTS IN THE KALININGRAD REGION

I. S. Gumenyuk
L. G. Gumenyuk

Immanuel Kant Baltic Federal University,
14, A. Nevskogo St., Kaliningrad, 236041, Russia

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The rural settlement system of the Kaliningrad region, comprising 1,075 localities, is characterised by compactness, high economic development and a predominance of small rural settlements. From 2010 to 2024, the region's rural population increased from 210 to 235 thousand people. Simultaneously, the number of large rural settlements is growing in the western part of the region, while a stable trend of demographic decline persists among small rural settlements in the eastern part. Using statistical data, along with quantitative data from previous studies, open sources and field research materials, the authors developed a comprehensive typology of Kaliningrad region's rural settlements. The typology classifies settlements according to demographic factors, spatial location, availability of social infrastructure, tourism and recreation facilities and agricultural enterprises of various types. The research methods encompassed tools for gathering, processing and analysing primary data, including statistical, cartographic and comparative-geographical techniques. As a result, 18 types of rural settlements were identified in the Kaliningrad region, each characterised by a unique trajectory of socio-economic and demographic development. These distinctions should be considered when designing and implementing spatial development programmes and projects at local or regional levels. The research results are presented in cartographic and tabular formats.

Keywords:
rural settlements, Kaliningrad region, typology, rural settlement system, agglomeration, periphery

Introduction

The rural areas represent an essential and multifaceted component of any territorial socio-economic system (TSES). Alongside cities and large agglomerations, rural settlements form a settlement system, serving as the structural backbone for all social and economic processes. Each rural settlement has its distinct func-

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tion determined by its geographical location and resource potential, including human resources. Over time, the function of a rural settlement may strengthen or diminish, develop or transform, depending on regional, national, or global socio-economic development models.

In Russia, significant changes in rural settlement patterns began in the early 1990s with a shift in the socio-economic development model. This transition brought not only rural depopulation but also functional transformations for many rural settlements. These changes have been extensively studied by prominent Russian economic geographers such as Nefedova [1], Alekseev [2], Safonov [3], Zubarevich [4], and others.

The rural settlement system in the Kaliningrad region, a vital component of Russia's exclave region, has been actively studied in recent years from the perspective of transformations influenced by internal and external social, economic, political, environmental, technological, and other factors. Rural areas and their socio-economic processes have been researched by Fedorov [5], Levchenkov [6], Gumenyuk [7], Khvalei [8], Plotnikova [9], and others. In 2022 and 2023, a team led by Gennady Fedorov published two monographs on the rural areas of the Kaliningrad region. They were part of the "Social Innovations and Enhancement of Local Value in Rural Regions" project under the ERA.Net RUS Plus programme supported by the Russian Foundation for Basic Research [10; 11].

The transformation of rural areas in the Kaliningrad region has also been accompanied by functional changes in the role of rural settlements. Many settlements have lost traditional agricultural functions, adopting new roles (recreational, residential, etc.) or developing alternative functional profiles. This necessitates the introduction of a comprehensive typology of rural settlements in the Kaliningrad region to support management decisions for the infrastructure and socio-economic development of non-urban areas.

The study aims to address the following objectives:

— analyze population trends in the region's rural settlements from 2010 to 2024;

— evaluate the geographical location of rural settlements within the regional settlement system, including their transport and geographical position;

— assess rural settlements' access to social infrastructure, tourism, and recreation facilities.

The study focuses on the rural settlements of Russia's exclave region, analyzing transformation processes in the Kaliningrad region's rural settlements from 2010 to 2024.

Theoretical framework

Since any rural settlement system comprises numerous settlements, the development of a typology is a well-established method in economic-geographical studies. In the 1960s, Kovalev introduced a functional typology of rural settlements based on the criterion of the "structure of the settlement-forming group of the economically active population", determined by the proportion of workers across different economic sectors [12, p. 129]. The typology comprised several types of settlements:

1. Settlements of industrial enterprises;
2. Settlements along transport routes;
3. Construction projects settlements;
4. Forestry and forest conservation settlements;
5. Fishing and hunting settlements;
6. Settlements of research stations;
7. Settlements housing healthcare and educational institutions;
8. Dacha settlements;
9. Suburban residential settlements for workers and employees [12, p. 134—136].

In subsequent research, typologies based on the population size of rural settlements or their spatial position within the TSES have been developed in addition to functional typologies. An interesting example of a typology based on population size is the work by Kunitsa [13]. Analyzing rural settlements in Central Russia, the author classified 11 types of rural settlements, ranging from "abandoned villages" to "cottage settlements." Voroshilov's research presents a spatial typology of rural settlements, using the centre-periphery concept to identify rural settlements within the near, middle, and distant periphery categories [14].

Alekseev and colleagues developed several functional typologies of rural areas. One typology, for instance, categorized settlements based on the presence of permanent population, the ratio of permanent and temporary residents, the number of working-age residents, and the availability of workplaces, resulting in eight settlement types. In later work, Alekseev and his team [16] used landscape and post-Soviet development trajectory criteria to classify rural settlements in the Tambov region, forming the following types:

- Developing valley complex settlements;
- Stagnating valley complex settlements;
- Degrading valley complex settlements;
- Developing upland settlements;

• Stagnating upland settlements;

• Degrading upland settlements.

Functional typology is widely utilized in international research as well. As noted by Skenderi [17], in addition to functional classification, genetic, demographic, morphological, and spatial typologies may also be used. Nevertheless, functional typology remains prevalent in studies on rural settlements in Serbia [18], Bulgaria [19], Northern China [20], Western Herzegovina [21], and other countries and regions. The popularity of functional typology stems from its flexibility, enabling the application of diverse quantitative and qualitative criteria tailored to the methodological approaches of each study.

In the context of the Kaliningrad region, Gennady Fedorov proposed a functional typology in 2001, which included ten types of rural settlements (Table 1).

Table 1

Functional types of rural settlements in the Kaliningrad region

Functional Type	Numberof Settlements
Administrative centres with agricultural, non-agricultural, organizational, and socio-cultural functions	18
Administrative centres with agricultural, organizational, and socio-cultural functions	68
Administrative centres with agricultural and socio-cultural functions	5
Administrative centres with non-agricultural and socio-cultural functions	4
Settlements with non-agricultural and socio-cultural functions	31
Settlements with non-agricultural functions	24
Settlements with organizational, agricultural, non-agricultural, and socio-cultural functions	105
Settlements with agricultural and socio-cultural functions	169
Settlements with agricultural functions only	152
Residential settlements without economic or social infrastructure facilities	503

Calculations: Natalia Klimenko, Levchenkov.

Source: [22].

In their previous works, the authors of this study also proposed various typologies of rural settlements in the Kaliningrad region. One of the proposed typologies is based on a combination of transport-geographic location and population

dynamics [10], which allowed for the identification of 16 types of settlements. Based on transport-geographic location, settlements were divided into four categories:

- Located along federal and/or international highways;
- Located on regional transit routes;
- Located off regional transport routes;
- Transport dead ends.

The analysis of rural population dynamics allowed for the classification of settlements into the following demographic groups:

- Growing settlements;
- Stable settlements;
- Stagnating settlements;
- Declining settlements.

Another typology developed by the authors is based on a scoring system for the availability of social infrastructure, particularly facilities for preschool and school education, healthcare, culture, sports, and recreation [23]. This resulted in the identification of 12 types of rural settlements in the Kaliningrad region based on the level of access to social infrastructure.

Tkachenko [24] offers an intriguing functional typology initially applied to rural areas as a whole, defined as "non-urban space with a permanent population" [24, p. 4]. Notably, this typology can also be effectively applied to individual rural settlements. The study identifies the following functional types of rural areas:

1. Suburban (with various functional combinations);
2. Agrarian (with well-developed commercial agriculture, further divided by the predominant type of enterprise);
3. Agro-recreational, or "dacha" settlements, with a predominance of urban household farms;
4. Post-agrarian or agrarian-depressed (subsistence farming with trends toward population marginalization, occasionally labour migration);
5. Forestry-industrial;
6. Fishing-industrial, where the economy is based on the exploitation of natural resources;
7. Recreational.

The typology developed by the authors draws on previous studies and is based on diverse quantitative and qualitative parameters describing the current state and the temporal dynamics of transformation processes in the Kaliningrad region's rural settlements.

Materials and methods

The materials for this study include statistical data on the population size of rural settlements in the Kaliningrad region[1], quantitative data collected from prior research and open sources (databases from regional ministries on the availability of social infrastructure, recreation and tourism facilities, and active agricultural producers in the region). The study also utilized indicators of the region's rural settlements' transport accessibility, calculated using a time-based criterion representing the total travel time required to reach a city from a settlement via public roads, adhering to all regulated speed limits. The travel time was calculated without accounting for road congestion, which is a variable factor. The time criterion was used instead of distance, as the distance is primarily a quantitative measure of transport accessibility, whereas time is qualitative and accounts for the condition of the road infrastructure. The study is also based on numerous field surveys conducted by the authors over recent years as part of various projects and programmes.

The research database encompasses all rural settlements in the Kaliningrad region. As of January 1, 2024, there are 1,075 rural settlements in the region. The data on population dynamics from 2010 to January 1, 2024, were used in this study. Despite the limitations of relying on population size as reported in official statistics—since these figures represent only registered residents and may not account for the actual population — the authors chose this data for its accessibility and comprehensive coverage. More informative data for such studies could be derived from mobile operators [25] and sociological surveys, although these are not publicly available or would require extensive time to collect, analyze, and interpret (for example, through large-scale sociological research).

The research methods used include primary data collection tools, data processing, and analysis, specifically statistical, cartographic, and comparative-geographical methods.

The methodology initially involved differentiating rural settlements in the region based on population size, resulting in six groups of settlements (Table 2).

[1] Population of urban and rural settlements of the Kaliningrad region: Statistical collection, Kaliningradstat. Kaliningrad, 2024.

Table 2

Types of rural settlements by population size

Type	Population (people)	Number of settlements	Total population
Abandoned settlements	0	30	0
Micro-settlements (transitioning to abandoned)	1—10	136	665
Micro rural settlements	11—100	500	21,480
Small rural settlements	101—500	309	75,030
Medium rural settlements	501—2000	87	79,600
Large satellite settlements within city agglomerations	More than 2000	17	58,640
	Total	1,075	235,415

As of January 1, 2024, there are 30 rural settlements in the Kaliningrad region with no registered population (2.7 % of the total). Between 2020 and 2024, the number of these abandoned settlements remained constant, though it almost doubled from 18 to 30 between 2010 and 2020. The reasons for the emergence of abandoned rural settlements are often linked to their "falling out" of the current socio-economic system due to crises in the agricultural sector, extremely high natural population decline, and/or out-migration, as well as planned or spontaneous relocation of residents to larger, more comfortable settlements. The phenomenon of "unpopulated rural settlements," their causes, and ways of revitalizing them, are explored in detail in the work of Rumyantsev and colleagues [26].

A separate group consists of rural settlements that are transitioning into the "abandoned" stage, with official populations ranging from 1 to 10 people. These settlements exhibit similar negative trends to abandoned settlements, though the process has not yet been fully completed. As of early 2024, the region had 136 such settlements (12.6 % of all settlements), with a growing trend over time: there were 104 such settlements in 2010 and 120 in 2020.

Micro rural settlements with populations between 11 and 100 people are limited in their capacity for multi-functional development due to their small population size. These settlements often fulfil a single function and may lack or have only a single social infrastructure facility, such as a cultural centre or rural library. At the start of 2024, there were 500 such settlements in the Kaliningrad region (nearly half of the total rural settlements), which can be attributed to the historical patterns of settlement formation in the region, its relatively small territory, and a high level of economic and infrastructural development.

The next category is small rural settlements with a population of 101—500 people. These settlements generally experience relatively stable demographic processes, though there is a trend of population decline. At the beginning of 2024, there were 309 settlements of this type in the region, which were home to approximately 75,000 people, compared to a combined population of 79,900 in the 2010 census (a decline of 6 %). These settlements contain various social infrastructure facilities (such as preschools, primary schools, cultural institutions, libraries, and healthcare outposts).

The group of medium rural settlements consists of settlements with populations between 501 and 2,000 people. In the region, these settlements make up less than 10 % of the total, with 87 settlements in this category. Like other groups, the number of medium rural settlements shows a trend of decline. In 2010, there were 105 such settlements in the region (with a combined population of 85,200 people); in 2020, there were 90 (84,900 people), and by early 2024, 87 medium-sized rural settlements remained, housing approximately 79,600 people. These settlements serve as important components of the regional settlement framework. They not only provide organizational, socio-cultural, and agro-industrial services as local centres but also have the potential as industrial centres and hubs for tourism and recreational services. With significant socio-economic potential, these settlements often function as local settlement cores or inter-settlement centres. In the Kaliningrad region, many of these were former rural administrative centres prior to the local government reform.

The largest rural settlements, with populations exceeding 2,000 people, represent the fastest-growing category. In 2010, there were nine such settlements in the region, with a combined population of 25,600. By the 2020 census, this number had risen to 13 settlements, housing 48,200 people, and by January 1, 2024, there were 17 large settlements in this category, with a total population of 58,600. The increase in these large satellite settlements is associated with the active agglomeration process in the Kaliningrad region, where population movement toward the administrative centre leads people to settle in nearby large rural settlements for various reasons. For example, the village of Golubevo, located 16 km from Kaliningrad, has undergone substantial residential development, resulting in an increase in population from 350 to 4,376 people between 2010 and 2024.

The next step in developing a comprehensive typology of rural settlements was determining the functional type of each settlement, based on an analysis of

diverse statistical data and qualitative criteria that reflect the current state and the transformation processes occurring in rural settlements in recent years. This analysis identified seven functional types of rural settlements (Table 3).

Table 3

Functional types of rural settlements

Type	Criteria and characteristics	Number of settlements	Total population
Suburban	Settlements located near cities with strong connections to them	362	119,400
Dachas (agro-recreational) and coastal	Settlements in coastal municipalities and within the Kaliningrad city agglomeration (notable for seasonal migration of city residents and tourists)	120	15,740
Agrarian, agro-industrial, and agro-industrial	Settlements retaining traditional agricultural functions	252	44,010
Post-agrarian or agro-depressed	Settlements with unfavourable transport-geographic conditions and/or located far from cities	75	6,176
Recreational	Settlements with existing tourism facilities or significant recreational potential due to unique cultural or natural assets	47	5,412
Inter-settlement centres	Settlements with well-developed social infrastructure, acting as hubs for non-agricultural and socio-cultural services	53	44,012
Functionless settlements	Settlements with a population so low they cannot fulfil any specific function	166	665
	Total	1075	235415

Each functional type emphasizes the primary role a settlement currently performs within the settlement system (though it may also have other functions that serve as secondary to the primary one).

Results

The comprehensive typology of rural settlements in the Kaliningrad region, as the main result of this study, is presented in Figure 1 and Table 4. The type of rural settlement is determined by its population size and the primary function it currently performs within the settlement system, which is influenced by factors such as geographic location, availability of diverse material and intangible resources, and human capital.

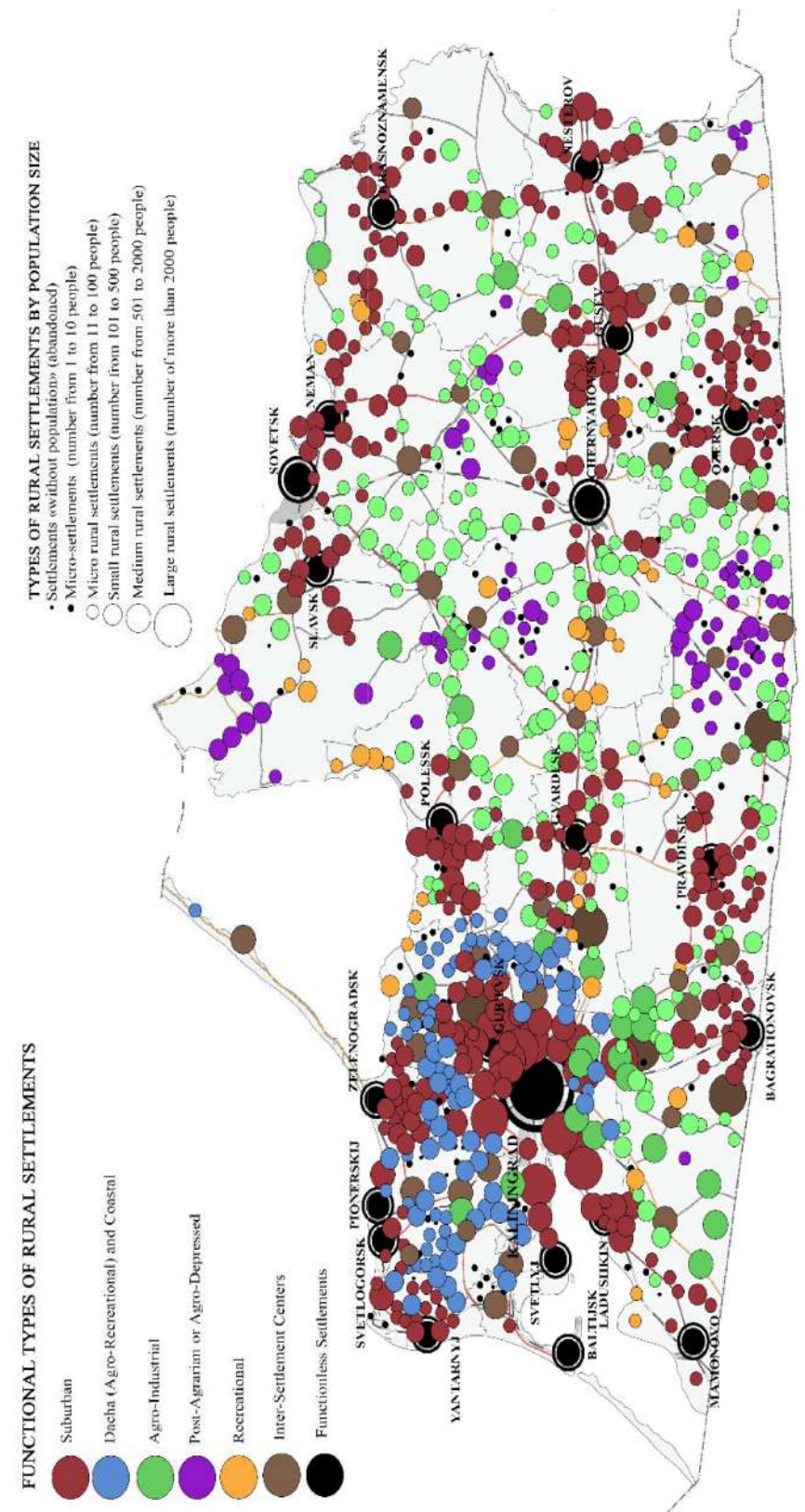

Fig. Comprehensive typology of rural settlements in the Kaliningrad region

Table 4

Comprehensive typology of rural settlements in the Kaliningrad region

Type	Characteristics	Number of settlements
Suburban		
Micro rural settlements	Micro residential settlements located within a 15-minute travel interval from a city	187
Small rural settlements	Small settlements located within a 15-minute travel interval from a city	130
Medium rural settlements	Medium settlements within a 15-minute interval from the city; often transforming into cottage-type areas	34
Large satellite settlements within urban agglomeration	Large satellite settlements within the Kaliningrad city agglomeration (within a 30-minute interval)	11
	Total	362
Dacha (Agro-recreational) and coastal settlements		
Micro rural settlements	Micro rural settlements located in coastal municipalities or within the Kaliningrad agglomeration; seasonal urban migration patterns	70
Small rural settlements	Small coastal rural settlements within a 60-minute interval from the administrative centre	50
	Total	120
Agrarian, agro-industrial, and agro-industrial settlements		
Micro rural settlements	Small rural settlements maintaining traditional agricultural functions	154
Small rural settlements	Small settlements with agricultural enterprises employing the local population	72
Medium rural settlements	Medium settlements with large enterprises involved in deep processing of agricultural and food products	26
	Total	252
Post- Agrarian or agro-depressed settlements		
Micro rural settlements	Micro settlements with unfavourable transport-geographic location and low population	57
Small rural settlements	Small settlements with poor transport access or remote from urban areas, often with smaller populations than in other settlements of this type	18
	Total	75
Recreational settlements		
Micro rural settlements	Micro settlements with tourism facilities or recreational potential due to unique natural or cultural assets	30

The end of Table 4

Type	Characteristics	Number of settlements
Small rural settlements	Small settlements with several tourism enterprises and recreational potential due to unique natural or cultural assets	17
	Total	47
Inter-settlement centres		
Small rural settlements (local)	Small local centres with well-developed social infrastructure, providing non-agricultural and cultural services for small settlements nearby	20
Medium rural settlements	Medium settlements with favourable transport connections, often former administrative centres. Former centres of rural administrations with preserved agricultural, organizational, economic, cultural and everyday functions	27
Large rural (non-agricultural) settlements	Large multi-functional settlements primarily non-agricultural, often serve as district management centers	6
	Total	53
Functionless settlements		
Abandoned settlements	Abandoned settlements with no permanent population (according to official statistics)	30
Settlements transitioning to abandoned	Small settlements in transition to abandonment with populations below 10 (according to official statistics)	136
	Total	166

Suburban rural settlements in the Kaliningrad region are characterized by proximity to cities and are located within a 15-minute travel interval from district centres or within a 20- to 30-minute interval from Kaliningrad for larger settlements. Together with smaller towns, these suburban settlements form rural-urban continuums [27], now often referred to in Russian administrative practice as "rural agglomerations" [28]. The population of these settlements is fully integrated into the social, economic, and living spaces of nearby cities, evident through regular commuting. Large settlements within the Kaliningrad urban agglomeration act as satellites to the regional centre.

Out of 500 small rural settlements, 187 are classified as suburban, with a combined population of 8,000 as of January 2024 (an average of 42.7 people per settlement). From 2010 to 2024, the total population of these settlements decreased slightly, from 8,700 to 8,000. In recent years, the closest suburban

settlements often lost their status as independent entities, merging with cities (for instance, settlements like Novaya Derevnya became part of Chernyakhovsk, and Mechnikovo and Pavlovo became part of Baltiysk). Additionally, the region has 130 small suburban settlements with an average population of 241.3 people.

Suburban medium rural settlements near administrative centres are increasingly transforming into cottage-type communities, which are attractive residential areas for higher-income working-age individuals. Residents often relocate to these communities while maintaining close ties to the city. As a result, these settlements offer high living standards, forming cultural landscapes with a mix of natural and anthropogenic elements. A distinguishing feature of these cottage-type settlements is rapid population growth over recent decades. For example, the population of Orlovka (10.5 km from Kaliningrad) grew from 619 to 1,414 people between 2010 and 2024, and Rodniki (16.6 km from Kaliningrad) saw its population rise from 757 to 1,764. In this category, 34 suburban medium settlements are identified.

Large satellite settlements within city agglomerations include 11 rural communities. In eight of these settlements, the population was below 2,000 in the 2010 census but has more than doubled by 2024. Three other settlements (Maloe and Bolshoe Isakovo, and Vasilkovo) had populations over 2,000 in 2010 and continued to grow. The rise of these large suburban settlements is linked to the ongoing urbanization around Kaliningrad, where people move closer to the city for various reasons. For instance, Golubevo, 16 km from Kaliningrad, has experienced significant residential development, with its population growing from 350 to 4,376 between 2010 and 2024.

Dacha or agro-recreational settlements, along with coastal settlements, are located within the Kaliningrad urban agglomeration or in coastal municipalities of the region. These settlements are frequently used by city residents as seasonal or short-term residences, primarily in the summer. Additionally, rural settlements situated along the coastline attract visitors as seasonal recreational areas. An example of such a settlement is Morskoye on the Curonian Spit. Officially, Morskoye's population as of January 2024 is 80 people, having declined by one-third (from 126 to 80 people) between 2010 and 2024. However, in summer, Morskoye and the entire Curonian Spit are popular destinations for regional residents and tourists.

According to the authors, there are 70 small dacha-type rural settlements in the Kaliningrad region. Interestingly, the official population of these settlements has remained stable at around 3,200 people from 2010 to 2024. Additionally, 50 small dacha-type rural settlements have been identified.

Small agrarian rural settlements include those that have retained a traditional agricultural function, reflected in the lifestyle of local residents. These settlements host enterprises directly involved in agriculture, including branches of large agricultural holdings such as dairy farms, grain facilities, and agricultural equipment bases. Increasingly, smaller forms of farming, such as peasant and subsidiary farms, individual entrepreneurs, and self-employed individuals, are also appearing in these settlements. These farms typically focus on local agricultural demands but may also produce unique or 'exclusive' agricultural products for the region. Examples include farms specializing in asparagus, blueberries, and walnuts, some of which market their products as eco-friendly or traditionally produced [8].

An example of a small agrarian settlement is the village of Livenskoye, with an official population of 74 people. This village hosts a plantation specializing in blueberries, a non-native crop for the region. Across the Kaliningrad region, there are 154 small settlements of this type.

Small agrarian settlements focus primarily on agricultural production, supported by various types of agricultural enterprises. Food self-sufficiency remains a key challenge for the Kaliningrad region [30], and expanding agricultural production is one of the solutions. The state has actively supported this development. Between 2012 and 2020, 972 million roubles were allocated in state support to 223 start-up farmers, 20 family farms, and 38 priority agricultural projects, among others [31]. The region also established a Competence Centre for Agricultural Cooperation in 2019, which provides annual grants to approximately 25 farms. This state support has fostered growth in both large agricultural holdings and smaller farming entities. In the region, 72 small agrarian rural settlements fall into this category.

Medium rural settlements with agro-industrial functions are defined by major enterprises focused on the deep processing of agricultural products and food production. For instance, the village of Zalesye, with a population of 1,006, is home to the main plant of the "Zalessky Farmer" company, a leading regional producer of dairy products. Another example is Kubanovka (population 711), where a pig farm housing 10,000 animals and employing approximately 200 people operates. There are 26 medium-sized agrarian settlements in this category.

The post-agrarian or agro-depressed type of small settlements refers to communities located in peripheral areas (more than a 30-minute travel interval from cities) or areas with poor transport connections (either outside regional transport routes or in transport dead-ends). In the Kaliningrad exclave region, these settlements are often found in border zones, far from border checkpoints. These communities are typically home to an aging population, with a tendency toward subsistence farming and population marginalization. Many of these settlements are likely to transition to the abandoned category (populations under 10) in the near to medium term. The average population of these settlements is only 37.7 people, compared to an average of 43 for small settlements in the region. A total of 57 rural settlements are categorized as agro-depressed.

Agro-depressed small settlements maintain an agricultural focus but exhibit population decline due to both demographic factors and migration. There are 18 such settlements in the Kaliningrad region, with an average population of 223. An example is the village of Mysovka in the Slavsky district, which had a population of 240 as of January 2024. Between 2010 and 2024, the village's population decreased by about one-third, from 329 to 240. Its poor transport location results in a travel time of more than 45 minutes to the district centre, Slavsk, and over 2.5 hours to Kaliningrad.

Recreational settlements are communities with existing tourism infrastructure or unique natural or cultural resources that could foster the development of recreational functions. Specializing in tourism offers a potential avenue for the revitalization of rural settlements that can no longer sustain traditional agricultural roles. In most cases, these settlements establish guest houses or rural estates that offer accommodation, dining, and leisure activities. In recent years, small settlements with recreational potential have increasingly been developing glamping facilities. For example, in the village of Ushakovo, located on the Curonian Lagoon and with an official population of 16, a glamping site was opened in 2022 with a capacity of 30 guests.

Small recreational settlements provide tourist services in the areas of rural and ecological tourism and often host multiple tourism-related businesses. Local populations are engaged in tourism through social innovation tools, which increase the rural area's value and develop local competencies, fostering socio-economic growth beyond tourism. An example is Krasnolessye, located in the Rominten Forest of the Nesterovsky district. This small settlement, with a population of 298, is home to a guest house, glamping site, eco-historical museum, and chocolate shop. In the Kaliningrad region, 17 small recreational settlements have been identified.

Small rural settlements serving as local inter-settlement centres have developed social infrastructure and provide socio-cultural services to surrounding small settlements. The inter-settlement function may be combined with agrarian, dacha, or recreational functions. These communities often have advantageous transport connections, lying along regional routes that connect municipalities with each other or with the administrative centre. Inter-settlement centres have higher population densities, averaging 353 people, compared to an average of 242 for small settlements. There are 22 such settlements in the Kaliningrad region. An example is the village of Chistye Prudy in the Nesterovsky district, which serves as a transport hub connecting three roads and linking it with 12 neighbouring settlements.

Medium rural settlements functioning as inter-settlement centres have a diverse range of social infrastructure, including all essential facilities. Many of these settlements are important transportation nodes, with some serving as critical hubs within the regional settlement framework. In addition to inter-settlement roles, these communities may have recreational, agro-industrial, and logistics functions, particularly in border areas. There are 27 medium-sized inter-settlement centres in the region.

Large, multifunctional non-urban settlements house populations that are generally not involved in agriculture. These settlements serve as important transportation hubs and often boast a rich historical heritage, making them highly appealing for the development of recreational functions.

Many of these are local administrative centres managing rural territories. These settlements exhibit demographic stability, with a slight increase in population from 14,400 to 14,700 between 2010 and 2024.

Conclusion

The rural settlement system in the Kaliningrad region exhibits significant heterogeneity in its structure and socio-economic development trajectories. The proposed comprehensive typology of rural settlements in the region, based on demographic and functional characteristics, allows for a deeper understanding of each settlement's role within the overall regional settlement system and provides insights into their specific developmental needs.

Suburban settlements are integrated into the socio-economic framework of nearby cities, largely functioning as residential communities. Dacha (agro-recreational) and coastal settlements play a seasonal role, catering to urban residents seeking short-term or recreational stays, which also supports the region's

tourism and leisure industries. Agrarian and agro-industrial settlements continue to fulfil traditional agricultural roles, although they are increasingly supported by various forms of state aid aimed at enhancing agricultural production and food security.

The post-agrarian or agro-depressed settlements, situated in the periphery or in poorly connected areas, face challenges in retaining population and socio-economic functions, thus risking further depopulation. Recreational settlements, by contrast, offer a promising avenue for rural revitalization, as they leverage their natural and cultural resources to attract tourists and establish unique community identities.

Inter-settlement centres, which provide a range of social and cultural services to nearby smaller settlements, are vital hubs in the rural landscape, especially in more remote areas of the Kaliningrad region. These centres are well-positioned to support local population needs and contribute to regional connectivity and socio-economic stability.

The findings underscore the importance of an individualized approach to the development and management of rural settlements. Different settlement types require tailored policies and programs that address their unique demographic, spatial, and functional attributes. For example, post-agrarian settlements may benefit from investment in transport and communication infrastructure to improve accessibility, while recreational settlements might require policies that encourage sustainable tourism practices and support small businesses.

This typology provides a useful tool for local and regional authorities when formulating strategies for rural development. It can help guide decisions regarding infrastructure investments, social services allocation, and economic initiatives that support both traditional and alternative functions of rural settlements. Ultimately, an informed approach to rural settlement management, based on the insights provided by this typology, could contribute to sustainable and balanced socio-economic growth across the Kaliningrad region.

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References

1. Nefedova, T. G. 2018, Factors and trends of the structure of rural settlements in Russia, *Social and economic geography. Bulletin of the Association of Russian Geographers and Social Scientists*, № 7, p. 1—12. EDN: OTZFVP

2. Alexeev, A. I., Safronov, S. G. 2015, Changes in rural settlement patterns in Russia during the late 20th — early 21st centuries, *Vestnik Moskovskogo universiteta. Seriya 5, Geografiya*, № 2, p. 66—76. EDN: UCGNLR

3. Alekseev, A. I., Safronov, S. G., Savockul, M. S., Kuznetsova, G. Yu. 2019, The main trends in the evolution of rural settlement in Russia in the XX — early XXI centuries, *ECO*, № 4, p. 26—49. EDN: FYBUBX

4. Zubarevich, N. V. 2013, Transformation of rural settlement pattern and service network in rural areas, *Izvestiya Rossiiskoi Akademii Nauk. Seriya Geograficheskaya*, № 3, p. 26—38, https://doi.org/10.15356/0373-2444-2013-3-26-38

5. Fedorov, G. M. 2023, Spatial differentiation of rural territories in the Kaliningrad Region: implications for socio-economic policies, *Baltic Region*, vol. 15, №3, p. 117—139, https://doi.org/10.5922/2079-8555-2023-3-7

6. Levchenkov, A. V., Davydenko, A. V. 2021, Rural areas as a peripheral zone: a verdict or potential, *Vestnik of Immanuel Kant Baltic Federal University. Series: Natural and Medical Sciences*, № 4, p. 5—15. EDN: VFWNDD

7. Gumenyuk, I. S., Yustratova, V. O 2021, Transformation of the settlement system in the Kaliningrad region, *Vestnik of Immanuel Kant Baltic Federal University. Series: Natural and Medical Sciences*, № 3, p. 31—41. EDN: JPDFQE

8. Khvalei, D. V. 2023, Small villages of the Kaliningrad region: current state and development prospects, in: *Borderland problems. New trajectories of international cooperation*. Proceedings of the VII international scientific and practical conference, p. 199—206. EDN: BUOWJS

9. Plotnikova, A. P. 2023, Settlement system of the Kaliningrad region: dasymetric analysis, *Vestnik of Immanuel Kant Baltic Federal University. Series: Natural and Medical Sciences*, № 4, p. 38—49. EDN: ROQXPF, https://doi.org/10.5922/gikbfu-2023-4-3

10. Fedorov, G. M., Anokhin, A. Yu., Gumenyuk, I. S., Gumenyuk, L. G., Davydenko, A. V., Kuznetsova, T. Yu., Kropinova, E. G., Levchenkov, A. V., Mikhailova, A. A., Peker, I. Yu., Khvalei, D. V. 2023, *Increasing the value of rural areas in Russia: experience and ways of implementing social innovations in the Kaliningrad region*, Kaliningrad, 253 p. EDN: BVFGCQ

11. Fedorov, G. M., Voloshchenko, K. Yu., Gumenyuk, I. S., Gumenyuk, L. G., Davydenko, A. V., Kuznetsova, T. Yu., Kropinova, E. G., Levchenkov, A. V., Lyalina, A. V., Mikhailov, A. S., Mikhailova, A. A., Peker, I. Yu., Khvalei, D. V., Fidrya, E. S. 2022, *Kaliningrad village at the beginning of the 21st century: production, resettlement, social innovations*, Kaliningrad. EDN: XZXPWR

12. Kovalev, S. A. 2003, *Selected Works*, Smolensk. EDN: QQBWHH

13. Kunitsa, M. N. 2011, Typology of the rural settlements of central Russia: demo-ecological aspect, *Regional studies*, № 3 (33), p. 111—117. EDN: OHLLDN

14. Voroshilov, N. V. 2018, Classification, problems and prospects for rural territory development, *Problems of Territory's Development*, № 4 (96), p. 42—58, https://doi.org/10.15838/ptd.2018.4.96.3

15. Alekseev, A. I., Safronov, S. G. 2017, Typology of rural settlements in the European part of Russia under recent demographic and socio-economic situation, *Vestnik Moskovskogo Universiteta, Seriya Geografiya*, № 6, p. 55—61. EDN: ZXOJPX

16. Prusikhin, O. E., Krutov, O. D., Vorobyov, M. I., Loktionov, K. S., Vepritsky, A. A., Alekseev, A. I. 2023, Multi-scale typology of rural areas in the context of post-Soviet transformations (on the example of the Tambov region), *Russian Peasant Studies*, vol. 8, № 2, p. 64—103, https://doi.org/10.22394/2500-1809-2023-8-2-64-103

17. Skenderi, F. 2019, The typology of rural settlements, *Knowledge — International Journal*, p. 637—641.

18. Drobnjakovic, M. 2019, Methodology of typological classification in the study of rural settlements in Serbia. *Journal of the Geographical Institute Jovan Cvijic*, SASA, vol. 69, № 2, p. 157—173, https://doi.org/10.2298/IJGI1902157D

19. Petrov, K., Borisov, P. 2024, Opportunities to improve the typology and regional development of rural settlements in Bulgaria, *Bulgarian Journal of Agricultural Economics and Management*, vol. 69, № 1, p. 72—88, https://doi.org/10.61308/WHYY2614

20. Zou, Y., Yi, C., Rao, Y., Luo, F., Lv, C., Wu, P. 2023, Identify Optimization Type of Rural Settlements Based on "Production—Living—Ecological" Functions and Vitality: A Case Study of a Town in Northern China, *Land*, vol. 12, № 10, p. 1905. https://doi.org/10.3390/land12101905

21. Putica Džajić, J. 2022, Typology of rural settlements in the West Herzegovina canton, *Geografski pregled*, № 46, p. 41—56.

22. Pustovgarov, V. I., Zhdanov, V. P., Fedorov, G. M. 2001, Economy and settlement of the Kaliningrad region. Economic prerequisites for substantiating the territorial integrated scheme of urban planning for the development of the territory of the Kaliningrad region and its parts, Kaliningrad, KSU.

23. Gumenyuk, I. S. 2024, Typology of rural settlements in the Kaliningrad region according to the degree of provision with social infrastructure facilities, *Economics of Agriculture of Russia,* № 6, p. 91—99, https://doi.org/10.32651/246-91

24. Tkachenko, A. A. 2023, Rural areas: a concept and approaches to typology, *Vestnik Moskovskogo universiteta. Seriya 5, Geografiya*, vol. 78, № 2, p. 3—9, https://doi.org/10.55959/MSU0579-9414.5.78.2.1

25. Makhrova, A. G., Babkin, R. A. 2019, Methodological approaches for Moscow urban agglomeration delimitation based on mobile network operators data, *Regional Studies*, № 2, p. 48—57. EDN: GIGLUP

26. Rumjancev, I. N., Smirnova, A. A., Tkachenko, A. A. 2019, Rural settlements "without population" as a geographical and statistical phenomenon, *Vestnik Moskovskogo universiteta. Seriya 5, Geografiya*, № 1, p. 29—37. EDN: YZNKWT

27. Treivish, A. 2016, The rural-urban continuum: the destiny of the notion and its link to the spatial mobility of the population, *Demographic Review*, vol. 3, № 1, p. 52—70, https://doi.org/10.17323/demreview.v3i1.1763

28. Semenova, E. I., Semenov, A. V. 2021, On the formation of rural agglomerations, *Economics of Agriculture of Russia*, № 1, p. 96—102, https://doi.org/10.32651/211-96

29. Gumenyuk, I. S., Gumenyuk, L. G. 2021, Transport connectivity as a factor in overcoming challenges of the periphery: the case of rural areas in the Kaliningrad region, *Baltic Region*, vol. 13, № 4, p. 147—160, https://doi.org/10.5922/2079-8555-2021-4-8

30. Voloshenko, K. Yu., Morachevskaya, K. A., Novikova, A. A., Lyzhina, E. A., Kalinovskiy, L. V. 2022, Transformation of food self-sufficiency of Kaliningrad Oblast in the face of external challenges, *Vestnik of Saint Petersburg University. Earth Sciences*, vol. 67, № 3, p. 409—430. EDN: DBBVYK, https://doi.org/10.21638/spbu07.2022.302

31. Gumenyuk, I. S., Richter, A. D. 2023, On economic well-being and current measures to support small businesses in agriculture in the Kaliningrad region, *Vestnik of Immanuel Kant Baltic Federal University. Series: Natural and Medical Sciences*, № 2, p. 46—59. EDN: JYXQYY, https://doi.org/10.5922/gikbfu-2023-2-4

32. Fedorov, G. M., Kuznetsova, T. Yu. 2022, Rural population change and settlement patterns in the Kaliningrad region in 1991—2021, *Vestnik of Saint Petersburg University. Earth Sciences*, vol. 67, № 4, p. 733—748. EDN: EGKJEC, https://doi.org/10.21638/spbu07.2022.410

The authors

Dr. Ivan S. Gumenyuk, Associate Professor, Immanuel Kant Baltic Federal University, Russia.

E-mail: IGumeniuk@kantiana.ru

https://orcid.org/0000-0002-8477-5342

Dr. Lidia G. Gumenyuk, Associate Professor, Immanuel Kant Baltic Federal University, Russia.

E-mail: LOsmolovskaya@kantiana.ru

https://orcid.org/0000-0002-6186-350X

ADAPTATION OF THE TERRITORIAL ORGANISATION OF AGRICULTURE IN A PERIPHERAL REGION TO THE OPERATIONS OF AGRICULTURAL HOLDINGS

K. A. Morachevskaya [1, 2]
E. A. Lyzhina [1]
A. B. Sebentsov [1]
M. S. Karpenko [1]

[1] Institute of Geography, Russian Academy of Sciences, 29 Staromonetny Pereulok, Moscow, 119017, Russia
[2] Saint Petersburg State University, 7—9 Universitetskaya Nab., Saint Petersburg, 199034, Russia

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Agricultural holdings are often cited as the main beneficiaries, on the one hand, of organisational and structural changes in Russian agriculture during the post-Soviet period, and on the other, of the transformation of state policy in response to contemporary geopolitical challenges. This paper examines the adaptation of the territorial and sectoral structure of agriculture in a socioeconomically peripheral region in response to the expansion of agricultural holdings. This study draws on official statistical data, the SPARK database, resources from the VetIS Federal State Information System, the Unified Federal Information System on Agricultural Land, and the authors' extensive field research. The study demonstrated that the operations of agricultural holdings can completely transform the agricultural profile of a non-Chernozem region with a declining population in terms of specialisation and organisational structure, leading to economic recovery in agriculture. The example of the Pskov region illustrates how the expansion of agroholding assets is swiftly extending into peripheral areas with abundant land and low rural population density. The interviews confirmed that livestock agricultural holdings, primarily those specialising in pork production, benefit from the social desertification of rural areas. This is accompanied by a further weakening of rural community economies, as livestock and poultry have completely disappeared from private and subsistence farms. The new pork production specialisation in the Pskov region has, as expected, led to other changes in agriculture, including an increase in grain farming. While production volumes have risen, new territorial centres have not emerged.

Keywords:
agriculture, adaptation, Pskov region, food embargo, sanctions, spatial compression

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Introduction and problem statement

The policy of many countries with regard to the development of agriculture and food production is frequently expressed in terms of the application of general incentives. In terms of geography, these policies tend to be most effective in areas with favourable conditions for agriculture or in proximity to large urban agglomerations. From an organisational perspective, incentives have the greatest positive impact on the development of major players in the food market. Consequently, the scope of their expansion extends beyond the boundaries of the most appealing regions for agriculture and food production, frequently precipitating a notable transformation of peripheral areas [1].

The resurgence of agricultural production in Russia during the 2000s was accompanied by a gradual shift toward the south. Conversely, in numerous areas of the non-chernozem region, the decline persisted, accompanied by significant demographic losses [2]. This was largely due to agricultural holdings, which, according to Barsukova [3], constituted an "unexpected result" of the Russian agrarian reform of the 1990s. They were the principal beneficiaries of the shifts in the external and internal trajectories of the country's development. The sharp devaluation of the rouble, which occurred after the 1998 crisis and was subsequently repeated in 2008, 2014—2016, and 2022—2024, created an opportunity for profitable investment in production oriented both towards the export market and the domestic market with the aim of replacing expensive imports. The close ties between agricultural enterprises, regional and even federal authorities enabled them to amass a considerable portion of state support for agricultural production.

It is estimated that Russia's accession to the WTO in 2012 resulted in a significant reduction in state support for agricultural production. This was associated with several reductions, such as a reduction in tariffs and tariff quotas, a reduction in opportunities to manipulate phytosanitary restrictions, and a reduction in direct financial support to producers and exporters.1 It was anticipated that the animal husbandry sector would encounter the most significant challenges, prompting the government to prioritize supporting its various branches [4].

The geopolitical crisis of 2014, in conjunction with Western sanctions and the Russian response to them, created conditions conducive to circumventing WTO rules and regulations. Imports of agricultural products from the EU and several other countries were subject to restrictions, while financial and organisational support for domestic agriculture was increased. The establishment of agroholdings played a pivotal role in expediting import substitution and fostering the growth of export capabilities. However, their operations have also given rise to concerns regarding the potential risks they pose to farmers and citizens' personal assets, as well as to rural communities in general according to some estimates [2].

[1] WTO norms and rules in the field of agriculture and development of the Russian agro-industrial complex, Centre for the Study of Customs Tariff and Non-Tariff Regulation, FAO, 2013, 24 p.

It is important to note that the development of economic sectors in border regions has consistently been approached in the context of the functions of these regions. It is not merely an outpost; it is also a zone of contact and transit, a locale where export flows are formed, and a 'showcase' that exemplifies the success [5] of the state. However, in border regions such as the Pskov region, the negative trends in agriculture and rural population decreases were more pronounced than in other regions of the non-chernozem region. The factors of peripherality, intense competition from neighbouring regions whose agriculture was subsidized by national and, in the case of the Baltic countries, supranational authorities and the rapid decline in rural populations all had an impact.

Since the mid-point of the 2000s, and particularly following 2014, agroholdings have assumed an increasingly prominent role in numerous border regions. They have facilitated the emergence of new specializations, the development of new interregional links and the creation of new industrial enterprises, including those oriented towards export. Prior research in other border regions has demonstrated the varied impact of such developments on the sustainability of local communities, food security challenges [6], and cross-border practices of the local population [7].

The objective of this study is to evaluate the impact of sanctions and restrictions on agricultural production in the Pskov region and to examine the relationship between the expansion of agricultural holdings over the past decade as well as the evolving structure of the regional agricultural sector.

Literature review

An agroholding can be defined as a group of agricultural organisations whose controlling shares are held by a holding (management) company [8]. In this instance, the management company exercises control over several agricultural, processing and other enterprises, each of which is a distinct legal entity with a unique legal form. Agroholdings are a distinctive form of a business entity that is confined to a limited number of geographical regions worldwide. This form of agribusiness organisation is most prevalent in Eastern Europe, Latin America (Brazil, Argentina), Australia, China, as well as in the post-Soviet countries (where it is of particular significance in Russia, Ukraine and Kazakhstan) [9; 10]. The concept of *agroholding* is open to a number of different interpretations in the academic literature. It is important to note that the legal concept of agroholding does not exist.

The term *agroholding* is used to describe a specific form of farm organisation as defined by numerous economists [11; 12]. The enterprise is constructed according to the specific type of holding, which represents a set of management organisations and subsidiaries. A further defining feature is the concentration of land rights. There is no consensus among researchers regarding the minimum size of agricultural holdings. Some researchers are guided by relative parameters [13], while others propose specific criteria. Accordingly, in the work of Hermans and colleagues, the typical size of agroholdings is 500,000 hectares [9]. Grulier

posits that the typical agroholding exceeds 27 thousand hectares in size [14]. In contrast to the prevailing approach, Shagaida and Uzun determine the size of an agroholding not by the area of the controlled land, but by the income of the enterprises [15—17]. In accordance with the regulatory legal acts on small and medium-sized enterprises, the authors put forth a lower limit for the total revenue of the agroholding [16, 18], which is set at approximately 20 million USD. It is not always the case that academic economists refer to agroholdings as vertically integrated units. Some authors posit that the presence of assets in the agricultural sector is the sole criterion for identifying agroholdings. In the literature on international agricultural economics, agroholdings are regarded as both horizontally and vertically integrated enterprises [9, 13, 19]. It is also noteworthy that the majority of authors highlight the unfeasibility of contractual relations within this organisational structure.

Some geographers adopt an approach similar to that of economists, viewing agroholdings as a distinct form of business organisation [20—22]. However, this perspective is not widely embraced within the field. In contrast, a more common approach is to consider vertical integration and the coverage of several economic sectors, including farming, processing and trade as the primary factors of interest [23—25].

In general, two distinct approaches to the definition of agroholdings can be identified. The first approach is economic, wherein the agroholding is conceptualized as an 'umbrella system' delineating between the integrator enterprise and the subsidiary organisations. In this approach, the structure and size of the enterprise (which is not clearly defined, with the definition based on the total turnover of the groups of enterprises and the area of land owned by the enterprise) are of greater importance than the profile of the enterprise's activities (an agroholding can either be involved only in agricultural activities or integrate the entire production chain). The second approach is economic-geographical. The distinguishing feature of an agroholding is the composition of its assets, which should encompass the entire production chain from field to consumer.

In light of the pivotal role that such enterprises play in shaping the territorial organisation of agricultural production, this article adopts a comprehensive definition of agroholdings. In addition to encompassing traditional holding-type organisations with assets in agriculture, the term is also used to refer to large, corporate, vertically integrated structures with a complete food production chain.

The evolution of agricultural holdings and the reinforcement of their contribution to agricultural production have resulted in a notable transformation in the territorial organisation of agricultural production. The existing literature on the main territorial shifts in agricultural production only partially examines the role of agricultural holdings in these transformations. They are predominantly presented in the form of individual case studies of the largest farms at the national or regional level. In general, the agricultural assets of agricultural holdings, irrespective of the type of integrator enterprise, are situated in close proximity to major markets

and regions with a concentration of labour and natural resources [24; 26; 27]. Furthermore, the agricultural assets of agricultural enterprises are frequently developed in the vicinity of the most profitable farms in the southern region of the country [28]. At the regional level, the availability of developed infrastructure has become a significant factor influencing the proliferation of farms. As a consequence of the limited number of territories that meet the aforementioned conditions, the concentration of agricultural activities of farms occurs in a restricted number of regions. This is particularly significant with regard to the production of high-margin products, including pig meat, poultry and plant products [29]. Moreover, agricultural holdings disrupt the production process, with the production of animal products concentrated near major markets and the harvesting of fodder occurring in areas with optimal agroclimatic conditions [26; 27].

It is important to note that the activity of agricultural holdings at the regional level does not undergo radical changes; however, it does result in a notable alteration to the territorial organisation of agricultural production, thereby accelerating the processes of polarization [27]. Furthermore, the influence of agricultural holdings on the organisational structure of production and sectoral specialisation is considerable. Consequently, with the advent of agricultural enterprises in the region, a growing proportion of agricultural output is concentrated in the hands of agricultural organisations [23]. Simultaneously, the number of small farms is in decline [30] with those that remain diversifying their activities to encompass a greater range of sectors [27]. The activity of large farms results in the displacee ment of traditional specializations both at the level of individual districts and across entire regions [30].

The majority of studies on foreign farms concentrate on the efficiency of agricultural production in such formations [31, 32]. A further area of investigation concerns the relationship between agricultural production and land use conflicts as well as the question of food security [33].

The question of the relationship between sanctions policy trends in agricultural production and the expansion of agroholdings has yet to be adequately addressed in academic literature. The relative closure of the main players in the agricultural market has an impact on this relationship. Nevertheless, some studies suggest that following 2014, the support of agroholdings became a de facto priority for the authorities, with these entities exhibiting a high degree of dependence on this support [13]. Some studies characterize agroholdings primarily as beneficiaries of the sanctions policy, which enabled them to occupy the vacated niches, significantly expand production and even export their products to other countries [3]. Other studies, especially those published after 2022, concentrate on the potential issues facing agricultural holdings and the wider domestic agro-industrial complex, including dependence on supplies of Western machinery, breeding and genetics, pesticides and other inputs. It is emphasized that agricultural enterprises are particularly dependent on international cooperation, and thus their regions of presence will be particularly susceptible to the effects of sanctions. Conversely, this form of agriculture displays considerable potential for adaptation driven by preferential loans and a range of state-sponsored support programmes [34].

A paucity of studies has been dedicated to the examination of alterations in the territorial configuration of agricultural production, particularly within the Pskov region. Kleimenov conducted a historical analysis of the post-Soviet transformation of the region's agro-industrial complex. He demonstrated that the reduction in the population's income during the 1990s and the first half of the 2000s, which resulted in a decline in consumption of milk and meat products, prompted a reorientation of food production towards the larger markets of Moscow and St. Petersburg. During this same period, there was a notable shift towards the utilization of imported raw materials, including milk powder and frozen meat. In the 2010s, the growth of household incomes, an increase in demand for dairy and meat products among the residents of the Pskov region, as well as the reduction of domestic production of raw milk and meat, led to the necessity for large combines to form their own raw material base. This was exemplified by the formation of the Velikoluksky Dairy Plant, the Velikoluksky Meat Processing Plant and the Pskov Meat Plant [35].

It is often the case that the activities of agroholdings in peripheral areas are related to the objective of achieving food self-sufficiency [36]. Nevertheless, it is more frequently the case that the support of local farming is regarded as a means of peripheral development, particularly in European countries. In any case, an examination of peripheral areas as a setting for the activities of diverse actors in the agrifood sector is a topic of significant interest [37, 38].

Data and methods

The work is based on an analysis of official data from the Federal State Statistics Service of Russia and its territorial division for the Pskov region, data from the North-West Customs Department of Russia, and reports from the company "Agroexport" on the export of agricultural products. Furthermore, as Russia does not maintain statistical records on agricultural holdings, we devised our own methodology for data collection on the territorial distribution of assets of agricultural holdings which was then tested on the materials of the Pskov region. In the initial phase, a register of agroholdings was compiled using the SPARK database of companies as a reference point. Subsequently, a list of agricultural assets was determined for each company using data from the FGIS VetIS, and their location and activity profile were established. Subsequently, data from additional sources, including the Unified Federal Information System on Agricultural Land and Google Earth, were employed to ascertain the construction dates of the requisite agricultural assets for the purpose of analyzing the territorial expansion of the holding company.

The interpretation of the data was informed by the authors' long-term field research in the Pskov region, which included expert interviews with government officials, agricultural producers and processors conducted in 2016—2017, 2021 and 2024 in Pskov, Velikiye Luki, Porhov, Pechory, Nevel, Sebezh, Gdov, Pushkinskiye Gory and surrounding areas.

Results and discussion

Dynamics of agricultural development

The crisis of agricultural production observed in the Pskov region after 1991 was particularly pronounced when compared to other regions of the non-chernozem region. By the end of the Soviet era, the region had developed a specialization in dairy and meat cattle breeding and flax farming. Before flax, grain legumes, potatoes and forage crops (such as lucerne and clover) were included in crop rotation to add nitrogen to the soil. These crops were also valuable lactogenic fodder for dairy herds. In the 1990s, dairy cattle breeding and flax farming encountered significant financial challenges struggling to compete with similar industries in neighbouring Belarus, where agricultural enterprises, the food and light industries were subject to active state subsidies. By 1995, agricultural output had fallen to a level that was approximately 50 % of the 1991 figure. In 2000, agricultural output reached a mere 42 % of the 1991 level. The decline in output slowed, but did not halt.

The initial indications of a stabilization in the sector emerged during the 2007—2009 period. However, the overall decline in agricultural production persisted (Fig. 1). The 2010s marked a turning point with the trend finally shifting from negative to positive. It is noteworthy that the total agricultural production in 2022 was approximately double that of 2014, yet remained 65 % of the level recorded in 1991.

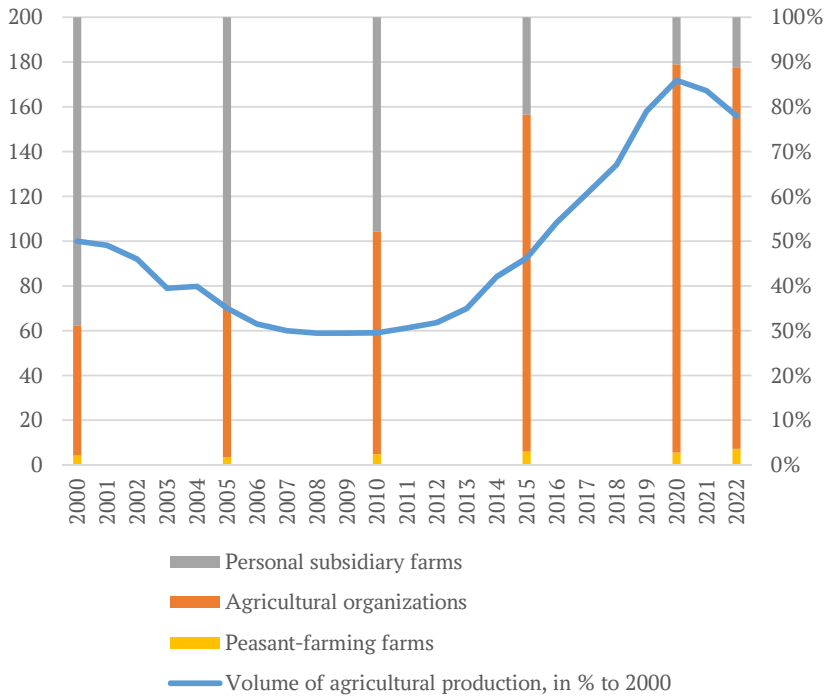

Fig. 1. Dynamics of the total volume and organisational structure of agricultural production in the Pskov region from 2000 to 2022, %

The changes were associated with a radical restructuring of the organisational structure of the industry. In 1995, agricultural organisations reduced production by 65 %, while household farms saw a 35 % reduction. The only sector to demonstrate growth was nascent peasant-farming farms (PFF), which increased production by a factor of three. This was largely attributable to the deterioration of the collective farm system. In the 2000s, personal subsidiary farms (PSF) owned by private citizens accounted for 69 % of agricultural output, while agricultural organisations were responsible for no more than 30 %.

The unfavourable demographic situation in the region has contributed to a significant degradation of rural settlements, which has led to a rapid decline in production in household farms with a reduction of 8—10 % annually. In 2010, PFF accounted for approximately 3 % of production, with the remainder produced by agricultural organisations and household farms in roughly equal proportions.

Following the 2010 period, the majority of production growth was driven by agricultural organisations. The average growth rate for the period 2010—2013 was approximately 4.5 %, while the subsequent period (2014—2020) saw a notable increase to just under 14 %. This equates to a rate of slightly less than 14 %. By 2016, agricultural organisations had already surpassed their 1991 production volumes, and by 2020, they are expected to have doubled those figures. During the post-Soviet period, there was a 6.7-fold increase in production by farms, a 1.9-fold increase by agricultural organisations, and a more than 10-fold decrease in production by household farms. Consequently, in 2022, 85 % of production was attributable to agricultural organisations, 11.3 % to household farms and only 3.6 % to private farms.

The substantial alterations in the configuration of agricultural production across categories of farms were accompanied by notable shifts in the ratio and magnitude of output within the principal branches of the agricultural sector.

In the 2000s, the primary driver of growth was pig breeding. Since 2000, the number of pigs has increased by 14.7 times, with the majority of this growth occurring after 2011 (Fig. 2). Since the year 2000, the production of livestock and poultry for slaughter has increased by a factor of eight and a half, with a notable acceleration in the growth rate occurring after 2014.

In contrast, the number of cattle was observed to decline rapidly (Fig. 3). Since the year 2000, the number of cattle has decreased by a factor of three, with a 27 % reduction observed by the year 2014. A comparable pattern was observed in the dairy herd. However, the impact of the neighbouring St. Petersburg and Leningrad region business sector on the structure of the agro-industrial complex, coupled with a favourable situation in the dairy sector due to the food embargo in 2014, manifested itself in the establishment of new dairy farms. Consequently, there was a notable increase in efficiency, particularly in light of the significant growth in milk yields since 2000 (4.4 times). The total volume of milk produced was 8 % higher than in 2014, representing 65 % of the level recorded in 2000.

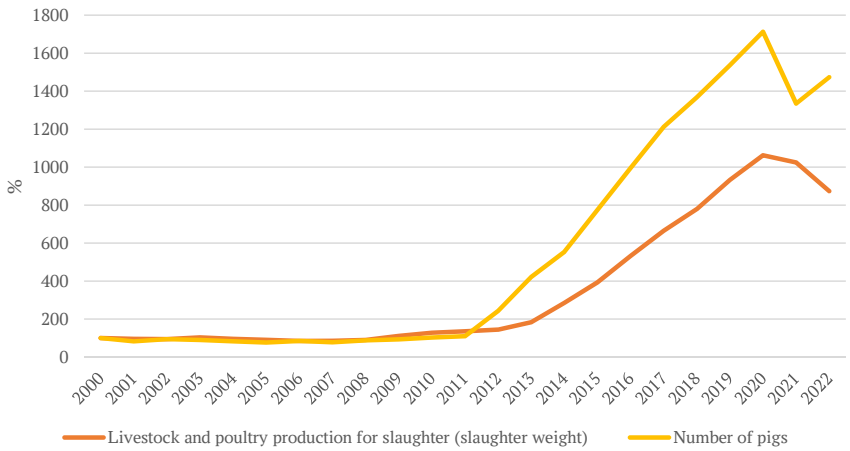

Fig. 2. Dynamics of the number of pigs and production of livestock and poultry for slaughter, % to 2000

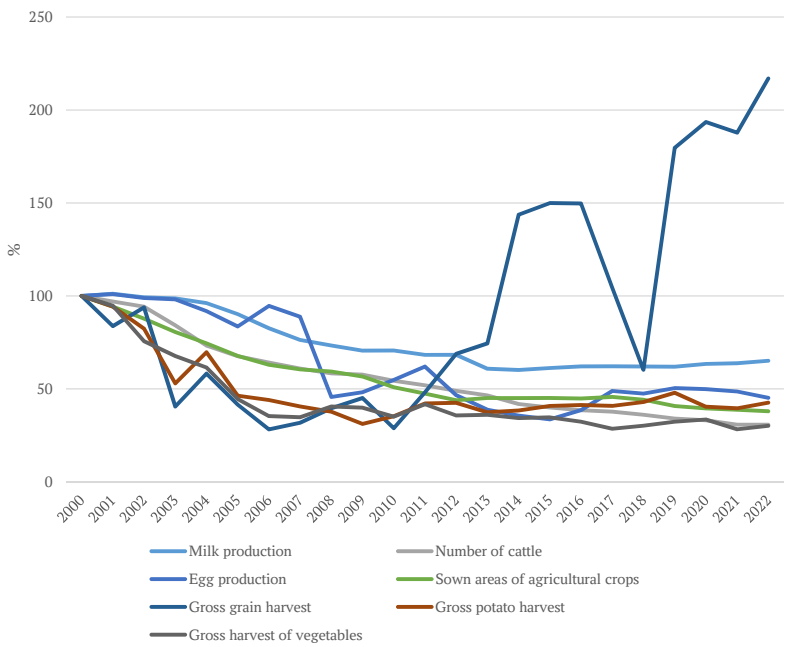

Fig. 3. Dynamics of main indicators of agricultural production, % to 2000

The region was experiencing a decline in egg production. The period of slight growth that commenced in 2017 was primarily attributable to the production of hatching eggs at the breeding farm “Naziya” (see Fig. 3).

A challenging scenario was observed in crop production, with the size of sown areas decreasing by a factor of 4.3 since 1990, including a 16 % reduction in the period since 2014. Concurrently, their structure has undergone minimal alteration since the early 1990s. As was the case previously, the dominant crops are fodder

crops (65 % in 2020) and cereals (23 %, predominantly wheat). Approximately 10 % of the total area is devoted to potato cultivation. The proportion of land devoted to technical crops remains at 7 %, although the cultivation of rapeseed has replaced that of flax.

Notable positive developments occurred in the grain sector following 2010. There has been a substantial increase in production volumes. Concurrently, there has been a notable increase in yields, with a 2.6-fold rise since 2010 and a 3.7-fold rise since 2000.

In one of the historically significant agricultural sectors in the region, namely potato cultivation, the proportion of private subsidiary farms has consistently been high (93 % in 2000). However, despite this, production volumes between 2000 and 2022 exhibited a decline of 2.3 times the initial figure. Nevertheless, following 2014 there were periods of growth. In 2022, the proportion of household farms fell below 50 %. Crop yield has increased by 1.4 times since 2014 (1.9 times since 2000).

The gross harvest of vegetables remained virtually unchanged; however, the proportion of the population engaged in their production declined from over 90 % in 2000 to 56 % in 2022. Concurrently, the proportion of agricultural organisations increased from 9 % to 30 %, yet this had no impact on yields.

The changes that have occurred in the agro-industrial complex sector have had a discernible impact on the structure of the region's foreign trade. The Pskov region has historically demonstrated a relatively limited export potential with its share in the total volume of Russian exports declining from 0.16 % in 2005 to 0.05 % in 2021. However, since 2010, there have been notable changes within the region in both the volume and structure of exports. The analysis of export supplies from the Pskov region revealed a notable increase in the value of food groups of goods and agricultural raw materials, timber and wood products from 2010 to 2021. The export of food products exhibited a particularly pronounced growth rate, increasing by a factor of 6.8. There was a notable shift in the ratio of key export commodities between 2010 and 2021. The proportion of wood processing in the region's exports has increased by 1.5 times since 2010 (from 18.3 % in 2010 to 27.3 % in 2021), while the proportion of food and agricultural raw materials has increased by 1.6 times (from 12.9 % in 2010 to 21.2 % in 2021). In contrast, the proportion of machinery and equipment has decreased by 4.2 times (from 51.3 % in 2010 to 12.2 % in 2021). Therefore, the export of food and agricultural raw materials from the Pskov region demonstrated the most favourable growth dynamics in comparison to other categories of goods exported.

During the period between 2010 and 2014, dairy products constituted a substantial proportion of the export structure. From 2012 to 2018, a considerable proportion of the products exported from the Pskov region were fish products, specifically fresh fish fillets and canned fish. On average, these products accounted for approximately 50 % of the total exports during this period. Since 2016, the proportion of meat products (fresh, chilled, frozen pork, sausages) in exports

has been increasing annually. From 2019, this category has accounted for the majority of exports (43 %, or $ 18.7 million). Furthermore, fish products are not only losing ground in terms of their relative importance in the export structure, but are also declining in absolute terms. The data for 2021 indicate that the share of the meat sector (production of chilled, frozen and fresh pork) represents 55 % (USD 31 million) of the total export structure of the Pskov region.

Such shifts have prompted a reorientation in the foreign supply of agricultural products, moving away from close ties and toward more distant ones. Consequently, while the share of European countries' food exports (in particular the Baltic states) exceeded 80 % during the period 2010—2013, this figure will fall below 20 % on average over the 2019—2022 period. In recent years, Vietnam, China and Kazakhstan have emerged as pivotal countries in the context of foreign food exports.

The alteration in the composition of exports serves to illustrate the shift in the agricultural profile of the region. The production of export foodstuffs (pork products) is based on local raw materials, with the number of pigs on the farmstead increasing in line with the growth of this raw material base.

Consequently, the key factors influencing the transformation of the agricultural profile of the Pskov region since the 2010s have been large-scale depopulation, changes in external and internal market conditions, the transformation of the volume and principles of state support of the agro-industrial complex and demand factors, including from St. Petersburg. These factors have resulted in the region becoming one with a pronounced pork specialization accompanied by a moderate growth in the gross harvest of grain crops.

The geographical distribution of agroholdings in the Pskov region

The radical restructuring of the organisational structure of agricultural production in the 2000s and 2010s, which saw the ascendance of agricultural organisations, was primarily due to the activities of agricultural holdings. The experts interviewed highlighted that the success of agricultural holdings is largely attributable to the fact that these organisations, given their scale, possess superior knowledge about the types and modalities of state support, which they leverage to develop well-informed strategies for their own growth and development. For instance, the support structure for pork, beef, and poultry meat underwent significant shifts between 2010 and 2020, aligning with the evolving availability of these commodities.

As evidenced by the data for 2024, there are nine agricultural holdings operating within the Pskov region (Table 1). These structures are predominantly vertically integrated. Only two holdings adhere to the principle of horizontal integration of assets. These are the group of companies "Nortagra" (crop production) and the group of companies "Idavang Agro" (pig breeding). Among the agricultural holdings, there are both regional ones whose assets are concentrated solely within the Pskov region (the Velikoluksky Meat Processing Plant group of

companies, the Kabosh group of companies, and the PskovAgroInvest group of companies) and interregional ones, some of which span multiple regions within the European part of Russia.

Table 1

List of agricultural holdings operating in the Pskov region

Agroholding	Location of assets
Velikoluksky Meat Processing Plant	Pskov region
Naziya	Leningrad and Pskov regions
Kabosh	Pskov region
PskovAgroInvest	Pskov region
Idavang Agro	Pskov and Leningrad regions
A-1 first genetic company	Vologda region, Krasnodarsky krai, Ryazan region, Pskov region
Terra Nova	Saint Petersburg; Leningrad, Samara and Pskov regions
Nortagra	Kaliningrad and Pskov region
Laktika	Saint Petersburg; Leningrad, Novgorod and Pskov regions

The specific areas of specialization among agricultural holdings exhibit considerable diversity. The majority of these agricultural holdings operate within the dairy sector. Three holdings are involved in pork production, while one each is involved in poultry and crop production. The majority of agroholdings possess their own land assets, which are primarily utilized for the cultivation of fodder crops.

The distribution areas of the agroholdings are located in 18 out of the 24 districts of the Pskov region (Table 2). Two regional agroholdings are distinguished by their extensive territorial coverage. The Velikoluksky Meat Processing Plant is represented in eight municipalities of the Pskov region, while the Kabosh Group of Companies has a presence in six municipalities. The agricultural assets of these holdings are situated in a relatively concentrated manner, particularly in the southern, western, and eastern regions of the region.

Table 2

Location and asset type of agricultural holdings in the Pskov region

District	Agroholding	Type of assets
Bezhanicy district	Kabosh	Land plots, dairy farms, elevator
Velikiye Luki district	Velikoluksky Meat Processing Plant	Pig farms
	Kabosh	Land plots, dairy farms
Gdov district	A-1 first genetic company	Land plots, dairy farm
Dedovichi district	Terra Nova	Land plots, dairy farm
Krasnogorodsk district	Velikoluksky Meat Processing Plant	Land plots, pig farms

The end of Table 2

District	Agroholding	Type of assets
Kunja district	Velikoluksky Meat Processing Plant	Pig farms
	Kabosh	Land plots, dairy farms
Loknja district	Kabosh	Land plots
Nevel district	Velikoluksky Meat Processing Plant	Land plots, pig farms, feed mill
Novosokolniki district	Velikoluksky Meat Processing Plant	Land plots
	Kabosh	Land plots, dairy farms
Opochka district	Velikoluksky Meat Processing Plant	Pig farms
	Idavang Agro	Land plots
Ostrov district	Idavang Agro	Land plots, pig farms
	Nortagra	Land plots
	Laktika	Land plots, dairy farms
Palkino district	Idavang Agro	Land plots, pig farms
	PskovAgroInvest	Dairy plant
	Terra Nova	Land plots, dairy farms
Porhov district	Laktika	Land plots, dairy farms
	PskovAgroInvest	Pig farms, meat processing plant, elevator
Pskov district	Idavang Agro	Land plots
	Naziya	Land plots, poultry farm
	PskovAgroInvest	Land plots, dairy farms, pig farms, meat processing plant
Pytalovo district	PskovAgroInvest	Land plots, dairy farms
Usvjaty district	Velikoluksky Meat Processing Plant	Pig farms
Velikiye Luki	Velikoluksky Meat Processing Plant	Meat processing plant
	Kabosh	Land plots, dairy plant
Pskov	Naziya	Land plots
	PskovAgroInvest	Elevator

The assets of the PskovAgroInvest Group are situated in four municipalities, with agricultural assets confined to three districts in the vicinity of Pskov (namely, Pskov, Porhov, and Pytalovo districts).

Both the agroholdings whose enterprises are located in the North-Western Federal Local and the federal agroholdings, endeavour to concentrate their assets within a single municipality of the Pskov region. Consequently, the spatial organisation of agroholdings' activities is characterized by a high degree of concentration. With the exception of Idavang, the majority of "non-regional" agroholdings are situated within a single municipality. The specificities of their geographical positioning result in minimal spatial overlap between the activities of the agroholdings.

In terms of both revenue and the number of assets, the largest agricultural holding in the Pskov region is the Velikoluksky Meat Processing Plant (Table 3). Its revenue is 13 times greater than that of its nearest competitor.

Table 3

Revenue volume of agricultural holdings in 2023

Agroholding	Total revenue, ths. USD	Revenue of companies with assets in the Pskov region, ths. USD
Velikoluksky Meat Processing Plant	1 044 706	1 044 706
Kabosh	79 270	79 270
Naziya	41 377	41 377
PskovAgroInvest	27 689	27 689
Idavang Agro	54 974	16 824
Terra Nova	28 777	6398
A-1 first genetic company	20 874	4805
Laktika	76 050	1416
Nortagra	4514	381

The analysis of the open data of the Ministry of Agriculture of Russia on the provision of subsidies to borrowers applying for soft loans over a number of years demonstrates that subsidies under this measure of support in the Pskov region are distributed among legal entities that are part of the Velikoluksky Meat Processing Plant, with a subsidy rate of 30 % or more. We will now undertake a more detailed analysis of the asset allocation of this holding and its impact on the territorial and sectoral structure of agricultural production.

Impact of asset allocation of Velikoluksky Meat Processing Plant Group on the territorial and sectoral organisation of agricultural production

The Velikoluksky Meat Processing Plant Group was established in the 2000s, although its principal period of expansion occurred during the 2010s. The group's core business is pig farming, but its activities also encompass the cultivation of grain crops and the production of mixed fodder. Furthermore, the holding encompasses its own trading network and a transport and logistics complex. The organisational structure is represented by two principal companies. The OJSC Velikoluksky Meat Processing Plant and interrelated entities LLC VSGC and LLC Velikoluksky Pig Breeding Complex, OJSC, are engaged in agricultural activities and the production of mixed fodder.

The company's assets include 56 pig farms situated in six districts of the Pskov region: Velikiye Luki, Krasnogorodsk, Kunja, Nevel, Opochka and Usvjaty districts. The construction of agroholdings commenced in 2012 in the Nevel district, subsequently relocating to the Usvjaty and Velikiye Luki districts in the mid-2010s. This relocation occurred gradually in a south-eastern direction. In 2019, the agroholding expanded its operations to the west of the region, establish-

ing assets in Krasnogorodsk and Opochka districts. Concurrently, the agroholding persists in its endeavours to expand its operations in the southern reaches of the region (Fig. 4).

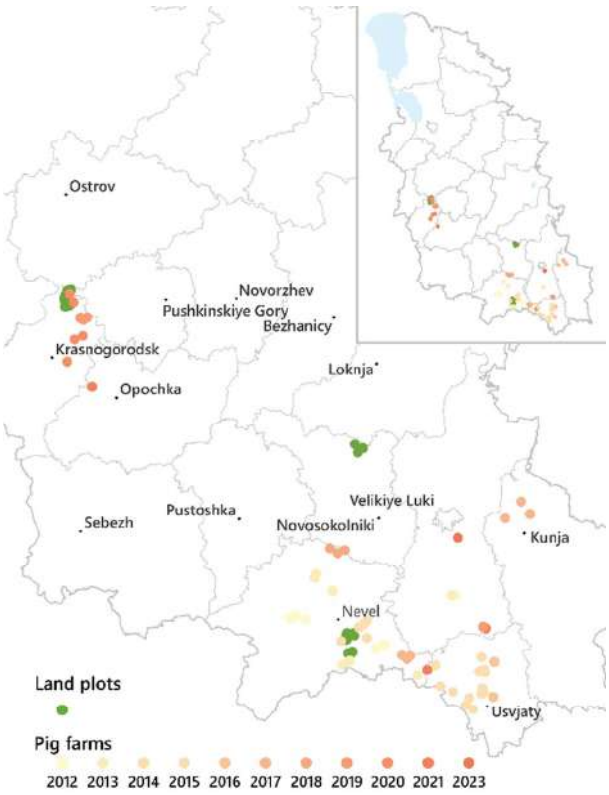

Fig. 4. Dynamics of asset distribution of the Velikovluksky Meat Processing Plant group of companies

Furthermore, the holding company possesses 31 land plots, with a collective area of over 3,500 hectares, which are designated for the cultivation of grain crops. This indicates that, in addition to its own fodder production, the company procures either finished fodder from other producers or grain for the manufacture of its own mixed fodder. The company's acreage is situated in three districts of the Pskov region in close proximity to pig farms: Krasnogorodsk district (in the vicinity of the villages of Dyatlovo and Kotyaty), Novosokolniki district (in the vicinity of the village of Gorozhane) and Nevel district (in the vicinity of the villages of Dubishche and Tychkino). The total area sown in each district is approximately equal, amounting to more than 1,000 hectares in total.

The results of our expert interviews have repeatedly confirmed that one of the key problems facing agriculture in peripheral areas is the lack of available labour. Furthermore, in existing small agricultural organisations, wages are often low and uncompetitive in comparison to other sectors, such as trade. The situation in agriculture in areas where agroholdings seek to expand has been characterized

by a number of experts as the "extinction of traditional farming". The majority of employees on farms that are part of a holding company receive a satisfactory remuneration package.

The location of transport routes in relation to the settlement centres is also a factor, as agroholdings frequently utilize personnel transport from nearby urban centres. This is due to the rapid depopulation of rural areas and the frequent absence of personnel who are both able and willing to work. A comparison of the Velikoluksky Meat Processing Plant Group's asset location map with the transport framework of the territory also indicates that the company is focused on convenient logistics. To illustrate, in the Nevel district, a considerable proportion of the workforce at pig farms is sourced from outside the district, with personnel arriving daily from Velikiye Luki, for instance. As indicated by the experts consulted, both qualified personnel and some rank-and-file staff are also recruited from Belarus.

The Pskov region is a territory characterized by notable disparities in the level of agricultural development across its constituent districts. The discrepancy in production volumes between the leading and lagging districts is more than one hundredfold. The process of territorial contraction of agricultural production in the Pskov region was accompanied by the formation of two isolated growth poles of the industry, one centred on Pskov and the other on Velikiye Luki. This coincides with the concentration of assets of the largest market players, the main of which is the Velikoluksky Meat Processing Plant.

The primary territorial shift in agricultural production in the Pskov region is clearly correlated with the aforementioned replenishment of assets of the Velikoluksky Meat Processing Plant (see Fig. 4, 5). In 2010 this district was one of the most underdeveloped. By the end of the decade, Nevel and Usvjaty districts had become the leading districts in terms of agricultural production in the region. Furthermore, the Krasnogorodsk, Kunja and Velikiye Luki districts also demonstrated a notable increase in the volume of agricultural production. It can therefore be concluded that the principal alterations to the territorial configuration are attributable to shifts in the livestock sector.

Additionally, the Pskov region has shown a trend of increased production, although this has been accompanied by a significant decline in its contribution to the overall dynamics of the region's total agricultural output. The PskovAgroInvest agroholding, situated in this region, is not comparable in terms of scale and pace of development with the Velikoluksky Meat Processing Plant.

The situation with regard to crop production is somewhat distinct (Fig. 6). The districts of Ostrov, Palkino and Pytalovo demonstrate the most pronounced rates of growth. These districts account for approximately 15 % of the total crop production in the region. In the districts where the grain and fodder crops of the Velikoluksky Meat Processing Plant are situated, no notable alterations have been discerned given that the extent of the company's cultivated land is not particularly extensive.

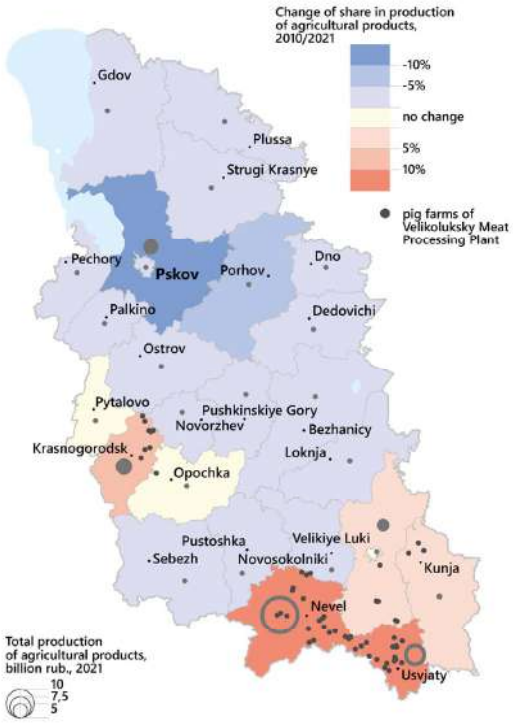

Fig. 5. Dynamics of agricultural production in 2010—2021

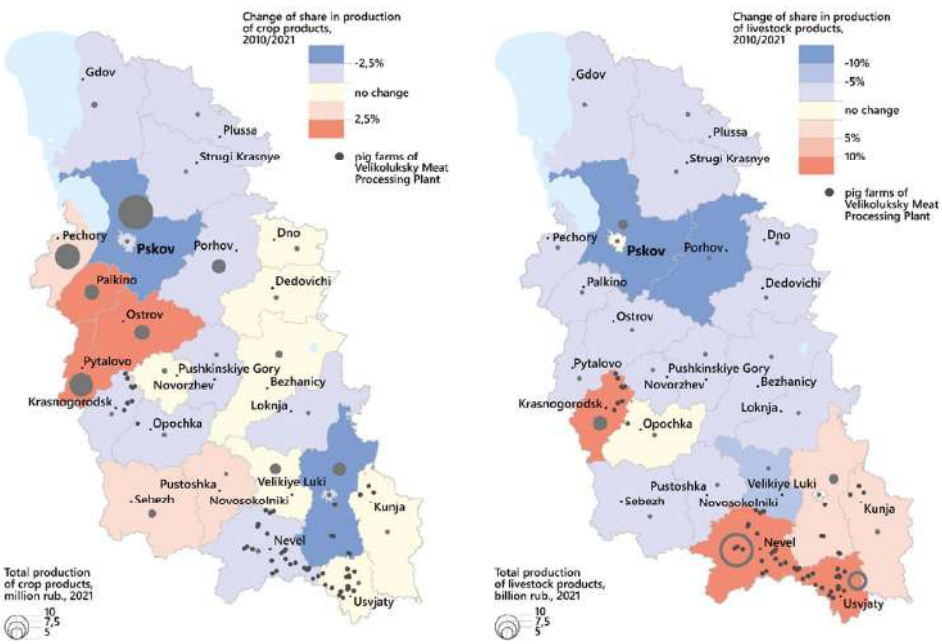

Fig. 6. Dynamics of crop and livestock production in 2010—2021

Notable alterations were observed in the production of livestock and poultry intended for slaughter (Fig. 7), particularly in the Krasnogorodsk, Opochka, Nevel, Velikiye Luki, Kunja and Usvjaty districts, which serve as focal points for the concentration of pig-breeding facilities associated with the Velikoluksky Meat Processing Plant. The establishment of such a significant agricultural enterprise has resulted in substantial alterations to the organisational structure of the sector with livestock and poultry production being entirely displaced from peasant farms and private subsidiary farms. Furthermore, a reduction in the proportion of production on private subsidiary farms is evident in districts in close proximity to the agroholding assets, namely Novosokolniki, Ostrov and Novorzhev districts.

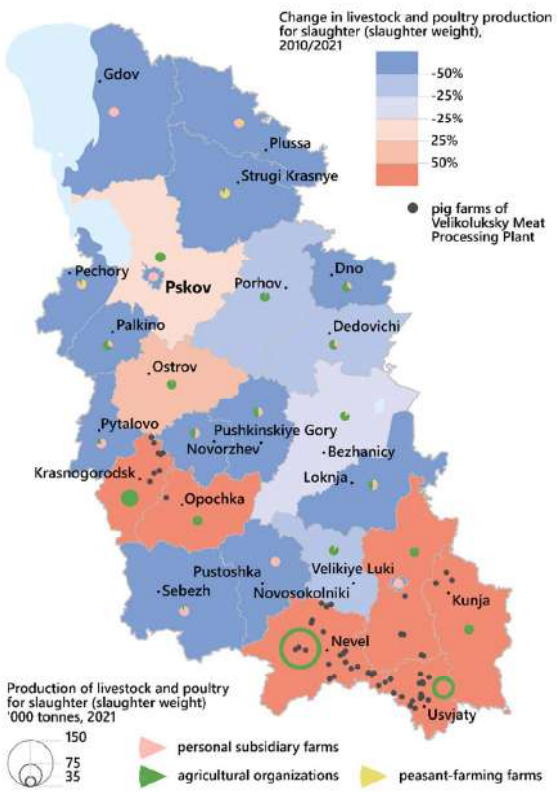

Fig. 7. Dynamics of livestock and poultry production for slaughter in 2010—2021

Additionally, there was a notable shift in the size of sown areas for cereals and leguminous crops (Fig. 8). The reduction in the sown area of grain and leguminous crops was most pronounced in the northern districts of the region, specifically the Strugi Krasnye and Dedovichi districts where the decline exceeded 50 %. In contrast, the districts situated in close proximity to Pskov and the Pskov district exhibit a contrasting trend, with a notable expansion in the cultivated acreage of cereals and leguminous crops. A similar trend is evident in the vicinity

of Velikiye Luki. The activities of the Velikiye Luki meat processing plant had a negligible impact on the territorial organisation of grain and leguminous crops production. The Nevel district is the only one where there has been a notable expansion in the acreage devoted to crops, which can be attributed to the influence of a low baseline.

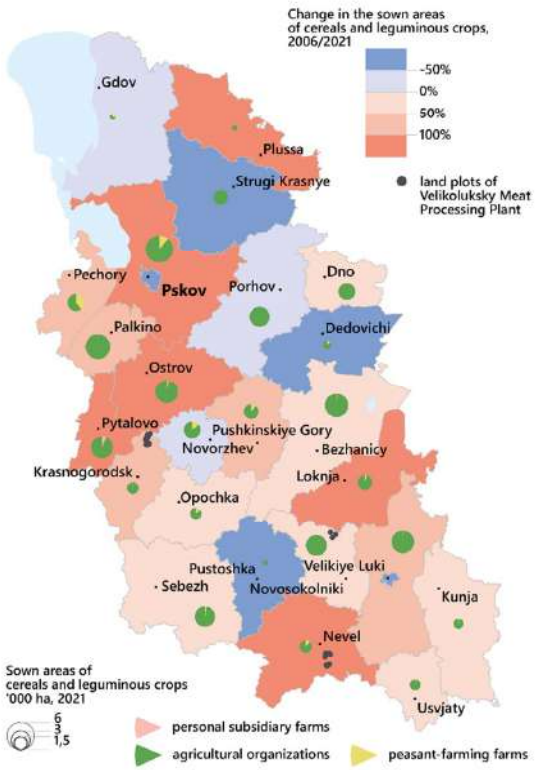

Fig. 8. Dynamics of grain and leguminous crops area in 2006—2021

The research conducted on the materials of the Pskov region indicates that large agricultural holdings represent a significant driving force behind territorial, sectoral, and organisational transformations within the agricultural sector. The development of agricultural holdings occurs concurrently with the process of radical restructuring of the organisational structure of production of specific types of agricultural products. This phenomenon can be seen to have two distinct yet interrelated effects: firstly, it is a causal factor in the decline of small-scale farming, and secondly, it is a consequence of this decline. The proliferation of agricultural holdings has resulted in a resurgence of agricultural growth and a significant transformation of the regional agricultural profile. Subsequently, following 2010, the region became distinguished for its pronounced specialization in pig breeding. In the majority of sectors, with the exception of grain farming, which provides the fodder base for pigs, even the indicators recorded in 2000, let alone those from 1991, have not been reached.

Conclusions

The crisis phenomena in the agriculture of the Pskov region in the 1990s were more severe than in other parts of the country for a number of reasons including the depth of depopulation processes, the particular characteristics of specialization in the region, and the geographical location of the region. The proximity to Belarus, where the state provided significant support to the agricultural sector, rendered the erstwhile regional specializations (flax farming, dairy and meat cattle breeding) uncompetitive. As a consequence of the economic crisis, the rural population was drawn to the nearest agglomerations of St. Petersburg and Moscow at an accelerated rate. Consequently, personal subsidiary plots and farms constituted the primary means of agricultural production during the initial post-Soviet decade given the prevailing context of a deteriorated collective farm system. However, in the 2000s, and particularly after 2010, agricultural holdings began to assume a dominant role across most sectors. Such trends appear to be typical of peripheral border regions characterized by a significant outmigration of the population, pronounced institutional disparities in economic development in comparison to neighbouring countries and convenient logistical access to markets.

The influence of agricultural holdings results in a gradual shift from the initial spatial compression of agriculture and agglomeration in near-central areas to expansion in peripheral areas with easy access to free land and low rural population density. This is particularly pertinent to the development of the pig sector. This is exemplified by the case of the Pskov region.

The cross-border situation has a differential impact on large holdings and small and medium-sized farms. The competitive landscape for producers in this region is shaped by the presence of neighbouring countries with the potential for market failure and operational disruption. Additionally, external markets employ protectionist measures that influence the viability of small agricultural organisations. Concurrently, the market capacity of the surrounding territory and the solvency of the population are of paramount importance for large holdings. Therefore, the market of the EU countries prior to the implementation of sanctions and restrictions constituted a significant factor influencing the development of agricultural holdings in the Pskov region. The capacity for adaptation of large agricultural holdings is considerable. The growth of state support for the agro-industrial complex in the new conditions was employed by agroholdings for the successful development of the domestic market, while foreign exports were reoriented towards long-distance relations with countries in East and South-East Asia.

A comparative analysis of the dynamics of production of certain types of agricultural products and the spread of agroholding assets within the region has revealed a number of significant trends. The relocation of the Velikoluksky Meat Processing Plant to the south-west of the Pskov region exemplifies the typical ramifications for rural communities in peripheral regions. To illustrate, in the south-west of the region livestock and poultry farming has all but disappeared from peasant-farming and private subsidiary farms. This has a detrimental impact

on the economy of rural communities and contributes to further depopulation. Despite the competitive wages offered by agroholding enterprises, their sufficiently high labour productivity means that they do not require a large number of hired workers. Some enterprises have been observed to recruit workers from nearby urban centers and even neighbouring Belarus. Furthermore, the reduction in rural population density mitigates the potential for conflict when expanding agricultural operations and establishing related sanitary protection zones. Based on interviews with experts, it can be argued that livestock agroholdings in general and the Velikoluksky Meat Processing Plant in particular, are often the beneficiaries of the social desertification of rural areas. It can be observed that the activities of agricultural holdings do not result in any particularly significant territorial or sectoral changes in crop production. The areas devoted to the cultivation of different crops have remained relatively stable in recent years, and the correlation between these trends and the activities of pig farming complexes is evident, particularly in the context of grain farming and the associated production volumes.

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References

1. Loizou, E., Karelakis, C., Galanopoulos, K., Mattas, K. 2019, The role of agriculture as a development tool for a regional economy, *Agricultural Systems*, vol. 173, p. 482—490, https://doi.org/10.1016/j.agsy.2019.04.002

2. Nefedova, T. G., Treivish, A. I., Sheludkov, A. V. 2022, Spatially Uneven Development in Russia, *Regional Research of Russia*, vol. 12, № 1, p. 4—19, https://doi.org/10.1134/S2079970522020071

3. Barsukova, S. 2016, The dilemma of the «farmers vs agricultural holdings» in the context of import substitution, *Social Sciences and Contemporary World*, № 5, p. 63—74. EDN: WMNVAV

4. Erokhin, V. 2014, WTO Agreement on agriculture and its implication on rural development policies in Russia EU agrarian law, vol. 3, № 1, p. 31—36, https://doi.org/10.2478/eual-2014-0005

5. Brednikova, O. E. 2007, Interpreting the borderland: metaphors of "window", "mirror" and "showcase", *Russian scientific journal*, № 1, p. 32—37. EDN: JWQRQJ

6. Voloshenko, K., Morachevskaya, K., Novikova, A., Lyzhina, E., Kalinovskiy, L. 2022, Transformation of food self-sufficiency of Kaliningrad Oblast in the face of external challenges, *Vestnik of Saint Petersburg University. Earth Sciences*, vol. 67, № 3, https://doi.org/10.21638/spbu07.2022.302

7. Morachevskaya, K. A., Lialina, A. V. 2023. The impact of the food embargo on consumer preferences and cross-border practices in the Kaliningrad region, *Baltic Region*, vol. 15, № 2, p. 62—81, https://doi.org/10.5922/2079-8555-2023-2-4

8. Visser, O., Mamonova, N., Spoor, M. 2012, Oligarchs, megafarms and land reserves: understanding land grabbing in Russia, *Journal of Peasant Studies*, vol. 39, № 3-4, p. 899—931, https://doi.org/10.1080/03066150.2012.675574

9. Hermans, F. L. P., Chaddad, F. R., Gagalyuk, T., Senesi, S., Balmann, A. 2017, The emergence and proliferation of agroholdings and mega farms in a global context, *International Food and Agribusiness Management Review*, vol. 20, № 2, p. 175—186, https://doi.org/10.22434/IFAMR2016.0173

10. Matyukha, A., Voigt, P., Wolz, A. 2017, Agro-holdings in Russia, Ukraine and Kazakhstan: temporary phenomenon or permanent business form? Farm-level evidence from Moscow and Belgorod regions, *Post-Communist Economies*, vol. 27, iss. 3, p. 370—394, https://doi.org/10.1080/14631377.2015.1055976

11. Uzun, V. 2012, Agricultural holdings of Russia: identification, classification, role, concentration of land use, in: Nikulin, A. M. (ed.), *Land accumulation at the beginning of the 21st century: global investors and local communities*, M., Delo, p. 126—142. EDN: UBCMVD

12. Kuns, B., Visser, O. 2016, Towards an agroholding typology: differentiating large farm companies in Russia and Ukraine, *Agricultural Economic Society Annual Conference*, University of Warwick.

13. Davydova, I., Franks, J. 2015, The rise and rise of large farms: why agroholdings dominate Russia's agricultural sector, *Mir Rossii*, vol. 24, № 3, p. 133—159.

14. Grouiez, P. 2018, Understanding Agro-Holdings in Russia: A Commonsian Analysis, *Journal of Economic Issues*, vol. 52, № 4, p. 1010—1035, https://doi.org/10.1080/00213624.2018.1527583

15. Uzun, V., Shagaida N., Saraikin, V. 2012, *Agricultural holdings of Russia and their role in grain production,* FAO, Budapest. EDN: TFLNNX

16. Shagaida, N. I. 2020, Assessing the size of agricultural holdings, *Voprosy Ekonomiki*, № 10, p. 105—116, https://doi.org/10.32609/0042-8736-2020-10-105-116

17. Uzun, V. Y., Lerman, Z., Shagaida, N. I. 2021, Russian agroholdings and their role in agriculture, *Post-Communist Economies*, vol. 33, № 8, p. 1035—1055, https://doi.org/10.1080/14631377.2021.1886787

18. Epstein, D. 2008, Agroholdings — as a form of vertical integration, *Economics of Agriculture of Russia*, № 9, p. 60—66. EDN: KPSPUB

19. Wandel, J. 2011, Business groups and competition in post-Soviet transition economies: The case of Russian "agroholdings", *The Review of Austrian Economics*, vol. 24, p. 403—450, https://doi.org/10.1007/s11138-011-0152-6

20. Gusakov, T. Yu. 2020, Rural Crimea and its agroholdings, Russian Peasant Studies, vol. 5, № 2, p. 106—129, https://doi.org/10.22394/2500-1809-2020-5-2-106-129

21. Nosov, A. M. 2019, Agrarian holdings as a form of organizational and managerial innovations in agro-industrial complexes, *The Bulletin of Ryazan State University named for S. A. Yesenin,* № 4, p. 108—121. EDN: EKPCAH

22. Nosov, A. M. 2020, GIS-technologies of research of territorial differentiation and efficiency of agroholdings in Russia, *InterCarto. InterGIS*, № 3, p. 132—146, https://doi.org/10.35595/2414-9179-2020-3-26-132-146

23. Likhnevskaya, N. V., Chugunova, N. V., Polyakova, T. A., Komkova, A. I. 2017, Agricultural holdings in the Belgorod region: the value in the economy and living standards in rural areas, *Belgorod State University. Scientific Bulletin. Series: Economics. Information technologies*, № 2, p. 5—14. EDN: YIZQDX

24. Nefedova, T. G. 2014, Agroindustrial concentration in russian regions, *ECO*, № 4, p. 64—82. EDN: QESOMS

25. Nefedova, T. G. 2017, Twenty-five years of post-soviet russian agriculture: geographic trends and contradictions, *Izvestiya Rossiiskoi Akademii Nauk. Seriya Geograficheskaya*, № 5, p. 7—18, https://doi.org/10.7868/S0373244417050012

26. Nefedova, T. G. 2019, Development of the Post-Soviet Agricultural Sector and Rural Spatial Polarization in European Russia, *Spatial Economics*, № 4, p. 36—56, https://dx.doi.org/10.14530/se.2019.4.036-056

27. Sheludkov, A. V. 2017, Post-soviet transformation of the territorial structure of the agriculture in the south of Tyumen oblast, *Regional Research*, № 4, p. 93—103. EDN: YQUELQ

28. Nefedova, T. G. 2012, Major trends for changes in the socioeconomic space of rural Russia, *Regional Research of Russia*, vol. 2, № 1, p. 41—54, https://doi.org/10.1134/S2079970512010078

29. Nefedova, T. G. 2013, The Transformation of Agriculture in Russia: Myths and Realities, *Universe of Russia*, № 1, p. 29—61. EDN: PVKGBV

30. Morachevskaya, K. A., Lyzhina, E. A. 2020, Institutional gradients in the Russian-Belarusian borderland (on the example of conditions for the development of agriculture and food production), *Baltic region — the region of cooperation — 2019, Kaliningrad*. EDN: REFWFF

31. Hahlbrock, K., Hockmann, H., Schmitz, A., Meyers, W. 2015, Does agroholding membership increase productivity and efficiency in Russian agriculture? Evidence from agroholdings in the Belgorod Oblast, in: Schmitz, A., Meyers, W. H. (eds.), *Transition to Agricultural Market Economies: The Future of Kazakhstan, Russia and Ukraine*, p. 122—132, https://doi.org/10.1079/9781780645353.012

32. Ostapchuk, I., Gagalyuk, T., Curtiss, J. 2021, Post-acquisition integration and growth of farms: the case of Ukrainian agroholdings, *The International Food and Agribusiness Management Review*, vol. 24, № 4, p. 615—636, https://doi.org/10.22434/IFAMR2020.0188

33. Cramb, R., Manivong, V., Newby, J. C., Sothorn, K., Sibat, P. S. 2017, Alternatives to land grabbing: exploring conditions for smallholder inclusion in agricultural commodity chains in Southeast Asia, *Journal of Peasant Studies*, vol. 44, № 4, p. 813—841, https://doi.org/10.1080/03066150.2016.1242482

34. Nefedova, T. G. 2022, Geo-economic changes in agro-complex of Russia under the new geopolitical realities, *Regional Research*, № 2, p. 4—15, https://doi.org/10.5922/1994-5280-2022-2-1

35. Kleimenov, S. P. 2012, Territorial organization of the economy and population of the Pskov region: history and modernity, in: *Russian-Belarusian borderland: twenty years of changes*, Smolensk, Universum, p. 128—165.

36. Zhen, L., Deng, X., Wei, Y. et al. 2014, Future land use and food security scenarios for the Guyuan district of remote western China, *iForest: Biogeosciences and Forestry*, vol. 7, № 6, p. 372—384, https://doi.org/10.3832/ifor1170-007

37. Kuhmonen, I., Siltaoja, M. 2022, Farming on the margins: Just transition and the resilience of peripheral farms, *Environmental Innovation and Societal Transitions*, vol. 43, p. 343—357, https://doi.org/10.1016/j.eist.2022.04.011

38. Salvatore, R., Chiodo, E. 2024, Farmers' permanence in peripheral rural areas. Place-based values as drivers of resistance beyond the decline, *Qual Quant*, vol. 58, p. 249—274, https://doi.org/10.1007/s11135-023-01642-7

The authors

Dr. Kira A. Morachevskaya, Associate Professor, Department of Economic and Social Geography, Saint Petersburg State University, Russia; Senior Researcher, Institute of Geography of the Russian Academy of Sciences, Russia.

E-mail: k.morachevskaya@spbu.ru

https://orcid.org/0000-0003-1269-1059

Elena A. Lyzhina, PhD Student, Institute of Geography of the Russian Academy of Sciences, Russia.

E-mail: helen.lyzhina@gmail.com

https://orcid.org/0000-0002-3114-909X

Dr. Alexander B. Sebentsov, Senior Researcher, Institute of Geography of the Russian Academy of Sciences, Russia.

E-mail: asebentsov@igras.ru

https://orcid.org/0000-0001-9665-5666

Mikhail S. Karpenko, Researcher, Institute of Geography of the Russian Academy of Sciences, Russia.

E-mail: kms@igras.ru

https://orcid.org/0000-0001-5262-944

INTERNATIONAL RELATIONS

THE MODEL OF INTERNATIONAL RELATIONS IN THE BALTIC SEA REGION: POLITICAL SHIFTS AND CURRENT CHALLENGES

I. I. Zhukovsky

Primakov National Research Institute of World Economy and International Relations of the Russian Academy of Sciences, 23, Profsoyuznaya St., Moscow, 117997, Russia

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The demise of the USSR and the revision of the Yalta-Potsdam system of international relations led to tectonic changes in the Baltic Sea region: it became apparent that the northern flank, once the most likely battleground between the North Atlantic Alliance and the Warsaw Pact, had a historical opportunity to transform into a region of intensive political, economic, educational and cultural interaction. Under these circumstances, the construction of a new regional system of international relations unfolded at the turn of the 20th and 21st centuries. This article examines the evolution of the regional model of international relations, from a 'cohesion region' to a modern 'conflict region', through the analysis of the dynamics of regional cooperation networks amidst the crisis in the international system and politics. The study builds on the tradition of historical and political analysis of regions as agents in the international relations system, drawing on relevant documents and materials from international organisations, foreign ministries and other authorities of the Baltic Sea region states. The final part of the research emphasises the need for experts to search for a post-conflict regional agenda, with some proposals outlined.

Keywords:
Russia, Baltic Sea region, NATO, European Union, regional networks, political dynamics

Research field. Statement of the problem

The study uses the concept of 'the Baltic Sea region' in its established modern international political understanding.[1] The study leaves out rather intensive discussions of scientists on different approaches to the essence of the concept of 'region', the definition of the Baltic Sea region's borders, and the grounds for including certain states or territories into the Baltic Sea region (see [1; 2]).

[1] The region around the Baltic Sea was formed by the countries that are members of the Council of the Baltic Sea States at the beginning of 2022 (excluding observer countries).

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The regional system of international relations is understood as a set of specific interactions between the countries of the region, which are based on common regional-geographical and political-economic affiliation. The author proceeds from the understanding that in the Baltic Sea region at the turn of the XX and XXI centuries, as well as at the present stage, the intensity and nature of interstate interaction were determined by global processes: overcoming the experience of inter-bloc confrontation (the Cold War) and the attempt to build a 'global world' on co-operative principles.

The modern regional model of international relations was formed at the turn of the XX and XXI centuries: the Union of Soviet Socialist Republics demised, the Warsaw Pact Organisation dissolved, Germany was united, and independent Latvia, Lithuania and Estonia reappeared on the political map of the world. The formation of a new model of interstate interactions in the region was based on the construction of various cooperation networks of public organisations and state institutions, participation in which implied the recognition of common goals and the use of common practices of interaction at the international level. A landmark event in this context was the Copenhagen Declaration on the establishment of the Council of the Baltic Sea States in 1992 to strengthen cooperation and coordination among the Baltic Sea region states as a 'region of cohesion'.[1]

The author formulated the following research task: to trace the development of regional cooperation networks as one of the elements determining the dynamics of the model of international relations in the Baltic Sea region at the present stage. The subject of this study is the evolution of the regional model of international relations, and it aims to show the transition of the model of 'region of cohesion' to 'region of confrontation' on the example of cooperation networks and to outline the need for academic and expert discussion on the formation of a post-conflict regional agenda. The research is based on the traditions of historical and political analysis of regions as subjects of the system of international relations. The analysis uses an array of relevant documents and materials of regional organisations, statements and policy documents of foreign policy departments and other state authorities of the Baltic Sea region countries.

Experience in research on the regional model of international relations

The radical restructuring of the world political system of the early 1990s had as one of its manifestations the formation and increasing subjectivity of regional systems of international relations as political systems characterised by the dynamics of interactions within their spatial and political boundaries. This process required reflection in theoretical approaches to the study of world politics and international relations: in the studies of the last decade of the last century, the

[1] Copenhagen Declaration. 1992, *Council of the Baltic Sea States,* 5—6 March 1992, URL: https://cbss.org/wp-content/uploads/2020/05/1992-CBSS-1st-Ministerial-Session-Communique.pdf (accessed 28.07.2024).

regional level of international relations as a separate level of analysis already appeared (see, for example, Voskresensky's review of the problems of research practices and applied methods [3]).

International processes in the Baltic Sea region have become a popular object of study in Russia and the countries of the region. The research interest was largely determined by the fact that the regional model of international relations at the turn of the XX and XXI centuries became the subject of political engineering, expressed in the intensive formation of regional cooperation networks (establishment of regional organisations of interstate nature, creation of projects and initiatives of regional scale) in the conditions of rapid development of trade and economic relations between the countries of the region.

A key feature of regional cooperation networks is that they are created by states or with the direct support of public authorities: the scope of activities, tools and powers are defined by the founders in a coordinated way. Strengthening the role of regional cooperation networks is possible with a coordinated decision of the founders to delegate certain powers, use new tools, etc. [4]. Accordingly, the effectiveness of regional cooperation networks directly depends on the dynamics of relations between the founding states, which perceive international organisations, projects and initiatives created in the region as a more acceptable tool for solving common regional problems in comparison with international organisations.

It is worth noting that much of the research on international processes in the Baltic Sea region has reflected an attempt to find answers to the challenges of rapidly developing globalisation in regional systems: how unique is the emerging model of regional international relations and is it possible to apply the experience of its analysis to the study of other regions? To what extent are the political dynamics in the region a reflection of global political processes? Is it possible to overcome regional political and economic heterogeneity through political design (i. e. by creating diverse cooperation networks and increasing the role of interregional cooperation among states in the region)? (see [5—7] and others).

The approach proposed by Buzan and Wæver, which consisted of the idea that the most important feature of modern regional models of international relations is primarily security problems and the prioritisation of their possible manifestations — the so-called 'Copenhagen School' approach — has become a significant direction of research on the regional model of international relations [8; 9]. This research approach overcomes the romantic fascination with the end of the Cold War,[1] Bringing to the fore the issue of constructing national and regional security models that are in direct interdependence. The political process as a whole (including international relations) is predominantly determined by the formulation of threats by various players ('securitisation' of the political process), by bringing

[1] In this regard, a conversation between the famous Russian researcher D. V. Ofitserov-Belsky and B. Buzan, published in 'International Processes,' seems to be a very interesting piece of material: Buzan, B., 2012, Science of international relations — the domain of a select circle of states, *International Processes*, vol. 10, № 3, p. 73—82.

threats to the level of extraordinary ones, and further — by transferring threats to the political design plane. The spread of this research approach in international studies has led to an expansion of the understanding of security issues, previously considered primarily in the categories of 'military' or 'military-political' [10].

It should be noted that applying this research approach to the analysis of the reasons for the devaluation of the value of cooperation in regional organisations of the Baltic Sea Region, we pay special attention to the role of Poland and the Baltic States, which 'securitised' almost any plane of interaction with the Russian Federation. This aspect, of course, still needs additional research [11; 12]. Poland and the Baltic States, which joined the EU in 2004, in search of their foreign policy role within the EU had a significant influence on securitisation of a number of declared cooperation macro-regional initiatives of the European Union. A telling example is the Eastern Partnership, which has become a tool for constructing an agenda to counter Russia's interests (see the valuable analysis of the clash in security understanding in regional cooperation between Russia and EU countries by the Irish researcher Christian Kaunert from the School of Law and Government at the University of Dublin [13]).

A significant contribution to the study of the role of cooperation networks in the evolution of the regional model of international relations was made by a group of researchers from the Kaliningrad State University[1], actively working since the early 1990s, formed around Professor G. M. Fedorov (whose research interests included issues of transboundary cooperation, regional development management, territorial planning, and geopolitics) [2; 14—16].

A specific feature of the research experience of this group was the study of the Baltic Sea region through the prism of political and economic interests of the Russian Federation with a special emphasis on the role of the Kaliningrad region (an exclave region or a semi-exclave region, given its direct access to the sea transport corridor). The concept promoted by the leaders of the research group 'Kaliningrad region as a region of cooperation between Russia and the EU' suggested the possibility of using the Kaliningrad region as a point for building cooperation networks to intensify economic, political, scientific, educational and cultural ties with the European Union, which would allow creating a new model of international relations in the Baltic Sea region, solving, among other things, the problem of defining a strategy for socio-economic development of the Kaliningrad region [17]. Studying various aspects of the regional policies of the Russian Federation and the European Union, Professor Fedorov's research group has become one of the most significant centres of expertise in the field of contemporary international relations in the Baltic Sea Region.

Studies important for understanding the evolution of the regional model of international relations were carried out by scientists from St. Petersburg Univer-

[1] Kaliningrad State University was renamed Immanuel Kant Russian State University in 2005, and in 2010 the Immanuel Kant Baltic Federal University was established on its basis.

sity — Konstantin Khudoley (theoretical and applied aspects of the dynamics of interests of the Russian Federation, the European Union and NATO), Dmitry Lanko (comparative studies of the Baltic States and Northern Europe, political dynamics in the region), Irina Novikova (the study of interregional and inter-municipal cooperation of Russian regions with the countries of Northern Europe) [18—21].

The study of the dynamics of cooperation networks in the Baltic Sea region contributes to the understanding of the current situation in the region and helps to create approaches to the formation of a post-conflict regional agenda — taking into account the accumulated experience of interaction, the remaining international contacts between experts and the academic community, and the understanding of the common interests of the states around the Baltic Sea.

Results of the analysis of the experience of building regional cooperation networks

For this study, let us consider the most relevant cooperation networks in the Baltic Sea region that are characterised by significant political dynamics.

The early 1990s saw a real boom in the creation of cooperation networks in the Baltic Sea Region, some of which broadcast a global agenda to overcome the legacy of bloc confrontation (such as the OSCE and the Warsaw-based Office for Democratic Institutions and Human Rights), while others projected a region-wide agenda, creating a new model of international relations.

The Council of the Baltic Sea States (CBSS) embodied the concept of a 'region of cohesion' and has been the most influential in shaping the regional model of international cooperation. In March 1992, at a conference of foreign ministers of countries with direct access to the Baltic Sea and Norway (which is traditionally perceived as a country with dual regional affiliation — both 'northern' and 'Baltic'), an international organization was established at the proposal of Hans-Dietrich Genscher and Uffe Ellemann-Jensen (foreign ministers of Germany and Denmark, respectively), whose goal, by the founding document — the 'Copenhagen Declaration' — was proclaimed to be 'strengthening the cohesion among the countries, leading to greater political and economic stability as well as a regional identity.'

In essence, the CBSS addressed the tasks of designing and building new cooperation networks to overcome the experience of bloc confrontation based on universal principles laid down in the United Nations Charter, the Helsinki Final Act, the Charter of Paris and other CSCE documents.

The Council of the Baltic Sea States has gone through several stages of searching for its programme and organisational identity. The factors determining the inefficiency of the organisation in the first years of its existence were the loose administrative structure of the CBSS and the lack of a clear financial mechanism for project implementation. By 2007, the lack of concrete results of the CBSS activity (it should be reminded that the European Union component in the national

priorities of the Council's member states was being strengthened in parallel) began to devalue the importance of the organisation in the foreign policy strategies of the region's states. It is important to note that the most active role in enhancing the status and operational efficiency of the CBSS was played by Sweden, whose foreign policy prioritised cooperation networks in the region. The possibility of building the country's foreign policy reputation and political development of new territories included in the cooperation networks contributed to direct economic effects — implementation of profitable investment projects, strengthening the role of Swedish financial and industrial groups in the economies of the countries of the region, etc. Sweden's proposals for reforming the CBSS in 2007 transformed the previously amorphous structure into an effective regional development institution with financial instruments and strengthened powers of the secretariat, which increased the authority of the CBSS in the centres of foreign policy planning and decision-making in the countries of the region.

It should be stressed that the CBSS could not fulfil its activities in the conceived non-confrontational and non-aligned format due to the growing political and economic contradictions between the countries of the region, which led to the expansion of NATO's presence in the region and the projection of the interests of 'extra-regional' players into the regional agenda. The 2014 crisis events around Ukraine and the subsequent aggravation of contradictions between Russia and the countries of the 'Collective West' caused the CBSS to drift from an institution for designing and developing a common regional agenda towards a political forum.

On 3 March 2022, the Ministers of Foreign Affairs of all the foreign countries of the CBSS and the High Representative of the European Union for Foreign Affairs and Security Policy in a common declaration announced 'the suspension of Russia from the proceedings, work and projects of the CBSS and its working bodies until cooperation under the fundamental principles of international law has become possible again'.[1]

The statement of the Russian Foreign Ministry on the withdrawal of the Russian Federation from the Council of the Baltic Sea States was published on May 17, 2022. It summed up the activities of the CBSS as a key regional platform, which came under the influence of 'extra-regional' players: 'Contradictions in the work of the CBSS have been accumulating for years... NATO and EU states within the Council have abandoned the equal dialogue and principles on which this regional structure in the Baltic was created, and are consistently turning it

[1] Declaration by the Ministers of Foreign Affairs of Denmark, Estonia, Finland, Germany, Iceland, Latvia, Lithuania, Norway, Poland and Sweden and the High Representative of the European Union for Foreign Affairs and Security Policy on the participation of the Russian Federation and Belarus in the work of the Council of the Baltic Sea States, 03.03.2022, *Serwis Rzeczypospolitej Polskiej*, URL: https://www.gov.pl/web/finlandia/federacja-rosyjska-zawieszona-w-pracach-rady-panstw-morza-baltyckiego (accessed 28.07.2024).

into an instrument of anti-Russian policy'.[1] It was also decided to withdraw from the Baltic Sea Parliamentary Conference, which was an institution of inter-parliamentary dialogue on the sidelines of the intergovernmental level of cooperation in the CBSS. Thus, the model of cooperation in the Council of the Baltic Sea States changed from a 'cohesion to a 'confrontational' model.

A similar fate (transition from 'cohesion' to 'confrontation' as a result of the implementation of an 'extra-regional' agenda) befell the Northern Dimension, another cooperation network characterised by high intensity and efficiency of practical interaction. 'The Northern Dimension' in its version at the time of the aggravation of the global political crisis in 2022 was positioned as a joint policy of four equal partners: the European Union, the Russian Federation, Norway and Iceland. The implementation of the initiative took place within the framework of the so-called thematic partnerships: environmental; health and social well-being; cultural; and transport.

On 8 March 2022, the European Union, Iceland and Norway suspended all Northern Dimension cooperation with Russia and Belarus 'until further notice'. The activities covered the environment, nuclear safety, healthcare, energy, transport, logistics, trade and investment development, scientific research, education and culture — in short, a model cooperation network of a regional nature was formed, with financial instruments, political support and specific tangible results of work — including on nuclear safety, which includes not only a regional but also a global dimension.

In response to the challenge of bridging the gap in socio-economic development between the 'old' and 'new' members of the European Union, to further the political and economic development of the region in the interests of the European Union, a political plan was developed and operational tools for its implementation were developed in the form of the EU Strategy for the Baltic Sea region (EUSBSR)[2]. It should be noted that the EUSBSR was the first macro-regional strategy of the European Union, which was modelled on the strategies for the Danube (EUSDR, 2010), Adriatic and Ionian (EUSAIR, 2014) and Alpine regions (EUSALP, 2015).

[1] Statement by the Russian Foreign Ministry on the withdrawal of the Russian Federation from the Council of the Baltic Sea States 17.05.2022, *Permanent Mission of the Russian Federation to the European Union and Euratom*, URL: https://russiaeu.mid.ru/ru/press-centre/news/zayavlenie_mid_rossii_o_vykhode_rossiyskoy_federatsii_iz_soveta_gosudarstv_baltiyskogo_morya (accessed 28.07.2024).

[2] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions concerning the European Union Strategy for the Baltic Sea Region, 2009, *EU Strategy for the Baltic Sea Region*, URL: https://eusbsr.eu/wp-content/uploads/2009_commission-communication-on-eusbsr.pdf (accessed 28.07.2024).

The position of Poland, Lithuania,[1] Latvia and Estonia, which joined the European Union in 2004, in developing the EUSBSR was to maximise the influence of the European Commission (and the EU countries as a whole) in the Baltic Sea region, obviously as a counterbalance to Russia, which is gaining economic power and political weight. Promoting the logic of turning the Baltic Sea into an area of preferential interests of the EU (the so-called concept of the European Union inland sea), the developers assumed the 'umbrella' nature of the Strategy concerning the national operators of cooperation networks in the region [22], considering the Strategy as a single framework for building interaction with partner countries outside the European Union — Russia, Iceland, Belarus and Norway. Political support for the development of EUSBSR was also provided by the Swedish-Danish 'Baltic Development Forum' ('Baltic Davos'), a key regional project aimed at the political and business elite and social leaders of the Baltic Sea Region.

Estonia, Poland, Latvia, Lithuania and Poland have realised the logic of integrating national policies in the region with the priorities of the European Union. For example, EUSBSR was supposed to develop a common approach to spatial marine planning for the EU countries within the framework of the Joint HELCOM/VASAB Group, which was established as a tool to harmonise interests for all Baltic Sea Region countries, including Russia (incidentally, the Working Group on Spatial Marine Planning was established at the ministerial meeting in Moscow in 2010, and the Russian presence in the expert and working bodies of the Working Group was significant).

In practice, the Joint HELCOM/VASAB Group provides status and organisational support to the European Union marine spatial planning projects (Plan Bothnia, BaltSeaPlan, PartiSEApate and Baltic SCOPE) [23]. In practice, this means that in this way the implementation of these projects is in line with the logic of promoting the concept of 'Baltic Sea — European Union Inland Sea'. For example, in the Plan Bothnia project, the HELCOM secretariat was the responsible contractor (recipient of European Union funds) and the VASAB secretariat was the key project partner, while the main content of the project was to develop the principles of co-ordination of joint policies in the field of marine spatial planning between the two EU member States (Sweden and Finland). This state of affairs has been made possible by the availability of funding from the specialised funds of the European Union to organise work on topics that are beneficial and desirable for EUSBSR. HELCOM and VASAB, formerly active creative players in shaping policy objectives for the countries of the region, have become project offices serving the EU Strategy for the Baltic Sea region.

[1] On the Baltic Sea Strategy, Resolution of the Seimas of the Republic of Lithuania, 19.04.2007, *Lietuvos Respublikos Seimas*, URL: https://e-seimas.lrs.lt/portal/legalActPrint/lt?jfwid=fhhu5ml1c&documentId=TAIS.295996&category=TAD (accessed 28.07.2024).

The role of EUSBSR is most clearly seen in the relationship with the devaluation of the value of cooperation in the CBSS format for the EU member states [24]. The fact is that one of the organisational and management principles of EUSBSR was the absence of its own funding 'inside' the programme, and the projects and initiatives designed as part of EUSBSR were able to attract funding from the budget lines already approved by Brussels in the European Social Fund (ESF), European Regional Development Fund (ERDF), Cohesion Fund, European Agricultural Fund for Rural Development (EAFRD) and others. In addition, such programmes as Horizon 2020, BONUS, the LIFE Programme, and the Interreg Baltic Sea Region Programme also became sources of funding. This decision prioritised the formation of new cooperation projects throughout the region, excluding (or assuming very limited participation of) non-European Union countries — Russia, Iceland, Belarus and Norway.

The adoption of the EU Strategy for the Baltic Sea region as a guiding policy document for the European Union as a whole and for the EU member states was a factor that directly contradicts the logic of the emerging model of the ''region of cooperation'': it was the European Union's cooperation framework and mechanisms, which excluded Russia, that became a priority for the EU member states of the region, although they stipulated special formats for the common regional agenda.

In contrast to the political formats of cooperation developed later, specific practices of cooperation within the framework of the 1973 'Convention on Fishing and Conservation of Living Resources in the Baltic Sea and the Belts' (Gdansk Convention)[1] and the 1974 'Convention for the Protection of the Marine Environment of the Baltic Sea Region' (Helsinki Convention)[2] have proved to be effective and sustainable. The two regional waves of the European Union enlargement (the priorities of the countries in the Baltic Sea region were synchronised and the degree of influence of EU decisions on national policies increased) made it necessary to clarify the principles of conservation and long-term sustainable exploitation and management of fish stocks in the Baltic Sea region between Russia and the EU. As of 1 January 2007, the Gdansk Convention was no longer applicable, and a new EU-Russia Agreement[3] was developed based on the logic and principles of the 1974 Convention.

[1] Convention on Fishing and Conservation of Living Resources in the Baltic Sea and the Belts (Gdansk Convention), *Electronic Fund of Legal and Regulatory and Technical Documents*, URL: https: //docs.cntd.ru/document/1901772 (accessed 28.07.2024).

[2] Convention for the Protection of the Marine Environment of the Baltic Sea Region (Helsinki Convention). Helsinki, HELKOM, URL: https: //helcom.fi/wp-content/uploads/2019/10/1974_Convention.pdf (accessed 28.07.2024).

[3] Agreement between the Government of the Russian Federation and the European Community on cooperation in the field of fisheries and conservation of living marine resources in the Baltic Sea of 28.04.2009, *Electronic Fund of Legal and Regulatory and Technical Documents*, URL: https: //docs.cntd.ru/document/902182268 (accessed 28.07.2024).

When explaining the experience of successful cooperation between the countries of the Baltic Sea region on living marine resources, it is an objective fact that the living marine resources of the Baltic Sea region consist of transboundary stocks that migrate between exclusive economic zones. Effective conservation and sustainable exploitation of living marine resources can only be achieved through cooperation in fisheries management and the control and enforcement of fisheries management measures.

The analysis of cooperation networks that had a significant impact on the formation of the model of regional international relations cannot be complete without mentioning the phenomenon of 'Baltic university cooperation' [25], which was expressed in the implementation of the Baltic University Programme (BUP), which became one of the most prominent regional university networks in the world. In turn, at the initiative of the University of Turku, the Baltic Sea Region University Network (BSRUN) was established to discuss issues of academic cooperation between the heads of universities, which, among other things, provided an opportunity for interaction between the relevant state authorities on the scientific and educational agenda. It should be mentioned that educational and research cooperation in the region was also in the field of interest of such public-state projects as 'Trialogue' (which operated from 2010 to 2014 under the auspices of the Ministers of Foreign Affairs of Russia, Germany and Poland), as well as the profile commission of the Russian-German forum 'Petersburg Dialogue'.

In 1991, on the initiative of Uppsala University and with the support of the Swedish government, the educational project 'Baltic University Programme' was launched, based on the use of a then innovative model of distance learning (part of the courses were broadcast online via a satellite TV channel, part of the classes were distributed on videocassettes, and testing and supplementary materials were delivered in printed form from Sweden to the universities participating in the Programme). Thematically, the Programme focused on a common regional agenda: sustainable development issues, and various aspects of environmental protection, as well as the increasingly popular topic of democratic transit and democratic development in the former socialist camp states. In its heyday (2002—2012), the Baltic University Programme included more than 220 universities and other higher education institutions from 12 countries: Belarus, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia, Sweden, Czech Republic, Slovakia, Ukraine (note the purely geographical criterion of regional affiliation used — the location of the partner university in the Baltic Sea catchment area).

At the semantic level, the Programme was in line with the efforts of the Swedish government and business circles to build a new version of the 'Swedish century', which implied political and economic development of the territories of the South-Eastern Baltic to form a zone of its exclusive interests. The priority of the Programme's work on a regional scale was the construction of a cooperation network with an exclusively 'regional' agenda, with ambitions to form a unified scientific and educational space around the 'Swedish core', influencing public

authorities and the dynamics of the regional model of international relations. In December 2009, the Baltic University Programme was approved as a strategic partner of the Council of the Baltic Sea States, which raised dramatically the status of the programme's centre — Uppsala University — and its administration.

The key resources of the Programme were a bank of online courses on various aspects of Baltic Sea Region development, a specialised online library on widely understood 'Baltic Studies' and a network of professors and experts promoting the Programme's topics in their universities [26]. The classical cooperation network with an 'intra-regional' agenda turned out to be unstable due to crisis manifestations in the global political system: after the events of early 2022, the Programme officially joined the Swedish government's position on the so-called Ukrainian issue and curtailed cooperation with universities in Russia and Belarus.

Forecasting the post-conflict regional agenda. Conclusions

A situation of intensive conflict-free interaction emerged between the countries belonging to the recently opposing military and political blocs at the beginning of the last decade of the XX century. There were virtually no territorial disputes, regional organisations and associations were created and worked effectively [27], and regional programmes of economic, cultural and educational cooperation appeared, in which the subjects of the Russian Federation — St. Petersburg, Leningrad and Kaliningrad Regions — actively participated. St. Petersburg information and business centres worked effectively in Finland and Estonia, and the experience of these centres was supposed to be used in designing mutually beneficial cooperation in other countries of the region [20].

The unprecedented scale of implemented trade, economic and infrastructure projects between Russia and the European Union countries, as well as the consistent expansion of opportunities for intra-regional mobility and tourism, allowed researchers to formulate very optimistic forecasts for the development of the Baltic Sea region in the logic of the 'region of cohesion'. The chance to effectively design and implement a unique regional system was not used in the Baltic Sea region, and the model of 'region of cohesion' was replaced by the model of 'cool war' — this is the term by which Konstantin Khudoley described the specifics of the regional model of international relations, formed after the aggravation of contradictions between Russia and the countries of the Collective West [19].

Poland, Germany and the Baltic States saw the European Union as the key moderator of the political and economic agenda in the Baltic Sea region(which was later expressed in the EU Strategy for the Region), and the North Atlantic Alliance (with a parallel strengthening of bilateral military and political cooperation with the United States) as the foundation of their national security and regional security as a whole [28; 29]. The 'Finnish security dilemma' (for more details, see the study by Konstantin Khudoley and Dmitry Lanko [18]) was the aspiration to stay away from possible military conflicts while strengthening one's security through direct intensive cooperation with NATO countries. The bilateral coopera-

tion of Finland and Sweden with NATO countries, in fact, prepared the accession of Sweden and Finland to the alliance [30], which fixed the final dismantling of the concept of 'region of cooperation'. The regional political, diplomatic and military-political processes gaining intensity from that moment on are described exclusively in the categories of conflict: this is how the modern stage of international relations in the Baltic Sea region was established in the form of the 'region of confrontation' model.

Despite the intensive processes of globalisation, a significant increase in the number of regional players, the development of cooperation networks, and the experience of active inter-municipal (interregional) cooperation, interstate relations remained the key to the dynamics of the regional system. It was interstate contradictions, including 'extra-regional' problems projected on the regional agenda (the erosion of the hegemonic model of world politics, the conflict between NATO and the Russian Federation and the acute phase of this conflict — the crisis around Ukraine), as well as the interests of 'extra-regional' players (the United States, France, NATO and the European Union) that became the key factors in the dismantling of the model of the 'region of cooperation' and the formation of the model of the 'region of confrontation'.

An illustrative example of the expansion of military, political and economic interests of 'extra-regional' players in the Baltic Sea region is France, whose main objective 'is to participate in the affairs of the region not so much as a new player ready to offer some original vision and on this basis revive relations with Moscow, but as a disciplined member of NATO, intending to strengthen the common potential' [31 p. 13].

According to the apt observation of Konstantin Khudoley, who describes the uneven dismantling of the Cold War system of international relations in the region in the categories of 'Cool War', characterised by the different intensity of interests in the regions of clash (intersection), in the resulting vacuum of the rules of the game are emerging new practices and rules of behaviour of players in the system of international relations that do not always become generally accepted and generally recognised [19]. This situation, as Konstantin Khudoley notes, increases the probability (but does not make inevitable) the realisation of a confrontation scenario in the Baltic Sea region. However, the same conditions create new opportunities for overcoming conflicts arising from unique situational configurations. The intensity of conflict in the Baltic Sea region is certainly governed by the 'extra-regional' agenda and interests of 'extra-regional' players': it is Russia's post-conflict arrangements with 'extra-regional' players that will be the key factor determining the model of international relations in the Baltic.

Every conflict ends. It already seems necessary to look for a constructive regional agenda for cooperation networks after the conflict. The scientific and expert community and academic centres in Russia and other countries of the Baltic Sea region should be ready now, at a time of high conflict intensity in the

regional model of international relations, to formulate proposals for the political design of overcoming the model of the 'region of confrontation' and to actively participate in the mutual simultaneous desecuritisation of national discourses. The accumulated experience of scientific and academic cooperation through international programmes and direct cooperation between universities, research centres and expert and analytical structures can be in demand even in times of conflict.

In the new post-crisis system of international relations, it is necessary to clearly define the purpose and practical outcome of the 'regional' agenda of the Council of the Baltic Sea Region States, the Northern Dimension, VASAB and HELCOM: the most important challenge will be to overcome the deterioration of cooperation between states while depoliticising and desecuritising (as Buzan and Wæver now understand it) bilateral issues and domestic political agendas in the countries of the region. This means that the construction (restoration, new design) of sustainable cooperation ties will be possible only with obvious effectiveness and mutual benefit of interaction: the general discourse of restoring good neighbourliness and using the experience of cooperation will have to be supported by specific interstate projects, the subject of which will be common issues for the entire Baltic region: the resolution of environmental problems and nature conservation issues in general, harvesting and reproduction of living resources of the Baltic Sea, preservation of common historical and cultural heritage (in the cooperation context), development of scientific and educational cooperation at the sites of regional universities with a special emphasis on the study of the culture and language of immediate neighbours.

It seems that among the cooperation networks, the Northern Dimension has the greatest potential for restoring cooperation during the formation of a post-conflict regional model of international relations due to the presence of a diverse non-political agenda, effective experience of cooperation with Russia, and preserved personal contacts of the participants of the expert groups. The resumption of cooperation within the Council of the Baltic Sea States in the post-conflict era could be based on Russia's 2020 proposals on a set of measures to strengthen it, including a proposal to develop a new strategic document that would define the goals and objectives of Russia's cooperation with the other CBSS countries until 2030.[1]

Taking into account the experience accumulated in all the countries of the region in building cooperation networks that have preserved direct links between participants of political, academic and public projects and initiatives of bilateral and multilateral nature, the presence of common interests of the states in the sphere of ecology and economy, it can be assumed that researchers will be able

[1] Speech and answers to questions by Russian Foreign Minister S. V. Lavrov during the press conference following the Ministerial Session of the Council of the Baltic Sea States, 21.05.2020, *Ministry of Foreign Affairs of the Russian Federation*, URL: https: //www.mid.ru/ru/press_service/video/vistupleniya_ministra/1433275 (accessed 17.10.2024).

to describe the post-conflict model of international relations in the Baltic Sea region not in the categories of confrontation and 'Cool war', but of cooperation and 'Cool peace'.

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References

1. Kaledin, N. V., Elatskov, A. B. 2024, Geopolitical regionalisation of the Baltic area: the essence and historical dynamics, *Baltic Region*, vol. 16, № 1, p. 141—158, https://doi.org/10.5922/2079-8555-2024-1-8

2. Fedorov, G. M., Zotov, S. Yu., Kuznetsova, T. Yu., Chasovsky, V. I. 2016, Baltic Region: its composition and inner structure, *Regional Studies*, № 2, p. 113—121. EDN: WHTRIV (in Russ.).

3. Voskressenski, A. D. 2012, Concepts of regionalization, regional subsystems, regional complexes and regional transformations in contemporary IR, *Comparative Politics Russia*, vol. 3, № 2, p. 30—58, https://doi.org/10.18611/2221-3279-2012-3-2(8)-30-58 (in Russ.).

4. Koagne Zouapet, A. 2024, States and Regional International Organizations, International Organizations Law Review, vol. 21, № 1, p. 147—167, https://doi.org/10.1163/15723747-21010008

5. DeBardeleben, J., Nechiporuk, D. 2018, Diverging views of EU-Russian borders: points of congruence and difference in EU and Russian analyses, *Journal of Contemporary European Studies*, vol. 27, № 2, p. 196—207, https://doi.org/10.1080/14782804.2018.1534727

6. Joenniemi, P. (ed.). 1993, *Cooperation in the Baltic Sea Region*, London, Taylor & Francis.

7. Christiansen, T. A. 1997, European Meso-Region? European Union Perspectives on the Baltic Sea Region, in: Joenniemi, P. (ed.), *Neo-Nationalism or Regionality. The restructuring of Political Space Around the Baltic Rim*, NordREFO: Nordiskt Institut för Regionalpolitisk Forskning, Stockholm, p. 254—292.

8. Buzan, B., Wæver, O., Wilde, J. de. 1998, *Security: a New Framework for Analysis*, Boulder, London, Lynnie Rienner.

9. Buzan, B., Wæver, O. 2003, *Regions and Powers: The Structure of International Security*, Cambridge, Cambridge University Press.

10. Tassinari, F. 2005, The European sea: Lessons from the Baltic Sea region for security and cooperation in the European neighborhood, *Journal of Baltic Studies*, vol. 36, № 4, p. 387—407, https://doi.org/10.1080/01629770500000171

11. Rokiciński, J. 2006, Zagrożenia asymetryczne w regionie bałtyckim, Bel Studio, Warszawa.

12. Szubrycht, T. 2010, Bałtyckie wymiary bezpieczeństwa, Akademia Marynarki Wojennej, Gdynia.

13. Kaunert, C., de Deus Pereira, J. 2023, EU Eastern Partnership, Ontological Security and EU-Ukraine/Russian warfare, *Journal of Contemporary European Studies*, vol. 31, № 4, p. 1135—1146, https://doi.org/10.1080/14782804.2023.2183182

14. Fedorov, G. M., Korneevets, V. S. 2015, Socioeconomic typology of Russia's coastal regions, *Baltic Region*, № 4, p. 121—134, https://doi.org/10.5922/2079-8555-2015-4-7

15. Mezhevich, N. M., Kretinin, G. V., Fedorov, G. M. 2016, Economic and geographical structure of the Baltic Sea region, *Baltic Region*, vol. 8, № 3, p. 15—29, https://doi.org/10.5922/2079-8555-2016-3-1

16. Fedorov, G. M. 2018, Russian Federation in the Baltic Region: Political Relations and Economic Development in 1992—2017, *Polis. Political Studies*, № 3, p. 30—41, https://doi.org/10.17976/jpps/2018.03.03 (in Russ.).

17. Chlopetskiy, A. P., Fedorov, G. M. 2000, Kaliningrad Region: Region of Cooperation, Kaliningrad, Yantarny Skaz Publishing House (in Russ.).

18. Khudoley, K. K., Lanko, D. A. 2019, Finnish Security Dilemma, NATO and the Factor of Eastern Europe, *MEMO Journal*, vol. 63, № 3, p. 13—20, https://doi.org/10.20542/0131-2227-2019-63-3-13-20

19. Khudoley, K. K. 2020, Russia and the west: second cold war or first cool war?, *Russia in Global Affairs*, vol. 18, № 6 (106), p. 10—22. EDN: XOTGBL (in Russ.).

20. Novikova, I., Popov, D. 2021, Foreign economic cooperation between St. Petersburg and Denmark in the 21st century: Main trends, problems, prospects, *Vestnik of Saint Petersburg University. International Relations*, vol. 14, № 1, p. 41—70, https://doi.org/10.21638/spbu06.2021.103 (in Russ.).

21. Popov, D. I., Novikova, I. N. 2023, The Foreign Economic Relations of St. Petersburg and Finland During the COVID-19 Pandemic: Challenges and Prospects, Russia in the Global World, vol. 26, № 2, p. 48—64, https://doi.org/10.48612/rg/RGW.26.2.4 (in Russ.).

22. Gänzle, S. 2017, Macro-regional strategies of the European Union, Russia and multilevel governance in northern Europe, *Journal of Baltic Studies*, vol. 48, № 4, p. 397—406, https://doi.org/10.1080/01629778.2017.1305201

23. Palmowski, T. T., Tarkowski, M. M. 2018. Baltic cooperation in marine spatial planning, *Baltic Region*, vol. 10, № 2, p. 100—113, https://doi.org/10.5922/2079-8555-2018-2-7

24. Chilla, T., Gänzle, S., Sielker, F., Stead, D. 2017, Macro-regional strategies of the European Union: a new research agenda, in: Trondal, J. (ed.), The Rise of Common Political Order, Edward Elgar Publishing, https://doi.org/10.4337/9781786435002.00015

25. Aaviksoo, J. 2002, University Co-operation in the Baltic Sea Region, in: Henningsen, B. (ed.), Towards a Knowledgebased Society in the Baltic Sea Region, Berlin, p. 75—79.

26. Musiał, K., 2002, *Education, research and the Baltic Sea Region Building*, in: Musiał, K. (ed.), Approaching Knowledge Society in the Baltic Sea Region. Gdansk, Berlin, p. 42—60.

27. Gänzle, S., Kern, K., Tynkkynen, N. 2022, Governing the Baltic Sea Region at critical junctures (1991—2021): How do transnational and intergovernmental organizations cope with external regional change? *Journal of Baltic Studies*, vol. 54, № 3, p. 421—442, https://doi.org/10.1080/01629778.2022.2140356

28. Piirimäe, K. 2024, A nearly perfect marathon: the United States and the Baltic states' accession to NATO, *Journal of Baltic Studies*, vol. 55, № 3, p. 651—669, https://doi.org/10.1080/01629778.2024.2370586

29. Linsenmaier, T. 2024, The United States and the entry of the Baltic states into international society: insights from the case of Estonia, *Journal of Baltic Studies*, vol. 55, № 3, p. 631—649, https://doi.org/10.1080/01629778.2024.2361096

30. Smirnov, P. Ye. 2023, The accession of Finland and Sweden to NATO: geopolitical implications for Russia's position in the Baltic Sea region, *Baltic Region*, vol. 15, № 4, p. 42—61, https://doi.org/10.5922/2079-8555-2023-4-3

31. Chikhachev, A. Yu. 2023. France's strategy in the Baltic region: military and political aspects, *Baltic Region*, vol. 15, № 1, p. 4—17, https://doi.org/10.5922/2079-8555-2023-1-1

The author

Dr Igor I. Zhukovsky, Associate Professor, Senior Research Fellow, Primakov Institute of World Economy and International Relations of the Russian Academy of Sciences, Russia.

E-mail: igor@izhukovski.ru

https://orcid.org/0000-0001-8689-3898

EXCLAVES

MIGRATION TYPOLOGY OF THE WORLD'S COASTAL EXCLAVES

A. V. Lialina
A. P. Plotnikova

Immanuel Kant Baltic Federal University,
14 A. Nevskogo St., Kaliningrad, 236041, Russia

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A significant contribution to the study of migration in the exclave region of Kaliningrad, including an analysis of determining factors, was made by Dr. hab. Prof Gennady Fedorov, who conceptualised migration movements as a demographic element within the geo-demographic context. He was the first to highlight the distinctive nature of migration processes in the region, shaped by its historical background and unique economic-geographical position. This article examines how the exclave position, including spatial remoteness from the parent state, affects migration patterns. To this end, migration is examined in thirteen coastal exclaves worldwide, excluding military bases and uninhabited territories. Situated in diverse regions worldwide, these areas are characterised by varying climatic, economic, and institutional conditions, as well as distinct historical and cultural features in societal development, each overcoming the challenges of spatial isolation in a unique way. These differences are reflected in the attractiveness of the exclaves to migrants and, consequently, in the current migration situation. This study is the first attempt to produce a typology of exclaves by examining local migration situations. To this end, exclaves are compared using indicators of population migration, its role in population change, transport connectivity with the parent and neighbouring states and the natural and socio-economic conditions of regional development from 2017 to 2022. The comparison produces a typology of coastal exclaves based on the characteristics of migration processes. Exclaves that lack attractiveness to migrants include those developing under harsh climatic conditions such as Alaska; those experiencing extreme temperatures and possessing underdeveloped economies like Oecussi-Ambeno, Temburong and French Guiana; and densely populated exclaves facing a massive refugee influx, such as Ceuta and Melilla. Attractive exclaves are economically prosperous regions that take advantage of their coastal location, such as the Kaliningrad region and Crimea, and specialise in oil and gas production, for example, Cabinda and Musandam. The third type comprises the most densely populated exclave of Gibraltar, along with the highly developed regions of Dubrovnik and Northern Ireland, where migration has minimal impact on population change.

Keywords:
migration, exclavity, coastal exclave, coastal position, border position, Kaliningrad region

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Introduction

Ongoing geopolitical and geoeconomic changes are profoundly impacting the attractiveness of Russia's westernmost region, Kaliningrad, to migrants and, consequently, the migration situation in this coastal exclave. Over the 21st century, the region's net migration rate was growing, making it a territory attractive for migrants from across Russia and the CIS countries. By 2021, the region ranked among the top five in the country for net migration. In 2022, the migration situation altered, with growth declining by more than half. By 2023, at 6.0‰, it had reached its lowest level since 2011.[1] This change appears to result from a decline in the region's attractiveness to migrants, on the one hand, and shifts in the factors influencing the migration of Russian citizens, on the other. Increasing economic and military-political tensions between Russia and neighbouring NATO states — Lithuania and Poland — along with restrictions on passenger and cargo transit through Lithuania, have heightened the risk of a blockade and worsened the socioeconomic situation. Overall, the economic situation deteriorating at the national level in 2022 and societal divisions over political issues have intensified the economic and political factors of migration while diminishing those related to improving quality of life. Consequently, the traditional factors that once attracted migrants to the Kaliningrad exclave — natural and climatic conditions, environmental quality, European travel prospects for migrants from other Russian regions, and employment opportunities sought by most migrants coming from CIS countries — have significantly diminished in relevance. In contrast, economic pressures pushing people out of the exclave have intensified. This shift has led not only to a decrease in the inflow of migrants from CIS countries but, more notably, to a reduction in in-migration from other Russian regions and growing outmigration. Thus, both 'old' and 'new' migration factors largely reflect the region's distinctive economic-geographical position (EGP).

The changes occurring in Russia's exclave of Kaliningrad prompted us to explore the impact of exclave status on migration in other coastal exclaves.

The specific features of coastal exclaves, such as spatial separation from the parent state, borderland status and coastal position, allow us to formulate hypothetical scenarios for migration dynamics within them. Scenario 1: closed-circuit migration, where movements occur predominantly within the confines of the region. Scenario 2: the predominance of international migration over interregional migration due to a focus on international trade relations or other humanitarian factors, such as historical ethnic or cultural proximity of the populations. Scenario 3: interregional migration surpassing international migration, despite territorial separation, to strengthen the spatial connectivity of the exclave with the parent

[1] Migratsiya naseleniya Kaliningradskoy oblasti [Population migration of the Kaliningrad region], *Kaliningradstat*, URL: https://39.rosstat.gov.ru/storage/mediabank/Миграция-12.pdf (accessed 26.02.2024).

state. Scenario 4: simultaneous involvement in migration interactions with both the parent and neighbouring states, with the region's attractiveness sustained by the 'development corridor' model.

This article aims to identify the specific impact of exclave status on migration processes. To this end, the following objectives are attained: a) the analysis of Russian and international studies on migration processes within the contexts of coastal location, borderland status and exclavity, aimed at identifying the specific impact of exclavity on migration; b) development of a migration typology for coastal exclaves based on the authors' methodology; c) identification of the typical features of migration development in coastal exclaves.

Theoretical overview

Political geography defines an exclave as a part of a state's territory surrounded by foreign territories [1]; a coastal exclave that has access to the sea. Island exclaves, however, are not classified as coastal ones, as seen, for example, in Yuri Zverev's typology [2, p. 21]. The genesis and history of exclaves have been examined in depth, with classifications developed based on the legal status, population size, origin, sea access, distance from the parent state and income levels, relative to the average in both the parent and surrounding states [3].

Comparatively few studies look specifically at the development of coastal exclaves [2; 4]. Zverev defines a coastal exclave as a separately located part of a country's territory, surrounded by one or more foreign states and having access to the sea' [2, p. 21]. In one of his works [2], he classifies coastal exclaves based on area, population size, legal status, number of surrounding countries and distance from the parent state. However, migration processes in coastal exclaves have largely remained underexplored.

The main feature of coastal exclaves is their *spatial isolation or detachment from the parent territory*.[1] Despite the development of air transport connections that significantly compress space, distance remains a crucial factor in population migration [5]. The closer an exclave is to the parent territory, the higher the likelihood of closer migration interactions. At the same time, the implementation of policies to mitigate the territorial costs of isolation, such as transport cost subsidies, may create conditions that attract migrants. Furthermore, spatial isolation often determines the exclave's development strategy, accounting for its special status, often viewed in geostrategic terms. An exclave may evolve according to various models, ranging from a 'development corridor' model, characterised by intensive interaction with neighbouring countries and consequently high migration activity, to an 'outpost' model, where a special regime restricts migratory movements.

Studies focusing on individual exclaves highlight the influence of exclave status on push and pull factors in migration [6]. For example, IT specialists who

[1] A parent state is a state of which the exclave entity is an integral part.

have relocated to the Kaliningrad region mention migration factors accounted for by the region's exclave status: an extensive network of subsidised air connections with Russian cities; costs associated with territorial isolation, such as the need for visas for land transit through neighbouring countries; and the region's more dynamic development due to federal support [6]. Under sanctions, however, exclusivity-driven reliance on imports and transit poses serious challenges to the region's social and economic development [7]. This dependency exacerbates Kaliningrad's vulnerability to crises, as seen during the COVID-19 pandemic and after the start of Russia's special military operation in Ukraine in 2022, resulting in a sharper decline in living standards compared to other Russian regions. This dynamic diminishes the region's attractiveness to migrants and creates conditions for population outflow [7].

Another feature of exclaves is their borderland status. In some cases, it may offset an exclave's peripherality, facilitating regional development and attractiveness to migrants, while in others, it may exacerbate the challenges of peripheral location, prompting local populations to leave [8]. The effect depends on the type of borders and the balance of their contact, barrier and filtering functions. Amid inter-country disparities, contact-dominated borders promote cross-border labour and educational migration and shuttle trade [9—12], increasing the exclave's attractiveness to internal migrants [13; 14]. In contrast, underutilisation of the contact function can turn regions into 'buffer zones' for transit migration towards economically stronger areas in the parent state or neighbouring countries [15—17], potentially leading to the substitution of newcomers for the out-migrating local population [15]. In the case of closed borders, often resulting from conflict-prone situations, borderland status is increasingly associated with disintegration, lower socio-economic levels and deepening peripherality. It has been demonstrated, however, for Guyana and Suriname that, despite closed borders, emigration can grow, primarily in the aftermath of political regime changes [18].

Spatial isolation and borderland position affect the self-image of an exclave's residents, shaping their socio-cultural and territorial identity where self-identification as part of the region blends with that of the parent state and surrounding countries,[1] accounting for the population's migration mobility [19].

The coastal position of an exclave impacts migration processes through the maritime orientation of economic development, which attracts specialists in the relevant fields from beyond the region, creating additional socio-economic opportunities and making exclaves more attractive to migrants [20]. An outlet to the sea prompts the development of additional transport corridors thus enhancing the territory's transport accessibility for migrants. Fishing contributes to the popu-

[1] A surrounding state is a state that completely or partially encloses the enclave of another state.

lation's food security, while the coastalisation factor prompts lifestyle migration [21—23]. At the same time, in unfavourable climatic conditions, coastal locations may be linked to flood risks, generating migration push factors [24].

Thus, these features of the coastal exclaves' EGP indirectly impact migration by shaping conditions for socio-economic development and altering population structure. Consequently, assessing how these characteristics influence migration in coastal exclaves is complicated by this indirect nature, as well as by the sensitivity of migration to other factors. Among these factors, as suggested by the literature, are the natural and social environment of individuals, including geographical, environmental and socio-economic conditions, as well as structural factors influencing the composition of populations involved in migration, such as demographic, ethnic, historical, professional and educational characteristics [25, p. 54—55]. These factors can both push and pull migrants.

The identification of migration factors in diverse territorial units is often preceded by the provision of a relevant typology, as typologising enables the division of territories into distinct homogeneous groups and facilitates a qualitative analysis within each type [26]. Typologies characterising territories by migration processes typically rely on absolute and relative indicators of net and gross migration, the number of arrivals and departures, and migration efficiency[1] [26—29]. If the focus is on migration activity rates and population adaptation, a typology may use measures such as the proportion of migrants within the population[2] [30] and the structure of migrants by length of stay in the settlement region [31]. Of particular interest is the typology of regional capitals in Russia, which categorises these cities based on the ratio between natural and migratory population change, highlighting migration's role in population dynamics [32].

Typologies that consider the conditions shaping migration processes also use indicators reflecting the overall demographic situation, labour market conditions and employment rates, education systems, individuals' socio-economic status, standards of living, and level of regional public security [28]. For the specifics of the EGP to be fully taken into account, it is essential to consider characteristics of the border functions, such as the number of bordering countries and the number of border crossing points [33]; natural and climatic conditions, for instance, January temperature averages [28]; and population distribution, including the level of urbanisation [28] and proximity to major cities.[3]

Although existing typological methodologies fail to capture the migration-related specifics of coastal exclaves and are thus not entirely suited to the objectives of this study, net migration rate, the share of migrants in the population,

[1] Peck. B. 2021, Understanding US Regions through Cluster Analysis, *Medium*, URL: https://medium.com/geekculture/understanding-us-regions-through-cluster-analysis-4ab87472b899 (accessed 23.04.2024).

[2] OECD, 2022, *The Contribution of Migration to Regional Development*, OECD Regional Development Studies, OECD Publishing, Paris.

[3] OECD, 2022, *The Contribution of Migration to Regional Development*, OECD Regional Development Studies, OECD Publishing, Paris.

average air temperature and urbanisation level have proven to be reliable and effective indicators for use in migration typologies. Additionally, it is prudent to apply widely used indicators of exclave development conditions, such as territory size, distance from the parent state and a comparison of average personal incomes between the exclave, the parent state and neighbouring countries. Given this, we propose developing a customised methodology for this study that, on the one hand, leverages the accumulated expertise in exclave typology and, on the other, accommodates the availability of statistical data across territories in different countries.

Methods and materials

As of the beginning of 2022, there were 18 coastal exclaves in the world [2]. Six of them are situated in areas with unfavourable climatic conditions. Brunei's Temburong district and East Timor's Oecusse-Ambeno district are located in an equatorial climate zone, while French Guiana, an overseas region of France, lies in a subequatorial zone. These areas are characterised by high average annual temperatures, over 26 °C, and abundant rainfall. In Oman's Musandam governorate and Angola's Cabinda province, situated in the arid tropics, air temperatures also exceed 26 °C. Most of Alaska, a US state, lies in a subarctic climate zone, with some areas classified as arctic. This directly impacts both the economic development of these territories, including their maritime economic activities, and the population's migration mobility. Additionally, some exclaves, such as the British Overseas Territories of Akrotiri and Dhekelia, are sovereign military bases, which precludes civilian migration.

Coastal exclaves range from extensive territories like Alaska (1,718,000 km^2) to very compact and highly urbanised areas, such as Gibraltar (a British Overseas Territory) and Spain's sovereign territories of Ceuta and Melilla. These differences impose limitations on the migration capacity of such areas, and in some cases, result in the absence of civilian populations altogether, as is the case in Turkey's Kokkina enclave. The distances between the coastal exclaves and their parent territories exhibit significant variation. While two-thirds are located within 150 km of their parent state, two exclaves, Russia's Kaliningrad region and Alaska, are situated 300 to 900 km away, while four are over 1,000 km from the metropole.

Twelve coastal exclaves are located in countries in the Global North, distinguished by high economic development levels, while others are located in the Global South, placing them in proximity to less economically developed states, such as French Guiana.

This study draws on the conceptual foundations of the theories of exclavity, borderlands and coastalisation, employing methods commonly used in migration studies. Statistical methods were applied during the data collection and calculation stages to derive the necessary indicators. The subsequent stage involved a comparison of the study territories and their typologisation. The criteria

and indicators presented in Fig. 1 were employed to describe the effect of EGP on migration patterns. Additionally, factors such as environmental and climatic conditions, the regions' socio-economic development levels, population distribution, special regimes promoting economic activities, and the exclaves' transport connectivity with the parent states were considered in developing the typology. The exclusion of certain factors from the analysis, such as state migration policies and the age and gender structure of the population, can be explained by the inability to account for all possible influences, including the lack of publicly available data.

The migration typology of the world's coastal exclaves was developed for 13 territories, using data from 2017 to 2022. Military bases — Akrotiri, Dhekelia, Peñón de Vélez de la Gomera, — the Dhekelia power station and Kokkina, all bereft of civilian population, were excluded from the analysis. However, the Russian exclave of the Republic of Crimea was included in the typology, as it was considered an exclave throughout nearly the entire study period before no longer being regarded as such in 2022 due to the integration of new regions into the Russian Federation,[1] which provided direct land connectivity to the parent territory. The inclusion of Crimea in the typology is justified by its exclave status during the majority of the study period.

The study used data from the exclave's national and regional statistical services. Data from the Rome2Rio travel planning portal and the Flightradar24 flight tracking portal were utilised to evaluate the transport connectivity of the exclaves with the parent state and surrounding countries. The sources of demographic data included the World Bank database, the UN Population Division data portal, the Statista data platform, the Worldometer Reference Web Portal and the Thomas Brinkhoff: City Population Geodata Portal.

Data from government portals of parent states and exclaves, as well as thematic reports from specialised organisations on economic and sectoral development, such as the World Bank, were employed to analyse the economic specialisation of exclaves, transport accessibility and regimes implemented to promote economic activities. The Subnational Human Development Index (SHDI) was utilised to compare the social development levels of the exclaves. For Russia's Kaliningrad region, average values for the Northwestern Federal District (NWFD) were used, while for Crimea, those for the Southern Federal District (SFD), as federal district figures more accurately reflect regional conditions than national averages do. Notably, NWFD figures surpass the national average at 101 %, whereas SFD figures are below it at 97 %.

[1] Federal Constitutional Law № 5-FKZ of 4 October 2022, Federal Constitutional Law № 6-FKZ of 4 October 2022, Federal Constitutional Law № 7-FKZ of 4 October 2022, Federal Constitutional Law № 8-FKZ of 4 October 2022.

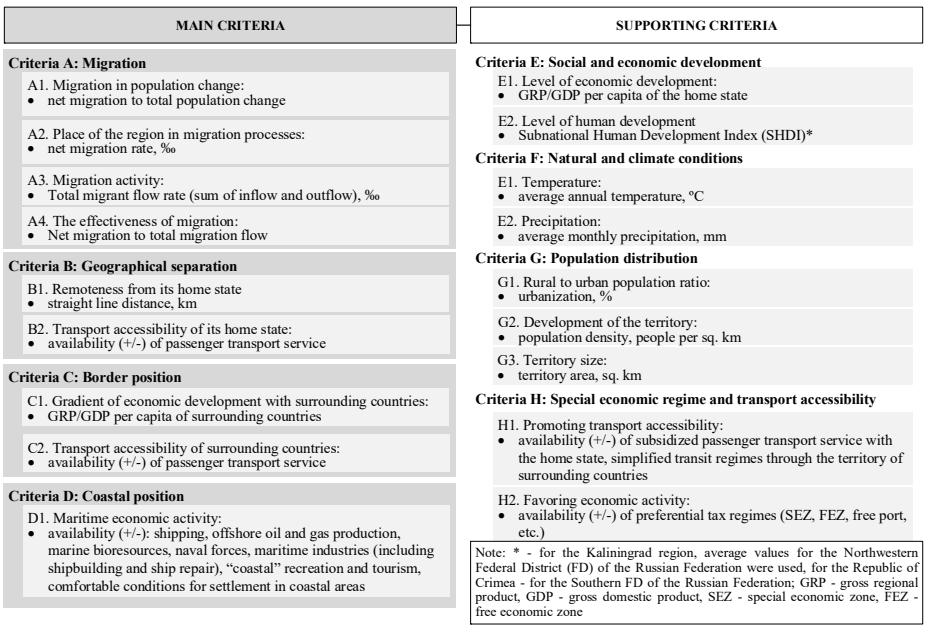


Fig. 1. Criteria and indicators of the migration typology of the world's coastal exclaves

The data on average annual temperature and precipitation were obtained from the Weather and Climate: The Global Historical Weather and Climate Data search engine. The identified types and subtypes of coastal exclaves are described in terms of how migration patterns are shaped by spatial isolation, coastal location and borderland status. Some data are only partially comparable. For instance, migration statistics in the United Kingdom and the United States are typically collected mid-year, while in other regions, they are reported at the start of the year. Moreover, since migration indicators for some exclaves, such as Musandam, Cabinda and Oecusse-Ambeno, are not available in the public domain, some estimates were calculated based on natural population change. It is also important to note that the methodology for calculating migration indicators is not standardised,[1] and in some countries, migration data collection is not entirely reliable, as in the cases of Angola and East Timor.

Results

The distribution of coastal exclaves by the contribution of migration to population dynamics — defined as the ratio between net migration and natural increase or decline — as well as by distance from the parent state, area, environmental conditions and economic performance revealed several distinctive features. Firstly, migration has a prominent role in population dynamics in only three coastal

[1] Alaska Population Overview 2019 Estimates, Alaska Department of Labor and Workforce Development, URL: https://live.laborstats.alaska.gov/pop/estimates/pub/19popover.pdf (accessed 21.03.2024).

exclaves. In the Kaliningrad region it is responsible for population growth, being many times the natural decrease rate, while in Temburong and Ceuta, it accounts for population decline (Fig. 2). In two other exclaves, Alaska and Musandam, net migration is slightly above the natural increase rate. Secondly, exclaves located in regions with severe climatic conditions typically exhibit unfavourable migration trends. The only exceptions are Musandam and Cabinda. Thirdly, migration-related population decrease is registered in smaller exclaves, whose territories naturally have a limited capacity for migration. Fourthly, among exclaves with negative net migration are three territories lying at the greatest distance from the parent state: French Guiana, Gibraltar and Alaska. Fifthly, population decrease due to migration is accompanied in exclaves by higher economic growth rates, three times exceeding those in areas with migration-related growth. This leads one to the conclusion that the influence of this factor on migration processes is secondary.

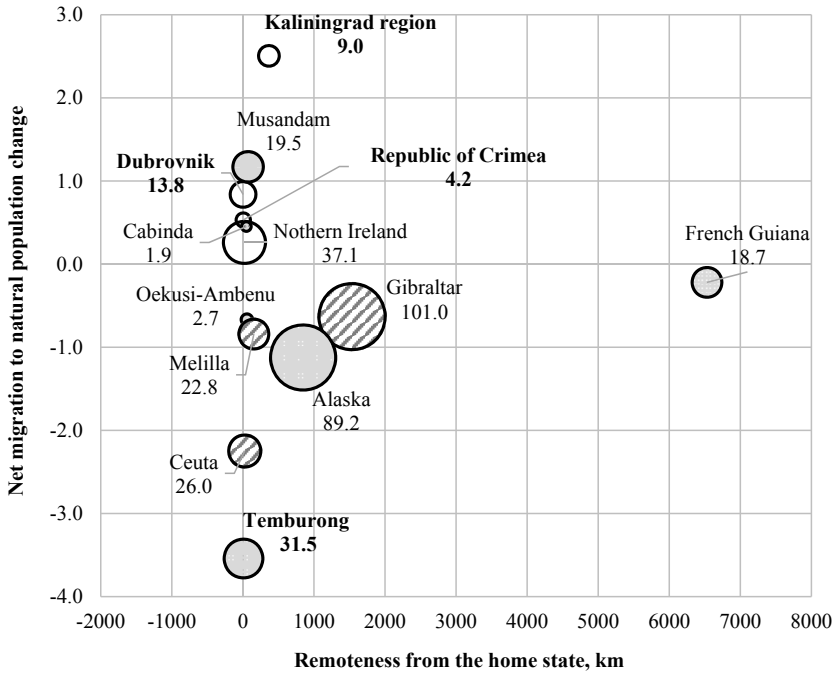


Fig. 2. Distribution of the world's coastal exclaves by indicators of population dynamics and the distance from the parent state, area, environmental conditions and economic performance

Comment: The size of each circle and its caption represent the GDP (current prices, PPP), in 1,000 USD per capita. For Temburong, Oecusse-Ambeno, and Musandam, average national values are used. Exclaves with an area of no more than 20 km² are hatched. Those located in unfavourable natural and climatic conditions — equatorial, sub-equatorial, tropical, and subarctic climates as classified by Boris Alisov — are shaded. Exclaves experiencing natural population decrease are indicated in bold .

Migration typology of the world's coastal exclaves

According to migration characteristics, coastal exclaves can be classified into three types: territories attractive to migrants (Type A), unattractive to migrants (Type B) and peripheral to migration processes (Type C) (Table 1).

Type A includes exclaves with overall positive net migration over the study period. Subtypes A1 and A2 can be distinguished based on the significance of migration for population dynamics. Exclaves where migration plays a primary role in population dynamics form subtype A1. Among them is the Kaliningrad region, where migration offsets natural population decrease, and Musandam, where migration complements natural population growth. Subtype A2 comprises Crimea and Cabinda, where migration plays a secondary role, with population dynamics largely driven by natural increase (Cabinda) or decrease (Crimea).

Larger than many other study exclaves in terms of area, both the Kaliningrad region and the Republic of Crimea have a mild climate and favourable environmental conditions. They boast well-developed maritime economy sectors and robust transport connectivity, both national and international. Home to international airports and seaports, these regions are linked to surrounding states by an extensive road network. Between 2018 and 2022, Crimea was only linked by road to other Russian regions via Kerch Bridge. Yet, in economic terms, the two regions perform below the averages for both the country and the surrounding states. This may indicate that these regions are chosen by residents from less economically developed regions of Russia and other countries (not the neighbouring ones). Moreover, migration to these areas for non-economic reasons, such as environmental, climatic, historical, or cultural ones, is also widespread. Currently, a number of measures aimed at subsidising transport connections and stimulating socio-economic development are focused on reducing the costs associated with the spatial isolation of the Russian exclaves.

Musandam and Cabinda differ from other Type A exclaves in that they exhibit high natural population growth. In these regions, the influence the unfavourable environmental and climatic conditions have on migration dynamics is overshadowed by economic factors, primarily, the oil and gas extraction capability. Both exclaves are located relatively close to their parent territories, at distances ranging from 50 to 75 km, and maintain strong connectivity with the metropole through all modes of transport. These regions are also engaged in the maritime economy, including the development of port infrastructure and logistics, fisheries and 'coastal' industries.

Table 1

Migration typology of the world's coastal exclaves

Indicator	Type A				Type B						Type C		
	A1		A2		B1			B2					
	RU-KGD	OM-MU	RU-CRI	AO-CAB	ES-CE	US-AK	BN-TE	TL-OE	FR-GF	ES-ML	GIB-292	HR-19	GB-NIR
Criteria A: migration situation													
A1	2.51	1.17	0.53	0.45	−2.25	−1.1	−3.54	−0.67	−0.2	−0.84	−0.63	0.84	0.26
A2	10.75	15.93	3.63	8.46	−6.99	−7.12	−12.37	−12.54	−3.92	−5.71	−1.82	1.35	0.81
A3	45.8	N/A	48.1	N/A	56.3	112.6	N/A	N/A	N/A	73.6	N/A	31.6	24.8
A4	0.23	N/A	0.08	N/A	0.17	−0.07	N/A	N/A	N/A	−0.15	N/A	0.04	0.03
Criteria B: spatial isolation													
B1	365	73	5	49	25	847	9	57	6530	153	1535	2	22
B2	+/+/+	+/+/+	+/+/+	+/+/+	−/+/+	−/+/+	+/−/+	+/+/+	−/+/−	−/+/+	−/+/−	+/+/+	−/+/+
Criteria C: borderland status													
C1	0.38—0.50	N/A	0.86	N/A	4.97	1.7	N/A	N/A	3.71	4.37	3.3	1.47 — 1.91	0.3
C2	+/−/−	+/−/−	+/+/+	+/−/+	+/−/−	+/+/+	+/−/−	+/−/−	+/+/+	+/−/−	+/+/−	+/−/−	+/−/+
Criteria D: coastal position													
D1	+	+	+	+	+	+	+	+	+	+	+	+	+
D2	+	+	+	+	−	+	−	−	−	−	−	−	−
D3	+	+	+	+	+	+	−	+	+	+	−	+	+
D4	+	+	+	+	+	+	+	+	+	+	+	+	+
D5	+	+	+	−	+	+	−	−	+	−	+	+	+

The end of Table 1

Indicator	Type A				Type B						Type C		
	A1		A2		B1			B2					
	RU-KGD	OM-MU	RU-CRI	AO-CAB	ES-CE	US-AK	BN-TE	TL-OE	FR-GF	ES-ML	GIB-292	HR-19	GB-NIR
D6	+	+	+	–	+	+	–	–	+	+	+	+	+
D7	+	+	+	+	+	+	–	–	+	–	–	–	+
D8	+	–	+	–	–	–	–	–	–	–	+	+	+
Criteria E: socio-economic development													
E1	0.7	N/A	0.3	N/A	0.7	1.3	N/A	N/A	0.5	0.6	2.2	0.8	0.8
E2	0.85	0.83	0.81	0.69	0.85	0.93	0.83	0.54	0.79	0.85	0.93	0.87	0.9
Criteria F: climate and environment													
F1	9.4	28.2	15.0	26.0	18.6	–2.0	28.4	27.7	27.5	19.6	18.0	16.0	9.9
F2	67	13	42	68	51	32	126	136	109	30	64	86	72
Criteria G: settlement patterns													
G1	77	72*	51	87	100	80	6	21	90	100	100	100	65
G2	67	27	73	115	4556	0	7	89	3	6437	5025	68	137
G3	15125	1800	26081	7273	19	1717856	1306	817	83846	13	7	1781	13843
Criteria H: special economic regime and transport accessibility													
H1	+	–	+	–	+	+	–	–	–	+	–	+	+
H2	+	+	+	+	+	–	–	+	–	+	+	–	+

Comment: * — evaluation; the codes of the regions are in accordance with ISO 3166; the code of the Republic of Crimea was assigned by the authors within the logic of GOST 7.67.

Although transport links with the parent state are not subsidised for these exclaves, special tax regimes have been implemented in Cabinda, the Cabinda VAT Special Regime — albeit not applicable to the oil extraction sector — has been introduced to enhance the competitiveness of locally produced goods and maintain affordable import prices. This regime includes various tax benefits, such as a reduced value-added tax (VAT) rate of 1—2 % on certain goods and services, instead of the standard 14 %.

Type B subtypes, representing exclaves unattractive to migrants, are categorised following the same logic. Subtype B1 encompasses exclaves where migration serves as the primary driver of population dynamics, while subtype B2 includes those where migration plays a secondary role. Subtype B1 comprises Ceuta and Alaska, where population outflows offset natural population growth, and Temburong, where migration exacerbates natural population decline, a trend uncharacteristic of the country as a whole. This phenomenon is attributed to a high proportion of older individuals and a low percentage of those in reproductive age, resulting in reduced fertility rates and increased mortality. Subtype B2 consists of Oecusse-Ambeno, French Guiana and Melilla — exclaves where migratory outflows partially decrease natural population growth.

The largest exclave by area, Alaska, lies one-third beyond the Arctic Circle. Harsh environmental and climatic conditions continue to shape its migration dynamics. At the same time, the region's economic focus — resource extraction, with a significant share of the public sector [34] — and its strong transport connectivity to other territories, supplemented by subsidised domestic air travel, contribute to substantial migration turnover. Although Alaska outperforms neighbouring Canada and many US states in terms of socio-economic development, the region continues to experience a net migration decrease.

Densely populated Melilla and Ceuta benefit from favourable climate and environmental conditions. Migration processes in these regions take place within the confines of a small territory, characterised by limited migration capacity and economic potential. Migration dynamics in these exclaves are marked by the outflow of permanent residents to mainland Spain, driven by the region's lower living standards and the influx of African refugees seeking to enter the European Union, which diminishes the regions' appeal to interregional migrants [35]. A modest migration gain in exchange with neighbouring Morocco is accompanied by high-intensity short-term migration of Moroccans into the exclaves. This situation results from a higher standard of living in the exclaves, which is four times greater than in Morocco, and the opportunity for Moroccans to make short-term, visa-free visits to Spanish cities, as Spanish exclaves are excluded from the Schengen Agreement.

Temburong, Oecusse-Ambeno and French Guiana are located in the equatorial and sub-equatorial regions, respectively, both associated with adverse natural and climatic conditions. The economies of these exclaves are underdeveloped, with their coastal locations largely untapped and dependence on state subsidies remaining high. In Temburong and Oecusse-Ambeno, the principal industry is agriculture, with the former also specialising in ecotourism. In French Guiana, the most developed sectors are fishing, seafood extraction and timber harvesting. The transport accessibility of French Guiana, the most distant exclave, is the lowest among all the study regions, with air transport being largely unaffordable due to its below-average economic development relative to the parent country. Connectivity with neighbouring countries is more intensive due to multiple road, sea, and air transport options, as well as greater affordability resulting from higher levels of economic development compared to adjacent states. Oecusse-Ambeno and Temburong have relatively closer transport links with their parent states by road, sea and air, with the last option not applicable to Temburong. However, none of the exclaves in this subtype receive subsidies for the transport corridor connecting them with their parent states.

Type C encompasses exclaves located outside major migration routes, with a low net migration rate — Dubrovnik, Gibraltar, and Northern Ireland — where mobility has a modest impact on population change. This situation can be explained by various factors, with the main ones being population ageing, the increase in homeownership, cultural entrenchment, and the widespread development of remote employment [36]. In Northern Ireland, negative societal attitudes towards migrants are also significant, as the region has only recently emerged as a destination for immigration [37]. Although Northern Ireland's economy is highly diversified, with a well-developed maritime sector, the region lags behind both the parent country and its neighbour, reducing its appeal to migrants from other parts of the UK and Ireland. Migration capacity is an additional factor contributing to the low intensity of migration in Gibraltar and Dubrovnik. In the former, it is largely the result of its small area, which is slightly above 7 km^2, while in the latter, it is influenced by the heavy volume of tourists[1] and the restrictions associated with the status of the UNESCO World Heritage Site for the old town.

Territories exhibiting typical characteristics of migration processes in coastal exclaves were selected for a more in-depth analysis. These include the Kaliningrad region and Alaska, where interregional migration plays a leading role; Northern Ireland, characterised by localisation of migration within the exclave; Oecusse-Ambeno, primarily oriented towards migration interactions with neighbouring countries; and the Republic of Crimea, engaged in migration exchanges simultaneously with both neighbouring countries and the parent state.

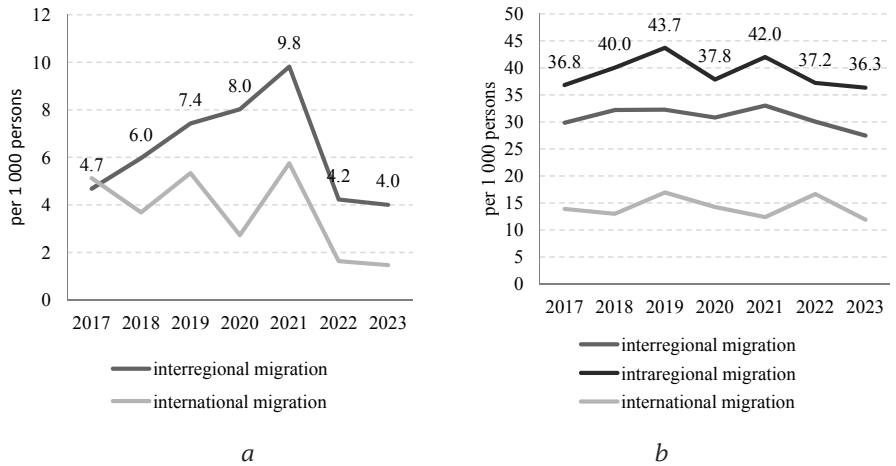
[1] Dubrovnik ahead of Venice with most tourists per resident in Europe, 2023, *CroatiaWeek*, URL: https://www.croatiaweek.com/dubrovnik-ahead-of-venice-with-most-tourists-per-resident-in-europe/ (accessed 26.02.2024).

Migration specifics of some typical coastal exclaves

Kaliningrad exclave: a centre of attraction for internal migrants

Populated by Soviet settlers after the territory became part of the RSFSR in 1946, the Kaliningrad region experienced a migration gain throughout the post-Soviet period. A new phase of increase in the exclave's net migration rate began after 2016, as Russia overcame the crisis caused by the sanctions standoff between the country and the West, following the integration of Crimea and Sevastopol in 2014. Another factor was the growing popularity of the region as a destination for Russian tourists. The influx of visitors led to greater recognition of the region and stimulated investment, which transformed its appearance and improved its transport connectivity with other Russian regions. Consequently, migrant inflows from other parts of Russia increased [28].

Interregional migration accounts for over 60 % of the region's migration gain and about 36 % of gross migration (Fig. 3). The primary reasons settlers from Russia choose the exclave are its favourable natural and climatic conditions, clean environment, historical and cultural uniqueness and affordable housing costs [28]. It is therefore unsurprising that most migrants come from the northern regions, Siberia, and the Russian Far East [28]. The geography of destinations chosen by migrants from the Kaliningrad region indirectly reflects the push factors of economic and educational migration, influenced by the exclave nature and small size of the region, i. e., its limited economic capacity. As a result, residents of the region more frequently head towards the capitals, Moscow and St. Petersburg, as well as their surrounding regions [38].



a *b*

Fig. 3. The main migration indicators in the Kaliningrad region in 2017—2023:
a — net migration rate; *b* — gross migration rate

Source: calculated by the authors based on Rosstat data.

Measures aimed at overcoming transport costs include subsidising passenger air links with the parent territory and, since 2022, maritime freight transport. A simplified procedure for land transit through Lithuania is available for residents of the region. Projects aimed at enhancing the region's economic security are being implemented, including major energy initiatives such as the construction of an LNG reception terminal, a floating regasification unit and an underground gas storage facility. Moreover, a Special Economic Zone (SEZ) regime has been established to sustain the competitiveness of local products.

Alaska: a donor of internal migrants for other US states

Migration in Alaska has traditionally been either forced or economically motivated. A large proportion consisted of military personnel being assigned to new postings and migrants seeking higher wages in the fishing industry and mining enterprises.[1] Currently, 28 % of workers in the production sector are employed in mining, and 20 % in the fishing industry.[2] Military personnel account for 7 % of the local population.[3] As of 2018, 42 % of the exclave's population were locally born, while 46 % were born in other US states and around 12 % abroad, with 3 % originating from the Philippines.[4]

The migration experience of Alaska's residents, their lack of rootedness, and the adverse natural and climatic conditions drive the local population to other US states, diminishing the significance of the advantages provided by the region's buoyant economy. The outflow is further intensified by subsidised air travel within the state, which improves access to central airports — key points of connection with the mainland — for residents of remote areas. In total, between 2017 and 2023, the exclave lost nearly 50,000 people, or 6.6 % of its population, with only one-fifth of this loss compensated by inflows from other countries, primarily the Philippines (Fig. 4).

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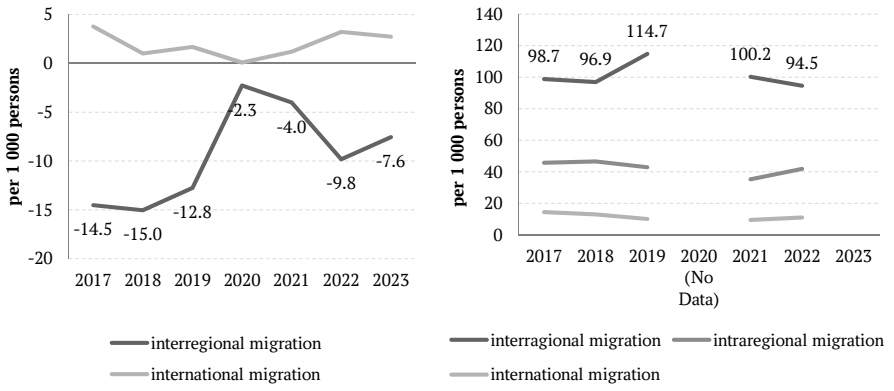
[1] Williams, G. 2004 Migration, *Alaska economic trends*, URL: https://akdolphp.ayera.net/sites/default/files/trendsArt/jul04art1.pdf (accessed 21.03.2024).

[2] ALASKA MONTHLY EMPLOYMENT STATISTICS, *Department of Labor and Workforce Development*, URL: https://live.laborstats.alaska.gov/labforce/000000/01/ces.html#y2022 (accessed 21.03.2024).

[3] Alaska Population Overview 2019 Estimates, *Alaska Department of Labor and Workforce Development*, URL: https://live.laborstats.alaska.gov/pop/estimates/pub/19popover.pdf (accessed 21.03.2024).

[4] Alaska Migration History 1900—2018, *America's Great Migrations Project*, URL: https://depts.washington.edu/moving1/Alaska.shtml (accessed 21.03.2024).

The mobility of the population within the state, facilitated by subsidised air travel, remains high — around 40‰ — which exceeds the values observed in other exclaves. However, it is still less intense than external migration, accounting for 28 % of gross migration in Alaska.[1]



a *b*

Fig. 4. Key migration indicators for Alaska's population from 2017 to 2023:
a — net migration rate; *b* — gross migration rate

Source: calculated by the authors based on US Census Bureau data.

Oecusse-Ambeno: migration decline of rural population due to emigration and urbanisation

According to the 2022 census, locally born residents account for over 90 % of the population of Oecusse-Ambeno.[2] A significant migration decline in the population of this agricultural exclave is primarily linked to emigration. This trend is due to the region's remoteness and the low affordability of transport links with the mainland, as well as the lack of strong social ties with the peoples of the eastern part of the country: ethnic proximity to the peoples of the western part hinders intensive migration interaction with other regions of East Timor. Experts highlight two main directions in international migration: a) towards the culturally and economically close neighbouring region of Indonesia — East Nusa Tenggara; b) towards economically developed countries — Australia, Portugal and

[1] K200701 Geographical Mobility in the Past Year in the United States, *United States Census Bureau*, URL: https://data.census.gov/table?q=%20K200701%20alaska&y=2022 (accessed 21.03.2024).

[2] Timor-Leste Population and Housing Census 2022, *INETL, I.P*, URL: https://inetl-ip.gov.tl/2023/05/18/table-main-report-timor-leste-population-and-housing-census-2022/ (accessed 25.03.2024).

the UK — much in line with national trends.[1] The less pronounced interregional migration loss is linked to urbanisation and the relocation of the exclave's rural population to the capital region of Dili. According to the 2022 census, the area had the highest proportion of exclave natives who had ever left their birthplace to migrate within the country (76 %). Among the measures to address Oecusse-Ambeno's spatial isolation is a special tax regime implemented within the Special Administrative Region framework to promote international tourism [39].

Northern Ireland: localisation of migration flows with a focus on international migration exchange

Migration in Northern Ireland is dominated by movements over distances of 10 to 50 km [40]. Over 80 % of residents who changed their place of residence in 2020 did not leave the exclave, and the vast majority remained within their district.[2] This local migration focus is attributed to the region's uneven living standards and quality of life, its lag behind the average levels of the parent state and the neighbouring country, as well as insufficient subsidies for transport connectivity with the mainland.[3]The religious composition of the population also influences migration patterns: protestants, who make up 44 % of the population, exhibit greater mobility over distances of up to 50 km [40].

The primary driver of changes in Northern Ireland's migration dynamics, largely oriented towards internal movements, is international migration — specifically, exchanges with neighbouring Ireland (Fig. 5). International mobility is primarily facilitated by close social, often familial, ties among residents on both sides of the border. The primary driver of changes in Northern Ireland's migration dynamics, which are predominantly focused on internal movements, is international migration, particularly exchanges with neighbouring Ireland. Another significant factor is transport connectivity and the Common Travel Area regime,[4] which allows Irish citizens to live and work in the UK (and UK citizens in Ireland) without restrictions.

[1] World Bank Group, 2016, Democratic Republic of Timor-Leste — Oecusse Economic and Trade Potential, *World Bank Publications — Report Nº ACS18457 v II*, The World Bank Group.

[2] Census 2021 main statistics migration tables, *NISRA*, URL: https://www.nisra.gov.uk/publications/census-2021-main-statistics-migration-tables (accessed 21.02.2024).

[3] The exclave benefits from subsidised transport connectivity between UK territories (The Public Service Obligation).

[4] It applies to citizens of the United Kingdom, Ireland and, since 2022, China and India within the territories of the United Kingdom, Ireland, the Isle of Man and the Channel Islands.

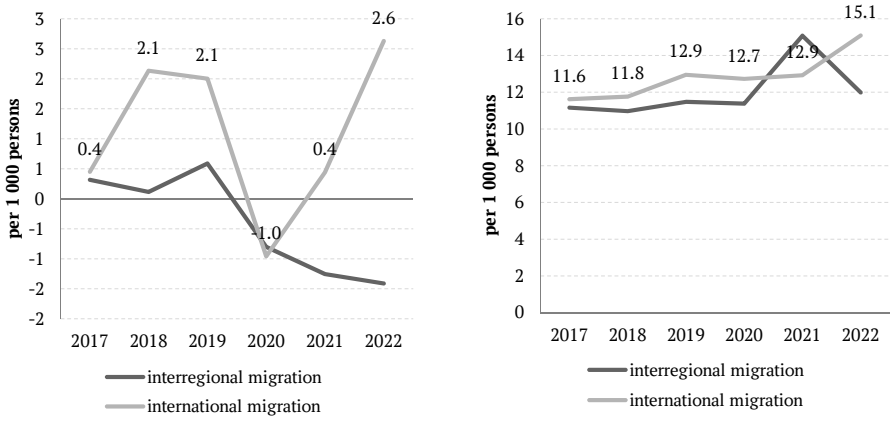


Fig. 5. Key migration indicators for Northern Ireland in 2017—2022:
a — net migration rate; *b* — gross migration rate

Source: calculated based on data from the Northern Ireland Statistics and Research Agency (NISRA).

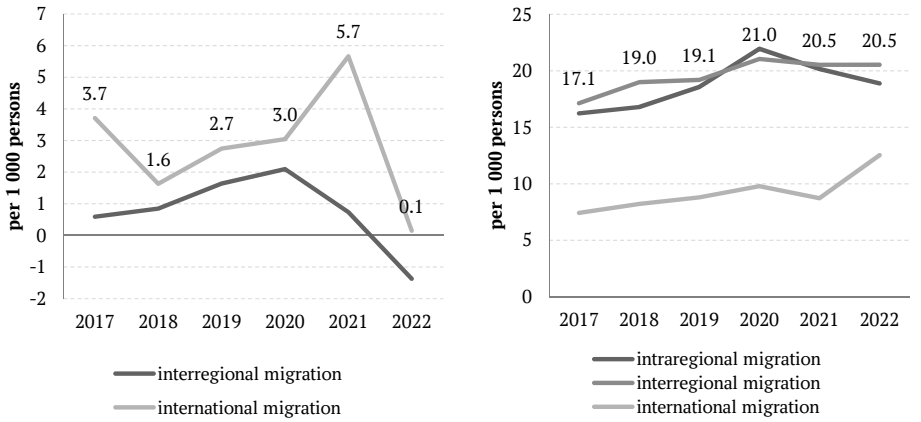
Close migration ties also underpin immigration from India and China, which in 2022 was facilitated by the liberalisation of the visa regime for highly skilled professionals and healthcare workers [37]. Moreover, the exclave attracts labour migrants from countries with lower living standards and higher unemployment rates, such as Romania, Bulgaria, Poland and Lithuania.[1] Finally, another migration channel to the exclave is the spontaneous movement of refugees from conflict zones, including Ukraine and Syria.

The Republic of Crimea: an exclave with a developed migration exchange with the parent and neighbouring states

After 2014, a decisive role in the migration dynamics in Crimea was played by two processes: a growing migration exchange with other Russian regions, stimulated by the territory's integration into Russia and the increasing influx of migrants from Ukraine. Yet, migration exchange with Russian regions has low efficiency, whereas the less intensive exchange with foreign states, primarily Ukraine, accounts for 73 % of migration gain. The driver of increased interregional migration was the active integration of the region into Russia's political, legal and socio-economic environment, as well as the establishment of the re-

[1] NISRA Statistical Bulletin, *NISRA*, URL: https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/Mig1718-Bulletin.pdf (accessed 21.02.2024).

gion's security system, which required the involvement of specialists with appropriate qualifications [41]. Another contributing factor is the subsidised railway link and the preferential tax regime (Crimea SEZ). The influx of migrants from Ukraine is accounted for by the relocation of part of the Russophone population to Russia as a result of discrimination in the country of origin.



a *b*

Fig. 6. Key migration indicators for the population of the Republic of Crimea from 2017 to 2023: *a* — net migration rate; *b* — gross migration rate

Source: calculated based on Rosstat data.

Conclusion

The study showed that exclavity rarely determines the specific nature of migration processes in coastal exclaves. It can play a pivotal role in only three circumstances: when the exclave is geographically distant from the parent state, when it lags behind socio-economically, leading to limited affordability of transport links with the parent state, or when both conditions occur simultaneously. In all other cases, exclavity is secondary to other factors influencing migration dynamics, including natural and climatic conditions, sectoral economic specialisation, such as oil and gas extraction and the maritime economy; the level of socio-economic development relative to the parent and neighbouring countries; historical and cultural determinants of migration ties; territorial capacity; and the presence of special regimes designed to mitigate territorial isolation costs. An example of the first case is French Guiana, which has a relatively low net migration rate. Remoteness, coupled with adverse natural and climatic conditions, not only results in spatial isolation and low transport connectivity but also defines the peripheral nature of the exclave, which in turn diminishes the affordability

of transport links with the parent state and its migration attractiveness to neighbouring countries. The low level of socio-economic development associated with exclavity drives the migration outflow from the underdeveloped agricultural exclave of Oecusse-Ambeno, primarily towards neighbouring Indonesia.

The study also showed that such diverse coastal exclaves can be typologised according to the nature of the migration processes occurring within them. Only four coastal exclaves are experiencing migration growth: the Kaliningrad region, Crimea, Cabinda and Musandam. A significant factor in this increase is the implementation of policies aimed at mitigating the costs of exclavity, with such measures most successfully applied in the Kaliningrad region and Cabinda. However, in all other exclaves, the measures taken do not appear to be sufficiently effective and fail to create conditions conducive to migration growth. Six of the 13 exclaves are classified as unattractive to migrants, while in three, migration processes are minimal.

The study confirmed the hypotheses tested. Despite the wide range of measures aimed at overcoming the costs of exclavity and promoting migration exchange with neighbouring Ireland, Northern Ireland experiences a localisation of migration processes. Due to its low socio-economic development and historical factors, the agricultural exclave of Oecusse-Ambeno exhibits a stronger oriens tation towards migration exchanges with neighbouring Indonesia compared to interregional migration. Interregional migration predominates in the Kaliningrad region and Alaska, albeit for different reasons. The attractiveness of the Russian exclave stems from the forced concentration of migration processes within the country's borders, due to sanctions (after 2022) and the COVID-19 pandemic, as well as an improvement in living standards, supported by active policies to overcome the costs of exclavity. In Alaska, natural, climatic and economic conditions push the population out of the region. An intensive migration exchange with both the parent and neighbouring states was characteristic of Crimea as a result of the region's integration into the Russian environment alongside close social ties with Ukraine.

The prospects of the research are tied to a more detailed examination of the push and pull factors influencing migrants within the typological groups of coastal exclaves. An analysis of migration dynamics over a longer time span is also of interest, with the aim of verifying changes in migration patterns within the context of economic and political shocks, particularly regarding the 'parent state — surrounding state' relationship [42, p. 301].

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References

1. Rozhkov-Yuryevsky, Yu. D. 2013, The concepts of enclave and exclave and their use in the political and geographical characteristic of the Kaliningrad region, *Baltic Region*, № 2, p. 113—123, https://doi.org/10.5922/2079-8555-2013-2-11

2. Zverev, Yu. M. 2018, Coastal exclaves among enclosed territories of the world, *Vestnik of Immanuel Kant Baltic Federal University. Series: Natural and Medical Sciences*, № 4, p. 18—32. EDN: YVBBVZ (in Russ.).

3. Vinokurov. E. Yu. 2007, *Teorija anklavov*, Kaliningrad (in Russ.).

4. Rozhkov-Yuryevsky, Yu. D. 2016, Kaliningrad and Crimea as Russian exclaves: similarities, differences, and interconnections, *Vestnik of Immanuel Kant Baltic Federal University. Series: Natural and Medical Sciences*, № 3, p. 28—44. EDN: XBOEPR (in Russ.).

5. Karachurina, L. B., Mkrtchyan, N. V., 2023. Migration distances in Russia: a demographic profile of migrants, *Baltic Region*, vol. 15, № 2, p. 4—22, https://doi.org/10.5922/2079-8555-2023-2-1

6. Voloshenko, K. Yu., Fidrya, E. S., Lialina, A. V., Farafonova, Yu. Yu., Novikova, A. A. 2023, Motives for the Migration of It Specialists to the Kaliningrad Region from Russian Regions. Monitoring of Public Opinion: Economic and Social Changes, № 5, p. 151—176, https://doi.org/10.14515/monitoring.2023.5.2376 (in Russ.).

7. Lialina, A. V. 2024, Social and economic development of the Kaliningrad region in new conditions: local specifics, *Vestnik of Immanuel Kant Baltic Federal University. Series: Humanities and social science*, № 1, p. 85—106, https://doi.org/10.5922/sikbfu-2024-1-6 (in Russ.).

8. Popkova, L. I. 2023, Migration processes in the regions of the Western borderlands of Russia with a land border, in: Klemeshev, A. P., Lialina, A. V. (eds.), *Migration processes in the formation of the labor potential of the border regions of Russia: 2011—2021*, Kaliningrad, IKBFU Press, p. 159—178. EDN: AZFXLC

9. Hrynkevych, O. 2017, Cross-border factor of educational migration of Ukrainian youth to Poland: social-economic opportunities and threats, *Economic Annals — XXI*, vol. 163, № 1-2, p. 26—30, https://doi.org/10.21003/ea.v163-05

10. Mikhel, E. A., Krutova, O. S. 2011, Migratory processes as mirrored by the transformations: border regions in Russia, *Economic and Social Changes: Facts, Trends, Forecast*, № 2, p. 74—83. EDN: UCDQBR

11. Kolosov, V. A. 2016, Cross-border regionalisation and commuters: european experience for Russia? *Regional Studies*, № 3 (53), p. 83—93. EDN: XCNYBB (in Russ.).

12. Katrovsky, A. P., Kovalev, Yu. P. (eds.). 2012, *The Russian-Belarusian border area: twenty years of changes*, Smolensk, Universum. EDN: QVLCOZ (in Russ.).

13. Voloshenko, K. Yu., Lialina, A. V. 2022, Attractiveness of the Kaliningrad region: pull factors and reasons for disappointments of migrants from Russian regions, *Baltic Region*, vol. 14, № 3, p. 102—128, https://doi.org/10.5922/2079-8555-2022-3-6

14. Kiss, É., Jankó, F., Bertalan, L., Mikó, E. 2018, Nyugat és Kelet határán: Sopron a belföldi migrációban, *Tér és Társadalom*, vol. 32, № 4, p. 151—166, https://doi.org/10.17649/TET.32.4.3070

15. Kolosov, V. A. (eds.). 2018, *The Russian border: challenges of the neighborhood,* M., IP Matushkina. EDN: HMTFQP (in Russ.).

16. Omelchenko, D., Maximova, S., Molodikova, I. 2018, Risks of international migration and integration policy Asian Boderland (on the results of sociological research in the Altai Territory), *Society and Security Insights*, № 3, p. 53—77. EDN: VKVAOA (in Russ.).

17. Villarreal, A., Hamilton, E. R. 2012, Rush to the border? Market liberalization and urban- and rural-origin internal migration in Mexico, *Social Science Research*, vol. 41, № 5, p. 1275—1291, https://doi.org/10.1016/j.ssresearch.2012.02.007

18. Vezzoli, S. 2012, How do borders influence migration? Insights from open and closed border regimes in the three Guianas, *Comparative Migration Studies*, vol. 9, № 9, https://doi.org/10.1186/s40878-020-00213-1

19. Shchekoturov, A. V., Krishtal, M. V. 2021, Dynamics of territorial identity and perception of the status of the region by residents of the Kaliningrad region in 2016—2020, *Moscow State University Bulletin. Series 18. Sociology and Political Science*, vol. 27, № 3, p. 43—62. EDN: VUKIWH (in Russ.).

20. Zelinsky, W. 1971, The Hypothesis of the Mobility Transition, *Geographical Review*, № 61, p. 219—249, https://doi.org/10.2307/213996

21. Teka, O., Chabi, R. B. K., Adeleke, M. L., Vogt, J., Kramer, C., Sinsin, B. 2017, Current migrations into coastal zones of Benin: motives, ecological consequences and social realities, *European Journal of Geography*, vol. 8, № 4, p. 41—63.

22. O'Reilly, K. 2009, *Lifestyle Migration: Expectations, Aspirations, and Experiences*, Ashgate Publishing, Ltd.

23. Merkens, J.-L., Reimann, L., Hinkel, J., Vafeidis, A. T. 2016, Gridded population projections for the coastal zone under the Shared Socioeconomic Pathways, *Global and Planetary Change,* vol. 145, p. 57—66, https://doi.org/10.1016/j.gloplacha.2016.08.009

24. Siddiqui, M. R., Hossain, M. A. 2019, Climate Change and Migration in Coastal Areas in South Asia, in: Leal Filho, W., Azul, A., Brandli, L., Özuyar, P., Wall, T. (eds.), *Climate Action. Encyclopedia of the UN Sustainable Development Goals*, Springer, Cham, https://doi.org/10.1007/978-3-319-71063-1_101-1

25. Rybakovsky, L. L. 2017, Factors and causes of migration, mechanism of their relationship, *Narodonaselenie*, № 2 (76), p. 51—60. EDN: ZDQTLZ (in Russ.).

26. Aleshkovski, I. A. 2007, Internal migration in modern Russia: trends, determinants, politics, Moscow. EDN: XSNZHF (in Russ.).

27. Lialina, A. V. 2021, Typology of migration processes of Russian coastal regions, *Vestnik of Immanuel Kant Baltic Federal University. Series: Natural and Medical Sciences*, № 3, p. 42—59. EDN: XKYEEP (in Russ.).

28. Abylkalikov, S. I. 2015, A typological analysis of Russian regions on migration *characteristics, Regional Economics: Theory and Practice*, № 22 (397), p. 21—30. EDN: TWILNL (in Russ.).

29. Einem, C. K-V., Panter, J., Reid, A. 2023, A longitudinal area classification of migration in Great Britain: Testing the application of Group-Based Multi-Trajectory modelling, *Population, Space and Place*, vol. 29, № 7, https://doi.org/10.1002/psp.2694

30. Parreño-Castellano, J. M., Moreno-Medina, C., Domínguez-Mujica, J., Santana Rivero, C. 2021, Mapping foreign immigration in Spain (1998—2018). Trends and spatial patterns, *Journal of Maps*, vol. 17, № 1, p. 79—84.

31. Abylkalikov, S. I. 2015, Migration activity and adaptation of population in regions of Russia, *Regional Studies*, № 3 (49), p. 65—73. EDN: SYSJRK (in Russ.).

32. Karachurina, L. B., Mkrtchyan, N. V. 2015, Role of migration in demographic development of regional centers of Russia, *Voprosy geografii, № 141: Problemy regional'nogo razvitija Rossii*, p. 209—233 (in Russ.).

33. Maksimova, M., Omelchenko, D., Maximova, S. 2019, Migration processes in the regions of the Asian border region of Russia: the experience of building a typology, in: *Advances in Social Science, Education and Humanities Research. Proceedings of the International Conference on Sustainable Development of Cross-Border Regions: Economic, Social and Security Challenges (ICSDCBR 2019)*, № 364, p. 722—726, https://doi.org/10.2991/icsdcbr-19.2019.147

34. Heleniak, T. 2014, Migration in the Arctic, in: Heininen, L. (eds.), *Arctic Yearbook 2014*, Northern Research Forum.

35. Cherkasova, E. 2017, The problem of Ceuta and Melilla in Spanish foreign policy, *Cuadernos Iberoamericanos*, № 1, p. 66—72, https://doi.org/10.46272/2409-3416-2017-1-66-72 (in Russ.).

36. Green, A. 2018, Understanding the drivers of internal migration, in: Champion, T., Cooke, T., Shuttleworth, I. (eds.), *Internal migration in the developed world*, London, Routledge, p. 120—146, https://doi.org/10.4324/9781315589282-2

37. McGinnity, F., Laurence, J., Cunniffe, E. 2023, Comparing migrant integration in Ireland and Northern Ireland, *ESRI Research Series 158*, Dublin, ESRI.

38. Lialina, A. V. 2018, Interregional and cross-country flows of labor resources in the kaliningrad region: factors and vectors in the contemporary Eurasian context, *Vestnik of Immanuel Kant Baltic Federal University. Series: Natural and Medical Sciences*, № 4, p. 47—64. EDN: YVBBXF (in Russ.).

39. Yoder, L. S. M. 2019, From 'Special treatment' to a Special Economic Zone: Antecedents to ZEESM in the Oecusse-Ambeno enclave, in: McWilliam, A., Leach, M. (eds.), *Routledge Handbook of Contemporary Timor Leste*, London ; New York, Routledge, p. 110—123 (in Russ.).

40. Shuttleworth, I., Foley, B., Champion, T. 2021, Internal migration in Northern Ireland: Are people becoming more stuck in place?, *Population, Space and Place*, vol. 27, № 7, https://doi.org/10.1002/psp.2338

41. Ozhegova, L. A., Sazonova, G. V. 2023, Migration processes in the regions of the Azov-Black Sea basin of the Western borderlands of Russia, in: Klemeshev, A. P., Lialina, A. V. (eds.), *Migration processes in the formation of the labor potential of the border regions of Russia: 2011—2021*, Kaliningrad, IKBFU Press, p. 178—197. EDN: TLLQTH (in Russ.).

42. Robinson, G. W. C. 1959, Exclaves, *Annals of the Association of American Geographers*, № 49 (3), p. 283—295.

The authors

Dr. Anna V. Lialina, Research Associate, Centre for Regional Socio-Economic Research, Immanuel Kant Baltic Federal University, Russia.

E-mail: anuta-mazova@mail.ru

https://orcid.org/0000-0002-8479-413X

Angelina P. Plotnikova, PhD Student, Immanuel Kant Baltic Federal University, Russia.

E-mail: a.plotnikova.1416@gmail.com

https://orcid.org/0000-0002-5502-8866

SUBMISSION GUIDELINES

General rules

1. A submitted article should be relevant, contain new research, pose a scientific problem, describe the main results obtained by the author of the research, offer a conclusion, and be properly formatted.

2. The material submitted for publication should be original. It must not have been previously published in other media. Upon submission of the manuscript to the editorial team, the author assumes the obligation not to publish it in full or in part in any other media without the prior consent of the editors.

3. We expect a standard article submission to be about 40,000 characters in length.

4. All submitted works are subject to peer review and scanning by an anti-plagiarism system. The decision about the publication is based on both the reviews and the scanning results.

5. There are no fees for publications; all the materials that have passed our screening processes are published free of charge.

6. Articles are submitted online. You can access the submission system via the 'Submit an article online' link on the Battic region journal homepage (https://balticregion.kantiana.ru/en/).

7. The decision on publication (or rejection) is made by the journal's editorial board following the reviewing and discussion processes.

Article structure

An article should contain:

1) title of the article translated into English (12 words or less);

2) an English-language summary (150—250 words) compiled in accordance with international standards. The summary should effectively cover:

— an introduction to the topic;

— the purpose of research;

— a description of the research and practical significance of the work;

— a description of the research methodology;

— key results and conclusions;

— the significance of research (the contribution it made to the corresponding field of knowledge);

— practical significance of research results.

The summary should not reproduce the text of the article (i. e. copy sentences from the article verbatim) or its title. The summary should not contain digits, tables, footnote markers, etc.;

3) English key words (4—8 words);

4) bibliography (⩽ 30 sources) formatted in compliance with the Harvard System of Referencing;

5) information about the author in English. This includes full name, scientific degrees, rank, affiliation (University/ Organisation, department, position), and contact details (full postal address, e-mail);

6) information on the source language of the article.

Formatting guidelines

All materials should be submitted as electronic documents formatted to A4 paper size (210 × 297 mm).

All materials are accepted only in doc and docx formats (Microsoft Office).

Detailed information on formatting of the text, tables, figures, references, and bibliography is available on the website of the Baltic region journal (https://balticregion.kantiana.ru/en/jour/rules/).

Scientific journal

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