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ECONOMIC GEOGRAPHY

THE 'ROUTE FROM THE VARANGIANS TO THE GREEKS': TRUTH OR FICTION

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The 'route from the Varangians to the Greeks' is widely known and often mentioned in research, popular science and educational literature. Much less often is it mentioned that the existence of the trade route is seriously doubted and needs additional evidence. The discussion about the actuality of a 'route from the Varangians to the Greeks' has intensified in the recent decade; it mostly involves historians who draw on chronicles, archive materials and literary sources. Although relevant geographical studies focus on small territories and have a limited scope, only they can give a definitive answer to the question of whether it was possible to sail the rivers of the East European Plain between the Baltic and Black Seas in the 8th-11th centuries AD. Of particular importance are studies on the watersheds marking the principal legs of the route. If the watersheds were traversable, the 'route from the Varangians to the Greeks' was navigable, and the impassability of watersheds would preclude navigation along the route. Methodologically, the study employs methods and approaches used in physiographical field studies, which have not been applied earlier to the watershed sections of the 'route from the Varangians to the Greeks'. The central result of the research is the reconstruction of the hydrological features and hydrographic situation of the watershed between the basins of the Neva (River Lovat) and the Western Dvina (River Usvyacha) during the existence of the 'route from the Varangians to the Greeks'. This reconstruction and the study of the watershed territories, the system of land communication routes and toponymic features of this territory conclusively demonstrate that the 'way from the Varangians to the Greeks', or the Baltic-Black Sea waterway, could actually exist.

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Introduction

This study *aims* to describe the hydrological conditions and hydrographic features of the waterbodies in the watershed stretches of the route from the Varangians to the Greeks. This route is at the core of the semi-legendary narrative describing the emergence of Russian statehood. The first Russian state, Kiev Rus', is widely believed to be a composite of territories lining that route. Most sources agree that the artery began in the Baltic Sea, following the Neva River into Lake Ladoga, up the Rivers Volkhov and Lovat; from the River Lovat, the boats were portaged to the River Usvyacha, continuing up the River Usvyacha, the River Western Dvina and the River Kasplya; then, once again, the boats were hauled over land between the basis of the River Western Dvina and the River Dnieper to proceed through the River Katynka and the River Dnieper to the Black Sea.

The *focus* of this research is the watershed between the basins of the River Neva (the River Lovat), the River Western Dvina (the River Usvyacha and River Kasplya) and the River Dnieper (the River Katyn). Emphasis is placed on the Usvyaty portage, which presumably linked the River Lovat and the River Usvyacha, as it is the principal watershed section of the route (FIG...).

This study has *relevance* as a contribution to discussions centring on the possibility of a route 'from the Varangians to the Greeks and the challenges of navigating it. The question as to the existence of the route has both a scientific and a 'worldview' angle since it is closely linked to the emergence of Eastern Slavic peoples. The existence of a route binding the Slavic lands of the East European plain means that the Russians, the Ukrainians and the Belarusians shared a common origin in the initial stage of their histories. If the route did not exist, the ethnogenesis of these three peoples occurred independently.

Literature review

Both the opponents and proponents of a route from the Varangians to the Greeks draw on chronicles and literature, invoking toponyms mentioned in these sources to support their positions. Since these sources are copious, a 'proper' selection thereof can easily provide one with sufficient evidence to argue his or her position. For example, Dr Polina Fedotova writes: 'The unceasing, dogged attempts to prove the existence of the Scandinavian-Greek route, which was thought up by historians, take science further away from the exploration of the actual trade and transport routes that ran across Eastern Europe in antiquity' [1]. It is maintained in the abstract of the cited article that '[n]ever was there a water-land trade route from Scandinavia to Byzantium, passing through Eastern Europe. This route is a deliberate invention of Normanist historians'. In a more comprehensive contribution published in 2020 in the 'paid-for' e-journal *The Eurasian Union of Scientists*, she criticises the idea of a route from the Varangians to the Greeks even more severely [2]. However, as the text suggests, the cavilling researcher, who is a specialist in philosophy, did not investigate the supposed course of the route even vicariously, building on historical documents and earlier works on the topic.

The denial of the route's existence makes it impossible to explain why the first Russian towns (Ladoga, Veliky Novgorod, Polotsk, Gnezdov, Kiev, etc.) lined its supposed course. Moreover, it becomes completely unclear why Prince Oleg seized Kiev in 882 BC and moved the capital of his state there [3]: if there had been no connection between Novgorod and Kiev, this relocation would have been both impossible and unreasonable.

Irina Konovalova and Elena Melnikova, the authors of the voluminous work on the historical geography of early medieval routes in Eastern Europe, *Ancient Rus in the system of Eurasian communications of the 9th–10th centuries*, do not mention a route from the Varangians to the Greeks in the first part of their study ('The formation of a network of Eurasian communications in the 8th–10th centuries'). Yet, in the section dedicated to a Western Dvina route, distinguished by the authors of the book, they argue: 'there are distinctive early links between the Vitebsk Dvina and the Baltic-Volga route (and late the Dnieper route as well)' [4, p. 106]. But the 'early links' between the basin of the River Western Dvina and the Baltic-Volga route, which were possible chiefly through the Rivers Usvyacha and Lovat, and the later ones between the River Western Dvina and the River Dnieper basins constitute the 'canonical' route from the Varangians to the Greeks. But the authors never name it this way. The second part of the book titled 'The Eurasian system of communications on mental maps' describes a route 'from the Varangians to the Greeks' in great detail.

Naturally, the 'route from the Varangians to the Greeks' is a name by convention; it does not imply that only the Varangians and the Greeks navigated the route. Moreover, the word 'Varangians' dates back to the 11th century [5–7], when the legendary route had lost much of its significance; the 8th–10th century sources use the words *Ros* and *Rus* to refer to those Scandinavian peoples. The East Slavic, Finnish and Baltic tribes, through whose lands the route passed, were neither the Varangians, nor the Greeks. But it was these tribes for whom the route was of the greatest importance. As a consequence, the familiar objection of the deniers of a route 'from the Varangians to the Greeks' that there is very little Varangian and almost nothing Greek on the route cannot be accepted as a conclusive proof of the non-existence of such a route. Sufficient evidence is the traces of contacts between the locals and the travellers, located along the route [8]. Archaeological finds testifying to the broad scope of the early medieval European system of trade and economic ties are being discovered increasingly often. For instance, in 2022, a significant part of walrus bone products found during the excavations of early medieval Kiev was traced to Greenland [9].

Yoking together the route from the Varangians to the Greeks with the 'invitation of the Varangians', as is often done, is completely unfounded: no primary sources associate the invitation of the Varangians with the route; both terms appeared centuries after Rurik's reign and the time when the route was a principal trade artery. The link between the two phenomena was established by historians themselves, who ignited a fierce Normanist/anti-Normanist discussion around this entirely fictional connection.

The most influential historical-geographical work naming the route a principal factor in the emergence of the first Russian state, Kievan Rus, is the limited-circulation book by Viktor Paraniin *The historical geography of chronicled Rus*,

published in 1990 in Petrozavodsk and, funded by the authors. Today, hard copies of the work are a comparative rarity [10]. Although not all the arguments put forward by Paranin are compelling, he has provided a detailed description of the river routes that stimulated the emergence of Kievan Rus, including the route from the Varangians to the Greeks.

The exploration of the route from the Varangians to the Greeks has been led by historians rather than geographers. The existence of such a route is not questioned by Valentina Goryunova, a prominent figure in the archaeological excavation of Gorodok-on-Lovat, a stronghold in the upper reaches of the river. If the route from the Varangians to the Greeks had never existed, there would have been very few reasons to found Gorodok-on-Lovat, the precursor of town Velikiye Luki. The finds of the excavations in Gorodok-on-Lovat suggest that the route was abandoned in the early 11th century AD [11]. Until then, Goryunova emphasises that Gorodok-on-Lovat was a centre for trade and crafts. Having survived a major conflagration, it became a feudal stronghold, as which it existed until the 13th century. The successor town of Velikiye Luki was established later as a Novgorodian stronghold marking the border between the Novgorod and Polotsk (and later Lithuanian) lands.

At about the same time, in the late 10th—early 11th century AD, Kievan Rus began to split into smaller states. This fragmentation is another argument in support of the dwindling of the political and economic ties holding together the route from the Varangians to the Greeks. The Duchy of Polotsk emerged as a result in the basin of the River Western Dvina [12].

The route from the Varangians to the Greeks is identified by the Belarusian scholar Yakov Rier as the spatial backbone of early medieval Russian statehood [13]. The Ukrainian historian Sergey Khvedchenia scrutinises the performance of the route within the boundaries of what was to become Ukraine [14]. The route and its effect on the development of the Russian lands and Nordic countries have been the focus of much investigation by international researchers [15 — 18].

The literature proposes various ‘models’ of the route based on a purposeful selection of sources. The results of applying these ‘models’ might come as a surprise. For example, Aleksandr Miklyaev maintains that the route did exist but was navigated only in winter [19]. Yet he does not explicate how the travellers dressed, where they spent nights, and what they ate whilst following the route in winter across the sparsely populated north-west of today’s Russia.

Travelling the route from the Varangians to the Greeks in kayaks, small rowing or motor boats and copies of vessels operated at the time of the route (see [20], [21]) cannot prove its existence. Unfortunately, these exciting sporting events are not conducive to answering the question as to whether a route from the Varangians to the Greeks existed: these re-enactments were carried out in modern hydrological and hydrographic conditions, which differ from those in place a thousand years ago. None of the expeditions conquering the route managed to traverse the watershed sections by portaging the boats or at least the cargo. The boats, cargo and people were usually transported by cars, which deprives the expeditions of any scientific value.

The archaeological investigations on sites adjoining the rivers that were part of the route from the Varangians to the Greeks can provide valuable information

about the people and tribes who lived there hundreds and thousands years ago but says very little whether navigating the route was altogether possible. Archaeologists concentrate on objects located on land, paying much less attention to those relating to waterbodies (rivers, lakes and even mires). The situation reverses only when the water level falls so much as to reveal silts, and objects on the bed of the lake become visible (in the study region, such works were carried out at Lake Sennitsa¹). This conclusion about earlier research is buttressed by the fact that the maps showing the archaeological finds reproduce the features of the modern hydrographic network (see, for example, [22]). But, in the time of the route, the network was obviously different, partly resembling that of today, partly completely different. This dissimilarity is explained by the influence of the climate factors, which archaeologists try to take into account to the best of their potential, and by tectonic phenomena, including isostasy, which archaeologists usually ignore.

Although geoecological field studies were carried out at some stretches of the route [23], they centred on the current state of the waterbodies and adjacent land areas.

Therefore, answering the question of whether a route from the Varangians to the Greeks really existed requires palaeogeographical studies. Such investigations, conducted at selected sections of the route from the Varangians to the Greeks, covered small sites, particularly, in the lower reaches of the Msta River [22].

Modern methods of physiographical field studies yield entirely new results compared to those obtained using the methods of the 1990s. And the most significant effect would be achieved in the watershed sections — the sites of portage stretches, which were major nodes on the routes connecting rivers of different basins [24]. Whichever model of the route from the Varangians to the Greeks is accepted, the central problem is that of the watersheds, particularly of the divide between the River Lovat and the River Usvyacha.

Such a study cannot establish whether a route passed through the examined watersheds, but it can prove whether such a route was altogether possible. If portaging was possible, researchers in other disciplines should pay attention to these stretches most likely used for transporting vessels, people and cargoes. If it is established that the watershed section was insurmountable a thousand years ago, the possibility of a route should not be considered at all.

Methodology and methods

The field method was central to this study. Sediment core composed by gyttja and silty clay were obtained from four lakes located in the watershed area between the Rivers Lovat and Usvyacha (Lakes Siverst, Ordosno, Usvyatskoe), and the Rivers Kasplya and Katynka (Lake Kasplya) (Fig. 1).

¹ Underwater and land investigations at Lake Sennitsa in the Pskov region. Source: <https://fond.historyrussia.org/arkheologicheskie-ekspeditsii-i-issledovaniya/podvodnyei-nazemnye-issledovaniya-na-ozere-sennitsa-v-pskovskoj-oblasti.html> (accessed 17.05.2022)

Bathymetry was performed on all the lakes; the data obtained were at odds with those found in various sources, including scholarly publications. An aerial survey of Lake Usvaytskoe and the adjacent territory was carried out using a drone in autumn and winter. The lake depression was studied with a ground-penetrating radar. Whilst studying the possible ways to traverse the watershed between the River Lovat and the basin of the River Usvyacha (Lake Uzhanye). Once again, there were serious discrepancies between the actual situation and descriptions provided in the literature, including the sources claiming to present the results of field studies. The valley of the River Usvaycha was explored from Lake Usvyatskoe (the Pskov region, Russia) to its influx into the River Western Dvina near the village of Surazh (the Vitebsk region, Belarus). Local toponymy was studied as well, along with the ekistic characteristics of selected settlements.

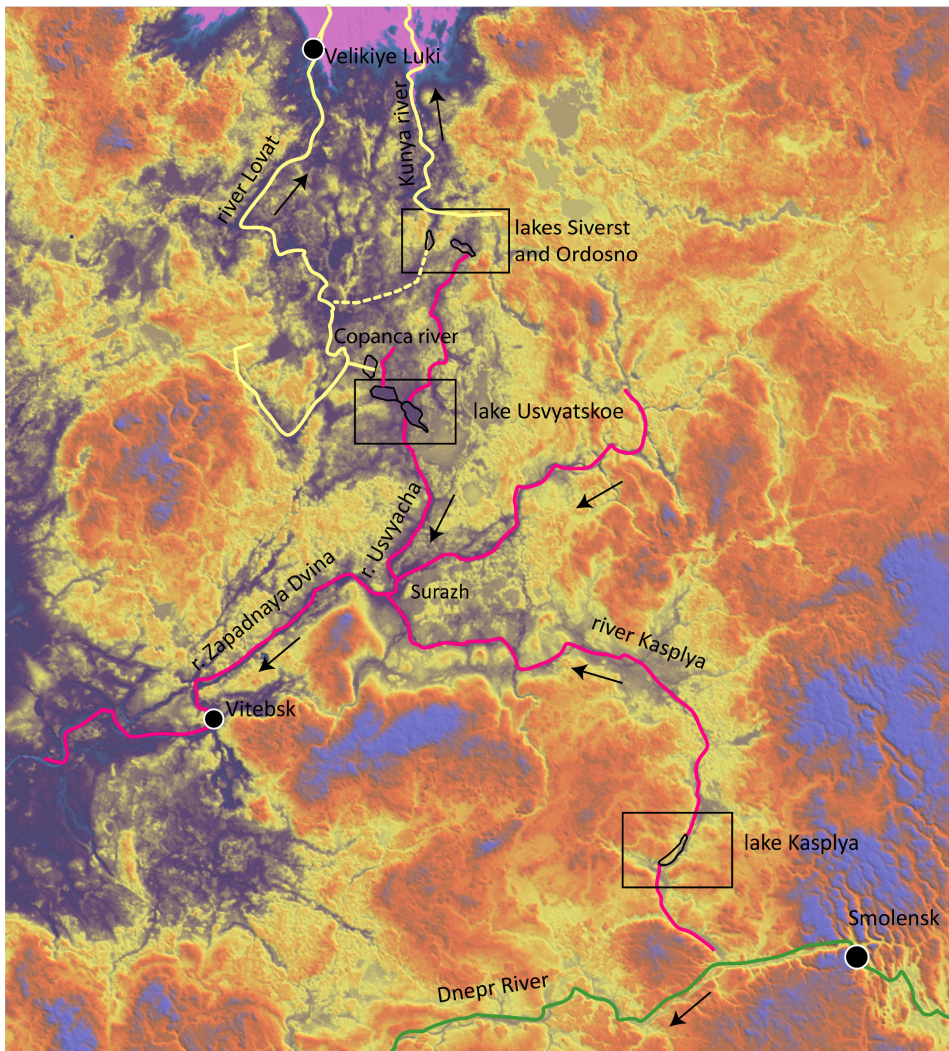


Fig. 1. A topological map of the study area

Analytical methods were employed to examine the lake sediment samples collected during the expeditions. The data obtained are sufficient to describe and generally systematise the information gleaned in the field.

Results

Lake sediments. A preliminary analysis of the lake sediments collected from Lakes Siverst, Ordosno, Usvyatskoe and Kasplya has shown that all these lakes are of glacial origin. They formed as the Valdai (Weischelian) Glaciation receded about 20,000 years ago. The terrain of the watershed areas is largely a product of fluvio-glacial processes at the edge of the maximum extent of the Valdai Glaciation; the distinctiveness of the Neva-Western Dvina watershed is due to this factor. For tens of kilometres, the River Lovat and the River Usvyacha flow parallel to each other but in different directions. The drainage divide between the two rivers consists of an alternation of small raised bogs and gentle sandy uplands stretching from north to south.

These lakes have existed throughout the Holocene. The periglacial conditions were superseded by lacustrine conditions observed to this day. The lakes have never been dry in the Holocene, their water-levels have fluctuated considerably. Neither alluvial nor peaty deposits, which are indicative of river transformations and lakes running dry, have been found in any of the study lakes (Fig. 2)



Fig. 2. The transformation of limno-glacial deposits (grayish) into lacustrine (brownish) in a sediment core from Lake Ordosno, July 2021

All the study waterbodies are U-shaped drainage lakes, their bottoms slanting gently at the shore and then sloping steeply to the depth of 2.5 m. The central parts of the kettles are flat and smooth in Lakes Ordosno and Siverst. Lake Kasplya has depression up to 9 m deep, most probably accounted for by the anthropogenic impact of the 20th century, namely the hydroelectric power plant (built in the 1950s, it is idle today). The maximum depth of Lake Usvyatskoe is 1.4 m (the reference literature, however, says that the lake is 3.6 m deep). It also has the thickest silt layer amongst the study lakes (upwards of 9 m) (Fig. 3).



Fig. 3. A sediment core from Lake Usvyatskoe, July 2021

It is difficult to measure the thickness of the layer more accurately since the length of the drill available to the expedition was not sufficient. The extreme thickness of the layer is due to Lake Usvyatskoe having the largest drainage basin of all the study waterbodies. The shores of the lake and the banks of its tributaries are home to many settlements, quite populous for the area, including the centre of the district — the village of Usvyaty.

Hydrology and hydrography. The most considerable water level fluctuations were registered in Lake Usvyatskoe. By study of lake sediments, interpreting the aerial survey photographs and analysing the shore relief, one can conclude that, when the lake was at its maximum level, it incorporated more northerly Lake Uzmen and the areas adjoining the start of the Usvyacha River (Fig. 4).



Fig. 4. The shoreline of Lake Usvyatskoe in the time of the route from the Varangians to the Greeks and today

Legend: 1 — the modern shoreline of Lakes Usvyatskoe and Uzmen (145 m according to the Baltic Height System); 2 — the shoreline of 'greater' Lake Usvyatskoe in the time of route from the Varangians to the Greeks (147 m according to the Baltic Height System); 3 — the modern course of the Usvyacha River

The rate of silt thickness increase, which is 0.2—0.4 mm per year in this area, suggests that the depth of Lake Usvyatskoe was about 1.6 m one thousand years ago. If the level of the lake was at least 1 m above the current one (the difference was probably more significant), the average depth of 'greater' Lake Usvyatskoe (today's Lakes Usvyatskoe and Uzmen and the floodplain adjoining the lake from the south) was about 2.5 m, which would be sufficient for any riverboat of the time.

The Usvyacha River, having passed through Lake Usvyatskoe, flows down a poorly developed valley flanked by few terraces (Fig. 5).

*a**b*

Fig. 5. The Usvyacha flows from Lake Usvyatskoe: *a* — September 2021, low water; *b* — May 2022, high water

The valley of the Usvyacha between Lake Usvyatskoe and the influx into the Western Dvina has a variable terrain: up to the village of Novosyolki, the river follows a young, poorly developed valley; then, it continues down an ancient fluvio-glacial valley. Despite the widening of the valley, the depth of the cut is insignificant, and the shape of the valley's cross-section remains almost the same throughout the course of the river. It is therefore likely that the hydrological

conditions of the river have not changed substantially. Although some parts of the river valley strongly meander, there are few oxbow lakes — only one was discovered between Lake Usvyatskoe and the Western Dvina. This leads one to conclude that the Usvvyacha of today is the same river it was a thousand years ago (Fig. 6).



Fig. 6. The valley of the Usvyacha between the village of Lukashenki and Pristan, the Usvyaty district of the Pskov region, May 2022

Therefore, the hypothesis that the route from the Varangians to the Greeks was abandoned because the heads of the rivers comprising it had run dry seems unlikely. The fairway depth of today's Usvyacha, as the measurements conducted in May 2002 suggest, exceeds one meter. The width of the river is such that fallen trees, a familiar obstacle to the navigation of the smaller rivers of Russia's northwest, do not block it even halfway and leave sufficient room for boats. But if we assume that the valley of the Usvyacha was about the same in the time of the route from the Varangians to the Greeks as it is today, it would have been impossible to make a towpath for boats to be transported by human pullers or horses. Rowing or sailing against the current is very difficult here during floods because of the fast-flowing current (Fig. 7).



Fig. 7. The valley of the Usvyacha River, the Vitebsk district Belarus, May 2022

It can be safely assumed that, regardless of its name, the impact of the waterway on human occupation was sporadic in the watershed area, and the Usvyacha between Lake Usvyatskoe and the River Western Dvina could not support the economic life on its banks a thousand years ago. Where the rivers were the main thoroughfares, like it was in the environs of the Svir, villages built their houses facing the river. But all the villages on both the Russian and Belarusian sides of the Usvyacha River have their yards and gardens facing the river, whilst the riverbanks are generally used for garbage disposal. On the Russian side of the Usvyacha, there is a village called Pristan (the Russian for 'pier'), which has no pier. The names of the other villages have nothing to do with the river.

One can suppose that the present road running along the western shore of Lake Usvyatskoe and the Usvyacha appeared either simultaneously with the route from the Varangians to the Greeks or near that time. The settlements lining the lake emerged originally on the upland in its central part, known today as Yuryevy Gory. When the water level was higher, the area where the village of Usvyaty is today was heavily waterlogged. A dropped water level made it possible to erect a bridge over the channel between Lakes Uzmen and Usvyatskoe and build a road running east to west between Nevel and Velizh. Today's location of the village of Usvyaty is a result of gravitation to the road. The archaeologist

Ivan Yermeev emphasises that the relocation of the settlement occurred ‘before the beginning of the 16th century, long before the Muscovite fortress was founded there’ [25, p. 337].

If the water level or configuration of Lake Usvyatskoe had not changed by the time, the settlement would not have been relocated, and the fortress would have been built on Yuryev Gory: the main road running from Surazh via Usvyaty northwards to Velikye Luki (it was mentioned in the Novgorod birch-bark manuscripts), skirted the western shore of the lake at least until the Livonian war [26].

Watershed landscapes. The portage between the River Lovat and Lake Uzhanye (the basin of the Usvyacha) has been described in many sources, most of which are meant for tourists. These descriptions, however, are often wide of the mark. Lev Plechko writes in his book *Ancient waterways* that ‘the portage from the Lovat to Lake Uzhanskoe ran across the watershed mire of Volochinsky Mokh. It is drained by several streams flowing into the Lovat and the lake. The largest stream empties into the Lovat near the village of Prudy. A smaller stream flows into Lake Uzhanskoe north of the village Prudishchi. The heads of these streams are linked by a chain of water holes and a strip of bulrush stretching along the bottom of a moor, resembling an old overgrown channel, which is 2 km long, 6–8 m wide and up to 1.5 m deep. <...> The surface of Lake Uzhanskoe is only 3 m above the level of the Lovat; a 10 km portage (this is the total length of the stream and the Kopanka River), given a 3 m water level difference, is a likely element of the route from the Varangians to the Greeks’ [27]. Apparently, the author of the book has never visited the drainage divide and thus reports fantastic facts about ‘several streams’ draining Volochinsky Mokh. There are no such streams in the area (Fig. 8).



Fig. 8. Volochinsky Mokh Mire, May 2022

Unfortunately, this inaccurate information acquired from Plechko's book is repeated by participants in the school expedition *The Route from the Varangians to the Greeks as Seen by a Teacher of Geography*, carried out in 2018 with support from the Russian Geographical Society. The expedition claims to have studied the drainage divide: 'The expedition focused on the portage between the Usvyacha (the basin of the Western Dvina) and the Lovat (the basin of the Neva). At the turn of the second millennium, these two rivers were connected by the Kopanka canal. <...> Today, the Kopanka is a ditch (or a stream in most of its stretches), 1–6 m wide and 0.5–1.5 m deep, with difficult, steep or low waterlogged banks, a swampy bed and muddy-smelling brown water. The walking part of the route along the Kopanka (about 10 km long) is described in detail in the expedition report. At both ends of the canal, there are large 9th–10th century strongholds: Yuryeva Gora on the Usvyacha and Gorodok-on-Lovat'².

The distance between the Lovat and Lake Uzhanye is about 7 km, rather than 10 km, as the report says. For a walking expedition on a difficult ground, three kilometres make a significant difference. Having actually walked the route, one cannot make such a serious mistake. Fig. 9 shows the north-south and east-west cross-sections of the supposed portage route.

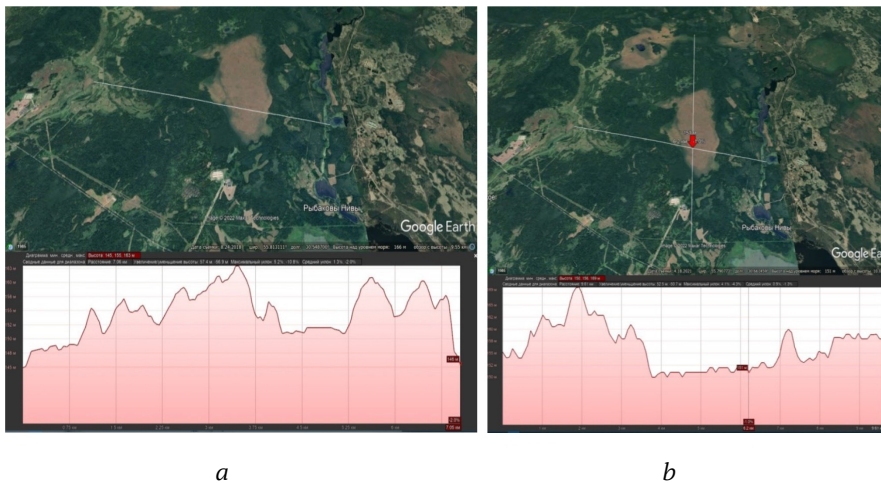


Fig. 9. Cross-sections of the Uskvyatsky portage: *a* east-west; *b* north-south. Prepared by the authors based on Google Earth data

The water level of the Lovat along the portage route and near Lake Uzhanye is almost the same: 146 and 145 m respectively. But to move between the two river systems over Volochinsky Mokh Mire, one has to ascend to the level of 163 m and descend 18 rather than 3 m. But what is more important is that there are no traces of a 6 m wide and 0.5–1.5 m deep canal, which is described in the expe-

² First expedition completed, supported by Russian Geographical Society. Source: http://smolensk kraeved.ru/novosty/news_post/zavershilas-pervaya-ekspeditsiya-v-ramkakh-granta-rgo (accessed 17.05.2022).

dition report and Plechko's book. The Kopnaka, which is a river, not a canal, is marked on maps, and it actually exists. In effect, there are two unconnected rivers sharing the same name: one empties into the Lovat, the other into Lake Uzhanye. In their lower reaches, both Kopankas have a width of about 50 cm, and their depths are about the same. The Kopanka flowing into the Lovat continues as a narrower and shallower ditch (Fig. 10).

*a**b*



c

Fig. 10. The lower reaches of the Kopanka before emptying into the Lovat (a); the lower reaches of the Kopanka before emptying into Lake Uzhanye (b); the Kopanka ditch. May 2022; photographed by the authors (c)

Neither Kopanka has ‘steep’ banks or is 6 m wide in any of its stretches. The Kopanka flowing into the basin of the Usvyacha never reaches the Yuryevy Gory stronghold on Lake Usvyatskoe since it empties into Lake Uzhanye, which is some distance to the north of Lake Usvyatskoe. There was apparently a road linking the portage to the town of Yuryevy Gory (the traces of such a road are noticeable today), but a Kopanka canal has never existed: it is utterly impossible.

The Kopanka ditch, as its current condition and appearance suggest, was most probably dug for transporting cargoes between the basins in the 18th–19th centuries. Such ditches connecting watersheds are a common sight in the north-west of today’s Russia. Yeremeev dates the Kopanka ditch to the 16th–17th centuries, identifying it as a drainage structure [25]. Yet, digging a single drainage ditch would have been unreasonable, and there are no other ditches in the area. But whatever the Kopanka is, it is obviously centuries younger than the route from the Varangians to the Greeks and has no bearing on it.

One can only regret that the teachers and pupils who took part in the 2018 expedition probably never reached the watershed between the Rivers Lovat and Usvyacha, and the information they present in their report as obtained on their own is in fact borrowed. Yet, none of this means that this watershed section is insurmountable.

The Lovat-Usvyacha watershed upland bordering the mire to the south and north is now a pine-birch forest on sandy soil; it takes little effort to traverse it. Watershed uplands overgrown with coniferous forests are not particularly susceptible to erosion and denudation. Thus, one can reasonably assume that the uplands of the Lovat-Usvyacha watershed existed a thousand years ago as well (Fig. 11).

If people and goods were transported via this portage, and the ships stayed in their basins, the seven-kilometre route through a pine forest was easy to cover. The abundant forests of the watershed area provided material for new vessels after each portage. In later periods, from which reliable sources survived, portages were used this way: the vessels remained where they were, and the cargoes were hauled overland to be loaded onto other boats. But it is also possible that vessels were transported as well, especially if they were the likes of Novgorodian *ushkuis* made from pine, which were first mentioned in written sources in the early 11th century when the route from the Varangians to the Greeks was enjoying its last decades. Konstantin Averyanov writes that, in the 11th century, the maximum speed reached by boats travelling the rivers of the East European plain was 150 km [28], which was possible only when using *ushkuis* — the fastest river boats of the Russian early Middle Ages.



Fig. 11. The watershed uplands between the Lovat River and Lake Uzhanye, May 2022

Toponymy. The names of two villages are worthy of attention. One is situated near the influx of the Kopanka into the Lovat; the other is into Lake Uzhanye.

The first one is called Prud (the Russian for ‘pond’), and the other Prudische (‘large pond’), both almost desolate. Although ascertaining the age of the village is difficult, it is possible that there was a dam in their vicinity, spanning both Kopankas. Erecting such a structure on such small rivers would not be daunting. Boats were hauled over the flooded valleys of the two rivers, with the flooded area including parts of Volochinsky Mokh Mire, where the Kopanka ditch was dug centuries later. But, perhaps, there is no direct connection. The solid fact is that traversing the mire is impossible.

The toponym ‘Prud’ may also derive from the fact that the Kopanka, which flows into the Lovat, widens in the area, forming something akin to a pond or a pool, and then sharply narrows. This study was unable to establish what ‘holds’ the river at that place.

There are obvious difficulties in establishing whether the toponymy of the area, which was plagued by war from the disintegration of Kievan Rus in the early 11th century until the ‘Perpetual Peace’ between the Polish-Lithuanian Commonwealth and the Tsardom of Russia, preserved any features dating to the time of the route from the Varangians to the Greeks. Yet there is another village, Ladogi, whose name attracts attention (Fig. 12).



Fig. 12. A modern village sign, the village of Ladogi, the Usvyaty district of the Pskov region

This name may derive from the Swedish *ladugård* (barn). In Stockholm, there is a district on the sea coast, called *Ladugårdsgärdet* (barn's field). The district to the west, *Östermalm*, was called *Ladugårdslandet* (barn land) until the 17th century. In Russian, the word *ambar* (barn) was used to refer not only to barns proper but also to warehouses. In West Siberia in the 17th century, there was the trade town of Mangazeya located in the watershed area between the Ob and the Yenisey. In the Siberian dialect of Russian, the word *Mangazeya* means 'public barn' (a barn built at a distance from the village for storing food supplies to be used in case of famine or fire).

Probably, the name of Lake Ladoga also came from the same root since the generally accepted transformation from the Finnish *Alode-jogi* ('river of the lowlands') through the early Swedish *Aldeigjborg* to *Ladoga* [29] seems unconvincing: the Swedes never derived toponyms from Finnish names; it happened the other way round. But Ladoga coming from *ladugård* seems plausible: it was more logical to build the 'barns' not on the Volkhov directly, but at a distance, on the bank of the river, which was called Ladozhka and gave its name to the lake. The village of Ladogi is also located away from the main artery of the time, the Usvyacha, but quite close to it. The first name of Lake Ladoga mentioned in Russian sources is *Nevo*. We believe that it is of Slavic origin, coming from the word *mewa* (seagull), as it appears in Polish, which has preserved many archaic Slavic forms [30]. In Russian popular speech, the sound 'm' is easily replaced by 'n', which might have happened in this case as well, giving the name to the lake and the Neva River. Further work and the expertise of professional philologists are required to investigate the toponymy of the route from the Varangians to the Greeks, including its watershed part.

Conclusions

1. The analysis of silt from the watershed lakes between the basins of the Neva and the Western Dvina (the Lovat and the Usvyacha), and between the River Western Dvina and the River Dnieper (its tributaries the River Kasplya and the River Katynka respectively) has shown that these lakes have existed uninterruptedly since the post-glacial period. Although their water levels have fluctuated, the lakes have never run dry or turned into mires and rivers.

2. The major lake of the watershed area, Usvyatskoe, was wider and deeper a thousand years ago than it is today. It was navigable by any vessel of the time. The first settlements appeared on its western shore: it is much higher than the eastern one, and, at the time, it was apparently difficult to cross the lake. The settlement moved from the western to the eastern shore, where it is now, after the lowering of the water level, which happened no earlier than the 16th century.

The reason for it might have been the construction of a road between the towns of Nevel and Velizh — the then important economic centres and military strongholds.

3. The poor development of the valley of the Usvyacha indicates that the river has retained its hydrological features through the centuries since the route from the Varangians to the Greeks. There have been no significant changes in its total flow: it has neither diminished (which is sometimes cited as the reason for the disappearance of the route), nor increased. The influence of the river on settlement and economic development in the adjoining territory was insignificant and short-lived on a historical scale: the settlements lining the banks face the roads rather than the river.

4. The information about the Lovat-Usvyacha watershed available from various sources, including those supposedly based on field studies, is often wide of the mark. The actual length of the portage running through the watershed was not the alleged 10 km but 7 km. Yet the height difference was more substantial: 18 rather than 3 m. There were no connecting waterways between the river basins in the time of the route. The current state of the Kopanka suggests that it was dug hundreds of years later for local purposes. However, traversing the watershed over land, following a road running through dry sandy pine forest, was not an arduous journey, even if the light river boats used at the time (like *ushkuis*) were portaged as well.

5. The toponymic analysis of the watershed area in the vicinity of the Usvyaty portage points to a few links between the local settlements and the distant river ways, which used to pass there.

6. Further work is required for more reliable and accurate conclusions.

7. The hydrological and hydrographic conditions, the watershed landscape features and the toponymy in the main stretches of the route, which were studied by the authors during the 2021 — 2022 expedition, are perfectly consistent with the existence of such a route. The challenges travellers had to overcome were comparable with the trials one faced when using similar ways in Western Europe. The only difference was that Western Europe was incessantly at war in the 5th—10th centuries AD, and Eastern Europe was sparsely populated and thus relatively safe at the time. As Konovalova and Melnikov cogently argue in the concluding part of their book *Ancient Rus in the system of Eurasian communications of the 9th—10th centuries*: ‘The presented materials [the materials of the book]... testify to the presence of strong commercial ties binding together the Trans-Baltic region. The region existed in the 8th—10th centuries ... thanks to the geopolitical situation, which had developed in Europe in the previous centuries and determined the sociopolitical evolution of the peoples living in the area’ [4, p. 234].

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SPATIAL ORGANIZATION OF THE NEW FORMS OF E-GROCERY AND READY-MADE FOOD TRADE IN A LARGE RUSSIAN CITY

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This work aims to identify fundamentally new features in the spatial organization of e-grocery and ready-made food trade in a Russian city, distinct from those typical of traditional food retail enterprises. Focusing on St Petersburg, the article describes the emergence of a completely different system of requirements imposed by new forms of online food retail in the space of a large Russian city, compared with traditional industries and retail organization methods. The spatial and temporal parameters of the new shopping model are considered, and a comparative analysis of its spatial competition with already established models is presented. The spatial organization of new online food retail is demonstrated in the context of the placement system of new types of offline objects, the emergence of new flows, their impact on urban development and the effect on the outdoor and transit advertising markets, as well as on the labor market. Based on this analysis, it is concluded that new-type physical objects such as distribution warehouses, warehouse stores (fulfilment centres) and dot-com objects are placed according to entirely different principles. If the location of a service point is no longer a competitive advantage as seen by the buyer, faster delivery, hidden from the consumer, emerges as a critical factor in new competition. The paper also analyses the significance of spatial organization principles associated with this factor.

Keywords:

retail, spatial organization, e-grocery, online trade, ready-made food, Russian city

Introduction

Intensive digitalisation of the economy and new trends in consumer preferences in the international and Russian markets have given rise to new forms of e-grocery and online trade in ready-made food (online food retail, OFR), the two phenomena being closely intertwined¹.

¹ Dumont, J. 2019, As e-commerce rises, grocers grapple with prepared food delivery, *Grocery Dive*, URL: <https://www.grocerydive.com/news/as-e-commerce-rises-grocers-grapple-with-prepared-food-delivery/556655/> (accessed 01.08.2021).

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By the end of 2019, the five largest markets with the highest user penetration in the online food delivery segment were Singapore (with a penetration rate of more than 40 %), the Netherlands, Hong Kong, the United Kingdom and Canada. Over half the US and UK population order food online at least once a week².

The COVID-19 pandemic has dramatically accelerated the transition to OFR. In the US, sales in the e-grocery segment increased by 14 % in the first month of the lockdown alone. In Russia, this trend is also apparent [1–4].

According to the study conducted by the NAFI Analytical Center in April 2020, the majority of Russian Internet users (67 %) made purchases online during the lockdown; each fourth (26 %) ordered food delivery. Thirteen per cent of Russians started ordering food online during the lockdown, whilst the same percentage (13 %) used grocery delivery services earlier³. According to M. A. Research, in 2020, the size of Russia's e-grocery market was 174 billion roubles, or 1 per cent of the total food retail market⁴. According to various estimates, e-grocery will grow at 33–40 % a year in 2021–2025. In 2022, the e-grocery segment is expected to reach 415–445 billion roubles, provided the plans of companies in the field have been implemented. In such a case, it will account for 2.2–2.4 % of food retail⁵. The demand for online food delivery continues to grow in the country: in 2021, it increased by 73 per cent over six months year-on-year⁶.

This trend is especially visible in large cities. In St. Petersburg, the first six months after the introduction of the pandemic restrictions saw a twentyfold increase in the number of online grocery orders⁷.

² Raguzin, E., Torchalla, J., Cavadini, N., Williams, H. 2020, Ready Food. Can grocers get a bigger bite? *Olyver Wyman*, URL: https://www.oliverwyman.com/content/dam/oliver-wyman/v2/publications/2020/November/Ready_Food.pdf (accessed 07.11.2021).

³ Russians are not ready to give up food delivery to their homes after the end of self-isolation, 2020, *NAFI Research Centre*, URL: <https://nafi.ru/analytics/rossiyane-negotovyotkazyvatsya-ot-dostavki-produktov-na-dom-posle-okonchaniya-samoizolyatsii/> (accessed 28.07.2020) (in Russ.).

⁴ The share of e-grocery in 2021 is about 2 % of food retail turnover, 2021, *Research Agency M.A. Research*, URL: <https://ma-research.ru/novosti-issledovaniy/item/326-dolya-e-grocery-v-2021-g-sostavit-okolo-2-oborota-prodovolstvennogo-ritejla.html> (accessed 30.12.2021) (in Russ.).

⁵ Petersburgers exchanged bakeries for marketplaces, 2021, *Business Petersburg*, URL: https://www.dp.ru/a/2021/07/28/Digital_vmesto_bulochnoj (accessed 29.07.2021) (in Russ.).

⁶ Express delivery is required by our hearts: the car market is adjusting, 2021, *Business Petersburg*, URL: https://www.dp.ru/a/2021/07/27/JEkspres-dostavki_trebujut?utm_source=yxnews&utm_medium=desktop (accessed 29.07.2021) (in Russ.).

⁷ Grinevich, Ya. 2020, The courier is on the way: the number of orders of products at home in St. Petersburg has increased twenty-fold, *Rossiyskaya Gazeta*, URL: <https://rg.ru/2020/11/03/reg-szfo/chislo-zakazov-produktov-na-dom-v-peterburge-vyroslo-v-dvadcat-raz.html> (accessed 03.11.2020) (in Russ.).

The scale of the phenomenon points to the spread of a new universal type of food shopping, which apparently affects the offline spatial organisation of food trade in Russia's largest cities.

New forms of OFR have received much attention in the literature in economics, business, sociology and geography. Juan Martín et al. offer the most general sectoral and thematic systematisation and classification of research in the area [5]. The economic models of interaction with consumers in the e-grocery market have been explored by Mike Kempniak and Mark Fox [6], whilst Johanna Småros and Jan Holmström have proposed the most comprehensive approach to the problem [7]. Sociological studies of consumer behaviour [8–10] and economic investigations describing the prospects of new food industry formats [11–13] help identify the prevailing trends in the industry and trace local and global changes in the provision of food services. International [14; 15] and Russian [2; 3] marketing analysts, economists and specialists in finance have looked at the spatio-temporal aspects of the impact of Internet technologies and forecast their growth rates and geography. Most of these publications appeared in 2018–2021, indicating the growing relevance of the topic.

This work examines the spatial features of new forms of food retail, including OFR, and explores various models of delivery services and order aggregators. The main focus of the research is what affects the structure of the material public space of a city, namely the spatial (offline) forms of online food retail organisation. The purpose of this work is to identify fundamentally new types of food retail enterprises and describe the spatial organisation of industry facilities responding to qualitative changes in the market structure influenced by global trends in digital technology development.

Data and methodology

This study focuses on St. Petersburg, one of the two Russian metropolises. This choice was driven by the city's prominent position in the Russian market in terms of online retail concentration and its proportion in the total turnover, which is comparable to that in Western European cities [16]. The city is also a leader in several other dimensions: St. Petersburg's Samokat was the fastest growing national online retailer in the e-grocery segment (May 2020–May 2021)⁸. The total online sales of stores and food delivery services amounted to 26.1 billion roubles

⁸ Zaitseva, D. 2021, St. Petersburg delivery service is leading in terms of online sales growth, *Business Petersburg*, URL: https://www.dp.ru/a/2021/06/28/Naperegongki_za_klientom (accessed 28.07.2021) (in Russ.).

in May 2021, the year-on-year growth reaching 112 %⁹. As noted in our earlier study, St. Petersburg is not specifically influenced by the ‘capital city’ factor [16]. Moreover, most of its residents actively use online technology, partly because it is one of the most visible ‘smart cities’ nationwide¹⁰.

The data collection methodology employed in this study comprised several stages:

- collecting initial information about the types of new industries and enterprises in St. Petersburg, using international classifications, business analytics, data from business aggregators and company websites, and, when clarification was needed, expert interviews;
- selecting ‘model’ cases from across the study types. The choice was informed by examining the relevance of a company’s business model and its market presence (leadership in the microsegment, as shown by business analytics, advertising and marketing);
- identifying the competitive advantage of the new business types over the traditional ones, using the methods of spatial marketing analytics [16];
- conducting a comparative geographical study of the spatial organisation of the new and traditional formats.

A dynamically developing new form of food retail involves placing Internet technologies at the foundation of food retail, i.e. e-grocery¹¹. The e-grocery system implies the global embrace of Internet technologies, the use of a delivery system and the creation of fundamentally new offline objects: warehouses of a new type and the distribution centres termed dark stores (inaccessible to visitors, they are designed to handle online orders) [17; 18]. These objects are the focus of this study.

The earliest e-grocery ventures, which appeared in the West in the late 1990s-early 2000s, did not meet with much success; these companies had to close when the so-called ‘dot-com bubble’ burst [19; 20]. The reintroduction of online elements into retail took place in 2013: first in the UK¹², then in France, Germany

⁹ Grinevich, Ya. 2020, The courier is on the way: the number of orders of products at home in St. Petersburg has increased twenty-fold, *Rossiyskaya Gazeta*, URL: <https://rg.ru/2020/11/03/reg-szfo/chislo-zakazov-produktov-na-dom-v-peterburge-vyroslo-v-dvadcat-raz.html> (accessed 03.11.2020) (in Russ.).

¹⁰ Rating of smart cities in Russia, 2019, Ministry of Russia, URL: https://minstroyrf.gov.ru/upload/iblock/e7e/Krupneyshie-goroda-_ot-1-mln-chel._-2019.pdf (accessed 20.08.2021) (in Russ.).

¹¹ In the scientific literature, along with e-grocery, such concepts as “foodtech” and “online food retail” are also widely used, however, due to the relatively recent appearance of this format on the market, the terminology has not yet settled down.

¹² Somerville, M. 2013, Tesco opens sixth dotcom centre in Erith, *Retail Gazette*, URL: <https://www.retailgazette.co.uk/blog/2013/11/42203-tesco-opens-sixth-dotcom-centre-in-erith/> (accessed 18.07.2021).

and North America. By 2020, it had spread widely beyond the Western countries. In Russia, the e-grocery format appeared much later, albeit drawing on international experience. According to the Infoline agency, in the first half of 2021, the largest national player in the e-grocery segment was X5 Group with a turnover of 23.6 billion roubles; SberMarket ranked second with 21.7 billion roubles; Vkusville, third with 21.2 billion; Samokat, fourth with 15.9 billion; Yandex Lavka, fifth with 11.7 billion¹⁵.

The dominant trend associated with the new format, which will be examined in the study, is omnichannel, i.e. seamless communication with the customer achieved by integrating offline and online touchpoints into a single system¹⁴ [21] (Table 1).

Another trend worth of scholarly attention is online prepared meal delivery (OPMD), which is taking over the food retail market¹⁵. There are two variants thereof: ready-to-eat meals sold by offline supermarkets and catering establishments both at stores/restaurants and online; fully online establishments. The latter format is not confined geographically to a retail space or visitor flows, but requires automation and competent placement of facilities for order preparation and fulfilment (dark kitchens) [12].

Food retail and prepared meal delivery services are rapidly converging because of the synergy effect of selling groceries and preparing meals/beverages, supported by a delivery service¹⁶ (Table 1).

The facilities used by new online food retail (dark stores and dark kitchens) will be referred to as 'dot-com objects'¹⁷. Below we will look at how their location, catchment areas and delivery methods are affecting the success of the industry [18].

¹⁵ E-food. Online sales of products may exceed 1 trillion rubles by 2024, 2021, *Kommersant*, №142, p. 1, URL: https://www.kommersant.ru/doc/4938078?utm_source=yx-news&utm_medium=desktop (accessed 12.08.2021) (in Russ.).

¹⁴ Omnichannel in retail — a new trend in customer service, 2021, *ABM Cloud*, URL: <https://abmcloud.com/omnikanalnost-v-ritejle-novyj-trend-klientskogo-servisa/> (accessed 12.08.2021) (in Russ.).

¹⁵ In the literature, the terms ready-to-eat meals, ready-made food, ready meals, heat-and-eat meals, grab-and-go prepared foods are used to define this category.

¹⁶ Spencer, S. 2020, Webvan Founder Is Back Just as Online Grocery Orders Take Off, *Bloomberg Finance L.P.*, URL: <https://www.bloomberg.com/news/articles/2020-05-12/webvan-founder-isback-just-as-online-grocery-orders-take-off> (accessed 02.07.2021); Fairhurst, M., 2020, Why Ready-To-Eat Meals are an Important Investment for Grocery, *Mercatus*, URL: <https://www.mercatus.com/blog/ready-to-eat-meals-investment-for-grocers/> (accessed 01.08.2021).

¹⁷ Dotcom is a term applied to companies whose business model is based on working within the Internet.

Table 1

Types of new online food retail formats

Format	Description	Organisation method	Companies active in St. Petersburg
e-grocery	Fully online (no physical stores, referred to as 'stores' below)	Dark store, delivery	Yandex Lavka, Samokat
	Mixed: stores accessible to customers buyers + a special service for online orders	Stores + warehouse stores, in-house and partner delivery	Perekrestok V prok, Vkusville, Azbuka Vkusa, Lenta Online, Pyaterochka Dostavka
	Delivery aggregators (partner stores and warehouse stores)	Company-owned and partner delivery	iGoods, SberMarket, Utkonos
Online prepared meal delivery (OPMD) ¹⁸	Production and delivery services	Reception and registration of orders by phone, through a website or application. Company-owned kitchen (dark kitchen) and directly employed couriers	Dva Berega, Dosttaevsky
	Fully online, partner delivery	Own dark-kitchen, partner delivery	BrightKitchen, MnogoLososya, Foodband (Moscow)
	Mixed stores (shelves in supermarkets); + (optional) meals available in sales areas	Storage and delivery as part of general delivery from the store	Perekrestok, Lenta, OK, Pyaterochka; Vkusville, Azbuka Vkusa
	Information service (order aggregator)	Meals from third-party restaurants, partner delivery by courier services and restaurant couriers	Yandex Eda (+ FoodFox, purchased in 2017 by Yandex), Obed.ru
	Order aggregator and delivery	Meals from third-party restaurants; company-owned or third-party delivery service	Delivery Club

Source: prepared by the authors, based on data from the RBC news Agency, DP, Yandex Spravka [18–20].

¹⁸ In addition to the mentioned aggregators and online sellers of ready-made food, the St. Petersburg market presents long-existing chains on the market: Yami-Yami, MyFood, Ollis, Tokyo City, Milti, etc. In addition, every second catering establishment launched its own delivery projects in 2020 (URL: https://www.dp.ru/a/2021/04/12/Gorshochek_ne_vari).

Results and discussion

Table 1 summarises information about the new forms of online food retail, using existing classifications¹⁹ [22; 23].

These new forms of retail are a product of a new spatial type of shopping, which appeared in an already saturated market [24]. At the same time, this new type had to compete with the existing ones [13], pulling away their customers²⁰.

Tables 2 and 3 present our vision of competition between new and traditional types of retail.

Table 2

**Competition between new and traditional types
of food retail in St. Petersburg**

Traditional type of grocery shopping	Frequency of demand / purchases	Formats	Competitors of the new type
1. Mid-transformation kiosk-based	daily	Kiosks, pavilions, street vendors, outdoor markets	Samokat
2. Stores for 'the new poor'	1–2 times a week	Government-supported stores, discounters (Narodny, Polushka), some markets	Social services with delivery, Svetofor
3. Post-transformation large stores	Once every 1–2 weeks	Hypermarkets, some supermarkets Perekrestok, Lenta, OK, Karusel, Azbuka Vkusa, Auchan, Prizma, METRO	iGoods, SberMarket, Perekrestok Vprok, Utkonos, Lenta Online, delivery by OK
4. Post-transformation small stores	2–5 times a week	Chain stores (Pyaterochka, Dixi, Magnet) and independent stores: speciality, department convenience, shops-in-shop, pavilions	Samokat, Yandex Lavka, Pyaterochka Dostavka

Source: prepared by the authors based on data from the RBC News Agency, DP, Yandex Help [18–20].

¹⁹ Thomas-Dupuis, F., Harrison, N. 2018, Future of Retail and Consumer Goods: A Preview, *Oliver Wyman INC*, URL: https://www.oliverwyman.com/content/dam/oliverwyman/v2/publications/2018/January/Boardroom_Vol3/FutureOfRetailAndConsumerGoods_final.pdf (accessed 22.07.2021).

²⁰ The classification of the existing types of shopping is described in detail in our earlier work [16].

Table 3

**Competition between new and traditional types of catering
in St. Petersburg (the ‘model’ customer earns 66,000 roubles,
the average pay in St. Petersburg)**

Traditional catering type	Potential frequency of demand/purchases	Formats	Competitors of the new type
Restaurant	2–5 times a month	Restaurant	Restaurant delivery services, Yandex Eda, Delivery Club, Dostaevsky, Tokyo City
Café	2–5 times a week	Cafés, food courts, kiosks, pavilions	Yandex Eda, Delivery Club, Dva Berega, Ollis, Tokyo City
Fast food/canteen	Daily	Fast food establishments, canteens, food courts, kiosks, pavilions	Yandex Eda, Delivery Club

Source: prepared by the authors, based on data from vc.ru [20].

The new formats mean new spatial organisation of stationary retail objects selling groceries and prepared meals. It is reasonable to assume that if new formats compete effectively with traditional ones, this competition will manifest itself in the city space as objects characteristic of the new format and in the displacement/spatial reorganisation of traditional objects.

Objects of the first and fourth traditional types, as shown in Table 2, are usually located in such a manner as to include places of residence and transit routes of potential customers into their catchment areas. Thus, location is critical for them. The second and third types, on the contrary, require customers to travel to their facilities, sometimes over considerable distances [16]. Yet, all traditional food retail objects rely on the general principles of placement, regardless of the shopping type. Maximum traffic from the target audience is pursued, along with location optimisation in relation to competitors and other advantages in the competitive environment [25]. But competitors from new online food retail are guided by entirely different principles when locating their physical objects: distribution warehouses, warehouse stores (fulfilment centres) and dot-com facilities. Let us juxtapose these principles with various groups of competitors from traditional offline shopping formats: those of the first and fourth types, on the one hand, and the second and third, on the other (Table 2).

The strongest competitor to traditional convenience stores, kiosks and pavilions (the first and fourth types, Table 2) is the Samokat e-grocery service launched in 2018 in St. Petersburg. In March 2021, it had 411 dark stores operating in four cities. By the end of 2020, the network had 108 dark store warehouses in St Petersburg, compared to 59 in March 2020²¹. At the same time, the traditional retail leaders, Magnet and Dixi, which merged in 2021, had four times as many stores each²². The total number of kiosks and pavilions competing with them in the city is estimated at 3,000—4,000 [16]. According to the co-founder of Samokat, when choosing the location of a dark store, a complex of factors is considered, particularly the territorial range, the number of residents and the average household budget in the area. The most important factor is courier route optimisation in terms of physical logistics and cost²³. Since the company claims to offer probably the fastest food delivery worldwide²⁴, the range of each of its dark stores does not exceed 1.5—2 km²⁵. Depending on the size of a city, the company's dark stores face competition from up to several hundred traditional stationary objects, such as convenience stores or pavilions. This number of objects is designed to meet the need for grocery stores within the slipper radius or when walking in the city [16]. Operating as a scalable warehouse, a dark store can meet the needs of most, if not all, residents of an area within a radius of 1.5—2 km. Thus, it can supplant hundreds of stationary objects. Naturally, such a limiting case is impossible, but a certain approximation may occur in reality. The main advantage of the first and fourth type outlets (Table 2) was saving time on shopping, which was ensured by locating the outlet as close to the customer as possible. But this advantage is nullified when the total time of online purchase (order + delivery) is equal or shorter than that needed to enter a traditional store, choose goods, pay and take them home. Moreover, there is a new logistical advantage, that is, delivery service [26].

²¹ Evseeva, E. 2020, "Samokat" reported 18 million orders in the service at the end of the year, *Internet platform vc.ru*, URL: <https://vc.ru/trade/191843-samokat-otchitalsya-o-18-mln-zakazovv-servise-po-itogam-goda> (accessed 15.07.2021) (in Russ.)

²² Boyarkova, G. 2021, "Magnet" acquired the capital's ambitions. What does the takeover of "Dixie" mean for the market and buyers, *Fontanka.ru*, URL: <https://www.fontanka.ru/2021/05/18/69921287> (accessed 15.07.2021) (in Russ.); Dixie stores in the Leningrad Region, 2021, *Dixies.ru*, URL: <https://dixies.ru/magaziny/leningradskaya-oblast/> (accessed 15.07.2021) (in Russ.).

²³ Klyzhenko, L. 2021, "Samokat": how does the express delivery service work? *Retail.ru*, URL: <https://www.retail.ru/photoreports/samokat-kak-rabotaet-servis-ekspress-dostavki/> (accessed 15.07.2021) (in Russ.).

²⁴ Chirin, V. 2020, The St. Petersburg "Samokat" was the first in Russia to launch food delivery in 15 minutes. How the service develops business in two cities and competes with corporations, *Gazeta*, URL: <https://paperpaper.ru/photos/peterburgskij-samokat-pervym-ros/> (accessed 15.07.2021) (in Russ.).

²⁵ *Samokat*, 2021, URL: <https://samokat.ru/> (accessed 16.07.2021) (in Russ.).

If the location of a traditional outlet is no longer a unique advantage, other factors may help them compete with online retail. These factors are both traditional (price, product range, goods selection method) and specific (unavailability of online technologies to the user, delivery restrictions, personal communication at stores, socialisation associated with traditional shopping which is perceived as a pastime activity, etc.).

As the number of dot-com objects grows, traditional convenience stores and discounters are opening new facilities in St. Petersburg as a result of omnichannel, i.e. convergence with online shopping: most traditional chains are launching delivery services²⁶.

Both in St. Petersburg and nationwide, traditional large-format shopping is in decline. M. A. Research reports that, in 2020, the contribution of hypermarkets and cash and carry stores to the total everyday retail turnover in Russia decreased from 18.2 to 15.4% year-on-year; of supermarkets, from 19.2 to 18.4%. Other retail formats, however, became more visible over the period²⁷. Competition between the new formats and the second and third type outlets (Table 2) also has specific spatial features.

The main online shopping trend in the study segment is not the emergence of fully online businesses, as described above, but the development of omnichannel [19; 21; 27].

In terms of organisation, omnichannel does not mean replacing traditional stores with dark stores, but rather existing super- and hypermarkets taking on the function of a fulfilment centre for delivery services. Large chains are more successful in pursuing the omnichannel strategy: they create new facilities without closing existing ones, which are used as stores and fulfilment centres with a delivery function. At the same time, companies with a less successful marketing strategy and new chains shrink. In 2020, this happened to high-end retailers (the Land supermarket chains had to shut down seven stores) and speciality retailers (three Optoclub Ryady hypermarkets ceased operations along with 13 Viktoria stores)²⁸. Hypermarkets excelling at omnichannel build new facilities. Their op-

²⁶ Dmitrieva, D. 2021, Without trolleys and baskets: the era of hypermarkets is coming to an end, *Business Petersburg*, URL: https://www.dp.ru/a/2021/06/30/Bez_telezhok_i_korzinok (accessed 16.07.2021) (in Russ.); Matveeva, I. 2020, The Magnit has taken over new points of St. Petersburg and other regions of Russia, *Moika78.ru*, URL: <https://moika78.ru/news/2020-10-21/496149-magnitavladel-novymi-tochkami-peterburga-i-drugih-regionov-rossii/> (accessed 16.07.2021) (in Russ.).

²⁷ Sinyavskaya, A. 2021, FMCG-retail 2021: online and discounters, *M. A. Research Agency*, URL: <https://ma-research.ru/stati/item/296-fmkg-ritejl-2021-onlajni-diskauntery.html> (accessed 16.07.2021) (in Russ.).

²⁸ Poddubny, A. 2020, St. Petersburg supermarket chain cuts business, *RBC*, URL: https://www.rbc.ru/spb_sz/02/11/2020/5f9fb4ed9a7947341f3a7b9d (accessed 16.07.2021) (in Russ.).

erations are carried out as follows: a courier/merchandiser picks a grocery order, collects the goods from the shelves, and delivers it to the customer. The Perekrestok chain, which has in-house delivery services (Perekrestok Vprok and Perekrestok Express) opened 11 new regular stores between 2019 and 2021, their total number reaching 111, and built a 7,000 m² dark store in the north of the city²⁹. Unlike Perekrestok, Lenta — another major supermarket chain — did not launch a delivery service but acquired one of the leaders in delivery services, Utkonos, whose 9,500 m² warehouse was incorporated into the company's operations. Lenta also built a 70,000 m² warehouse, which can be extended by another 10,000 m²³⁰. Almost all hypermarket chains that have not set up in-house delivery operations use the services of delivery aggregators, such as iGoods or SberMarket. Self-delivery services and aggregators operating at traditional hypermarkets minimises the significance of the location factor. To a user of an online service, physical proximity to a particular store or chain does not matter any more. For such consumers, the key factor is delivery time, to which chains pay special attention when choosing the location for a new facility [28].

Omnichannel, which offers flexibility between online and offline purchases, gives hypermarkets an edge over fully online services, but traditional placement factors remain important to the consumer as well.

Major chains have a competitive advantage of reaching large audiences when entering the online market since they already have an extensive network of hypermarkets/fulfilment centres located at arm's length from their customers. At the same time, niche online retailers that do not have either a chain of dark stores or full-range grocery stores are becoming increasingly popular [29]. Focusing on a narrow segment (farmer's, high-end, ethnic or other products), they either lease existing warehouses or build their own. Another visible trend is companies trying to operate at various levels: Perekrestok combining hypermarkets with small-scale and online formats, or Samokat striving to break into large format retail.

All these trends cause the number and area of warehouses to grow. In 2020, 312,000 m² of warehouse space were brought into operation, which is 1.7 times

²⁹ How the retail of St. Petersburg has changed in 2020, 2020, *Product Media*, URL: <https://producttoday.ru/2021/01/12/kak-izmenilsja-ritejl-peterburga-v-2020-godu/> (accessed 17.07.2021) (in Russ.); Zaitseva, D. 2021, About those who stayed: St. Petersburg retail chains after the pandemic, *Business Peterburg*, URL: https://www.dp.ru/a/2021/04/19/O_teh_kto_ostalsja?hash=768771 (accessed 17.07.2021) (in Russ.).

³⁰ Kazakov, N. 2019, X5 Retail Group has started a large-scale reboot of stores in St. Petersburg, *Moika78.ru*, URL: <https://moika78.ru/news/2019-12-09/332664-x5-retail-group-nachalamasshtabnuyu-perezagruzku-magazinov-v-peterburge/> (accessed 17.07.2021) (in Russ.).

that put into service in 2019 (184,000 m²)³¹. A total of 4,030,000 m² of warehouse space was available for logistics in St Petersburg in 2020 (which is 15 % more than in 2019; in 2019 the year-on-year increase was 6.5 %) ³².

The key to the spatial organisation of OPMD is the focus on production outside traditional catering outlets: the larger a company, the more new objects — warehouses and dark kitchens — must be organised. Fully online services with in-house production capacities do not require any additional facilities, which is not the case for other ventures (Tables 1, 3). Combining new dot-com objects with traditional prepared meal services follow the same pattern as e-grocery and depend on both the catchment area and the volume/cost of the order.

There is competition not only between online food retail and traditional shops/restaurants, but also between dark stores/kitchens themselves. A new tool of spatial competition, the speed of delivery is now critical [20]. When the location of a service point is no longer a competitive advantage as seen by the customer, speedy delivery (a process concealed from the customer) becomes absolutely decisive.

The speed of delivery depends on the type of service a company provides, i.e. whether it transports large and medium-sized goods over longer distances and periods (from 30 minutes to 1—2 days; the second and third types in Table 2) or delivers small-sized goods or small quantities over shorter distances and periods (10—15 minutes; first and fourth types). Some companies, such as Perekrestok, combine express delivery with large shipments [43]. There is minimal competition between these two main types of delivery associated with different types of shopping, catchment area sizes and consumer groups.

In the first case, the company strives to cover a larger area (the longer the distance, the greater the cost of the cargo required to ensure returns and a higher profit margin). The main competitive advantage of such companies is larger shipments and regularity of transportation (deliveries must be made either on certain days of the week or every day at certain hours).

Companies dealing with smaller shipments strive to deliver goods as fast as possible. Although quantity does not matter as much as it does in the case of large deliveries, the minimum price is set at the minimum to ensure returns (100—200 roubles). Here, the location of a fulfilment centre (dark store) is much more critical for success of a business than in the former case.

³¹ Warehouse and industrial real estate market St. Petersburg. Results of 2020, 2021, *Knight Frank*, URL: <https://kf.expert/publish/rynok-skladskoy-nedvizhimosti-sanktpeterburg-itogi-2020> (accessed 17.07.2021) (in Russ.); Message from Lenta Media Center, 2020, *Lenta*, URL: <http://www.lentainvestor.com/ru/media-centre/news-article/id/2666> (accessed 17.07.2021) (in Russ.).

³² Warehouse and industrial real estate market St. Petersburg. Results of 2019, 2020, *Knight Frank*, URL: <https://kf.expert/publish/rynok-skladskoy-nedvizhimosti-sanktpeterburga-2019-god> (accessed 18.07.2021) (in Russ.).

Delivery time becoming a critical competitive factor in online food retail has lent significance to the principles of spatial organisation.

1. The principles of spatial division of territories between competing businesses have changed: in online trading, it becomes critically important not to establish and hold a local 'monopoly' but to secure the most effective coverage of the entire or maximum possible territory. The websites of companies, such as Perekrestok Vprok and Samokat, offer examples of macrozoning: macrozones with different delivery times in suburbs and the main city.

2. Zoning has become crucial for companies' logistics, making it possible to ensure universal delivery time and quality throughout the service area. This requires competent zoning into the catchment areas of dot-com objects and the micropositioning of these objects in relation to the boundaries of such areas. Unlike a standard convenience shop, a convenience dark store does not need to be located within walking distance from the homes of the target groups but should be located within a bicycle delivery range, have good access roads and unloading areas for low-tonnage freight transport. Dark stores often occupy the premises of former stores (Fig. 1).



Fig. 1. A dark store in a former regular store, St. Petersburg, February 2021. Photo by K. E. Axenov

Unlike a traditional hypermarket, a dark store or a hypermarket distribution centre should not be located near transport hubs or highways with transit traffic. They can as well be situated in industrial, suburban and other functional areas, the only requirement being accessibility by large-tonnage and low-tonnage freight transport. Probably, the development of delivery services working directly from stores (Lenta Online, OK Dostavka, etc.) will encourage large format chains to

locate the stores that have become fulfilment centres in such a way that a relatively uniform universal delivery service can cover most of a city's territory. Dark kitchens do not need popular and expensive locations either, but generate demand for the least attractive locations, which are nevertheless adapted to housing a kitchen and can be easily accessed by transport. These are often unprofitable, bankrupt restaurants in peripheral areas with the lowest traffic, etc. (Fig. 2).



Fig. 2. Dark kitchen in a former restaurant, St. Petersburg, February 2021. Photo by K. E. Axenov

We have considered changing principles of placing stationary objects by on-line food retail. They are, however, not the only ones affecting the spatial organisation of cities. New retail has greater or equal impact on the reorganisation of flows, such as pedestrian and freight traffic, which is considered in this article along with the associated infrastructure and public relations [30].

The following features of new online food trade organisation greatly affect the organisation of urban flows:

- product selection has basically become extraspatial, not requiring physical travel around the city;
- the seller has taken on the transporting of purchases; the customer no longer moves to the merchant to make a purchase, but rather the merchant moves to the customer (which revives the kiosk shopping principle in a new incarnation) [16];
- although replenishing dark store merchandise inventory happens the same way as in the case of a regular retail store³³, the delivery of everyday goods, which

³³ Market overview of office and retail premises St. Petersburg, 2nd quarter 2020, 2020, LLC "INDUSTRIA-R", URL: https://industry-r.ru/f/obzor_rynka_ofisnyh_i_torgovyh_pomeshchenij_2kv2020g_sankt-peterburg_pressa.pdf (accessed 18.07.2021) (in Russ.).

once meant a customer carrying purchases home, has turned into a transport and logistics operation; personal vehicles (PV) are now used to carry commercial cargoes alongside traditional cargo vehicles;

— commercial cargo traffic, which once used roads only, has moved to pavements, becoming a year-round affair (Fig. 3).

— such transport has become all-season and all-weather; the speed of PVs has exceeded the average speed of pedestrians, creating functional competition for once purely private (not commercial) traffic along the pavement and provoking a new spatial conflict in the city, which requires special regulation³⁴.



Fig. 3. The crisis of the old and the arrival of new outdoor advertising, St. Petersburg, February 2021. Photo by K. E. Axenov

³⁴ Requirements for a real estate object for dark-store placement, 2019, *Perekrestok.ru*, URL: https://www.x5.ru/ru/PublishingImages/Pages/Partners/EstateSearch/dark_store.pdf (accessed 20.06.2021) (in Russ.).

All these processes, however, require not only new regulation but also the re-organisation of the existing transport infrastructure and system as a whole (cargo and passengers vehicles, PVs and even pedestrians). Perhaps, the development of online retail has caused the most dramatic reorganisation of the transport system in many decades³⁵.

Transportation methods used in online trade create demand for low-tonnage commercial vehicles and delivery by PVs, as well as for corresponding leasing and rental services³⁶.

The variety of delivery methods generate demand for low-tonnage commercial vehicles, delivery by private vehicles, and relevant leasing and rental services³⁷.

Along with alterations in the spatial organisation of stationary objects and flows, the development of online food retail produce changes in the outdoor, indoor (BTL) and transit advertising industry [31].

The transition to Internet marketing, obviating the need to attract transit buyers with a retail outlet, reduces the amount of outdoor advertising by sellers at a particular point. This, in turn, alters the design of the urban environment: dark stores and dark kitchens do not have shopfronts, signage or window advertising. As a result, there are fewer opportunities for window shopping, which is an essential part of urban lifestyle; the function of the environment is changing, and its attractiveness for recreation and tourism is dwindling (Fig. 1, 2).

However, a new type of transit and outdoor advertising is emerging; it is placed on courier uniform and delivery vehicles. This type of transit advertising is not regulated, but obviously affects the traditional forms of outdoor and transit advertising, seriously changing the appearance of the city (Fig. 3).

Other effects, which have not been covered in this study, include changes in the organisation of the labour market, particularly its spatial makeup:

- the scale of delivery development has boosted demand for couriers and caused the ‘next door’ labour market to expand: the supply and demand for work in delivery is growing amongst residents of narrowly targeted territories;
- demand for the most mobile groups of the population — young people with bicycles and other personal vehicles — is increasing.

³⁵ The Head of the TFR instructed to develop rules for scooters after a fight on Nevsky, 2021, *Business Petersburg*, URL: https://www.dp.ru/a/2021/05/19/Glava_SKR_poruchil_razrabo/ (accessed 20.06.2021) (in Russ.).

³⁶ This issue goes beyond the scope of this work and requires separate consideration.

³⁷ I’ll swim, I’ll fly, I’ll get there: delivery services are experimenting with transport, 2021, *Business Petersburg*, URL: https://www.dp.ru/a/2021/04/05/Doplivu_dolechu_dedu (accessed 20.06.2021) (in Russ.); Express delivery is required by our hearts: the car market is adjusting, 2021, *Business Petersburg*, URL: https://www.dp.ru/a/2021/07/27/IEkspres-dostavki_trebujut?utm_source=yxnews&utm_medium=desktop/ (accessed 27.07.2021) (in Russ.).

Conclusion

Focusing on the case of St. Petersburg, we have traced the development of new forms of online food retail in the space of a major Russian city. The classification we offer points to the emergence of an entirely new system of requirements imposed on the urban space by online retail. These requirements are very different from those associated with traditional industries and ways of organising retail. Online retail businesses are nevertheless material, and they generate special forms of spatial organisation in urban environments. We have considered the spatio-temporal parameters of the new shopping model and carried out a comparative analysis of spatial competition with already established models; in some cases, competition leads to the displacement of offline retail and, in others, to the reformatting of existing objects.

The spatial organisation of new online food retail has been considered in the context of the new offline object placement, the emergence of new flows and their impact on urban development, and the influence spatial makeup has on the outdoor and transit advertising markets, as well as the labour market.

The principles behind the placement of new physical objects — distribution warehouses, warehouse stores (fulfilment centres) and dot-com facilities — have been shown to be significantly different from traditional ones and dependent on the type of demand these facilities meet.

The delivery speed is becoming a decisive factor in spatial competition, superseding the location of a customer service point as the main competitive advantage. Accordingly, the importance of certain principles of spatial organisation associated with this factor increases. The principles of spatial division of territories between competing businesses have changed since, in the case of online trade, it is critically important not to establish and hold a monopoly on a particular territory but to ensure the most effective coverage of the maximum possible territory by a universal service. Zoning has become the key to companies' logistics, making it possible to ensure universal delivery time and quality throughout the service area.

The most important factor in reorganising city flows is the fundamental redistribution of major logistics functions between participants in the purchase of a product: the buyer, the seller and intermediaries. The seller has taken on the function of moving goods to the customer, often using a new type of commercial cargo transport for the city (personal vehicles) and new road infrastructure (pavements, driveways and passageways).

Some functions, such as marketing (both on the part of the seller and the buyer), have become generally extraspatial. Making a purchase no longer involves

any movement on the part of the buyer. A purely online shopping model does not require traditional customer service points, such as stores, service shops, etc., which nevertheless remain part of omnichannel models.

Outdoor advertising by sellers at specific points has shrunk, accompanied by the emergence of a new type of advertising placed on courier uniform and delivery vehicles. These processes have taken a toll on the attractiveness of the urban environment.

An avalanche-like demand for couriers has swept the labour market, and new transportation methods generate demand for low-tonnage commercial vehicles and delivery by personal vehicles, as well as for corresponding leasing and rental services. The local segment of the ‘next door’ labour market is expanding along with the demand for the most mobile groups of the population: young people owning bicycles and other personal vehicles.

It seems that the penetration of new forms of online food retail in Russian cities will increase even when the COVID-19 restrictions have been lifted. This trend is global in nature: the rate of penetration of online food retail in developed countries was an order of magnitude higher than in Russia even before the pandemic, which has served as a significant catalyst making it possible to catch up with the leaders.

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'POLISH QUESTION' IN LITHUANIA AND PROBLEMS OF POLISH-LITHUANIAN RELATIONS AT THE TURN OF THE CENTURY

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This article tracks how relations between two neighbouring states of the Baltic region, Poland and Lithuania, developed over the last decades. These relations cannot be described in unambiguous terms. On the one hand, common aspirations for European integration created conditions for rapprochement and cooperation. On the other, the partnership has been complicated by disagreements and mutual claims. The main problem is the situation of the correspondent ethnic minorities in the two countries: Poles in Lithuania and Lithuanians in Poland. According to the Polish authorities, the interests of Lithuania's Polish residents are not safeguarded, and their rights are infringed. Similar complaints are voiced by Vilnius regarding the situation of ethnic Lithuanians in Poland. These contradictions are partly smoothed by common political interests: cooperation within the North Atlantic Alliance, defiance of the notorious 'threat from the East' and joint support for the pro-Western opposition in the neighbouring Belarus.

Keywords: Poland, Lithuania, International Relations, ethnic minorities

Prehistory

One of the problems the Baltic countries faced after they gained their independence in 1991, was the establishment of ties with the neighbouring states. In this context, settling relations with the Russian Federation was the most difficult task. Lithuania faced an equally challenging task of establishing bilateral relations with Poland.

Relations between Poland and Lithuania have a long and uneasy history. These countries made up a united entity in the period between the middle of the sixteenth century (from the union of Lublin of 1569 on) and the late eighteenth century within Rzecz Pospolita. The position of the two parts of this associa-

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tion — the Kingdom of Poland and the Great Principality of Lithuania — was not equal. Poland certainly dominated both politically and culturally. The Lithuanian nobility was largely ‘polonized’. Nevertheless, this Polish domination sometimes caused discontent in Lithuania. One manifestation of such discontent took place during the war between Poland and Sweden between 1656 and 1658 when the Lithuanian hetman Janusz Radziwiłł with a part of the Lithuanian magnates sided with the Swedes [2, s. 102 — 103].

The Polish national movement of the nineteenth and early twentieth centuries pursued the goal of not only reaching independence of the proper Polish lands but also restoring Rzecz Pospolita in its borders of the eighteenth century: the slogan “Rzecz Pospolita between the two seas” (*Rzeczpospolita od morza do morza*) was immensely popular. The Polish leaders were trying to solve that problem, at least to some extent, after the restoration of Polish independence in late 1918. As for Lithuania, the interest of Warsaw was, first of all, in the district of Wilno with its numerous Polish residents. The Lithuanian territory between 1918 and 1920 was an arena of armed clashes with the participation of the Lithuanian formations, the Polish troops and the pro-Soviet forces. The city of Wilno (Vilnius) was under the control of the Poles from April 1919 on. During the offensive of the Red Army against the Poles on July 14, 1920, Wilno was taken by the troops of the Western front. In accordance with the Soviet-Lithuanian peace treaty, signed in Moscow two days before, the representatives of the Red Army command concluded a treaty on August 6 with the Lithuanian command on the transfer of the city to Lithuania.

On August 27, the Lithuanian troops entered Wilno. But in September, the Polish troops during their counter-offensive moved back to Lithuania. Under the mediation of the Western powers, which were trying to prevent a Polish-Lithuanian clash, on September 30 negotiations between the Polish and the Lithuanian representatives were started in Suwałki, which resulted on October 7 in signing an agreement. The demarcation line, drawn according to its conditions, left Wilno under Lithuanian control [19, s. 155 — 160; 29, l. 168 — 172]. But between October 8 and 9 the Polish formations, made up mainly of the Lithuanian natives, under the command of general Lucjan Żeligowski, broke the agreement and captured Wilno. Soon on the Lithuanian territory, occupied by the Poles, a new state — “Middle Lithuania” (*Litwa Środkowa*) was proclaimed [18, s. 145 — 155].

On January 8, 1922, a plebiscite on the issue of reunification with Poland was held on the territory of this entity. While ethnic Lithuanians and Jews boycotted the plebiscite, the local Poles voted in favour of reunification. On the base of this vote, the district of Wilno was joined to Poland. The corresponding decree was issued by the Polish Sejm (Diet) on February 22, 1922. In March 1923, the Polish eastern border was recognized by the Great Powers. Some 65,000 Lithuanians resided in the territory, annexed by Poland [19, s. 187 — 199]. In 1926, the province (*województwo*) of Wilno as a part of Poland was formed out of the lands of former Middle Lithuania. The Poles made up 59.7 % of its population [2, s. 130]. The border issue continued to be a stumbling block for the normalization of the

Polish-Lithuanian relations in the 1920—1930s. Diplomatic relations between the two states were established only in 1938 when Lithuania had to give in to strong Polish pressure. The Lithuanian party tried to put the issue of the position of the Lithuanian minority on the agenda but to no avail [19, s. 288—298]. In Lithuania, the district of Wilno was never recognized as a part of Poland. The Lithuanian Constitution determined Vilnius as the capital of the Lithuanian Republic, and the date of October 9 was declared a day of mourning. In Lithuania, the events of the early 1920s have been regarded as a national tragedy until today [2, s. 130; 5, s. 116—124].

During the campaign in Western Ukraine and Belarus in the fall of 1939, the Soviet troops occupied the district of Wilno, which was then transferred to Lithuania. In 1940, Vilnius became the capital of Lithuania, which became a Soviet republic. The border issue was settled by an agreement between the Soviet Union and Poland signed on August 16, 1945. During the first postwar years, resettlement of ethnic Poles from Lithuania was not so massive as that from the former Polish districts of Ukraine and Belarus. But lots of Poles had to leave also that republic: some 200,000 people, including 108,000 residents of Vilnius, withdrew between 1944 and 1948. The next wave of expatriation, between 1955 and 1959, covered more than 46,000 people [6, s. 19—25]. The ethnic policy of the Lithuanian Soviet administration in the late nineteen-forties and the early nineteen-fifties was clearly discriminating towards the local Poles. From 1949 on, Polish schools were closed in Lithuania, and the publication of Polish books and periodicals was discontinued. The Poles were forced out from almost all leading positions. The ‘Polish question’ in Lithuania drew the attention of the central authorities. In October 1950, the Central Committee of the CPSU issued a decree “Measures on the Improvement of the Work among the Polish Population of the Lithuanian SSR”, which provided removal of the most clearly discriminating elements from the republican ethnic policy [3, s. 159—161]. In 1951 the Poles in Lithuania were granted cultural autonomy [15, s. 69].

The 1990s: Lithuanian independence and the ‘Polish question’

By the late 1980s, the number of ethnic Poles in Lithuania was some 258,000 people (257,994 according to the All-Union census of 1989), which amounted to 7% of the whole population of the republic. Unlike the Russians, who were concentrated mainly in three towns of the republic (Vilnius, Klaipeda, and Visaginas), the Poles dwelt compactly in the countryside in the South-East of Lithuania. They dominated the population of the two districts — that of Šalčininkai (in Polish Gmina rejonowa Soleczniki) — 32,891 people according to the census of 1989, or 79.9% of the residents, and that of Vilnius (in Polish Gmina rejonowa Wilno, Wileńszczyzna) — 59,812 people, or 63.5%. In Vilnius proper, the Poles (108,239 people) made up 18.8% of the citizens. There were large Polish minorities in the districts of Trakai (Troki) — 19,365 people, 23.8%, and Švenčionys (Świencany) — 10,934 people, 28.7% [6, s. 31—32; 14, l. 88—90]. Under the census of 1989, 85% of the Lithuanian Poles indicated Polish as their

mother tongue, while Russian was the mother tongue for 9.2 % of them and Lithuanian — for five %. According to the data from the late 1990s, 73 % of the Poles said that their *lingua mentalis* was Polish, and 77.6 % spoke Polish at home [15, s. 76]. In 1990, the “Union of the Poles in Lithuania” (Związek Polaków na Litwie) was formed as a structure, which represented the interests of the local Polish residents [27, s. 73].

Up to the late 1980s, as long as Poland stayed within the socialist block, the Polish officials did not raise any controversial issues in the relations with the USSR, including border questions. But after the communists in Poland lost their power and the Soviet Union ceased to exist, the leaders of the newly independent Lithuania had reasons to fear that the issues of the border with Poland and the position of the Polish minority in Lithuania could be put on the agenda again. In the late nineteen-eighties and the early nineteen-nineties the Poles, especially intellectuals, haunted South Lithuania in search of vestiges of the Polish legacy. In Lithuania, such visits were not always perceived with understanding, since the externally cultural character of these trips inspired suspicions of doubtful intentions. Besides, there were reasons for concern that the Poles could demand restitution for the property which had previously belonged to them in the territory of the district of Wilno and which they had lost after the district had been joined to Lithuania. Some Polish politicians recalled joint historical past of Poland and Lithuania and started to discuss the possibility of establishing a kind of ‘special relations’ with Lithuania. Such trends also caused alertness in Lithuania even among the politicians who sympathized with Poland, since the behaviour of the Poles seemed to demonstrate a paternalistic attitude towards the Lithuanians [22, s. 10–12].

As the movement for independence of Lithuania was rising, relations between the central Lithuanian authorities and the ethnic Poles in Lithuania started to aggravate. The development of Lithuanian nationalism in the late 1980s in the background of the independence movement caused concerns from the local Poles that their rights in independent Lithuania could be infringed. For instance, a negative reaction from ethnic Poles was caused by the Lithuanian language law of November 18, 1988, which proclaimed Lithuanian the only official language in the republic, while many Poles did not speak Lithuanian well enough [28, s. 148–150]. The Poles were active participants of the “Unity” organisation (“Yedinstvo” in Russian, or “Jedność” in Polish) which stood against the secession of Lithuania. Under voting for the independence declaration of March 11, 1990, in the Supreme Soviet of Lithuania, three of the Polish deputies of the Soviet voted for the declaration, while six persons abstained [24, s. 245]. The Lithuanian independence declaration found no support from the bodies of local self-government in the Polish districts. On May 23, 1990, the district of Šalčininkai proclaimed itself a Polish national district where the constitution of the Lithuanian SSR remained in force. On May 22, 1991, at the conference of the representatives of the districts of Vilnius and Šalčininkai, a decision on proclaiming the districts a Polish autonomous region was made. Intentions of creating a Polish Soviet republic out of two districts of Lithuania and adjacent Belaru-

sian portions of land, inhabited by the Poles, with its own symbols, like the flag, coat of arms and anthem, were discussed. On March 17, 1991, the local Polish self-government in the districts of Vilnius and Šalčininkai was allowed to hold a referendum on preserving the Soviet Union, the event which was forbidden in other parts of Lithuania [10, p. 401].

The attitude of the Lithuanian authorities towards the Polish minority was not unambiguous. The position of the Polish Union in Lithuania and of the Polish faction of the republican Supreme Soviet in January 1991, when they condemned the violent actions of the union leadership in Vilnius, had a positive consequence for the Poles. On January 29, the Lithuanian Supreme Soviet adopted amendments to the “Law on the Ethnic Minorities”, which was favourable for the Poles. The amendments expanded the language rights of minorities in the field of education and public activities [15, s. 67]. But the following actions of the Polish bodies of self-government entailed oppressive measures. After the events of August 1991, the Supreme Soviet accused the chair of the Šalčininkai district council Czesław Wysocki and his deputy Adam Monkiewicz of supporting the attempt of a state coup and suspended the authority of the council. The district councils of Vilnius and Šalčininkai were dissolved by the decision of the Supreme Soviet on September 4 on the accusation of separatism and violation of the Lithuanian constitution and legislation. Nine days later the Soviets introduced a direct administrative rule in these districts for the term of six months¹. A lawsuit was opened against seven persons, members of the presidium of the Šalčininkai district council and deputies of the Supreme Council. Three of them — Wysocki, Monkiewicz and Katunov — escaped abroad [6, s. 167—168].

Separatism in the Polish districts of Lithuania was rather pro-Soviet and was not connected with Poland. Accordingly, it had no support from the Polish officials, neither had the idea of a Polish territorial autonomy in the post-Soviet space [12]. On the contrary, the Lithuanian independence movement and the declaration of independence in March 1990 were perceived with sympathy in Poland [21, s. 51]. At the end of March of the same year, Poland and Lithuania exchanged visits of parliamentary delegations. In May and June, the Lithuanian foreign minister Algirdas Saudargas and the prime minister of Lithuania Kazimiera Prunskiene paid official visits to Warsaw. Poland stood out in support of Lithuania after the bloody events of January 13, 1991, in Vilnius and condemned the actions of the Soviet leadership. The Polish foreign minister Krzysztof Skubiszewski, together with his Czechoslovak and Hungarian colleagues, signed a declaration supporting the independence of the Baltic republics [10, s. 400]. Minister Saudargas after the events of January in Vilnius stayed in Warsaw with the authority to form a government in exile in case of necessity [12]. After the failure of the “August coup” in Moscow, the Nordic states were

¹ Deputy Announces Dissolution of Local Councils, 1991, Radio Vilnius Network. 4 September 1991, *Foreign Broadcast International Service*, Daily Report: Soviet Union, 6 September 1991, p. 71; Postanovlenie Verkhovnogo Soveta Litovskoy Respubliki o pryamom pravlenii v Vilniusskom i Šal'chininkaiskom rayonakh i v posiolke Snechkus Ignalinskogo rayona, 1991, *Ekho Litvy*, 14 September 1991.

the first to recognize the independence of the Baltic countries. Poland followed suit soon. On September 5, 1991, diplomatic relations were established between Poland and Lithuania. The Lithuanian embassy in Warsaw was opened in October and the Polish one in Vilnius in November. In January 1992, the consular convention was signed [21, s. 51].

On the other hand, oppressive measures against the Polish self-government bodies in Lithuania caused a negative reaction in Warsaw and led to the aggravation of tensions in mutual relations between Poland and Lithuania. In September 1991, the commission for the foreign relation of the Polish Diet and Senate sent an application to the Lithuanian party, asking to suspend the implementation of these decisions and to find a compromise solution to the problem. In March 1992, the Polish Foreign Ministry issued a note of protest on that issue [30]. The Poles were also anxious about intentions to expand the boundaries of the city of Vilnius at the expense of the territories of the districts of Vilnius and Trakai: it was treated as a purpose to dwindle the percentage of the Poles in these districts and deprive them of the possibility to elect a larger number of their representatives into the parliament and the local administrations [20, s. 68—72]. Finally, the new Lithuanian citizenship law also met discontent in Poland. According to that law, the persons who did not apply for Lithuanian citizenship before November 2, 1991, would not get full political and economic rights. That law, however, did not entail any conflict since by that time some 87 % of the Lithuanian Poles applied for Lithuanian citizenship. The law itself was later mitigated: those who did not submit a written application for renunciation of Lithuanian citizenship would receive it automatically [16, s. 102—104]. In Lithuania, Polish criticism was met with definite discontent. Lithuanians charged the Polish authorities with discrimination against the Lithuanian minority in the North-East of Poland, which numbered some 20 or 30 thousand people. Attention was drawn, in particular, to insufficient development of school education in the native language for Lithuanian children in Poland and the absence of programmes in the Lithuanian language on the Polish radio and TV². In late November, the Lithuanian defence minister Audrys Butkevičius called Poland “the greatest threat” to Lithuania³.

In spite of the crisis in bilateral relations, some positive developments were visible. On January 13, 1992, a Polish-Lithuanian declaration on friendly relations and neighbourly cooperation was signed. The principal element of this declaration for the Lithuanian party was that Poland recognized the inviolability of the postwar borders. For the Poles, at the same time, the obligation of the parties to conduct the ethnic domestic policy in accordance with the norms, established by the OSCE, was especially sufficient [25, s. 224]. In general, however, the Polish-Lithuanian relations stayed in a frozen condition almost up to the end of the year. Since the Lithuanian independence was recognized by the world community, Polish support was no longer so important. The rightists, who held power

² Zayavlenie pravitel'stva respubliky, 1991, *Ekho Litvy*, 3 October 1991.

³ Poland Termed “Greatest Threat”, 1991, *FBIS-SOV*, 27 November 1991, p. 36.

in Lithuania, continued to treat Poland with extreme distrust and preferred North European orientation in their foreign policy. The chair of the Supreme Soviet of Lithuania Vytautas Landsbergis used to say that the Lithuanian way to Europe lay rather via Scandinavia than via Poland [10, p. 402].

Changes for the better in Polish-Lithuanian relations began at the turn of 1992 and 1993. In the autumn of 1992, the Lithuanian Democratic Labour Party (transformed from the independent Communist Party of Lithuania) won parliamentary elections in the country, and in early 1993 its leader Algirdas Brazauskas was elected president of the Lithuanian Republic. The artificial character of the “Northern” political orientation for Lithuania, which had always tended more toward Central Europe, was evident to the new leaders of the country [21, s. 53]. Aspiration for sooner integration into the European economic and military-political structures, for joining the NATO and the European Union (while no Northern country was at that time member of the EU, since Finland and Sweden joined in only in 1995) was also in favour of changing political orientation. In this respect, Polish and Lithuanian aspirations coincided. Finally, as Lithuania, like other post-Soviet states, experienced a serious social-economic crisis in nineteen-nineties, the Polish example of conducting successful market reforms seemed quite attractive [13, p. 213].

The Polish leaders, for their part, clearly realized the absence of any prospects in trying to raise territorial issues in relations with Lithuania. In June 1992, an agreement between Poland and Belarus was signed, which provided recognition by the Polish party of the existing borders between the two states and fixed the absence of any territorial claims against Belarus [15, s. 112]. The Lithuanian districts, inhabited by ethnic Poles, had no access to the Polish border, so potential Polish claims upon these lands would affect Belarusian territories. In these circumstances Russia, connected with Belarus by agreements within the CIS, would not stay aside. Besides, the Poles also realized that attempts to put a revision of the postwar borders in the East on the agenda could entail a reaction from Germany, which in such a situation could raise the issue of state affiliation of its former lands (Silesia, Pomerania and a part of Prussia), transferred to Poland after the war. Finally, one of the conditions of admission of any state into the EU and NATO was an absence of territorial problems in relations with the neighbouring states. The Polish leaders would not be satisfied if the process of integration of their country into these structures was hampered because of such problems.

In January 1993, prime ministers of Poland and Lithuania Hanna Suchocka and Bronislovas Liubus agreed upon starting negotiations on the conclusion of an interstate agreement. The issue of estimating the events of the early 1920s was a stumbling block for its conclusion. The Lithuanian party demanded to include the point which would qualify the occupation of Vilnius by the formations of general L. Żeligowski and the subsequent unification of Middle Lithuania with Poland as a violation of international law. Though Brazauskas used to tell Polish journalists that he did not attach much importance to the events that had happened some 70 years before, the Lithuanian leaders could not ignore the public opinion in their country. While the Polish politicians held on to the opinion that “such a

one-sided interpretation of historical events should not be included in the agreement” [11, p. 318—320]. They could not agree with the argument that Vilnius (Wilno), which had played such an important part in the history of Poland and the Polish culture and was associated with such names as Tadeusz Kościuszko, Adam Mickiewicz, and Eusebiusz Słowacki (professor of the university of Wilno, farther of the outstanding Polish poet Juliusz Słowacki), had been occupied and forcefully joined to Poland [2, s. 124—125]. The Lithuanian author Tomas Venclova noted: “The Poles had no doubts in their moral rights upon Vilnius — for them, it was the city of great enlighteners and poets... The Polish insurgents had lost their lives for it” [1, s. 216].

All these factors resulted in the delay of the conclusion of the Polish-Lithuanian agreement. By 1994 Poland had signed bilateral agreements with all its other neighbour states — Ukraine, Belarus, Russia, Germany, the Czech Republic, and Slovakia. These agreements guaranteed, among other things, inviolability of the existing borders, and mutual refusal from any territorial claims. They obliged each party to observe the rights of the ethnic minorities. Lithuania was the only country, adjacent to Poland, which stayed without such an agreement with Poland. It was only in late 1993 that the case started moving forward. In part, it was connected with the formation of the leftist government in Poland with whom Brazauskas and his party comrades could communicate easier [21, s. 53]. Also fear of the notorious ‘Russian menace’ played its part. The success of the Liberal-Democratic party in the parliamentary elections in Russia was interpreted by its western neighbours as consolidation of the positions of nationalists which was allegedly fraught with the intensification of the ‘hard line’ in the policies of the Kremlin.

In early 1994, the Polish-Lithuanian negotiations were renewed, and by spring the text of the “Treaty Between the Republic of Poland and the Republic of Lithuania on Friendly Relations and Neighbourly Cooperation” (“Traktat między Rzeczpospolitą Polską i Republiką Litewską o przyjaznych stosunkach i dobrosąsiedzkiej współpracy”) was ready. As for estimating the events of the early 1920s, it was decided to include it in a separate declaration which would be signed along with the treaty. But, since the parties failed to agree on the contents of the declaration, they decided to abstain from it all and include a statement on historical aspects of the bilateral relations in the preamble of the treaty. The very contents of the document was standard and did not differ much from the agreements, signed by Poland with other neighbouring states before. Clause 2 of the agreement ran that the parties “recognize the existent border between them and around their correspondent territories inviolable and undertake an obligation to respect without reservation sovereignty and territorial integrity of each other” (§1) and that they “acknowledge, that they do not have and will not have in future any territorial claims against each other” (§2). The agreement was signed by the prime ministers of the two countries on March 18, 1994, while presidents Lech Wałęsa and Algirdas Brazauskas signed it on April 26, during a visit of the Polish president to Lithuania [11, p. 321].

In Lithuania, the treaty underwent criticism from the rightists. There was some discontent with the agreement in Poland too. For instance, the “Civil Committee on the Defence of the Poles in the District of Vilnius” considered that the treaty

did not guarantee there would be no discrimination of the Lithuanian Poles by Lithuanians, and did not provide restitution of land and other property in Lithuania to ethnic Poles and did not have a clause of recognition by the Lithuanian authorities of the Polish university in Vilnius⁴ (the Polish university with three departments had been active in Vilnius since February 1991 but without registration [6, s. 267—270]). In general, however, public opinion in Poland perceived the agreement quite benevolently. President Wałęsa during his visit to Lithuania in April 1994 stated at a meeting with the representatives of the local Polish diaspora: “The Lithuanian state is your state. Its welfare is your welfare. Be worthy citizens of it. Take care of your homeland”⁵.

Some contradictions appeared during the discussion of the treaty in the parliaments of both states on the issue of the recognition of the existing borders. The Polish party referred to the Polish-Soviet agreement of August 16, 1945. The Lithuanians, however, put that point in question proceeding from the argument that unification of Lithuania with the Soviet Union had been illegal and therefore the agreements, concluded on behalf of Lithuania by the Soviet Union, could not be in force. The Lithuanian politicians based their recognition of the borders on the Final Act of the Conference on Security and Cooperation in Helsinki of 1975, which contained a clause on the inviolability of the postwar borders in Europe. The agreement was ratified by the parliaments of both countries on October 13, 1994: the Polish diet approved the agreement unanimously, the Lithuanian one — by the majority of 91 votes against 19. Meanwhile, 38 Lithuanian deputies signed a special declaration, which stated that the agreement could not be the base for recognition that Poland had possessed Vilnius in the interwar period legally [11, p. 322].

The further development of the relations between Poland and Lithuania seemed quite favourable. First of all, it concerned trade-economic ties (a trade agreement was concluded in late February 1992). Poland and Lithuania cooperated within the Council of the Baltic Sea States and the Euroregions “Baltic” and “Niemen”. Earlier both states became members of NATO and cooperated in the military field. A Polish-Lithuanian agreement on military cooperation came into force in the middle of 1993. It coordinated activities on border security, cooperation in professional education, military scientific investigations, and control over the airspace. Within the framework of the programme “Partnership for peace”, the Lithuanian military formations took part in the maneuvers “Cooperative Bridge” in Poland in September 1994, while the Polish ones — in the maneuvers “Amber Hope” in Lithuania in June 1995 [11, p. 323—324].

In the mid-1990s, the development of the Polish-Lithuanian relations continued. In February 1995, Lithuanian president Brazauskas paid a visit to Poland. On March 5 of the same year, an agreement on the state border was signed, and on September 16 — the one of cross-border cooperation. Bilateral negotiations

⁴ PKOPW Objects to Polish-Lithuanian Treaty, 1994, *Foreign Broadcast International Service*, Daily Report: East Europe, 18 March 1994, p. 18.

⁵ Zavershilsya vizit prezidenta Respubliki Pol'skoy Lecha Wałęsy v Litvu, 1994, *Ekho Litvy*, 28 April 1994.

of that period concerned such issues as the formation of a Polish-Lithuanian battalion, free trade, the procedure of border crossing, and cooperation in the field of shipping. On March 5–6, 1996, Aleksander Kwaśniewski, President of Poland, visited Lithuania. During his visit, he stressed the importance of developing relations with Lithuania. In his speech in the Lithuanian Diet, he stated: “Without secure Lithuania there will be no secure Poland. Without secure Poland and Lithuania there is no secure Europe” (“Bez bezpiecznej Litwy nie będzie bezpiecznej Polski. Bez bezpiecznej Polski i Litwy nie może być bezpiecznej Europy”). A new meeting of the Polish and the Lithuanian presidents took place on September 19, 1996, in Gdynia. It resulted in the signing of a joint declaration on confirmation of friendly relations. A Polish-Lithuanian free trade agreement was signed on June 27, 1996, and came into force on January 1, 1997 [25, s. 225–228]. On June 25, 1997, the defence ministers of Poland and Lithuania Stanisław Dobrzański and Česlovas Stankiecičius signed an agreement on the formation of a joint military contingent, which came into force on December 3 of the same year [25, s. 233]. In September 1997 during a visit of the Polish prime-minister Włodzimierz Cimoszewicz to Lithuania, the first session of “the Polish-Lithuanian Inter-governmental Committee for Cross-Border Cooperation” took place [21, s. 55]. President Kwaśniewski, making a speech on February 16, 1998, on the celebration of the eightieth anniversary of the restoration of the Lithuanian statehood stated that “Lithuania and Poland are today closer to each other than ever before” (“Litwa i Polska są dziś sobie bliższe niż kiedykolwiek”) [25, s. 237].

Reasons for some differences appeared from time to time in connection with the issues concerning ethnic minorities. For instance, the project of expanding the city limits of Vilnius, which had been considered before and had been a source of discontent for the local Poles, was eventually implemented. On April 24, 1996, the law “On alteration of the limits of the administrative self-government territories of the city of Vilnius and the districts of Vilnius and Trakai” was adopted by the Lithuanian diet and signed by president Brazauskas. The area joined to the city proved much smaller than had been intended in 1991: some 10,500 hectares instead of 28,000. But even that caused protests by the Polish general public. The Polish Union in Lithuania organized several rallies, where demands to alter the decisions unfavourable to the local Poles were voiced [24, s. 251–252]. On the other hand, in Lithuania signs of discontent were expressed because of the fact that ethnic Lithuanians in Poland were still unable to study at school in their mother tongue and that the Polish authorities refused to make Lithuanian an official language in the areas where Lithuanian residents dominated [11, p. 325] (in Poland the Lithuanian population is concentrated mainly in the powiat (district) of Seiny of the province of Podlasie, dominating in the gmina (municipality) of Puńsk [2, s. 132].

New millennium — old issues

Issues related to the position of the Polish minority in Lithuania and the Lithuanian minority in Poland, as well as the assessment of the difficult moments of the historical past until the end of the 2000s, did not have a significant impact on

the development of Polish-Lithuanian relations. Difficulties in relations between Lithuania, as well as Latvia and Estonia, on the one hand, and the Russian Federation, on the other hand, are largely related to their accession to NATO [17, s. 203–222], and pushed the Lithuanian-Polish contradictions into the background. Bilateral cooperation continued to develop in various fields, chiefly in the military-political one, especially after the accession of both states to NATO: Poland joined NATO in 1999, during the first eastward expansion of the alliance, and Lithuania in 2004, during the second expansion. On February 2, 2001, a new Polish-Lithuanian agreement on cooperation in the field of defence was signed. The Polish-Lithuanian battalion of peacekeeping forces LITPOLBAT was formed in 1998 and operated until its disbandment in April 2008. During the existence of the battalion, its employees took part in peace operations in Kosovo, Lebanon and Syria [21, s. 59–61]. Polish pilots systematically participated in the protection of the airspace of Lithuania and other Baltic countries as part of the NATO Air Policing operation. In 2008, Poland and Lithuania together with Latvia, Estonia, and Ukraine supported Georgia during the events in South Ossetia [4, s. 128].

In 2009, however, there was some cooling of the relations between Poland and Lithuania. This was due to the dissatisfaction that arose in Poland following the failure to respect the rights of ethnic Poles in Lithuania to the full, contrary to the agreements reached in the 1990s. This opinion was reflected in the report of the Embassy of the Republic of Poland in Vilnius. The point was particularly about the problems of education in the Polish language, the status of Polish as a local language, bilingual street signs, citizenship provisions that were unfavourable for ethnic minorities, and the percentage threshold for parliamentary elections. The report said, “with regard to the numerous problems of the Polish public, which have long remained unresolved, the Lithuanian authorities resort to the proven principle of delaying the adoption of final positive decisions for the Poles. In official communications, they invariably declare their good will, which, unfortunately, is not backed up by appropriate actions” (*W przypadku wielu zagadnień, stanowiących od lat nierozwiązane problemy polskiej społeczności, władze litewskie stosują wypróbowaną zasadę przeciągania w czasie podejmowania ostatecznych, pozytywnych dla Polaków, decyzji. W relacjach oficjalnych niezmiennie deklarują dobrą wolę, niestety nepopartą odpowiednimi działaniami*) [26, s. 72–73]. One of the signs of the cooling of bilateral relations was the suspension of the activities of the Polish-Lithuanian Intergovernmental Council, which had met regularly since the late 1990s [24, s. 201]. The state of Polish-Lithuanian relations was also affected by the reforms in the field of schooling, which began to take place in Lithuania in 2011. The key point of these transformations was the more active introduction of the Lithuanian language into the educational process in schools, where representatives of ethnic minorities studied. In particular, courses in the history and geography of Lithuania, and lessons on patriotic education were to be held exclusively in Lithuanian. The Polish public feared that the adoption of a new school charter, which was planned for 2013, could be the beginning of the end of the Polish school in Lithuania. Disputes and contradictions also arose on other issues, such as the withdrawal of the Polish party from the nuclear power plant construction project in Lithuania, and the

financing of the stay of Polish pilots in Lithuania in connection with the NATO mission. The Polish authorities referred to the provisions of the 1994 agreement and the obligations of the Lithuanian side in relation to the local Poles accepted in accordance with it and expressed dissatisfaction with their failure to comply [7, s. 225–226].

The increase in interethnic tension was also noticeable in relation to monuments and national symbols and acts of vandalism. In particular, the Polish Mausoleum of the mother and the heart of son in Rasos Cemetery in Vilnius was vandalised three times. In 2011, the inscription “Piłsudski = Hitler” appeared on it [6, s. 187]. On November 24, 2012, the walls of the mausoleum were covered with inscriptions offensive to the Poles (“Death to the Poles”, “Beware of the bomb”, “Tomaševski⁶, stop harming Lithuania, otherwise your place is here”, etc.) [16, s. 193–194]. Some local Poles, however, sometimes behaved no better. There was an incident when, at the end of 2013, several Poles wiped the stairs with a Lithuanian flag at the Vilnius cemetery next to the mausoleum of Piłsudski. The Ministry of Foreign Affairs of Poland and the Union of Poles in Lithuania condemned this act of vandalism [26, s. 76]. Public opinion polls conducted in Lithuania in 2014 showed that more than 25 % of Lithuanians perceived Poland as a hostile state. Poland ranked second after Russia as an ‘enemy’ of Lithuania [26, s. 81]. In 2013, however, both sides took certain steps to overcome the contradictions. In February 2013, Lithuanian Foreign Minister Linas Linkevičius visited Poland and met with his Polish counterpart Radosław Sikorski. This was the first meeting at such a level since 2009. Linkevičius assured that the Lithuanian authorities would try to resolve issues related to the situation of ethnic minorities. In Lithuania, a working group was formed from representatives of several ministries, whose task was to find compromise solutions, including on the issue of a law on national minorities. In February of the same year, Prime Minister of Lithuania Butkevičius arrived in Warsaw. During the visit, he expressed hope for positive developments in bilateral relations. During the negotiations, a number of projects were discussed — cooperation in the energy sector, transport including the Rail Baltica project, cooperation within the framework of the Eastern Partnership [26, s. 77]. At this time, the problem of Lithuanian schools in Poland arose. In Puńsk, local authorities were preparing to close three Lithuanian schools that had too few students. Prime Minister Butkevičius said that he was counting on a positive step on the part of the Polish authorities in this matter. The Lithuanian side expressed its readiness to take part in the financing of Lithuanian-language schools in Poland [26, s. 77]. In the same year, a number of high-level meetings took place as part of various events, during which various issues were discussed and suggestions were made for changes for the better in various areas.

New grounds for the Polish-Lithuanian rapprochement have appeared since 2014 in connection with the developments in Ukraine. Poland and Lithuania strongly supported the coup d’état and the seizure of power by nationalist anti-Russian forces in that country. Finally, Poland and Lithuania have been particularly active in supporting the opposition movement in Belarus. Since the be-

⁶ Valdemar Tomaševski (Waldemar Tomaszewski) — leader of the Electoral Action of Poles in Lithuania.

ginning of the unrest in Minsk in August 2020, the Lithuanian authorities have called on European states to impose sanctions against the President of Belarus A. G. Lukashenko and demanded new free and democratic elections on behalf of the EU⁷. Poland, along with the Baltic countries, has taken the most irreconcilable position in relation to the legitimate authorities of Belarus. Hot appeals for support of the Belarusian opposition are heard here, NEXTA broadcasts, and the readiness to support the protesters in every conceivable way is expressed at the state level. Poland's support for the Belarusian opposition is not only moral. Poland is actively helping oppositional Belarusian media. There is also information that the so-called "Black Spiders" — the Central Psychological Action Group of the Polish Army, based in the city of Bydgoszcz, could remotely participate in inciting protests in Belarus. There was also funding. On August 14, 2020, Polish Prime Minister Mateusz Morawiecki promised to allocate 50 million złotych (over \$ 13 million) for various programmes related to Belarus. This is not counting at least 140 million euros that Poland has already invested in the "development of Belarusian democracy" over the past decades⁸.

On September 17, 2020, Polish-Lithuanian consultations were held in Vilnius, in which the Prime Ministers of both states M. Morawiecki and S. Skvernelis took part, and in which the "Belarusian issue" was the main one. In a joint declaration, the parties stressed that they "support the independence, sovereignty and territorial integrity of the Republic of Belarus, as well as desire of the Belarusians to live in a free and democratic country ruled by the leaders elected in free and fair elections". The declaration condemned "unwillingness of the country's leaders to take into account legitimate expectations of the civil society, violence and other forms of coercion against the citizens" and called for "speedy holding of free and democratic presidential elections"⁹.

Conclusion

Bilateral relations between the two neighbouring states, Poland and Lithuania, developed ambiguously in the late twentieth and early twenty-first centuries. On the one hand, the difficult memory of the past, primarily of the events of the past century, is affected. The Lithuanians remained resentful for the occupation and annexation of Vilnius and for the military-political pressure that Poland exerted on Lithuania in the interwar period. The Poles, for their part, did not forget about the forced "depolonization" of Vilnius in the Soviet era and the loss of their property in Lithuania. The main problem was mutual claims regarding the unsettled situation of the diasporas — the Polish diaspora in Lithuania, and the

⁷ Vystrel v nogu. Dve strany Evrosoyuza reshili podderzhat' belorusskuyu oppozitsiyu. Chem oni riskuyut? *Lenta.Ru*, URL: <https://lenta.ru/articles/2020/09/18/sosedushki/> (accessed 20.07.2022).

⁸ Zampolity iz Pospolitoj: kak Pol'sha podderzhivaet belorusskuyu oppozitsiyu. Pomoshch' protestuyushchim granichit s vmeshatel'stvom vo vnutrennie dela Belorusii 2020, *Izvestiya*, September 6.

⁹ Pomoshch' «druga». Pol'sha i Litva hotyat «stabilizirovat'» Belorussiyu za chuzhie den'gi, 2020, *Ukraina.Ru*, URL: <https://ukraina.ru/20200918/1028953759.html> (accessed 20.07.2022).

Lithuanian in Poland. At the same time, however, the existence of common interests — trade, economic and military-political interests within the EU, NATO, and regional cooperation — helped if not to completely resolve the existing contradictions but at least to smooth them out to some extent. A significant factor in the rapprochement not only of Poland and Lithuania but also of almost all the states of Central Europe and the Baltic States has been and remains anti-Russian trends in the policies of these states and fears of the notorious ‘threat from the East’. The US leadership is deeply interested in the unity of the states of this region in its strategy of “containment” of Russia. Specifically, Poland and Lithuania are also united by a common position on the Belarusian issue: the authorities and special services of these two states supported in an especially active way the anti-government protests in Belarus during the last coup attempt in that country.

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THE REPUBLIC OF BELARUS AND THE KALININGRAD REGION OF RUSSIA AS A SUB-REGIONAL SECURITY COMPLEX

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The formal indivisibility of security, which theorists in the field of international relations speak of, is an indisputable thing. Although the development of military technology, the format of globalization, a critical attitude towards classical geopolitics have led to an underestimation of the spatial factor, regionalisation has once again proved that it is an integral part of globalisation and its alter ego. At the beginning of the third decade of the 21st century, political developments in Europe are closely connected with military security. Although this interdependence is not new, the regional security system has been relatively stable for quite some time. The steadily, albeit gradually aggravating situation around the Kaliningrad region and the Republic of Belarus has caused a response — coordinated cooperation in the framework of the Union State. The consequence of which was the formation of a sub-regional security complex (SRSC), which includes the Republic of Belarus and Russia's Kaliningrad region. And a theoretical justification for the formation of this complex is the focus of this article. The authors determine the floating boundaries of the SRSC, where spatial effects of military-political ties take on a special character. This study aims to apply and adapt the concept of regional security complexes to the military-political space of the eastern part of the Baltic Sea. The practical implications of this research include substantiating the interconnectedness and interdependence of security doctrines and practices in a troubled region of Europe.

Keywords: the Republic of Belarus, Kaliningrad region, Russian Federation, Baltic Sea region, USA, NATO, regional security complex, subregional security complex

Introduction

The end of the Cold War fundamentally changed the military-political and military-strategic situation in the world. Yet, it took several more decades to understand the obvious: ‘great power war is now too dangerous and costly to be rational’ [1]. Within this paradigm, a global conflict is improbable, but a regional one is possible. Escalation on the brink of war (a tool for attaining

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foreign policy goals as old as time) has been pursued in the Baltic region as a whole and in particular around the Kaliningrad region, which became an exclave of the sovereign Russian Federation after the USSR was dissolved.

The continued build-up of tension at Russia's western borders is obvious: this fact is recognised by all the parties to the potential conflict. The question is what research approaches can be adopted when analysing the situation.

This study aims to operationalise the concepts of a regional security complex (RSC) for a concrete geographical region.

To reach this goal, several objectives will be reached:

- substantiating the possibility of applying the RSC theory to study security at the interface of the post-Soviet space, on the one hand, and Eastern and Northern Europe, on the other;
- providing evidence for the formation of a Belarus–Russia's Kaliningrad region subregional security complex;
- determining the composition and delimiting the subregional security complex.

Theoretical framework of the study

It must be assumed that, despite the growing unpredictability and the evident increase in the amount of chaos, the international system continues to exist. Chaos does not dismantle the international system: the former is presently a characteristic of the latter.

We build on the definition proposed by Barry Buzan and Richard Little: international systems are 'the largest conglomerates of interacting or interdependent units' [2, p. 69]. This interpretation does not preclude the examination of major regions (constituents of states) as parts or a special level of the international system. 'The reference object of security is the state as a rational political formation whose behaviour is conditioned by national interests and striving for unfettered might and absolute power, whilst security is perceived as defence from the invasion of external enemies and threats' [3, p. 47]. The question arises here as to the status of regions. Can one or several regions act as references for a country or an RSC?

We are prone to agree with the expert opinion that Buzan and Wæver have built their regional security complex theory on Karl Deutsch's concept. For Deutsch, security communities are not so much a group of states that are geographically proximate or imperilled by a common enemy as countries sharing common basic values, having similar socio-political and economic systems and pursuing more or less similar social ideals.

Buzan and Wæver placed emphasis on security issues and accepted Deutsch's theory at the level of regions.

The issues of regional security became an essential part of Russian research into international relations theory. As Aleksey Voskresensky cogently points out, 'global integrated regional studies rest on the assumption that, "between" the global approach, the real-world politics and state-to-state relations, there is a regional level, which emerged as the ever-transforming system transitioned from bipolarity/unipolarity to polycentricity' [4, p. 10]. If this is true, at the regional level there may be a 'fulcrum' around which a security system is built. A regional security complex is a group of states bound by a significant and unique set of relations regarding security, which ensures a high degree of interdependence between the countries [5, p. 25]. It is worth noting that interdependence is key here, which apparently has a bearing on military issues and a wide spectrum of economic and political problems. This aspect has been explored in the Estonian and Latvian context in the works of Lanko [6; 7].

The regional security complex theory (RSCT) is believed to originate from the works of the Copenhagen School affiliated with the Copenhagen Peace Research Institute (COPRI). The general ideas of RSC, however, were formulated earlier in Buzan's 1983 text *People, States and Fear*. He defined an RSC as 'a group of states whose primary security concerns link together sufficiently closely that their national security cannot realistically be considered apart from one another' [8, p. 106]. Later, Buzan and Wæver were the most prominent contributors to the theory.

Buzan proposes a 'matrix' for area studies, which postulates four levels of interaction: the domestic political component of the region's states ('is the state strong or weak?'); state-to-state relations in the region; the RSC's interaction with other regions; the role of global powers in the region (the interplay between the regional and global structures) [9, p. 51].

Proponents of that school of thought endeavoured to define the concept of the RSC, its structure and dynamics, and transformations in approaches to national and global security, putting them into a regional perspective. For them, an international region is where the two security domains (national and global) interact and where major events and actions take place. The East Baltic area fits this definition squarely. In the case of the Kaliningrad region, the situation is somewhat complicated by the neorealist tradition not to deal with intra-state regions that do not have sovereignty and many of the rights and privileges enjoyed by even the smallest of states.

Sympathetic to the functional approach, Buzan and Wæver carefully criticise neorealism for having caused the realist international relations theory to 'evolve away from geopolitical and historical specificity towards abstract 'systemic' theory which operates with 'units' that are defined as alike and non-located' [9, p. 69]. This point, highlighted by Lukin, is pivotal in our study [10].

Although Buzan and Wæver are not specialists in political geography or integrated international regional studies, the RCST justly sees geography as a key factor in the analysis of security at a regional rather than global level. This is particularly evident in the case of the object of this study. Most states pay closer attention to the capabilities and intentions of their direct and immediate neighbours. In other words, Polish concerns about Russia's military efforts have more to do with the Baltic Fleet than its Pacific counterpart. Thus, 'spatial dependence accentuates the exceptional role of space in the regionalisation of international security. Space is the thread holding together a country's physical characteristics, public discourse and values. Certainly, the laws and rules of international security are shaped by the players themselves as their interest clash, and this necessitates resolving the conflict by force or consensus' [11, p. 39].

The regional level of analysis provides a more complete explanation of international relations phenomena, including security issues. 'The global and regional levels of security are connected through the mechanism of global powers penetrating into a regional complex' [10, p. 9]. We see the next step as possible as well: a complex of interests of states comprising an RSC may 'penetrate' not into a neighbouring country but into its region. Although this shaping of the problem has not yet been formalised theoretically, it is visible in academic discussion [12–14]. If the thesis about a hierarchy of regions has long been framed within international relations theories, the issue of an RSC hierarchy is much more complicated. In their 2003 book, Buzan and Wæver describe an RSC that has emerged in the post-Soviet space around Russia [9, p. 397–436].

We believe that Russia is too large to be seen as a single regional security complex. From the military-political perspective, Russia can be viewed as an RSC only in the conditions of a third world war, when the defence of Chukotka and Kaliningrad would be governed by the same strategic and tactic considerations.

Methods

Not every concept has adequate research methods. A complete theoretical and methodological apparatus is a sign of a theory, not a concept [15]. Thus, it is sensible to build on the approaches of global integrated regional studies, based on the presence of a regional level between the global approach to real world politics and international state-to-state relations, a level that emerged as the system transitioned from bipolarity/unipolarity to polycentricity and went into the state of constant transformation. 'What can once become global emerges at this level, and the global, as seen in a particular policy, acquires in practical reality a macro-regional and regional character.'

The theoretical approaches adopted in this article draw on the findings of Russia's leading expert Prof. Voskresensky, who has summarised all existing basic approaches to the regionalisation of world politics [16; 17]. Methodologically, the only possible way is to consider first the key issues of international regions' hierarchy and only then move on to those of RSCs.

The adopted methodology, partly borrowed and partly original, is based on the concept of an international region, whose features are as follows:

- continuity of the territory (including the water area), i.e., direct transport links are possible within the boundaries of the region;
- presence of authorities (in different forms and with different functions: from deliberative, whose decisions are not binding, to directive, whose decisions are executed as international agreements having priority over the national legislation);
- relatively close economic ties (trade, investment) between the constituents of a region [18, p. 33].

Today's international regions are characterised by 'multiscaledness', and this notion is the key to understanding regions within functional approaches. Obviously, regions can be formed with a view to political and/or economic analysis, based on the findings of identity and security studies. When delimiting a region, an apt approach is to distinguish between 'rigid' regions with irrevocably delineated borders and those with volatile boundaries. RSC studies, in turn, require an approach not limited to determining significant territorial constant but encompassing regional properties that, at first sight, have little to do with the geographical map.

Such an approach has been proposed by Swedish researcher Gunnarsson, who defines the region as an interaction between actors and institutions within a geographical area [19]. A similar angle has been adopted by Buzan. For him,

a region is ‘a geographically clustered subsystem of states that is sufficiently distinctive in terms of its internal structure and process to be meaningfully differentiated from a wider international system or society of which it is a part’ [20, p. 22].

Another important approach to exploring and analysing international integration is the core element of Deutsch’s security community theory. Without mentioning the word ‘geography’, the American political scientist, points out the fact that when defining a region, we postulate a group of countries connected more closely to each other in terms of many parameters than to other countries [21]. Security communities are groups of states that have converged to the point where they recognise the need for integration or amalgamation. Such integration does not necessarily imply direct geographical neighbourhood but produces the effect of cohesion due to the commonality of regional security interests [22].

Research on globalisation as a pronounced but not the only trend in world development has incorporated a range of approaches relating to spatial analysis, including that of international relations. This concerns concepts such as ‘death of distance’ [23], ‘borderless world’ [24] and ‘the end of geography’ [25; 26]. All of them reflect actual and verified trends falling within the domain of the RSCT. Another salient approach is ‘boundless zoning’ proposed by Prof. Smirnayagin [27].

Firstly, methods for studying RSCs seek to prove the existence of the object of study. Secondly, they strive to identify the borders of RSCs with the second objective being no easier to achieve than the first one.

In our opinion, the characteristics of the regional complex comprising the forces and assets of Russia’s western military district, Poland and the Baltics are such that the existence of an RSC in the region is obvious.

Meso-regional RSCs (mesoRSCs) around Russia

According to Buzan and Wæver, it is more correct to speak of not a Russian RSC but an aggregate of regional theatres, i.e., meso-regional Russia-centred RSCs. At the time of writing (the early 2000s), they identified four subregions [9, p. 414–429], which we propose to view today as mesoregional security complexes (mesoRSCs)¹:

- 1) the Baltic States (Lithuania, Latvia and Estonia);

¹ Buzan and Wæver’s RSCs are also complexes of a megaregional level (megaRSCs).

- 2) the Western 'theatre' (Belarus, Ukraine and Moldova);
- 3) the Caucasus²;
- 4) Central Asia.

There are, however, some doubts over the agency of Estonia, Latvia and Lithuania in the context of such an RSC. Buzan and Wæver acknowledge the complex structure of the Russia-centred RSC. As early as 2003, they stressed that the Baltics 'have generally managed to move out of the post-Soviet sphere' [9, p. 414]. Lithuania's, Latvia's and Estonia's 2004 accession to the EU and NATO and their subsequent integration into the structures of the two associations, as well as the post-2014 geopolitical and military-political changes in the Baltic region, seem to have removed the mesoRSC of the Baltics from the post-Soviet megaRSC and made it part of the megRSC of the European RSC³.

The geopolitical events of 2014⁴ and subsequent years (primarily, the 2020 political crisis in Belarus) caused the mesoRSC of the Western 'theatre' to dissolve. The trajectories of its constituents parted. Ukraine and Moldova are transitioning from the post-Soviet megaRSC into the EU-Europe megaRSC. They have mostly withdrawn from the former but have not yet become a rightful part of the latter. Now they comprise the Southwestern mesoRSC, which occupies a marginal position at the interface of the post-Soviet and European megaRSCs.

Russia-Belarus mesoRSC

Unlike Ukraine and Moldova, which have clearly gravitated towards the West since at least the early 2000s, Belarus, despite technically being part of the Union State with Russia, tried to keep a geopolitical balance between its eastern neighbour and the West throughout the 2010s. This 'equidistance' foreign policy strategy, which went hand in hand with Russian-Belarusian military cooperation, was revised after the 2020 presidential election. Russian-Belarusian convergence in national, most importantly military, security intensified. It is possible and sensible to aver that a Russia-Belarus mesoRSC has eventually emerged, having broken off from the mesoRSC of the Western group of post-Soviet states. The combination of the political-legal formalisa-

² According to Buzan and Wæver, it includes both North Caucasus and South Caucasus.

³ It is also undergoing a transformation after Brexit.

⁴ They, however, started much earlier.

tion of Russian-Belarusian agreements and the actual steps taken in the field promotes the debate on a Russia-Belarus mesoRSC from the level of proving the existence of the object to that of a study proper.

If a conflict with NATO occurs (no other potential enemies of this mesoRSC are visible), conventional warfare, which is improbable but not impossible, will chiefly involve the regional military group, whose creation was specified in bilateral agreements between Russia and Belarus, and the joint air defence system. The military group consists of the armed forces of the Republic of Belarus and Russia's 1st Guards Tank Army⁵. These are, foremost, forces and assets located in Belarus and within Russia's Western military district with headquarters in St. Petersburg⁶. The district was established during the 2008–2010 reform to bring together the Leningrad and Moscow military districts⁷. However, a recent examination of the Union State's response forces has demonstrated that if the forces and assets of the Regional group are not sufficient to ensure the security of the Union State, the troops of other Russian military districts, including the Eastern district, may be involved in the operation [28].

Belarus-Russia's Kaliningrad region subregional security complex (SRSC) within the Russia-Belarus mesoRSC

The Russia-Belarus mesoRSC is not territorially cohesive since it includes the Kaliningrad region — Russia's exclave that does not share a border with the mainland. It is separated from the rest of the country by foreign states, one of which is Belarus (a 'dividing sate' in Yuri Rozhkov-Yuryevsky's terminology) [29, p. 158]). This circumstance, the role Belarus has in maintaining the connection between the region and mainland Russia, and the rising threats to national security (primarily, military ones) necessitate distinguishing a nascent Belarus-Kaliningrad SRSC within the Russia-Belarus mesoRSC.

⁵ Belarusian general says Russian forces ready to assist Belarus in defence, 2021, *Interfax*, 16 May 2021, URL: <https://www.interfax.ru/world/766204> (accessed 20.06.2022).

⁶ Western military district, 2015, *Ministry of Defence of the Russian Federation*, 22.08.2015, URL: https://structure.mil.ru/structure/ministry_of_defence/details.htm?id=9793@egOrganization (accessed 20.06.2022).

⁷ Commander of Western military district congratulates personnel on 151st anniversary of district formation, 2015, *Ministry of Defence of the Russian Federation*, 22.08.2015, URL: <https://structure.mil.ru/structure/okruga/west/news/more.htm?id=12053498@egLNews> (accessed 20.06.2022).

The formation of a Belarus-Kaliningrad SRSC in response to shared threats to military security

The SRSC is emerging largely as a response to shared military security threats to Russia's Kaliningrad region and Belarus: heightened military activities and the build-up of NATO forces and assets at the Russian border.

By the end of 2021, about 4,500 US troops were stationed in Poland; it was planned to increase this number by at least 1,000 people, and the infrastructure was being created for a rapid build-up of forces to 20,000⁸. Poznań is home to the forward command of the 5th US Army Corps and the 1st Infantry Division of the US army [30]⁹. In Lithuania's Pabradė, a town at the Belarusian border, a US tank battalion has been on rotation since October 2019 [31] (the 1st battalion of the 66th Armor Regiment and the 3rd Armored Brigade Combat Team of the 4th Infantry Division since May 2022)¹⁰. In August 2021, Lithuania opened Camp Herkus for US troops, seeking to make the rotational presence of US troops permanent [32].

Poland's 33rd Air Base in Powidz is used to build a logistics hub for US arms and equipment as part of the Army Prepositioned Stock-2 system: 360 m USD worth, this is the single largest NATO infrastructure project launched over the past 30 years. The logistics hub will be put into operation in mid- or late 2022. It will store the equipment of a US armoured brigade combat team: about 85 main battle tanks, 190 armoured combat vehicles, 35 artillery and four armoured vehicle launched bridges along with hundreds of supporting equipment sets and pieces. If now the deployment of a US armoured brigade in Poland takes 45–60 days, the logistics hub in Powidz will reduce this period to 4–7 days (only the personnel will arrive by air, and they will be equipped with prepositioned assets) [33].

⁸ President ratifies Polish-US defence cooperation agreement, 2020, *PRESIDENT.PL*, 09 listopada 2020, URL: <https://www.president.pl> [8, p. 106]. Later, Buzan and Wæver were the most prominent contributors to the theory./news/president-ratifies-polish-us-defence-cooperation-agreement,37163 (accessed 20.06.2022).

⁹ Press Release — 1st Infantry Division Forward assumes authority of Atlantic Resolve Mission Command Element, 2021, *US Army Europe and Africa*, July 20, 2021, URL: <https://www.europeafrica.army.mil/ArticleViewPressRelease/Article/2700249/press-release-1st-infantry-division-forward-assumes-authority-of-atlantic-resol/> (accessed 20.06.2022).

¹⁰ US deploys 'combat ready' units to Lithuania, 2009, *LRT.lt*. 2022.06.09, URL: <https://www.lrt.lt/en/news-in-english/19/1715317/us-deploys-combat-ready-units-to-lithuania> (accessed 20.06.2022).

Szczecin is home to the headquarters of NATO's Multinational Corps Northeast¹¹; Elbląg, of the Multinational Division North East¹². A multinational combat team of NATO's enhanced forward presence led by the US is stationed in Poland's Orzysz and Bemowo Piskie, and a similar team led by Germany in Lithuania's Rukla¹³.

In the framework of the Baltic Air Policing mission¹⁴, fighter planes of the NATO member states' air forces were deployed to the Šiauliai Air Base in Lithuania in March 2004, on a rotational basis. Sometimes, BAP uses the Polish air base in Malbork¹⁵ 80 km away from the border with the Kaliningrad region.

Since February 2022, the number of US troops stationed in Poland and Lithuania nearly doubled, having reached 10,000 and over 1,000 people respectively. According to Lithuania's minister of national defence, the combat team of NATO's enhanced forward presence counted 1,600 people on 11 April 2022, compared to 1,103 people on 10 February [34].

B-52H US strategic bombers, equipped to carry nuclear warheads, and B-1B aircraft have flown more than once at the border of the Kaliningrad region, practising attacks on the territory [35; 36]. The commander of the US Air Forces in Europe and Air Forces Africa General Jeffery L. Harrigian publicly confirmed that plans to destroy Russia's integrated air defence system in the Kaliningrad region existed and were perfected [37].

Reconnaissance aircraft of NATO member states, primarily the US and the UK, constantly fly over Poland at the Russian and Belarusian borders, and in

¹¹ Multinational Corps Northeast, 2022, *NATO*, URL: <https://mncne.nato.int> (accessed 20.06.2022).

¹² Multinational Division North East, 2022, *NATO*, URL: <https://mndne.wp.mil.pl/en/https://mncne.nato.int> (accessed 20.06.2022).

¹³ NATO's Enhanced Forward Presence, 2021, *NATO*, March, URL: https://www.nato.int/nato_static_fl2014/assets/pdf/2021/3/pdf/2103-factsheet_efp_en.pdf (accessed 20.06.2022).

¹⁴ Baltic Air Policing, 2022, *NATO Allied Air Command regional complex* [11, p. 9]. We see the next step as possible as well: a complex of interests of states comprising an RSC <https://ac.nato.int/missions/air-policing/baltics> (accessed 20.06.2022); Baltic Air Policing: Lithuania, 2022, *Phantomaviation.nl*, September 2021, URL: <https://phantomavia.nl/Country/Organizations/NATO/NATO-Air-Policing-Missions/NATO-BAP-Lithuania.htm> (accessed 20.06.2022).

¹⁵ Baltic Air Policing: Poland, 2021, *Phantomaviation.nl*, September 2021, URL: <https://phantomaviation.nl/Country/Organizations/NATO/NATO-Air-Policing-Missions/NATO-BAP-Poland.htm> (accessed 20.06.2022).

the international airspace over the Baltic Sea [38]¹⁶. In December 2019, the US deployed to Šiauliai two Beechcraft RC-12X Guardrail airborne signals intelligence collection platforms. The aircraft make reconnaissance flights at the borders of the Kaliningrad region and Belarus almost daily¹⁷.

The armed forces of Poland and Lithuania, which are NATO member states, are being built up and modernised. On 17 September 2018, the 18th Mechanised Division with headquarters in Poland Siedlce was created about 100 km away from Brest [39]. Following the Dragon-21 exercise held in June 2021, the command of the division was certified, thereby achieving full combat readiness¹⁸. The divisional forces will be built up until 2026¹⁹. The Polish military media wrote straightforwardly that ‘the reason for the formation of a new division is defence from potential aggression from Belarus’²⁰: the new unit is preparing for warfare against the country. The Griffin 2nd Motorised Infantry Brigade headquartered in Klaipeda was created in Lithuania in 2016 and focused on action against the Kaliningrad region [40].

On the pretext of response to the migration crisis, Poland concentrated troops at the Belarusian border, including 23,000 personnel, tanks, anti-aircraft and other heavy weapons. Particularly, the 10th Armoured Brigade of the 11th Cavalry Division was involved, along with the 12th Mechanised Brigade of the 12th Mechanised Division, the 15th Mechanised and 9th Cavalry Brigades of the 16th Mechanised Division, the 15th Air Defence Regiment of the same division, the 6th Airborne Brigade and special task forces units (Nile and Commandos), and the 1st Pomeranian and the 10th Opole Logistic Brigades²¹.

¹⁶ US Air Force arraigned for in-depth reconnaissance in Belarus, 2021, *Izvestiya*, 18 December 2021, URL: <https://iz.ru/1266200/2021-12-18/vvs-ssha-ulichili-v-razvedke-navsiu-glubinu-territorii-belorussii> (accessed 20.06.2022).

¹⁷ Guardrails in Lithuania, 2021, *Scramble*, 23 April 2021, URL: <https://www.scramble.nl/military-news/guardrails-in-lithuania> (accessed 20.06.2022).

¹⁸ Dywizja Zmechanizowana: nowe struktury, ludzie i procedury na starym sprzęcie [KOMENTARZ], 2021, *Defence24*, 02.07.2021, URL: <https://defence24.pl/sily-zbrojne/18-dywizja-zmechanizowana-nowe-struktury-ludzie-i-procedury-na-starym-sprzecie> (accessed 06.01.2022).

¹⁹ Nowa dywizja Wojska Polskiego, 2022, *Ministerstwo Obrony Narodowej*, URL: <https://www.gov.pl/web/obrona-narodowa/nowa-dywizja> (accessed 20.06.2022).

²⁰ Nowa polska dywizja — jak będzie wyglądać? [ANALIZA], 2018, *Defence24*, 15.05.2018, URL: <https://defence24.pl/polityka-obronna/nowa-polska-dywizja-jak-bedzie-wygladac-analiza> (accessed 20.06.2022).

²¹ A new eastern campaign, or how Poland’s planing to annex the lands of Western Belarus, 2021, *Military-Political Review Meso-regional RSCs (mesoRSCs) around RussiaBelVPOwæver, it is more correct to speak of not a Russian RSC but an aggregate of regional theatres, i.e. meso-regional*, 20.12.2021, URL: <https://www.belvpo.com/126498.html> (accessed 20.06.2022).

The Ministry of Defence of Belarus called this response inadequate and resembling strike group formation²².

Examining the build-up of the Polish and Lithuanian armed forces leads one to conclude that the two countries coordinate their military policies to the same degree as Russia and Belarus do. Moreover, the sequence of decisions on escalation is irrelevant in this case: more important is the interrelatedness of security threats to the Kaliningrad region and Belarus.

There has been a growing number of publications in the media on the possible directions of NATO military operations against the Russian exclave [see 41]. Characteristically, military activity in the Kaliningrad direction is usually linked to the possibility of a regional conflict involving Belarus. The very existence of the Suwalki Gap discussion confirms that there is a mesoRSC that unites Lithuania, Belarus, Eastern Poland and the Kaliningrad region of Russia into a single problem area.

It is via Belarus and with the help of the Belarusian Armed Forces that Russian forces in the Kaliningrad region will get support and assistance in case of war. In such a case, as it is believed in the West, the Russian troops stationed in the Kaliningrad region and Belarus and the Armed Forces of Belarus could take control of the Suwalki Gap [42], cutting off the NATO forces in the Baltic States and depriving them of the possibility to get reinforcements and supplies by land [43].

For more on the US and NATO military activity in Poland and the Baltics, see our 2019 and 2021 expert reports [44; 45]. As at the time of editing this article, the most recent works on the issue include contributions by Prof. Khudoley and Dr Lanko [46].

The institutional and military framework for the Belarus-Kaliningrad SRSC

This range of threats from the US and NATO has a decisive role in how the Belarus-Kaliningrad SRSC is formed as regards military security. In institutional terms, it is framed by an agreement between Russia and Belarus on the joint ensuring of regional military security, which came into force on 14 May 1999²³. This agreement contains the term ‘region’ defined as the ‘territory of Belarus and Russia’s regions contiguous with the state border of Belarus,

²² Belarus’ and Russia’s aircraft patrol Union State borders, 2021, Parliamentary Assembly of the Union of Belarus and Russia, 21.12.2021, URL: <https://belrus.ru/info/samolety-belorussii-i-rf-proveli-patrulirovanie-granic-soyuznogo-gosudarstva/> (accessed 20.06.2022).

²³ Agreement between the Russian Federation and the Republic of Belarus on ensuring of regional military security, 2022, *Electronic legal document and technical standard database*, URL: <https://docs.cntd.ru/document/901796828> (accessed 20.06.2022).

including the aerospace, within which a group of the Armed Forces of the Republic of Belarus and the Armed Forces of the Russian Federation will be deployed and act jointly to ensure the security of Belarus and Russia'. One of such Russian territories is the Kaliningrad region.

In military terms, as open sources suggest, the Belarus-Kaliningrad SRSC can be delimited by superimposing the zones of responsibility of the Armed Forces of the Republic of Belarus, some units of Russia's Western military districts (the 1st Armoured Army²⁴, 6th Combined Arms and 20th Guards Combined Arms Army [47, p. 9–23]), the Joint Regional Air Defence System of Russian and Belarus, and the Russian forces and assets located in the Kaliningrad region [47, p. 42–51].

The Russian armed forces based in the Kaliningrad region (and elsewhere) and the Armed Forces of the Republic of Belarus has been long considered by international experts as parts of a single military structure. It has been argued that all the Belarusian wartime land operations will be planned in Moscow and carried out under the command of a Russian general, whilst Belarusian anti-aircraft weapons are viewed as an extension of the Russian air defence system [48, p. 18]. It has also been maintained that 'Belarus plays an integral part in Russian military thinking and organization when it comes to the defence of the country's Western borders... [Belarus] is a buffer state, part of a Russian strategy of extended defence' [49, p. 57].

Military cooperation has been named the principal area of partnership between the Kaliningrad region and Belarus. Two main aspects are usually emphasised here. The first one is the significance of Belarus for the aerospace security of Kaliningrad. The divisions of S-400 surface-to-air missile system and S-300 in Belarus deployed in the framework of the joint air defence system ensure air security in the space between Kaliningrad and Belarus and can prevent NATO aviation from entering the space of the three Baltic States. The second aspect is the role Belarus has in taking control of the Suwalki Gap in case of warfare [50].

Further avenues of research on the Belarus-Kaliningrad SRSC

In this work, we focused on the place and role of the Belarus-Kaliningrad SRSC in ensuring military and military-political security since the complex develops chiefly in the mentioned area. At the same time, further research

²⁴ The core of the Russian part of the Regional group of the Union State forces .

should look at the role the SRSC plays in ensuring the economic security of Russia and Belarus. Without going into too much detail, it can be said that the socioeconomic ties between Belarus and the Kaliningrad region must be expanded and strengthened. Debate on an economic triangle Belarus-Kaliningrad-St. Petersburg (and the Leningrad region) should also be encouraged, partly because of Belarusian exports and imports being rerouted from the ports of the Baltics to the Russian ports on the Baltic Sea.

It is also necessary to reconfirm the borders of the SRSC. One might expect them to be fuzzy, i.e., the borders determined from the perspective of military-political and military security will not coincide with the borders identified from the perspective of economic security. But examining this issue in greater detail is beyond the scope of this article.

There is a need to explore the interactions between this SRSC and the other security complexes in the Baltic region from the perspective of military and military-political security (which prevail today) and from that of creating conditions for resumed economic cooperation, at least at the pre-2014 level [51].

Cross-border cooperation between the SRSC and the regions of neighbouring states deserves special attention. Despite the complications and tensions at the intergovernmental level, such collaborations may help preserve cooperation and dialogue, as well as simplify the possible future restoration and development of relations between the states.

Conclusions

Academic developments, including advances in security studies, require an interdisciplinary approach. Understanding regional and sub-regional security complexes is only possible as a two-way process, which might build on the international relations theory or integrated international regional studies. However, the classical geographical approach, where complexity is 'embedded' at the theoretical and methodological level, can also be a starting point for analysis. Whilst considering space as a systemic framework for the regional security system, we posit the primacy of political factors in the formation of a SRSC.

Drawing on our long experience of studying regional security issues in the eastern part of the Baltic Sea, we have found it possible to delimit subregions in the SRSC in question, identify its structure and prove its cohesiveness from the political-geographical and military-geographical perspectives.

Understanding the military aspects of security has a supporting role here, albeit the geographical borders of the region and subregions cannot be identi-

fied without the knowledge of the current technical capabilities of the forces and their deployment. The 'global powers' are spatial in two ways. Firstly, superpowers are territorial; secondly, they reformat dependent spaces, promoting their vision of security. This is how conflict zones with fuzzy borders emerge. These zones, or RSCs, are based on the mutual recognition of interpenetrating security conditions and consist of SRSCs. Together, they define a systemic spatial structure of global security policy.

The events related to the special military operation can be interpreted as a confirmation of our hypothesis. Although they unfold in another RSC, this complex overlaps with the object of this study as both include Belarus. The thesis that the existence of global security does not negate its regional structure has been tested. At the same time, the RSC itself is fuzzy and dynamic.

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COVID-19 PANDEMIC IN GERMANY: INFORMATION CAMPAIGN, MEDIA, SOCIETY

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The COVID-19 pandemic has been a serious challenge to the entire global community. Globally, countries were forced to introduce restrictive measures to contain the infection, inevitably causing popular discontent. Germany introduced some of the most painful restrictions. In times of crisis, timely and reliable information is a prerequisite for public motivation to comply with restrictive measures. Thus, it seems essential to retrace how the German leadership tried to contain citizens' dissatisfaction with the restrictions, using information campaigns and strategies. This theoretical work aims to systematise available data on how COVID-awareness was raised in Germany, compare them with data from the Russian Federation, and identify the most successful communication strategies and weaknesses. It is clear from the findings that the channels of communication between the government and society should be diversified using all available means, and experts and opinion leaders, who are more trusted than politicians, should be recruited. In addition, there is a need to combat misinformation and dispel unproven facts. The data obtained can be of value in conducting information campaigns during future global crises.

Keywords:

COVID-19, Germany, information campaigns, media, risk communication, information policy of Russian Federation

Introduction

The novel coronavirus pandemic, which spread around the world within a few months in 2020, poses one of the most serious challenges to the global community in the history of the modern world. The measures taken to contain the spread of the virus had an unprecedented impact on all spheres of life: economy, healthcare, education, politics, media, the social sphere and the psychological well-being of society. Europe's leading economy — Germany — has also experienced the negative effects of the pandemic.

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At the end of January 2020, the first cases of COVID-19 were detected in Germany, followed by an initially slow and then exponential increase in the number of confirmed cases in mid-March 2020 [1], prompting the government to introduce a series of rules and restrictions to contain the spread of infection. Such measures included, for example, the closure of educational and childcare centres, as well as cultural institutions¹. The restrictions indicated the start of the first lockdown.

The country's leadership faced a number of challenges, such as uncertainty about the new virus, the fear of infection, and the disruption of the usual way of life. In her address to the nation on March 18, 2020, Angela Merkel prioritized the problems related primarily to the direct consequences of the coronavirus, namely, overload of the healthcare system, and the lack of medicines and vaccines. In addition, the emphasis was also placed on secondary problems (stemming from the first ones) — the effects of isolation and social distancing, the consequences for business, and a threat to the country's economy as a whole. Furthermore, the Chancellor defined the lockdown and isolation as a threat to fundamental democratic values, and as a recommendation, there was an appeal to band society together and adhere to the recommendations and rules of social interaction [2].

In general, during the first lockdown, the vast majority of Germans admitted the negative changes in their lives. Nearly three-quarters of those surveyed (73%) in the study [3] said they supported other people in trouble by providing standard practice medicine; by providing assistance with shopping, childcare, or emotionally during the lockdown. These results suggest that even if the respondents did not suffer from negative consequences, they observed the problems in their social environment.

Since the beginning of April 2020, protesters against restrictive measures proposed by the government took to the streets of Germany. Those were the people who felt their fundamental rights threatened; people who were united by a deep distrust of politics and standard practice of medicine; people who suspected a plot of groups behind the pandemic, as well as those who spread right-wing extremist ideas. Thus, by the summer of 2020, scattered protest movements organized themselves into the national movement “Querdenken” opposing the restrictive policy [4]. The results of the survey of protesters in Constanta on 04.10.2020 revealed that the assessment of the political measures to combat the pandemic and the risk assessment of the virus played a central role in the protest movements. Only one in five respondents believed that experts could be trusted when they

¹ *Bundesgesundheitsministerium*, 2020, Coronavirus SARS-CoV-2: Chronik der bisherigen Maßnahmen, URL: <https://www.bundesgesundheitsministerium.de/coronavirus/chronik-coronavirus.html> (accessed 07.05.2022).

claimed that the virus was dangerous. At the same time, almost all respondents (93 %) assessed the governmental measures to combat the pandemic as excessive [5]. In addition, the vast majority of participants noted the strong negative impact of the pandemic on work, family life and basic rights. Thus, threats to the existing way of living aroused in people a feeling of distrust and protest.

The evidence provided by a significant number of studies suggests that risk awareness is the main reason to follow the recommended behaviour pattern aimed at protecting one's health [5–9]. However, the absence of a clear action plan aimed at minimizing those risks can give rise to a feeling of fear, eventually leading to panic, while timely and reliable information about risks is aimed at streamlining fears [10]. In addition to risk awareness, it is also worth noting the level of trust in political institutions and the media that broadcast information. The experience of previous force majeure situations demonstrates that quite often the population holds the government responsible for the tragic consequences of disasters and epidemics [11]. Studies have shown that the population may not understand the dangers of an influenza pandemic, but trust the government in its actions [12]. Distrust during an epidemic (for example, influenza) leads to social tension [13], and opposition to government actions during a pandemic (for example, the H1N1 pandemic) is associated with the values of a “reluctant” society [14].

Data provided by the Snapshot Monitoring (COSMO) project conducted among German residents indicate the role of public trust in institutions in predicting adherence to recommended health-protective behaviour and effective risk perception [9]. The level of trust in politics and science is a key determinant of compliance with health regulations [15]. At the same time, trust in health authorities and searching for information about the virus in public media or on official websites of health authorities are positively associated with perceptions of the virus as a health threat [5]. Public awareness of what precautions to be observed, and from what sources reliable information can be obtained, to a large extent predicted public attitudes towards government actions, emphasizing the importance of communications in the field of healthcare [16].

Thus, given the negative impact of the lockdown on the quality of life of individuals, as well as the emerging protest movements designed to finally undermine the credibility of restrictive measures, it seems that the authorities should have prioritized the actions aimed at consistent and timely dissemination of information about the risks and benefits of restrictive measures, along with increasing confidence in the information broadcasted by politicians and official media. On the other hand, it can also be assumed that the feeling of mistrust was reinforced by large amounts of misinformation, the spread of conspiracy theories, as well as uncertainty due to the lack of research results on a new infection. These two aspects should also have been given attention by the country's leadership.

Taking into account the facts presented above, the relevance of the present study is justified by the following provisions:

— The COVID-19 pandemic is the first large-scale global crisis in modern history. The results of the research reveal weaknesses in the communication channel authorities-society, which led to protest movements and a decrease in the level of trust jeopardizing both the government and society.

— Current events suggest that it is necessary to take into account the identified shortcomings of crisis communication during a pandemic in order to be able to ensure reliable and timely communication via the “authorities -society” channel in the future.

Thus, the article is aimed at systematizing the results of scientific research on the measures taken by the German government in the information space in order to build loyalty to the restrictive policy, identify shortcomings and successful strategies, and compare the data obtained with the information policy of the Russian Federation during the first wave of coronavirus.

The sample of scientific publications for the review was formed using the following keywords: *Germany COVID*, *Germany pandemic*, *Germany media COVID*, *Germany COVID communication*, *covid media*, and *pandemic information*. The search was carried out on the official websites of such publishers as *Elsevier*, *Wiley*, *Springer*, *Sage*, *Oxford University Press*, *Cambridge University Press* (access provided by the National Research University Higher School of Economics), as well as *CyberLeninka* and *eLibrary*, and covered the period from February, 2020 to November, 2020.

While analyzing and classifying works, the following logic was applied:

— a review of awareness-building campaigns implemented by the government aimed at increasing the level of loyalty to the restrictions;

— a review of the role of the media, social networks and messengers in building trust between the state and society;

— a review of the results of information campaigns on the example of certain behavioral patterns and public sentiment;

— a comparison of the information policy pursued in Germany and the Russian Federation.

Information Campaigns of the German Government

As noted above, the restrictive policy pursued by the German authorities during the first wave of coronavirus had a significant negative impact on the socio-economic sphere. Thus, actions aimed at improving public compliance with the imposed restrictions should have been intended for articulating the following key

ideas in the institutional discourse: social cohesion against infection, awareness of the consequences of the introduced restrictions (both personal and societal), as well as sufficient argumentation regarding the effectiveness of the measures taken [17]. Thus, a sense of solidarity should encourage people to comply with restrictive measures, while informing about the consequences and benefits of restrictions will make it possible to convince people that they act for the good of society [18]. In addition, emphasizing individual responsibility and vulnerability can also be considered a promising way to increase prosocial behaviour [18].

In Germany, immediately after the detection of the first infected person, on January 27, 2020, the first information campaign was carried out. It was based on recommendations to pay more attention to hand hygiene and assurance that the isolation of the infected helps to contain the spread of the virus [19].

Further, until early March, public discourse was largely shaped by the Robert Koch Institute (RKI) — the German federal government agency and research institute responsible for the study and prevention of infectious diseases. At the initial stage, the main recommendations of the RKI included mainly general recommendations for precautionary measures similar to those of any influenza season [20]. The main objectives of risk communication were as follows: reduction of morbidity and mortality; caring for sick people; maintaining the normal functioning of basic services provided to the population; timely informing by political decision makers, specialists, and the media [21]. In addition, on the main page of the RKI's official website information in German and English was provided, and regular (usually bi-weekly) press conferences on infection, transmission and mortality rates were held.

The public informing strategy did not change until the end of February when the number of confirmed cases of infection began to grow, and, in particular, several local hot spots were formed where the speed of infection was of particular concern. However, closer to mid-March, when a sharp increase in the number of infections was recorded along with the first death (March 12), the government issued recommendations for social distancing, and on March 17, Germany closed its borders.

On March 18, 2020, Angela Merkel delivered a speech defining COVID as a threat. The appeal to the nation was structured in such a way that the public got the impression that the chancellor controlled the spread of the virus and was aware of the implementation of institutional responses to it [22]. In the spring of 2020, following Merkel, numerous other political and public figures in Germany staged performances aimed at demonstrating control over the situation. At the same time, the opposition challenged federal and regional institutional

responses to the pandemic by staging and broadcasting counter-performances in virtual and public spaces to demonstrate their rejection of institutional control and presenting themselves as a controlling party [22]. In general, one can note the ambiguity of the information delivered by the authorities, as well as the uncertainty of government communication, which can explain the general trend towards a decrease in trust and the alleged effectiveness of the restrictions being introduced [23].

Apart from politicians, health authorities are also responsible for raising awareness and dissemination of knowledge about the pandemic among the population, even among those groups who seem to be against all recommended measures. In addition, a key task of health authorities is to identify the prevailing channels through which they can deliver information, as well as to ensure access to information for those groups who use neither state media nor websites of health authorities as a source of information about coronavirus [23].

In Germany, cooperative networks were established in response to the COVID-19 pandemic to provide the public with complete and reliable information. They included existing institutions, such as scientific advisory councils, professional associations (Fachgesellschaften), and formal and informal working groups and committees at universities and research institutes, for example, the Max Planck Institute and the National Institute for Public Health (Robert Koch Institute). In a situation of uncertainty at the initial stage of the crisis, political institutions were dependent on scientific experts, since the lack of reliable scientific knowledge had to be compensated to justify the political decisions and measures taken [24]. Experts who were members of working groups and committees noted that politicians “made use” of advisers to justify political decisions, especially regarding unpopular restrictions. On the other hand, when the scientific community intended to influence policy, experts turned to the media, and as a result, this strategy allowed the public to receive the needed information, and experts — to indirectly influence politicians so that their voice was heard [25]. Thus, academicians and scientists gained nationwide fame, similar to that of media commentators or TV presenters; they became the “face” of the crisis. Their direct communication style helped to calm the agitated public and build trust and understanding of why it was necessary to comply with the measures introduced by the government [26]. For example, a well-known virologist Christian Drosten, director of the Institute of Virology at the Charite hospital in Berlin, daily gave lectures on YouTube that were watched by millions of people, including those outside Germany [27].

In addition, the authorities actively utilized social networks, inviting experts for wider coverage, since experts have a large network of followers and thus, the

audience receives much more information through posts and likes. Furthermore, experts have a greater opportunity to interact with Twitter users directly in contrast to the authorities [28].

Messengers were also used to communicate with young citizens. According to the 2019 ARD-ZDF online survey, 63 % of the population uses the WhatsApp messenger on a daily basis, and in the age group from 14 to 29 years, this index has reached 90 %. By collaborating with the government and posting official information, social media platforms and messengers can help restore trust and ensure the exchange of reliable information [29]. Thus, an information channel was created in Telegram “Corona-Infokanal des Bundesministeriums für Gesundheit”, through which distribution in the form of push messages was carried out to all Telegram users, including updates about the pandemic, as well as mini-checks for the authenticity of facts [30], thereby providing some countermeasures to disinformation.

Media

The media, being the main intermediaries between the state and society, were actively involved in informing the population about the risks, threats and consequences.

As for information consumption during a pandemic, multidirectional trends are observed. On the one hand, the researchers identify the rise in media consumption in Germany, namely television, which amounted to 75 % in March 2020, and the viewing time increased by 18 minutes. Researchers also note an increased interest in television by young people. This trend is explained by the desire to consume reliable information, along with entertainment content (to distract oneself). As a result, the level of trust in television among the population increased and reached 67 % [31]. Similar trends are observed in relation to online media. Thus, 71.4 % of respondents confirmed an increase in online media consumption during the lockdown. Men were more likely to be interested in games and erotic content, while women were more attracted by social networks, information search and streaming platforms [32]. However, despite growing trust in television, a deep pre-pandemic distrust of respected media defines the choice of sources for obtaining information about COVID. Hence, 90 % of respondents receive information through their own search and research on the Internet, 52 % — from Telegram or WhatsApp groups, as well as from friends or family (52 %). In contrast, newspapers (42 %), television and radio (32 %) play a secondary role. Mobilization for protests is also carried out mainly through Telegram, WhatsApp (62 %), other social networks (42 %) and friends (48 %) [3].

On the other hand, researchers admit a tendency to avoid information. Avoidance predictors include personal attitudes and information overload [33]. So, for example, 56 % of the respondents were unsettled by the information flow [34].

Thus, it seems logical to assume that consumers of media content (both traditional and online) faced certain difficulties while filtering the stream of information, namely, identifying the reliability and usefulness of information received from the media about coronavirus². 20.9 % of respondents found it difficult to decide how to protect themselves from coronavirus infection based on media information. Even more citizens (32.1 %) report that it is difficult to use media information to decide how to act in the case of a coronavirus infection. Surprisingly, 47.8 % of participants say that it is difficult or very difficult for them to judge whether they can trust media information about the coronavirus [34]. Overall, the share of health disinformation in the media reached 47 %, and it was focused on politicians and vaccines [35]. However, when analyzing a sample of fact-checked disinformation, about two-thirds of the cases examined did not contain completely fabricated information, but rather its content was distorted or recontextualized. The most common were false or misrepresented statements about the plans or measures of state or international bodies such as the UN and WHO (39 % of investigated cases). Snippets of celebrity misinformation about COVID-19, while few in number, had a significant impact as they circulated more frequently (as of early May 2020) [36].

In Germany, the print media, television and radio played an important role in communication and information exchange. Both state-owned TV channels ARD and ZDF provided enough time for relevant up-to-date information and discussions for several hours a week. Key supporters were invited, as well as critical voices who opposed the government's main strategies. The presentation of multiple opinions, including virologists and epidemiologists, as well as politicians and other representatives of civil society, economists, political scientists, philosophers and ethicists, allowed the public to acknowledge the complexity of the decision-making process [37]. The researchers note that politicians were the dominant sources of information about the coronavirus in the media, indicating the use of the media by state institutions for information campaigns. In addition, it is noted that scientists and educators were the most mentioned group at the peak of the first and second waves, while civilian sources of information gained popularity during the first wave when the protests began to spill over into organized movements [38].

² Novel Coronavirus (2019-nCoV)—Situation Report 13, 2022, *World Health Organization*, URL: <https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200202-sitrep-13-ncov-v3.pdf> (accessed 16.05.2022).

Along with the dissemination of misinformation, citizens' distrust was also reinforced by the spread of conspiracy theories. As an example, here it is worth mentioning the point of view of a member of the organization "Physicians for Education" Heiko Schoening. In his opinion, the causes of the pandemic were purely economic. Large corporations had been planning the economic collapse in 2020 for decades. Therefore, in his opinion, the virus does not carry an increased risk, and the measures taken are exaggerated and even life-threatening for many people [39].

Another "weak link" in information policy is the lack of verified information. When the facts are unclear, policymakers and health experts prefer to avoid reporting scientific uncertainty for fear that uncertainty will breed mistrust. However, presenting uncertain aspects of the pandemic as certain can negatively affect citizens' confidence and compliance with containment measures if these reports are subsequently found to be invalid [40]. The data demonstrate that a majority of respondents prioritized publicly available information about scientific uncertainty in the context of the COVID-19 pandemic. For those currently sceptical of government containment measures, messages expressing uncertainty proved to be especially effective in motivating compliance with the measures. Thus, it can be said that acknowledging scientific uncertainty and informing the public about it contributes to building trust [40]. With regard to the quality of information broadcasted in the media, it can be concluded that straightforward and understandable information about uncertain knowledge in the media formed trust in science, while some live performances by researchers created a certain risk of misinterpretation. Some newspapers and social networks misused authentic scientific processes to create an image of non-professional scientists, where personal conflicts were brought to the fore [41].

As regards broadcasting risks and threats in order to encourage the population to comply with restrictive measures, it is worth noting that the German media acted quite aggressively. Thus, the share of the "covid" topic in the news in the period from January 2020 to November 2020 constituted 23.3 %, while the total volume of broadcasted negative information was 87.9 %. So, the media hardly gave any hope for the best, continuing to broadcast as intensely and negatively as possible [42]. In general, the information agenda of the media met the defining criteria for containing the pandemic. However, a recent study in Germany found that alarming media coverage is being criticized by both moderate opponents and supporters of COVID-19 containment measures [23].

Society

Considering public perception of the risks and threats to health and life associated with the coronavirus at the beginning of the pandemic, it is worth noting the direct relation between government campaigns and the restrictions imposed. For example, a public opinion survey conducted during a critical period at the start of the pandemic in Germany (March 10 to 24) [43] reveal that from day one onwards, fear associated with COVID-19, as well as precautionary behaviour, demonstrate a clear rise with a peak one day after the announcement of government restrictions and curtailment of individual freedoms. Fear related to COVID-19 peaks for the second time one day after the chancellor's speech. Along with this, the credibility of government measures to reduce the spread of COVID-19 increased from the day they were implemented. Thus, it is obvious that the subjectively perceived risk is overestimated compared to incidence rates, which may be the result of a feeling of threat, which, in turn, entails an increase in trust in public policy broadcasted through not only social networks and the media, but through public speeches as well.

However, while threat perception and individual risk of infection steadily declined over time, subjective risk scores for severe disease in case of infection, as well as feelings of infection control, remained more stable over time. Thus, the steady decline in the sense of threat and perceived risk may be one of the reasons why the lockdown gradually lost public support over time, since the more people felt threatened, the more support they gave to the lockdown policy and the more positive their overall assessment of advantages of lockdown was [19].

In general, there is high confidence in the effectiveness of government containment measures at the start of the pandemic while a complete lockdown was supported by 77 % of respondents, and the introduction of such measures as a ban on meetings, closing of certain establishments, washing hands and masks — from 94 to 98 % of respondents [44]. At the peak of the first wave and shortly after the introduction of strict quarantine measures, the public was quite positive about the policy and generally supported the view that the social benefits of quarantine outweigh its economic costs [19]. However, by May, about 50 % of the German population believed that the lockdown had more negative than positive consequences [19].

In addition, there is a direct relation between public confidence in authorities and a sense of satisfaction with life. Thus, people with a low pre-crisis level of confidence in government institutions (government, courts, media) report a sharp decrease in satisfaction compared to people with a higher level of trust. This trend

may relate to the justification of the role of state institutions during the crisis and can serve as a basis for actions aimed at building trust and increasing overall satisfaction [45].

Efforts aimed at building social solidarity during the pandemic eventually produced the following results. Research shows that group solidarity in society was based on individual solidarity, and was promoted through the recognition of a common goal, common values, or other common activities, including group efforts to fight the pandemic. However, several factors were identified that undermine the basis of solidarity in society. The first factor is significant disagreements between those who comply with the measures and restrictions and wish to follow them and those who refuse to promote the common goal. In addition, solidarity can be influenced by the fact that group solidarity contradicts the interests of a close circle [46].

With regard to global solidarity, it was revealed that those who trust the government support global measures. However, when the level of personal anxiety rises and at the same time the level of confidence in the government decreases, then public support for global solidarity may weaken [47].

In terms of local solidarity, the data reveals that one in two Germans provided some assistance to others in the midst of the first wave of lockdowns. Remarkably, about a quarter of the assistance mechanisms did not exist before the pandemic. However, here, similar to the case of the economic consequences, apparent social inequality was revealed. Thus, people with higher education more often helped others. At the same time, people with higher incomes were more likely to help their relatives than other people [48].

Some differences were observed not only in the amount of assistance provided to others, but also in risk perception, the level of trust and preventive behaviour. Risk and benefits communication during the pandemic should be adapted to the needs of different social groups in order to overcome educational inequality [49]. Regarding ethnic inequalities in risk perception, the data show that, overall, the pandemic did not exacerbate ethnic inequalities. However, respondents of Turkish and former Yugoslav origin demonstrate higher levels of health and financial risk perception than Germans. Asians, on the other hand, are more concerned about high risks for health, but not financial well-being [50].

Against the backdrop of information campaigns, COVID-associated discrimination, which increased significantly since the start of the COVID-19 pandemic, could not be avoided. As in some other countries, in Germany, people of Asian origin experienced discrimination more frequently. Researchers also established a link between the number of cases of COVID infection and increasing discrim-

ination against ethnic groups. For example, respondents (North or South American, former USSR, and Asian) were more likely to report COVID-associated discrimination when the number of infections in their neighbourhood grew [51].

Information policy and society in the Russian Federation

The Russian Federation and Germany adopted similar approaches to the fight against the coronavirus infection: it was decided to wait until the number of coronavirus cases reached a certain level, and then proceed with the implementation of measures to contain the spread of the infection [52].

In Russia, communication of the nation's chief executive with the people of the country was more intense than in Germany. While Merkel addressed the nation once at the start of the pandemic, the President of Russia delivered seven speeches, including both direct addresses to the nation and broadcasts of working meetings.

The first cases of infection in the Russian Federation were recorded at the end of January, and major news portals were the first to provide objective information, referring to political leaders. For instance, Vedomosti published a list of actions taken by the government, and Lenta.ru presented a detailed description of the condition of the sick [53].

Unlike in Germany, where the infodemic, although present, but not in such unprecedented proportions, in the Russian Federation, about 2 million reposts of various kinds of unreliable messages regarding the coronavirus were recorded since January 2020. Most of these messages were rumours and conspiracy theories. As a result, in April, amendments were introduced to the Criminal Code of the Russian Federation, Art. 207.1 "Public dissemination of deliberately false information about circumstances that pose a threat to the life and safety of citizens." Western researchers note that partly the responsibility for the spread of disinformation lies with the authorities [54], and is explained by the need to spread propaganda against Western countries.

While the level of trust in the media in Germany rose at the beginning of the pandemic, Russia faced a significant decline. According to the Levada Center*, the level of distrust in the media, according to some data, reached 59% [55], and there was also a decline in confidence in television. At the same time, in the Russian Federation, as in Germany, trust in social networks and messengers as alternative sources of information was growing. In order to increase the level of trust, the Russian media resorted to the use of information from Internet sources in their materials [55].

The information provided by the Russian media was often contradictory (especially at the start of the pandemic, when the level of uncertainty was unusu-

* NON-PROFIT ORGANIZATION PERFORMING THE FUNCTIONS OF A FOREIGN AGENT.

ally high). For instance, on Channel One the attitudes presented often changed, increasing the feeling of uncertainty in the audience and ultimately leading to a decrease in the level of confidence in the media and in the authorities. On the other hand, there was no direct opposition to the policy pursued by the authorities, and only indirect and moderate criticism of the authorities was expressed [56], forcing sophisticated people, who disagree, to turn to alternative sources of information. In Germany, as noted above, the official media were a platform for discussion and criticism.

While in Germany during the protest movements, people took to the streets, in the Russian Federation, a new model of protest activity was recorded — virtual protests, along with a few offline protests. In both countries, the grounds for protest movements were similar — the negative impact of restrictive measures on the economic sector and, as a result, a decrease in the standard of living of the population. Despite differences in approaches to covering the need to follow restrictive measures, in both countries the population perceives the restrictions as excessive and inadequate [57].

It is also worth noting that as an alternative to the pro-government media in Russia, as in Germany, authorial channels representing expert opinion or the views of opinion leaders were especially popular, for instance, Dr Protsenko, the chief physician of City Clinical Hospital № 40 in Moscow.

In general, it can be concluded that the information campaigns in Russia and Germany were shaped by state policy and, accordingly, had more differences than similarities. However, after analyzing the available data, one key trend that contributed if not to maintaining the level of trust and unquestioning compliance with restrictive measures, then at least allowed them to be maintained at an acceptable level was identified. Communication channels should be diversified with an emphasis not on direct authority-society channels, but indirect ones, involving opinion leaders and experts who broadcast information through the media, available social networks and instant messengers.

Conclusion

Taking into account the growing relevance of crisis communication in the global information space, in this article an attempt was made to analyze the possibilities of the state-society information channel in order to identify successful strategies and weaknesses.

The study was based on the following provisions. Commitment to risk communication strategies at the start of the pandemic was a top priority for the government. The key elements of communication are generating the confidence of the audience in the source of information and the reliability of content.

Based on the results of the analysis, the following conclusions can be drawn.

As the subjectively perceived risk was clearly overestimated and did not depend on objective statistical information on the number of infections and deaths, it can be concluded that in Germany, thanks to an integrated approach to informing, it was possible to develop a sense of threat and risks in the discourse sufficient to form loyalty to imposed restrictions, as well as maintain a sufficient level of trust in the government during the first lockdown. This was achieved, mainly, through indirect communication channels involving experts and opinion leaders, since in a situation of uncertainty and a lack of reliable data, specialists directly involved in the process are perceived as trustworthy sources. In addition, mediated communication through social networks and instant messengers, which have similar disadvantages in presenting information, enjoyed great prestige. Pre-pandemic trends played a certain role here. Thus, the strategy of “intimidation” had some success in the first wave of the pandemic, as the feeling of fear forms certain public attitudes and behavioural patterns. In the case of COVID-19, the lockdown and related containment policies were put in place fairly quickly, before public opinion had formed on the issue. As a result, this fact allowed the authorities to impose certain attitudes and beliefs on the public in a very aggressive way.

Furthermore, it can be concluded that direct communication authorities-society in Germany was not successful due to pre-pandemic distrust of official channels and the widely represented opinion of the opposition.

It is also worth noting that disinformation is, perhaps, the main factor that undermines the confidence of citizens in restrictive measures. Therefore, at the beginning of the pandemic, when there was a minimum amount of information, the level of trust was defined as high, but as the volume of misinformation and subjective opinions increased, the media quickly lost public trust as a reliable source of information and were perceived more as a source of entertainment content.

In general, it seems necessary in crisis communication to make use of all available means of bringing information to the public, since the preferences and availability of information differ significantly by social groups (age, education, certain beliefs, political views).

The question of broadcasting uncertain and unproven (for objective reasons) facts remains open since the data collected so far are rather contradictory. Here, I would rather agree with the opinion of [10] that missing data and uncertainties about a certain problem should be repeatedly and explicitly indicated in the statistics.

It is obvious that the pandemic of a new coronavirus infection as the first global crisis of this magnitude in modern history caught both world institutions

and civil society by surprise. On the other hand, the pandemic can be seen as a platform for the introduction of certain technologies and strategies that regulate the relationship between government and society. As research results show, the media in all their diversity are the most effective tools for crisis communication. Thus, it is necessary to deepen research aimed at triangulating power, media and society in order to get out of subsequent potential world crises with the least losses for all parties.

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ATTRACTIVENESS OF THE KALININGRAD REGION: PULL FACTORS AND REASONS FOR DISAPPOINTMENT OF MIGRANTS FROM RUSSIAN REGIONS

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The Kaliningrad region's attractiveness to migrants results in increasing external (international) and interregional migration. The interregional flow is a major contributor, accounting for approximately 60 per cent of the net migration gain. However, the age composition and professional qualification of migrants from other regions of Russia do not fully agree with the specifics of the region's labour market and its strategic socio-economic development priorities. This lends urgency to a selective regional migration policy aimed at prospective internal migrants. Yet, the picture of pull, push and hindering factors remains incomplete, being limited to generally accepted drivers such as coastal location and proximity to EU countries. This article aims at a detailed analysis of reasons to migrate to the region, an assessment of the restrictions and difficulties faced by relocatees and migrants' satisfaction with the new place of residence. Methodologically, the study uses a mixed strategy: formal data collection methods are combined with respondent selection techniques peculiar to qualitative or expert methods. The authors draw on the results of an exploratory survey conducted in December 2021 with a view to analyse migrants' perception of the Kaliningrad region before and after their arrival and assess how their ideas change. The survey applied mixed research methods: respondents were recruited via social media and relocatee groups. The data analysis reveals a gap between migrant expectations and reality, identifying the causes of inconsistency between the incoming migration flow and the region's development objectives and labour market needs. Based on the findings, the authors provide recommendations for a migration policy based on an accurate picture of the region and aimed at attracting the required workforce, as well as at migrants' adaptation and support at the new place of residence.

Keywords:

attractiveness to migrants, interregional migration, pull factors, migration schedule, restrictions, associations and disappointments, Kaliningrad region

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Introduction

Russia's Kaliningrad region stands out for its positive net migration rate of upwards of 10%. It ranked third in the country in 2020 and fifth in 2019¹. Although in-migration has amply compensated for the natural decrease in the region since 2019 [1], the age structure, professional competences and qualifications of migrants do not fully meet the demands of the regional labour market, partly due to the high proportion of non-working age arrivals. This situation shifts the focus to pondering a targeted policy, which, whilst not discriminating against those seeking to move to the region, must ensure a more balanced age and occupation structure of the migration flow, using the tools of labour and educational legislation and creating attractive social and economic conditions for the most in-demand talent (doctors, teachers, IT specialists). The authors, following many Russian experts, believe that the problems of Russian inter-regional mobility are the remit of regional and spatial development policies, and whether they will be resolved “depends on investment in job creation and the development of housing and transport infrastructure” [2, p. 29]. However, formulating such a policy is impossible without understanding the attitudes of migrants, the factors of a territory's attractiveness, and motives for relocation to a concrete region.

Modern ideas about territories' attractiveness to migrants have been shaped by numerous Russian [3–7] and international [8–16] studies into migration factors, carried out since the second half of the 20th century.

The pull factors are socio-economic, climatic, political, denominational, cultural, institutional (including the presence of migrant communities and diasporas), those related to spatial structure (the presence of major cities, transport networks, etc.) and individual. As Rybakovsky [3] cogently points out, the concrete set of factors at play depends on the type of migration. Migration factors, moulded by one's objective circumstances, impact migration indirectly. They affect the minds and psychology of migrants who formulate their reasons for relocation based on their analysis of such factors. Therefore, employing sociological research methods when examining the reasons to migrate to a particular region opens up a promising avenue of research.

A region's economic and geographical position determine many of these factors [17]. The concept of attractiveness to migrants is used internationally in place-based planning [18; 19], especially when dealing with remote [20–23],

¹ Net migration per 10,000 population, 2022, *Statistical data showcase*, URL: <https://showdata.gks.ru/report/279008> (accessed 05.04.2022).

rural, coastal and island territories [24]. For border regions, the proximity to a foreign state can be both a pull and push factor. History abounds with such examples. A good neighbourhood stimulates cross-border contacts, trade, labour migration (temporary migration, cross-border commuting) [25–28] and academic mobility [29], pulling migrants to border regions [30]. The impact of a coastal location is also two-edged [31]. Environmental risks, sea level rise and coastal floodings [32; 33] cause people to leave coastal areas, whilst marine economy [34–38], balneology, tourism [39–44], internationalization of maritime education [45–47], comfortable living environment and infrastructure attract newcomers. Massive migration flows to warm coastal regions have given rise to the concept of “lifestyle migration”, which, according to Benson and O’Reilly [43], is a form of spatial mobility pursued by wealthy people of all ages, moving to places which they associate with a better quality of life or an opportunity for self-actualization. Such migration can be seasonal or permanent.

As recent studies into interregional migration² in Russia show [48–50], the main push factors forcing people to change their places of residence are disproportion between the population size and the number of jobs, a skewed age and sex structure, poverty, low incomes and housing problems. The pull factors are closely linked to the quality of life. These are developed and diverse infrastructure (from transport to entertainment), a sustainable environment, opportunities to find well-paid employment, and high-quality and accessible medical and social services. Although these factors generally correspond to Maslow’s hierarchy of needs [50, p. 127], their structure is markedly influenced by age. For instance, a mild climate is a prime consideration for people over 50. At the same time, 17–19-year-olds pursue educational goals and often return to their home regions after graduation, while people aged 25–39 are guided by work motives and take into account housing availability [48].

Despite a vast array of information collated, much uncertainty still exists about the reasons to relocate and migrants’ expectations, which eventually determine their attitudes, perceived well-being and life satisfaction. The way the ideas of a place transform when confronted with reality has been studied mostly in the context of immigration and within theories of migrant adaptation and integration. This problem, however, is no less acute for interregional migrants. Of course, the stress they experience is usually less considerable. However, they also have to part with many habits, changing not only their place of residence but also their lifestyle and circle of friends. Facing the reality and unmet expect-

² Here and below interregional migration refers to migration between regions of Russia

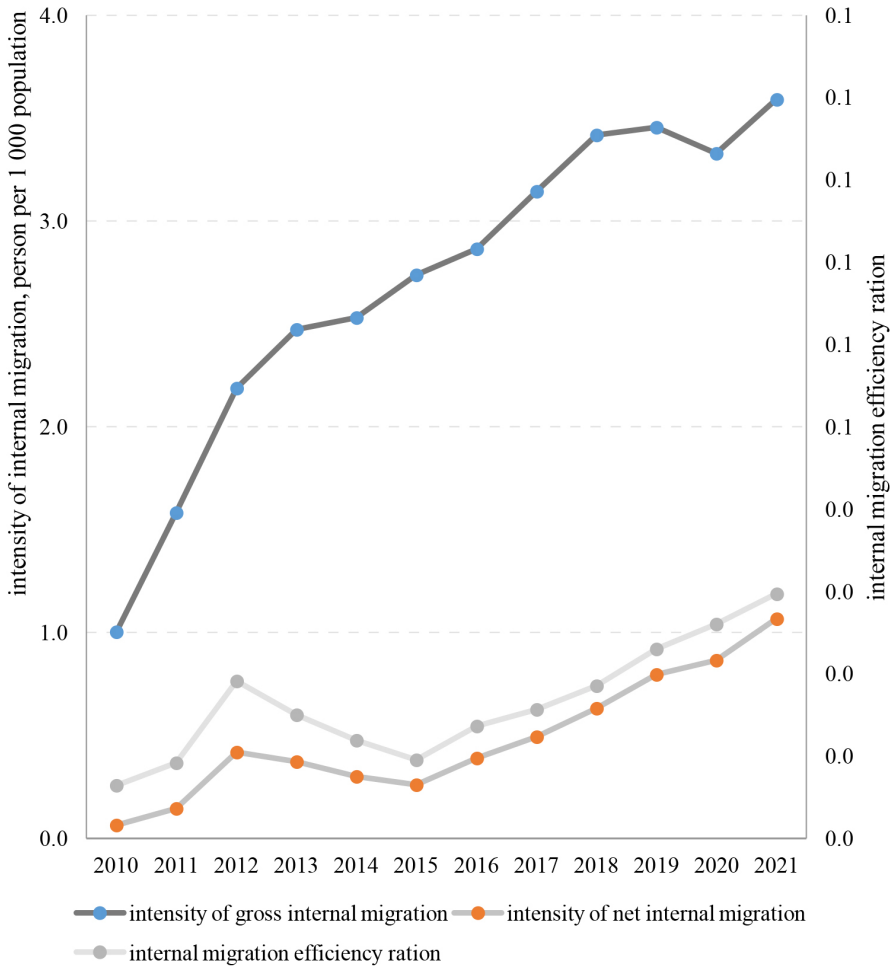
tations can cause depression, protest impulses, as well as aggressive and deviant behaviour [51; 52], but not only. Humans tend to blame the external environment for their failures, and the factors that once attracted them turn into push factors. The region becomes a ‘hub’, a place for a temporary stay, losing its reputation along with much-needed professionals. Thus, it would be worthwhile to look at social lifts and practices facilitating the inclusion of yesterday’s migrants in the new community. This issue is highly relevant to both international and inter-regional migrants.

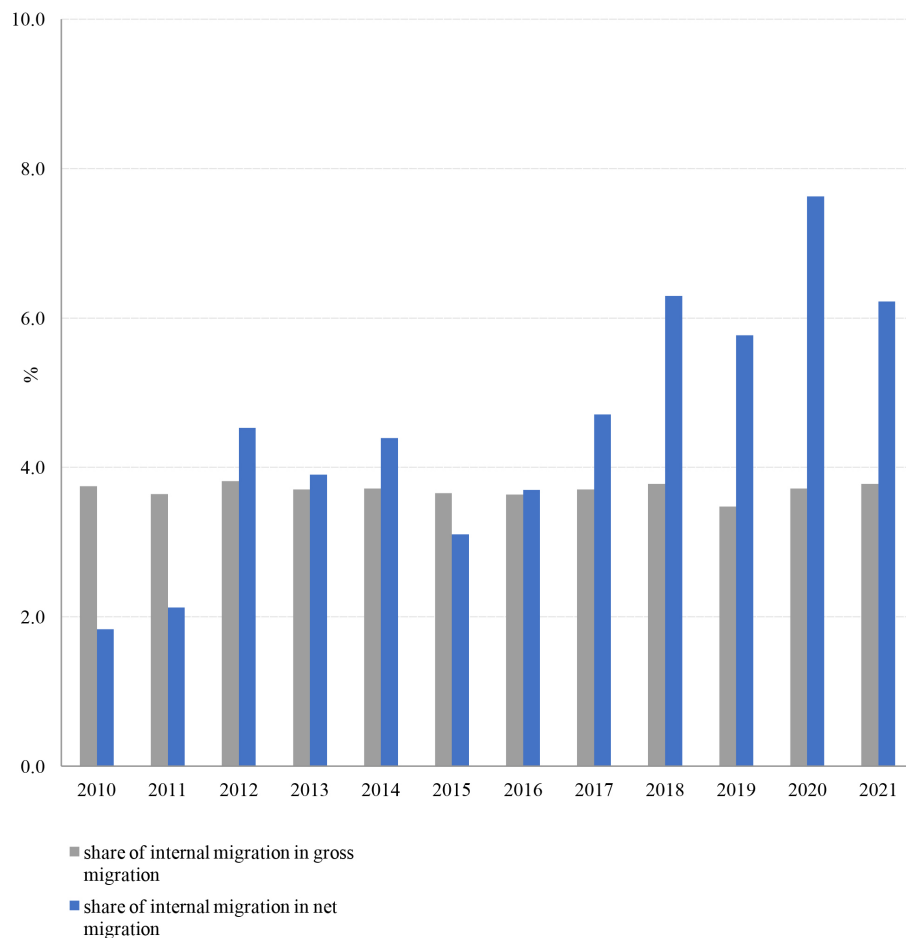
The migration attractiveness of Kaliningrad to residents of other Russian regions has not been explored. As a rule, researchers limit themselves to describing the region’s economic and geographical characteristics, its border and coastal location [53; 54]. However, drastic changes in the geopolitical situation after Crimea’s incorporation into Russia, the inflation of the security discourse, anti-Russian sanctions affecting the everyday life and the economy of the region, and freedom of movement restrictions imposed during the COVID-19 pandemic “locking Kaliningraders in” drove the need to devise a more detailed approach to reasons for relocating to the region, especially since the trend toward the population increase due to interregional migration continued in 2019—2021 despite the outlined problems. Thus, this research aims to assess whether the perception of the Kaliningrad region as an attractive place for relocation corresponds to its image as a coastal territory with a favourable geographical location and a mild climate. The specific questions which drive this research are: What are the reasons for choosing the Kaliningrad region? How spontaneous are usually the decisions to move to the region? What are the difficulties in moving to the region? Are the expectations of migrants fulfilled and what is their current perception of the region?

Migration in the region

Over the past decade, the effect of interregional migration on the demographic situation in the Kaliningrad region has grown. This trend emerged in the early 2010s, continuing throughout the coming decade. In 2021, the contribution of interregional mobility to net migration tripled to reach 62.2 %, albeit it changed insignificantly in gross values: from 36.5 % in 2011 to 38 % in 2021 (Fig. 1). Less than 6 % of all Russian arrivals stayed in the region in 2010—2011, while 2020—2021 it was over a quarter. Such shifts cannot be explained solely by the region’s growing attractiveness to migrants. External circumstances, such as changes to migration laws and pandemic-related travel restrictions, have also

impinged on bilateral migration with CIS countries. Yet none of this cancels the fact that gross and net migration rates outstrip the international migration figures in the region. The number of Russian regions whose residents relocate to Kaliningrad has also grown. The region welcomes more people from almost all Russian territories (except Moscow, St. Petersburg and Sevastopol) than loses to them. The most substantial inflow of migrants comes from the Siberian (the Kemerovo, Omsk, and Novosibirsk regions, the Krasnoyarsk and Altai krais) and Far Eastern Federal Districts (the Kamchatka and Khabarovsk krais). In 2011—2020, they accounted for almost two-thirds of the total migration gain in the region. Other places of origin are the northern territories of European Russia: the Arkhangelsk and Murmansk regions, and the Republic of Komi.





b

Fig. 1. Gross migration intensity and net interregional migration in the Kaliningrad region, 2011–2020 average: *a* — interregional migration intensity; *b* — contribution of interregional migration to regional migration

Source: Number of arrivals, 2022, *EMISS*, URL: <https://www.fedstat.ru/indicator/43514> (accessed 12.11.2021) ; Number of departures, 2022, *EMISS*, URL: <https://www.fedstat.ru/indicator/43513> (accessed 12.11.2021).

As Rogers and Castro have shown, just like birth and death rates, migration has age-related patterns [55]. The migration schedule of Russian arrivals to the Kaliningrad region is no exception to this rule: 52 % of migrants who came from other Russian regions in 2011–2020 were 15–39 years of age (Fig. 2). As a result, the median age of interregional migrants to the Kaliningrad region

(30—31 years of age in 2020) is below that of international ones (34 years of age). This also applies to migrants leaving Kaliningrad for other Russian regions: 15—39-year-olds comprise 57% of the population outflow. These data correspond to the national trend [49; 56]. The main reasons younger people name for their relocation to Kaliningrad include employment or entering a local university.

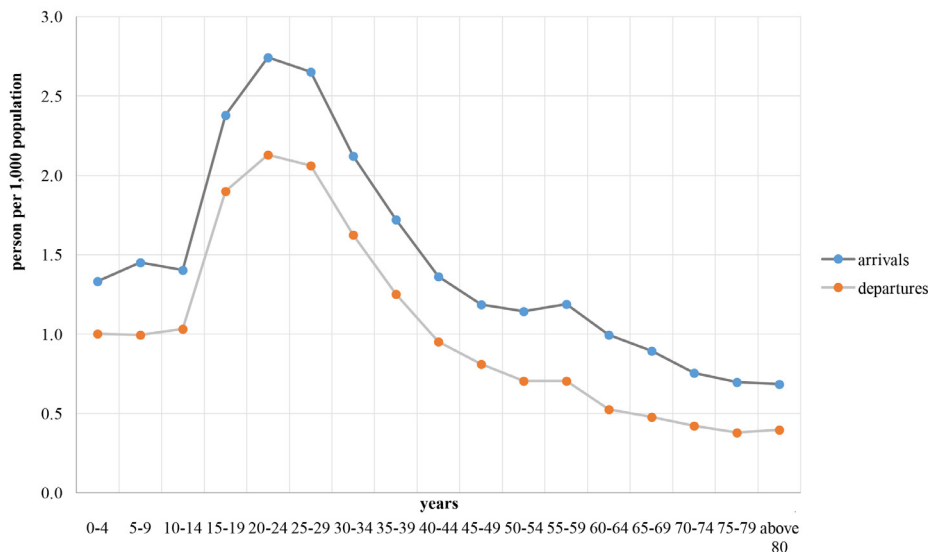


Fig. 2. The migration schedule of interregional migrants in the Kaliningrad region, 2011—2020 average

Source: The number of departures by sex, age and mobility flow, 2022, *EMISS*, URL: <https://www.fedstat.ru/indicator/58614> (accessed 17.11.2021) ; The number of arrivals by sex, age and mobility flow, 2022, *EMISS*, URL: <https://www.fedstat.ru/indicator/58613> (accessed 17.11.2021) ; *Population size and migration in the Kaliningrad region: a statistical digest, 2011—2018*, Kaliningrad, Kaliningradstat.

The other (although less prominent) peak in migration activity is associated with people of retirement and pre-retirement age (55—59 years of age). For this category, the most likely reason to relocate is family circumstances (changing residence with adult children or reunion with the family who has moved to the region earlier) or the desire to spend their retirement in a milder climate and a more pleasant environment.

Methods and materials

Transformations in migrants' perception of a region before and after relocation are challenging to study. Comparing migrants' expectations with actual experiences (which often lead to disappointment) is not an easy task either. Firstly, a conspicuous problem is a discrepancy between the registration data from the Ministry of the Interior's Main Directorate for Migration Affairs and the information published by Rosstat [57; 58]. Moreover, Russian citizens do not have to register at temporary places of residence within the country if their stay does not exceed 90 days or if they return to their permanent residency at least once in three months³. Thus a significant proportion of interregional migration is accounted for by Russian citizens who either leave the region after a short stay or reside there permanently but make regular trips to their home towns. Such scenarios are not rare, as Mkrtchyan notes [58]. All these circumstances make identifying would-be Kaliningraders among all interregional migrants difficult.

Secondly, Russian interregional migrants, unlike international ones, do not create closed communities (except for natives of Russia's republics many of whom strongly rely on ethnocultural and religious associations). Although the social circle of Russian migrants is often limited to family and people from their home region, Russian newcomers do not tend to live where other individuals from their regions have settled before and do not occupy a single professional niche. Their distribution throughout the region and across various spheres is fairly even. Yet, newcomers were reluctant to participate in the study. Some informal groups declined the requests to do so, with distrust and disinterest cited as reasons for refusal.

The above circumstances determined the methodology of the study. It employs a mixed strategy to study migrants in the Kaliningrad region, including formalised data collation methods combined with respondent-driven sampling characteristic of qualitative or expert methods. An online survey was carried out without pursuing representativeness. The results obtained apply exclusively to the sample and can be used for reference purposes. The target group comprised migrants who have moved to the Kaliningrad region for permanent residence from other Russian territories after 2000. The study employed a snowball sampling technique [59]. The controlled characteristics were as follows: 1) congruity between respondents' age structure and the most numerous migrant age group; 2) occu-

³ On the right of citizens of the Russian Federation to freedom of movement and choice of residence in the Russian Federation, 1003, Law of the Russian Federation of 25.06.1993 № 5242-1 (amended as of 01.07.2021), accessed via the ConsultantPlus legal reference database.

pational diversity: trade, services, education, medicine, ICT, small business, etc.; 3) comprehensive geographical coverage of regions of origin. Respondents were recruited via migrant groups on the Vkontakte social networking service. New respondents were selected from the social network of earlier recruited members of the sample.

The questionnaire built on the theoretical ideas of pull factors in migration included 28 alternative, multiple-choice and rating scale questions divided into five thematic blocks. The first block was to gather general information about respondents: year of relocation, the place of arrival, how hasty/thought-through the decision to relocate was, and their family composition. If a respondent had visited the region before moving, information was elicited about the purposes and frequency of such trips, whether the respondent had family and acquaintances in the region, their local “historical” roots and informal ties to Kaliningrad. The second block considered pull factors, rated by respondents on a scale from 1 (had no effect) to 5 (had a decisive effect). The factors were divided into five groups: 1) personal economic factors; 2) personal social factors; 3) the economy, geography and history of the Kaliningrad region; 4) administrative factors; 5) general regional socio-economic factors (Table 1). The third block contained questions regarding the comparisons respondents made between Kaliningrad, on the one hand, and foreign countries and Russian regions, on the other, when deciding to move. The fourth block focused on the difficulties faced when relocating. It helped amass data on how respondents perceived the Kaliningrad region and the disappointments they felt after the relocation. The fifth block, aimed at people who had left the region, looked at push factors. The focus was on the significance of these factors, remaining ties to the region and possible plans to return.

Table 1

Pull factors for the Kaliningrad region

Factor group	Factors
1. Personal economic factors (PEF)	PEF.1 career growth opportunities; PEF.2 higher remuneration; PEF.3 business opportunities; PEF.4 relocation by the employer
2. Personal social factors (PSF)	PSF.1 learning opportunities for children; PSF.2 self-education opportunities; PSF.3 family reunion; PSF.4 living closer to friends; PSF.5 involvement with relocatee communities from one's home region

The end of the Table 1

Factor group	Factors
3. Economy, geography and history of the region (EGH)	EGH.1 proximity to the sea; EGH.2 nature and climate; EGH.3 favourable environmental situation; EGH.4 proximity to Europe; EGH.5 historical and cultural heritage; EGH.6 the image of a beautiful green city; EGH.7. the region's compactness and good connectivity
4. Administrative factors	ADF.1 initiatives of local authorities; ADF.2 Immanuel Kant Federal University; ADF.3 business benefits (the special economic zone, the offshore zone, etc.); ADF.4 federal support (Zemsky Doctor and Zemsky paramedic programme, etc.); ADF.5 naval infrastructure
5. General socio-economic factors	GSE.1 a low unemployment rate; GSE.2 high salaries; GSE.3 affordable housing (for purchase or rent); GSE.4 high life expectancy; GSE.5 a low morbidity; GSE.6 high percentage of small and medium businesses; GSE.7 a low crime rate; GSE.8 a low poverty rate; GSE.9 a high number of medical specialists; GSE.10 transport infrastructure; GSE.11 pre-school and school facilities; GSE.12 multi-campus and sectoral universities; GSE.13 brisk international trade; GSE.14 high innovative potential

The questionnaire concluded with a set of personal questions: a respondent's gender, age, level of education, place of residence, household financial well-being, social status, area of employment and whether their current job matched their qualifications. It was assumed that one member of a household could complete questionnaires for the rest of the family. The questionnaire was created using Google-forms (<https://forms.google.com>). The respondents were interviewed through an online survey.

The primary processing of the survey results used SPSS software, while the secondary employed systematic and logical-structural methods and universal re-

search techniques (analysis, synthesis, analogy, comparison, etc.). The ranking of pull factors by the interviewed migrants identified several groups of reasons for relocation to the Kaliningrad region.

There were 60 participants in the survey, with most of them fitting the “target” group profile: people of active working age (25—44 years of age) with a university degree/incomplete higher education/two or more university degrees. Most respondents were civil servants, specialists and skilled workers. The share of entrepreneurs and the self-employed, including freelancers, was insignificant. Pensioners comprised about 10 % of the sample. The putative “unemployed” accounted for just over 5 %. The presence of the “unemployed” amongst the migrants, most of whom come across as active and enterprising people, might be explained by their desire to conceal their informal or shadow employment or by limited options in the multiple-choice questions. Over half the respondents rated their financial situation as “average”, 20 % as “good” and “very good”, and the same proportion considered it “bad” and “very bad”. The overwhelming majority of the respondents (80 %) lived in Kaliningrad. A smaller share stated the Guryevsk, Zelenogradsk and Bagrationovsk districts as their places of residence. The least frequently mentioned locations were the Gusev, Krasnoznamensk and Chernyakhovsk districts. The eastern part of the region proved to be the least attractive to migrants. Half the respondents moved to the region within the past two years (2020—2021), and a quarter did it between 2014 and 2019. The share of the respondents who had come to the region before 2000 was insignificant.

Survey result analysis and interpretation

The analysis shows that most respondents moved to Kaliningrad with their families, parents or other relatives and sought permanent residence. They often mentioned the desire of their other relatives, friends and acquaintances to move to the region. Almost three-quarters of the respondents decide to move consciously, having been to the place at least once as tourists or family/friends visitors. Most of them were not “biographically” tied to the region.

While choosing their new place of residence, two-thirds of the respondents compared the Kaliningrad region with other Russian regions. The list of alternatives was long, containing the metropolitan areas (St. Petersburg, Moscow and the Leningrad and Moscow regions); relatively “rich” oil-producing regions known for high living standards (the republic of Tatarstan and the Tyumen region); southern Russia (the Krasnodar and Stavropol krais, Crimea and the Rostov region); the most populated and economically developed districts of the Khabarovsk and Primorsky krais. The respondents had been choosing between the region and foreign countries only half as often. In most cases, moving to the Kaliningrad region was juxtaposed with emigration to Germany, Poland, the Czech Republic or Lithuania.

Reasons to migrate to the Kaliningrad region

The research confined particular attention to the reasons for choosing the Kaliningrad region, grouping the pull factors selected by the respondents from the list (Table 1) and identifying reasons to move to the region (Fig. 3). These motives were consistent with the disappointments people felt and associations they held after having spent some time in Kaliningrad.

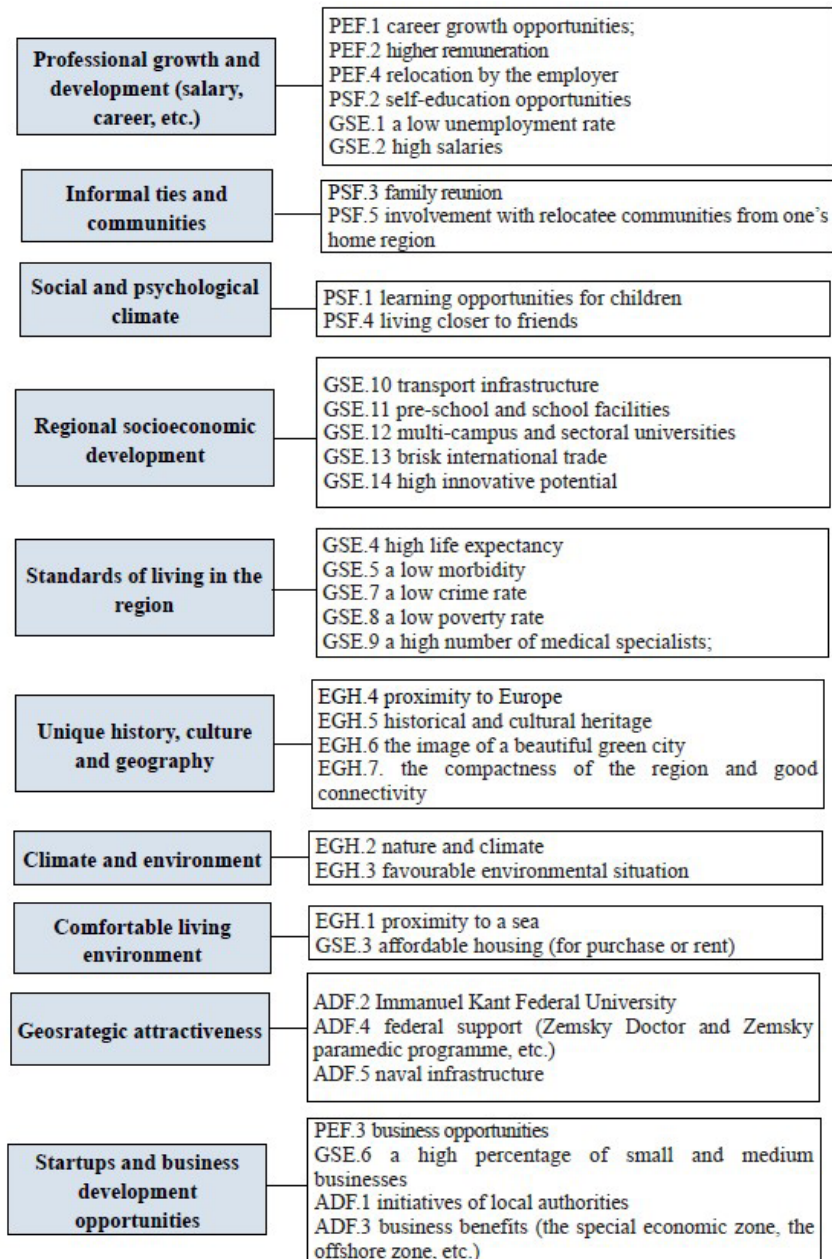


Fig. 3. Reasons to migrate to the Kaliningrad region

Below we will discuss the major reasons for migration in the descending order of their significance for those considering relocation.

Climate and ecology were the most common reasons to move to Kaliningrad. The then prospective migrants compared the region with the Krasnodar and Khabarovsk kraia, the Belgorod and Tyumen regions, Moscow and the Republic of Tatarstan, whose climate and ecology differ dramatically. These respondents mentioned similar causes of disappointment and associations the region triggered for them. This uniformity means that they did not develop a clear idea of their prospective place of residence.

Unique history, culture and geography. Most respondents cited reasons from this group. They stressed the compactness of the region, its proximity to Europe, and its historical and cultural heritage. They prioritized these considerations partly due to their previous experience of visiting the region for tourism or business purposes. Less than half of the respondents who did not mention history, culture and geography had visited the region before moving.

A comfortable living environment was also a significant factor. Proximity to the sea, the compactness of the region and housing availability were most relevant for people aged 35–44. The disappointments these respondents felt after having moved to the Kaliningrad region were also very much alike, possibly due to the shared ingrained stereotypes about it. On the one hand, newcomers encounter difficulties in adaptation and self-actualization, on the other, some of them consider Kaliningrad as a hub and eventually head for other regions.

Regional socio-economic development was the least considered factor, as many migrants had a vague idea of the region's economy. For some, acquaintance with the local labour market, prices, fares, and infrastructure came as a rude awakening. This situation is partly a product of migrants opting for information sources offering popular but inaccurate facts about the region. This, in turn, results from the Kaliningrad region's positioning as a tourist destination rather than a place to live. Most of these migrants (above the sample average) left it during the COVID-19 restrictions of 2020–2021 when it fared worse in socio-economic terms than many regions of Russia and the Northwestern District [60]. *Standards of living* were also among the least important factors taken into account by prospective migrants.

Professional growth and development were rare reasons to move to the region, albeit most of the respondents citing them planned to relocate permanently. At the same time, half of the interviewees said their decision to move had been conscious. The failure to take into account the labour market situation (the occupations and qualifications in demand, the unemployment rate, per capita income) often resulted in a mismatch between current employment and qualifications and

experience reported by the majority of the respondents. Despite the job search difficulties, they rated their financial situation as good. In this respondent group, the most common occupations, compared to the sample, were in trade, services and public administration.

Startups and business development opportunities, the motives relating solely to entrepreneurship, were relevant for one-third of the respondents. Aged 25–44, most of them are currently unemployed or engaged in education. There was no obvious link with their social standing as this group includes white-collar workers, managers and homemakers. Almost all the respondents rated their financial situation as “average”. Over half of them moved to the Kaliningrad region in 2021. Therefore, this respondent group seems motivated enough to run businesses and implement projects.

Informal ties and communities. The chance to reunite with one’s family and involvement with relocatee communities were strong motives for relocation for very few respondents, who, nevertheless, associated the region with positive events and impressions. Support from family or fellow migrant communities was rarely a source of disappointment within the sample. Yet, half the respondents stressed that they had had problems finding a job or accommodation and mentioned the absence of family and friends in the region as a severe limitation. The respondents from this group were most likely to rate their financial situation as “bad” or “very bad” (almost one-third), choosing these options 1.5 times more often than “good” or “very good”. That points to the positive influence of informal ties on the socio-economic adaptation of migrants, particularly those moving to the Kaliningrad region. The respondents rarely chose such reasons for relocation as a favourable social and psychological climate and geostrategic attractiveness. Therefore, only three out of the ten groups of reasons motivated respondents to migrate to the Kaliningrad region: unique history, culture and geography; climate and nature; comfortable living environment.

The survey results did not confirm our assumption that the motives for relocation to Kaliningrad differed from the traditional description of the territory (a mild climate and good environmental situation, the sea coast, proximity to Europe, etc.). This puts at risk migrants with insufficient information about the region and the vagaries of its development. The likely results are disappointment, difficulties in adaptation and self-actualization and even ineluctable departure. At the same time, this complicates the situation in the Kaliningrad region, imposing an additional burden as it receives human resources possessing skills little in demand in the local labour market. However, the results explain why the region generates considerable interest as a place for relocation, put on a par with Moscow, St. Petersburg, the Krasnodar krai, etc.

The survey results made it possible to augment the analysis of motives for relocation to the region by an examination of migrants' disappointments and associations Kaliningrad held for them. Their expectations were juxtaposed with the real situation in the region, and discrepancies were identified between the two. Considering associations helped trace the building-up of a new image of Kaliningrad after relocation. The problems faced by migrants indicated the issues to tackle in the early stages of adaptation in the region, whereas transformations in the perception of the region indicated the causes of discrepancies between migrants' skills and regional needs. From the scientific perspective, there is a need to create a profile of in-demand migrant talent to ensure the balanced development of the region's labour market with the participation of migrants.

Discussion and recommendations

Three-quarters of the respondents reported their disappointment over relocation. They expressed dissatisfaction with prices and fares, local residents and their lifestyle, the lack of employment opportunities and the quality of social infrastructure. The region came as a bitter disappointment to the migrants (nine out of ten people) who had chosen it for a mild climate, a comfortable living environment, historical and cultural heritage, and unique geography.

When analysing migrants' disappointments, we matched them to motives for relocation divided into three groups depending on their significance for migrants and the effect they had on the decision to move: high significance (over 70 mentions), medium significance (30–69) and low significance (fewer than 29) (Fig. 4–6). The circle size shows how popular the motive was with the respondents: the more mentions, the larger the diameter.

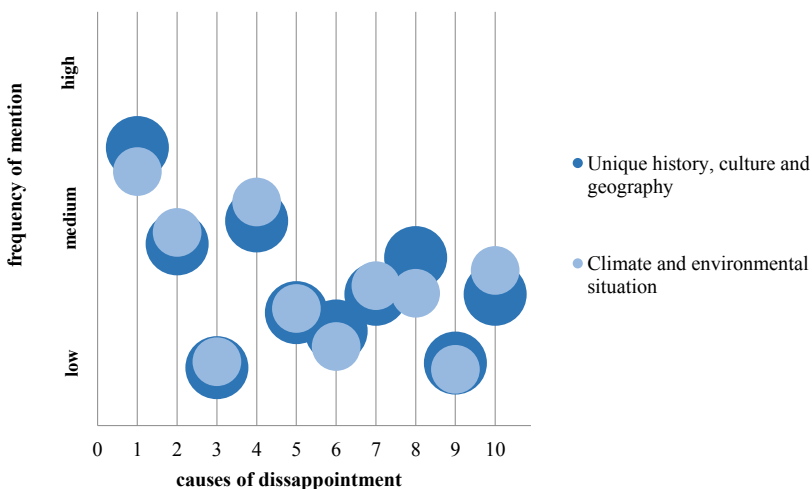


Fig. 4. Motives for migration of high significance and considerable effect on decision-making

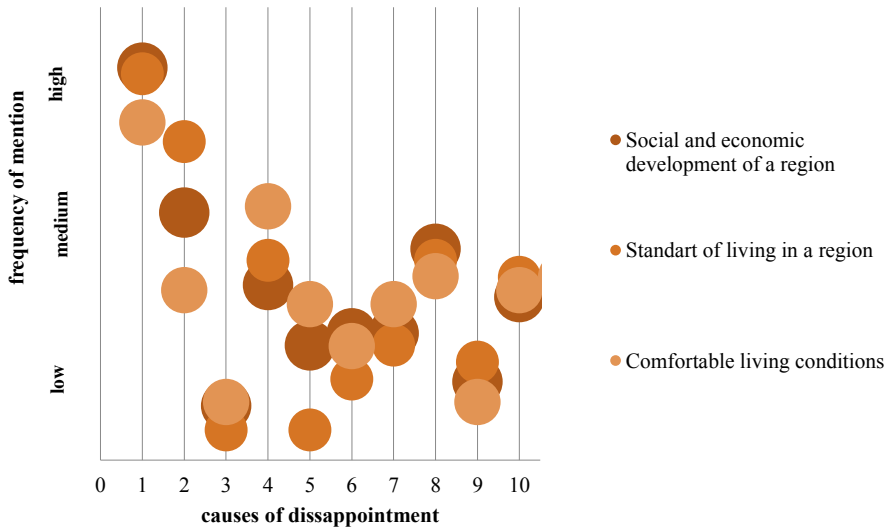


Fig. 5. Motives for migration of medium significance and effect on decision-making

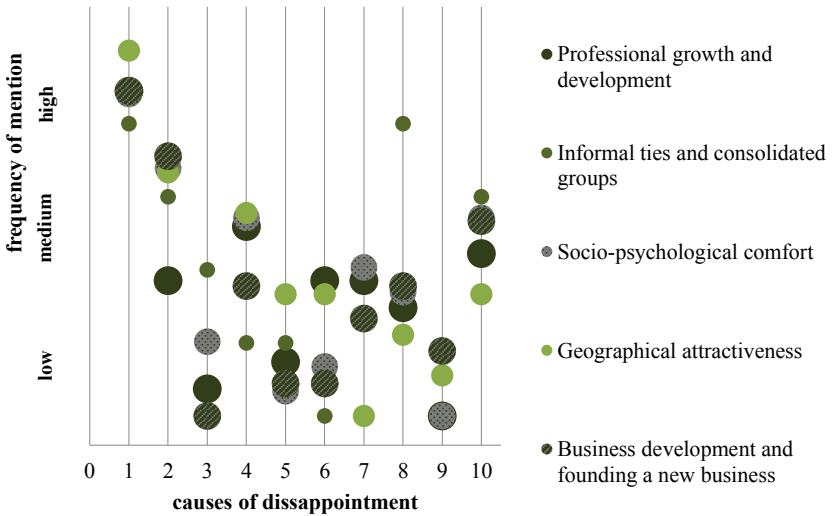


Fig. 6. Motives for migration of low significance and limited effect on decision-making

Identifying the causes of migrants’ disappointment and describing the problems of ineffective adaptation made it possible to produce recommendations for speedy and gentle acclimatisation to a new life, as well as for attracting in-demand migrant talent.

Disappointment at prices and fares was mentioned by the respondents looking to develop their business or start up a new one or those whose principal mo-

tives for migration were professional growth and the socio-economic situation in Kaliningrad. In those cases, dissatisfaction is often the result of migrants' poor knowledge of the region. In particular, one-third of the disappointed migrants had never visited it before and/or made the decision to move on the spur of the moment.

The lack of suitable employment opportunities was the second most popular cause of disappointment, particularly for those who had been motivated by the level of the region's socio-economic development, living standards, geostrategic attractiveness, business development opportunities, availability of informal ties and support from communities. At the same time, two-thirds of these respondents associated living in the region with missed opportunities, worsening financial situation and losing their status as professionals. The failure to adapt to the local labour market may be partly due to the fact that more than 40% of the respondents disappointed in employment prospects in the region had not visited Kaliningrad before moving.

Disappointment in the quality of social infrastructure (kindergartens, schools, hospitals, etc.) was mentioned by the respondents who had been motivated by the region's unique history, culture and geography, nature and climate, comfortable living environment, and prospects of professional growth and development. Striving for better living conditions, this group had high expectations of social infrastructure, which might have been of better quality in their former place of residence. Their dissatisfaction may also result from the decision to move made impulsively or from underestimating the importance of social infrastructure (one-quarter of the respondents described their decision to move as spontaneous rather than conscious).

Somewhat surprising is the disappointment over interactions with the local community expressed by the migrants who had relocated to reunite with family or had been motivated by community ties. Over half the answers given by the respondents dissatisfied with the locals revealed negative associations: poor career prospects and a precarious financial situation. Probably these data point to the exclusiveness of local migrant communities united by ethnicity, religion or professional affiliation; further research might explore this hypothesis.

Interestingly, respondents often felt disappointed over the region being "isolated" from mainland Russia. This points to the geostrategic need to increase its connectivity with the other Russian regions. Although in this respondent group, the share of those who had visited Kaliningrad before did not differ from the sample average (about two-thirds), their experience was mostly limited to tourist trips, which rarely involve longer stays; one-third made the decision to move

without much deliberation. Over half the respondents distressed by the “detachedness” of the region from mainland Russia associated their stay with career and financial losses.

Along with disappointments, migrants faced problems when moving to the region. Relocation meant losing contact with family and friends, lifestyle changes and moving personal belongings. The respondents also reported difficulties finding a job and accommodation and problems related to COVID-19 restrictions.

What is interesting about the survey results is the distribution of associations. One-third reported positive life changes and improvements in health and personal growth. For another third of the respondents, Kaliningrad held negative associations: missed opportunities, wasted time, and career and financial losses. Income growth and career advancement were mentioned much more rarely. Negative associations seem to be due to the disappointment over relocation.

Migrants’ disappointments, manifested in negative associations, point to acclimatisation problems, both socio-psychological (frustration over interactions with locals, quality of social infrastructure) and economic (adaptation to the regional labour market). The main sources of these problems are as follows. Firstly, there is a lack of comprehensive and reliable information, reference materials and resources focusing on life in the Kaliningrad region and aimed at potential relocatees. Secondly, mechanisms for attracting and supporting migrant talent, including specific target groups, are not used sufficiently. Thirdly, no initiatives are seeking to utilise migrant talent to its fullest, prevent an increase in the unemployment rate or help newcomers avoid career losses. Fourthly, migrants’ business skills (often described as more prominent than those of the locals) are not utilised to the full. Fifthly, migrants from Russian regions are not registered properly: there are no databases providing information on their social status, occupation, qualifications, etc. All this causes tension in the labour market, and the influx of migrants solves very few regional issues, the most visible being the improvement of the sociodemographic situation by compensating for the natural population loss. This brings several objectives to the fore. Firstly, there is a need to assist migrants in adapting to new conditions and joining the regional labour market. Secondly, measures to support labour migration should draw on studies into ways to attract in-demand qualified migrant talent. Thirdly, greater connectivity between the Kaliningrad region and mainland Russia would solve the problem of “detachedness” and facilitate the socio-psychological adaptation of migrants. Each of these objectives is worthy of scholarly attention. There is a need to develop a theoretical framework and produce practical recommendations,

which is too ambitious an objective to attain in this study. A migration policy designed to attract and assist migrants from Russian regions will help recruit in-demand migrant talent and overcome the discrepancy between migrants' skills and the needs of Kaliningrad.

The theoretical component of the findings seems to be a valid contribution to the existing body of research emphasising a strong connection between motives for migration, on the one hand, and the economy and geography of the region of settlement, on the other. The study shows that a mild climate and favourable environmental conditions attract not only older cohorts but also younger migrants, which supports findings obtained at the national level. Migrants moving to Kaliningrad from other Russian regions are driven by the belief that a change of residence will translate into a more fulfilling lifestyle and tend to ignore economic considerations. The decision to move is often informed by publications touting the region as a tourist destination. These findings fit into the concept of "lifestyle migration", which builds on studies into international migration. However, this study has demonstrated that the contemporary forms of mobility embraced by the concept of lifestyle migration appertain to interregional mobility, including that observed in the Kaliningrad region. Probably, it will be possible to draw on the experience of the Russian exclave when studying motives for migration in the southern Russian regions, whose attractiveness to migrants is largely accounted for by climate and nature.

The findings regarding disappointments in the region and the negative associations it holds for migrants seeking to improve their quality of life augment contemporary understandings of why such migrants fail to build "their ideal home". The study also shows that interregional migration is fraught with problems although interregional migrants do not encounter linguistic, institutional, ethnic, religious and other barriers associated with international migration.

The effect of economy and geography on interregional migration is not limited to motives for migration. It also manifests in migrants' disappointments. The findings demonstrate that the "detachedness" of the Kaliningrad region from mainland Russia entails additional risks for migrants' socio-psychological adaptation, for example, those relating to travel expenses incurred when visiting family in other regions of Russia. This is an important foundation to build a conceptual framework for a theory of special cohesion of regions and develop its practical applications.

In practical terms, to address the causes of migrants' disappointments and the negative associations the region has for them, it is essential to create a realistic image of the region and thus minimize the risks of ineffective adaptation. The most necessary measures are described below.

Firstly, it is advisable to diversify the incoming migration flow, which implies recruiting migrants with in-demand skills and qualifications and providing integration assistance for those who may experience difficulties or feel disappointment due to insufficient knowledge of the region and problems with finding a job and accommodation. Such measures will allow the target groups of migrants (doctors, teachers, ICT specialists, etc.) to derive maximum benefits from regional relocation and recruitment programmes. Targeted mechanisms for recruiting specialists within the framework of federal and regional relocation programmes should factor in migration connectivity between Kaliningrad and other Russian regions and pull factors for individual specialists and migrant cohorts. The region's multi-campus and sectoral universities can also contribute to the process by attracting applicants and young specialists from other Russian universities. This recruitment, however, should be accompanied by measures to retain university graduates in the regional labour market.

The diversification of migration flow has an immediate bearing on the region's positioning and raising awareness amongst migrants. It does not imply external or administrative coercion, much less the violation of citizens' constitutional right to freedom of movement. Thus, secondly, it seems effective to use the best practices of promoting the region as a tourist destination to create the image of Kaliningrad as an attractive place for permanent residence. Information about it must be easily accessible to the target audience.

Thirdly, there is a need for adaptation mechanisms for migrants from Russian regions, including information support. It is advisable to launch information resources and platforms to give insight into such issues as employment, real estate, education and access to medical services. Another important objective is providing information and analytical support for prospective entrepreneurs. Such initiatives would benefit from more extensive use of data from Rosstat's sampling surveys looking at employment in Russia, particularly in terms of economic activity of permanent, rather than temporary, interregional migrants: unemployment rate, industry-specific skills, qualifications, etc. Fusing the mechanism of interregional migration to the Kaliningrad region with the concept of lifestyle migration shifts the focus from migrants' activity in the local labour market to their contribution to the region's overall development. At the same time, our practical recommendations, which are certainly not exhaustive, can facilitate the adaptation of migrants and make the spontaneous migration flow more controllable in the interest of the region's socio-economic development.

Conclusion

The analysis of pull factors, problems, disappointments, and the perception migrants have of the Kaliningrad region has made it possible to answer the questions set in the study.

Firstly, the survey results have not confirmed the hypothesis about the influence of economic, social, administrative and other motives for relocation to Kaliningrad, apart from traditional and well-known ones. The key reasons for moving to the region are the mild climate, nature, comfortable living conditions, unique history, culture and geography. These are the pull factors for not only pensioners, as earlier studies have demonstrated [48], but also migrants of the most active working age (25–44 years of age). Therefore, the motives for migration to the Kaliningrad region make it possible to consider the phenomenon from the perspective of the modern concept of lifestyle migration. Applying the concept to interregional migration requires further research on other Russian territories considered attractive to migrants.

Gravitation towards a better climate and environmental situation is closely connected to push factors, which is confirmed by the geography of the region's migration flows: most migrants arrive from territories with a cold climate or severe environmental problems.

This perception of the region is a product of its heavily promoted image as a tourist destination. One-third of the respondents who had not visited the region before moving obtained information about it on the internet or from family and friends residing in the exclave. Easily available information highlights the advantages of the region and is often subjective. Facts are distorted, and some issues (employment, accommodation, prices, stores, range of available products, etc.) are covered sketchily, from the perspective of a tourist rather than a permanent resident. The absence of an objective picture of the region and the opportunities it offers creates a situation where migrants arriving here encounter difficulties with relocation or cannot find the right job for their skills. Migrants relocated by the employer do not generally have problems with labour adaptation, but for all the others the situation in the regional labour market may be a source of disappointment and negative associations.

Secondly, after relocation, almost all the respondents viewed the region differently than before moving. During adaptation, they encounter both socio-psychological and socio-economic problems. The former relates to their separation from family and friends and the disruption of their usual lifestyle, exacerbated by the “detachedness” of the exclave and travel expenses incurred when visiting family in other regions of Russia. As a result, migrants become dissatisfied with

the locals and their lifestyle. The latter problems are encountered by migrants who have misinterpreted the situation in the regional labour market, have problems with finding accommodation or resent the prices, fares and the quality of social infrastructure. The associations the region has for migrants are ambiguous. Although they mention positive changes in personal life, improved health and personal development, they report missed opportunities, wasted time, and financial and career losses just as often.

Thirdly, diversifying the migrant flows is proposed to utilise migrant talent to its fullest. The necessary measures include information support and assistance in adaptation and launching businesses. There is a need for interactions between Kaliningrad and the territories of origin. It is important to promote the region not only as a tourist destination but also as an attractive place to live and work. These initiatives will attract migrants of a certain age, with in-demand skills and qualifications.

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LIFESTYLES OF KALININGRAD YOUTH

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Based on an analysis of leisure and consumer practices of students of two leading Kaliningrad universities, this paper attempts to reconstruct the actual space of Kaliningrad youth lifestyles, as well as to identify and describe groups following these lifestyles in socio-economic and demographic terms. Five style groups are identified: the party people who prefer to spend their free time in bars and clubs; the hipsters who frequent theatres and lecture halls, whilst being staunch upholders of the consumerist culture promoted via social media; the ‘normal’ young people choosing physical exercise and standard weekend leisure activities; the young adults combining Soviet leisure heritage with creative and do-it-yourself practices; the homebodies opting for stay-at-home entertainment. Drawing on the discussion about the significance of lifestyle for modern society, the author concludes that lifestyles do not replace the usual socio-economic stratification markers, and their capacity to differentiate youth groups with unequal access to economic and cultural resources of youth is also limited. Youth leisure lifestyles form an independent system of stratification, which partially coincides with existing social boundaries and partially overlaps with them. The main dividing line runs between the young people who can afford to choose from a ‘supermarket of styles’ and those deprived of such an opportunity.

Keywords:

Kaliningrad youth, lifestyles, leisure, consumption

Introduction

The way you dress, the food you eat, the music you listen to, the movies you watch, and the way you spend your free time can tell a lot about your financial status, your education background, and your position in the social hierarchy. The concept of lifestyle captures this connection of consumer and leisure practices with the processes of social differentiation [1–3].

Youth has always been a problematic, elusive subject of both class and status analysis. On the one hand, young people’s lifestyles bear the imprint of their background and the milieu in which they developed as individuals. On the other hand, as a period of a certain moratorium on growing up, youth significantly weakens — if not eliminates — the influence of socio-economic factors in the choice of consumption and leisure time strategies.

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The social and cultural dynamics of the postmodern add even more nuance to this contradictory image. Proliferation of information and communication structures [4], increased global mobility [5], the dominance of unorganized capitalism with an emphasis on service and creative industries [6], the growing influence of cultural industries [7], widespread aestheticization of everyday life [6], increasing risks and growing uncertainty at all levels of social being [8; 9] lead to increasingly individualized lifestyles that are less tied to social class, professional status or neighbourhood [8; 10]. Young people are at the head of this process, since today's young men and women, as a rule, acquire new consumer competencies and are socialized in the consumer society earlier than their predecessors [11].

The aim of this article is to describe the space of lifestyles of modern Kaliningrad city youth and to understand to what extent the style differentiation can be explained by their socio-demographic characteristics. The research summarizes the results of the survey of undergraduate students of Kaliningrad higher educational institutions conducted by researchers from the Youth Research Centre at the National Research University Higher School of Economics (St. Petersburg) in September 2021 and March 2022¹.

Youth Lifestyle: Theoretical Aspect and Empirical Measurement

Max Weber connects the way of life to the status aspect of social stratification. A specific lifestyle is maintained by and expected from those who wish to belong to a certain status group and have access to status privileges [1]. According to Pierre Bourdieu, lifestyle is formed on the basis of habitus, reflecting the position of the subject in the social space, and depends on the volume and structure of its capital (economic, cultural, social, symbolic) [2]. Bourdieu defines lifestyle as 'a unitary set of distinctive preferences which express the same expressive intention' [2, p. 28–29]. The sociologist emphasizes the relative nature of this category: 'each lifestyle can only really be constructed in relation to the other, which is its objective and subjective negation' [2, p. 41]. In his approach, Bourdieu's claims to understand the role of culture and education in the reproduction of the class structure of society.

Feminist and postcolonial studies that emphasize — along with social class and status — the importance of gender, race, and ethnicity in shaping lifestyles are an important complement to the concepts mentioned above [12–17].

In the context of sociological reflection on the postmodern, there has been a revision of the very concept of lifestyle. It has come to mean the material expres-

¹ The survey was conducted by Evgeniya Kuziner, junior researcher at the HSE Center for Media Studies; Dmitry Omelchenko, analyst at the HSE Center for Media Studies; and Sviatoslav Poliakov, researcher at the HSE Center for Media Studies.

sion of individual identity, which is relatively freely chosen in a 'supermarket of styles' and can be contrasted with the traditional way of life rooted in class/professional/territorial structures [10]. According to Giddens, 'a lifestyle can be defined as a more or less integrated set of practices which an individual embraces, not only because such practices fulfil utilitarian needs, but because they give material form to a particular narrative of self-identity' [9, p. 81]. As Chaney puts it, 'the social phenomenon of lifestyles has been an integral feature of the development of modernity, not least in the idea that lifestyles are a particularly significant representation of the quest for individual identity that is also such a defining characteristic of modernity' [10, p. 158]. The distinctive features of post-modern lifestyles are considered to be fragmented, bricolage, the combination of the previously uncombinable, the mixing of aesthetic principles and tastes, and the blurring of borders between mass and elite culture [18–20].

When studying the cultural practices of young people, the notion of lifestyle is proposed by the representatives of the post-subcultural approach as an alternative to the notion of subculture, the latter being closely related to structural neo-Marxist paradigms of cultural research [11; 21; 22]. The proponents of this idea believe that the term 'lifestyle' better reflects the flexible, fluid, unstable and individualistic nature of actual youth identities based on consumption and leisure than theoretical constructs that assume a strict determinism of social structure. As Beck notes, young people in a risk society construct their lifestyles relatively freely, acquiring self-sufficiency skills and organizing life as an 'open process' [23]. According to Chaney, young people construct identities on their own, not by falling back on the existing communities built around class, neighbourhood, ethnicity, or race, but by joining style communities whose display of membership is the sensitive use of cultural resources for internal contexts and shared meanings [10]. Stephen Miles also emphasizes that the term lifestyle is preferable to subculture because 'young people use their lifestyle to navigate the structural and cultural dilemmas of social change' [11, p. 159].

Nevertheless, the idea that adherence to individualized lifestyles is gradually turning into a universal principle of social differentiation has drawn some reasonable criticism [24; 25]. Thus, Roberts, considering the style groups addressed to in literature, notes that they all exist within the traditional social classes, and invariably include representatives of only two classes — the middle and upper [24]. Thus, while acknowledging that, as a phenomenon, lifestyle does exist, Roberts concludes that it is limited to relatively well-off and highly educated people with the cultural and economic resources to sustain it.

A peculiarity of the Russian academic discourse on youth lifestyles is the broad understanding of this term. The idea of lifestyle is not exclusively limited to consumption and leisure practices, but is a kind of totality that reflects a view on life as a whole [26]. It manifests itself in the choice of employment strategies

and career paths [27–29], in the selection of sexual and marriage scenarios [30], in planning one's time and budget [31], in the attitude to health [32] and the environment [33], and so on.

Empirical research of the everyday life of Russian youth has highlighted a number of important trends, which I will outline in brief. Firstly, territorial inequalities play an important role in structuring the space of youth lifestyles. Large differences in lifestyles are observed in cities with advanced cultural and consumer infrastructure, which act as centres of consumption. Social inertia is strong in small towns and villages: young people are more similar to their parents in terms of consumer behaviour and way of spending leisure time than to their urban peers, while elements of urban lifestyles are selectively adopted [34–36]. Regional specifics also play an important role. For example, because Kaliningrad is an exclave region that has its own port and is located close to major European cultural and consumer centres, it is logical to expect that its youth will be more closely integrated into the global (i.e., Western) consumer culture than from their peers from the Russian hinterland. Secondly, the choice of lifestyle depends on the preferred cultural strategy based on communicative practices (progressive, advanced vs. normal, ordinary) [26; 37]. Thirdly, gender is no less (and sometimes even more) significant in the formation of actual youth styles than social class [38; 39]. The choice of style happens in close connection with the construction of gender identities. Finally, the very inclusion of young people in various cultural scenes and solidarity can act as an important predictor of their cultural consumption [40–42].

Design and Methods

The study is based on a survey of 707 students of higher educational institutions in Kaliningrad. As the research subject is a certain social group (students pursuing their bachelor's, specialist and master's degrees) the sample representative of the general population was replaced by the target sample to study its characteristics in statistical indicators. In Kaliningrad, the students of the Immanuel Kant Baltic Federal University and the Kaliningrad State Technical University participated in the study. Necessary and sufficient number of student groups were randomly selected within the following academic fields: 1) mathematics and natural sciences; 2) engineering, technological and technical sciences; 3) social sciences; 4) education and pedagogical sciences; 5) the humanities; 6) healthcare and medical sciences. A continuous survey was conducted in these groups. Calculation of the necessary and sufficient sample quotas for each subset was carried out relative to the data provided by the participating universities on the total number of students pursuing the above-mentioned degree in the selected fields. Thus,

to a great extent, the sample reflects regional specifics. The final distribution of respondents by quotas is shown in Tables 1, 2. Compared to the original survey design, the final result demonstrated a bias towards engineering and technical majors, so the sample was weighted.

Table 1

Distribution of the sample by education level (N = 707)

Level	Total, people	Total, %
Bachelor	484	68.5
Master	108	15.2
Specialist	115	16.3

Table 2

Distribution of the sample by academic field (N = 707)

Academic field	Total, people	Total, %
Mathematics and natural sciences	81	11.4
Engineering, technological and technical sciences	335	47.4
Healthcare and medical sciences	55	7.8
Social sciences	134	18.9
Education and pedagogical sciences	48	6.8
Humanities	54	7.6

Of those surveyed, 404 (56.7 %) came from the city of Kaliningrad and the Kaliningrad region, the others came from other federal subjects of Russia, the countries of the Commonwealth of Independent States, or from other countries. The male/female ratio was 55.5 % to 44.5 %, respectively. At the time the survey was conducted, 531 of those surveyed were studying at the government's expense, 159 were financing their education, and 13 were receiving conditional regional or industrial sponsorship. More than half of the students in the survey (64.4 %) had at least one parent who had completed higher education, and the share of those who came from families where both parents had completed higher education was about 35 %. About 45 % of the respondents reported being in a romantic relationship, about 39 % said they were single, and a further 6 % were married.

In assessing their financial means and that of their families, 38.5 % of those surveyed picked the answer 'We can buy new clothes and shoes, but do not always have enough money for necessary household appliances', while 22.7 % responded that they could only occasionally buy clothes and shoes, but did not always have enough money for necessary household appliances. Approximately

14% of respondents indicated that they could occasionally afford new clothes and shoes, and 7.5% noted that they can only afford food and basic necessities. Extreme values of the scale ('We do not have enough money even for food' and 'We can buy anything we want') were chosen by 2.2% and 5.4% of those surveyed, respectively. At the same time, 9% found the question difficult to answer.

The general logic of the study corresponds to the design of Roshchina's research project [43] and lies in: 1) constructing the space of youth styles by identifying stable complexes of leisure and consumer practices, 2) identifying groups of young people who are carriers of these styles, 3) identifying socio-economic determinants of the choice of a lifestyle.

To construct the space of youth styles we used 71 variables² which reflected the frequency of visiting leisure facilities, regularity and intensity of doing sports, choice of hobbies, eating habits, clothing style preferences, consumption of alcoholic beverages and tobacco products. At this stage, the task was to single out complexes of interconnected leisure and consumer practices, each characterizing a certain integral principle of organization of everyday life, a view of life as a whole. This was accomplished by factor analysis (Varimax rotation)³, which made it possible to identify latent variables corresponding to lifestyles. Since one part of the data was represented by dichotomous variables and another part by ordinal variables, a polychoric correlation matrix⁴ was calculated to build the factor model. The interpretation of the factors was based on both research intuition and the data presented in the academic literature on the lifestyle trends of the Russian youth.

Factor values were used in cluster analysis (k-means method)⁵ to identify clusters (groups) of lifestyle carriers. Attribution of lifestyles was made based on the maximum values of the centroids of the obtained clusters. Further, we built contingency tables and conducted a series of chi-squared tests and Fisher's exact tests to identify the relationship of style group membership with the socio-demographic characteristics of those surveyed (gender, parental education, residency status, marital status, subjective evaluation of financial status). The significance of these factors for specific style groups was analyzed by examining

² We had to drop three variables, namely, consumption of fast fashion garments, adherence to glamorous style, and watching TV as a hobby. Fast fashion and TV-viewership were too highly correlated with the other variables, while glamorous style had uniqueness close to one.

³ Factor analysis was carried out with the use of software packages 'psych', 'corrplot', 'ggpolt2' within R software environment for statistical computing.

⁴ The matrix was calculated with software package 'polycor' within R software environment.

⁵ Cluster analysis used the software packages 'cluster', 'ClusterR' within the R software environment.

standardized residuals. To identify the determinants influencing the belongingness to a style group, the regression analysis method was used. Because the dependent variable was categorical with five gradations, multinomial regression was applied⁶.

Results

Lifestyles

Factor analysis identified 10 latent variables, collectively explaining 38.8 % of the variance (see Appendix 1, Factor Loadings).

The first factor, sports, combined fifteen variables that characterize young people in terms of the frequency with which they engage in various sports activities. Here we accounted for both competitive sports (winter sports, water sports, swimming, running, soccer, competitive dancing, gymnastics, car racing and motor sports) and practices related to an active lifestyle (skating, street workouts, parkour, cycling). Moreover, visiting saunas and bathhouses was also included in this factor, as it is a typical recreational activity for athletes.

The second factor, partying, reflects the intensity of consumption of alcoholic beverages and tobacco products, as well as the frequency of visits to pubs and nightclubs. Interestingly, the factor came to include almost all of the most commonly consumed types of alcohol — both those associated with younger groups (like beer or light cocktails) and those typical for older groups (like vodka or brandy) [44; 45]. It is also noteworthy that young smokers who admitted to using cigarettes also used other tobacco products, like hookahs or vapes.

The third factor, culture and education, is associated with visits to theatres, libraries, lectures, concerts of classical and popular music, standup comedy shows, creative spaces, and yoga classes.

The fourth factor (staying in) combines various leisure practices, which are realized in the space of one's house/apartment. The main load here is taken on by computer games, listening to music, watching TV-shows and surfing the Internet. Along with these, the factor includes such variables, as playing board games, reading anime, reading books, learning foreign languages, and coding.

The fifth factor posed some problems for interpretation. Most of the practices it combines are labelled as 'feminine' in popular perception (going shopping, doing beauty routines, cooking). In addition, the factor includes such hobbies as travel and photography. We assumed that the latent variable characterizes the commitment to the lifestyles popularized on the Instagram* and similar social media.

⁶ Multinomial regression was calculated using the software package 'nnet' within the R software environment.

*INSTAGRAM IS OWNED BY META, THE COMPANY WHOSE ACTIVITIES ARE BANNED IN THE RUSSIAN FEDERATION

The sixth factor, casual, includes a standardized set of the most typical leisure activities (going out to cafés, shopping malls and movie theatres, attending live sporting events), which are associated with the lifestyle of ‘normal’ youth. Preference for casual clothing style also indicates that here we are dealing with a certain expression of ‘normativity’.

The seventh factor (creative) combines leisure practices related to creativity and do-it-yourself activities (making handmade crafts, designing, doing art, drawing, doing DIY and blogging). These are all productive, serious leisure activities [46] that require considerable time and have great potential in terms of further professionalization.

We labelled the eighth factor ‘Soviet-like’ since it expresses an orientation toward forms of leisure time inherited from the Soviet (pre-Internet) era: military tactical games, adventure tourism, collecting, gardening, and horticulture.

The ninth factor (fitness) is very similar to the first. It has to do with the practices of keeping fit, including joining gyms and sports facilities, taking fitness classes, and maintaining a healthy diet.

The tenth factor includes only three variables denoting adherence to ‘exotic’ gastronomic behaviours: veganism, Indian cuisine, halal and kashrut. We excluded this factor from further analysis, as it contributes very little to the variance (about 1.5 %) and characterizes a very narrow aspect of lifestyle.

Lifestyle groups

Through cluster analysis (K-means method), we correlated the identified lifestyles with the groups of young people (carriers of lifestyles) and obtained six clusters (see Table 3).

Table 3

Values of the centroid of clusters for various lifestyle groups

Factor	Cluster					
	No style	‘Party People’	Hipsters	‘Young Adults’	‘Normal youth’	‘Homebodies’
Sports	-0.1002	-0.2043	-0.3063	-0.0603	0.4095	0.1402
Partying	-0.4917	1.3246	0.2428	-0.2859	-0.4908	0.0650
Culture and Education	-0.0552	0.2233	0.4005	0.1702	-0.1843	-0.3595
Staying in	-0.5810	-0.4309	0.2406	0.2245	-0.3165	1.5753
Instagram	-0.2149	-0.5149	1.6110	0.3512	-0.1073	-0.5642
Casual	-0.3984	-0.0637	0.2340	0.1051	0.3644	-0.0163
Creative	-0.2584	0.2474	-0.6509	2.0606	-0.2918	-0.2092
Fitness	-0.7580	0.2392	0.0274	-0.4119	1.1511	-0.2906
Soviet-like	0.0108	-0.3088	0.0895	0.4441	0.0046	-0.0602

As in Roschina's study, the most numerous 'No style' cluster (25,8 %) was the one that showed extremely low values for almost all factors. We are talking about young people who are barely included in the indicated leisure and consumer activities and are not the bearers of any lifestyle⁷.

The second cluster (16.2 % of those surveyed) — 'party people' — is characterized by frequent visits to bars and clubs (several times a week and more often), as well as by intensive consumption of alcoholic beverages (several times a month or more) and tobacco products (several times a week or more).

The third style group shows maximum values for two factors at once: culture and education and Instagram. The mosaic and eclectic lifestyle that emerged at their intersection is very postmodern in nature. The young people included in this group are active in the consumption of both conventionally highbrow and mass culture products, both in attending repertory theatres and classical music concerts, and in shopping, grooming, travelling, cooking, and photography. This group, hipsters, accounted for about 13 % of all surveyed students.

The fourth cluster is characterized, on the one hand, by continuity in relation to 'parental' leisure culture, and, on the other, by an interest in creative and DIY practices⁸. We can assume that here we are dealing with symbolic emancipation from youth as a period of some kind of idleness and irresponsibility, and a desire to associate with more mature forms of spending time. This is the smallest group, which includes only 10 % of respondents, was labelled young adults in our classification.

The fifth style group (20.8 %) includes young people who show the greatest commitment to a 'standard', or 'normal' lifestyle, which is complemented by an orientation toward sports and fitness practices that serve as a means of building a 'normal' healthy body. Young people in this group engage in sports activities and/or visit sports facilities at least several times a week. We will refer to this group as 'normal' youth. It is noteworthy that in the relational space of lifestyles the antagonist group for the 'normal' youth is not the 'advanced' hipsters, but the 'party people' (the minimum value for the party factor). Obviously, the main distinction here is based on the principle of adherence to / rejection of the so-called 'healthy lifestyle'.

Finally, the sixth cluster, encompassing 14.7 % of those surveyed, brings together those who enjoy home entertainment, or homebodies. Homebodies tend to distance themselves as far as possible from extroverted forms of leisure time

⁷ We do not label this group 'passive' as suggested by Roschina's because of the term's negative connotations.

⁸ The combination of DIY-ethos and Soviet rhetoric can be found in real-life youth communities, for example, among some political activists [48] and among the adepts of historical reconstruction [49].

associated with culture and education and Instagram lifestyles. They demonstrate a low frequency of attendance at cultural and educational events, as well as a lack of interest in travel.

Socio-economic and demographic characteristics of lifestyle groups

Tables of correlation of the membership variable in style groups with the variables of gender, financial status, marital status, residence, education of both parents and background show the differences of the selected groups according to socio-economic and demographic parameters (See Appendix 2, Socio-demographic characteristics of lifestyle groups). The gender variable is relevant for hipsters and homebodies. Among hipsters, there is a significant predominance of women, which is easy to explain, since most of the activities collected in the Instagram cluster are labelled as specifically 'female' in popular culture. In addition, women, as other studies have shown, are most active in attending cultural events that have the highest cultural-educational load [47]. Among the adherents of home leisure activities, on the contrary, the dominance of men is noticeable. A closer look shows that this advantage is provided by activities online — interest in videogames, surfing the Internet and coding — as well as reading. The proportion of youth who rated their material well-being as the lowest was also expected to be higher among those who had no identifiable lifestyle. Among young adults, the share of those who continue to live with their parents was significantly lower, an interesting feature suggestive of the desire to emancipate themselves from parental control, and as a result, the wish to spend as much time away from home as possible. In addition, having a relationship/partner/being married also has a negative impact on involvement in home leisure practices.

The variables of gender, financial well-being, parental education, and background were included in the regression model. Of the two highly correlated variables, 'Who do you live with?' (on your own/with parents/with a partner) and 'Your marital status' (married, in a relationship but unmarried/single with no partner), residence was the strongest predictor. The proportion of married youth in the sample is insignificant, and the fact of living together and running a shared household is more important for lifestyle choices than simply having a partner. Here, too, the combined effect of the predictors of residence and gender on the dependent variable is tested. Research confirms that patterns of the traditional gender division of labour are often activated in the context of shared household management. Young people who do not adhere to any lifestyle were chosen as the base group; the coefficients of the regression model, in this case, show the influence of the parameter on the probability of belonging to any of the designated lifestyle groups.

The results of the regression analysis are presented in Table 4. As one can see, the strongest predictor is the level of income, but its differentiating function is manifested with varying strength. For party people, young adults, and ‘normal’ youth, all levels are significant against the baseline (‘Not enough money for food’). At the same time, for young adults, the values of standardized coefficients are approximately equal among young people with income higher than basic, and in the case of party people and ‘normal’ youth, the coefficients are highest for young people who claim they can afford to buy whatever they want. As for the hipsters, the chances of getting into this style group are higher for young people with the highest level of affluence. For homebodies, the factor of wealth was insignificant. The parental education variable did not resonate with any of the style groups. We can assume that the parental home, while remaining an important source of financial support, is no longer a priority environment for the formation of cultural tastes and consumer competencies.

While the contingency table for the style group membership variable with the gender variable indicated a significant relationship among at least two lifestyle groups (hipsters and homebodies), the regression model only showed an interactive effect between gender and residency: women living with partners were more likely to be hipsters than men with the same residency status. Living with or without a partner was the only significant factor for homebodies. Singles were more likely to be in this style group.

Table 4

Standardized multinomial regression coefficients
(Pseudo- R square = 0.1125, $p < 0.05$)

Determinant	‘Party People’	Hipsters	‘Young Adults’	‘Normal youth’	Homebodies
(Intercept)	-13.717**	-2.325**	-14.264**	-17.850**	-1.019
Male	-1.001	-1.023	0.094	1.434**	0.703
I live with my parents	-0.953	-0.028	0.423	0.553	-0.732
I live with a partner	-1.114	-0.314	-0.367	0.8021	-2.038**
All the money goes only for food and necessities	12.248**	-0.503	13.025**	16.198**	-1.702
I can occasionally buy clothes and shoes	13.315**	0.608	12.616**	15.557**	0.048
I/We can buy new clothes and shoes but do not always have enough money for the necessary appliances	13.449**	0.807	13.326**	16.3**	0.285

The end of the Table 4

Determinant	'Party Peopl'	Hipsters	'Young Adults'	'Normal youth'	Homebodies
I/We can afford almost anything except for big purchases such as a car, an apartment, etc.	13.999**	1.299	13.464**	16.998*	0.716
I/We can buy anything we want	15.717**	2.763**	13.726**	18.1803**	1.830
One of the parents has completed higher education	0.087	0.717	-0.068	0.546	-0.031
Originally from Kaliningrad	0.716	0.943	0.669	0.0944	-0.032
Male: living with parents	1.175	-0.799	-1.576	-1.089	1.307
Male: living with a partner	1.680	-15.040**	-0.034	-0.714	1.810

Note: * — 5% significance level, ** — 1% significance level of coefficients.

Discussion and conclusion

The space of lifestyles of Kaliningrad youth is diversified, which corresponds to the cultural and consumer dynamics of big cities and megacities. Nine main lifestyles have been identified, explaining about 40 % of the leisure and consumer diversity: sports, partying, cultural and educational, staying in, 'Soviet-like', creative, fitness, Instagram, and casual. We also identified groups of young people who are carriers of one or more styles: party people — partying; young adults — 'Soviet-like' and creative; 'normal' youth — casual, sports, fitness; hipsters — culture and education and Instagram. Such factors as the level of income and cohabitation turned out to be significant for the differentiation of lifestyles, while the factor of parental education turned out to be irrelevant in the constructed model. A quarter of young people do not adhere to an identifiable lifestyle and show low activity in both consumption and leisure time. The core of this group is the youth living below the poverty line.

We were also able to identify two important axes that structure the relational space of youth lifestyles. First is the commitment to a healthy lifestyle, which serves as a watershed between 'normal' youth and party people — two styles that are poorly differentiated in terms of income. Second is the difference between those forms of leisure that are realized in public space and at home. At one end, there are hipsters and party people, and at the other, homebodies.

In the case of homebodies, the effect of the intersection of different social and demographic categories is interesting. On the one hand, domestic leisure activities are the most frugal, not requiring significant financial investments and therefore open to young people of all incomes. A necessary prerequisite, however, is

the availability of free time as such. Obviously, in the situation of living together (and managing a shared household), young people will have less free time. At the same time, descriptive statistics shows that this style characterizes the consumer and leisure behaviour of men. One can cautiously assume that this indicates a gender disproportion in the distribution of household duties, which is typical for Russian households [50].

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DEMOGRAPHIC DEVELOPMENT PROCESSES IN THE HISTORY OF THE KALININGRAD REGION: NATIONAL TRENDS AND REGIONAL SPECIFICS

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This article aims to identify the main demographic development trends and features observed in the Kaliningrad region from a historical perspective and assess the extent to which the region's demographic development corresponds to the national model accepted in contemporary historiography. The empirical sources used in this study include demographic statistics from published and archival materials; theoretically, it draws on the concepts of demographic and epidemiological transitions. Analysis of statistics and historiography is employed along with the comparative historical method. The migration factor had the leading role in the emergence of the regional specifics of demographic development. Migrants from the regions of the USSR that were deeply involved in demographic modernisation before the war formed the resident population of the Kaliningrad region. The gender and age profile of the migrants ensured the prolonged post-war demographic compensation and secured fertility and marriage rates above the RSFSR average. The regional fertility rates converged towards the national average in the second half of the 1950s; from the late 1970s, the region had a fertility rate below the national average. Overall mortality rates remained significantly lower than the RSFSR average until the mid-1990s. The changes in the regional population replacement model that took place in the region during the Soviet period and at the turn of the 21st century generally corresponded to national trends. Therefore, the concept of Russian demographic development proposed by Russian researchers is directly applicable to the exclave of Kaliningrad.

Keywords:

demographic transition, Kaliningrad region, epidemiological transition, birth rate, mortality

Introduction

Over the 75-year history of the Kaliningrad region, its population has come a long way shaping its today's appearance. During this time there were processes that affected population replacement, related structures and types of social behaviour. To this day, demographic development remains a major area of interest. It has been studied, along with associated phenomena, at a global, regional and local level, using methodological tools from across the humanities and social sciences, including history.

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Russian historiography and demography focus heavily on how demographic structures and processes evolved in the post-reform (1861–1914) and Soviet periods, studying intently the demographic catastrophes of the first half of the 20th century and the social policy pursued by the Soviet authorities. Along with conceptual, summarising works encouraged by the so-called archival revolution of the 1990s [1–4], the past decades have seen the appearance of numerous studies into the history of populating Russia's macroregions and administrative units [5–9]. Describing how population replacement and migration changed at a regional level is a research area of relevance and interest, all the more so in a country with a vast territory, complex sociocultural and economic spaces, and a complicated history.

The demographic history of the Kaliningrad region has not been studied in full detail. Yet there is a range of publications reconstructing the population of the region by Soviet citizens, the deportation of the Germans and major trends in the social development of the *late 1940s–1950s*. Although there is ample room for further work, this period has been explored most extensively [10–14]. Over the past ten years, groundwork has been laid for investigating the history of the socio-demographic processes of the 1960s–1980s, known to be the least studied decades in the history of the region [15; 16]. The migration and demographic processes of the *post-Soviet period*, particularly the first decades of the 21st century, have been addressed by geographers, sociologists and other researchers [17–20]. But this area of study, just like the contemporary history of the region in general, has remained peripheral to historical research.

Analysis of the historical-demographic literature suggests that the history of populating the Kaliningrad region is rarely part of themed or review works on the 20th-century national demographic processes. As a rule, the region is briefly mentioned when considering the migration of the 1940s–1950s. A detailed reconstruction of the socio-demographic past of Russia's westernmost territory is a province of future research, and the complete history of the region's population has not yet been written.

Attaining this ambitious goal requires an interdisciplinary approach. Within the scope of an article, it is only possible to provide an outline of a general *historical* concept of a single aspect of the region's demographic past — the *transformation of replacement processes*.

This article aims to describe the features and dominant trends in the evolution of population replacement processes taking place in the region in the second half of the 20th–21st century, as well as to understand whether the national demographic development model accepted in Russian contemporary historiography is applicable for the Kaliningrad case. The work draws on published

statistics and archival materials, combining elements of statistical analysis and the historical-geographical method. To identify dominant trends in the region's demographic development from a historical perspective, one has to look at the changes in the major components of population replacement — the birth and mortality rates, — as well as their patterns. It is also necessary to use correspondent adjusted measures. Overall, regional specifics are necessarily explored using a comparative-historical approach, juxtapositions of national and regional trends, and comparisons with the performance of typologically similar Russian regions.

Theoretical framework

Analyses and explanations of the demographic processes of the contemporary period habitually use the demographic transition model, which originated in the works of Warren Thompson and Adolphe Landry and was finalised by Frank W. Notestein¹ and Kingsley Davis. Davis was the first to use the term 'world demographic transition' featured in the title of one of his articles [21; 22, p. 4—5]. This model, developed in the 1940s, sought to explain demographic changes in the West. Its 'classical' version described the transformation of replacement as a process consisting of four consecutive stages: high birth and death rates; a rapidly falling death rate and a still high birth rate (accompanied by a dramatic population growth); stabilisation of mortality and a slowly declining birth rate; a new equilibrium: low birth and death rates. Later, Charles Blacker's model gained popularity. It consisted of five stages, including 'diminishing', which is a transition to natural decline [22, p. 8]. In the second half of the 1960s—1970s, the theoretical apparatus of demography was augmented by Abdel Omran's epidemiological transition concept explaining the evolution (modernisation) of mortality. This new approach viewed the transition to the contemporary mortality model as a consequence of the fundamental change in the causes of death, the occurrence of diseases and the age pattern of mortality [23, p. 177—179]. The American geographer Wilbur Zelinsky, the author of the mobility transition concept, has analysed the historical role of migration in global demographic transformation [24, p. 232—246]. In the late 1980s, Ron Lesthaeghe and Dirk van de Kaa proposed the concept of the second demographic transition, which linked a sub-replacement fertility level observed in developed countries to a changing system of values, growing tolerance, independent choice of life strategies and the weakening connection between the marriage and childbirth [25, p. 4—8, 32—41; 26]. Da-

¹ On the 30th anniversary of the death of Frank W. Notestine, 2013, *Demoscop Weekly*, 575, URL: <http://www.demoscope.ru/weekly/2013/0575/nauka01.php> (accessed 15.07.2021).

vid Coleman's concept of a third demographic transition, which zeroes in on the growing proportion of immigrants with different cultural backgrounds in some European states, has sparked considerable debate [27, p. 78; 28].

The peculiarities of Russian demographic transition in contemporary historiography

The demographic transition concept, to which Russian researchers also contributed, is extensively used in national historiography when describing the social modernisation of Russian society [2; 4; 30]. The peculiarities of the demographic transition of *Russian society* are its delayed beginning as compared to Western Europe (the turn of the 20th century); its sporadic nature (a consequence of the social catastrophes of the first half of the 20th century); rapid development against the deformation of the age-sex composition; the long prevalence of exogenous factors in the evolution of demographic processes. Another distinctive feature is that the first phase of the demographic transition (a declining death rate and a high birth rate) lasted longer than in other countries because of a 'postponed' epidemiological transition repeatedly disrupted by the devastating consequences of the world and civil wars, the famines of 1932—1933 and 1946—1947, and the 'prematurely' falling birth rate, which undermined demographic compensation after the next social catastrophe [30, p. 287—306; 6, p. 140—43]. The accelerated transition to a new subtle balance between the birth and death rates is dated to the post-war period and its completion in the second half of the 1970s. At the time, the birth rate in Russia (the RSFSR) was near replacement level. The mortality structure changed, and nuclear families with one or two children became prevalent. The socio-cultural modernisation of Soviet society and waning control of the state over population replacement created the conditions for further change, an explanation of which was given within the second demographic transition concept. A new phase in the rapid evolution of the replacement system, as many researchers stress, was interrupted by the crisis of the 1990s [4, p. 219—223; 3, p. 539—541]. Along with depopulation and the nascent 'contraceptive revolution' [31], the last decade of the 20th century was marked by immigration becoming an important factor outweighing natural decline. As the most acute economic problems were solved, new generations replaced old generations, and the social policy and the age-sex structure changed; the first signs of transformations in replacement processes occurred, some of them resembling the features of the second demographic transition [32; 33].

Available statistics and earlier findings offer a preliminary answer to the question about the conformity of the Kaliningrad region variant of demographic development to the historiographic concept described above.

Regional demographic development factors in the newly established Kaliningrad region

In the first post-war years, the demographic situation in the young Russian region was shaped by migration and the aftermath of the war. The mass settlement of Soviet citizens and the deportation of the Germans remaining in the region caused the local population to change completely, and a new society with a different model of reproductive and matrimonial behaviour began to emerge on the territory.

Most migrants were coming to the region from Central and Northwestern Russia and the Belarusian SSR [33, p. 133—140; 34]. All the peculiarities rooted in the cultural traditions and socioeconomic history of each area of origin were evened out in the new place by mixed settlement (albeit communities of newcomers from the same area did appear), close everyday contacts, the institutions and mechanisms of the Soviet political system and the Soviet economic model [35, p. 70—78]. Many people arrived from the regions that had suffered the deprivations of the war and occupation, and most newcomers originated from national autonomies *actively involved in demographic modernisation*.

Until the mid-1950s, migration was the key factor in the population growth in the region. Later, natural increase played the dominant role [33, p. 90]². Population mobility would be a hallmark of the region in the years to come [36].

A major consequence of the intensive population of the region was an age-sex composition that bore the imprint of the demographic catastrophes of the first half of the 20th century and had visible disproportions in the most affected age groups, on the one hand, and differed from those of other regions of central and northwestern Russia in that it had *a much higher percentage of younger generations*, on the other [37, p. 62, 63, 86, 87, 96, 97; 38, p. 233—245]. Substantial military forces were maintained in the region; conscripts from many other regions of the country resided temporarily there. All this contributed to post-war demographic compensation and slowed down demographic ageing. Even if the earlier replacement model persisted, the region was expected to have a high birth rate. At the same time, the considerable degree of urbanisation and mobility, noticeable migration exchange between the city and the country, the higher percentage of newcomers from cities in the region's rural population [33, p. 85—90] and the large percentage of younger generations brought about faster sociocultural modernisation and demographic change. A crucial factor in the process was the deployment of the Soviet healthcare system. Against the backdrop of medical advances of

² The state archive of the Kaliningrad region (referred to below as SAKR). Fonds 181. Series 15. File 487. Folio 1.

the mid-20th century, commitment to universally accessible healthcare and health promotion stimulated the epidemiological transition. By the end of the 1950s, the region was one of the most successful in the USSR in terms of public healthcare [39, p. 32–35]³.

From post-war compensation to demographic stabilisation

In the population period, the region, just like the rest of the country, experienced demographic compensation due to births delayed during wartime. In the second half of the 1940s, the crude birth rate (CBR) remained high, despite the grave consequences of the famine of 1947, and was well above the RSFSR average (Fig. 1) and the rates observed in the regions of the settlers' origin. The total marriage rate (20–24 per 1,000 population) was also above the national average⁴. The compensation period lasted longer in Kaliningrad than in other Russian regions, owing to the relatively favourable population structure, and its results were more impressive.

The next decade, however, saw a 40% decline in the marriage rate; the CBR followed the same trend, dropping to 32 in 1955 and 22–23 in 1960–1961. The specific fertility rate calculated for the rural population was only 105 in 1958, compared to 172 in 1949⁵. The central factors in this reduction were the end of the compensation period and the 'urban' model of reproductive behaviour becoming dominant in this urbanised region. *Both the marriage and birth rates were falling more rapidly than on average in the USSR* [40, p. 57–61; 41, p. 254]. This could be an effect of the age composition of the region's population, replenished in the 1940s–1950s mostly by young people, and the peak of their marriage and reproductive behaviour (giving birth to the first and second child) coinciding with the demographic compensation [38, p. 241–245].

The age structure of fertility changed. In 1950, women aged 20–24 accounted for about 40% of all births and 52% of first child births (35 and 56.5 in 1959); the 25–29 age group, for 37.6 and 34.2% respectively (28.8 and 23 in 1959).

³ SAKR. Fonds 233. Series 6. File 33, Folios 1–8; Fonds 233. Series 6. File 119. Folios 54–65.

⁴ Calculated based on data from the Regional Statistics Department: SAKR. Fonds 181. Series 1. File 11. Folio 4; Series 3. File 3. Folio 65–67; Series 5. File 1, 2 verso; File 8. Folio 3, 3 verso, 22, 22 verso, 33, 33 verso; Series 7. File 3. Folio 4, 4 verso; Series 9. File 3. Folio 3 verso.

⁵ Calculated based on data from the Regional Statistics Department: SAKR. Fonds 181. Series 12. File 281. Folio 2 verso; Series 15. File 59. Folio 1; File 145. Folio 1 verso; File 241. Folio 7; File 353. Folio 3; Series 3. File 2. Folio 3; Series 7. File 4. Folio 20; Series 15. File 242. Folio 2.

The two categories of female population, whose age boundaries (20–29) were almost identical to those of the peak reproductive years (20–30), accounted for 78.6% of all births in 1950 and 63.8% in 1959⁶. Over the decade, the proportion of older age groups (chiefly, 30–34) increased in the total figure of births. The birth rate became ‘younger’ at the same time: the proportion of first children born by women aged 16–24 increased and by those aged 25–29 declined. These processes were much in line with the national trends in the fertility structure and the trends observed in Central Russia.

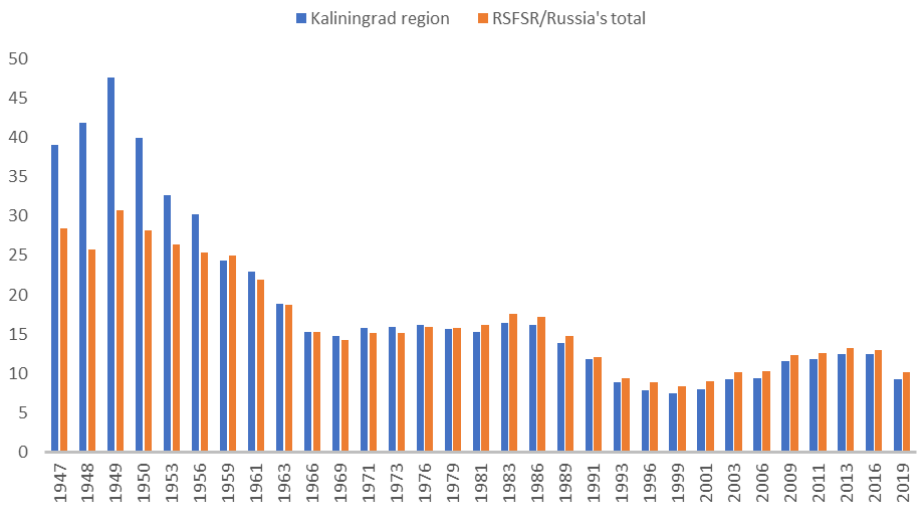


Fig 1. The crude birth rate in the Kaliningrad region of the RSFSR/Russia in 1947–2019 (births per 1,000 population)

Sources: calculated based on data from the Kaliningrad Regional Statistics Department⁷, official statistical publications⁸ and the website demoscop.ru⁹.

In the 1960s, the birth rate continued to decline against the background of population growth (the CBR decreased from 22 to 14.7 by the end of the decade). This trend was partly explained by a falling percentage of the population aged 20–35, which made the most substantial contribution to the birth statistics¹⁰.

⁶ Calculated based on data from the Regional Statistics Department: SAKR. Fonds 181. Series 5. File 8. Folio 5, 7; Series 15. File 353. Folio 48.

⁷ SAKR. Fonds 181.

⁸ *Kaliningrad region in digits. 2015, 2016*, Kaliningrad, vol. 1, p. 42–45 ; *Kaliningrad region in digits. 2020, 2021*, Kaliningrad, vol. 1, p. 44–47.

⁹ Birth and mortality rate, and natural change in Russia by region, 1970–2011, 2011–2018, 2018, *Demoscop Weekly*, URL: http://www.demoscope.ru/weekly/ssp/rus_reg_nat.php (accessed 12.12.2021).

¹⁰ Calculated based on data from the Regional Statistics Department: SAKR. Fonds 181. Series 13. File 633. Folio 1, 2.

However, a low CBR was recorded in the 1970s as well, when the new vast generation born during the post-war compensation entered the 'demographic scene'. The CBR edged up in the mid-80s, reaching 16.2 in 1986–1987, but the decline resumed in 1988, with the rate falling to 12.6 in 1990¹¹.

Evidence of fundamental changes in the reproduction behaviour of the region's population was the spread of birth control practices, artificial termination of pregnancy being the most common at the time. The number of abortions, legalised in 1955, was rapidly growing. In the second half of the 1950s, when 83,624 children were born in the region, the medical statistics recorded 166,194 artificial abortions, including 41,837 performed out-of-hospital¹². Data on births outside marriage offer an interesting angle on the evolution of demographic behaviour. If the rates recorded in the second half of the 1940s-early 1950s (over 20 % of all births) could be explained by a skewed age-sex ratio, and the decline of the 1950s by rectifying the skew, the gradual increase in the number of births out of marriage observed from the late 1950s (to 20–23 % in the 1970s)¹³, which coincided with a growing number of recorded abortions, is indicative of the spread of unofficial (de facto) marriages between members of younger generations.

A telltale sign of the demographic transition was a reduction in *mortality*: in 1949–1969, the crude death rate (CDR) dropped from 9.5 to 4.6 per 1,000 population. In cities and towns, this change was more rapid despite the alarming medical and environmental situation. The mortality rate was the lowest in the region's post-war history at the beginning of the 1960s (Fig. 2).

The most significant contribution to the positive change in the average values was a dramatic reduction in the infant mortality rate — from 90–108 per 1,000 live birth in the region's first years to 44–46 in the second half of the 1950s. The age structure of mortality also altered: child mortality accounted now for 25 % against 58 % earlier; that of people aged 50 and older, for 44 % compared to 15 %¹⁴. The 1950s witnessed the transition to the dominance of endogenous causes of death over all others: people in the region were most likely to die of cardiovascular diseases or tumours. Yet, mortality from infections, injuries, and intoxication remained high [42, p. 89–95]. All these changes, closely corresponding to

¹¹ Calculated based on data from the Regional Statistics Department: SAKR, Fonds 181. Series 20. File 670. Folio 1–3; File 869. Folio 5, 6; File 1109. Folio 8; File 1703. Folio 9–12.

¹² SAKR, Fonds 233. Series 6. File 7. Folio 24; File 14, Item 15; File 119, Item 54–60; File 165a, Item 14; File 197, Item 21.

¹³ SAKR, Fonds 181. Series 3. File 3. Folio 7, 17; Series 5. File 1. Folio 7, 36, 59; File 8. Folio 6; File 241. Folio 4–16.

¹⁴ Calculated based on data from the Regional Statistics Department: SAKR, Fonds 181. Series 7. File 3. Folio 4, 4 verso; Series 9. File 3. 3 verso; File 59. Folio 1; File 353. Folio 3.

the signs of Omran's epidemiological transition [22, p. 180—203], were possible due to advances in pharmacology, the establishment of a full-fledged healthcare system, prompt delivery of medicines to the region, and the successful solution of a range of sanitary problems. But mortality from some groups of causes (for instance, infections) was decreasing in the region at a slower rate than in Central and Northwestern Russia: the Vladimir, Bryansk, Novgorod and some other regions. The poor performance of Kaliningrad produced a sharp reaction from the republication Ministry of Healthcare.

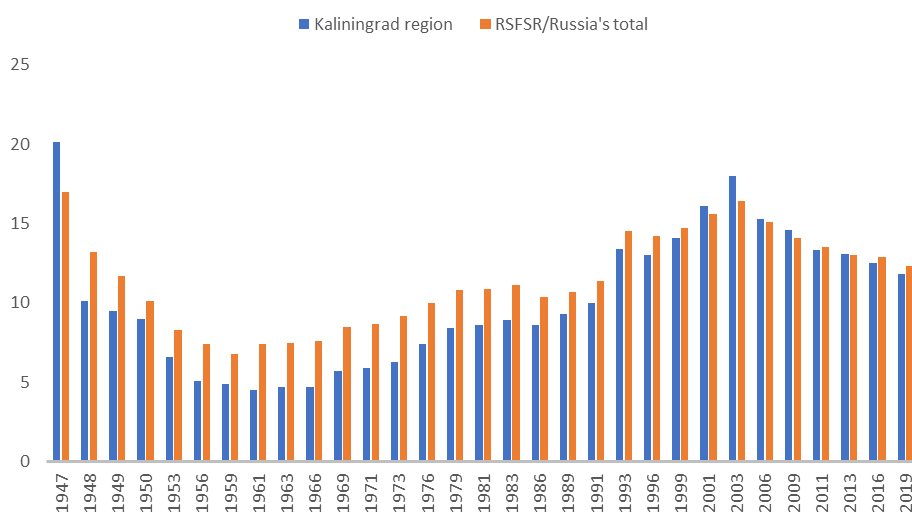


Fig 2. The crude death rate in the Kaliningrad region and the RSFSR/Russia in 1947—2019, deaths per 1,000 population

Sources: calculated based on data from the Kaliningrad Regional Statistics Department, official statistical publications¹⁵ and the website demoscop.ru¹⁶.

In the next decade, the CDR slightly increased in the region (from 4.5 in 1961 to 5.8 in 1970), following changes in the age composition, i.e. demographic ageing. Injuries and accidents, once the most common causes of death, slipped down one position, and infant mortality decreased substantially¹⁷.

The region completed the transition to a new balance of low mortality and low birth rates in the 1960s, but the necessary fundamental changes took place earlier, in the previous decade. The age pattern of deaths altered, with endogenous

¹⁵ *Kaliningrad region in digits. 2015, 2016*, Kaliningrad, 2016, vol. 1, p. 42—45 ; *Kaliningrad region in digits. 2020, 2021*, Kaliningrad, vol. 1, p. 44—47.

¹⁶ Birth and mortality rate, and natural change in Russia by region, 1970—2011, 2011—2018, 2018, *Demoscop Weekly*, URL: http://www.demoscope.ru/weekly/ssp/rus_reg_nat.php (accessed 12.12.2021).

¹⁷ SAKR. Series 13. File 633. Folio 1—3; Fonds 639. Series 1. File 40. Folio 32.

causes becoming the most common. The trend towards fewer children in a family prevailed; birth control within a family was gaining popularity. As life expectancy increased, the region's population started to age, entering the brief stage of demographic stability.

Juxtaposing the regional processes of the second half of the 1940s—1960s with the national ones highlights the features peculiar to Kaliningrad. Post-war compensation was more intensive and lengthier there: the birth rates in the region were much higher in its first decade than across the RSFSR. The CBR in 1948—1950 was well above the pre-war rate in the territories of the settlers' origin, which was not typical of Russian regions. In the late 1950s, the CBR in Kaliningrad approached the RSFSR average. And the adjusted mortality rate, which had an exceptionally favourable age structure, did not differ from the national average for long. During the study period, Kaliningrad, like the other regions of the RSFSR, underwent a sea change in the age pattern of death, and the hierarchy of the causes of death altered as well. However, the key trends in the evolution of the population replacement model were very similar in the region to those observed at the time in Central Russia.

The migration factor and demographic development at the turn of the century

In the 1970s-early 1980s, the region had a balanced demographic makeup. The CBR still varied between 15 and 16; adult mortality was slowly growing, with the CDR reaching 8.9 in 1985; infant mortality was decreasing (Fig. 1, 2). Cardiovascular diseases, primarily heart conditions, and tumours became common causes of death¹⁸. The region saw a small natural increase.

In the late 1980s, the region, like the rest of the country, was on the brink of a demographic crisis, whose peak occurred in the 1990s-early 2000s. The CBR dropped to 11.8 in 1988—1991 and 8.0 in the next five years; the CDR rocketed from 8.7 in 1987 to 10 in 1991 and 13.6 in 1995. A natural population decrease has been observed in the region since 1992 (Fig. 3)¹⁹. Exogenous factors, such as car accidents, occupation and general injuries, murder, poisonings and suicide, once again ranked second amongst the top causes of death²⁰. A slight increase in the adjusted measures was first registered in 2000—2002; mortality began to decline later, in 2006 (Fig. 2).

¹⁸ Calculated based on data from the Regional Statistics Department: SAKR. Fonds 181. Series 20. File 670. Folio 1—3; File 869. Folio 5, 6; File 1703. Folio 9—12.

¹⁹ Calculated based on data from the Regional Statistics Department: SAKR. Fonds 181. Series 20. File 670. Folio 1—3; File 869. Folio 5, 6; File 1703. Folio 9—12; *The demographic yearbook of the Kaliningrad region*, 1998, Kaliningrad, p. 8—14.

²⁰ *The demographic yearbook of the Kaliningrad region*, 1998, Kaliningrad, p. 45—48.

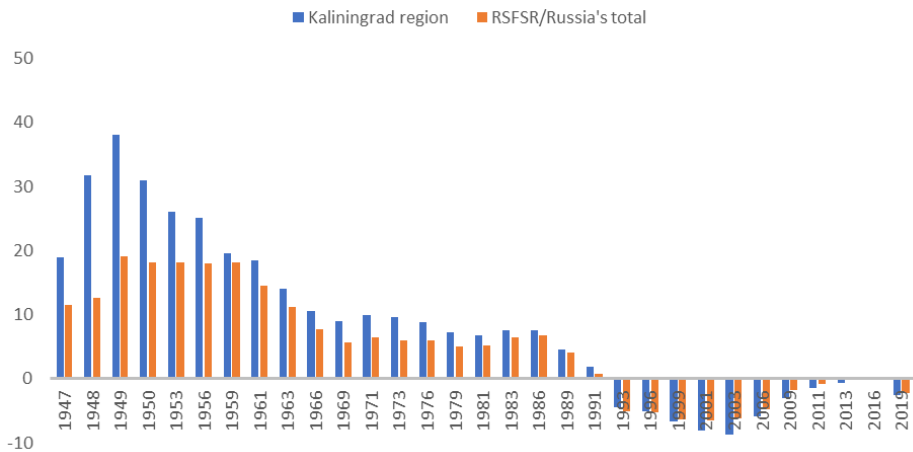


Fig 3. Rates of natural increase in the Kaliningrad region of the RSFSR/Russia in 1947–2019

Sources: calculated based on data from the Kaliningrad Regional Statistics Department²¹ and the website *demoscop.ru*²².

The situation of the 1990s–2000s displayed signs of a demographic crisis: sub-replacement fertility, rising mortality and temporal shifts in the hierarchy of causes of death were accompanied by a crisis in the institution of marriage and the destabilisation of the family. In our opinion, these demographic dynamics should not be regarded as equivalent to Lesthaeghe and Kaa's second demographic transition: the effect of the deplorable economic situation and the perplexing socio-cultural climate of the first post-Soviet decade, marked by radical transformations and vast immigration was overwhelming [43, p. 37–39].

In the post-Soviet period, which witnessed the transition to sub-replacement fertility, the contribution of immigration to population growth increased. In 1992–1999, as mortality rose leading to natural decline, the population of the region grew through migration, primarily from former Soviet republics. In 1999–2009, net migration reduced, causing the population of the Kaliningrad region to decrease. Since 2010, the region has experienced demographic growth, immigration being an essential factor in it. Russia's westernmost territory became extremely attractive to migrants, having welcomed 43,000 par-

²¹ SAKR. Fonds 181.

²² Birth and mortality rate, and natural change in Russia by region, 1970–2011, 2011–2018, 2018, *Demoscop Weekly*, URL: http://www.demoscope.ru/weekly/ssp/rus_reg_nat.php (accessed 12.12.2021).

ticipants in the national repatriation programme and their family members in 2007–2018. With net migration reaching 82,000 people over the period, one can safely assume that the programme was responsible for half of all the arrivals. Most repatriates came to the region from Kazakhstan, Ukraine, Uzbekistan and Kyrgyzia. The programme also attracted people from Belarus, Lithuania, Latvia, Estonia, Germany and Israel. Another visible phenomenon in that decade was student immigration.

Mass immigration concurred with, and probably stimulated, an increase in the birth rate. In 2001–2005, the CBR soared from 8 to 12.7 (Fig. 1). The total fertility rate started to grow in 2006 (Fig. 4). The regional rate of natural increase was above the national average (Fig. 3), but it never reached the levels of the 1980s–1990s. The CBR fell from 12.4 in the CBR to 9.2 in 2019. The gap between the regional and national average TFR widened substantially.

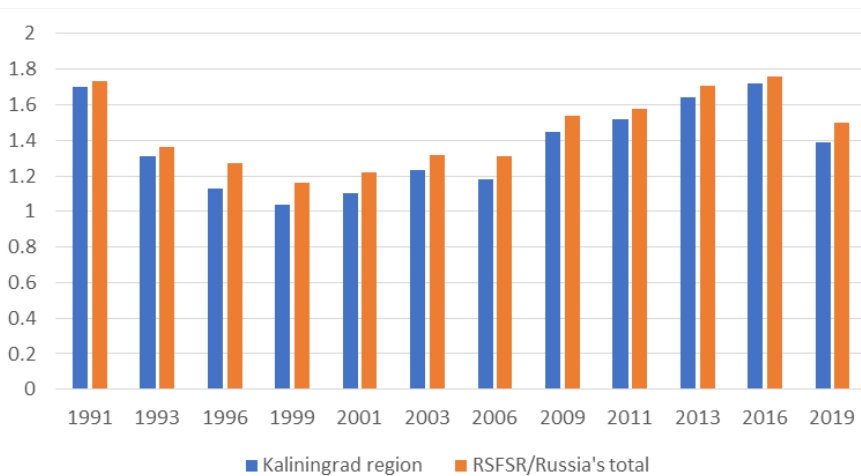


Fig. 4. The total fertility rate in the Kaliningrad region of the RSFSR/Russia in 1991–2019

Sources: data from official statistical publications²³ and the website demoscop.ru²⁴.

In the post-Soviet period, the age pattern of fertility changed as well: the contribution of women of older groups increased, much in line with the national trend (Table).

²³ *Kaliningrad region in digits. 2015, 2016*, Kaliningrad, vol. 1, p. 42–45 ; *Kaliningrad region in digits. 2020, 2021*, Kaliningrad, vol. 1, p. 44–47.

²⁴ Birth and mortality rate, and natural change in Russia by region, 1970–2011, 2011–2018, 2018, *Demoscop Weekly*, URL: http://www.demoscope.ru/weekly/ssp/rus_reg_nat.php (accessed 12.12.2021).

**Age-specific fertility rate in the Kaliningrad region/Russia
in 1991, 1999, 2006 and 2016**

Year	Births per 1,000 women aged						
	15—19	20—24	25—29	30—34	35—39	40—44	45—49
1991	57.1/54.2	144.7/145.9	75.7/82.7	43.7/41.5	16.5/16.5	3.7/3.7	0.3/0.2
1999	28.6/28.9	83.9/91.8	56.2/63.7	26.8/32.2	9.9/11.1	1.8/2.2	0.1/0.1
2006	25.8/28.6	75.5/85.8	71.3/78.2	43.3/46.8	17.5/18.7	3.1/3.1	0.2/0.1
2016	17.6/21.5	80.6/87.2	110.9/111.5	86.3/84.4	43.4/41.0	8.8/8.8	0.5/0.5

Sources: prepared based on data from official statistical publications²⁵ and the website demoscop.ru²⁶.

As the marriage rate gradually decreased, the average age at marriage grew. The percentage of births outside marriage stabilised at 18—19.5 % of all births. The number of abortions decreased significantly in the post-Soviet period, to 50—57 per 100 births, betokening the completion of the ‘contraceptive revolution’ in the region.

In 2006—2018, the mortality rate fell from 16.5 to 11.8‰, as the population continued to age, the socioeconomic situation stabilised, and social welfare measures were introduced²⁷. Probably, the age-sex structure of the new arrivals to the Kaliningrad region, including participants in the repatriation programme, had a pivotal role in this positive change.

Demographic development in the Kaliningrad and Sakhalin regions: problem setting

A study of the demographic history of Russia’s westernmost territory cannot be comprehensive without comparing regional trends and indicators with not only national ones but also those registered in typologically similar regions. A territory often likened to Kaliningrad is the Sakhalin region, whose population

²⁵ *The demographic yearbook of Russia*, 2008, Moscow, p. 95—97 ; *Kaliningrad region in digits. 2015, 2016*, Kaliningrad, vol. 1, p. 42—45 ; *Kaliningrad region in digits. 2020, 2021*, Kaliningrad, vol. 1, p. 44—47.

²⁶ Birth and mortality rate, and natural change in Russia by region, 1970—2011, 2011—2018, 2018, *Demoscop Weekly*, URL: http://www.demoscope.ru/weekly/ssp/rus_reg_nat.php (accessed 12.12.2021).

²⁷ *Kaliningrad region in digits*, 2016, Краткий статистический сборник, Kaliningrad, p. 25—27 ; *Kaliningrad region in digits*, 2020, Статистический сборник. Kaliningrad, vol. 1, p. 39, 41, 128.

was shaped by resettlement campaigns and the mass migration of the post-war decades. But whilst an entirely new society was forming in the young Kaliningrad region in the late 1940s—1950s, the newcomers to Sakhalin were joining an already existing sociodemographic environment (the north of the island was part of the USSR before 1945). The authorities of both Sakhalin and Kaliningrad had to deal with the outflow of the newcomers; the process was more visible in the west due to the ease of reaching one's region of origin or a territory with better infrastructure [46, p. 98—101].

Differing in not only nature and geography but also their economic strong points, the regions had disparate demographic characteristics. The all-Union census of 1959 showed that the age-sex composition of the Kaliningrad region was very similar to that of Bryansk and other territories of Central Russia — where people were coming from after the war to the newly established region. The demographic situation on Sakhalin looked different in the census: the ratio between men and women was more favourable, even in the groups that suffered the most from the war. When populating the region, agricultural migration was secondary to the recruitment of fishers and industrial workers. Therefore, most of the newcomers were men [39, p. 240—246]. Like the Kaliningrad region, Sakhalin was amongst the most urbanised regions of the RSFSR, and the rural population declined more rapidly there after the disintegration of the USSR. The birth rate gradually decreased in both regions. The population of the Kaliningrad region grew markedly: from 881,000 people in 1990 to over 1 million in 2019. Another distinguishing trait of the region was an increase in the rural population. In the Sakhalin region, the population was declining: the territory lost almost one-third of its people, about 230,000, in 1992—2018. Yet a slight increase was observed in 2015—2017. Life expectancy in the Sakhalin region, which is conspicuous for premature ageing, is amongst the lowest in Russia; Kaliningrad performed much better on this measure [47, p. 6—12; 48, p. 78—82].

The demographic history of the Sakhalin and Kaliningrad regions followed the national trend towards a change in the replacement type, yet each had its own distinctive features. Further work needs to be done to produce an extensive comparison of the demographic trajectory of the two 'newly settled' regions of Russia.

Conclusions

This study has distinguished five stages in the demographic history of Kaliningrad. At the first stage (the late 1940s-early 1950s), the population of the territory changed completely. The then mass migration was spurred by the transition from

war to peace (demobilisation and repatriation) and the integration of the new territory into the Soviet socioeconomic space (planned settlement and urbanisation). Replacement processes were greatly affected by the age-sex composition of the newcomer groups, migration from other regions of the country and post-war demographic compensation. The population of the region was made up by migrants from Central and Northwestern Russia and the Belarusian SSR. An important factor in the region's socioeconomic development was the transfer of demographic development models from the territories of the settlers' origin. The young region had a very high marriage rate and high birth and death rates; infections, traumas and other exogenous factors were the most common causes of death.

In the mid-1950s—1960s, the migration factor faded in significance. Although populating the region was largely completed, migration between the territory, on the one hand, and the other regions of the RSFSR and the Union republics, naturally continued. The process central to this stage was a change in the population replacement model. As the post-war compensation ended, the birth rate began to fall. Child, and particularly infant, mortality plummeted. The age pattern of change altered, with endogenous factors prevailing over exogenous ones; life expectancy increased, and the trend towards population ageing emerged. The new balance between the birth and mortality rates was reached in Kaliningrad earlier than in many other regions of the RSFSR. Having moved out of the 'state of emergency' of the first post-war years, the region developed demographically in a very similar way to Central Russia, with the adjustment for younger average age and ensuing beneficial consequences, such as slower population ageing.

The 1970s and most of the 1980s were a relatively stable period in the demographic history of the region, the 'halcyon days' between the turbulence of the previous stage and the forthcoming crisis. Although population ageing and the growing catalogue of social problems caused the death rate to speed up, the region maintained a steady natural increase bolstered by a stable birth rate, which, however, was falling below the RSFSR average. The death rate, due to a younger average age of the population, was below the RSFSR average and the values observed in the regions of the settlers' origin (Bryansk, Smolensk, Leningrad and others).

In the last years of Perestroika (1989—1991), the fourth stage began, marked by a severe demographic crisis: a rapid decline in the birth rate, rising mortality at both older and younger ages, and an accelerating trend towards depopulation, which was clearer in Kaliningrad at the turn of the century than in most Russian regions. Nevertheless, Russia's Baltic exclave managed to attract migrants in the

‘wild 90s’: despite a limited natural increase and out-migration, the population of the region grew, providing the groundwork for demographic recovery once the economic situation improved and the political situation stabilised.

As the most blatant manifestations of the crisis receded in the 2000s, the new, fifth, stage in the region’s demographic development began. The trend reversed, and the birth rate began to improve; the death rate slowly declined. And after 2010, the region once again became one of the most attractive to migrants. In 2019, net migration per 1,000 population rose to 12.9, compared to the national average of 1.9. Depopulation, however, was not overcome: the region still suffered a natural population decrease. Just before the COVID-19 pandemic, in 2019, Kaliningrad had a total fertility rate below the national average (1.392 against 1.504), a longer life expectancy at birth (73.56 against 73.34) and a lower crude death rate (11.8 against 12.3).

Therefore, as discussed above, demographic development in the Kaliningrad region had the same direction and occurred almost simultaneously with similar changes on a national scale both in the first post-war years and in the later decades. Consequently, the ‘ideal model’ of demographic development in Russia, proposed by national researchers [2–4; 30], is generally applicable for conceptualising the factual material on the population development in the Kaliningrad region until the end of the 20th century. Except for the first stage, the region’s development trajectory was very similar to that of Central Russia, with the adjustment for the considerable contribution of migration.

The findings of this research may help create a concept of the social history of the Kaliningrad region and launch a programme for comparative studies aimed to describe the features of regional demographic development in comparison to typologically similar ‘newly settled’ territories and the regions of the newcomers’ origin.

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CHANGING SIGNIFICANCE OF RUSSIAN REGIONS' RESEARCH AND TECHNOLOGY CAPACITY COMPONENTS

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This article offers data that can be used in comparative studies of research and technology capacity at the level of Russian regions. The database comprises six indicators of the development of personnel-related and financial components of a national research and technology system and research results as evinced in research publications and advanced manufacturing technologies that appeared in 2010–2020. This set of interconnected indicators makes it possible to evaluate Russian regions' research and technology capacity and research output, which affect the degree of development of the innovative environment. The data on regional research output may be of assistance to further regional socio-economic research. The data set includes statistical indicators for 85 Russian regions for 2010–2020, as reported by ROSSTAT. The data on the number of publications and variations therein were obtained from Scopus, the largest unified curated multidisciplinary abstract and citation database. The results are presented as tables and cartographical materials (three tables and six map charts).

Keywords:

research and technology potential, geography of science, scientometrics, research staff, R&D financing

Data specification

Subject	Geography, Planning and Development
Type of data	Tables Figures
Sources of data	Statistical data were obtained from the official statistical information sources, i.e. the Federal State Statistics Service of the Russian Federation (ROSSTAT): Regions of Russia. Social and Economic Indicators and the Unified Interdepartmental Statistical Information System (UISIS). The data on the number of academic publications were exported from the bibliographic and abstracts database of peer-reviewed Scopus journals, with subsequent export to SciVal.
Data format	Raw data Stratified data

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Data collection process	<p>The data collected include several key indicators regarding human and financial resource availability, as well as those characterising results performance in Russian regions. These indicators are commonly used for the assessment of the scientific and technological potential of territories. The data were structured by combining information from statistical information sources and the Scopus database, with a subsequent normalisation of all indicators per 1,000 population.</p>
Location of the regions which provided statistical information	<p>The Central Federal District (18 regions): the Belgorod region, the Bryansk region, the Vladimir region, the Voronezh region, the Ivanovo region, the Kaluga region, the Kostroma region, the Kursk region, the Lipetsk region, the Moscow region, the Oryol region, the Ryazan region, the Smolensk region, the Tver region, the Tula region, the Yaroslavl region and Moscow</p> <p>The Southern Federal District (eight regions): the Republic of Adygea, the Republic of Kalmykia, the Republic of Crimea, the Krasnodar Krai, the Astrakhan region, the Volgograd region, the Rostov region, and the city of Sevastopol</p> <p>The Northwestern Federal District (11 regions): the Republic of Karelia, the Komi Republic, the Arkhangelsk region, the Vologda region, the Kaliningrad region, the Leningrad region, the Murmansk region, the Novgorod region, the Pskov region, the Nenets Autonomous District, and the city of Saint-Petersburg</p> <p>The Far Eastern Federal District (nine regions): the Republic of Sakha (Yakutia), Kamchatka Krai, Primorsky Krai, Khabarovsk Krai, the Amur region, the Magadan region, the Sakhalin region, the Jewish Autonomous Region, and the Chukotka Autonomous District;</p> <p>The Siberian Federal District (12 regions): the Republic of Altai, the Republic of Buryatia, the Republic of Tuva, the Republic of Khakassia, the Altai Krai, the Transbaikalia Krai, the Krasnoyarsk Krai, the Irkutsk Region, the Kemerovo Region, the Novosibirsk Region, the Omsk Region, the Tomsk Region;</p> <p>The Ural Federal District (six regions): the Kurgan region, the Sverdlovsk Region, the Tyumen Region, the Chelyabinsk Region, the Khanty-Mansi Autonomous District-Yugra, the Yamal-Nenets Autonomous District;</p> <p>The Volga (Privolzhsky) Federal District (14 regions): the Republic of Bashkortostan, the Republic of Mari-El, the Republic of Mordovia, the Republic of Tatarstan, the Udmurt Republic, the Chuvash Republic, the Kirov Region, the Nizhny Novgorod Region, the Orenburg Region, the Penza Region, the Ulyanovsk Region, the Samara Region, the Saratov Region, the Perm Krai;</p> <p>The North Caucasian Federal District (seven regions): the Republic of Dagestan, the Republic of Ingushetia, the Kabardino-Balkarian Republic, the Karachay-Cherkess Republic, the Republic of North Ossetia-Alania, the Chechen Republic, the Stavropol Krai</p>
Data availability	<p>The data are available in this article and the Mendeley Data Repository: Peker, Irina (2022), "Scientific and technical potential of Russian regions, 2010—2020", Mendeley Data, V1, doi: 10.17632/3ykgg9mhrs.1</p>

Value of the data

The traditional approach to assessing the scientific and technological potential of a territory involves the analysis of a set of statistical indicators reflecting the availability of resources, as well as the effectiveness of research and development performance, for example, through exploring patent activity [1–3]. In this article, research and development (R&D) is interpreted as a process of generating new knowledge. Performance indicators for this process can be determined by tracking the research productivity of actors, which can be measured, for example, by the number of academic publications [4–8].

This dataset, which includes scientometric indicators, makes it possible to compare the availability of resources and research output of different regions of Russia and to reveal regional characteristics that cannot be identified by analysing conventional indicators commonly used for the assessment of scientific and technological potential. Numerical data on the generation of new knowledge are used in the geography of knowledge and innovation and spatial scientometric methodologies [9; 10].

The datasets compiled can be used by federal and regional authorities when working out programmes and strategies for scientific and technological development, as well as by experts assessing the scientific and technological potential of territories.

Research methodology

Official statistical information obtained from the Federal State Statistics Service was used to compile a set of statistical indicators reflecting the level of resource provision for the development of science and technology, R&D performance and output. The datasets compiled contain socioeconomic indicators for Russian regions: average annual population, engagement in research and development, and R&D expenditures. The data exported from the Unified Interagency Information and Statistics System (UIISS) were used to calculate the share of regional expenditure on research and development as a percentage of the gross regional product.

Building an academic publication database required manually compiling datasets for each region of the Russian Federation, using the advanced search filters of the Scopus database. For this purpose, a list of cities shown in Scopus in the 'Affiliations' section was used (two filters were employed for the search: 'Russia' [5 search hits], i.e., organisations, and 'Russian Federation' [1,560 search hits]). This was done to make a search query for publications by city that would search for all organisations located or affiliated with these cities and having Scopus profiles. This list covers cities, towns, villages and municipal districts. Organisations affiliated with these territorial units were included in the list for further analysis.

After the exclusion of duplicates, 181 cities and towns, 16 villages, 9 municipal districts and 6 urban settlements having research organisations registered in Scopus were identified.

Afterwards, a search query was compiled for each city to obtain information on the number of academic publications. An example of a search query for Kaliningrad is given below:

AFFILCOUNTRY(russia) AND (AFFILCITY(kaliningrad) OR AF-ID("Immanuel Kant Baltic Federal University" 60031254) OR AF-ID("Kaliningrad State University" 60069251) OR AF-ID("Kaliningrad State Technical University" 60018744) OR AF-ID("Baltic State Academy of Fishing Fleet" 60095508) OR AF-ID("All-Union Scientific Research Institute for Synthetic Fibres" 60084534)) AND (LIMIT-TO (PUBYEAR,2020) OR LIMIT-TO (PUBYEAR,2019) OR LIMIT-TO (PUBYEAR,2018) OR LIMIT-TO (PUBYEAR,2017) OR LIMIT-TO (PUBYEAR,2016) OR LIMIT-TO (PUBYEAR,2015) OR LIMIT-TO (PUBYEAR,2014) OR LIMIT-TO (PUBYEAR,2013) OR LIMIT-TO (PUBYEAR,2012) OR LIMIT-TO (PUBYEAR,2011) OR LIMIT-TO (PUBYEAR,2010))*

The publication data for the Russian cities analysed were then grouped by region, according to the official territorial division. In this study, the focus was on academic publications — journal articles, reviews, preprints, conference proceedings, books and chapters — indexed in Elsevier's Scopus database between 2010 and 2020.

Data description

The collected data cover 85 Russian regions and academic publications by R&D organisations affiliated with these regions during 2010–2020. To compare indicators for the Republic of Crimea and the city of Sevastopol, the data were taken for 2020 and 2014. Data collection was conducted from February to March 2020 (the data for 2020 were supplemented by additional information in 2021).

The data are grouped according to the main indicators of the scientific and technological potential of regions: human and financial resources, research performance and output. The indicators used in the database are given in Table 1.

Table 1

Indicators of the scientific and technological potential of a region

Indicator	Calculation	Data source
The number of people engaged in research and development per 1,000 population, people	Calculated as the ratio of the number of people engaged in research and development to the average annual population of the region	Federal Service of State Statistics / Rosstat

The end of the Table 1

Indicator	Calculation	Data source
Number of researchers having academic degrees per 1,000 population, people	Calculated as the ratio of the number of researchers having academic degrees to the average annual number of a region's population	Federal Service of State Statistics / Rosstat
Domestic spending on research and development per 1,000 population, million roubles	Calculated as the ratio of regional spending on research and development to a region's average annual population	Federal Service of State Statistics / Rosstat
Share of regional spending on research and development, % of the gross regional product (GRP)	Raw data	Unified Interagency Information and Statistics System (UIISS)
Advanced production technologies used per 1,000 population, each	Calculated as the ratio of the number of advanced production technologies to a region's average annual population	Federal Service of State Statistics / Rosstat
Number of publications in Scopus-indexed journals per 1,000 population, each	Calculated as the ratio of the number of publications in Scopus-indexed journals to a region's average annual population	Scopus, Federal Service of State Statistics / Rosstat

Since Russian regions vary dramatically in size, the indicators were reduced to their relative values. The absolute indicators were divided by 1,000 population. Figure 1 shows the differentiation of Russian regions according to the number of personnel engaged in research and development per 1,000 population.

Significant positive changes in the number of R&D personnel were revealed in the regions initially having a below average scientific workforce: the Yamal-Nenets Autonomous District, the Republic of Ingushetia, the Republic of Crimea, the Stavropol Krai and the Lipetsk region. In these regions, the average annual rate of growth in scientific personnel exceeds 5 per cent. In contrast, regions initially having a considerable number of R&D personnel saw a slight decline. For example, regions with over 5,000 researchers show a 0.4 per cent decrease in their number annually.

The largest part of the scientific workforce is concentrated in bigger cities: Moscow, St. Petersburg, Nizhny Novgorod, and the Moscow and Tomsk regions. Table 2 demonstrates how Russian regions differ in the number of personnel engaged in R&D per 1,000 population and per employee.

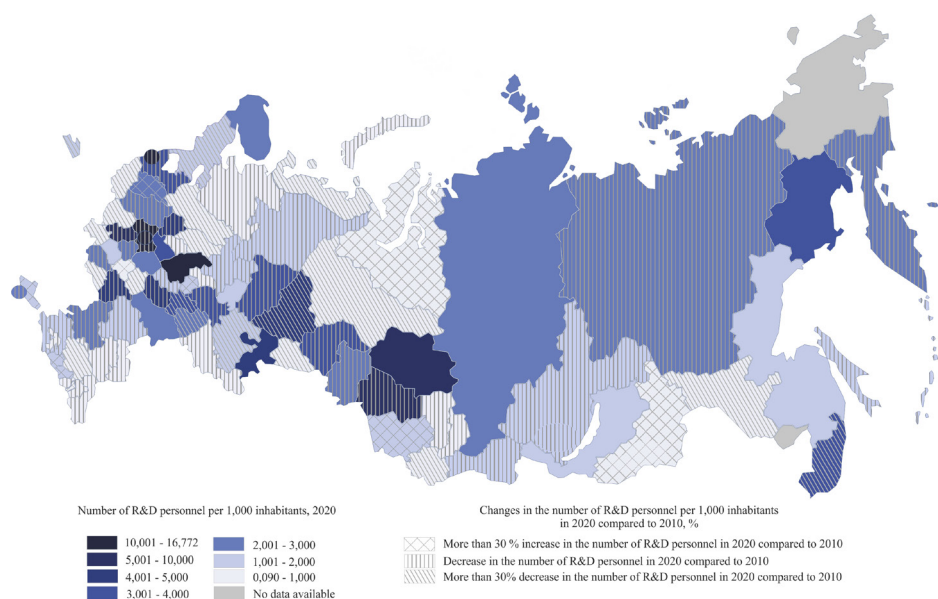


Fig. 1. Number and dynamics of personnel, engaged in research and development in the regions of the Russian Federation, per 1,000 inhabitants, 2010—2020 [11; 12]

Table 2

Distribution of Russian regions by the number of personnel engaged in R&D in 2020, absolute/relative indicators, people [11; 12]

27—1,000 / 0.090—1.000 per 1,000 population	1,001—10,000 / 1.001—4.000 per 1,000 population	1,001—212,441 / 4.001—16.772 per 1,000 population
<i>Central and Northwestern Federal Districts</i>		
The Oryol** , Smolensk, Arkhangelsk, Tambov, Ivanovo, Vologda, Lipetsk, Bryansk, Pskov and Kostroma regions; the Nenets Autonomous District	The Kaluga*** , Yaroslavl***, Vladimir, Leningrad, Tula, Tver, Murmansk, Kursk, Novgorod, Ryazan, Belgorod* and Kaliningrad regions; the Republics of Karelia and Komi	Moscow, St. Petersburg; the Moscow and Voronezh regions
<i>Southern, Volga, North Caucasus and Ural Federal Districts</i>		
Republics: Karachay-Cherkess**, Mordovia**, North Ossetia-Alania, Kalmykia, Adygea, Ingushetia, Chechnya, Mari El; the Kurgan, Astrakhan, Orenburg regions; the Yamal-Nenets Autonomous District	The Penza***, Ulyanovsk, Tyumen, Samara, Saratov, Volgograd, Kirov regions; Republics: Bashkortostan, Udmurt, Crimea, Chuvash, Kabardino-Balkaria, Dagestan*; the Perm, Krasnodar, Stavropol* regions; Sevastopol; the Khanty-Mansi Autonomous District-Ugra*	The Nizhny Novgorod, Sverdlovsk, Chelyabinsk and Rostov** regions; the Republic of Tatarstan**

The end of the Table 2

27—1,000 / 0.090—1.000 per 1,000 population	1,001—10,000 / 1.001—4.000 per 1,000 population	1,001—212,441 / 4.001—16.772 per 1,000 population
<i>Siberian and Far Eastern Federal Districts</i>		
Magadan**, Sakhalin**, Amur regions; the Kamchatka**, Transbaikal Krai; the Republics: Tyva, Altai, Khakassia	The Tomsk***, Omsk, Irkutsk, Kemerovo* regions; the Primorsky, Krasnoyarsk, Khabarovsk, and Altai territories; the Republics: Sakha (Yakutia), Buryatia	Novosibirsk Oblast is creating new jobs in manufacturing industry.

Comment: *0.090—1.000 people per 1,000 population; **1.001—4.000 people per 1,000 population; ***4.001—16.772 people per 1,000 population.

Amongst the regions where the number of scientific personnel ranges between 27 and 1,000 people, the relative index is 0.090—1.000 people per 1,000 population. However, some regions in this group are comparable with those having a higher percentage of R&D human resources (for example, the Magadan, Sakhalin and Oryol regions, the Tyva Republic, Mordovia, Karachay-Cherkess and Kamchatka). Regions in the second group have 1.001—4.000 people engaged in research and development per 1,000 population. But the indicators of the Tomsk, Kaluga, Yaroslavl, and Penza regions, which belong to the second group, correspond to those of the third group. The third group, with a scientific personnel of 4.001—16.772 people per 1,000 population, consists of 12 regions with Moscow, St. Petersburg, Nizhny Novgorod, and Moscow regions holding top positions.

Figure 2 shows the number of researchers having academic degrees in Russian regions and changes in the number. Moscow boasts the largest number of researchers with academic degrees. St. Petersburg and the Novosibirsk, Tomsk, Moscow and Magadan regions are also in the leading group. Since 2010, the largest increase in the number of researchers with academic degrees has been registered in the Lipetsk region and the Altai Krai (155 and 135 per cent, respectively). The most considerable decrease in the number of researchers with academic degrees was observed in the Tver, Kaluga, Amur, Sakhalin and Pskov regions, the Chechen Republic and the Khanty-Mansi Autonomous District-Ugra. No correlation was found between the number of researchers having academic degrees and changes in their number. Yet, amongst the regions boasting the largest number of researchers, there is a tendency towards a decrease in the number of academics having various academic degrees.

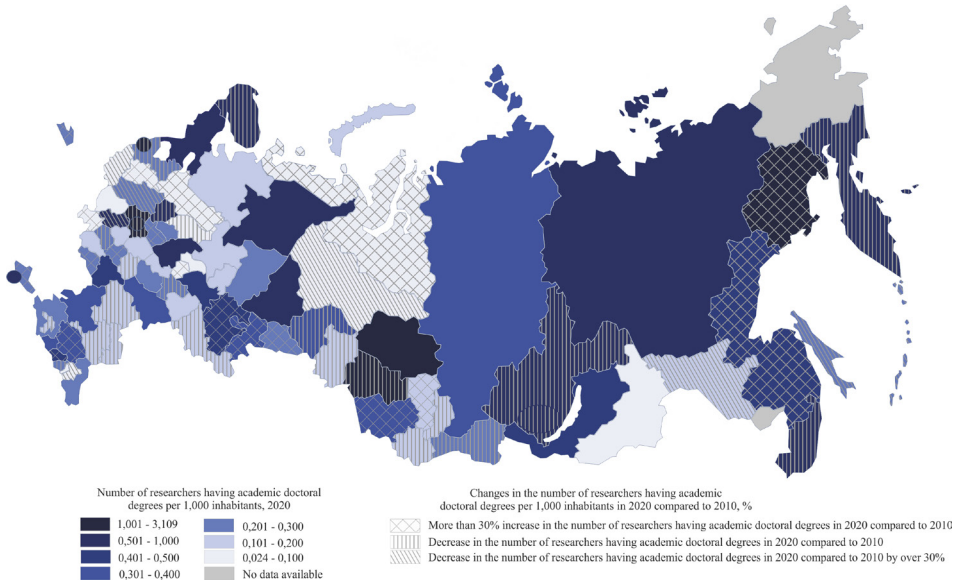


Fig. 2. Number and dynamics of researchers having doctoral degrees in Russian regions per 1,000 inhabitants, 2010—2020 [11; 12]

In contrast to scientific personnel potential, the volume of R&D funding is annually growing in Russia. Since 2010, domestic spending on research and development has more than doubled, and the average annual growth of the volume of funding has reached 8.5 per cent.

Figure 3 presents the distribution of Russian regions by the volume of domestic spending on R&D. The analysis of the distribution of R&D expenditures per 1,000 population shows that Moscow, the Nizhny Novgorod Region, St. Petersburg, and the Moscow Region spend more on R&D than other territories in their group. Most regions recorded an increase in spending on research and development, except the Kaluga region (a 9.7 per cent reduction in 2020 in comparison with 2010) and the Nenets Autonomous District (a 19.6 per cent decrease). The Yamal-Nenets Autonomous District, Sevastopol, the Lipetsk region, the Republic of Crimea, the Republic of Ingushetia and the Pskov Region had the highest average annual growth in R&D spending. The average annual growth in R&D domestic spending in the rest of the regions was below 20 per cent.

Table 3 presents the distribution of Russian regions according to absolute and relative indicators of R&D expenditures. The first group includes 27 regions with the lowest R&D spending. Yet, in 2020, Magadan invested an impressive 5,836 million roubles per 1,000 population in R&D, placing the region in the third group. The Kaluga, Tula, Yaroslavl regions and the Kamchatka Krai also belong to the third group according to the relative volume of R&D expenditures.

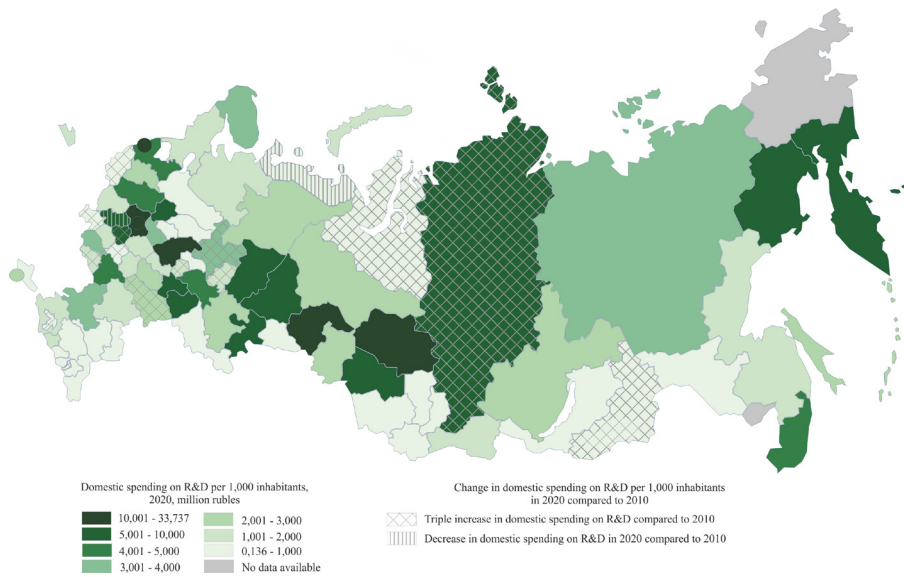


Fig. 3. Volume and dynamics of domestic spending on research and development per 1,000 inhabitants, 2010—2020 [11; 12]

Table 3

Distribution of Russian regions by the volume of R&D spending, absolute and relative indicators, million rubles, 2020

32.1 — 1,000.0 / 0.136 — 1.000 per 1,000 population	1,000.0 — 10,000.0 / 1.001 — 5.000 per 1,000 population	10,000.1 — 427,329.3 / 5.001 — 33.737 per 1,000 population
<i>Central and Northwestern Federal Districts</i>		
The Vologda, Ivanovo, Oryol**, Bryansk, Pskov, and Kostroma regions; the Nenets Autonomous District	The Leningrad, Tver, Tula***, Kursk, Yaroslavl***, Kaluga***, Smolensk, Vladimir, Tambov, Belgorod, Murmansk, Kaliningrad, Arkhangelsk, Ryazan, Novgorod, Lipetsk* regions; the Komi Republic	Moscow, St. Petersburg; the Moscow and Voronezh** regions
<i>Southern, Volga and North Caucasus Federal Districts, Ural Federal Districts</i>		
The Orenburg, Kurgan, and Astrakhan regions; the Republics of Kabardino-Balkaria, Karachay-Cherkess**, the Chechen Republic, North Ossetia-Alania, Adygea, Mari El, Kalmykia, and Ingushetia; the Yamal-Nenets Autonomous District	The Saratov, Volgograd, Penza, Kirov regions; the Krasnodar, Stavropol* regions; the Republics: Chuvash, Udmurt, Crimea*, Dagestan*, Mordovia; the Khanty-Mansi Autonomous District — Ugra; the city of Sevastopol	The Nizhny Novgorod, Samara, Chelyabinsk, Tyumen, Sverdlovsk, Rostov**, Ulyanovsk regions; the Republics of Tatarstan**, Bashkortostan**; the Perm Krai

The end of the Table 3

32.1 — 1,000.0 / 0.136 — 1.000 per 1,000 population	1,000.0 — 10,000.0 / 1.001 — 5.000 per 1,000 population	10,000.1 — 427,329.3 / 5.001 — 33.737 per 1,000 population
<i>Siberian, Far Eastern Federal Districts</i>		
The Magadan***, Amur Region; the Republics of Buryatia, Tyva**, Altai, and Khakassia; the Transbaikal Krai	The Irkutsk, Omsk, Sakha- lin, Kemerovo* regions; the Khabarovsk, Altai*, Kam- chatka*** Territories; the Republic of Sakha (Yakutia)	The Novosibirsk and Tomsk Regions; the Krasnoyarsk Krai

The share of domestic spending on R&D in the GRP does not correlate with the total volume of R&D expenditures. At the forefront is the Nizhny Novgorod region, where 5.5 per cent of the GRP was spent on research and development in 2020. At the same time, according to its natural value, the region holds the fourth place, following Moscow, the Moscow Region and St Petersburg (Fig. 4). In most Russian regions, R&D spending accounts for less than 1.0 per cent of the GRP.

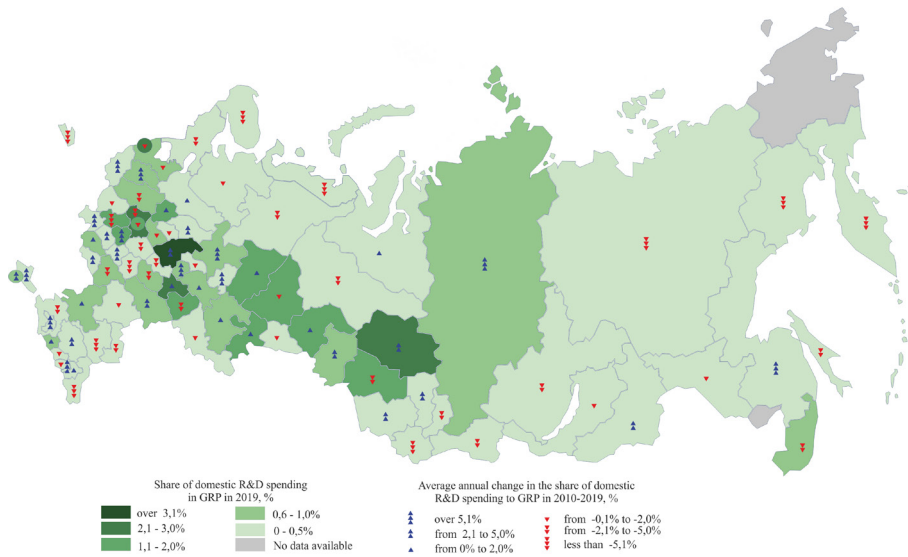


Fig. 4. Share and dynamics of domestic spending to GRP, 2010—2019 [11; 12; UISIS¹]

Figure 5 illustrates the distribution of Russian regions according to the number of publications indexed in the Scopus database per 1,000 population. In 2020, the leaders in the total number of publications were the Tomsk region, Moscow, the Novosibirsk region, St. Petersburg and the Sverdlovsk region. A rise in the number of academic publications was observed in all regions of the Russian Federation, with the most intensive growth was recorded in the Yamal-Nenets Autonomous District, the Chechen Republic, the Kirov region, the Republics of Adygea and Khakassia.

¹ Unified Interdepartmental Statistical Information System (UISIS), 2019, URL: <https://www.fedstat.ru/> (accessed 15.04.2020).

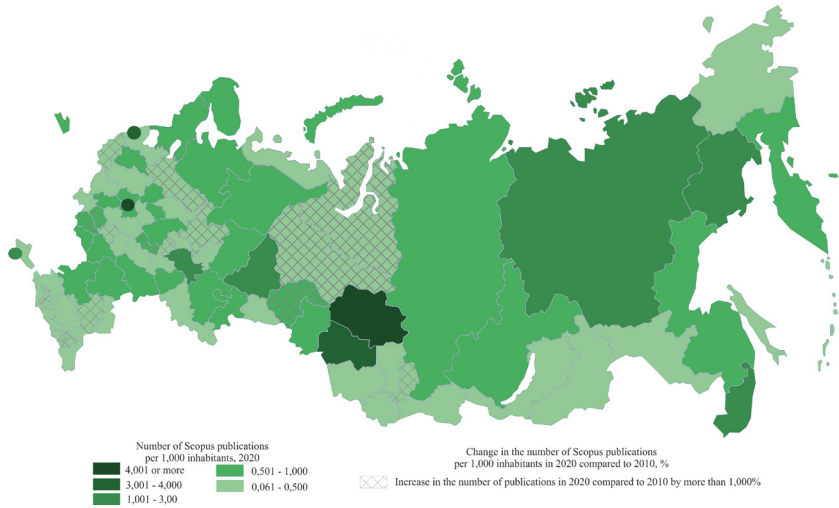


Fig. 5. Volume and dynamics of the number of scientific publications indexed in the Scopus database, per 1,000 inhabitants, 2010—2020 [11; 12; Scopus²]

Figure 6 shows the distribution of Russian regions according to the number of advanced production technologies used per 1,000 population in 2020. The most extensive use of advanced technologies was registered in the highly developed raw material region — the Yamal-Nenets Autonomous District, as well as in several industrial regions: the Perm Krai, the Vladimir region and the Udmurt Republic.

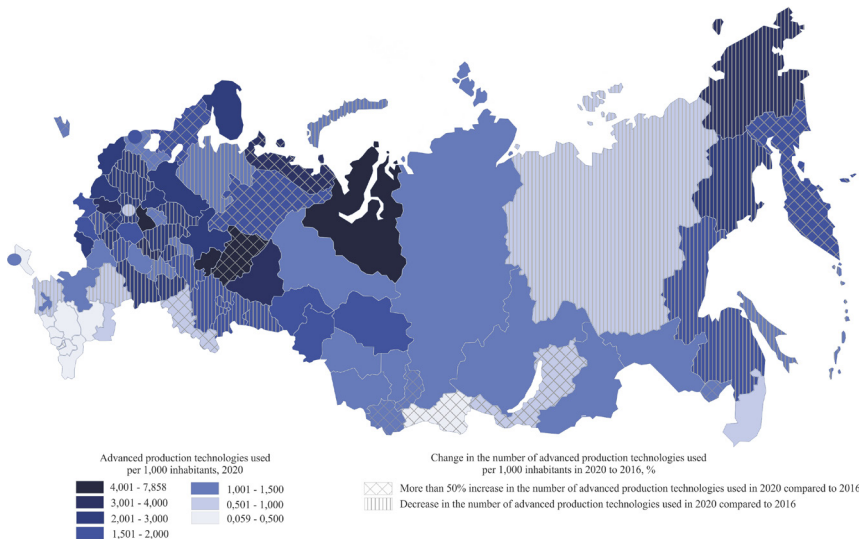


Fig. 6. Volume and dynamics of the number of advanced production technologies used per 1,000 inhabitants, 2010—2020 [11; 12; Scopus³]

The data collected include several key indicators of the scientific and technological potential of Russian regions: the availability of human resources, ac-

² Scopus, 2010—2020, URL: <https://www.scopus.com> (accessed 15.04.2020).

³ Ibid.

ademic degrees of researchers, research and development funding, publication activity, as well as the use of advanced manufacturing technologies in Russian regions.

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