

FORMAL BORDERS AND CROSS-BORDER INTERACTIONS: COUNTRY – REGION – MUNICIPALITY

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This study draws on the concept of isomorphism of formal borders (those established by legislative acts), which postulates similarity in their functions performed in different combinations by borders of various statuses. The article aims to explore the isomorphism of formal borders and their impact on the economy and the quotidian practices of the population. The study employs expert interviews and personal observations from several Russian regions while analysing regional and municipal socioeconomic development strategies. On the one hand, the barrier and constitutive functions of borders help to level the socioeconomic gradient within such boundaries. On the other hand, these same functions accentuate the contrasts between neighbouring territories. The general characteristics of borders also encompass their capacity to either attract or deter specific activities and create or exacerbate the peripherality of adjacent areas. The tension between the continuity of physical and social space and the barrier function of borders shapes the population's 'cross-border' practices, generating commodity flows and other interactions between neighbouring territories. This interaction, in turn, necessitates cooperation between border territories to address a range of cross-border issues. However, such collaborations exist almost exclusively at the interstate level. At the regional and municipal level, this need is either unaddressed or absent, even when acknowledged in strategic planning documents.

Keywords:

state borders, regional borders, municipal borders, isomorphism, functions, peripherality, cross-border interactions, cooperation, Russia

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Introduction and problem-setting

The current profound geopolitical shifts have highlighted the importance of borders in society, intensifying the focus of researchers on boundaries of various ranks and statuses. The beginning of the special military operation (SMO) in Ukraine and the break with the West have led to a sharp decline in bilateral trade, strengthened the barrier function of much of Russia's western border, effectively deadlocking many land communications and creating at the same time an urgent need to increase the capacity of border crossing points in the east. The shock effects of the recent COVID-19 pandemic, which led to the temporary closure of the national border and many internal boundaries, accompanied by their transformation into hard barriers, have not been forgotten. The onset of the SMO led to the toughening rhetoric of securing the country's frontiers. Moreover, municipal division reforms and administrative changes are transforming relationships between territories while altering social practices.

Currently, the redistribution of functions among borders of different levels, known as *re-bordering* and *de-bordering*, is taking place around the world. On the one hand, the collapse of states and the subsequent fragmentation of the political map have transformed some administrative borders into national boundaries. On the other hand, the barrier function of some other borders has diminished owing to regional integration. Political reforms are converting regional borders into municipal ones, and conversely, municipal borders are being elevated to the level of regional boundaries. These processes have led to the emergence of a hypothesis about a unified system of different-level borders [1] and subsequently to the concept of border isomorphism proposed in our earlier works [2; 3].

Isomorphism is a general scholarly term denoting the interchangeability of individual elements within a system while preserving its structure and overall properties. We propose using this term to refer to the similarity of functions of formal boundaries (i.e., those established by legal acts) across all levels, albeit these functions manifest differently and to varying degrees in each tier.

Although the interdisciplinary field of border studies has been firmly established for many years, as evidenced by the efforts of several international associations and academic journals, their focus has until now been almost exclusively on national borders. The connection and relationship between these and internal formal boundaries have been poorly studied.

Understanding the similarity of functions among boundaries of different levels is crucial for evaluating the impact of municipal reform on specific territories and establishing legally formalised interregional and inter-municipal partnerships to prevent the excessive strengthening of the barrier function of internal bound-

aries. This concern, in particular, was raised by participants in recent parliamentary hearings in the State Duma of Russia, which addressed the revision of the country's spatial development strategy.

This work aims to study the manifestations of border isomorphism, using specific cases and analyse the relationship between some of their functions at different levels. To achieve this goal, two interrelated research objectives were attained. Firstly, the functions of boundaries of various ranks were examined, and their prominence and effects were analysed through case studies of several Russian regions. Secondly, typical issues of interaction across boundaries were investigated, along with the existing institutional tools for addressing these issues and their representation in regional socioeconomic development strategies.

Materials and methods

This work is based on municipal-level statistics from the Federal State Statistics Service of Russia and the results of field research conducted by the authors in 2022 and 2023 in the Kaliningrad and Orenburg regions, Krasnodar Krai, the Sirius Federal Territory and the Republic of Adygea, as well as in the Republic of Abkhazia. These efforts helped gather detailed information on motivations for cross-border interactions and the existing mechanisms for their institutionalisation. To this end, interviews were carried out with representatives from government, business, public organisations, and the academic community.

Additionally, the research relies on analysing the socioeconomic development strategies of the aforementioned Russian regions. The Kaliningrad region adopted a socioeconomic development strategy in 2012, which was first revised in 2019 and then in 2022. The Orenburg region's strategy dates back to 2010, having undergone significant changes in 2023. The Krasnodar Krai strategy was approved in 2018 and amended between 2019 and 2023. Although such documents are often declarative, with their content and quality depending on the author, budget and other situational factors, they provide a comprehensive vision of a territory and lack adequate alternatives. Therefore, the insights into border statuses and cross-border cooperation offered within these strategies are highly informative.

During the study, interviews were conducted with the team behind the strategies for Krasnodar Krai and the Republic of Adygea, these documents closely aligned with the Space Without Borders project. Meeting protocols from the Krasnodar economic zone councils were examined along with the documents related to municipal-level strategic planning.

The study regions were selected based on their border status and differences in the functions performed by the respective national boundaries. Lithuania and Poland, which border the Kaliningrad region, are unfriendly states, and interactions with them are currently heavily restricted. The border between the Orenburg

region and Kazakhstan is part of the internal EAEU border, whose primary goal is to facilitate contact. Krasnodar Krai borders the partially recognised state of Abkhazia, for which ties with Russia are crucial. The Republic of Adygea — until 1991, part of Krasnodar Krai — is an enclave that only borders the large region from which it separated earlier. New districts of Krasnodar have long encroached on Adygea, highlighting the need for interactions between these regions. Finally, Krasnodar Krai borders the Sirius Federal Territory, which was withdrawn from the Sochi urban district in 2020. Cross-border relations between Sochi and Sirius are complicated by unresolved infrastructure and land issues. The four Russian regions have undergone or are undergoing municipal reforms that affect intraregional governance systems, elite relations and daily routines.

Another criterion for selecting the study regions was economic contrast. Krasnodar Krai is notable for its economic strength and high quality of life, while the Orenburg region performs at an average level, and Adygea is classified as a less developed territory.

This work adheres to the principle of multi-scalar analysis, namely simultaneous examination at three territorial levels: national, regional¹ and municipal ones. The logic of our study involves comparing the main functions of various formal borders. Moreover, based on the interviews and observations, we aim to systematise the effects of borders, quotidian cross-border practices and issues specific to borders of different ranks. Finally, we examine the needs of border territories at various levels for interaction and how these needs are represented in the activities of existing institutions and socioeconomic development strategies.

Unity of functions

Establishing formal boundaries is a fundamental need of society. Formal borders often overlap with informal, cultural, social and religious ones — vernacular boundaries associated with people's identities, daily routines and the borders of daily and other activity cycles, among other things. Any formal boundary, even one surrounding a 'closed community', such as a high-end gated residential compound, serves two main functions: firstly, ensuring the security of the socio-territorial group, and secondly, preserving or strengthening group identity and desire to remain within the community. This group could be either a small community formed around similarities in financial, social or professional status, or a large ethnic or ethnocultural community with millions of members. This idea was succinctly expressed by the prominent British sociologist Benedict Anderson: any border is inward-looking as it aims to separate a social group's territory from its neighbours and outward-looking as it strives to ensure this group's unity

¹ Below, the term 'region' will be used to refer to both Russian regions and similar territories.

or identity [4]. The need for ‘hard’ linear boundaries is also rooted in the political elites’ interest in controlling and governing territories, which conflicts with the continuity of geographic space as such boundaries are generally absent in nature and society.

The border is a legal institution and a physical phenomenon, a category of public consciousness (an element of identity or a set of social constructs), a symbol of territorial sovereignty and a social practice. Serving as a dividing line exerting influence on the adjacent space, it is a crucial element of the territorial-political organisation of society and a tool for adapting to changes in the geographic and geopolitical situation within a territory. The border affects the spatial redistribution of political influence, power, resources, settlement patterns and economic activity. Such adaptation can occur through modifications in border functions and regimes or changes in the configuration of borders. For example, a decrease in population density may lead to the enlargement of regions or municipalities, while an increase in population may result in the emergence of new administrative units. The demarcation, functions, and regime of boundaries reflect the intricate relationships between various economic and political actors, including political elites, businesses, public associations, neighbouring states, other political entities and international organisations. Today, with advances in telecommunications, these relationships and boundary functions can be ‘split’ and projected onto any territory or even object, such as a diplomatic mission or airport, while some functions may span an entire country [2]. The permeability of borders, i. e. their contact function, and sometimes even borders themselves, vary for different actors and social groups. Moreover, some functions, such as the selection of relocatees and labour migrants, may be handled in the countries of origin, and border and customs control may be carried out in the inland part of a country or across its entire territory. Therefore, isomorphism suggests that boundary functions remain intact despite significant variations in their implementation.

The system of boundaries is in a state of constant flux. In the late 2000s and the early 2010s, several authors posited the concept of bordering — continuous territorial delimitation at various levels, which involves changes in the regime and significance of border functions under the influence of diverse internal and external, volatile and relatively inertial factors. These include the international situation, relations between neighbouring countries, exchange rates, the activities and reforms of political institutions, and the policies of central and local authorities [5–7].

The interplay between formal and informal boundaries is also highly dynamic, shaping the fragmentation of political space across different scales, shifts in territorial identity and approaches to public governance [8]. One of the most widely known and studied cases is the discrepancy between fixed administrative bound-

aries and the expanding boundaries of a city or agglomeration, prompting the system of local administration to adapt to this circumstance. Formal boundaries are rarely impermeable: the barrier function tends to coexist with the contact one. Typically, formal and, in most cases, informal interactions occur across boundaries, as legally established boundaries never fully align with informal ones. This discrepancy catalyses cross-border interactions encouraged by shared natural features, such as transboundary ecosystems (mountain ranges, river basins, lakes, internal seas, etc.), and quotidian practices and needs. In turn, these interactions influence the functions of boundaries.

Alongside the most general, 'synthetic' functions of any formal territorial boundary — the contact and barrier ones [9], with the transit function sometimes added [10] — a variety of more specific functions are identified based on different criteria (see, for example, [2; 7; 12–14]). Almost all of them are characteristic of formal boundaries at various levels and in different combinations.

A central function of formal boundaries is constitutive, involving the organisation and governance of a territory and ensuring its security. Without clearly defined boundaries, no steadfast national identity is possible, nor is a state that is economically and politically stable. Typically, municipalities, provinces or other regions within a state have legally delineated boundaries defining their tax base and scope of responsibility. Regional borders generate demand for public services, including security, and create a legal and regulatory environment.

Closely related to the constitutive function of formal boundaries are several others. They shape the geographical space as an arena for interaction between natural and socioeconomic processes, characterised by a specific geographic position, unique history, linkages to other areas within various networks and local social practices and factors of socialisation. Thus, formal boundaries have a pronounced cognitive and symbolic function. Not only do they aid in spatial orientation and understanding of the external world, but they also contribute to the reproduction and evolution of identity, namely an individual's self-identification with a specific community, its values and mindset.

The function of formal boundaries is to shape the spatial structure of the territory they define. On the one hand, due to their constitutive function and regulatory role, boundaries homogenise the socioeconomic landscape within their limits through integrative communication networks, a single legal and regulatory environment and, at a national level, a unified system of socialisation and technical standards. On the other hand, for the same reasons, boundaries exacerbate territorial inequality, as each spatial unit develops relatively autonomously and thus **asynchronously** with its neighbours. Disparities in economic development, wealth and resident identity often emerge at the borders of states, provinces and municipalities, generally intensifying over time.

Formal boundaries establish, alter and, in due course, entrench core-periphery differences. Although the development of network structures and telecommunications is believed to have made administrative functions more mobile and dispersed, most political and administrative units have a clearly defined core (an exception is the US states, where capitals are located in designated small towns). In specific geographical and historical conditions, the infrastructure of the core must align with the rank and potential of its territorial unit. Its stability, among other factors, depends on this alignment: the capital of a large state cannot be located in a village or small town. Redrawing boundaries, especially when a new core is established through administrative reorganisation, typically results in the creation of yet another periphery.

The concept of peripheral status is not only geographical (position-related) but also socioeconomic and political. It is associated with underdevelopment, poor sociodemographic performance and increased dependence on administrative decisions made by the central authority. Thus, the periphery may be situated near the core. However, proximity to the border, particularly remoteness from and limited accessibility to the core, often exacerbates peripheral traits in border areas [15]. Consequently, cross-border communications are seen as a means to overcome this issue. To avoid transforming the area into a ‘tunnel’, such communications should not be merely transit-focused, i. e. only serving the cores of neighbouring territories. The configuration of the transport network influences the intensity and directions of connections. It remains an open question whether the dependence of delimitation on key centres of settlement precedes or, conversely, if the border itself induces the decline in borderlands.

Unity of effects

The isomorphism of border functions at different levels is defined by the commonality of effects that significantly impact border areas and the similarity of problems faced by borderlands of various ranks. Most of these effects are related to the interplay between contact and barrier functions.

The first group of effects concerns the ability of borders to *attract certain types of activities to borderlands or deter them from those areas*. This is most evident in the case of national borders, where a border zone with regulated access and restrictions on economic activities is established. The span of this zone has changed over time: during the Soviet period, it often covered an entire border region, while post-Soviet Russia introduced a five-kilometre border zone in 1993; in some regions, it was extended to 10–15 km or more in 2004.

Following the expansion of 2005, the border zone in the Kaliningrad region included 35 % of the local towns — Sovetsk, Bagrationovsk and the popular seaside resorts of Svetlogorsk, Yantarny and Zelenogradsk. In 2013, the border zone

area, now reduced by almost 60%, still included prominent tourist destinations: the famous Romincka Forest on the border with Poland, boasting cycling paths constructed under cross-border cooperation programmes, and Lake Vištytis on the border with Lithuania.

In the Orenburg region, the five-kilometre border zone was introduced only in 2001. It was significantly expanded in 2006 and notably reduced in most of the 15 border districts by 2019. In Krasnodar Krai, due to its recreational specialisation, the configuration of the border zone has been repeatedly reviewed: this happened in 2006, 2007, 2013, 2014, 2020 and 2023. Its area decreased over time, with the Azov Sea coast excluded from it following Crimea's incorporation into Russia.

On the one hand, the border zone regime sets restrictions on commercial fishing and hunting, major construction, mineral extraction and business activities attracting large numbers of people from outside the border zone, such as tourism and labour-intensive industries. Large companies supported by central authorities can sometimes overcome the strictures of the border regime. For example, in 2018, the Russian Copper Company and the Aktobe Copper Company began developing the Vesenne-Aralchinskoye copper deposit along the Russian-Kazakhstani border in the Dombarovsky district of the Orenburg region, with plans to process the raw materials in Orsk and Aktobe. However, such projects are exceptions. Our previous research has identified a significant decline in economic activity in Russia's border areas and a general trend of economic activity withdrawing from these borderlands [16].

On the other hand, borderlands attract businesses servicing cross-border flows. Many roadside infrastructure facilities, such as fuel stations, motels, secured parking lots, dining establishments, shops, currency exchange points, vehicle insurance agencies, and others, are located in close proximity to border crossing points.

At the Polish border, petrol stations catering to Polish fuel buyers played a pivotal role, while at the Krasnodar-Abkhazia border, food and clothing markets, including the famous Kazachiy Rynok in the Adler district, were the key to cross-border interactions. The activities of medium and large businesses in border areas are typically linked to providing transport and logistics services. In 2008, the Federal Customs Service developed a concept for customs clearance and control at locations near the Russian state border. Implementing this concept necessitated extensive construction of new transport and logistics terminals (TLTs) in border regions, and the development of new TLTs continues to this day in key areas. For example, a major TLT is planned in the Orenburg region, along the Europe — Western China international route.

The number and variety of border infrastructure facilities are directly related to the scale of cross-border freight and passenger flows, as well as the extent to

which the border acts as a barrier. In the Orenburg region, local authorities nostalgically recall the period of stricter border controls: customs provided prestigious and well-paid jobs for local residents, and longer waiting times for customs checks at the border provided ample opportunities for the local services sector.

The attraction effect is observed along regional and municipal borders separating densely populated agglomeration areas. Businesses leverage tax differentials and variations in land prices for large-scale housing development, deploying major warehouse and manufacturing facilities, and similar ventures. A prime example is the rapid expansion of the Krasnodar agglomeration into the neighbouring areas of Adygea. Good transport accessibility to the centre of Krasnodar, lower land prices, two- to three-fold differences in land tax rates and reduced electricity tariffs have led to intensive housing development in the villages of Yablonovsky, Kozet and Novaya Adygea. The latter accommodates the extensive Mega shopping centre targeted at Krasnodar residents. Since most of the villages' residents are employed and pay personal income tax in Krasnodar Krai, local and regional authorities are encountering difficulties in securing adequate funds for constructing schools, clinics, and kindergartens. In turn, authorities and permanent residents of Krasnodar are dissatisfied with the overburdened city infrastructure, which was not designed to handle the large influx of residents from neighbouring Adygea.

The repulsion effect in borderland economic activity is generally less pronounced because the contact functions of borders are predominant and security concerns are typically mild. This effect frequently arises in contexts involving ambiguous borders or border disputes. The Otradnensky District of Krasnodar Krai encountered difficulties with land cultivation along certain sections of the border with Karachay-Cherkessia from 2004 to 2018, as farmers, tax authorities and regulatory bodies were unsure which regional jurisdiction applied to a particular land plot. As of 2018, according to the State Register of Real Estate, just under 20 % of Russia's interregional borders were officially documented. By 2022, this percentage had increased to 70 %, excluding the new territories.¹

Another group of effects is associated with borders' capacity to induce or intensify the *peripheralisation of neighbouring areas*. While it is challenging to provide a definitive answer on the relationship between a border position and peripheralisation, it is evident that borders tend to contribute to the emergence of peripheral regions. At the same time, borders are frequently established precisely in the most peripheral areas, far from the cores. The manifestation of peripheral characteristics in borderlands is influenced by the territorial organisation of the neighbouring areas, including factors such as transport route configuration

¹ State (national) report on the condition and use of land in the Russian Federation in 2022. Moscow, Rosreestr, 2023. 185 p.

and proximity to major centres. For example, in the Russian-Kazakhstani borderlands, the eccentricity of Kazakhstan's regional centres towards the Russian boundary has contributed to population retention in the border strip. In contrast, Russia's borderlands along the Kazakhstan border have experienced, on average, a much faster population decline. Along major transport routes, the state border acquires some characteristics of a core, attracting certain types of activities, as noted above, and peripheralisation is either checked or reversed.

The extent to which a border functions as a barrier does not always play a decisive role in the dynamics of peripheralisation [17]. Firstly, as evidenced by the EU and the EAEU, peripheralisation may occur even in conditions of open borders. Secondly, once peripheralisation becomes a solid fact, open borders have little impact on the socioeconomic development of the territory, which effectively becomes a kind of 'passive corridor' [18].

At internal national borders, the attributes of peripheralisation are distinctly evident in interregional border areas. In the Kaliningrad region, similarly to many other Russian territories, the need to consolidate the existing network of municipal districts periodically arises as a subject of discussion. Lacking an extensive rural surrounding, Sovetsk — a town with a population of 38,600 as of 2023 — is often cited as a potential core for a larger municipal entity encompassing the current Neman (15,400) and Slavsk municipalities (15,700). There has been considerable debate over expanding the Bagrationovsk municipality (32,900) to include the Mamonovo (8,500) and Ladushkin (3,700) urban districts. Similar discussions are occurring in other regions entertaining the idea of forming larger municipalities centred on major towns in the area to stimulate the economy and address peripheralisation by altering borders. The Orenburg region and, to a lesser extent, Krasnodar Krai are cases in point. However, regional and municipal consolidation typically leads to a new phase of peripheralisation involving former district centres and their surroundings [19; 20].

Another group of effects is associated with *considerable transaction costs — temporal, financial or organisational — arising from authorities' collaboration across borders*. Our interviews convincingly demonstrate that the inability to spend funds in neighbouring territories and the need to seek additional approvals and synchronise budget cycles pose challenges for central, regional and municipal authorities in project implementation, as well as in the management and protection of transboundary natural and anthropogenic resources.

Shared transboundary natural features, such as rivers, lakes and land areas — are either unclaimed or exploited by one party to the detriment of the other. At regional and municipal borders, only large transboundary objects are managed by designated budgetary institutions. For instance, the Tsentroregionvodkhov water management organisation handles the Krasnodar reservoir on behalf of Krasnodar Krai and Adygea. However, bank reinforcement and the cleaning of

the riverbed and floodplain of the Laba River are carried out without proper coordination. Activities near the Adygea village of Koshekhabl have led to bank erosion in the Kurganinsk district of Krasnodar Krai. In the city of Sochi, uncontrolled construction in the upper reaches of rivers in the Piedmont and mountainous areas of some municipalities exacerbates flooding in others. The conflict of interests has become so severe that the Sochi 2035 Strategy envisages a radical reform of municipal divisions and the establishment of new district borders based on the water basin principle.

In 2020 and 2021, the construction of a weir dam near Orenburg sparked intense disagreements in the Russian-Kazakhstani borderlands: the Kazakhstani authorities were concerned about a reduction in the flow of the Ural River.

Similar challenges are evident across various border types, particularly, in the development of border crossing points, the construction of roads and bridges and the organisation of public transport routes. Resolving these issues is particularly problematic at state borders, as it requires coordinated actions between the national and regional authorities of two sovereign states. This is vividly illustrated by the construction of the ‘Europe — Western China’ transboundary artery in the Orenburg region, which faced significant delays threatening the project’s implementation. Rectifying the situation required intervention at the highest level.

Large infrastructure projects can be adversely affected by shifts in geopolitical circumstances, leading to extended construction periods or even the termination of completed projects. Although the project of a new bridge near the existing Sovetsk — Panemunė connection dates back to the 2000s, it was only formalised as a large-scale project under the Russia — Poland — Lithuania cross-border cooperation programme run between 2007 and 2013. In 2014, an agreement was reached between Russia and Lithuania for the construction of the bridge, which was built by Russia using its own funds and remained the property of the Kaliningrad region. Additionally, a special ‘restricted zone’ was established on the Lithuanian side, guarded by Russian border guards. During construction, entry into this zone by Russian citizens was not regarded as a border crossing. Ultimately, the bridge was put into operation in December 2020 along with the Dubki — Rambinas border crossing point.

At a regional or municipal level, the main challenges to interactions stem from the lack of necessary legal frameworks and funding, inconsistencies in actions and plans, changes in priorities due to electoral cycles, and other factors. The lack of coordination between the authorities of the Republic of Adygea and Krasnodar Krai led to the situation where the Friendship Bridge, built in 2010 between the Adygean village of Ulyap and the Kuban *stanitsa* of Tenginskaya, had no access on the Krasnodar side. This structure, known locally as the ‘ghost bridge’, was completed in 2017 after the region had received federal funding and the necessary access roads had been constructed.

The barrier function of formal borders is closely linked to their differentiating role: due to the uniformity of the regulatory and legal environment within each territorial unit, borders *contribute to the accumulation of differences and contrasts between neighbouring territories*. Cross-border interactions are largely determined by territorial disparities. In some cases, stark contrasts generate asymmetry in interactions or even conflicts, reducing the potential for equitable partnership and cooperation. In other cases, the complementarity effect arises, where economies and markets for goods, services and labour complement each other. Differences in wages and prices foster conditions for exchanges and intensive transboundary mobility. Varied business conditions and tax rates encourage cross-border cooperation and/or spillover of business activity from one part of the borderlands to another [21].

Unity of interaction problems

Similar interactions occur across all formal boundaries, though their institutional complexity varies depending on whether the borders are national, regional or municipal. Cross-border interactions seek to mitigate the problems brought by the barrier function and other functions of the border, while also maximising the benefits it provides.

Firstly, any interaction depends on the organisation of transport, particularly public transport routes. Years of research on various sections of national, regional and municipal borders demonstrate that the success — speed, quality and synchronisation — of building and reconstructing transboundary communications is contingent on the status of the boundaries.

The exclave status of the Kaliningrad region and its link to the rest of the country is a priority for interactions with EU nations, even amid geopolitical crises. Complex and protracted negotiations, accompanied by extensive media campaigns,¹ were required for agreements on railway sections operated by Russian Railways in Kazakhstan and Kazakhstan Temir Zholy in Russia, including the 157 km Ilets section of the Kazakhstani railway connecting different parts of the Orenburg region.

Similarly, in urban agglomerations, transport connections between dormitory districts and areas where a significant number of jobs or businesses are clustered together demand cooperation across municipal boundaries, and in some cases, such as the Krasnodar agglomeration, across regional boundaries as well.

Secondly, a significant motivation for interactions across borders is the shared infrastructure. Energy, gas, water supply and sewage system networks cross all types of borders. For example, the settlement of Goncharka in Adygea's

¹ Besschastnov, A. Sem' raz otmer'... [Look before you leap]. *Gudok*, №48, 3 dekabrya 2010 g. <https://www.gudok.ru/zdr/178/?ID=649236>

Giaginsky district receives electricity from the Belorechensky district of Krasnodar Krai. The gas pipeline also enters the Giaginsky district from Krasnodar Krai. However, the barrier function of municipal borders often hinders infrastructure operation due to an inadequate regulatory framework for interaction, particularly in terms of interbudgetary relations. Coordination issues frequently arise between municipalities in riverbank reinforcement and the development and maintenance of road networks on their territories (cf. the case of the Laba River in Krasnodar Krai). Intermunicipal cooperation in solid waste disposal is also insubstantial, as evidenced by the situation in the Kurganinsk district of Krasnodar Krai.

Thirdly, cross-border interactions — mainly informal collaborations — emerge at all levels in the services sector, particularly in healthcare and education. Variations in the availability of these services, transport accessibility and differences in cost, quality and variety are common motivations for cross-border travel. At state borders, in contrast to internal borders, differences in prices are often the primary incentive for such trips. For instance, up until 2022, it was common for residents of the Kaliningrad region to purchase food and pharmaceuticals in Poland. In the Orenburg borderlands, the Russian city serves as a centre for healthcare and educational services for citizens of Kazakhstan. Residents of Abkhazia also tend to travel to Russia to access such services. These practices are widespread at the regional and municipal levels. Adygeans travel to Krasnodar Krai seeking medical assistance, and residents of Krasnodar Krai come to Adygea for the same purposes. Neighbouring Adygean districts attract denizens of the Apcheronsky, Belorechensky and Mostovsky districts and Armavir due to the availability of highly skilled specialists and advanced healthcare services, such as maternity care. Intermunicipal agreements allowing students to attend schools in neighbouring municipalities have been concluded between Krasnodar Krai and Adygea. These arrangements extend to Goncharka in Adygea's Giaginsky district and Stepnoy in the Belorechensky district, as well as between the Adler district in Sochi and the Sirius Federal Territory.

Finally, trips for consumer purposes are made across any border, especially between cities with comparable population sizes. This type of travel is encouraged by price differentials, varying assortments and the availability of certain goods and services on only one side of the border. In the Kaliningrad region, the phenomenon of consumer activity being partly 'transferred' to the Polish and Lithuanian borderlands was observed for many years. Over time, this consumer trend has developed, with one-day shopping trips increasingly being merged with family weekend excursions. Throughout the post-Soviet years, Polish citizens have been committed to purchasing cheap fuel in the region's border areas without entering Kaliningrad [22].

Kazakhstani's shopping trips to Russia have generally ceased. Since 2022, Russian citizens have increasingly travelled to neighbouring cities in Kazakhstan to obtain banking services unavailable in Russia (the so-called 'card tours'), purchasing 'sanctioned' durable goods, such as household appliances and cars, and using Kazakhstani airports for international flights.

These practices observed at regional and municipal borders have been insufficiently studied. Yet, despite the population and regional administrations not perceiving such travel as transboundary, it is a prevalent phenomenon.

Shared demand for institutions

A fundamental characteristic of all types of dividing lines is the increase in transaction costs of any interaction. According to the literature, this elevated level of transaction costs explains the diverse range of problems encountered by border regions [23, p. 13–18]. Institutions of cross-border cooperation can be understood as the rules governing interactions across borders, recognised by the majority of actors involved in these interactions. A significant portion of these practices, such as leveraging price differentials, is not legally formalised but remains crucial for daily life. At the same time, many legally established institutions have minimal impact on life in border regions.

The need for cross-border cooperation institutions is evident across all types of borders due to their shared functions, the problems they bring and the established practices of transboundary interactions. However, these institutions are most developed at *national borders*, primarily due to the higher transaction costs associated with this type of boundaries. The list of relevant institutional forms is outlined in the federal law "On the Framework for Cross-Border Cooperation" of 26 July 2017, № 179-FZ, and the Concept of Cross-Border Cooperation in the Russian Federation of 7 October 2020. The practice of using these and other institutional forms not specified in regulatory documents varies depending on the border status.

Framework agreements on cross-border cooperation, the most common transboundary institution, were actively signed by Russian regions in the 1990s and updated approximately every ten years. In all three study regions, these agreements generally lacked specific details but established a legal framework for the interactions of regional authorities. Even when the documents did mention concrete projects, the corresponding initiatives typically never materialised due to a lack of either financial resources or jurisdiction (federal involvement was required). It is noteworthy that similar framework agreements are also established at internal Russian borders, where issues of insufficient authority and funding are similarly evident.

A more advanced tool is cross-border cooperation programmes. From 1991, Kaliningrad region participated in a range of EU cross-border programmes. Between 2000 and 2020, over 500 projects were implemented with a focus on transport infrastructure, utilities, environmental protection and cultural heritage preservation under three cooperation programmes. A distinguishing feature of these initiatives was a common budget, project-based financing principle and coordinated development priorities and project selection criteria [24].

In the Orenburg region, the first cooperation programme, covering all twelve Russian and seven Kazakhstani border regions, was launched in 1999. It was followed by two more documents in effect from 2008 to 2011 and from 2012 to 2017. Unlike their Kaliningrad counterparts, these programmes did not offer a list of projects, a description of financing mechanisms or tools for identifying common cooperation priorities. Action plans for these programmes were adopted and implemented in an uncoordinated manner, with the lack of focus on specific territorial issues leading to the absence of visible results from the cooperation.

Among other institutions, local border traffic agreements are notable. This regime simplified border crossing for residents of neighbouring regions (the Kaliningrad region and adjacent Polish voivodships from 2012 to 2016) or selected border areas (Orenburg region since 2009). The Forum for Interregional Cooperation between Russia and Kazakhstan played a significant role in the Orenburg region, whereas Euroregions were particularly influential in the Kaliningrad region until the mid-2000s [25].

The lack of a necessary regulatory and legal framework for institutionalised cooperation at regional borders may explain why regional strategies pay only slightly more attention to this issue than to cross-border cooperation with neighbouring countries. All the strategies make comparisons with other regions within the same federal district across various socioeconomic measures, but these contrasts are framed in a 'competitive' context rather than aimed at identifying subtle differences. An exception is the strategy of Krasnodar Krai, which places heavy emphasis on cooperation with Adygea (see Table). The terms 'border' and 'cross-border/transboundary' are mentioned approximately 60 times throughout the document. A key component of the strategy is the flagship Space without Borders project, which serves as an umbrella initiative for development programmes in the cross-border Krasnodar and Sochi agglomerations, the 'Caucasian Mountain Area' and other territories. This approach aimed to offer a comprehensive vision for the future of multiple municipalities, facilitating the identification of key cooperation-focused inter-municipal projects. For the first time in Russian strategic planning, the concept of 'cross-border economic cooperation' has been used, encompassing contacts not only with foreign entities but also with neighbouring Russian regions.

**The themes of municipal, regional, and national boundaries and cross-border cooperation
as seen in regional socioeconomic development strategies**

Kaliningrad region	Krasnodar krai	Orenburg region
Diagnostics		
<i>Approach to interpreting the border position</i>		
The geographical position is assessed at various scales: the region as part of Russia, the Baltic region and Greater Europe	The geographical position is examined at different scales — as part of relations with other countries and within the Russian macro-region. The geostrategic function of the region as an outpost, and the importance of ensuring transit to neighbouring states and other Russian regions	The border position is synonymous with a favourable location and a pronounced transit function. The status of a geostrategic border territory determines the avenues of interaction with the federal centre
Comparison with Lithuania and Poland, partial comparison with regions of the North-Western federal district	Comparative assessment: what is the comparison made with?	Comparison with neighbouring Russian regions
<i>Subregional differences and municipal boundaries</i>		
Intermunicipal bus transport connectivity needs improvement	The analysis focuses on the heterogeneity of the territory in terms of socioeconomic development. Lines and nodes of different orders are distinguished in the spatial structure of the region. The development of local settlement systems (including agglomerations) is identified as spontaneous	The gravitation of the Orenburg region's outskirts towards neighbouring regional centres is seen as a challenge to the region's sustainable development
Strategies goals and objectives		
<i>Cooperation across national and regional boundaries</i>		
Unlocking the potential of internal and interregional cooperation to ensure sustainable development	More efficient interactions with neighbouring regions and stronger international integration	An initiative for municipalities bordering Kazakhstan (no specific details provided)
<i>Cooperation across municipal boundaries</i>		
Enhancing subregional transport connectivity Unlocking the joint tourism potential of the region's eastern districts	Implementation of the Space Without Borders flagship project, which entails comprehensive spatial development of designated economic districts. Intermunicipal projects in transport, waste management, emergency services, and the economy, including tourism. Establishment of coordination councils for inter-municipal cooperation	Restoration of the Ural River initiative Development of combined tourist routes. Territorial and Professional Mobility initiative (subsidies to intra-regional labour migrants)

Source: compiled from the materials of Russian regions' socioeconomic development strategies.

In the strategy for the Orenburg region, one of the challenges ‘that need to be overcome for the sustainable socioeconomic development of the region’ is the spatial configuration of the territory, which causes the ‘outskirts of the Orenburg region’ to gravitate towards neighbouring regional centres. Although nearby cities in other regions could potentially support the development of the Orenburg outskirts, the lack of regulatory and legal foundations for such interaction causes them to merely drain the population from the periphery.

The strategic documents vary in their approach to *municipal borders*. In the strategy for the Kaliningrad region, subregional differences and municipal borders are scarcely addressed, except for transport connectivity. Despite noticeable disparities in socioeconomic development within the exclave, inter-municipal initiatives remain limited. The region’s eastern districts are mentioned only as the object of a unified tourism policy. Yet, measures to consolidate inter-municipal efforts for tourism development in these territories are not specified.

The strategy for the Orenburg region mentions several initiatives for cooperation across municipal borders. One of them, the Restoration of the Ural River, involves the development of inter-municipal tourist routes. Within another, titled Territorial and Professional Mobility, subsidies are provided for relocation within the framework of intra-regional labour migration.

The strategy for Krasnodar Krai includes a detailed multi-scale analysis of the region’s spatial structure, identifying lines and nodes (or cores) of varying significance. Unusual for such documents, this analysis reveals that local settlement systems, including the Krasnodar and Sochi agglomerations, develop somewhat spontaneously. The document’s forecasting section contains a thorough examination of borders, highlighting the need for cross-border cooperation. The Space without Borders project envisions the creation of economic districts (zones) within Krasnodar Krai, based on shared development goals and objectives while considering economic specialisation, natural conditions and other factors. The strategy includes a range of inter-municipal projects in transport, waste management, emergency services and tourism, along with a mechanism for their institutionalisation through setting up coordination councils for inter-municipal interaction. However, even this progressive approach lacks support from lower-level (municipal) strategic documents and practical implementation.

Analysis of municipal strategies reveals that interactions with neighbouring territories are mainly mentioned in the context of evaluations of geographical and transport-geographical positions. Strategic development sections rarely mention inter-municipal initiatives, such as waste management, water level monitoring systems, tourist routes, and healthcare services, and when they do, they generally leave out specific implementation mechanisms. Expert interviews indicate that such initiatives are not being realised. For instance, the administration of the Kurganinsk district emphasised the gravity of ‘cross-border’ solid waste disposal issues, yet there is no interaction with neighbours on this matter. The only am-

bitious inter-municipal initiative is the New Armavir project — a million-strong agglomeration that necessitates the expansion into new territories and redefinition of municipal boundaries.

The formally established institution for inter-municipal cooperation in Krasnodar Krai consists of councils for seven economic zones (districts) identified in the strategy. Expert interviews revealed several bases for delineating these zones: 1) the similarity of functions performed by territories in urban agglomerations, mountainous, steppe or coastal resort areas and other environments; 2) shared economic specialisation, which suggests the potential for cumulative effects from joint planning; 3) joint branding of products in manufacturing and tourism (e. g., creating a tourism brand for the Black Sea region, comprehensive development of the Yeisk coast); 4) rational natural resource use in cross-border geosystems (for instance, the Akhtarsky wetlands in the Coastal zone); 5) possibilities for joint development of specific strategies and programmes to obtain federal funding.

However, an assessment of the available development plans for these economic zones between 2018 and 2019 shows that municipal representatives have a limited understanding of the significance of such areas. The project lists proposed at the zone council meetings predominantly feature local initiatives confined to a single municipality. Cross-border issues include only a few projects, such as road construction, site selection for grain processing plants, regulation of electrical and gas capacity surpluses or shortages and changes to municipal boundaries (Armavir and the Uspensky district).

Research on institutional cooperation indicates that cross-border cooperation programmes have been the most successful form of collaboration along Russia's state borders, particularly with EU states in the country's northwest [26]. We believe that applying the programme-project approach used in these programmes could be beneficial not only for Russia's external borders but also for internal ones — both regional and municipal. This approach would solve the issues of the lack of jurisdiction and financial resources for cross-border cooperation.

Conclusion

Between the barrier, symbolic, and authority-legitimizing functions of borders on one side, and the necessity for cooperation to address a variety of cross-border issues on the other, lies a contradiction inherent to all types of formal boundaries. In our view, this contradiction strongly supports the concept of border isomorphism. State, regional and municipal borders all play a role in organising and governing a territory. They define its regulatory and legal space, including areas for public services and the dissemination of standards. Institutionalised borders of all types enhance spatial contrast and add to peripheralisation effects. Routine transboundary practices, which arise not only to shorten travel distances but also due to differences in the range and quality of goods and services, are connected to the disparities present at any border. Both regional and municipal borders, similarly to state boundaries, function to attract or repel economic activities. This is

most evident in the agglomeration zones of Krasnodar and Greater Sochi, which accommodate large residential developments and major shopping centres like Mega.

Cooperation institutions address spatial development issues by helping 'surmount' the borders. Agreements between states, regions and municipalities give residents in borderlands access to the nearest centres for education, healthcare, and other services. However, the impact of these institutions on mitigating cross-border disparities is ambiguous: they may bridge, exploit or amplify these differences.

Yet, interregional and inter-municipal cooperation institutions remain extremely underdeveloped. Analysis of regional and municipal socioeconomic development strategies generally reveals a lack of awareness regarding their necessity; despite the ambitious cooperation plans outlined in the strategies of Krasnodar Krai and Adygea, actual collaboration does not materialise. Fundamental reasons for this situation include the specifics of national and regional political culture, national governance traditions and the absence of a legal framework at the federal level. Research into existing institutions and practices revealed, firstly, that significant obstacles are found in land and property relations: municipalities encounter serious challenges when establishing joint industrial and infrastructure projects. Secondly, implementing joint projects is hindered by the inability to co-finance such initiatives or reallocate budgets between municipalities. Thirdly, there is a lack of effective legal mechanisms for creating supramunicipal forms of management and cooperation. Fourthly, low budgetary provision at the municipal level necessitates the development of specific programmes to support inter-municipal and interregional cooperation projects.

One factor hindering inter-municipal and interregional cooperation is the fear of boundary changes, such as those expressed by the authorities of Adygea regarding its three municipalities absorbed into the Krasnodar agglomeration. The interviews frequently highlighted the narrative that excessively close connections between territories pose a risk of their merger. Establishing cooperation institutions and thus the rules to abide by could be the key to resolving this contradiction, as it allows addressing cross-border issues without altering boundaries.

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