

Small and Medium-Sized Single-Industry Towns of the European North of Russia in the Context of Socio-Economic Challenges of 2020–2023



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Abstract. The Russian economy has faced a number of large-scale geopolitical and socio-economic challenges in recent years. At the same time, the territories with single-industry specialization were the most negatively affected, since their town-forming enterprises are highly dependent on external environmental factors. The list of single-industry towns in Russia was formed ten years ago; during this time there have been many global changes, but the authorities are still guided by this document when developing measures of state support. The work had two objectives: first, to assess the degree of their current monopile on the basis of analyzing the activities of the main economic entities in single-industry towns; and second, to identify how the new geopolitical and socio-economic challenges have affected the activities of town-forming enterprises. The research object was 20 small and medium-sized towns of the European North of Russia, categorized as single-industry towns. We identified three groups of towns: 1) single-industry towns with one or several large enterprises in one industry sector (i.e., towns that have retained their monopile); 2) single-industry towns that currently have several large or medium-sized enterprises in different economic sectors; 3) former single-industry towns with one or several town-forming enterprises that are currently liquidated. Based on the analysis of the financial performance of enterprises operating in small and medium-sized towns, we found that sanctions and the disruption of production chains with Western countries led to a marked decline in the profits of most of these organizations. The enterprises of the timber industry complex were particularly hard hit, as their

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activities were more export-oriented. The scientific novelty of the research lies in the development and approbation our own methodological approach to the implementation of the typology of towns classified as single-industry municipalities, based on the analysis of enterprises functioning in them.

Key words: monotown, monoprofile municipality, town-forming enterprise, small and medium-sized cities, European North of Russia.

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Introduction

In recent years, the Russian Federation has faced the most extensive sanctions pressure in its history from the countries of the collective West. Since the start of the Special Military Operation (SMO) in February 2022, over 18,000 sanctions have been imposed on Russia, which is 3.5 times more than Iran has received in 40 years¹. Changing geopolitical situation has led to a number of negative economic effects: termination of international trade with many Western countries, withdrawal of foreign companies from the market, investment restrictions, etc. (Pechenskaya-Polischuk, Malyshev, 2023). One of the current serious problems is the breakdown of the production and logistics chains that have developed over the previous few decades, including those associated with the economic turn “to the East”. The sanctions restrictions imposed by unfriendly countries have noticeably affected the economy of towns with single-industry specialization. For instance, only in the first half of 2022, direct sectoral and/or personal sanctions imposed by unfriendly countries affected more than 130 town-forming enterprises located in Russian single-industry towns² according to the Center for Strategic Research. The organizations were

banned from exporting manufactured products and importing equipment necessary for current operations and modernizing production.

It is not the first time that single-industry towns have faced serious challenges in the Russian history of the post-Soviet period. The economic reforms of the 1990s led to the destruction of previously established economic ties and the closure of many town-forming enterprises. The economic crisis of 2008–2009 also had a negative impact on the socio-economic development of single-industry towns.

Russian government authorities have repeatedly attempted to develop and implement measures to support single-industry municipalities. At present, the list of single-industry towns in the Russian Federation³ officially includes 321 municipalities, 97 of which (30%) are characterized by the most difficult socio-economic situation, 148 (46%) have risks of its deterioration, and only the remaining 76 have a stable socio-economic situation. The list of single-industry towns was compiled and approved in 2014, i.e. 10 years ago, during this period much has changed, the Russian economy has faced at least two new and very serious challenges: the coronavirus pandemic in 2020 and unprecedented sanctions pressure from unfriendly countries in 2022. It is

¹ Castellum.AI. Available at: <https://www.castellum.ai/russia-sanctions-dashboard> (accessed: July 3, 2024).

² 2022 risks: City-forming organizations and single-industry towns. Center for Strategic Research of the Russian Federation. Available at: <https://www.csr.ru/upload/iblock/14c/k88t2bqevutbs7f8b13v06tho0s37jg.pdf>

³ Approved by the RF Government Decree 1398-r, dated July 29, 2014 “On Approval of the List of Single-industry Municipal Entities of the Russian Federation (single-industry towns)”.

worth saying that experts of the Accounts Chamber of the Russian Federation have repeatedly noted the fact that the approved list of single-industry towns is not relevant⁴.

The study concerning the problems of single-industry towns development is still one of the topical areas of scientific research in modern literature. The key risks of development of these settlements have long been known and well-studied. First of all, they include increased vulnerability to cycles of economic growth and decline, lack of alternative employment opportunities, difficulties in attracting and retaining skilled labor, transport remoteness, underdeveloped social and domestic infrastructure (Storey, Hall, 2018). At the same time, the scientists focus attention on either large single-industry towns or single-industry municipalities of one region or macro-region, for example, the Urals, the Far East, and the Arctic zone of the Russian Federation (Bezverbny et al., 2020, Korchak, 2023; Kotov, 2017; Oborin, 2022; Pyzheva, Zander, 2019; Fomin et al., 2020; Fomin et al., 2022). Single-industry economy is a huge risk for the sustainable socio-economic development of any town; however, at present, tertiary (service sector) and quaternary (knowledge economy) economic sectors are usually quite well developed in large cities, which, unfortunately, cannot be said about the vast majority of small and medium-sized Russian towns. The economy of many of them is still based on a single sectoral specialization, and the sphere of social and domestic services is poorly developed, which is one of the reasons for the migration outflow. In our opinion, the problems of the development of single-industry small and medium-sized towns have been insufficiently studied at present.

The aim of our research is, first, to assess the degree of current single-industry within the

⁴ Report on the results of the expert analytical activity “Monitoring and assessment of the implementation of the priority program “Integrated development of single-industry towns” approved by the Board of the Accounts Chamber of the Russian Federation on March 26, 2019.

framework of analyzing the activities of the main economic entities of single-industry towns, and second, to identify how the new geopolitical and socio-economic challenges have affected the activities of town-forming enterprises. We solved the following tasks to achieve the aim: 1) we established the base of enterprises functioning in small and medium-sized towns of the European North of Russia, officially categorized as single-industry towns, on the basis of which we identified the types of towns; 2) we analyzed and assessed the results of enterprises’ financial performance during the Covid-19 pandemic (2020–2021) and after the beginning of the SMO (2022–2023); 3) we proposed some directions for the further development of small and medium-sized towns that help to level out the risks arising in the new conditions.

The scientific novelty of the study consists in the development and testing of our methodological approach to implement the typology of towns categorized as single-industry municipalities, based on the analysis of enterprises functioning in them. The elements of novelty are also contained in the analysis of enterprises’ activities that form the towns’ economic basis, namely, in the assessment of their sustainability at the micro level in a changing environment.

Theoretical backgrounds of the research

Modern scientific literature has no common universally recognized definition of a single-industry town. In many respects, the interpretation of this term is determined by the classification characteristics, according to which researchers refer a town to the category of single-industry ones (Dulesov, Bekhterev, 2015). At the same time, foreign works focus on the sectoral specialization of the town. For instance, the most common terms are “mining town” or a town specializing in mining (Leadbeater, 2004; Marais et al., 2020; Zhao et al., 2021), “coal town” – a coal mining town (Syafri et al., 2022; Winkler, 2021), “railroad town” – a town that is a major railway hub (Seyrek, Polat,

2024). However, the term “single industry town” (Storey, Hall, 2018) or “one-company towns” (Commander, 2018) is also quite common.

Russian literature, as a rule, has no specific sectoral reference, and such synonymous terms as “monoprofile”, “single-industry”, “mono-functional”, “single-industry town” are most often encountered. At the same time, researchers interpret these concepts in different ways, and the study of the diversity of existing approaches is even the subject of separate scientific articles (Malashenko, Mekush, 2020; Shneiderman, Sharov, 2022).

No less relevant issue is the typology of single-industry towns. Undoubtedly, single-industry towns as a special type of settlements emerged quite a long time ago. One of the Russian scientific monographs (Lyubovnyi, 2018) details the reasons for the emergence of these settlements in Russia in different historical eras. At the same time, the author pays special attention to the analysis of the functions that single-industry towns performed in the spatial and socio-economic development of territories, and based on this, systematizes their main types.

The article (Pyatsheva, 2019) presents the classification of towns according to a number of criteria: population size (large, medium, small towns); degree of remoteness from major centers (remote, nearby); stage of the town life cycle (phases of creation, stable development, fading); vector of socio-economic dynamics (dying, shrinking, with stable development prospects, with the potential for new strategic development). The approach presented in the work (Dulesov, Bekhterev, 2015), where the classification of single-industry towns based on the nature and period of the life cycle of the town and its ability to maintain self-sufficiency is quite interesting. The typologies of single-industry towns proposed in the above-mentioned articles are certainly interesting, but they practically do not take into account the characteristics of town-forming enterprises, which largely determine the essence of a single-industry town.

The monograph (Uskova et al., 2012), on the contrary, pays special attention to this aspect. The authors divide all single-industry towns into three categories: cities with one town-forming enterprise, towns with several town-forming enterprises and towns that are satellites of large multifunctional cities. Also worthy of attention is the typology of single-industry towns depending on the specifics of town-forming enterprises: production (industrial and infrastructure (electric power industry)) and non-production (research and development and infrastructure (transport hubs)) enterprises.

Foreign studies also consider the issues of urban classification. In particular, based on the analysis of 15 economic indicators, the work (Bole et al., 2019) carried out the typologization on the example of industrial towns in Slovenia, which was a socialist state in the past. In total, the authors identified 5 types of towns depending on the level of development of their economy: “neo-liberal”, “polar-ised”, “dynamic low-tech”, “post-socialist champions”, and “mixed”.

In Russia, the research interest in the study of towns with single-industry economies is largely due to the problems they faced during the transition to the market. At the same time, foreign scientific literature has already accumulated some experience on the issues of crisis recovery of former “coal” (Haggerty et al., 2018; Dragan, Zdyrko, 2023) or “metallurgical” (Hobor, 2013; Ghosh, 2019) single-industry towns, which is applicable to resource towns in Russia. However, in capitalist countries the problems of development of single-industry settlements to a greater extent were caused only by changes in the sectoral structure of the economy, arising, among other things, as a result of changing technological patterns, whereas in Russia the early 1990s were marked, in addition to serious crisis processes in the economy, by a complete change in the institutional framework of state governance (Odintsova et al., 2020).

The researchers of the Institute of Socio-Political Research of RAS (Fomin et al., 2020) distinguishes two main stages in the scientific works of the post-Soviet period on the problems of single-industry towns' development. The first is associated with the study of the impact of market reforms of the 1990s on the socio-economic development of single-industry towns (Animitsa, Novikova, 2009; Turgel, 2005), and the second one – with the consequences of the 2008–2009 economic crisis (Uskova et al., 2012; Rastvortseva, Manaeva, 2013). At present, there is another milestone in the history of research on this topic – the analysis of problems and prospects for the development of single-industry towns in the context of the emergence of epidemiological risks, the aggravated geopolitical situation and growing sanctions pressure from the countries of the Collective West unfriendly to Russia (Pitukhina, Belykh, 2023; Kurinaya et al., 2023).

In this context, one of the most important research tasks not only from the scientific, but also from the practical point of view is to work out directions and tools for the development of single-industry towns, to search for ways to reduce the newly emerging risks of sustainability of the functioning of town-forming enterprises. A large number of works by modern authors are devoted to solving these problems (Artemova, Zhegov, 2021; Kutergina, Lapin, 2015; Odintsova et al., 2020; Sedova et al., 2020), while analyzing the existing Russian experience in the implementation of socio-economic policy measures in relation to single-industry towns, most researchers note their non-systematic nature and low efficiency.

The Comprehensive Development of Single-Industry Towns program approved in 2016 was also found ineffective by the Audit Chamber of the Russian Federation and ended ahead of schedule in 2019, i.e. seven years earlier. Measures to support single-industry territories have not yielded tangible positive results. Among the key shortcomings, the

experts noted the lack of systematization in the provision of state support measures aimed at the development of single-industry towns, ignoring the specifics of municipalities and their real socio-economic situation. In addition, the program was not aimed at ensuring the consistency of sectoral and territorial development of the country, improving the national settlement system and the system of distribution of productive forces, which is one of the most important directions of the National Security Strategy of the Russian Federation.

Materials and research methods

In our study, we focus on the problems of economic development of small and medium-sized single-industry towns in the European North of Russia (hereinafter – ENR). One of the features of this macro-region is a rather high level of urbanization. The overwhelming majority of the ENR towns belong to the category of small and medium-sized ones – 61 out of 68, while one third of them (20 units) are included in the list of single-industry municipalities of the Russian Federation (single-industry towns), approved by the RF Government Decree 1398-r, dated July 29, 2014.

The high level of single-industry towns can be explained by the features of the development of the northern regions in the Soviet era. The economic development of the Soviet Union was based on the ideology of “a man at work” and, accordingly, “a town at the factory”, which caused the emergence of single-industry small and medium-sized towns in Russia's north characteristic of that historical period.

We used such research methods as induction, deduction, synthesis, comparative and demographic analysis, tabular and graphical data visualization, analysis of regulatory and legal documents during our research.

As the information base, we used the data of the List-org counterparty verification service (<https://www.list-org.com>), SPARK resource (<https://spark-interfax.ru/>), official websites of the organizations

under consideration, statistical information of the Federal State Statistics Service and its regional divisions, strategic planning documents for the development of the municipalities under consideration, information from monographs and periodicals.

The general algorithm of the study is as follows:

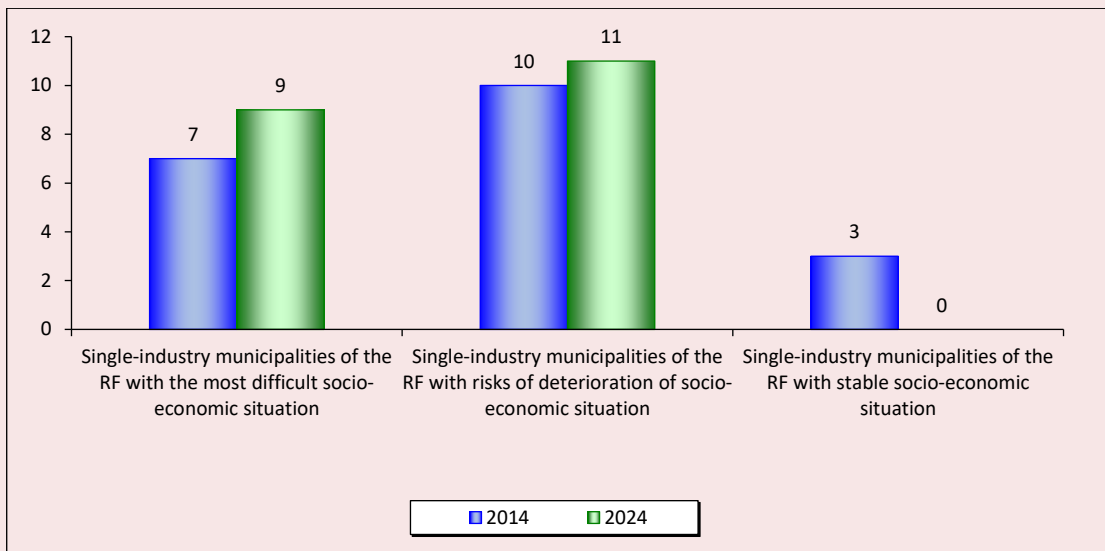
- we assessed the number of enterprises and organizations currently operating on the territory of single-industry towns, and revealed their production specialization;
- we carried out typologization of small and medium-sized cities depending on the characteristics of the enterprises functioning in them;
- we analyzed the financial performance of companies during the Covid-19 pandemic in 2020–2021 and after the start of the SMO and the imposition of anti-Russian sanctions in 2022–2023;
- we proposed number of directions for further development of single-industry towns.

The study focuses on two key points: first, it is necessary to assess the extent to which the economy of small and medium-sized towns classified as single-industry towns is monoprofile at present, and second, to see how the qualitatively new socio-economic and geopolitical challenges of recent years have affected the financial performance of enterprises operating in these towns.

Main research results

Currently, there are 33 municipalities with single-industry economy in the European North of Russia, twenty of which are small and medium-sized towns. It is worth noting that while in 2014 the socio-economic situation in three single-industry towns was assessed as stable, by 2024 there are no towns in this group; however, the number of towns with a difficult socio-economic situation has increased (by 2 units; *Figure*) and the risks of its deterioration (by 1 unit).

Number of small and medium-sized towns with single-industry economy in the European North of Russia in 2014 and 2024



Source: On Approval of the List of Single-Industry Municipalities of the Russian Federation (single-industry towns): RF Government Decree 1398-r in the original and current edition (dated January 21, 2020), dated July 29, 2014.

Table 1. Population of small and medium-sized single-industry towns in 2012–2023, people

Municipality	RF constituent entities	2012	2023	Growth rate, 2023 / 2012, %
Single-industry municipalities of the RF with the most difficult socio-economic situation				
UO Kirovsk with subordinate territory	Murmansk Region	30,552	26,253	85.9
US Onega	Arkhangelsk Region	21,017	16,449	78.3
Kondopozhskoe US	Republic of Karelia	33,051	25,848	78.2
US Emva	Komi Republic	14,179	10,883	76.8
US Krasavino	Vologda Region	7,238	5,460	75.4
UO Kovdorsky district	Murmansk Region	20,714	15,423	74.5
Pudozhskoe US	Republic of Karelia	10,850	8,068	74.4
Suojarvkoe US	Republic of Karelia	9,531	6,819	71.5
Pitkyarantskoe US	Republic of Karelia	11,562	8,407	72.7
Single-industry municipalities of the RF with risks of deterioration of socio-economic situation				
UO Olenegorsk	Murmansk Region	29,783	27,974	93.9
UO Kostomuksha	Republic of Karelia	29,044	26,531	91.3
US Zapolyarny	Murmansk Region	15,717	14,231	90.5
US Sokol	Vologda Region	38,062	34,298	90.1
UO Monchegorsk	Murmansk Region	47,664	41,729	87.5
UO Koryazhma	Arkhangelsk Region	39,117	34,002	86.9
UO Novodvinsk	Arkhangelsk Region	40,288	32,826	81.5
Lakhdenpokhskoe US	Republic of Karelia	7,716	5,855	75.9
Segezhscoe US	Republic of Karelia	29,066	23,074	79.4
UO Vorkuta	Komi Republic	91,400	67,702	74.1
UO Inta	Komi Republic	33,540	21,092	62.9

Source: own compilation based on Rosstat data.

Territorially, most of the small and medium-sized single-industry towns are located in the Republic of Karelia (7 units) and the Murmansk Region (5 units). In the Komi Republic and the Arkhangelsk Region, there are three towns each, the Vologda Region has only two. All the considered municipalities experienced a decline in population in the period from 2012 to 2023, with the highest rates of population decline characterized mainly by towns with a difficult socio-economic situation (Tab. 1).

Inta and Vorkuta belong to single-industry municipalities with risks of deterioration of their situation. Their rate of population loss is very high over the period under consideration, while we cannot ignore the fact that the situation with the migration outflow has generally stabilized, and now the problem is more likely to be a natural decline. For example, almost 4 thousand people left Vorkuta

in 2012, while in 2022, it was only 204 people; the natural decline amounted to 218 people.

The presented municipalities differ not only by population size, but also by economic specialization. The economic basis of single-industry towns in the Murmansk Region is predominantly industrial production of mineral raw materials (Kirovsk) and iron ores (Kovdor, Olenegorsk), non-ferrous metallurgy (Monchegorsk, Zapolyarny). Many towns of Karelia and the Arkhangelsk Region have developed pulp and paper industry (Kondopoga, Segezha, Koryazhma, Novodvinsk). At the same time, a single enterprise or several enterprises can operate in the same industry.

We should say that the majority of town-forming enterprises are part of large holdings, which are characterized by a complex internal structure. At the same time, a number of single-industry towns under consideration have organizations that

Table 2. Typology of small and medium-sized towns categorized as single-industry municipalities

Types of small and medium-sized towns of the ENR categorized as single-industry towns		
Towns with one or more town-forming enterprises operating in one industrial sector	Towns with several large and/or medium-sized organizations in different economic sectors	Towns with liquidated town-forming enterprises
Kondopozhskoe US, UO Kovdorsky district, UO Monchegorsk, US Zapolyarny, UO Olenegorsk, Segezhsy US, US Onega, UO Novodvinsk	UO Kostomuksha, UO Kirovsk, UO Koryazhma, US Sokol, Pitkyarantskoe US, US Evma	Pudozhskoe US, UO Inta, US Krasavino, Suojarvkoe US, Lakhdenpokhskoe US
Source: own compilation.		

independently conduct economic activities and are not part of vertically integrated companies, which in the new geopolitical and socio-economic conditions also carries certain risks.

In the territory of the European North of Russia, there are towns in which town-forming enterprises have not functioned for a long time, so the impact of sanctions on them will not be so tangible, and the emergence of unoccupied market niches in the economy after the departure of Western companies can be seen as an opportunity to get out of the crisis.

In our opinion, based on the analysis of organizations operating in municipalities, we can conditionally distinguish three groups of towns: 1) *single-industry towns with one or several large enterprises in one industry sector* (i.e., towns that have retained their single-industry specifics); 2) *single-industry towns that currently have several large or medium-sized enterprises in different economic sectors*; 3) *former single-industry towns with one or several town-forming enterprises that have been liquidated* (Tab. 2).

At the same time, the towns themselves within these groups also have significant differences, which are important to take into account when developing directions for further socio-economic development.

The first category includes towns with enterprises of the same industrial specialization (Tab. 3). At the same time, the vast majority of them are part of Russia's largest vertically integrated companies, whose activities are mainly related to mining,

timber industry, and non-ferrous metallurgy. On the one hand, in an unstable economic situation, being part of a holding or group of companies gives an organization a number of advantages, for example, existing production chains between counterparties are preserved in a changing environment. On the other hand, there is a high risk of the entire vertically integrated company being included in the sanctions lists of unfriendly countries. The results of our analysis have shown that forestry enterprises are in a particularly difficult situation. For example, in Kondopoga, three enterprises are part of LLC Karjala Pulp, collectively employing more than 4 thousand people, or almost 16% of the residents of the urban settlement. The main enterprise JSC Kondopoga Pulp-and-Paper Mill is one of the largest producers of newsprint, but its products were previously mainly exported. This factor has a significant impact on the sustainability of the entire group of enterprises. In 2022, with the beginning of the SMO and the growth of sanctions pressure, OOO Karellestrans and AO Kondopoga Forestry became unprofitable; and in 2023, the aggregate financial result of Kondopoga Pulp-and-Paper Mill also decreased significantly (by 92.6%).

Another major representative of the timber industry in the town is the vertically integrated timber holding company JSC Segezha Group, whose companies are located in several cities of the European North of Russia. For instance, in Segezha Urban Settlement, all pulp and paper industry enterprises are part of it. While the consequences of the coronavirus pandemic in 2020 affected the

Table 3. Small and medium-sized towns of the ESR with town-forming enterprises operating in the same industrial sector

Municipality	Holding, VIC, group of companies	Enterprise	Main sector of specialization	Number of personnel, people/ % of population	Total financial result, thousand rubles				
					2019	2020	2021	2022	2023
Kondopozhskoe US	LLC Kaljara Pulp	JSC Kondopoga Pulp-and-Paper Mill	Paper and cardboard production	3,251/12.6	9,877	-518,071	1,544,130	1,672,040	123,166
		OOO Karellestrans	Road freight transport activities and transportation services	707/2.7	1,231	-6,362	75,606	-80,121	-168,150
		AO Kondopoga Forestry	Logging	132/0.5	215	-32,677	73,229	-75,533	-82,279
UO Kovdorsky district	EuroChem Group AG	Kovdorsky GOK	Open pit iron ore mining	5,748/37.3	1,165,970	12,228,000	34,455,000	26,112,800	No data
US Zapolyarny	PJSC MMC Norilsk Nickel [»]	OOO SP Kovdorsky	Activities of health resort organizations	346/2.2	5,091	25,531	94,353	28,166	60,045
UO Monchegorsk	PJSC MMC Norilsk Nickel	Subdivision of AO Kolskaya GMK*	Production of other non-ferrous metals	16,795/23.2***	-9,868,540	104,798,000	189,507,000	No data	No data
		Subdivision of AO Kolskaya GMK**	Production of other non-ferrous metals						
		OOO Pechenegastroi	Construction of residential and non-residential buildings						
UO Olenegorsk	PAO Severstal	Otkon	Open pit iron ore mining	2,190/7.8	8,840,020	95,714,200	23,221,000	No data	No data
Segezhsckoe US	Segezha Group	AO Olenegorsk Mechanical Plant	Machining of metal products mechanical	189/0.7	64,669	96,504	90,994	105,727	118,525
		AO Segezhscky TSBK	Production of pulp and wood pulp	2,146/9.3	585,1620	-9,927,320	6,428,930	5,467,810	-7,495,780
		Segezha Packaging	Paper and cardboard production	643/2.8	694,819	940,252	652,483	1,216,580	690,457
US Omega	Segezha Group	AO Segezha Zanad	Production of pulp and wood pulp	97/0.4	No data	No data	283	-360,616	-59,878
		Omega Sawmills	Manufacture of sawn timber	683/4.2	-234,446	407,388	1,489,570	-566,423	-470,958
		JSC Bionet	Production of fuel pellets and briquettes from wood processing waste	146/0.9	-144,143	-1,040,120	-10,848	82,660	-1,040,650
UO Novodvinsk	-	Arkhangelsk Pulp and Paper Mill	Production of pulp and wood pulp	7,407/22.3	5,773,370	3,391,040	14,021,700	93,875,100	2,126,760
		AO Arkhbum	Production of corrugated paper and cardboard, paper and cardboard containers	1,331/4.1	-2,462,150	-32,014	890,388	994,986	729,354
		CJSC Arkhangelsk Plywood Plant	Manufacture of plywood, wood veneered panels, etc.	912/2.9	-69,728	148,527	923,330	21,369	-322,495

* Formerly, it was Iron and steel plant "Pecheneganickel".

* Formerly, it was Plant Severnickel.

*** % of the total population of the UO Monchegorsk and Pechenegskoye municipality.

Source: own compilation according to the data of List-org counterparty verification service (<https://www.list-org.com>), SPARK resource (<https://spark-interfax.ru/>).

operations of only the largest enterprise Segezha Pulp and Paper Mill, the events of the last two years had a negative impact on the operations of all enterprises: in 2023 AO Segezha West and AO Segezhsky TSBK were unprofitable, and the profit of Segezha Packaging almost halved.

Onega is also home to the Onega Sawmill and Wood Processing Plant, which is part of the Segezha Group holding company and employs more than 4% of the town's residents; in 2023, it was unprofitable too. The second largest enterprise in terms of employed population (146 people) is the biofuel production plant of JSC Bionet. Its construction began in 2013 on the territory of the former Onega hydrolysis plant, in 2017 the enterprise was fully commissioned. It is important to note that JSC Bionet operates independently and is not part of vertically integrated companies. Initially, it was created as an export-oriented enterprise, the main consumer of its products was European countries. Over the last 5 years, the company's activity was mainly unprofitable, but the greatest financial losses were observed in 2020 and 2023.

Novodvinsk has three large enterprises of the forestry complex: Arkhangelsk Pulp and Paper Mill, AO Arkhbum, Arkhangelsk Plywood Plant. In total, they employ almost 30% of the town population (9,650 people). If in 2022 all the enterprises were profitable, already in 2023 there was a decrease in the financial results of Arkhangelsk Pulp and Paper Mill and AO Arkhbum, and Arkhangelsk Plywood Plant suffers losses.

The town-forming enterprises in the towns of Monchegorsk and Zapolyarny are subdivisions of AO Kolskaya GMK, a subsidiary of PJSC MMC Norilsk Nickel. The company is a mining and metallurgical production facility, engaged in the extraction of copper-nickel sulfide ores, production of non-ferrous metals and is the leading production complex of the entire Murmansk Region. Tentatively, the company employs almost a quarter

of the residents of Monchegorsk and Pechenegsky Municipal District. During the pandemic period, the company functioned quite stably, but it is rather difficult to assess its performance over the previous two years due to the lack of available data on its financial activities.

The situation is similar for AO Olkon, which is part of PAO Severstal. The company is engaged in the extraction of iron ores, and the number of people employed in production exceeds 2,000, or almost 8% of the town's residents, which is relatively small compared to, for example, the Kovdorsky District, where the Kovdorsky Mining and Processing Plant (Euro Chem Group AG) is located, which employs more than 37% of the municipality's residents. Data on the company's financial performance for 2023 are also unavailable, but its total profit in 2022 compared to 2021 decreased by almost a quarter.

All the single-industry towns under consideration also have organizations of other economic sectors, but these are mainly small enterprises in the sphere of trade, housing and utilities services and transport. Their role is important for maintaining the vital activity of the population, but it is obvious that they are unable to ensure the economic development of the town on their own.

The key difference between the second category of single-industry towns identified by us and the first one is that they have both large and medium-sized enterprises operating in different economic sectors. We can say that their economy is more differentiated, even despite the presence of the largest enterprises in the town, which are part of vertically integrated companies; in terms of the number of employed population they can be fully attributed to the town-forming ones. For example, in Kostomuksha, more than 14% of the town's population works at Karelskiy Okatysh, which is part of PAO Severstal (*Tab. 4*).

At the same time, the town has organizations for the production of automotive components (OOO AEK), repair and maintenance of electrical machines and apparatuses (OOO Kostomuksha Electromechanical Enterprise), fish breeding and processing (OOO Kala ya marjapojat), etc. The financial activity of OOO Karelskiy Okatysh is not comparable to similar indicators of medium and small enterprises. The volumes of financial activity of Karelskiy Okatysh are not comparable with similar indicators of medium and small enterprises, nevertheless, the very fact of presence of these organizations contributes to the development of processes of diversification of the town economy.

Due to the lack of data, it is difficult to assess the performance of Karelskiy Okatysh in the previous two years. However, PAO Severstal was one of the first companies to be included in the sanctions lists in 2022, which had a negative impact on its operations. According to the financial statements of the entire company and its subsidiaries, their profits in 2022 compared to 2021 decreased by 63%, from 299.6 billion rubles to 108.4 billion rubles⁵.

Another major enterprise of Kostomuksha, the AEK Auto Component Plant, a part of PKC Group, which is part of the Indian Motherson Group, is in a critical condition. Production activities were suspended due to the sanctions and already at the end of 2022 the company started layoffs, resulting in the dismissal of more than 700 people. The problem was that previously the company worked in the system of Western automobile manufacturing and on imported components, and the main consumers were European countries⁶. The other medium-sized

enterprises of Kostomuksha felt quite stable in the previous two years, there was no critical decrease in the volume of their profits.

In our opinion, the economy of Kirovsk cannot be called fully single-industrial one. The urban district is home to two major enterprises that extract minerals for the chemical industry and produce mineral fertilizers – the Kirovsk branch of Apatit (PhosAgro) and North-Western Phosphorous Company (Acron Group). However, in addition to them, the town has enterprises producing construction materials or chemical products. However, the most important economic sector is the tourism and entertainment sector. For example, one of the largest organizations is OOO Tirvas, which owns a health resort complex of the same name and the Northern Safari Center, which provides tourist services. This company's operations were unprofitable during the pandemic, but in 2023, its total financial result amounted to almost 2 billion rubles, which is only half as much as the performance of North-Western Phosphorous Company, while the number of employees at the latter was 3.5 times higher.

Koryazhma is home to OOO Ilim-TNP, specializing in the production and sale of paper products, which, judging by the analysis of its financial performance, adapted to the changing environment quite quickly and successfully. Kotlassky Chemical Plant also operates in the town, but it is difficult to assess its financial performance due to the lack of data.

The main industry specialization of Sokolsky urban settlement is timber industry. Three enterprises of Segezha Group (Sokol Timber Company, Sokolskiy Pulp and Paper Mill, Sokol CLT), as well as Sukhonsky Cardboard and Paper Mill, part of the Consolidated Paper Mills Company, are located in the town. The analysis of financial results of these enterprises allowed concluding that all of them were unprofitable in 2023. At the same time, the town has a developed

⁵ Disclosed consolidated financial statements for the years ended December 31, 2020, 2021, 2022, 2023. Official website of PAO Severstal. Available at: <https://severstal.com/rus/ir/indicators-reporting/financial-results/>

⁶ The AEK auto component production facility in Karelia came out of downtime. *Vedomosti*. Available at: <https://spb.vedomosti.ru/business/news/2023/12/20/1012022-predpriyatie-po-proizvodstvu-avtokomponentov-ae-k-v-karelii-vishlo-iz-prostoya>

Table 4. Small and medium-sized towns of the ENR with several large and/or medium-sized organizations operating in different economic sectors

Municipality	Holding, VIC, group of companies	Enterprise	Main sector of specialization	Number of personnel, people/ % of population	Total financial result, thousand rubles				
					2019	2020	2021	2022	2023
UO Kostomuksha	PAO Severstal	Karelskiy Okatysh	Open pit iron ore mining	3,730/14.1	39,044800	36,107500	97,239900	No data	No data
	PKC Group	OOO AEK	Manufacture of electrical and electronic equipment for motor vehicles	956/3.6	3,783	-65,778	48,692	-302,644	-268,359
	-	OOO TTS	Maintenance and repair of motor vehicles	207/0.8	22,363	15,289	6,767	91,050	195,019
	-	OOO Kostomuksha Electromechanical Enterprise	Repair of electrical equipment	140/0.5	33,772	16,096	20,904	51,889	73,253
UO Kirovsk	-	Kala ja marjapojat	Freshwater industrial fish farming	131/0.5	301,245	162,516	461,166	507,579	437,298
	PhosAgro	Kirovsk Branch of Apattit	Mining of mineral raw materials for chemical and fertilizer production	No data	39,685200	45,380500	119,307000	No data	No data
	Acron Group	North-Western Phosphorous Company	Mining of mineral raw materials for chemical and fertilizer industries	2,307/8.8	-772,066	-150,774	3,424540	4,339670	4,141800
	-	OOO Tirvas	Other entertainment and entertainment activities	620/2.4	-344,460	-272,873	-134,419	1,050740	1,968740
UO Koryazhma	-	OOO Gorny Tsek	Construction of residential and non-residential buildings	457/1.7	144,412	466,051	320,012	67,666	-564,071
	-	OOO Construction Materials Center	Production of ready-mix concrete	73/0.3	29,427	52,722	12,902	315,43	68,556
	-	OOO Nitro Sibir Zapolyarie	Manufacture of other chemical products not included in other groupings	69/0.3	136,589	157,804	97,690	139,552	285,610
	Ilim Group	ILIM-TNP	Production of corrugated paper and cardboard, paper and cardboard containers	488/1.5	48,456	82,448	130,569	211,919	193,031
-	OOO Kotlasky Chemical Plant	Manufacture of other paints, varnishes, enamels and similar coating materials, artistic and printing paints	340/1.0	173,948	185,788	172,440	No data	No data	

End of Table 4

Municipality	Holding, VIC, group of companies	Enterprise	Main sector of specialization	Number of personnel, people/ % of population	Total financial result, thousand rubles				
					2019	2020	2021	2022	2023
US Sokol	The Consolidated Paper Mills Company	Sukhonsky Cardboard and Paper Mill LLC	Production of paper from recovered paper pulp	1,238/3.6	666,351	68,854	1,983,960	645,004	-228,372
		Sokol Timber Company	Sawing and planing of wood	959/2.8	294,259	239,375	1,299,800	-392,759	-581,681
	Segezha Group	Sokolkiy Pulp and Paper Mill	Production of pulp, wood pulp, paper and cardboard	559/1.6	120,206	143,814	1,969,511	-37,809	-337,426
		Sokol CLT	Manufacture of wooden building structures and joinery products	1,14/0.3	540	3,220	-140,549	-403,646	-220,349
Pitkyarantsoe US	-	OOO Sukhonsky Dairy Plant	Production of other dairy products	250/0.7	4,390	-9,168	-51,237	39,080	474,42
	-	SPK Sokolsky Meat Processing Plant	Production of chilled meat	179/0.5	2,083	3,334	-1,756	10,694	8,457
	-	OOO RK-Grant	Production of pulp and wood pulp	861/10.3	1,098,100	972,117	1,384,580	1,232,600	1,803,410
	-	OOO Pitkaranta non-metallic quarry	Mining of decorative and building stone, limestone, gypsum, chalk and slates	281/1.6	-2,236	-4,599	14,836	11,2126	50,388
US Ervva	-	OOO L-Trans	Wholesale trade in raw wood and unprocessed timber	94/1.2	11,806	16,930	32,807	3,746	32,630
	-	OOO Pititny Mir	Production of veneer, plywood, wooden boards and panels	32/3.0	12,160	2,220	160,242	60,573	1,458
	-	Timan Bauxit	Open pit mining of aluminum-containing raw materials	496/4.6	962,567	583,225	656,029	No data	No data

Source: own compilation according to the data of List-org counterparty verification service (<https://www.list-org.com>), SPARK resource (<https://spark-interfax.ru/>).

food industry, the largest representatives of which are Sukhonsky Dairy Plant and SPK Sokolsky Meat Processing Plant. During the pandemic, both enterprises experienced serious difficulties, but they have been working quite stably in the previous two years.

Timber industry is also the key economic sector in Pitkaranta. The largest enterprise – the pulp mill Pitkyaranta (OOO RK-Grand) functioned quite successfully in 2022–2023, but the company's management was unable to carry out the planned measures to modernize production due to the disruption of supplies of Western equipment due to the imposed sanctions. Pitkyaranta non-metallic quarry, engaged in the production of crushed stone of various fractions, also operates in the town.

Two main enterprises can be distinguished in Emva: Timen Bauxite, specializing in the extraction of aluminum-containing raw materials, and OOO Plitny Mir, engaged in the production of veneer, plywood, wooden boards and panels. It is rather difficult to judge the performance of the first one due to the lack of information on financial activity, while the second enterprise has seen a noticeable decrease in profit in recent years.

The third category of towns includes municipalities where large industrial enterprises used to operate, but they were liquidated. The history of Inta's development is inextricably linked with its town-forming enterprise AO Intaugol. However, the demand for its products was gradually falling, and the enterprise was unprofitable for many years. The provided measures of state support did not help to bring it out of the crisis, and in 2019 the company's management decided to close the mine. Currently, the town has several small and medium-sized enterprises, mainly providing housing and communal services to the population. Unfortunately, there are no large enterprises capable of ensuring sustainable development of the town. A similar situation is observed in Krasavino, where OAO Krasavinsky Flax Factory operated until 2009,

as well as in Pudozh, where OOO Pudozhlesprom operated until 2011.

In this group, the towns of Lahdenpohja and Suojarvi stand out from the rest, as their economy continued developing even after the closure of town-forming enterprises (OOO Lahdenpohja Plywood Mill and OOO Suojarvi Cardboard Factory). We should note that the enterprises in the towns have different industry specialization. The largest organizations by the number of employees in Suojarvi are the wood processing plant OOO Forest Travel and AO Zapkarelles engaged in logging. However, the town also has a small food industry enterprise OOO Mama Karelia, which ranked third in terms of revenue in 2023. Lakhdenpokhya is home to enterprises also mainly engaged in logging, but the fish farm OOO Fishforel operates quite successfully.

In the context of qualitatively new challenges faced by the Russian economy, the issues of assessing the prospects and finding directions for the further development of small and medium-sized towns of the ENR are quite acute, since many of the settlements under consideration are not just town-forming enterprises, but companies whose activities determine the national security of the country, as they work for the needs of the military-industrial complex. Supporting their production activities and helping them find new markets are strategically important.

However, the solution to the problem of the development of Russian single-industry towns requires the implementation of a whole set of measures concerning not only the issues of diversification of their economy, but also the improvement of the institutional framework and strategic management system, as well as the formation of modern transport and social infrastructure. In other words, it is important to implement a comprehensive approach, where, in our opinion, the following can be identified as key areas.

Updating the list of single-industry towns. According to our analysis, only a few municipalities in the list of single-industry towns are currently characterized by a single-industry economy, and in some of them town-forming enterprises have long been liquidated. In this context, one of the most important tasks is to determine the criteria for classifying a settlement as a single-industry town. In this case, in our opinion, it is important to take into account not only the share of the population employed at the town-forming enterprise, but also the key trends in the development of the town as a territorial unit. Currently, three types of single-industry municipalities are distinguished depending on the socio-economic situation in the town. In our opinion, this approach has its place, but it is important to establish a list of indicators by which a town can be attributed to one or another of these groups. No less important in this matter is to take into account the size of the settlement because in a large town, even with a single-industry economy, the service sector is quite developed, which cannot be said about small towns. This makes them more vulnerable to external risks.

Improvement of the system of strategic planning for the development of single-industry towns. The Russian practice already has some experience in the development of comprehensive investment plans (CIPs). However, in many respects, the implementation of this tool was of an exclusively formal nature, i.e. it was essentially aimed only at the development of the document itself to receive state support measures, and not at the elaboration of a meaningful strategy for further development of the town. At the same time, the implementation of the strategic approach is necessary not only at the municipal level. The strategy of socio-economic development of the constituent entity of the Russian Federation should also take into account the risks that may be faced by single-industry municipalities and provide options for their leveling.

Development of transportation and social infrastructure in single-industry towns. Undoubtedly, the stable functioning of the town's economy is the most important strategic task, but the degree of comfort of living in the settlement is also rather essential. In this case, the Soviet experience is quite applicable, when with the construction of production enterprises, social infrastructure facilities (kindergartens, schools, hospitals, houses of culture) for workers and their families were built in parallel. The state surely played a major role then, but in market conditions such an instrument as public-private partnership can be used. In particular, it seems reasonable to develop a system of benefits and preferences for organizations investing in the improvement of the town and the development of its social sphere.

The choice of the model of socio-economic development of the town. It is worth noting that this issue has been repeatedly raised in the scientific literature. For example, in the work (Development of single-industry towns in Russia..., 2013) the key strategic directions of development of single-industry settlements include: 1) high-tech development; 2) enhanced development of economic and social spheres; 3) transition to the rotational method of organizing work at the town-forming enterprise. Other authors (Voronina et al., 2021), based on the study of world experience, distinguish three models of single-industry town development depending on the functioning of the town-forming enterprise: 1) managed contraction; 2) single-industry town stabilization; 3) industrial diversification. In our opinion, these approaches are quite similar and quite applicable to the Russian realities.

At the same time, taking into account the types of towns we have identified, a number of priority areas for their further development can be identified. In the context of a shortage of funding, which is especially important in the current economic

situation in the country, it is important to prioritize to avoid dispersal of budgetary funds.

For instance, for municipalities with one or several large enterprises in one industry sector, in other words, “true” single-industry towns, state support at the federal level is important. At the same time, since most of these towns can be referred to the “raw material” type (mining, timber industry), it is important to understand and be able to predict the degree of demand for the products manufactured in single-industry towns on Russian and foreign markets. Accordingly, support tools should be aimed at preventing possible risks. Moreover, since town-forming enterprises in many towns were established in Soviet times, an important task is to modernize them, including at the expense of budget financing.

Full diversification of the economy of towns of this type, in our opinion, is an extremely difficult task, but it is quite possible to develop related spheres of economy in parallel with the main industry. For example, one of the promising and quite realizable directions, in our opinion, can be the development of industrial tourism. In the Strategy of tourism development in the Russian Federation for the period until 2035⁷, industrial enterprises are designated as points of attraction for domestic and inbound tourists. Many enterprises are becoming more open and nowadays some of them are already quite active in conducting excursions to their production facilities. At the same time, according to the Internet portal Promtourism.ru⁸, the enterprises organize excursions only in the Murmansk and Arkhangelsk regions. At the same time, in the Arkhangelsk Region these are mainly organizations located in the regional center, the site does not provide information on any single-industry town. In the Murmansk Region, on the contrary, many towns conduct excursion activities.

First of all, it is Kirovsk, where other types of tourism are also developed. However, we should say that North-Western Phosphorous Company offers excursions only for schoolchildren and students, while Apatit also offers excursions for business groups and foreign tourists. The Kovdorsky GOK and Olenegorsky GOK are also open for visits by tourist groups.

The industrial tourism development in small and medium-sized single-industry towns of the ENR will have a number of positive effects for related economic sectors. First, tourism infrastructure enterprises will get an impetus to development: hotels, catering organizations, trade and transport. Second, it will contribute to the formation of a positive image of the town, the growth of its recognizability, and in the future, possibly, the creation of its own brand.

At the same time, it is important to realize that currently there are many barriers to the development of industrial tourism in northern single-industry towns (Ivanova, Matyunin, 2022). The issue of transportation accessibility is especially acute. It is not by chance that the tourism sphere is most developed in Kirovsk, where there is an airport. In this context, it is necessary to emphasize the importance of consistency of strategic documents of the federal, regional and municipal levels among themselves. In particular, at present Russia has been implementing the national project “Comprehensive Plan for Modernization and Expansion of Trunk Infrastructure”⁹ for many years, within the framework of which one of the federal projects is “Development of Regional Airports”. Accordingly, the allocation of funding to single-industry towns for the construction and modernization of transport infrastructure can be carried out along this line. In general, the development of this direction requires

⁷ RF Government Decree 2129-r, dated September 20, 2019 “On approval of the Strategy for the development of tourism in the Russian Federation for the period up to 2035”.

⁸ Available at: <https://promtourism.ru/>

⁹ RF Government Decree 2101-r, dated September 30, 2018 “On Approval of the Comprehensive Plan for Modernization and Expansion of Trunk Infrastructure for the Period until 2024” (as amended).

the coordinated interaction of all key stakeholders: authorities of all levels, heads of town-forming enterprises, representatives of the local business community, tourist firms and the local population.

Also, it is especially important to develop public-private and municipal-private partnerships in towns where large vertically integrated companies are present. At the same time, one of the promising areas for small and medium-sized towns is education, in particular, the opening of branches of higher and secondary vocational education organizations. This will allow enterprises to solve the problem of qualified personnel supply, and the town will be able to retain young people who leave to enter educational institutions in larger towns or regional centers.

At first glance, it may seem that the problem of single-industry may be solved for the second type of towns we have identified, where several large or medium-sized enterprises in different economic sectors are currently operating. However, in real practice, we think that the socio-economic situation of most of them can hardly be called sustainable. We should understand that potentially these towns may be excluded from the list of single-industry municipalities, and, accordingly, they will lose the opportunity to receive federal funding or be granted the status of a priority social and economic development (PSEDA). At present, only 5 out of 20 single-industry towns of the ENR have this status: Emva, Kirovsk, Kondopoga, Onega, Kostomuksha, and there is one industrial park (Sokol, Vologda Region). The assessment of the effectiveness of the application of this institution is not so unambiguous and is a separate topic of scientific research. However, as the analysis has generally shown, the economies of these towns are indeed more diversified. The issue of revising the requirements for granting a town the PSEDA status remains open and highly relevant.

We suppose that another important direction for this category of towns is to support the development

and bringing to a competitive level of small and medium-sized businesses, not only large enterprises operating in the town. The service sector, in which there are many unoccupied niches, is quite promising. Besides, it is less capital-intensive compared to the production sphere, where serious investments may be required to start a business.

Finally, the options for further development for the third group of so-called “former” single-industry towns are also not so unambiguous. One of them is the implementation of the strategy of “managed compression”. This development model is quite applicable to mining towns located in unfavorable climatic conditions. A classic example is Inta, where coal mining was stopped long ago and the population has decreased by almost 2/3 compared to the late Soviet era. For such towns the issue of maintenance of housing and communal infrastructure is acute, and the policy of “managed compression” may become one of the options for the solution.

In our opinion, position of the third type of towns in the regional settlement system is of determining importance for them. For example, Krasavino in the Vologda Region is located between the larger towns – Veliky Ustyug and Kotlas. A number of studies consider such towns as the nuclei of the emerging agglomeration (Vóroshilov, 2021; Sekushina, 2022). Accordingly, one of the promising options for Krasavino is its development as part of the Kotlas urban agglomeration.

Pudozh, Lahdenpohja and Suojarvi are territorially remote from other large towns, but are included in the officially approved list of reference settlements of the Republic of Karelia¹⁰. On the one hand, we can conclude that the public authorities of the region in the future see their development as service centers for the adjacent rural areas.

¹⁰ Government Decree of the Republic of Karelia 159r-R, dated February 27, 2023 “On approval of the list of reference settlements and adjacent settlements of the Republic of Karelia”.

On the other hand, it is impossible to ignore the presence of certain questions about the level of compliance of these towns with the designated status (Sekushina, 2023). At the same time, we believe that this direction is correct in principle, intermunicipal cooperation for these towns and adjacent territories is almost the only option for further development. However, it is important to realize a strategic approach and to develop systemic policy measures in this direction.

Conclusion

Thus, using the example of the considered small and medium-sized towns of the ENR, we were convinced of the invalidity of the existing approach to their division into only three categories: single-industry towns with a stable socio-economic situation, risks of its deterioration and a difficult situation. The analysis has shown that in general not all municipalities included in the list of single-industry towns can actually be classified as single-industry with one branch of economic specialization or one town-forming enterprise. In such towns as Kirovsk, Koryazhma or Sokol, the economy is relatively diversified despite the presence of a major enterprise. In a number of the ENR towns, the town-forming enterprises have been closed for quite a long time, and new ones, allowing to judge the town specialization, have not appeared. In fact, these municipalities do not differ from other small towns with a high share of the population employed in the public sector. They can be categorized as depressed or problematic areas, rather than single-industry towns. Such towns as Inta, Krasavino, and Pudozh are vivid examples.

Based on the analysis of financial results of enterprises operating in small and medium-sized towns, we can conclude that the serious sanctions pressure, the breakdown of production chains with Western countries led to a noticeable decline in profits. The enterprises of the timber industry complex were particularly badly affected, as this industry was more export-oriented. Almost all

organizations involved in logging, wood processing, pulp and paper production suffered losses in the last two years.

At the current stage of the country's development, the search for ways to further develop single-industry towns seems to be an urgent task. In our opinion, single-industry is not a problem in itself, but it carries certain risks for the sustainable socio-economic development of territories. Diversification of the economy of small and medium-sized towns, which is based on large industrial enterprises of regional and even national scale, seems to be an important but difficult task. At the same time, if we look at the situation from a different angle, the current circumstances can be considered as an opportunity to open new enterprises in the vacated niches of the economy.

At the current stage, the first priority is to revise the list of single-industry towns. However, it is important to take a balanced approach to this issue, especially in relation to small and medium-sized towns. The settlement itself, strictly speaking, may not be classified as single-specialized at the moment, but the socio-economic problems that have been accumulating in it for years may still be relevant. In this context, it is necessary to conduct a deeper assessment of the state of the economy and social sphere of these towns to further develop systemic measures of state policy for their development.

The scientific significance of our study lies in our proposed approach to the typology of Russian towns categorized as single-industry municipalities, as well as the assessment of the consequences of qualitatively new socio-economic and geopolitical challenges of recent years for the enterprises operating in such towns.

The practical significance of the work consists in the possibility of using the obtained results by public authorities to adjust the list of single-industry municipalities, as well as in the development of measures of state support for the development of single-industry towns.

The development of strategic planning tools for towns of different sectoral specialization, as well as the search for the development of public-private and municipal-private partnership between town-forming enterprises and state and local authorities are promising areas for further research on this topic.

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