

DEVELOPMENT OF THE RUSSIAN ARCTIC WITHIN THE CONTEXT OF CRISIS CAUSED BY COVID-19

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Abstract: The paper discusses the phenomenon of the present-day unique crisis generated by COVID-19 which has pushed forward conceptually new aspects of scientific comprehension, in particular, the development of the Russian Arctic. The pandemic COVID-19 has demonstrated its impact to have gone beyond the medical context resulting in sizable disruptions of social and economic life. The authors discuss the "Arctic" invariant phenomenon that may affect the economy of regions of the Arctic adversely, aggravating the unemployment and speeding up the population outflow. Thus, the consequences of the COVID-19 pandemic for the Russian Arctic are more than long-lasting.

Keywords: Russian Arctic, COVID-19, crisis, economy, risks.

1 Introduction

The paper deals with the phenomenon of the present-day unique crisis generated by COVID-19 which has pushed forward conceptually new topics and aspects of scientific comprehension of all social processes. This crisis has aggravated considerably systemic problems of the development of economies and social sphere both of the world's countries and regions, raising new issues having no analogs in the recent history. This predetermines the relevance of considering literally each and every aspect of the influence of the crisis generated by COVID-19.

In spite of the measures undertaken worldwide to curb spread of the virus, 17064064 confirmed cases of COVID-19, including 668073 cases of WHO registered deaths, were recorded as of July 31, 2020. All experts believe there are more real cases of infection and deaths due to COVID-19 that are not being reported. The situation with the spread of confirmed COVID-19 incidence and death rate is extremely non-uniform across regions: the North and South America – 8771,4 ill people per 1 million population (338,5 deceased per 1 million population); Europe – 3540,1 patients per 1 million population (227 deaths per 1 million population); East Mediterranean Region – 2078,8 ill ones per 1 million population (53,6 dead per 1 million population), Southeast Asia – 963,7 patients per 1 million population (21,3 deceased per 1 million population), Africa – 671,7 (11,4 deaths per 1 million population), Western Pacific Region – 154,8 (4,3 dead per 1 million population). Notably, Russia has adopted stringent restrictive measures; however, its incidence rate is one of the world's highest. So, as of July, 31, in Russia, the number of COVID-19 patients amounted to 839981, with the death toll being 13960.

There are no clear dependences of the incidence and death rates on the economic development level of particular regions and countries, which stems from not only the quality of the data, but also management, including the speed of introducing restrictive measures and their harshness.

This crisis has shown that what mainly determines the level of losses – not only the human, but the economic ones, too – is management (Yoo & Managi, 2020; Ismaila, Haniffa & Kassim, 2020). Let it be explained, it is certainly the processes in the world's three production centers (China, Europe, and the USA cater for 63% of the world import and 64% of the export in production and sales chains) that set the general trends and conditions of the world economy restart (Uzan, 2020). However,

the timing and pace of the said world economy reboot is and will go on to be determined largely by management of a particular country and its regions (obviously, the extent of its influence depends on the size and structure of the national economy).

Thus, the impact of the crisis caused by COVID-19 will be country-specific not only due to the unique influence of the headwinds, specialization of the economies, but also due to the unique decisions of the management, as there are no uniform standard measures of responding to qualitative changes. Thus, covering the issues and consequences of the crisis in terms of particular areas goes to the forefront of both basic research and scientific and practical studies.

The study of the processes taking place in the specific areas of the Russian Arctic requires particular attention. Higher relevance of the scientific support for social and economic processes of the Russian Arctic is predetermined by the presence of a series of fundamental controversies of the development of this area. So, on the one hand, exploitation of natural resources of the Russian Arctic has to be stepped up for replenishing the budget of Russia, and the set task of raising the level of socio-economic development has to be accomplished. On the other hand, high costs of operation of the economy and social sphere, remoteness, unfavorable climate, and other adverse factors limit the economic activity and social development objectively, generating the clash between the requirements of exploitation of natural resources and those of ecology, etc. (Leksin & Porfiriev, 2015; Samarina et al., 2020; Larchenko, Gladkiy & Sukhorukov, 2019). The authors' studies have clearly shown that these systemic controversies demand compulsory enhanced participation of the state in all questions of operation in the Russian Arctic. They also determine that liberal economy functioning principles can only be used to a limited extent here due to higher costs of running the economy and social sphere of these areas (Baranov, Skufina & Gushchina, 2020; Serova, Korchak & Skufina, 2020; Skufina & Mitroshina, 2020).

The COVID-19 pandemic has led to disturbances of social and economic life. What consequences will there be for the Russian Arctic? How will the priorities of the policy and management change? The answers to these questions are still unknown, but it is they that are to determine the population's life activity and the economy of the Arctic in conditions of the monostructural economy. Mistakes of the post-Soviet management have resulted in systemic problems of the development of the Russian Arctic emerging – they are infrastructure losses, increased migration from these areas, simplification of the economy, and worse quality of life of the population (Leksin & Porfiriev, 2015; Skufina, Baranov & Samarina, 2021). There are concerns that these systemic problems will be aggravated under the effect of the objective causes of the present-day crisis. The past management experience gives evidence about further risks – the flaws of management of the Russian Arctic overlap with these destructive processes. Obviously, to bring the risks to the minimum, one has to know in detail the specific aspects of the current processes of the development of the Russian Arctic within the context of the crisis caused by COVID-19. This is exactly what determines not only the scientific importance but also the practical relevance of the research suggested which is aimed at diagnosing the current situation in the Russian Arctic.

2 Literature Review

The questions of the progress of the Russian Arctic within the context of the impact of the current non-economic source crisis have not been addressed by scientific studies so far. This is due to three reasons. The first one is obvious and objective: this is the well-known issue of delayed representation of findings when it comes to studying new phenomena and processes because studying them requires accumulation of the data, processing and

understanding them, with the publication process itself taking up some time, too.

The second reason is the uniqueness of the current non-economic source crisis which turned out to be a drastic shutdown for the world economy. A number of politicians and researchers of various domains of scientific knowledge compare this crisis to the Great Depression of the 1930s, the economic situation of the World War II, the 1998 and 2008 crises (Laing, 2020; Nicola et al., 2020). As a rule, the researchers confirm this association of the forecasted gravity of the crisis, the intensity of its impact, and catastrophic consequences for the world economy, national economies, regions, urban settlements, and particular areas. The authors believe the principal reason of turning to history of the world crisis is the search for similarities that are essential in conditions of uncertainty of the environment, which hinders the analysis of interrupted trends of indicators and the use of standard forecast methods.

The authors tend to the opinion that the current crisis caused by the COVID-19 pandemic is entirely different from the previous ones due to several reasons. The principal reason is the fact that production and economic activity was partially or completely stopped by managerial decisions almost throughout the world, with unforeseen consequences for the economy and qualitative changes to social processes looming (Rapaccinia et al., 2020; Puriwata & Tripopsakulb, 2020). M. Uzan (2020), Executive Director and Founder of Reinventing Bretton Woods Committee, said: "This is a unique event in history. This crisis will change the way we think about the global economy, about global governments, about regional integration, and so on". Moreover, some researchers believe the crisis to have disrupted the formed chains of global relations, global production linkages, to have drastically changed the structure of geopolitical and economic risks, and to have outlined new conditions for social relations, – which means, their possible transformations (Labukin, 2020). Studies show that it is not the analytics practiced by years but the news that has the decisive meaning for making investment decisions in the period of the COVID-19 pandemic (Salisua & VinhVob, 2020).

The words "the world will never be the same" is now the prevailing metaphor of the economists, politicians, journalists, and virtually everyone. Accordingly, this crisis is to conceptually change people's idea about focus areas and conditions of the development of the Russian Arctic. Nevertheless, even as of the present point of time, they have not yet accumulated sufficient data worldwide to make valid suppositions about how exactly and how profoundly the world will change. The renowned analytical agencies and organizations forecast so broad a range of possible changes of the principal indicators, as seen in Figure 1, that one should rather speak about the change vector than about the forecast.

Figure 1 Summary of recent forecasts for the world GDP and trade

	Real GDP (% change)		Trade volume (% change)		Elasticity (ratio)	
	2020	2021	2020	2021	2020	2021
WTO Trade forecast (April 2020)						
- optimistic scenario	-2.5	7.4	-12.9	21.3	5.3	2.9
- pessimistic scenario	-8.8	5.9	-31.9	24.0	3.6	4.1
IMF World Economic Outlook (April 2020)	-3.0	5.8	-11.0	8.4	3.6	1.4
World Bank Global Economic Prospects (May 2020)	-5.2	4.2	-13.4	5.3	2.6	1.3
OECD Economic Outlook (June 2020)						
- single hit scenario	-6.0	5.2	-9.5	6.0	1.6	1.1
- double hit scenario	-7.6	2.8	-11.4	2.5	1.5	0.9
Memo items:						
IMF GDP at market exchange rates	-4.2	5.4	-11.0	8.4	2.6	1.6
World Bank GDP at purchasing power parity	-4.1	4.3	-13.4	5.3	3.3	1.2

Source: WTO Secretariat, International Monetary Fund, World Bank, Organization for Economic Cooperation and Development, Federal Reserve Bank of Philadelphia, European Central Bank (Trade falls steeply in first half of 2020, 2020)

Similarly, the short series of the statistical data on the development of the Russian Arctic do not enable one to identify clear internal trends that can be extrapolated. Hence the

researchers of the Russian Arctic do not have set subjective ideas about the way the economy of the Arctic oriented to exporting natural resources and products of their processing (which means, depending on the world processes) is going to develop. Clearly, the lack of such ideas, valid forecasting of the world economy development hindered, and even more difficult forecasting of Russia's secondary economy limit the possibility of making valid hypotheses about the progress of the Russian Arctic considerably.

The third reason is the intensive norm-setting which determines socio-economic development processes of the Russian Arctic and coincided with the sweep of the world crisis caused by COVID-19. The authors believe this factor to have also limited scientific research aimed at studying possible qualitative changes in conditions of the development of the Russian Arctic in the nearest future. Notably, Russian researchers of the economy of the Arctic, including the authors of this paper, have been extensively involved into the norms-creating processes in recent years. In the first half of 2020, an entire package of much-anticipated laws has been enacted consolidating protectionism, resulting in considerable benefits for business investing into the economy of the Russian Arctic.

The principal law to establish a special legal regime for the Arctic zone of the Russian Federation, the state support measures, and the procedure of entrepreneurial activity in the Russian Arctic is the law "On the state support of entrepreneurial activity in Arctic zone of the Russian Federation", approved by the President of Russia on 13/07/2020. The essence of the package of documents concerning the development of the Russian Arctic is up to the world practice establishing protectionism towards business and compensations for the population (Heininen et al., 2019; Serova, Korchak & Skufina, 2020). The benefits for the entrepreneurial community of the Arctic being available both for large enterprises and smaller business and consolidated in law are the factor to contribute to the recovery of Russia's economy in the mid-term period.

However, there is a group of other factors preventing the economy of the Russian Arctic from slumping. Usually, in a stable situation, scientists evaluate these factors as negative for the development of the Arctic: 1) relative simplicity of the economy oriented to exploiting natural resources, 2) poor development of smaller business; 3) underdeveloped trade and services sector as compared to the general Russian situation (Leksin & Porfiriyev, 2015; Skufina, Baranov & Samarina, 2021; Skufina et al., 2019). Still, the authors believe that in the crisis conditions, it is these factors that will ensure greater stability of regions of the Russian Arctic as compared to Russia's other regions characterized by more diversified economies. Notably, the set of the said factors is a kind of invariant. Let it be reminded from mathematics that invariant is a property which does not change under the given transformations. The "Arctic" invariant is the very group of factors characterizing the economy of the Arctic and remaining unchanged in spite of efforts of the state management to eliminate these specific features of the economy.

3 Research Methodological Framework

The objective of the research is to diagnose and find out the specific aspects of the impact of restrictions caused by COVID-19 on the economy of regions of the Russian Arctic, it will be considered within the context of the condition of both the world and Russia's economy. The research will examine how the impact of the crisis on the economy of the Arctic is associated with the phenomenon of the "Arctic" invariant and how it ensures the stability of the economy of the Russian Arctic in the crisis period. Thus, the research hypothesis is as follows: regions of the Russian Arctic demonstrate higher stability of the economy as compared to the general Russian situation when going through numerous restrictions, problems, and changes caused by COVID-19.

The Russian Arctic is Russia's regions the areas of which are entirely included into the Arctic zone of the Russian Federation (according to the Decree of the President of the Russian Federation dated May 2, 2014 No. 296 "On land territories of the Arctic zone of the Russian Federation") - Murmansk Region, Nenets Autonomous District, Yamal-Nenets Autonomous District, and Chukotka Autonomous District.

The study of the available information about the specific aspects of the impact the current non-economic source crisis has on economies of countries, regions of the world, and specific areas points to the ambiguity, controversy, and quite frequently, inaccuracy of the information. Hence the input materials used by the authors are the data of the official statistics provided by the state statistics services.

The tasks and the relevant stages in methodology of diagnosing the consequences of the crisis for the economy of regions of the Russian Arctic are as follows.

1. Identifying the scale of impact the crisis caused by COVID-19 has on the world economy.

The importance of completing this task is determined by the increased dependence of the raw materials economy of the Russian Arctic on condition of the world economy.

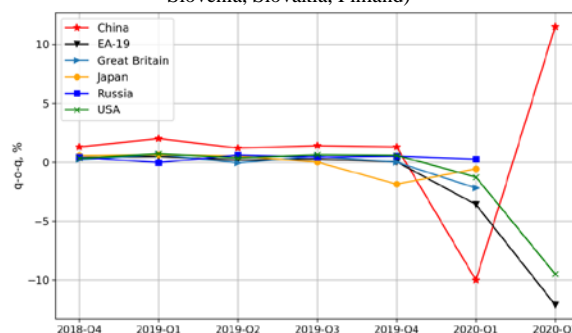
The authors are going to consider the quarterly behavior of GDP of the world's principal economies for the periods from 2019 to the first or second quarter of 2020, where the data is available.

2. Considering the impact of the crisis caused by COVID-19 on the economy of Russia's Arctic regions and the country in general. The authors are going to use monthly running data about socio-economic position of Russia provided by the Federal State Statistics Service. The indicators under analysis are: the industrial production index, retail trade turnover, number of the unemployed. To single out the impact of the crisis, they study ratios of the indicators in % for January 2019 to June 2019 and for January 2020 to June 2020 to the similar periods of previous years.

4 Results and Discussion

In the first quarter of 2020, the countries in figure 2 (except Japan which shows a slight growth of GDP) demonstrate a reduction of GDP growth as compared to the previous quarter in 2019. It should be noted that restrictions (pandemic lockdown) were introduced in Russia during the last week of March, 2020 so GDP has remained stable during the first quarter of 2020. Regrettably, as of writing this paper, the 2020 second quarter GDP data was only available for China, the USA, and 19 countries of the European Union (EA-19). The most pronounced drop of 10% was experienced by China in the first quarter of 2020; this period coincided with the peak of the COVID-19 pandemic for China. In the second quarter of 2020 China experienced a 11.5% growth in GDP, this can be attributed to the fact that China succeeded in reducing the COVID-19 incidence rate significantly, which has allowed lifting the restrictions. A similar drop of GDP in the first and second quarters of 2020 can be noted in the USA (9.5%) and Europe (12.1%). This is also accounted for by restrictive measures adopted by governments due to the surge of the COVID-19 incidence rate.

Figure 2 Seasonally adjusted GDP growth rate compared to previous quarter for China, Great Britain, Japan, Russia, USA, and 19 European countries – EA-19 (Belgium, Germany, Estonia, Ireland, Greece, Spain, France, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Austria, Portugal, Slovenia, Slovakia, Finland)



Source: authors' calculations based on the statistics data for countries and regions of the world (Organization for Economic Co-operation and Development, 2020)

Table 1 Industrial production indices in % of the respective period of the previous year for January-June 2019 and January-June 2020, for Russia and Arctic regions

	Russia	Murmansk Region	Yamal-Nenets Autonomous District	Nenets Autonomous District	Chukotka Autonomous District
Jan-2019	102.0	102.3	117.0	99.2	80.3
Feb-2019	103.6	97.4	121.0	102.7	81.3
Mar-2019	101.8	95.4	123.4	101.0	137.9
Apr-2019	104.1	103.3	137.8	97.8	107.9
May-2019	99.9	110.7	128.9	97.2	97.9
Jun-2019	101.9	104.4	124.8	99.1	111.3
Jan-2020	101.1	98.5	101.2	98.0	115.9
Feb-2020	103.3	102.5	103.1	101.0	120.6
Mar-2020	100.3	99.3	96.6	98.0	71.0
Apr-2020	93.4	90.5	97.5	101.0	111.4
May-2020	90.4	95.1	93.1	81.9	112.9
Jun-2020	90.6	98.4	90.1	79.3	93.0

Source: authors' calculations based on the statistics data for Russia (Federal State Statistics Service of Russia, 2020)

The analysis of behavior of industrial production indices, in table 1, is indicative of the ambiguity of the situation among regions of the Russian Arctic. So, in Murmansk Region, beginning from March 2020, with the introduction of restrictions in Russia, the regions' industrial production shrinks. Meanwhile, the situation is different from that of the similar period of 2019 in a qualitative way, as the industrial production in Murmansk Region was characterized by growth (with the only exception being March 2019).

The trends of Murmansk Region are similar to Russia's situation; however, they feature less shrinkage of production than in the entire country as a whole. There is a certain similarity to the situation in Russia which stems from the economy of Murmansk Region being the most diversified one among regions of the Arctic. So, the smaller decrease of production observed in Murmansk Region is explained by two factors. First, a noticeable share in the structure of the economy of Murmansk Region belongs to mining the mineral raw materials (13,4% of GRP), the demand for which has not seen essential change during the COVID-19 pandemic. Second, fishery and fish farming occupies an important part in the GRP structure (13,0% of GRP), and the demand for products of this industry did not fall in the period of the pandemic.

The economy of Yamal-Nenets Autonomous District is based on mining (61,1% of GRP). For Yamal-Nenets Autonomous District, the decrease of industrial production has been characteristic since March 2020, although a less pronounced one than the general Russian situation. In this region, the similar period of 2019 was characterized by the growth of industrial production, which was associated with new deposits being

developed. Shrinkage of the region's industrial production since March 2020 is accounted for not so much by Russian restrictions introduced due to the pandemic but rather by the shutdown of the world economy, which has led to the drop of the world demand. It should be noted that during the pandemic, mining has not been suspended in any region of Russia.

The economy of Nenets Autonomous District relies on mining, too (76,2% of GRP). For Nenets Autonomous District, a rapid deterioration in the situation has been observed since April 2020, with the state of affairs being worse than that throughout Russia. This is explained by the slump of mining in the region, which is also associated with the world economy shutdown and drop in the demand worldwide.

As for Chukotka Autonomous District, the basis of its economy is also mining of mineral resources (43,5% of GRP). Chukotka Autonomous District demonstrates the slump of industrial production in March 2020 only, which cannot be a consequence of the pandemic. In April and May 2020, a growth of industrial production was observed (which is probably related to stepped-up mining in gold and silver deposits), with a recession in June – a smaller one than the average for Russia, though.

Consideration of the retail trade turnover, as shown in table 2, in the period of the pandemic reveals a shared feature characteristic of the economy of all regions of the Arctic, that is a more favorable situation in trade than the average Russia's one. So, for Murmansk region, Yamal-Nenets Autonomous District, and Nenets Autonomous District, a smaller decrease of the retail trade turnover has been characteristic in the period of restrictions caused by COVID-19 than for Russia on average. Meanwhile, there are no changes in behavior of this indicator observed for Chukotka Autonomous District at all. As for Murmansk Region, so early as in June 2020, the retail trade turnover grew up to 104,6% as compared to the similar period of 2019.

Pointedly manifested in the Arctic, this particularity stems from three interrelated factors. First of all the purchasing power of the population of the Arctic is higher than the average one in Russia, which is associated with high wages of the population of the Arctic exceeding the average Russian level considerably. Secondly, the restrictions introduced by the Russian government did not apply to the work of mineral resources mining enterprises – which are the main industry of Russia's Arctic regions. This kept the income of the greater part of households of the Arctic afloat. Thirdly, the smaller and medium retail trade business sector is little developed in regions of the Russian Arctic traditionally, as compared to the general Russian situation. Respectively, the share of households whose income directly depends on the pandemic period restrictions imposed for retail trade outlets functioning is lower in regions of the Arctic than in Russia on average. This also supported purchasing power of the population of the Arctic.

Table 2 Retail trade turnover, in % of the respective period of the previous year for January-June 2019 and January-June 2020, for Russia and Arctic regions

	Russia	Murmansk Region	Yamal-Nenets Autonomous District	Nenets Autonomous District	Chukotka Autonomous District
Jan-2019	102.2	99.3	100.8	103.1	104.3
Feb-2019	102.3	99.5	99.3	102.3	103.5
Mar-2019	102.4	99.6	100.0	100.5	101.8
Apr-2019	102.0	99.2	103.6	97.9	103.1
May-2019	101.9	101.4	105.2	95.0	101.1
Jun-2019	101.8	102.9	104.4	97.0	104.0
Jan-2020	102.7	99.2	101.6	101.7	100.4
Feb-2020	104.7	99.3	102.1	104.7	102.4
Mar-2020	105.7	100.9	100.1	101.5	101.2
Apr-2020	76.8	89.1	83.0	90.4	100.0
May-2020	80.8	91.9	88.2	92.1	100.2
Jun-2020	92.3	104.6	97.8	98.2	100.3

Source: authors' calculations based on the statistics data for Russia (Federal State Statistics Service of Russia, 2020)

The problem of unemployment in the Arctic caused by restrictive measures due to COVID-19 is much less urgent than in Russia on average as seen in Table 3. So, while during the

pandemic, the number of the officially registered unemployed in Russia (in % of the respective period of 2019) grew exponentially, amounting to so much as 370% in June, such a situation is not characteristic of any of the Arctic regions. It should be noted that the surge in the number of the registered unemployed is explained not only by the reduction of the number of employees in the economy but also by the result of the country's social anti-crisis support measures, including, among other things, the significantly higher unemployment benefits. Notably, as of writing this paper, the official statistics has not provided any data yet on the increment of the overall unemployment in regions of Russia.

Table 3 The number of the officially registered unemployed in % of the respective period of the previous year for January-June 2019 and January-June 2020 for Russia and Arctic regions

	Russia	Murmansk Region	Yamal-Nenets Autonomous District	Nenets Autonomous District	Chukotka Autonomous District
Jan-2019	94.2	100.0	103.3	100.0	97.7
Feb-2019	99.9	102.9	112.1	87.5	96.7
Mar-2019	104.4	105.8	104.1	87.5	99.0
Apr-2019	107.8	109.0	103.1	100.0	98.5
May-2019	106.3	108.1	85.7	85.7	100.7
Jun-2019	105.7	105.1	83.2	100.0	96.7
Jan-2020	95.4	94.2	101.4	57.1	93.9
Feb-2020	91.4	91.7	109.3	71.4	93.6
Mar-2020	88.8	89.0	107.8	71.4	88.5
Apr-2020	160.5	116.4	166.6	75.0	89.3
May-2020	280	159.7	138.7	116.7	93.6
Jun-2020	370	n/a	n/a	133.3	107.0

Source: authors' calculations based on the statistics data for Russia (Federal State Statistics Service of Russia, 2020)

5 Conclusion

Using the results of analyzing the quarterly GDP pattern of the world's major economies, it has been found that the crisis has had an impressive impact on the world economy, its scope and rate varying. In Europe and the USA, the crisis proved itself the most extensively, while China saw GDP grow so early as in the second quarter. Among other things, China's situation is explained by the country's lifting its restrictive measures earliest of all owing to the COVID-19 incidence rate plummeting in the second quarter of 2020. According to the results of discussion of the crisis caused by COVID-19 in scientific literature, forecasts of the WTO, the World Bank, etc. a strong recovery is not something to be expected for the world economy. Meanwhile, its downturn creates the threat of lingering demand shrinkage for the principal exports of the raw materials economy of the Russian Arctic.

Using the statistical data characterizing production, retail trade, and unemployment plotted over time, the authors conducted diagnosing of the way the crisis caused by COVID-19 affected the economy of Russia's Arctic regions (Murmansk Region, Nenets Autonomous District, Yamal-Nenets Autonomous District, Chukotka Autonomous District) and the country in general. Their findings have confirmed the principal hypothesis of the research completely, to the effect that regions of the Russian Arctic demonstrate higher stability of the economy as compared to the general Russian situation when getting over the numerous restrictions, problems, and changes caused by COVID-19.

The analysis has confirmed that the specific aspects of the impact the crisis has on the Russian Arctic stem from the "Arctic" invariant – a group of permanent factors determining the specific context of the economy of the Russian Arctic (simplicity of the economy, its orientation to exploitation of natural resources; poor development of the smaller business; underdeveloped sector of trade and services as compared to the general Russian situation).

The lingering character of the world crisis can turn round the state of affairs. In this case, the "Arctic" invariant is even likely to outline the opposite, negative development vector for the Russian Arctic – reduced industrial production, shrinkage of the

poorly developed smaller business, and higher losses due to migration.

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