Specific features of ensuring economic security of coastal Arctic regions

M V Ulchenko, R V Badylevich and D L Kondratovich
Luzin Institute for Economic Studies – Subdivision of the Federal Research Centre «Kola Science Centre of the Russian Academy of Sciences», Apatity, Russia

Abstract. In recent years, the attention of the world community to the Arctic has increased significantly. Moreover, not only the so-called Arctic States, but also countries that do not have direct access to the Arctic territories are showing active interest. What is the reason for such interest? It's simple, the Arctic contains the main reserves of natural gas and oil, which are so necessary for the further development of energy-intensive economies of most countries. The Russian Federation is no exception, the strengthening of sanctions pressure, as well as the processes of globalization create prerequisites for the most effective use of both the Arctic territories themselves and the natural resources they possess. Decrees of the President of the Russian Federation defined the boundaries of the Arctic zone of the Russian Federation and the Strategy of economic security of the Russian Federation and national, are in the active stage of implementation. One of the features of the Russian Arctic territorial systems is that almost all of them are coastal regions. These regions have specific features in the development due to the prevalence of marine economic activity and severe natural and climatic conditions of life. At the same time, regional public authorities, for making objective administrative decisions, are interested in taking into account the designated specific features in the development of subordinate territories. However, the coastal Arctic regions, from the point of view of ensuring economic security, as an object of study, are not currently allocated to a separate category. In this paper, the authors identify specific features in the development of coastal Arctic regions, and propose to use a number of indicators that take into account this specificity.

1. Introduction
The international community's interest in the Arctic has increased significantly in recent years. Natural gas and oil, which are so needed by the energy-dependent economies of almost all countries, significantly increases the importance of the Arctic territories, because it is here that most of the proven hydrocarbon reserves are concentrated [1, 2]. The Russian Federation is no exception, the impact of economic sanctions, as well as the processes of globalization, create conditions under which the role of the Arctic regions is increasing, especially in matters of national security. Confirmation of this thesis is the development and ratification of a number of documents – "Strategy of national security for the period up to 2020" [3], "Strategy of economic security of the Russian Federation for the period up to 2030" [4], "Decree of the President of the Russian Federation on the definition of land borders of the Arctic zone of the Russian Federation" [5, 6]. This approach shows that the Arctic territories have a special role, being a zone of strategic interests of Russia, they are a kind of driver of economic development of the country in the XXI century.
The Strategy of national security of the Russian Federation for the period up to 2020, as the main components of national security are: economic, energy, military, information, food, environmental, social, technological, cultural and other types of security. At the same time, economic security is given a primary role, since none of these types of security can be fully implemented without proper economic ensure [7].

2. Theoretical basis and specific features of economic security
By the standards of modern historical science, the term "economic security" is relatively young, and was introduced into the political and economic lexicon by Theodore Roosevelt in the early XX century, when in his address to the nation, he used the phrase "national economic security" [7]. In the early 90-ies of the twentieth century, the concept of "economic security" has become quite widespread. It was at this time appear the first publications on this topic scientists Abalkin L. I. [8], Glazyev S. Yu [9], Tatarkin A. I. [10] etc. For the most part, the works were of a theoretical nature. Work related to the development of indicators, the definition of their thresholds and safety assessment, appeared a little later. Particular attention is drawn to the system of economic security indicators developed by academician S. Yu. Glazyev, which was recommended by the security Council for use at the state level [9, 11].

According to the Strategy of economic security of the Russian Federation for the period up to 2030, economic security is understood as "a state of the economy in which it is protected from both internal and external threats, respected the conditions for the implementation of state strategic priorities to ensure the independence and unity of the economic space of the Russian Federation" [4].

In the teachings of the western school of economic security researchers there are two levels – regional and national, with the prevalence of the latter. According to well-known foreign scientists, such as G. Morgenthau [12], B. Busan [13], R. Stryker [14] to ensure economic security at the level of territorial systems, it is necessary to use the "integrated regional approach". The essence of this approach is to develop a special set of national security policy that takes into account the existing specifics in the development of territorial systems. In order to make it more clear, we can mention the development of special programs of financial support in the United States – block subsidies, a program to reduce interregional differences, sectoral programs of economic and social development and others [15]. For example, R. Stryker in his work "Globalization and the social state" identifies only the national level of economic security, arguing that the special regional policy developed at the national level will be sufficient to ensure the safe development of territorial systems [14].

Since the article aims to highlight the specific features in ensuring the economic security of the coastal Arctic regions, to begin with, we will determine which regions can be attributed both to the Arctic and coastal.

According to presidential Decrees №296 and №287 of may 2, 2014 and June 27, 2017 "On the land borders of the Russian Federation" the following territories are fully or partially assigned to the Arctic regions [5, 6]:
- fully territory of the Nenets Autonomous district;
- the entire territory of the Yamal-Nenets autonomous district;
- fully territory of the Chukotka autonomous district;
- the entire territory of the Murmansks region;
- part of the territory of the Republic of Karelia;
- some of the territory of the Republic of Komi;
- some territories of the Republic of Sakha;
- some territories of the Krasnoyarsk territory;
- some territories of the Arkhangelsk region.

A distinctive feature of the coastal regions is the border with the ocean/sea. Based on this criterion, the following regions can be attributed to the coastal Arctic territorial systems:
- the territory of the Arkhangelsk region and the Nenets Autonomous district (from the north washed by the waters of the Pechora and Barents seas, from the west by the White sea, from the north-east by the Kara sea);
- Yamalo-Nenets autonomous district (from the north washed by the Kara sea);
- Chukotka autonomous district (washed by the waters of the Chukchi, East Siberian and Bering seas);
- Murmansk region (from the north it is washed by the Barents sea, from the south-east by the White sea);
- Republic of Karelia (from the east washed by the White sea);
- The Republic of Sakha (washed by the Laptev sea and the East Siberian sea);
- Krasnoyarsk region (washed by the Kara sea and Laptev sea).

It should be noted that by the end of the second decade of the 21st century, a significant part of the population of Australia, Canada, the United States, Japan, the European Union and a number of other countries live in the fifty-kilometer zone of the world ocean. Such a significant interest in the coastal regions is explained by the accelerated pace of development of investment-attractive sectors of the economy. According to most experts, this trend associated with the migration of the population to the coastal regions will continue [7].

Experts have many approaches to the interpretation of the concept of "coastal zone" this is due to the emergence of systemic difficulties in combining land and sea into a single object of study. In our opinion, the most logical and simple is the definition given by V. V. Denisov in the monograph "Ecological and geographical bases of sustainable nature management in the shelf seas", coastal regions are territorial and water - area strip of space along the line of division of two different global objects of nature management—the continental part of the planet and the world ocean [16].

Among domestic and foreign scholars pay attention to the solution of problems that arise in the development of coastal zones, there are works of: N. Aibulatov [17], V. V. Denisov [16], P. A. Kaplin [18], O. K. Leontiev [19], N. L. Plinka [20] and many others.

The study of the development of coastal zones was devoted to many works [16-20], separately it can be noted developments related to the integrated management of coastal zones [16, 17, 20]. A large number of works have been published on the problems of safe economic development of territorial systems and entire states [7-14], however, it should be recognized that there are no publications in the scientific literature that would address the issues of economic security of coastal regions, not to mention the Arctic. That is, we can say that the coastal Arctic regions, from the standpoint of economic security, as an object of study are not allocated to a separate category.

Under the article, we understand the economic security of the coastal Arctic regions as the state of protection of the region's economy from external and internal threats, the degree of independence and integration with the state economy, as well as the assistance of regional authorities in the implementation of the most important areas of development of the Russian Federation.

Threats are understood as a set of conditions and factors that endanger the vital interests of a country, region or society [8]. All threats to the economic security of the regions can be divided into internal and external. The first group includes threats in the real sector of economy, social sphere, environmental threats, etc. To an external include political and economic threats, including the conflict with the ruling centre, a change of government, the increase in foreign debt, the outflow of foreign currency, eviction from the markets and others. It is possible to estimate threats and possible damages by means of safety indicators and criteria [11]. It should be understood that not only the range of economic security indicators is important, but also the threshold values that signal the occurrence of danger.

Currently, there are 4 main methods for calculating the level of security of territorial areas and/or the state - "Rating assessment", "Determination of the situation in the regions/country, on the basis of economic and social analysis", "Multidimensional statistical analysis" and "Method using indicators and thresholds" [7].
Analysis of these methods of economic security assessment showed that the most appropriate, from the standpoint of obtaining the necessary information for making objective management decisions, signaling the destabilization of the situation in a particular area of economic development of the region/country, is a method using indicators of economic security and thresholds [7, 8, 11].

The Strategy of economic security of the Russian Federation for the period up to 2030 proposes a system of indicators and thresholds, but only for the national level [4]. Regional authorities are recommended to develop a system of indicators and their thresholds on their own, however, these indicators should correspond to the appropriate composition of indicators and parameters, in terms of the economy and national interests of Russia as a whole. It is important to understand that the coastal Arctic regions have specific features in their development, and regional authorities, to make timely and effective management decisions aimed at improving security, you need to take them into account [7]. Therefore, the system of economic security indicators used at the regional level and their threshold values should take into account such specific features in the development of coastal Arctic regions as:

- severe natural and climatic conditions of life;
- special geopolitical and military-strategic position;
- dependence on the import of essential products;
- huge natural resource potential;
- the prevalence of the maritime activities associated with the development of ports, fishery and fishing;
- industrial activities related to shipbuilding and defense;
- cargo transportation;
- development of sea tourism, etc.

The identification of specific features in the development of coastal Arctic regions, involves the development of additional indicators that will take into account these features, as well as the assignment of responsibilities to the regional statistical bodies to collect information. In fact, it is not always necessary to develop new indicators, sometimes it is enough to revise the threshold values. Nevertheless, we will propose a number of indicators that need to be used to enable the authorities to quickly make management decisions aimed at improving the situation in the territory under their jurisdiction.

The Arctic is a place with the most severe natural and climatic conditions for human habitation. The population of these regions bears additional costs for heating and electricity. This is due to the longer winter period, polar night and severe frosts. To take into account the above features in the development of coastal Arctic regions, we propose to use such indicators as: "Relation of the average quarterly expenses of the population for heating in the coastal Arctic region, to the average quarterly expenses value of the population around the country for heating, %" and "Relation of the average quarterly expenses of the population for electricity, to the average quarterly expenses value of the population around the country for electricity, %".

Another indicator that characterizes the arctic specifics in the development of regions should be such an indicator as: "The Share of domestic imports in the total consumption of food by the population of coastal Arctic regions, %". The Arctic regions are most dependent on the import of essential products, including food. That is why the regional authorities must constantly monitor the degree of dependence of the territory under their jurisdiction on products imported from abroad or other regions of the Russian Federation.

As indicators that will reflect the contribution of marine activities to the economic development of the region, and marine economic specifics, we offer the following:

- "Contribution of enterprises engaged in marine economic activity to the gross regional product of the region, %";
- "The population of the coastal Arctic region, employed in enterprises engaged in marine activities, to the total number of employed population, %";
- "Relation of the average monthly wage of the population employed in the enterprises of marine activity to the average monthly wage on the coastal Arctic region, %";
- "The volume of transshipment of sea cargo in the coastal Arctic region, in relation to last year, %".

3. Conclusion
The above study showed that:

1. In Russia, the regions that are both Arctic and at the same time washed by the seas include: Nenets Autonomous district, Arkhangelsk region, Yamal-Nenets Autonomous district, Chukotka Autonomous district, Murmansk region, Republic of Karelia, Republic of Sakha and Krasnoyarsk region.

2. For regional authorities, the method of assessing the level of economic security using a system of indicators and thresholds values is the most effective, because it allows you to receive information that signals the destabilization of the situation in the subordinate region.

3. The system of indicators, which is used at the regional level, should contain indicators that characterize specific features in their development. So for the Arctic coastal regions to the harsh climatic conditions of activity; dependence on the import of products of the first necessity; the prevalence of Maritime activities associated with the development of ports, fishing, aquaculture, transportation, etc. as these indicators, the authors suggest:
- "The ratio of the average quarterly expenses of the population for heating in the coastal Arctic region, to the average quarterly value of the population of the Russian Federation for heating, %";
- "The ratio of the average quarterly expenditure of the population on electricity in the coastal Arctic region, to the average quarterly value of the population of the Russian Federation for electricity, %";
- "Share of domestic imports in total food consumption by the population of coastal Arctic regions, %";
- "Contribution of enterprises engaged in marine economic activity to the gross regional product of the region, %";
- "The population of the coastal Arctic region, employed in enterprises engaged in marine activities, to the total number of employed population, %";
- "The ratio of the average monthly wage of the population employed in the enterprises of marine economic activity to the average monthly wage in the coastal Arctic region, %";
- "The volume of transshipment of sea cargo in the coastal Arctic region, in relation to last year, %".

Acknowledgments
The study was supported by RFBR grant 19-010-00159 A "Identification of problems and development of approaches to economic security of coastal Arctic regions in the new geopolitical conditions".

References
[1] Kozmenko S et al 2018 Maritime economics of the Arctic: Legal regulation of environmental monitoring IOP Conf. Series: Earth and Environmental Science 180(1) 012009
[2] Govorova N V et al 2018 Russian Arctic: problems of international cooperation Contemporary Europe-Sovremennaya Evropa 1 156-159.
[3] The strategy of development of the Arctic zone of the Russian Federation and ensuring national security for the period up to 2020 Approved by the President of the Russian Federation on February 13, 2013 Available from: http://government.ru/info/18360/ [Accessed 20th February 2019]
[4] On the Strategy of economic security of the Russian Federation for the period up to 2030 Decree of the President of the Russian Federation No. 208 of 13 may 2017 Available from: https://www.garant.ru/products/ipo/prime/doc/71572608/ [Accessed 20th February 2019]
[5] On the land territories of the Arctic zone of the Russian Federation Decree of the President of the Russian Federation №296 dated may 02, 2014 Available from:http://www.kremlin.ru/acts/bank/38377 [Accessed 11th February 2019]
[6] On the land territories of the Arctic zone of the Russian Federation Decree of the President of the Russian Federation No. 287 of June 27, 2017 Available from: http://www.kremlin.ru/acts/bank/42021 [Accessed 11th February 2019]

[7] Ulchenko M V 2014 Problems of economic security of the Arctic coastal zone of the European part of the Russian Federation North and market: formation of economic order 3(40) 78-82

[8] Abalkin L I 1994 Economic security of Russia: threats and their reflection Economic Issues 12 4-16

[9] Glazyev S Yu 1996 Key aspects of economic security Financial business 12 6-14

[10] Tatarkin A I 1996 Economic security as an object of regional research Economic Issues 6 79-85

[11] Glazyev S Yu 1997 Basis of economic security of the country: alternative reformation course Russian journal 1 12-18

[12] Morgenthau G 1955 Politics among nations: struggle for power and peace New York p 137

[13] B Buzan 1883 People, States and Fear, Brighton 13-14

[14] Stryker R 1998 Globalization and welfare state Social policy Hull 18(2/4) 149

[15] Ulchenko M V 2012 Economic security of regions: foreign experience North and market: formation of economic order 2(30) 134a-142

[16] Denisov V V 2002 Ecological and geographical bases of sustainable nature management in the shelf seas (Apatity: publishing house of the Kola science centre of RAS) 502

[17] Aibulatov N A 2005 Russia's activities in the coastal zone (Moscow: Nauka publishing house) 264

[18] Caplin P A 1999 Change in the level of the seas of Russia and development of coasts: past, present and future (Moscow: publishing house GEOS) 298

[19] Leontiev O K 1975 Geomorphology of sea shores (Moscow: Publishing house of Moscow state University) 336

[20] Plink N L 2003 Policy of actions in the coastal zone (Saint Petersburg: publishing house of the Russian state hydrometeorological University) 226