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NORTHERN SEA ROUTE - RUSSIA AND CHINA: COMPETITION OR PARTNERSHIPElnur T. Mekhdiiev ^{a*}, Ekaterina V. Zakharevich ^b, Parvana V. Mammadova ^c, Farrukh Jumayev ^d

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ABSTRACT

The Northern Sea Route (NSR) is one of Russia's and Eurasia's key arteries as a whole, connecting Asia and Europe. Being the shortest and the most difficult route for navigation, the NSR is of great interest for exploring its development potential, especially taking into account the fact that a new player is appearing in the Arctic arena: we speak about China. Within the article, the authors raise the question of what kind of future the NSR will have in the context of cooperation or competition between the Russian Federation and China in the development and in the NSR capacities development. Within the research a quantitative analysis of the goods' and ships' traffic by the NSR is carried out; the authors also make forecasts about its development for the period up to 2025. The authors come to the conclusion that traffic along the NSR is growing, but slowly; the Chinese presence is currently insignificant, that's why the Russian Federation will have to develop the NSR without the active PRC's support. Competition on the way will be delayed to a higher level of NSR infrastructure's development.

KEYWORDS

Northern Sea Route, Russia, China, Competition, Partnership, Traffic

1. INTRODUCTION

The modern logistics system in Eurasia is a powerful and developed network of transport and logistics corridors in Europe; it is also a wide transport hubs network in Asia and it is a poorly developed horizontal infrastructure connecting these two elements of the Eurasian transport architecture. One of the most interesting projects for the development of the Eurasian infrastructure cohesion in the viewpoint of length and transport capabilities is the Northern Sea Route, which has many distinctive features; these features research will greatly assist an understanding of its use possibilities.

The Northern Sea Route's main part passes through Russia's territory, while there are serious restrictions on its use by foreign ships. Russian capacities for transporting goods via the NSR are limited by the low level of investments in the development of this transport corridor's infrastructure. Besides, the NSR is an important artery not only in terms of logistics, but this route also should be researched in the viewpoint of its defence potential and research work. The Arctic shelf also has large oil and gas reserves, which are valuable for all countries.

Thus, China's and Russia's interest in the NSR development is determined by all mentioned factors; the NSR development should assist in the development of both countries' economies. The authors suppose the Northern Route will assist the cooperation establishment in the field of collective security and scientific research. Nevertheless, the Chinese presence at the NSR creates risks for Russia; that's why the main purpose of this research is to understand whether cooperation between Russia and the PRC in the NSR development will take place. If such cooperation takes place, it is necessary to create the most favorable format for Russia.

2. LITERATURE REVIEW

The Northern Sea Route is one of the most strategically important routes for Russia, especially taking into account its ambitions in the Northern Ocean ([OSIMF, 2017](#)) covers a wide variety of issues, it's especially important as it demonstrates the difficulties, connected with the NSR navigation ([Khon, et al., 2017](#)) proves it by the statistical observations and provides basis for the conclusion of the uncertainty as the major factor of NSR navigation. It contributes to the low possibilities of forecasting the navigation density along the Route. Political and geopolitical significance of Route for Russia is demonstrated in ([Bobrova, 2016](#)), where the major recommendations for the legislative transformations of the navigation regime on the Route are offered. The measures, offered in ([Selin, 2016](#)) in order to secure the further development of the NSR require massive financial support, which isn't available in the current conditions ([Khon, et al., 2010](#)) advises to transit more cargo through the Route in order to secure its financial sustainability. In this regard, the cooperation with the Chinese entities in reviving the NSR importance in the global scale is a very important task. The "turn to the West", realized by Russia, and its political consequences are reflected on the Route too. This idea is expressed in ([Lanteigne, 2015](#)) and it gives a firm ground for the discussion in the prospects of cooperation between Russia and China on the NSR.

3. METHODOLOGY

The methodological approach is based on the traffic calculation along the Northern Sea Route. In this article, the NSR is considered not only as Russian part from Kamchatka to Arkhangelsk, but it is considered as a transport capacities combination, which allows transporting goods from Asia to Europe through the Arctic Ocean.

The forecasts presented in the work are calculated on the basis of a linear regression model which depends on time. The general equation for these regressions is the following:

$$f(y) \sim at + const$$

where t stands for time, and $const$ is the constant. The most adequate forecasts were chosen based on the analysis of the R^2 and p -criterion for t variable. The more accurate forecast (which significantly differs from simple trending) is unavailable due to the massive influence of the non-predictable factors, such as weather conditions, political situation and general situation on the other logistic arteries.

This approach was chosen as climatic conditions strongly affect the volume of cargo transportation along the NSR, and high forecast accuracy is impossible as it is impossible to predict the period of non-navigability along the route without using specific meteorological data, but even this data doesn't allow creating forecast with high accuracy. The growth of Chinese presence was calculated using a simple proportional method: the authors have made an assumption about a linear increase in the number of icebreakers in China which will carry an equal amount of cargo. Within the research, this assumption is explained by the fact that the Arctic is not a priority for the Chinese logistics development at the present stage.

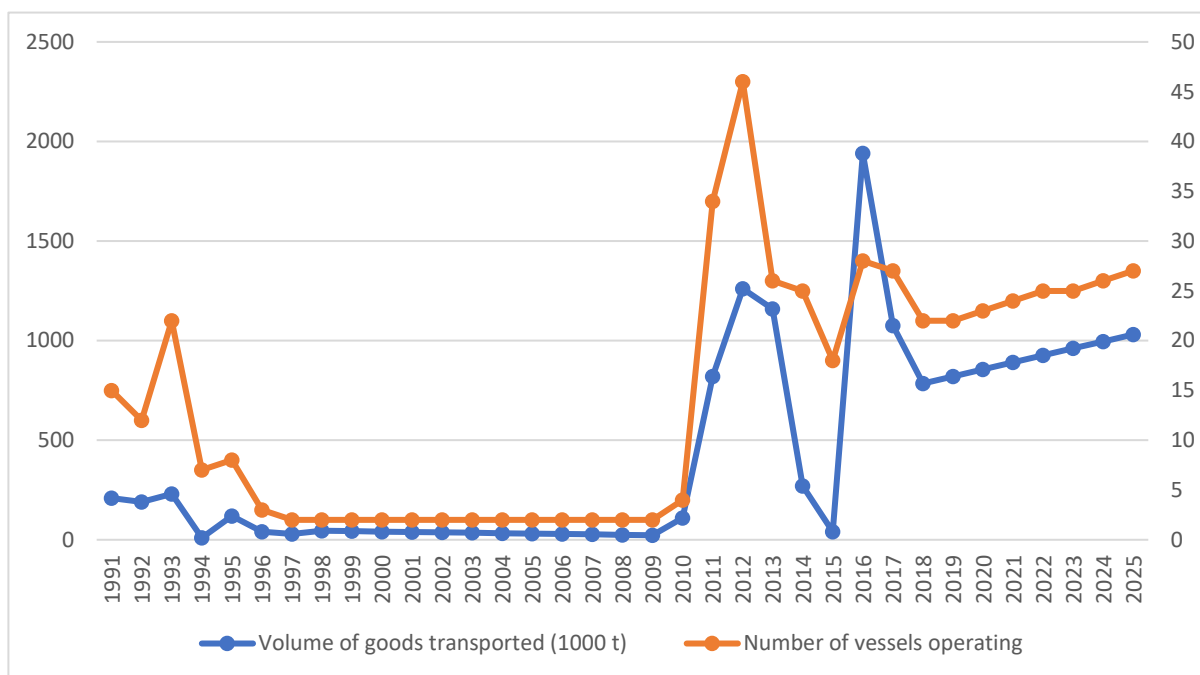
Data extrapolation is also based on the linear regression of the same type and serves for the purposes of estimation of a party' presence in Arctic. The higher the volume of the transported goods, the higher is the economic presence of a country in Arctic.

Based on the data presented in the article, the authors identify three main tracks of interaction between China and Russia within the NSR; these tracks assist understanding what interaction scenario is most probable for the Russian Federation and China on the logistics development at the NSR.

4. RESULTS

To obtain adequate results from the research of China's impact on the goods transportation via the NSR, it is necessary to consider its general dynamics and factors which determine navigation and logistics along the NSR (Figure 1), where the volume of cargo and the number of ships, navigating along the NSR has been compiled and predicted by the authors based on the data collected by ruxpert ([ruxpert, 2018](#)).

Figure 1: Navigation and Logistics along the NSR



As shown in Figure 1, the freight traffic dynamics through the NSR is determined in the whole not by economic, but by natural factors (Aksenov, et al. 2017). Nevertheless, the total volume of freight traffic on the NSR is growing, moreover, the average volume of goods transported by one ship is also growing, which is shown in the Table 1, where the average volume of cargo transported by 1 vessel has been calculated by the authors based on the ruxpert data (ruxpert, 2018).

Table 1: Average volume of cargo transported (AVT) by 1 vessel.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
AVT	14	15,83	10,45	1,42	15	13,33	15	22,5	21,5	20,5	19,5
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
AVT	18,5	17,5	16,5	15,5	14,5	13,5	12,5	11,5	27,5	24,11	27,39
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
AVT	44,61	10,8	2,22	69,28	39,81	35,68	37,28	37,19	37,10	37,03	38,43

From the identified dynamics, we can conclude the efficiency of transportation per vessel is growing, and the number of vessels on average remains the same. Thus, the demand for goods transportation via the NSR is growing; the logistics capacity remains the same. Taking into account that most of the vessels operating on the NSR are Russian and the fact that some of these vessels have a research nature, the following problems, concerning transport logistics on the NSR can be marked out:

- 1) Difficult navigation and unpredictable environmental conditions

- 2) The high cost of ships servicing and Russian ships' outdated material and technical base (except the newly commissioned ones) ([Hill, et al. 2015](#))
- 3) The prohibitive nature of the path's use.

From the viewpoint of infrastructure, it is necessary to single out one main problem: there is a lack of modern infrastructure and main ports' sufficient bandwidth on the NSR ([Verny, 2009](#); [Tseng, 2017](#)). One of the reasons for this phenomenon is the port trade lack due to the NSR ports remoteness from the business centers of the Russian Federation and the ports' small population. The only exception is Arkhangelsk, which is the largest transport hub in Russia's North.

For China, the Northern Sea Route is one of the options for expanding the capabilities of the transport architecture which is belonged to the "One Belt, One Road" project; the authors suppose that for China NSR is also a powerful tool for the science development. It is known the NSR is the Shortest Sea Route from China to Europe and vice versa; that's why China is extremely interested in this way to export goods to Europe quickly and safely. Nevertheless, the current problems identified above do not allow considering the NSR as a real alternative to the "One Belt, One Road" land and sea corridors; in this case, the China's interest to the NSR does not seem to be a fundamental task for the Chinese economy today.

If we turn to possible scenarios, we can identify several key opportunities for Russian-Chinese cooperation in the field of logistics for the NSR.

- 1) Close cooperation between two states which is based on priority rights for Arctic region development for China. This track seems to be unlikely, as, despite the strengthening of relations between the Russian Federation and China, China still remains Russia's rival within the global arena.
- 2) Development of the NSR capacities by attracting financing from abroad, in particular, preferences will be given to Chinese investments, especially due to sanction pressure on the Russian Federation.
- 3) The NSR development through Russian state financing; all other interested parties are considered as competitors and a threat to Russian influence in the Arctic region. Even capacities which China has today will be considered by the Russian side negatively; these capacities will be squeezed out of the Arctic territories which are controlled by the Russian Federation.

In fact, all three scenarios have certain chances for implementation, but it is necessary to understand how these scenarios are important for the Chinese side. As it was mentioned above, today the PRC does not see great prospects for its economy in the NSR. To invest in the logistics development, for China it is necessary to understand clearly how this path will be within the "One Belt, One Road" initiative; but for the NSR this calculation is almost impossible, as the natural conditions still dictate the basis for navigation on it. In addition, there is a political project's component: China does not want strong players such as Russian Federation to be in this "One Belt, One Road" project. From this point of view, it is unprofitable for China to give the opportunity to develop the NSR for Russia, as China will not be able to control the goods traffic through the NSR if it does not receive controlling stakes in ports on this transport artery, as it is now happening on the Sea Silk Road, in particular, European ports (Piraeus is a prime example) ([Johnson, 2018](#)). In this regard, the third scenario looks most realistic: Russia will develop the Northern Sea Route, using its own forces, with a minimum China's participation; for example, Chinese side can do scientific work on the exploration of minerals and biological resources in the route's water area. This approach will allow to minimize China's costs and to obtain minimal

access to the NSR, which is currently necessary for the PRC. This conclusion is confirmed by the extrapolation data, presented in table 2, developed by the authors on the basis of ([Goldstein, 2019](#); [Humpert, 2019](#)).

Table 2. Chinese presence in the Arctic

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Number of Chinese Arctic vessels	1	1	1	1	1	1	1	2	2	2	2	2	2	3
Volume of goods transported (1000 tons)	14	14	14	14	14	14	14	28	28	28	28	28	28	42

The information, presented in the table 2, clearly demonstrates that the PRC cannot at the present stage compete with Russian transport on the NSR, especially in the field of volumes. Moreover, it seems necessary to note the slowdown in the non-priority projects' realization which is caused by the decline in the Chinese economy's income ([He, 2019](#); [Bradsher, 2019](#)). The Arctic development at the current moment doesn't seem to be a priority for Chinese companies.

5. DISCUSSION

The obtained results clearly indicate there is no competition for the NSR between the PRC and the Russian Federation, while cooperation in this global project does not look attractive to the PRC today. Based on the foregoing, one should not expect significant China's investments in the NSR. At the same time, the Northern Sea Route project is a priority for Russia, as it will create development drivers for the country's northern regions. In this context, the authors suggest several recommendations to increase China's capital inflow to the NSR.

- 1) It is necessary to talk widely about the research works carried out at the NSR, especially in the direction of the food industry developing; it is also necessary to cover widely the research of shelf mineral reserves. These measures will set a precedent for stimulating investment through mass media use. This proposed mechanism is based on the fact that the Chinese side, especially Chinese companies, are most interested in these industries ([Lasserre, 2015](#)).
- 2) It is necessary to develop NSR ports, in particular trade which is carried out through these ports. Today, one of the NSR main problems is its low effect on the country's and regions' economy through which it passes. To solve this problem, it is necessary to create a special tax regime for goods delivered through these ports: this will attract Russian importers' interest in the NSR. This measure will ultimately give impetus to the development of the NSR ports' infrastructure. For Chinese companies, this step will also become a factor, attracting interest in the goods' import into the Russian Federation through the NSR ports. At the same time, there is a danger the ports' development will occur unevenly; to avoid this, it is necessary to use a correction factor for the tax discount: the closer port is to the NSR middle (in Russia's territory), the higher the tax discount is.

- 3) It is necessary to intensify activities concerning oil extraction development on the Arctic shelf. This step will influence on the development of the northern regions' port and transport architecture which is situated on Russia's territory. The authors also suppose Chinese companies are interested in increasing the cheap oil supply from the Russian Federation; that's why, if it is possible to reduce oil's transportation cost, Chinese oil market players will probably turn to the opportunities offered by the NSR to transport Arctic offshore oil.

The proposed steps have fragmented actions' nature if we speak about the development of the infrastructure and NSR attractiveness as a whole; while their systematization is necessary at the legislative level and it should be presented in a separate document regulating Russia's northern regions development.

The dangers caused by China's active penetration into the Arctic region belonging to the Russian Federation should not be missed. It is necessary to intensify coast guard services and military units based in Kamchatka and in the Russian northern regions. In addition, as there is a cargo growth through the NSR, it is necessary to increase the rescue services contingent in the region.

There are numerous implications that can be made from the results of the article. Firstly, the development of the NSR is inevitable, hence, the further research on the topic, especially in the sphere of Russian-Japanese and Russian-Korean partnership in this sphere can be made, based on the methodology, developed in this article. Secondly, the high significance of the short and reliable routes between Asia and Europe creates the basis for the discussion on the potential integration tendencies around the NSR development. In this regard, the major integration tendencies in Asia should be analyzed taking into account the findings of the article. Thirdly, the practical suggestions the authors proposed can be included in the Russian Arctic development program. The fourth point is the methodology of the economic presence in the Arctic by the number of Arctic vessels and cargo shipment. The last point is the new possibilities of the estimation of the NSR attractiveness by the number of foreign Arctic vessels, using it.

6. CONCLUSION

Based on the results of the research, the following key conclusions can be made. First, the NSR is not in China's focus interest; as China creates its own Arctic fleet slowly and irregularly. This situation imposes significant limitations on the cooperation between Russia and China in the NSR development.

Secondly, China should not be considered at the current stage as a competitor for the Russian Federation in the Arctic. This is proved by the lack of ships and a small presence in the region. At the same time, with the development of the NSR capabilities, which will inevitably occur, as it is a strategic interest for the Russian Federation, the Chinese influence on the NSR will tend to increase. In this regard, it is necessary to develop the potential for protecting the Russian Federation's interests in the Arctic region.

Thirdly, Russia is currently unable to develop the NSR without external financing due to its insufficient economy's development and its slow growth. As an interested party, the PRC will not prevent the attraction of its companies' corporate finance to the NSR project; but it will not stimulate it, that's why the Russian Federation will have to apply a number of measures to increase the Chinese corporations' interest for the Arctic region.

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