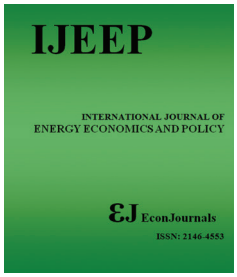

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Geopolitical Impact on Transformation of Territorial Organization of Russian Pipeline Transport in the Post-Soviet Time

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ABSTRACT

The article presents the research on transformation of territorial organization of Russian pipeline transport in the post-Soviet time, considering its relations with neighbouring countries. The research identifies general ways of such transformation: The influence of Russia's desire to escape from the dictate of the transit countries exporting energy; the impact of Russia's struggle for the transportation of gas and oil extracted in the Caspian Sea basin; the influence of the struggle for the transportation of oil and gas in the Asia-Pacific region. A new database including the main pipelines and sea ports in Russia, revealed correlations in the development of pipeline transport in the post-Soviet period with the development of infrastructure of the country's sea transport. The article identifies positive changes in the transport infrastructure (construction of Russian alternative pipeline projects), which will reduce the degree of Russian dependence on relations with neighbouring countries, as well as negative changes (construction of alternative Russian pipeline projects). The attention is focused on changing geopolitical importance of neighbouring to Russia states (Turkey, Kazakhstan and China) under the influence of transformation of the country pipeline transport.

Keywords: Geopolitics, Russia's Geopolitical Position, Russian Pipeline Transport, Post-Soviet Space
JEL Classifications: L9, L95

1. INTRODUCTION

History of any national economy shows that it develops under the influence of internal and external forces. Most often they work together, giving rise to a synergistic effect, although the impact of one of these groups could dominate. The extent of their influence is largely determined by the properties of the territory, which develops a particular national economy. Economies with a small area, in contrast to territorially larger economies are more open to the impact of external forces. In other words, the area can act as a deterrent as well as a stimulating factor.

National economy of Russia in all historical periods due to objective reasons has been influenced by territorial factor which to a large extent shaped the internal development impetus. However, the modern history of the state, which began with the collapse of the Soviet Union and the resulting collapse of the national economy, revealed its obvious dependence on external factors, primarily on the nature of relations with the neighbouring post-Soviet states. Their unresolved negatively influenced, primarily the transport system of post-Soviet countries (including Russia) and, as a consequence, their national economies as a whole. How could the capacities of a territory help overcome these negative effects, and what would be the consequences of such a development? Here is an incomplete list of issues, which are addressed in this article.

The choice of pipeline transport as the object of study is determined by the active Russian governmental policy on the issue of its development strategy.

2. REVIEW OF PREVIOUS STUDIES

Territorial organization of transport as a field of economic activity has always been studied by economic geography. Over the years, it was addressed by such well-known Russian scientists as Bernstein-Kogan (1930), Vasilevsiky (1971), Nikolsky (1978), Tarkhov and Schlichter, (1995), Tarkhov (1997), Bugromenko (2010), and others.

However, the interest to study the transport as one of the major political factors influencing the relations between Russia and neighbouring states, rose only after the collapse of the Soviet Union, when "traffic breaks" that had arisen in the former integrated transport system and given rise to complex political and economic problems became clear. An attempt to analyse the phenomenon, to understand how to avoid the negative effects and, moreover, to take some advantage from this for the state gave rise to a number of geopolitical works exploring this perspective, which was often described with the term "transport geopolitics" (Yakunin, 2009; Tarkhov, 1997; Kolosov, 2000; Baburin, 2011; Shuper, 2009; Pototskaya, 2014; and others).

The obvious interdisciplinary nature of the research subject attracted both geographers and representatives of other disciplines, including the economists - Korzhubaev and Suslov (2008), Filimonova et al. (2013), and others, political scientists - Yakunin (2009), Gadjiyev (2014), Gorbunov (2008), and others, and to a large extent historians - Vlasov (2013), and sociologists - Likhodey (2009), and others.

At the same time, regardless of the academic affiliation and field, most of the work focused on several geographical aspects of the topic.

Firstly, it is a transit Russian geographical position between Europe and Asia and its potential beneficial use. These works largely explore the capacities of railway transport (e.g., Zuenko and Zuban, 2016). In chronological order, this field of study pioneered the modern "geopolitical highways" in Russian research.

Secondly, this study of the current state of Russian pipeline transport is mainly export-oriented. In this group, all works are distributed on the locations of the pipelines and their export activities (e.g.: Zaslavsky, 2005; Medvedev and Tkachev, 2007): The Caucasus, Central Asia, Siberia and the Russian Far East and the Asia-Pacific region. They all contain a review of the existing pipeline infrastructure in the study area with the characteristics of the energy resource base; the analysis of on-going and future projects for the construction of pipelines; offer possible schemes of the network of pipelines connecting the country in these regions with the neighbouring Russian territories in the mid-term. Due to the relevance of the selected Russian eastern geopolitical vector, Siberian, the Russian Far Eastern and the Asia-Pacific region studies are much more numerous than the research on other regions listed.

It is worth noting team research work of the Analytical Centre at the Government of the Russian Federation under the leadership of L. Grigoriev (Energy Bulletin, 2013; 2014; 2016), aimed at operational information and analytical support, and expert support on the governmental decisions on major issues of socio-economic development in different areas, including energy and, consequently, pipeline and maritime transport which transports energy. In this context, current statistics and relevant analysis identifying the trends and projections published in the "Energy Bulletin," circulating since 2013 are of great interest.

The phenomenon analysed in the article refers to significant political issues together with economic and geographical components which gives political sciences an important role in its study. Considering this point a series of collective analytical reports of the International discussion club "Valdai" (Karaganov, 2014) "To the Great Ocean" becomes very important content-wise. The analysis was carried out under the leadership of Karaganov and Barabanov. They emphasize the choice of Russia to go for the Asian geopolitical vector of development along with the European one through creating new internal (organizational and legal) conditions for the accelerated growth of Siberia and the Far East, strengthening Russian presence in the Asia-Pacific region. As a solution to these problems is impossible without the development of the transport complex, a lot of attention is given to studying its specific character.

3. RESEARCH METHODOLOGY

The authors have collected and analysed the open access material on all the pipelines which were built, or still under construction or being designed in Russia in the post-Soviet time, as well as on modification of previously connected pipelines. All the collected information was verified considering the data provided by the leading Russian pipeline operators, such as PJSC "Gazprom" and the "Transneft." The analysis included territorial, historical, complex, problematic and typological scientific approaches combined with the geopolitical analysis (identifying specific influence of the territory on the national foreign policy) and the comparative geographical methodology.

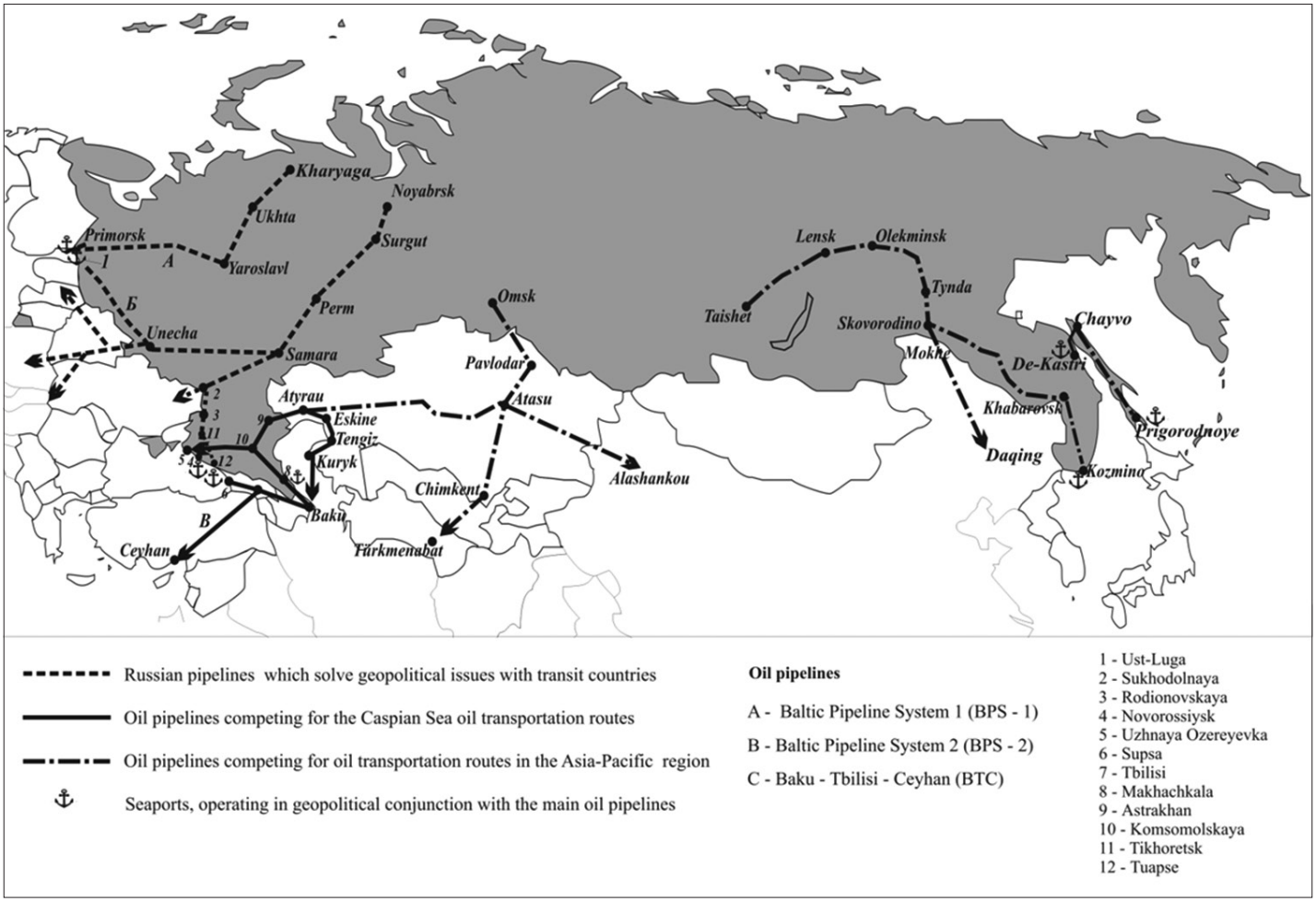
4. THE RESULTS OF THE STUDY

The study allowed to identify a few aspects in the formation of the territorial organization of the pipeline transport in modern Russia, which have geopolitical significance, that is, can affect the nature of Russia's relations with other states (Figures 1 and 2).

The first aspect is Russia's desire to distance from the dominating attitude of the transit countries which carry out (or used to do) energy exports.

As after the collapse of the USSR the main Russian export oil pipeline was the oil pipeline "Druzhba" which carried oil to Europe transiting through Latvia, Lithuania (marine transit), Belarus, Ukraine (overland transit), the nature of relations with these countries began to influence the export flow. The problem was solved with the construction of the "Baltic Pipeline System - 1" (BPS - 1), which supposed to create its own port facilities on

Figure 1: Main Russian oil pipelines of geopolitical significance



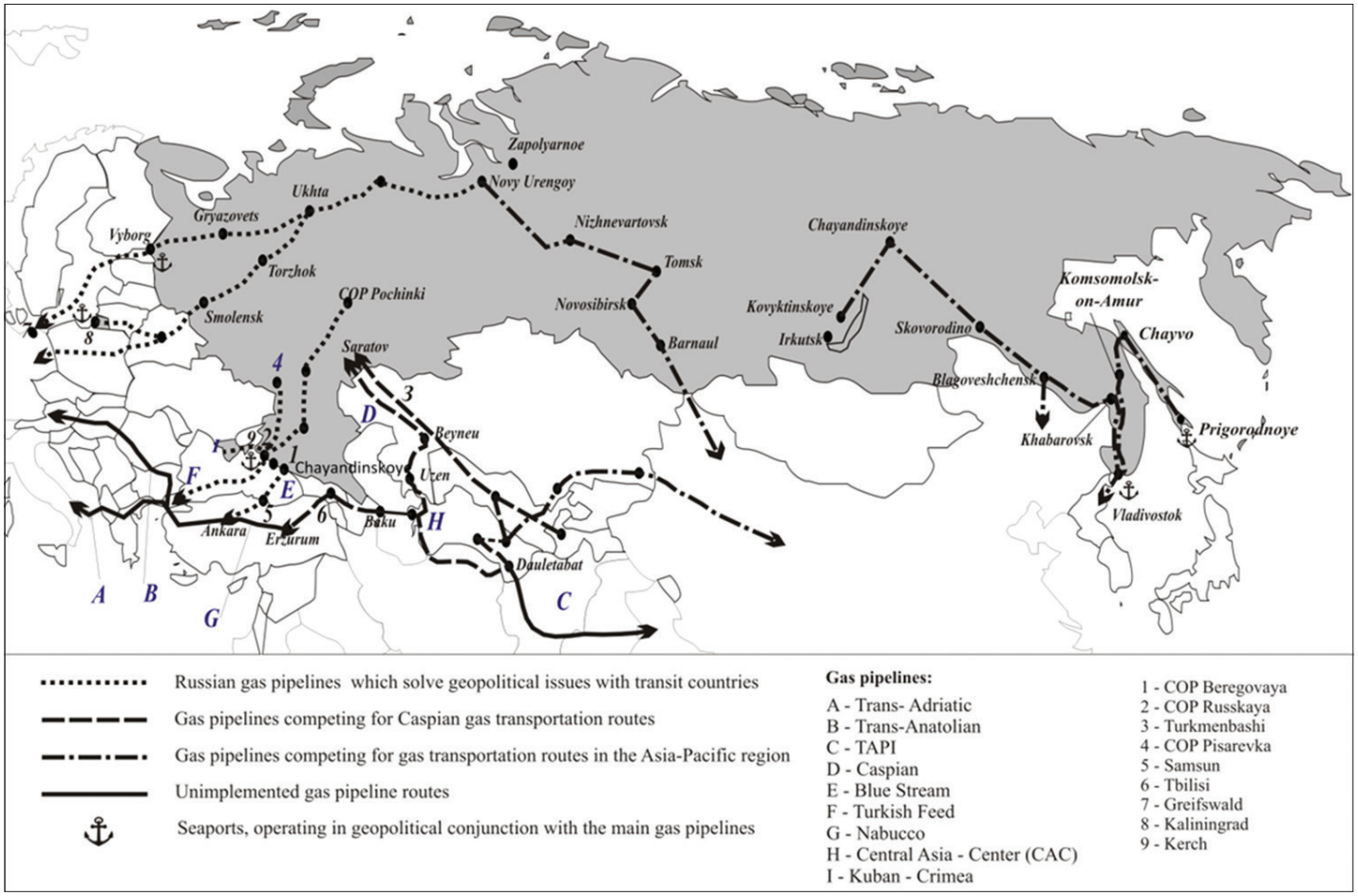
the Baltic Sea, corresponding in its flow capacities of economic potential of Russia (the port of Primorsk, Ust-Luga, Vysotsk, the development of St. Petersburg port) and the construction of oil pipelines, providing the delivery of Russian oil to the ports (Khariyaga - Usa - Ukhta - Yaroslavl - Kirishi - Primorsk). This project reduced and largely eliminated the dependence of Russian oil export on the relations with Latvia and Lithuania. Further construction of the BPS - 2 (Unecha - Ust-Luga) reduced transportation risk of oil through Belarus, as the oil transported by the pipeline "Druzhba" from Unecha station located on the border of Russia and Belarus, was diverted to the new pipeline, going along Russian territory to the Baltic sea ports (Popodko and Nagaeva, 2015). In its turn, the construction of the pipeline "Sukhodolnaya - Rodionovskaya" across the territory of the Rostov region supported the oil export through the port of Novorossiysk, bypassing continental Ukrainian transit.

Gas exports also faced the problem of dependence on transit countries, primarily Ukraine. The desire to eliminate this dependence led to a massive use of the territory of the main Russian ally in the former Soviet Union, Belarus. It is exactly the case with the transnational gas pipeline "Yamal - Europe." Today, it runs across four countries: Russia, Belarus, Poland and Germany. However, later Belarus, like Ukraine, started to use its transit position to put pressure on Russia in taking all sorts of economic decisions. As a result, Russia implemented a project to build a gas pipeline "Nord Stream" that would bypass all transit countries in Europe. He was laid from Vyborg (Russia) under the Baltic Sea towards Greifswald (Germany). It does not cross any transit states which reduces the cost of transportation of Russian gas, and avoids possible political risks. The same idea of sea transit was suggested for the "Blue Stream" (COP Beregovaya - Samsun - Ankara), and then for the "South/Turkish Stream" (COP Russian - Turkey), which run on the bottom the Black Sea. They are designed to supply Russian gas to Turkey, bypassing third countries, and to complement the gas transportation corridor from Russia to Turkey, which passes through Ukraine, Moldavia, Romania and Bulgaria.

The second aspect is the Russian struggle for transportation of gas and oil produced in the Caspian Sea basin within Azerbaijan, Kazakhstan and Turkmenistan, which has become particularly relevant following the construction of the BTC pipeline (Baku - Tbilisi - Ceyhan) and "South Caucasus Gas Pipeline" (Gadjiyev, 2014; Zaslavsky, 2005) laid parallel to each other along the territory of Azerbaijan, Georgia and Turkey. This made Russia offer their projects to transport oil and gas from Caspian fields.

It resulted in constructing "Caspian Gas Pipeline" (Turkmenbashi - Uzen - Beyneu - Saratov), pumping gas from Turkmenistan via Russia to Europe. Its use would allow Russia

Figure 2: Main gas pipelines in Russia and the neighboring countries which are geopolitically significant



to transport practically all of the gas produced in Turkmenistan and Kazakhstan with the unified system of the main export pipelines. But the worsened situation on the world market as a whole, as well as Russian attempts to overcome challenges by putting extra pressure on Turkmenistan led to rupturing the gas contracts between the two countries. This brought the freezing of both the project and the reconstruction plans aimed at increasing the capacity of the main gas pipeline "Central Asia - Center" (Galkynash and Gazly - Urgench - Beyneu - Saratov) which had been operating since the USSR times and lowering the volume of gas pumped through it. Thus, Russia pushed Turkmenistan to seek alternative routes for transporting its gas to the world market. The first route were the pipelines that went directly to the consumer, in particular Iran, without any intermediaries. The consumers of gas are the northern provinces of Iran, remote from the Persian Gulf deposits. These are Korpeje - Kurt - Kui and Dovletebat - Sarahs - Hangeran pipelines (Crude Accountability. URL: http://crudeaccountability.org). The second project that pushed Russia into becoming more active in Asia, was the "Central Asia - China" (Turkmenabashi - Bukhara - Almaty - Khorgos) gas pipeline, having brought together all the countries in the region: Turkmenistan, Uzbekistan, Kazakhstan and China. It also had its branches in the Kyrgyz Republic and Tajikistan. Obviously, this pipeline significantly reduced Turkmenistan's export dependence on Russia. Another actively discussed project, which was initiated by Turkmenistan, was the TAPI pipeline (Turkmenistan - Afghanistan - Pakistan - India) that even considered Russian accession. However, the political risks for the project leaders are so high that it is difficult to expect that it will anyway be built.

One of the first projects, which opened for Russia the opportunity to compete for the transportation of Caspian oil, was Tengiz - Novorossiysk pipeline, built by the Caspian Pipeline Consortium (CPC). It connected the oil and gas field in Kazakhstan with the Russian Black Sea ports. This has contributed to the creation of new marine terminal on the Black Sea coast in South Ozereyevka and development of Novorossiysk in Russia's largest port. Ultimately, that move strengthened the importance of the Black Sea in the development of both Russia's national economy as a whole, and Turkey, as a country which controls the flow of (including) oil through the Bosporus and the Dardanelles.

The third aspect is the struggle for oil and gas transportation into the Asia-Pacific region. Initially it was associated both with the desire of Kazakhstan to invest heavily in oil production in the Caspian Sea, and with its desire to export oil directly to consumers, bypassing transit countries (Russia). As a result, they began to create a new pipeline system, the largest of which was the "Trans-oil" (Atyrau - Atasu - Alashankou) connecting Kazakhstan and China. Due to the fact that the oil fields in Kazakhstan are not yet exploited at full capacity, the pipeline mainly transports the oil produced in Russia.

The Russian response to competition in transporting energy resources to China and later to challenging relations with the EU as a whole was the construction of a new pipeline system that promoted itself to the Asia-Pacific region. In turn, this contributes to the new infrastructure, mining and processing industry in Siberia and the Far East in general, while stimulating economic development in this less advanced region. They include:

- Oil pipeline system "Eastern Siberia - Pacific Ocean" (Taishet - Ust-Kut - Lensk - Olekminsk - Aldan - Skovorodino - Blagoveshchensk - Birobidzhan - Khabarovsk - SMNP "Kozmino;" Medvedev and Tkachev, 2007; Filimonova et al., 2013);
- Trans-Sakhalin pipeline system and the gas pipeline Sakhalin - Khabarovsk - Vladivostok, focusing on the transportation of oil and gas from the fields of Sakhalin - 1, Sakhalin - 2, Sakhalin - 3;
- Pipelines "Power of Siberia" (Kovykta - Chayandinskoye - Khabarovsk - Vladivostok) and "Altai/Power of Siberia - 2" (Purpeisky - Alexandrov - Parabel - Biysk - CS Chu – China's Xinjiang Uygur Autonomous Republic).

In addition, we assume that the transformation of the territorial organization of pipeline transport in Russia under the influence of geopolitical factors in the post-Soviet period was not associated only with the energy export issue (though this aspect was decisive). Other geopolitical factors must be considered as well. For example, the energy supply of strategically significant Russian territories. To ensure the uninterrupted energy supply "Dzuarikau - Tskhinval" (Russia - South Ossetia) and "Torzhok - (Russia) - Minsk (Belarus) - Kaunas, Lithuania) - Kaliningrad (Russia)" were constructed.

At the same time, the analysis of Russian pipeline transport transformation in the post-Soviet period, under the influence of the relations with some neighbouring countries shown that the policy of expansion of old and creation of new export pipelines led to the transformation of the national maritime transport infrastructure. There is a geopolitical correlation between certain pipelines and sea ports, through which energy is exported/imported. For the state, which exports about 60% of oil by sea, another 40% by pipelines, then partly by rail transport (Energy Bulletin, 2016) and constantly increases oil and gas exports, such active expansion and building the pipeline system can explain the expansion and construction of infrastructure of maritime transport, which reinforces the position Russia, as a maritime power, largely lost after the collapse of the Soviet Union.

In turn, a development port economy stimulates new technologies for transporting energy, particularly gas (in liquid form), and the need for construction of plants for its production (LNG) and, as a consequence, the need for a port - the pipeline joint facility.

Geopolitical links of a seaport with a joint pipeline can be identified within each of the studied change aspects of the territorial organization of pipeline transport in modern Russia that has geopolitical significance (Table 1).

So, Russia's desire to distance from the dominance of the energy transit countries results in new links in the ports of the Baltic and Black seas:

- The Port Primorsk - oil pipeline BTS-1;
- Ust-Luga port - oil pipeline BTS-2, Ust-Luga - gas pipeline Volkhov - Ust-Luga, "North Stream" -2 with a view to building and creating in 2020 the "Baltic LNG" plant;
- The port Kaliningrad - oil pipeline Minsk - Vilnius - Kaunas - Kaliningrad, the construction by 2020 of the regasification LNG terminal on the premises of gas "Baltic LNG;"
- Vyborg port - gas pipeline North Stream, the construction of gas pipeline Gryazovets - Vyborg (2017), prospect construction of a gas pipeline Murmansk - Vyborg (from the Shtokman gas field);
- Novorossiysk - → oil pipeline Samara - Novorossiysk (Sukhodolnaya - Rodionovskaya - Tikhoretsk - Novorossiysk);
- The port Tuapse - oil pipeline Tikhoretsk - Tuapse 2.

Competition for transporting Russian gas and oil, extracted in the Caspian Sea basin encouraged the development of Makhachkala and Novorossiysk ports, as Makhachkala fits the oil pipeline Baku - Makhachkala and creates the oil pipeline Makhachkala - Novorossiysk, which includes the oil, transported from Turkmenistan and Kazakhstan by tankers. In addition, the Caspian Sea oil enters the terminal South Ozereyevka (Novorossiysk) by pipeline, built by the CPC.

Competition for oil and gas transportation in the Asia-Pacific region contributed to the creation of links in the ports of Okhotsk and the Sea of Japan:

- The port Prigorodnoye -Transsahalinskaya pipeline system and LNG plant (processing gas from the Sakhalin-2 fields);
- The Port De-Kastri - the oil pipeline Chayvo - De-Kastri (from oil fields of Sakhalin-1);
- The Port Vladivostok - gas pipeline Sakhalin - Komsomolsk-on-Amur - Khabarovsk - Vladivostok (gas from the Sakhalin-3 fields), gas pipeline "Power of Siberia" (2017) and the construction of "Vladivostok LNG" (2019);
- The ports of Nakhodka and Vostochny (Spetsmornefteport Kozmino) - the oil pipeline ESPO-2.

5. CONCLUSION

Firstly, the territorial development of the pipeline transport in Russia in different periods of time was influenced by a number of factors: A significant volume of reserves and production of oil and gas, increasing domestic demand, the favourable situation on the world market and the character of Russia's relations with neighbouring countries (geopolitical factor). The latter factor is decisive for the present stage of development of the state.

Secondly, the most geopolitically significant aspects of the territorial development of the pipeline transport in modern Russia, that can define Russia's relations with other states can include Russia's desire to distance from the dominant attitudes of the energy transit countries; the competition for the transportation of gas and oil produced in the Caspian Sea basin; the competition

Table 1: The main Russian sea ports, which operate jointly with the main pipelines

Port name	Pipelines	Cargo turnover/ Capacity, mln. tons	Number of piers
The Black sea			
Kerch	GP Kerch - Simferopol - Sevastopol (2017)	7.8/…	12
Novorossiysk	OP Samara - Novorossiysk, oil pipeline KTK, the pipeline Baku - Novorossiysk, the pipeline Makhachkala - Novorossiysk	139.7/169.3	89
Tuapse	OP Tikhoretsk - Tuapse, and Tikhoretsk - Tuapse 2 (draft)	25.1/37.6	36
The Baltic sea			
Vyborg	The Nord Stream gas pipeline, GP Gryazovets - Vyborg (2017), the prospect of GP Murmansk - Vyborg (from the Shtokman gas fields)	1.7/2	7
Kaliningrad	LNG regasification terminal using the gas of "The Baltic LNG" (2020) and the OP Minsk - Vilnius - Kaunas - Kaliningrad	12.7/44.3	119
Primorsk	OP BPS - 1	53.7/89.5	12
Ust-Luga	OP BTS - 2, the Nord Stream - 2 "Baltic LNG" (2020) with Volkhov - Ust-Luga GP	87.9/120.88	38
The Caspian Sea			
Makhachkala	OP Baku - Makhachkala, Makhachkala - Novorossiysk oil from Turkmenistan and Kazakhstan (by tankers)	3.8/7.3	20
The Sea of Okhotsk			
Prigorodnoye	The Trans-Sakhalin pipeline system (OP and GP) and LNG (with Sakhalin - 2)	16.1/19.6	4
The Sea of Japan			
De-Kastri	OP Chayvo - De-Kastri (the oilfields of Chayvo, Odoptu, Arktun-Dagi)	10.4/12.3	4
Vladivostok	the gas from the Sakhalin - 3 (GP Sakhalin - Komsomolsk-on-Amur - Khabarovsk - Vladivostok), GP "Power of Siberia" (2017) and "Vladivostok LNG" (2019)	14.5/21.7	65
Nakhodka and Vostochny (Kozmino)	OP NP ESPO - 2	20.7/25.9 and 57.8/64.3	125 and 25

OP: Oil pipeline, GP: Gas pipeline, - No information available. Source: Compiled by the authors on Unified national world's oceans information system. URL: http://www.russianports.ru/ (reference date 07/15/2016); Port News - Information-analytical agency. URL: http://portnews.ru/(Reference date 17/05/2016); Federal Agency of Sea and River Transport. URL: http://www.morflot.ru/(reference date 02/03/2016)

for the transportation of oil and gas in the Asia-Pacific region; energy supply of the territories which are strategically important for Russia.

Thirdly, the transformation of the pipeline transport in Russia in the post-Soviet period, under the influence of relations with neighbouring countries was accompanied by a transformation of the country's maritime transport infrastructure (geopolitical links seaport - pipeline), which ultimately strengthened Russia's position as a maritime state, that largely was lost after the Soviet Union collapse.

Fourthly, changes in the territorial organization of pipeline transport in Russia in the post-Soviet period, led to a decrease in the export dependence of Russia on the transit countries due to such countries as Belarus (which carried a considerable volume of Russian transit flows, that used to pass through Ukraine) and Turkey (which carried a part of Russian transit gas which used to pass through Ukraine and Belarus).

Fifthly, the competition between Russia and other countries to create a new transport projects has increased. Azerbaijan (transit through Georgia and Turkey), Turkmenistan (transit through Azerbaijan, direct access to the consumers, China, Iran) and Kazakhstan (transit through Azerbaijan; direct access to the consumer, China) have made the most significant progress.

At the same time Russia's attempts to overcome "transport dependence" on the countries of the former Soviet Union led not only to obvious improvement of its geopolitical position, but also created potential problems, as it partly entailed the use of the territory of other countries, such as Turkey, Kazakhstan, China, which strengthened the economic positions and encouraged the regional ambitions of the countries located in close proximity to Russia.

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