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Russian Freight Transport Market in the Context of Sanctions

Ilya E. Leonov[1], Darya S. Sokolan[1]

[1] RUDN University, Moscow, Russia

Author Note

Correspondence concerning this article should be addressed to:

Ilya E. Leonov

RUDN University, 6, Miklukho-Maklaya str., Moscow, 117198, Russia. e-mail: 1032213833@pfur.ru

Darya S. Sokolan

RUDN University, 6 Miklukho-Maklaya str., Moscow, 117198, Russia. e-mail: sokolan-d@rudn.ru

Abstract: As the sanctions against Russia were imposed in 2022, Russia's trade in goods decreased significantly during the first months. As a result, the price of domestic freight began to rise. Therefore, businesses had to revive transport demand and establish new import routes. The research aims to determine new directions in the development of Russian goods transportation through changes in the structure of international trade. To reach this goal, the market of rail and road cargo, as well as the throughput of Russia's ports, was analyzed. Due to restrictions on the European side, more attention is now given to the East. Freight traffic is shifted to the southeast of Russia, where the largest railway lines (the Baikal-Amur Mainline [BAM] and the Trans-Siberian railway) are located. For the further development of the eastern direction of Russian railways, the main issue is a lack of gondolas for coal export and containers; most of them are bought in China. The research revealed that Russian production could partially meet domestic demand for at least 20-foot containers. The author concludes that a limitation of coal, oil, and gas in the export structure will help freight forwarding companies earn more in the future. The research analyzes options for reformatting freight railway infrastructure for more efficient transportation and reducing the transportation of fossil energy resources. The author concludes that Russian Railways tries to replace or slightly limit the movement of trains with coal and oil while increasing the flow of containers. Government agencies can use the research results to make recommendations for changing foreign trade strategies and domestic transportation. A further direction in the research development is to assess the possibility of restructuring Russian exports to increase the share of goods in containers and eliminate the dependence on coal.

Keywords: transportation, seaports, rail freight, coal export, sanctions

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In the current difficult economic conditions, the role of highly efficient management of the transport system is extremely important for the functioning of the Russian cargo turnover. The optimization of transport processes significantly affects the efficiency and competitiveness of production and foreign trade. Given that the economy is currently

consumer-oriented, the ability of producers to align the preferences of individual buyers with their production and planning systems is gradually becoming crucial. This is prompted by the rapid changes in customer needs, their requirements for the quality and delivery time of products, and the frequency of deliveries if stocks in warehouses are minimized. Consequently, transport companies are introducing new technologies and transportation methods for further integration into the international market. One of the aspects of the logistics process in transportation management is the integration of individual factors (technological, technical, information, and economic), resources, and information into a single end-to-end management system.

Container multimodal transportation is the most developed nowadays. The transport infrastructure of any developed country is inconceivable without trade in goods in containers; they are actively used on all transport corridors. The integration of door-to-door and just-in-time transport systems uses the principles of logistics to speed up, reduce costs, and simplify the process of moving goods from producers to consumers. The share of container traffic in the total volume of cargo transportation in different countries ranges from 10% to 60%. Containerization of goods is more than 51% in the USA and 17.9% in the EU. In Russia, this figure is 14.6% for sea transportation and 10.8% for rail.

The situation in the market of multimodal container transportation is seriously complicated by the crisis state of the Russian economy and the weakness of cooperation with the countries of Western Europe, which makes it difficult to finance further development. Historically, Russia has been one of the major suppliers of energy resources such as coal and crude oil, which accounts for more than half of the export structure. Since Russia specializes in this and emphasis is placed on the export of minerals and energy resources, the development of container multimodal transportation is necessary for the transition from the transportation of coal, oil, and gas to trade in more technologically advanced goods, elimination of the shortage of containers for imports, and development of infrastructure, including railways and terminals.

Materials and Method

The author analyzed the statistics, key projects, current capacities, and prospects of the Russian monopoly of Russian Railways. The main observation method is the collection of current and annual statistical reports. The authors used statistical materials from the Ministry of Transport of the Russian Federation (2016), the Federal State Statistics Service of the Russian Federation (Rosstat) (Rosstat, 2023), large private transport companies, including TransContainer (Delo Group) (Maritime news of Russia, 2022) and UTLC ERA JSC (2022), and a review of the cargo transportation industry in Russia, namely from Ernst & Young (2020). Scientific works by Russian researchers on freight transportation in Russia were also used.

The work is written using the principles of statistical analysis, scientific objectivity, and reliability. The research used generalized data and theoretical developments presented within the transport industry. The author used analytical and graphical methods and synthesis.

Results

At the end of 2020, road transport accounted for 79% of the main modes of transport (road, sea, inland waterway, and rail) in terms of the volume of goods transported, excluding the pipeline. Simultaneously, its share in the Russian cargo turnover was estimated at 9.2% or 275 billion tonne-kilometers (Talypin, 2022). This explains the average transportation distance of 48 km because it is mainly delivered directly to the recipient's warehouse by road. Moreover, road transportation up to 800 km is considered profitable (Shcherbanin & Golyzhnikova, 2019).

To track the dynamics of prices for road freight transportation, an example was taken of the average price per kilometer for tilt transport with a full load (FTL) on the route St. Petersburg – Moscow for the period from February 2022 to February 2023. By the end of the year, the situation had stabilized, and in December–January, there was a seasonal peak in demand for vehicles (Figure 1).

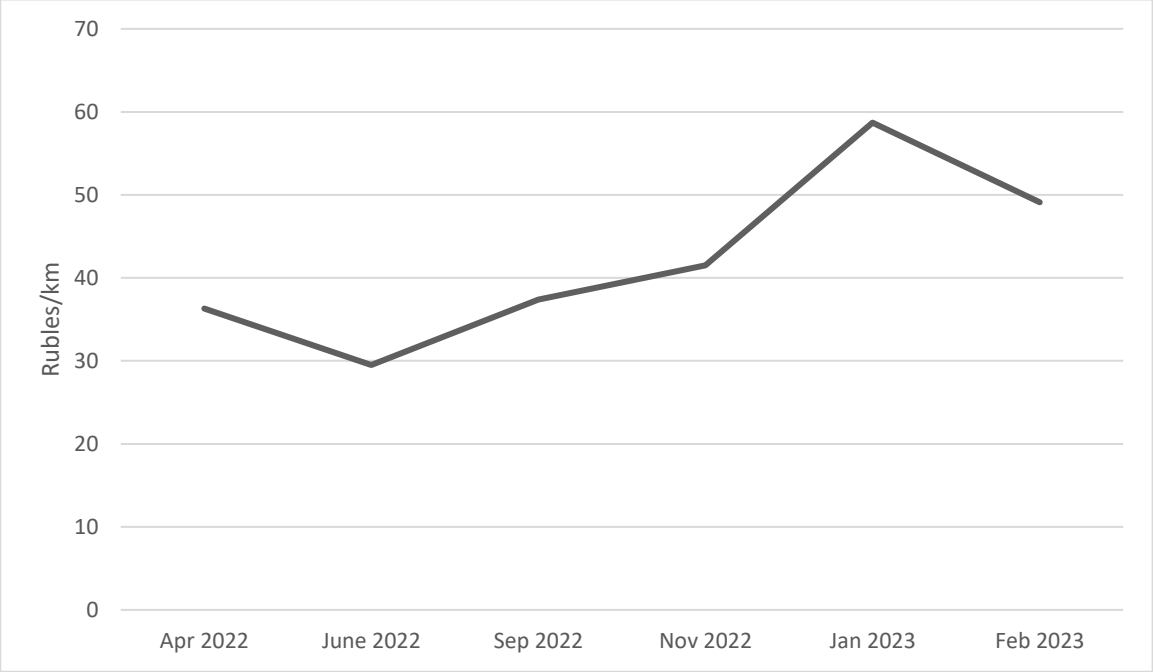

Figure 1

Dynamics of average prices for FTL road cargo shipping

Source: Compiled by the authors based on ATI Transport Exchange (2023)

In Russia, the share of logistics costs in the cost of goods is 14.2%, which is higher than the world average (10%–11%). The level of containerization of transportation in the Russian Federation is 2–3 times lower compared to the leading countries in the field of quality of logistics services (Garadzhaev, 2022). Simultaneously, the share of containerization cannot be considered in isolation from the structure of commodity production. More than 30% is the share of the transportation of non-primary goods by road on routes over 1000 km, which is impractical due to the high cost. Thus, the road freight industry of the Russian Federation needs to be revised and modernized (Security Council of the Russian Federation, 2021).

The cargo turnover of Russian seaports in January-December 2021 increased by 1.7% compared to the same period last year and amounted to 835.2 million tons. Simultaneously, the cargo turnover in the Caspian Sea (the ports of Astrakhan, Makhachkala, and Olya) consists of dry cargo (2.6 million tons) and liquid cargo (4.4 million tons) (Association of Sea Trade Ports, 2022a).

Table 1

Cargo turnover of Russian ports in 2021, million tons

Pool	All cargoes	Containerized cargo	Share of containers
Arctic	94.3	2	2.1%
Baltic	252.8	28.4	11.2%
Azov-Black Sea	256.8	9.2	3.6%
Far East	224.3	18	8%
Caspian	7	0	0%
Total	835.2	57.6	6.9%

Source: Association of Sea Trade Ports (2022b)

For Russia, in terms of freight traffic volumes, rail transport is extremely important because it accounts for more than 30% of container traffic in the country (Cheong, 2022). As for the dynamics, in 2021, cargo transportation on the Russian Railways network increased by 2.7% to 1399 million tons against the background of a low base of the crisis year 2020; in 2022, it decreased by 3.8% to 1.23 billion tons due to a reduction in imports (Gashkova & Morozova, 2022).

Comparing the prospects for the transportation of coal and containers, it is worth noting that the transportation of coal via the Far Eastern Railway from Kuzbass brought the company a loss of 45.7 billion rubles in 2020 (Russian Railways, 2022). The reason for the disadvantage is the small range coefficients because coal is transported over 3 thousand km, as well as high spending on the section of the Baikal-Amur Mainline. This increases the expediency of the development of container railway transportation (Merkulova, 2018).

V. Onishchenko, the President of the Center for Strategic Research, in his report at Transport Week 2022, noted that the coal industry provides employment for 0.5 people/thousand tons of cargo produced, metallurgy – 18 people/thousand tons. The contribution of the production of 1 ton of coal to GDP is 5.2 thousand rubles, ferrous metals – 23.4 thousand rubles, oil cargo – 14.1 thousand rubles, high-tech products – 34.8 thousand rubles; 47% of the needs of industrial enterprises are provided by imports. Almost a quarter (24%) of industries are critically dependent on container imports of capital goods, power equipment, and chemical products (Center for Strategic Research, 2022).

To analyze the situation with cargo in containers, it is necessary to note one of the largest companies in the industry – TransContainer, which was established as a subsidiary of Russian Railways. It is the leader in container rail logistics in Eurasia, owns 37 railway terminals in Russia, and manages three more terminals in the form of subsidiaries and joint ventures. The fleet of containers is about 113 thousand units with a capacity of more than 167

thousand twenty-foot equivalent units (TEU), fitting platforms – more than 42 thousand units. The company owns 40 railway terminals in Russia and operates 23 cargo ships, including 13 vessels of the Sakhalin Shipping Company (SASCO), where TransContainer owns 58.51% of the shares (Grigoriev, 2022).

Particular attention should be paid to container transit through Russia. The main provider of these services is UTLC ERA, which provides 88% of the volume. In absolute terms and compared to 2021, there was a decline in transit through Russia in April and May 2022 and a recovery in July and August. This is due to the launch of a scheme with empty loading of containers from Europe by Belarusian and Russian exports. Despite the decrease in transit on the China-Europe-China route to 406 thousand TEUs, the total volumes remained and amounted to 561 thousand for January-October 2022 (Karkhova & Danyuk, 2021) (Figure 2).

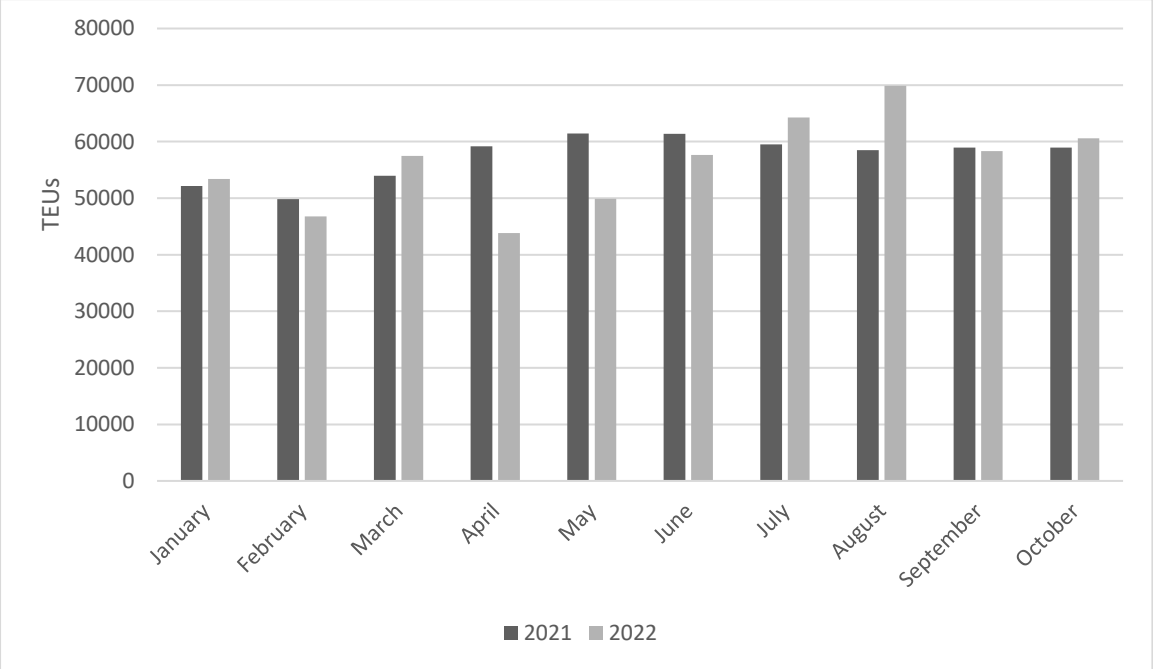

Figure 2

Dynamics of traffic volume of UTLC ERA JSC from January to October 2021/22

Source: Compiled by the authors based on UTLC ERA statistics (2022)

Transit traffic grew mainly due to the China-Europe-China route, as it has been since August 2022 after another crisis. Transit container traffic brought 800.6 thousand euros for Russian Railways and 830.9 thousand euros considering empty containers (Makovetsky & Skirnevskaya, 2022). The bulk of such traffic falls on the East-West ITC, which is planned to be expanded from 4–5 to 8–9 trains with imports per day (Goryun & Konovalova, 2022).

Russian Railways will have to overhaul its networks with a total length of 82.2 thousand km of railway track. The invested amount is expected to be 6.45 trillion rubles (Russian Railways, 2020a). This is a considerable cost even for the monopoly. Thus, whether the company will be able to implement such a plan without prejudice to the modernization of

the Eastern landfill and a significant increase in tariffs remains a question (United Nations Economic Commission for Europe, 2017).

Discussion

There are several factors hindering the spread of containerization in Russia. There are many questions about the transport infrastructure that does not meet the requirements for the transportation of containers; there are not enough ports, terminals, railway stations, and tracks (Zhokhova & Blyudik, 2022). The reason also lies in the trade structure because Russia imports finished products in containers and exports fuel and raw materials for which containers are unsuitable. Thus, they are used less often to avoid empty mileage. This often includes high and unchangeable tariffs of monopoly carriers, lack of rolling stock and its regulation, and delays at customs crossings (Russian Railways, 2020b).

The market for the transportation of goods in containers did not develop properly for the following reasons:

- Rising energy prices;
- Lack of state support;
- Insufficiently effective legislation in the field of freight transport;
- Underdeveloped customs system;
- Non-compliance of the infrastructure with European technical criteria;
- Low level of safety and quality of transportation;
- Increase in the total cost of transportation of goods.

The problem with Russian domestic transport is that its development is hampered to a large extent due to the lack of a sufficient number of containers. Own production cannot eliminate dependence in the field of transport in China (Vinitskaya, 2015). Moreover, refusing to export energy resources, it is necessary to compensate for this by trading in other groups of goods. For Russia, such a replacement may be non-resource non-energy exports – precious metals, grain, and platinoids. For example, in 2020, companies earned more than $34 billion from the trade in these goods, and more than $13 billion from the sale of semi-finished steel products, copper, and forest products (Eurasian Development Bank, 2022). Trends show that the share of non-commodity exports in relation to raw materials is gradually increasing. The traditional buyers were the countries of the Asia-Pacific region and North Africa, which corresponds to the current situation (Pokrovskaya, 2022).

Conclusion

The author concluded that Russian cargo transportation was distinguished by a low level of service and a significant predominance of ships from foreign companies until 2022. Since Europe was the main trading partner, cargo turnover was largely concentrated in the country’s northwest.

In a state of crisis, logistics is forced to look for new delivery methods and other routes. It was possible to return the state to the pre-crisis level by August 2022, when transit through

Russia increased, and the ports reached their capacities. However, there was a reorientation of transport to Asian countries.

The development of cargo transportation is greatly hampered by the consequences of the COVID-19 pandemic and the shortage of containers and rolling stock. An important factor is European sanctions.

Russian transport companies will have to resolve the issue of shifting the focus to the transportation of strategically important coal or to promote container import and transit. Nowadays, the emphasis is placed on the latter due to the active modernization of the Eastern landfill.

Thus, there are several obstacles to increasing the share of containers in cargo turnover. Among them are the European sanctions imposed after the start of the military operation, an imbalance in the structure of exports towards energy resources, the obsolescence of the vehicle fleet and railway rolling stock, and a shortage of containers. In connection with the reorientation to the Far Eastern direction, Russian transport will also have to synchronize large carrying capacities effectively, focus on high-margin container transportation, and solve the problem of dependence on Chinese container supplies.

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