

Transport and Logistics Complex of Azerbaijan in the Context of Geopolitical Problems of the Modern World

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Abstract: *The favorable geographical location of Azerbaijan, the implementation of large-scale projects and more efficient use of the potential of transit and cargo transportation provide excellent opportunities for a constant increase in income in this area and the growth of the country's authority on the world stage. In this regard, the article pays attention to the state and development of transport and logistics infrastructure. It is noted that the transport and logistics complex of Azerbaijan must be ready for changing geopolitics.*

The article rightly states that improving the performance of the transport and logistics complex of Azerbaijan can be achieved through an integrated approach, including measures to improve infrastructure, optimize processes, use new technologies and improve the legislative framework.

KEYWORDS: *transit, cargo transportation, geopolitical situation, transport hub, export transactions, Middle Corridor*

1. Introduction

The tense geopolitical situation in the world is creating a completely new scenario for the dominance of countries in one or another sector of the economy. The Russian-Ukrainian conflict, as a result of which sanctions were imposed on the transportation of Russian gas to Europe, the role of Azerbaijan in the issue of supplying gas to Europe has increased significantly. Located at the junction of Europe and Asia, Azerbaijan is located in an advantageous transport hub, through which transport routes pass both from Asia to Europe and from Russia to the south. In this regard, the issues of the Middle Corridor were updated.

In addition, the escalation of the Palestinian-Israeli conflict in the Gaza Strip has added such a problem as the Houthis' obstruction of the passage of ships through the waters of the Red Sea and the Bab al-Mandeb Strait. Acts of aggression by the Houthis in the Red Sea have led to rising shipping and insurance costs, causing disruption to the Europe-Asia trade route heavily used by China. Due to attacks by the Houthis, many shipping companies prefer to avoid this route, sending their ships around Africa, which significantly increases travel time and shipping costs. These changes lead to disruptions in supply chains. In this regard, there is growing interest in alternative routes between Asia and Europe that run through Azerbaijan.

In light of the above-mentioned events, interest in the Middle Corridor passing through the territory of Azerbaijan is noticeably increasing. A significant increase in the number of block trains traveling from China to Europe via Kazakhstan and Azerbaijan is registered. In the future, an increase in the volume of cargo transported along this route is expected.

A significant event is also the victory of Azerbaijan in the Karabakh War, which radically changed the geopolitical situation in the South Caucasus. This opens up the prospect

for the formation of new transport routes in the near future, which will bring diversity to cargo transportation logistics. The main participants in these processes will be Azerbaijan, which has strengthened its role as a regional transport hub, as well as Turkey and Russia, seeking to increase the volume of rail freight transport.

2. Is the transport and logistics complex of Azerbaijan ready to accept growing volumes of cargo?

Railway transport. Transportation of international goods through the territory of Azerbaijan is mainly carried out by rail. The volume of import and export transactions in this freight sector is significant, but the volume of transit cargo that passes through this intermediate point on the way to its final destination is relatively small.

Data from Azerbaijan Railways indicate that in 2023, 18.6 million tons of cargo were transported by rail across the territory of Azerbaijan, of which 10 million tons, or 54%, were transit cargo [2].

Thus, the share of transit cargo in the total volume of cargo transportation by rail in Azerbaijan reached 54% in 2023, which is a record figure for the country. In the previous year this share was 43%.

This growth is explained by an increase in traffic volumes along the Trans-Caspian International Transport Route. In 2023, 10 million tons of cargo was transported along this Route, which is 80% more than in 2022. Over the course of the year, container transportation across all types of transportation exceeded 100,000 TEU. In 2024, there is an opportunity to double this volume.

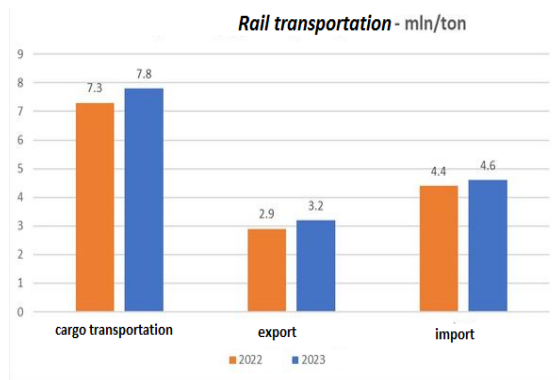


Fig. 1. Rail transportation in Azerbaijan [2]

The presence of an extensive railway network in Azerbaijan provides the opportunity to organize a variety of railway tours with different geography, form and content. The Baku-Tbilisi-Kars railway is a historical project [1]. Among the advantages of railway transport are:

- the possibility of building communication infrastructure in any land areas (the presence of access roads ensures communication with many industrial and agricultural enterprises);
- high throughput;
- regularity of transportation regardless of climatic conditions, time of year and day;
- relatively low cost of cargo transportation;
- higher speed of cargo delivery and shorter route compared to river transport, high utilization rates of the track and rolling stock.

Among the disadvantages are significant capital costs for the construction of permanent devices and metal consumption for each kilometer of track.

Sea transport. Maritime transport plays a key role in intercontinental cargo transportation, with low cost of long-distance transportation, virtually unlimited throughput and high carrying capacity. Its travel speed exceeds that of river transport, and the costs of creating the route infrastructure remain low. However, the disadvantages are the dependence on geographical and navigation conditions, as well as the need to create extensive port infrastructure on the sea coasts.

The growing potential of the Middle Corridor not only leads to increased volumes of transit cargo through Azerbaijan, but also imposes important obligations. To efficiently transport increased volumes of cargo without wasting time, attention must be paid to the number of containers and ships, as well as the capacity of ports. As a result of increased demand, steps are being taken to increase the number of ships in the Caspian Sea. The development of the Baku port, the expansion of the merchant fleet and the improvement of ports in Kazakhstan indicate significant potential in this area.

According to the State Statistics Committee of Azerbaijan, in 2023, the volume of transportation through the country's seaports amounted to 14.2 million tons of cargo. Of this total, 2.1 million tons, or 15%, were transit cargo. The main destinations for transit transportation by sea are China, Central Asian countries, Europe and Turkey.

Among the main types of cargo transported in transit by sea, the following categories can be distinguished: oil and petroleum products (60%); metals and metal products (20%); agricultural products (10%); other cargo (10%).

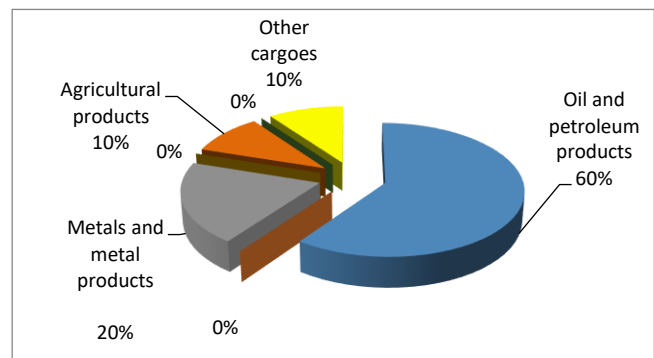


Fig. 2. Main types of cargo transported in transit by sea in 2023, % [4]

Automobile transport. The advantages of road transport include:

- high maneuverability and mobility; fast speed of cargo delivery;
- the possibility of direct delivery of goods without intermediate transshipments, directly from the sender's warehouse to the recipient's warehouse;
- low capital costs for the development of small cargo volumes over short distances.

Disadvantages include low labor productivity, limited operational performance and poor road infrastructure.

In 2023, according to the State Statistics Committee of Azerbaijan, 10.3 million tons of cargos were transported by road through the country. Of this volume, 2.5 million tons, or 24%, were transit cargo. The main destinations for transit transportation by road remain China, Central Asian countries, Europe and Turkey.

Among the main types of goods transported in transit by road are industrial goods (50%), agricultural products (30%) and consumer goods (20%).

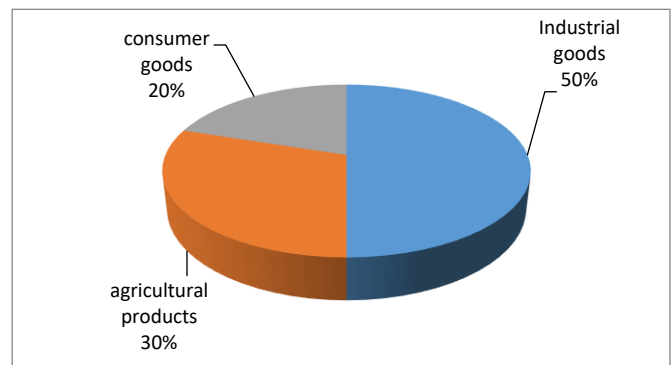


Fig. 3. Main types of goods transported in transit by road in 2023, % [4]

The growth in transit traffic by road in 2023 is due to several factors, including increased trade between countries in Asia, Europe and Africa, the development of transport corridors and improved logistics services on the Azerbaijan-Turkey border.

It is predicted that in the future the volume of transit traffic by road through Azerbaijan will continue to grow.

A few specific examples of road transit growth in 2023 include a 30% increase in cargo volumes in the first quarter, the first shipment of manufactured goods from China to Europe in July, and the first shipment of agricultural products from Central Asia to Europe in September. The growth of transit traffic is important for the economy of Azerbaijan,

contributing to the development of transport infrastructure, creating new jobs and increasing budget revenues.

Pipeline transport. Pipeline transport, including oil product pipelines and gas pipelines, has a number of advantages, such as the versatility of laying pipelines and pumping oil products in large volumes, which ensures low cost and complete sealing of transportation. This type of transport is also characterized by automated loading, pumping and unloading operations. Compared to other types of transport, less capital investments and metal are required, although narrow specialization is a disadvantage of this type of transport.

According to data on oil transportation through main oil pipelines, during the reporting period the volume amounted to 39,753.2 thousand tons. The Baku-Tbilisi-Ceyhan export oil pipeline carried out 75.9% of transportation, pumping 30 million 191.6 thousand tons of oil. Of this volume, 82.6% was produced in Azerbaijan, and 17.4% was imported from Turkmenistan and Kazakhstan.

39,806.9 million cubic meters of gas were transported through main gas pipelines, which is an increase of 1.4% compared to the previous year. The South Caucasus Baku-Tbilisi-Erzurum pipeline carried out 54.8% of gas transportation, transmitting 21,800.1 million cubic meters of gas.

Air Transport. Air transport has a high speed of cargo delivery, a long non-stop flight range, and shorter routes compared to other modes of transport. The disadvantage is the high cost of transporting goods, so it is used mainly for transporting passengers.

According to the State Statistics Committee of Azerbaijan, in 2023, 4.6 million tons of cargo were transported through the country's air ports, of which 0.2 million tons, or 4.3%, were transit cargo.

The main destinations for transit air transport remain China, Central Asian countries, Europe and Turkey. The main categories of transit cargo are industrial goods (50%), agricultural products (30%) and consumer goods (20%).

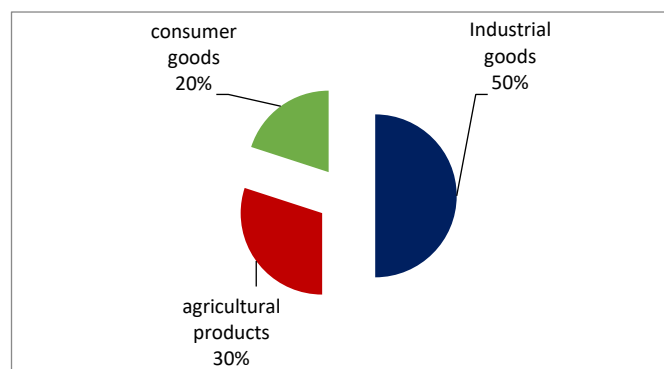


Fig. 4. Main types of goods transported in transit by air in 2023, % [4]

The growth of transit air transport in 2023 is explained by an increase in trade volumes between the countries of Asia, Europe and Africa, the development of transport corridors and the improvement of logistics services at Azerbaijani airports.

In the future, a further increase in the volume of transit air transport through Azerbaijan is expected. However, it should be noted that the share of transit cargo in the total

volume of cargo transportation by air in Azerbaijan remains low, amounting to only 4.3%. This is due to the high cost of air freight, which makes it economically viable only for high-value cargo with an urgent need for delivery.

3. Features and advantages of the Transport and Logistics Complex of Azerbaijan.

The transport and logistics complex of Azerbaijan has a number of features and advantages that affect its competitiveness and importance in the region. Here are some of them:

Geographical location: Azerbaijan is a strategically important transit hub, located at the intersection of routes between Europe and Asia, as well as between the North and South Caucasus. This makes the country a key transport corridor for many freight flows.

Transit opportunities: Projects such as the Baku-Tbilisi-Kars railway provide transit links between the Caspian and Black Seas, opening up new transport routes. This contributes to the development of transit cargo transportation.

Baku Seaport: The port of Baku on the Caspian Sea is a major maritime hub and provides an important connection to ports in other countries in the Caspian region. This stimulates international trade.

Economic development: The rapid economic development of Azerbaijan contributes to an increase in cargo transportation volumes and the development of logistics flows.

Infrastructure Investment: Azerbaijan is actively investing in modernizing its transport infrastructure, including roads, railways and ports. This improves the efficiency and competitiveness of the transport and logistics complex.

Energy projects: Energy projects, such as the Southern Gas Corridor, create additional opportunities for the transport and logistics sector related to the transit of energy resources.

Logistics centers and terminals: The development of logistics centers and cargo terminals helps to optimize the processes of storage and transportation of goods.

Cooperation with international partners: Azerbaijan actively cooperates with other countries, international organizations and logistics companies to improve transport links and expand global transit routes.

The unique geographical location and active investments make the transport and logistics complex of Azerbaijan attractive for the transit of goods and the development of logistics activities in the region [3].

At the same time, the growing volume of cargo transportation along the Europe-Caucasus-Asia transport corridor through Azerbaijan makes it important to increase logistics centers for the effective organization of this process. The "Strategic Roadmap for the Development of Logistics and Trade in the Republic of Azerbaijan" pays special attention to improving logistics operations [5]. Thanks to investments in infrastructure, Azerbaijan's competitiveness compared to alternative routes has increased significantly. However, to fully unlock the potential of the country's logistics network, it is necessary to improve operational performance in various areas. This includes eliminating inefficiencies, increasing efficiency and reducing costs, thereby saving time. The country is planning further initiatives to improve logistics operations covering various modes of transport. In addition to the domestic construction of logistics centers, such as the Absheron Logistics Center, the construction of logistics

centers outside the country is also underway to expand exports from Azerbaijan. An example of this approach is the Azerbaijani production and logistics center in the Kazakh city of Aktau, which serves as clear evidence of the desire to develop and strengthen the logistics infrastructure to support export operations [6].

4. Conclusions

The transport and logistics complex of Azerbaijan must be ready for changing geopolitics. To do this, it is necessary to consider issues related to the further development of infrastructure, transportation, storage, distribution of goods, as well as information and legal support of commodity flows, elimination of customs problems and the use of digital technologies in this area.

Improving the transport and logistics complex requires concerted efforts from the government, the private sector and international partners. These measures can contribute to a more efficient and competitive transportation system, which in turn can have a positive impact on the economic development of the country.

As a result, the implementation of reforms in the transport sector and infrastructure development emphasize the importance of increasing the role of our country in international cargo transportation, which creates the preconditions for increasing the inflow of foreign currency to Azerbaijan. In this context, one can also consider the increase in the economic power of the republic.

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