

NEW SILK ROAD: COMARATIVE ANALYSIS AND WAYS FOR DEVELOPING ALTERNATIVE ROUTS

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Abstract: *This research work is devoted to the trends for further development of the New Silk Road. In the framework of the study, the authors have analyzed the export and import of all potential participant countries of the New Silk Road, examined the Northern, Central and Southern corridors. They have also identified alternative directions for transportation of goods from China through the countries of Central Asia to Russia and Europe. At the same time, according to the calculations carried out to assess the volumes of transit cargo flows on the alternative routes offered by the central and southern international transport corridors, the authors have highlighted the strategic role of Iran in the distribution of cargo flows.*

KEY TERMS: NEW SILK ROAD, TRANSPORT CORRIDORS, LOGISTICS CENTER, EXPORT. IMPORT.

The interest and active participation of the governments in the formation of new international transport routes and associated transport corridors is aimed to diversify and strengthen economies, maximize transit potential, stimulate the development of transport and communications within countries and to get *direct* access to the world markets. The need to form the "*Economic belt of the Silk Road*" is justified with the importance of building an economic cooperation, which can become one of the elements of the node that consolidates commodity flows from China, India, Southeast and Central Asia to Europe and in the opposite direction, which will, subsequently, lead to the integrating processes among the economies of all participating countries and intensification of political dialogues between them.

The concept of the "New Silk Road" includes the projects "The Economic belt of the Silk Road" and the "Silk Road of the XXI century", which assume the creation of an extensive infrastructure network along the way from the western borders of China to the countries of Central Asia and from Iran to Europe.

"Economic belt of the Silk Road", according to various estimates, includes more than 40 countries. Through the concept of the "New Silk Road," China is trying to expand its influence in this territory. Along with the geo-political goals, China expects serious economic outcomes. Henceforth, it is known that during the last years the growth rates of China's economy were the lowest [6], and consequently, China needs new, cheaper and innovative ways of development. China actively cooperates with the largest countries participating in the New Silk Road i.e. Russia, Iran and Kazakhstan.

The strategic importance of the "New Silk Road" is associated with the development and growth of international supply chains over the past 30 years. Nowadays large companies tend to place separate phases of their production in other countries, which allows to increase the level of efficiency of the organizational logistic chains. Therefore, these companies organize production in countries which have access to channels of inexpensive transportation, and labour resources. Operating under such conditions, China became the center of global production. Over the past ten years, the average annual growth of foreign trade turnover rate in China has been 25%. Most of the exported goods are transported from China by sea. However, it has recently become difficult to organize the services on time due to congestion in ports, which necessitates the organization of transportation by railway. While dealing with exports from China to Europe, freight transport by railway has shorter transit times than by sea. For example, the time of cargo transportation by sea from China's industrial ports to Europe is 35 days, while the freight transportation by railway is 18 days. The increase in the volume of railway freight will lead to industrial development of the countries of the "Economic belt of the Silk Road", as producers will have the opportunity to diversify the supply chain, which will become a source of investment in the economies of these countries. The new Silk Road will open up new markets and will significantly reduce transportation costs by using the latest technology of logistics and cargo transportation. It can

also be assumed that the implementation of this program will lead to a stabilization of the political situation and the reduction of conflicts in the countries of the "Economic belt of the Silk Road."

The project "New Silk Road" requires significant financial resources, the volume of which will reach eight trillion US dollars by 2020. The modern Silk Road will become the largest project in the economic history. It will pass through the territories of countries in which 70% of the world's population live, and which produce about 55% of world GDP [6].

Each country that can potentially become a participant in the New Silk Road project must make its contribution in the form of appropriate infrastructure or financial investments. Undoubtedly, this project will be a decisive step on the path of developing and restoring the production potential, creating new promising industries and jobs in countries located along the entire length of this path.

Historically, along the entire length of the Silk Road, road transport has been relatively poorly developed, and more attention has been paid to railway communications, since the distances were large, and the bulk cargoes dominated in the domestic trade. Before the Second World War, 89% of the total cargo was transported by railway, while road freight services were used to transport goods to the railway and were used for short distances, accounting for only 3% of the total cargo volume [3]. Within the framework of the "New Silk Road" three corridors have been formed: the Northern, Central and Southern, which stretch from China to Europe.

Findings of the study

Based on the results of this study, we propose ways to improve the presented routes by using alternative modes of cargo transportation. The study is based on the development of rail transport corridors using intermodal transport. Despite the fact that there are a number of alternatives for the development of this scenario, we have examined and analyzed the indicators and opportunities of all countries that can potentially become participants in the New Silk Road. During the analysis, volumes of export and import in tons have been considered, and only goods that can be transported by railways and highways have been taken into account. The calculations do not include precious stones, perishable goods and plants, as well as gas and oil transported by pipeline.

The results of the analysis [5] show that among the countries potentials of which have been examined, China is the main exporter exporting more than 120 million tons of goods to the countries of the Central Asia, the Caucasus and Europe. The second country with a similar potential is France with 112 million tons, then Germany with almost 103 million tons of goods. One of the largest, if not the largest, importer of Chinese products is Russia, which imports almost 10 million tons of goods from China and exports 43 million tons of goods to China, not considering oil and gas. Among the examined countries, Germany is the main importer, and this country imports almost 131 million tons of goods from the countries of potential participants of the New Silk Road.

Belgium ranks second with imports of more than 127 million tons, followed by France with more than 119 million tons of goods.

Transportation of goods from China, Central and South-East Asia to Europe is carried out by three alternatives of international transport corridors: northern, central and southern. For a comparative analysis and evaluation of the economic feasibility of using alternative options for international transport corridors of the New Silk Road, we will present their structure and analyze the volumes of cargo flows, which will also allow us to economically justify the choice of the logistics center for cargo distribution between the South-Europe and North-South corridors.

The Northern International Transport Corridor has two alternative routes:

- Route 1N: China - Kazakhstan - Russia-Belarus-Poland - Germany - Belgium - France-England;
- Route 2N: China - Russia - Belarus - Poland - Germany - Belgium - France - England.

Although, this corridor passes fewer cross-border points, it operates in adverse weather conditions, as it mainly uses Trans-Siberian Railways, which need upgrading.

The Central International Transport Corridor has the following alternative routes:

- Route 1C: China - Kazakhstan - (Kyrgyzstan) - Uzbekistan - Turkmenistan - Iran - Armenia - Georgia - Bulgaria - Romania - Hungary - Austria - Germany - Belgium - France-England;
- Route 2C: China - Kazakhstan - Turkmenistan - Iran - Armenia - Georgia - Bulgaria - Romania - Hungary - Austria - Germany - Belgium - France-England;
- Route 3C: China - Kazakhstan - (Kyrgyzstan) - Uzbekistan - Turkmenistan - Iran - Azerbaijan - Georgia - Bulgaria - Romania - Hungary - Austria - Germany - Belgium - France-England;
- Route 4C: China - Kazakhstan - Turkmenistan - Iran - Azerbaijan - Georgia - Bulgaria - Romania - Hungary - Austria - Germany - Belgium - France-England.

The Southern International Transport Corridor has the following alternative routes:

- Route 1S: China - Myanmar - India - Pakistan - Iran - Turkey - Bulgaria - Romania - Hungary - Austria - Germany - France - England;
- Route 2S: China - Myanmar - India - Pakistan - Iran - Azerbaijan - Russia - Belarus - Poland - Germany - France-England;
- Route 3S: China-Myanmar-India-Pakistan-Iran-Armenia-Georgia (Poti) -Bulgaria-Russia-France-England.

One of the main logistics centers of the "New Silk Road" is Iran, where the Central and South international transport corridors form a junction. The goods of Central, South-East Asia, India, South Korea, Vietnam and other countries transported to Western and Northern Europe can be distributed in this logistics center between the corridors "South-Europe" and "North-South". With the sponsorship of the Chinese investment company, one of the segments of the "New Silk Road" which is connecting China with Iran has already been exploited. It passes through China, Kazakhstan, Turkmenistan and Iran. For the speedy implementation of the project, China is ready to allocate interest-free loans to improve the infrastructure of potential member countries, including Iran. Iran and India signed an agreement to modernize the Chabahar port (Iran's largest maritime port after Bendery Abbas). For these purposes India has invested U \$500 million, out of which US\$ 345 million has been directed towards the construction of a railway in Zahedan, located on the border with Pakistan and Afghanistan (41 km distance), and the rest of money will be spent to purchase port equipment for the Chabahara.

The calculations carried out to assess the volumes of transit cargo flows on the alternative routes presented by the central and southern international transport corridors show that Iran plays a strategic role in the distribution of freight traffic, since the largest transit volumes pass through Iran. According to the data (2015), the annual volume of cargo flows of alternative routes 1C and 3C could reach 142 million tons and 143 million tons, respectively.

Taking into account the volume of cargo flows of the Southern International Transport Corridor, the expected annual volume of

cargo flows through Iran will increase by 13% reaching about 160 million tons.

In the route 3C of the Central International Transport Corridor, Azerbaijan and Georgia are trying to take an active part. At the moment, the Baku-Tbilisi-Kars railway (which will be exploited by the end of 2017) and Kazvin-Resht-Astara (which will be exploited by the end of 2018) are being built bypassing Armenia. The construction of the Armenia-Iran railway (Gagarin-Kamo-Martuni-Jermuk-Kapan-Meghri-Merand) is planned within the corridor "North-South" in route 1C of the Central International Transport Corridor. As a result of the construction of this railway, Armenia will be connected not only with the neighboring Iran via railways but it could also use the railroad to reach the Persian Gulf and to other neighboring regions and states. It could also join the railway corridor within the "New Silk Road". The calculations show that the transportation of 20 containers along the route Iran-Armenia-Georgia is 10.3% cheaper than the route Iran-Azerbaijan-Georgia. Henceforth, the construction of the railway from Armenia to Iran has a strategic importance and is economically justified.

Armenia has three railway corridors (Armenia-Georgia, Armenia-Turkey, Armenia-Azerbaijan), however, under the current political situation, only the Armenia-Georgia corridor operates. However, this corridor restricts the integration of the Armenian railways into the regional railway transport system because of the non-functioning of the railway corridor connecting Georgia-Abkhazia. The railway corridor of Samtredia-Ochamchiri-Sukhum-Adler provided railway communication between Armenia and Russia. It should be noted that with the use of the Georgian-Abkhaz railway, Armenia will be able to resume cargo transportation to Russia via this railway and join the "New Silk Road" along the corridor "North-South". Currently, cargoes from Armenia to Russia are mainly transported through the Georgian port of Poti or by road, which increases transportation costs.

As a result of the construction of the Armenia-Iran railway and the completion of the construction of the highway within the North-South corridor, the 1C route can successfully compete with the 3C route of the Central International Transport Corridor "New Silk Road", as the volumes of exports and imports of Armenia and Azerbaijan slightly differ.

Armenia is competitive, since Azerbaijan has no serious advantages in terms of export and import of goods. The only advantage of the neighboring Azerbaijan is the infrastructure. Thus, in order to provide competitive advantages, Armenia should make appropriate investments or stimulate foreign direct investments into the development of the suggested route.

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