

RUSSIA IN APEC: TRANSPORTATION ISSUE

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Opportunities and problems of integration of Russia and Macroregion Far East in the Asia Pacific Region are considered. Classification of transportation systems from the viewpoint of spatial economics is introduced. Influence of transportation systems on the cohesion of economic space is examined. Prospective ways of cooperation between Russia and Asian Pacific States in transportation area are proposed.

Keywords: Integration, Russia, Asia Pacific, spatial, linear, polylinear transportation systems, Far East, cohesion, economic space.

At the Summit APEC 2012 the key questions which have been brought up for discussion were as follows [1]:

- liberalization of trade and investments as a necessary condition of making a region-wide free trade zone;
- searching new mechanisms of regional economic integration, providing an inclusion of provincial territories in the international trade system;
- principles and conditions of rising a food safety level for all APEC members and approaches to a grouping of regional market of ecological products;
- formation of reliable transportation and supply chains;
- mechanisms of institutional support of innovation growth.

Analysis of positions expressed at the Summit by Russian delegation, brings us to the following conclusions:

- For the period till 2018-2020 central direction of Russia's efforts will be CIS countries.

- The road map of integration with EU shows its low effectiveness. European market is consolidating and Russia is facing the growing economic resistance.

- Within the APEC area Russia has no definite strategy, but it has an understanding that consolidation processes in this area accelerate. In such circumstances Russia may turn out to be on the periphery, in a role of raw materials supplier, squeezed between two consolidated markets [2, p. 132].

The problem of low effectiveness of integration models of imbedding the Russian business into APEC economic is rooted in the policy of placing the production factors of the Soviet Union [3, p. 18-19]. Maximum use of the effect of scale that expresses as a faster decrease of a unit cost or a service cost through an increase in output led to super specialization of territories and as consequence – to the growth of irregularity of distribution of branch production factors through the territory of the country. The maximum concentration of production factors has been achieved in central regions of the USSR while substantial amount of highly qualified manpower have been squeezed out to the eastern areas of the country, to the raw materials sources of industry. At the present moment is observed clear separation of the present Russia into two territories with a line to the east of the Ural Mountains. One may argue about the exact location of that line but the Far Eastern Federal Region has greatly different spatial and economic parameters than Central, Southern or Ural Federal Regions of Russia. In relationships of the Far Eastern Region with Central Russia as two macroregions the two processes are observed:

- increasing difference of spatial and economic characteristics of macroregions;

- increasing industrial and economical autarky of the Far Eastern Region due to a continuously deteriorating connectivity with Central Russia for industrial cargoes.

The first process is connected with outrunning despecialization and differentiation of economy of the Far East Territory. Thus by 2007 a service-type economy had been formed in Primorsky Krai: the service sector ratio was more than 60% of GRP, among which the transport share in GRP was 17.2% and trade share was 16.8% [4]. The economy

of the Far East Region is developing in the way of enlarging its service component and gradually shapes up as a postindustrial economy. This process sharply points out the Far East Region against the background of the Central Russia industrial economy development.

The second process is closely connected with peculiarities of interaction transport systems and economic space. Among six existing transportation systems, such as aerial, water, car, railway, pipeline and transmission facilities – only two systems are in fact spatial systems. Aerial and water transportation systems have the following outstanding features:

1. The route of the transport vehicle within a transportation system is restricted only by presence of physical environment and is not restricted by presence of artificially created infrastructure for cargo transportation.
2. Transportation system has no infrastructure limitations on size and weight of a transportation unit.
3. Transportation system permits traffic of transportation units on one route with a different speed.

The third specific feature of the transportation system has principally important practical use: if the speed of one transportation unit or several transportation units became lowered as a result of some event has been slowed down to zero, it won't cause stop of all the transportation system.

The simultaneous presence of three specific features makes it possible to refer aerial and water transportation systems to the type of space transportation systems

Railway and pipeline systems and transmission facilities require artificially created infrastructure, weight and dimensions a transportation unit (or their equivalent for transmission facilities) are objectively limited by physical parameters of infrastructure and traffic of transportation units by one route with different speed is impossible. The above-referenced systems should be related to the type of linear transportation systems.

In a car transportation system the route of a transport vehicle is limited by artificially created infrastructure and there are objective limitations on weight and dimensions of transportation unit. However, this transportation system keeps a third specific feature, which is

implemented almost always – there is an opportunity of traffic of transportation units by one route with different speed. That is why car transportation system may be related to a specific type of polylinear transportation systems.

As it follows from the given classification, space transportation systems specify minimum requirements to the right of use; polylinear transportation systems specify medium requirements and linear transportation systems minimize the right to use them as the systems of space cargo transportation.

Well-developed networks of railways and roadways are kept in the Central Russia. Moreover, the railway network in the Central Russia has a multiconnected structure, which makes possible, if management is correctly organized, to consider its inclusion in the economic area as a relatively polylinear system. Multiconnected structure makes it possible to arrange traffic of transportation units between any two nodes with different speed, as well as keeping the possibility of a freight traffic between transport network nodes in case of an accident in one of the branches.

Transportation system in the Far Eastern macroregion has principal differences. Railway network is represented by the only branch of Transsiberian Railway with several subbranches which makes the railway transportation system absolutely linear. Polylinearity of car transportation system is kept in spite of availability of one federal road, connecting macroregion's territories. However, physical parameters of car transportation system don't even conform to current requirements for industrial cargoes. The infrastructure has been designed in such a way that the load per one axle of a transportation unit should not exceed 8.5 tons and on some road sections may be limited to 5 tons. As far as during the transportation 20-feet container fully loaded, a three-axle chassis bears a 10-tons axle load, then economic car transportation of a standard transportation unit becomes impossible.

Railway transportation system doesn't also function in a mode necessary for sustainable economy development of the Far Eastern macroregion. This article is not aimed at establishing the reasons of non-effective operation of the railway transportation system, but it is known that the average speed of a container transportation

unit when moving in the East-West direction is 200-300 kilometers per day, which is far less than the established standards [5]. According to the information provided by professor M. Terskiy (Institute for Economic Studies, FEB RAS), when cargoes are moving in West-East direction, the average speed may decrease to 6 km/h, which is two or three times lower than the standard speed.

Operational peculiarities of transportation system of the Far Eastern macroregion lead to stretching of economic space of the territory as compared with economic space of Central Russia. The process development may finally lead to a disruption of economic space in the Far-Eastern macroregion to Primorye Region – south part of Khabarovsk Territory – Amour Region, Yakutia Region, Eastern Siberia Region – Irkutsk Region with dilution of economics existing on the other territories of the macroregion. It should be noted that economic cohesion of Sakhalin, Kamchatka and Magadan Oblast are traditionally provided with space transportation systems, that is why increasing problems of linear transportation systems didn't touch these territories. A question on whether the economic cohesion of Sakhalin has been grown due to a startup of the pipeline transportation system collaterally with already existing water and aviation transportation systems are beyond the scope of this report.

What can Russia offer to its APEC partners to solve the task on building reliable transportation and supply chains, besides the concept of transnational resource transit [6, p.20]?

Neither linear nor polylinear transportation systems, owned by Russia eastward of Ural Mountains, are of no great interest for economics of Asia. Railway network is congested and can't give that main advantage which different Russian officials are trying to talk about. If delivery time from PRC to Germany by sea through Suez Canal is not exceeding 35 days, then the guaranteed delivery through Trans-Siberian Railway is 5 days quicker but at the same time is more expensive. Such offers like construction of the third loop line along the whole Trans-Siberian Railway that might guarantee a delivery in 10 days are made in trying to attract the attention of cargo holders to carry cargoes through Siberia. The money flow forming by such projects is so great and ill predictable that the task may be solved only as public-private partnership. Russia

will have to build a loop line for budgetary funds and place it in management to the private capital on a rent base. The question that has to be answered is: in the trust of which Russian private capital it is possible to leave the management of that big infrastructure project if JSC “RZD” (Russian Railways) regularly displays doubtful managerial efficiency of the funds delivered to this company.

Car transportation system east of the Ural Mountains is also unable to provide special possibilities, because physical parameters of the roads do not permit to carry commercial cargoes on a regular base.

In fact, space transportation systems are the only variant for Russia’s integration into the Asian transportation system. In the sphere of aerial transportation system Russia may offer services on transportation of urgent and expensive cargoes by air or, as a minimum, its air space and escort for air carriage of Asian partner countries.

In the sphere of water transportation system Russia possesses potentially giant but unused resource yet – Northern Sea Route (NSR). The use of the NSR has many positive and negative aspects – political, institutional, ecological, social, and organizational [7]. However, strategically sophisticated inclusion of the NSR potential in world transportation and supply chains may bring Russia the possibility of profitable national economy integration in Asia, sought for decades, simultaneously with an increase of coherence of own economic space.

The Arctic Ocean area is of an increasing interest not only to the countries which territories borders to this ocean but also to the countries which economic condition directly depends on external source of resources, including low-cost ways of transportation of commercial products made in these countries. At present moment these are manly China and South Korea with their specific interest to the Arctic Region.

The first ice-class vessel China purchased from Ukraine in 1993. Officially Chinese authorities call this vessel “an ice-breaker” and she got the name Xuelong which means “Snow dragon”. Since 1994 China makes regular investigations in Arctic Region and in 2009 the State Council of the PRC adopted the program of the own ice-breaker fleet construction. The first ice-breaker completely built in China must be ready in 2013. Korea is also building its own ice-breaker fleet; the first ice-breaker Araon displacing 6,950 tons built in Korea, was placed in

service in 2009 and now is carrying out investigations in the Arctic Region and in the Antarctic. Japan, having large export-oriented economy, is aimed mainly at trade with North America, that's why its participation in processes in the Arctic Region manifests in a less degree. But the interest of Japan to the Northern Sea Route is also evident: in May 2012 Japanese specialists sounded a note that eastern hub of the Northern Sea Route must be located on the east coast of Japan.

From the viewpoint of the Northern Sea Route inclusion in world transportation system the most important factor is estimation of efficiency of such a route for cargo holders. Nowadays the most part of cargoes from Asia to Europe travel through Indian Ocean and the Suez Canal. The cost of 20-ft container transportation with a gross weight of 24 tons through this way is approximately 3,000 US dollars including 200 US dollars – sea freight, 1,200 US dollars – fuel and 50 US dollars for passing through the Suez Canal. Due to the high activity of pirates off the African coast many companies require to pay special insurance charge - Aden Gulf security adjustment or extra charge for safety in the Aden Gulf. Amount of this charge depends on the policy of the insurance company and may come to 30-60 thousand US dollars per one ship journey or 100 US dollars per one container.

During the comparison of economic efficiency of the Northern Sea Route with a route through the Suez Canal, the route Shanghai – Hamburg is usually considered as a basic one. The length of the navigation line is about 10,700 nautical miles or 35 days underway, with regard to delays when sailing through the gulfs and the Suez Canal. This is one third longer than the route Shanghai – Hamburg through the Northern Sea Route, about 7,200 nautical miles or 21 days underway. As a result, the cost of sea freight and fuel charge decrease by one third, to 130 and 800 US dollars, respectively. Saving 150 US dollars more provide the absence of pirates on the line and Suez Canal charge. Thus, saving may be as many as 620 US dollars per one 20-foot container. However, when passing through the Northern Sea Route, another problem appears – the need of the icebreaker assistance.

At present moment there are several practices of providing icebreaker assistance. USA and Canada have practice of rendering free services on icebreaker assistance. In conditions of the Northern Sea Route rendering

free services on icebreaker assistance doesn't evidently have economic substance, because if cargo vessels from different countries use the route it means that financial support of international trade is performed at the expense of Russian taxpayers. Providing financial support to icebreaker fleet by means of special type of port dues, irrespective to season, ice condition in port and the need in using icebreakers is in effect in ports of the North Europe. In conditions of the Northern Sea Route may become a route charge which depends on vessel's deadweight, but doesn't depend on actual costs for icebreaker assistance of every specific vessel. The third variant is payment for actual icebreaker assistance.

In summer 2011 it was published an order of the Federal Tariffs Service [8]. This order established tariff ceilings for icebreaker assistance depending on type of cargoes and also for non-cargo vessels and vessels supplying goods to northern Russia. Tariff for container cargo transit is set as 1,048 rubles per one ton of a container gross weight which equals 25,000 rubles per one 20-foot container having gross weight 24 tons. Thus, the cost of icebreaker assistance absorbs all the economies of shortening the route and forms a deficit of about 160 US dollars per one 20-foot container. It should be noted that this order sets ceiling tariffs and makes no limits for owners or operators of ice breakers in lowering tariffs.

Economic feasibility of set tariff raise doubts. It is known that one hour operation of diesel icebreaker class "Admiral Makarov" in the Arctic Region varies within 3-4 thousand US dollars, close in amount sums comes when atomic power icebreakers are used – 4-5 thousand US dollars. From 7,200 miles on the route Shanghai-Hamburg via the Northern Sea Route icebreaker assistance is required for maximum 4,000 nautical miles or 12 days underway. At the rate of 4,000 US dollars per hour the icebreaker assistance will cost 1,152,000 US dollars maximum. If the icebreaker escorts one container ship with a capacity of 6,000 TEU, the additional costs for ice channeling will be 192 US dollars per one 20-foot container. This is four times less than the charge calculated as per tariffs of the order [8]. Channeling of container ship in such a condition will provide every shipowner a direct saving of not less than 400 US dollars in respect to transportation cost along the route Shanghai – Hamburg through the Suez Canal or

15% of basic tariff. If one icebreaker pilots a convoy of two or three container ships, the economy will grow. The order [8] obviously is of a prohibitory type for foreign cargo owners, its aim is to put economic barrier when using the Northern Sea Route. The reason is apparently lies in lack of understanding and the strategy from the State authorities and the Government of Russia on the usage of the Northern Sea Route in geopolitical and economic interests of Russia.

There is one more factor of economy – temporary factor. This factor is based on the fact that the goods being on the way are frozen circulation funds that actually bring loss to their owner. As written before, shortening delivery time along the Northern Sea Route on the route under study may come up to 14 days. Minimal economic effect of expediting delivery may be estimated using inter-bank lending rate at maximum rate of 4% per annum. For 14 days the cost of such credit will make 0.15% of the batch cost. So, if we say about goods with high added value, the cost of a batch in a 20-foot container may in average come up to 100,000 US dollars. In this case direct economy of cargo owner may result in additionally 150 US dollars maximum.

Reasonable price policy of Russia can make the Northern Sea Route very attractive for international trade. The Northern Sea Route is undoubtedly is a seasonal route, but the possibility of using it on clear conditions may give a new impulse for development to world transport and logistics systems and subarctic territories of Russia.

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