IMPROVEMENT OF THE FREIGHT TRANSPORTATION TARIFF SYSTEM IN RAILWAY TRANSPORT

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INTRODUCTION

In world practice, it is considered as the only integrated component of the international supply chain system for trucks. Their effectiveness is considered to be the achievement of the synergistic effect of their interrelated components. It is well known that synergy is a science and technology aimed at increasing the efficiency of distribution, production and sales in the field of logistics in the face of other methods of management. Their structurally mutually beneficial coordination in the delivery of goods and information flows and provides an icon to reduce stagnation due to the appropriate increase in the competitiveness of the enterprise, which is also very important in times of crisis.

Analysis of the efficiency of railway transport the lack of a system and the fact that this system lags behind foreign industries in terms of production and technology at least 15-20 times, requires radical reform in this area. The logistical approach to the reform of the railway network requires the competitiveness of the network, the transition to a new tariff system, the creation of a system with equal economic benefits for both consumers and service providers.

ANALYSIS AND RESULTS

As a result of the use of modern logistics providers in practice, there is a need to improve the tariff system of freight transportation in railway transport. The changing dynamics of economic relations requires adaptation of the tariff system to the factors of the market environment. Such factors include transport market conditions, supply and demand for transport, introduction of new types of transport and modern rolling stock, introduction of new service technologies.

Today, the separation and tariffication of special systems related to tariffs for the use of railway transport infrastructure and charges for the use of railway transport wagons and containers is an important element of the tariff system. The classification options of the railway tariff system of economic relations, which have been constantly changing in recent years, are shown (Fig. 1).

All fixed devices (roads, buildings, facilities, communication network devices, signaling, communication tools, etc.).[1]. Wagons and locomotives are not considered elements of infrastructure.

The production infrastructure of railway transport as a public property should be based on reliable prices. In addition, tariffs for the use of railway transport infrastructure are a source of income for the railway and the budget[2].

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[1]Tarifnyyyektor, ili kakmy reformiruem zhelenuyu rogu // Ekonomika i zhizn, 2005, #11.

2MBKalonov (PhD) Improvement of cost accounting in automobile transport enterprises: iqt. science. fake doc. diss. autoref. TMI, 2017. -54 p.
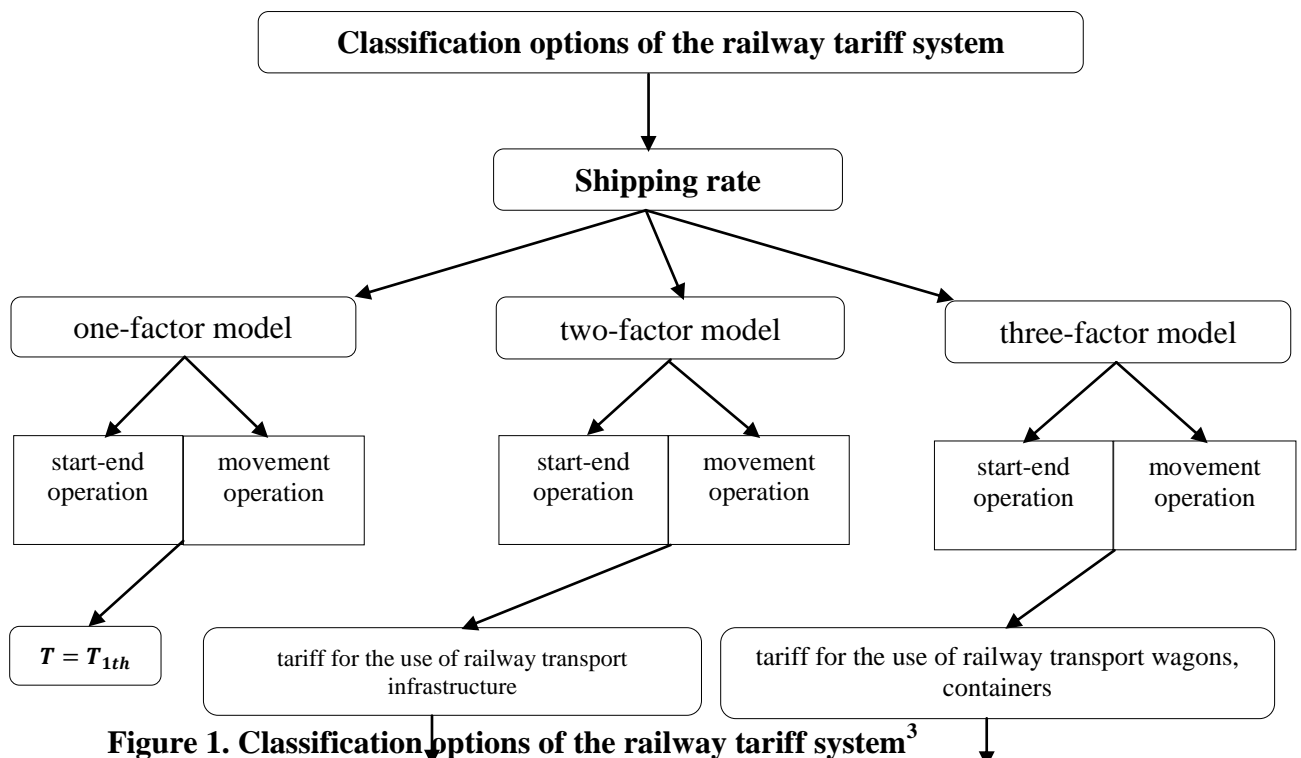
Figure 1. Classification options of the railway tariff system[3]

The main method $T = T_{1th} + T_{2th}$ way transport tariffs i $T = T_{1th} + T_{2th} + T_{3th}$'s or the establishment of their minimum and maximum limits through constant indexation of existing tariffs based on price list № 10-01. This system was developed and put into practice in 2003.

− the following conclusions were drawn from the study of tariffs in the railway transport system:

− the tariff system does not cover the country's railway transport. It covers only the activities of JSC "Uzbekistan Railways", designed for the monopoly market, and does not provide for structural reforms that will create new conditions;

− the tariff system causes a lot of complexity and misunderstanding among users due to the fact that it is not coordinated on the specific factors and conditions that cause tariffs;

− the overall level of tariffs is high and also unreasonably indexed, given the development system;

− regulation of tariffs and the general system is not developed in a convenient way, taking into account market conditions;

− errors in the equation on the main factors are observed;

− tariffs do not include adequate incentives and quality development to increase the efficiency of private transport.

The following are the shortcomings of the system of tariffs for freight transportation by rail, which are viewed by consumers, and as a result of their implementation on the basis of logistics practices, the quality and efficiency in the industry is declining. № The 10-01 price list has remained only two different basic blocks in recent years after several changes. It is

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[3]Systematized by the author based on the studied literature.

observed that the tariffs for the same type of transport services differ radically from each other (Table 1).

Table 1

Basic structural comparison of price list blocks № 10-01[4]

Basic tariff status	Section 2 Transportation of export and import cargo through domestic transport and seaports	Section 3 Transportation of export and import cargo by land
1. Carried out on the basis of the general tariff "consisting of wagons" (the tariff is divided into two parts)	Yes	No
2. Optimization on three tariff classifications	Yes	No
3. Apply the minimum weight of the increase in the consideration of tariffs	A separate point of view on each tariff nomenclature	Consolidation of loads by main groups (17 cases)
Unified Tariff and Statistical Nomenclature	Yes (several cases)	In another abbreviated view
Average rate of tariffs as a percentage	100	More than 150

The problem is that the concepts of "domestic" and "international" transportation are not clearly defined. In our opinion, if the transportation of goods begins and ends in the territory of the country, it would be legally illogical to apply the concept of "international transportation". Accordingly, international tariffs should not be applied to goods, regardless of whether they are export-import.

A comparative analysis of the situation with rail and road transport shows that there is a huge difference between them: the transportation of small consignments of goods up to 2000 km by rail lags behind the road transport by 10-15 times; shipping in wagons is approx 5-10 times less. In particular, when transporting goods over distances of 200-500 km, railway transport lags significantly behind in terms of time.

Today, about 80 percent of shipments across the country in the railway system are ordinary shipments. However, their average speed is 20-25 km per hour. This figure is 70 km per hour in Europe. It should be noted that it is incomparably low and requires radical reform of the management and organizational structure of the railway transport sector. The problem of reducing the time of delivery of goods in transport poses a task not only for users but also for transport service providers, including the lack of wagons, a decrease in production, an increase in cost.

In order to increase the impact of delivery times, the following should be taken into account when setting tariffs:

– identify several delivery criteria for the timing of delivery of goods and coordinate their diversity according to the tariff, for example, the timing can be defined as within the norm, expedited, immediate;

– setting the standard speed depending on the main routes or routes of shipment;

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[4] The results of the research were developed by the author.

– establishment of administrative incentives for the continuous implementation of measures to reduce the duration of the movement of goods. Administrative incentives can be implemented as a state order, which sets tasks to increase the speed of use of freight cars.

Successful use of container transportation technology, which improves the quality of delivery in alternative and competitive transport systems, as well as logistical and economic errors in the field of railway transport services in the case of reasonable tariffs - this leads to reduced demand for the industry.

Table 2 shows the mechanism for applying tariffs for rail services for the transportation of relatively heavy coal in Germany using an integrated logistics approach. This approach gives users of railway transport services (shipper, consignee, forwarder) an additional opportunity to plan freight transportation. At the same time, it manages to build the most reasonable supply chain and model.

Table 2

Tariffs for railway services in Germany (system of reduction of tariffs for coal transportation on direction trains)

The net weight of the wagon was not less than one ton	Reduction of coal transportation costs on scheduled trains as a percentage			
	three times a week	three times a week	on weekdays	once every two days
900	9,0	13,0	15,0	17,0
1100	16,0	21,0	23,0	24,0
1300	20,0	25,0	27,0	28,0
1600	23,0	28,0	30,0	31,0

According to the table, in Germany, discounts on the cost of transporting coal on direct trains are up to 30% depending on the number of flights and the volume of production. It should be noted that to date, the structural reform of the railway transport network has not found its essence, but in other cases leads to further confusion in terms of freight tariffs.

The establishment of free tariffs is effective in such market relations, in which transportation can be carried out by competing modes of transport and transport enterprises of different forms of ownership, including unitary transport structures. Taking into account the above, it is appropriate to highlight a number of the following areas of improvement of tariffs in the tariff system of freight transportation in railway transport (Fig. 2).

The first direction. Adding additions to the tariff system is a difficult issue today. A change to one element requires a simultaneous change to another across the network as a whole. One of the important forms of classification of railway tariffs, which contributes to increasing the productivity of rolling stock, speeding up the turnover of wagons and improving the use of load carrying capacity, is the classification of tariffs according to the level of use of the load carrying capacity of wagons and the organization of transportation.
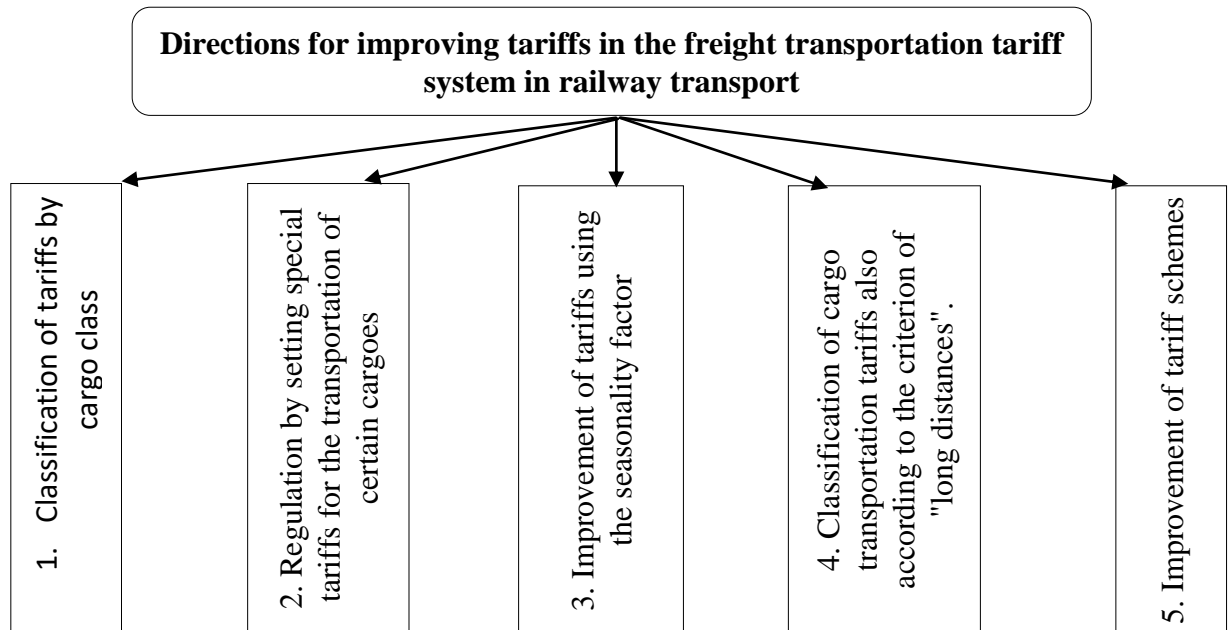
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│     Directions for improving tariffs in the freight          │
│     transportation tariff system in railway transport         │
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| 1. Classification of tariffs by cargo class | 2. Regulation by setting special tariffs for the transportation of certain cargoes | 3. Improvement of tariffs using the seasonality factor | 4. Classification of cargo transportation tariffs also according to the criterion of "long distances". | 5. Improvement of tariff schemes |

Figure 2. Directions for improving the transportation tariff system[5]

The importance of the development of cargo transportation along shipping routes to speed up wagon turnover will reduce shunting at technical and sorting stations, significantly reduce transportation costs, and speed up cargo delivery. A reduced tariff rate in rail transport is appropriate for large-volume shipments and long distances. Due to the large volume of cargo, the routed technology of transportation by routes is an effective form of transportation organization and requires pricing accordingly. As a result of a 10% reduction in the rates of route technologies, it is possible to increase the productivity of the rolling stock and use the load-carrying capacity of the wagons more efficiently.

Introduction of additional classification of the "Basic set of uniform tariffs" for transportation by cargo class in railway transport. The relative weight of the share of transport in the final price of the product was chosen as a criterion for the classification of cargo by class, which, in our opinion, is not economically justified today. Second, those shippers and consignees are not coordinated.

Today, three tariff classes are in practice. The first class includes ore, coal, coke, peat, energy gases, wood products, other raw materials and construction cargo (cargo with a relatively high share of transportation costs in the final price of the product - more than 15%).

10% to 30% reduction in first class freight rates depending on the distance of transportation. Thus, a linear inverse relationship is implied: the longer the distance of first-class freight, the lower the costs and fees. In this way, for short-distance transportation, supposedly competing modes of transport are offered: car, river and other modes of transport.

The second tariff class includes cereals and legumes, vegetables, pulses and fruits. The level of transportation tariffs for goods belonging to the second tariff class will not change (the share of transportation costs in the price of the product is less than 8 percent).

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[5]The results of the conducted research were formulated by the author.

The third tariff class includes finished products. A 20 percent increase in tariffs for third-class cargo.

Then, in order to improve the system of tariffs divided by three tariff classes, firewood for technological needs, chopped wood and sawn timber from the second tariff class to the first tariff class. 1% increase in freight rates of the third tariff class to compensate for lost revenue in rail transport.

The second direction. Special tariffs are determined according to the types of cargo, transportation distance and conditions of transportation organization. When setting special tariffs according to the types of cargo, the specific characteristics of the cargo, their economic importance, compliance with the economic policy carried out by the state in this sector are taken into account.

Determining special tariffs according to the transportation distance is a measure of tariff influence on transport and economic relations between regions. Special increased and reduced tariffs are additional measures, as they relate to specific situations where it is determined that it is impossible to provide an acceptable tariff regime when drawing up general tariff schemes.

In our opinion, solving the problem of compensating the lost revenue of railways by increasing the freight of the third tariff class, on the one hand, will contribute to the increase in the prices of the cargo of the third class, and on the other hand, the lost revenue in the absence of budgetary support such a mechanism of compensation provides an opportunity to solve the problems of some sectors with minimal damage.

The third direction. Establishing a special tariff for the transportation of mineral and organic fertilizers, as well as chemical protection agents, reduced due to the increase of cargo tariffs of the third tariff class, while calculating the transportation fee for the first tariff class for agricultural product manufacturers.

50% discounts on vegetable and fruit transportation tariffs in order to ensure timely delivery to the warehouse for the autumn-winter period, to reduce the price of potatoes, vegetables and fruits, as well as to create the necessary conditions for increasing the production of fish products and reducing prices establishment, establishment of discounts equal to 50% of tariffs for transportation of fish and fish products.

The fourth direction. The use of the tariff policy, which is evident in the improvement of the railway freight rates, i.e., by lowering the lower tariff level of the transportation cost for goods belonging to the first tariff class.

The fifth direction. The addition of railways to the international combined transport system requires the development of new transport technologies. Such a direction of new technologies is the transportation of containers. It refers to the transportation of heavy goods vehicles on route trains with trailers and semi-trailers. The introduction of new technology for the formation of such trains and conditions for the movement of trains is reflected in the operating costs of railways, road transport and cargo owners. Costs associated with environmental impacts also vary significantly.

In determining the economic effect that can be achieved as a result of the practical application of the scientific proposals discussed and recommended in the previous chapters, it is advisable to first approach the case on a case-by-case basis. For example, in calculating the economic efficiency is the efficiency of the tariff for the carriage of goods by rail:

$$E_{rwk} = \frac{\sum_{i=1}^{n} I_i}{n * \sum_{i=1}^{n} P_i} - \frac{I_{min}}{P_{min}}, sum/tkm \tag{1}$$

Here:

I_i – total income of the railway enterprise in the form of i, sum;

P_i − i- railway transport work, *tkm*;

I_{min} − i- income of the enterprise with the tariff of the smallest railway transport enterprise, sum;

P_{min} − the amount of business transport work of the enterprise with the smallest railway transport enterprise number i, *tkm*.

Using this indicator, the amount of economic efficiency that can be obtained from the total volume of freight transported by rail can be determined by the following formula:

$$\mathrm{E}^{\mathrm{rwk}} = (S - S') * \mathrm{P}^{\mathrm{rwk}} = \left(\frac{\sum_{i=1}^{n} I_i}{n * \sum_{i=1}^{n} P_i} - \frac{I_{min}}{P_{min}}\right) * P^{\mathrm{rwk}} = E_{\mathrm{rwk}} * P^{\mathrm{rwk}}, \quad \text{sum} \quad (2)$$

here:

$\mathrm{P}^{\mathrm{rwk}}$ - amount of total transport work in railway transport, *tkm*.

Thus, as a result of the implementation of an integrated information management system, the exchange of data in railway transport enterprises will be accelerated and the cost of transportation will be reduced. Given the importance of electronic computers in reducing the cost of railway transport enterprise in determining such a change, the share of cost reduction is determined by the following formula.

$$\Delta \mathrm{E}_{\text{information of inegration}} = \left(\left\{\frac{\sum_{i=1}^{n} D_i}{n * \sum_{i=1}^{n} P_i} - \frac{D_{min}}{P_{min}}\right.\right), \quad \text{sum/tkm} \quad (3)$$

here:

D_i i – number railway company transport case, tkm;

D_{min} – enterprise income with the lowest railway company tariff, sum;

P_{min} – the amount of transport work with the lowest railway company tariff, tkm.

Conclusions and suggestions

Based on the above considerations, a six-step approach to improving the tariff system in the transport and logistics system was proposed:

1. Assess the general situation in the services market in terms of logistics;

2. Clear definition of goals and objectives and principles of tariff regulation in the transport system;

3. Establishing the demand for transport and logistics services in the links of the logistics system in places where transport facilities are dense and high speed;

4. Formation of competitive transport logistics systems taking into account the value in the logistics chain and assessing their impact on the final cost of the finished product;

5. Establishment of maximum tariffs in the transport and logistics system, taking into account government support and other factors in tariff regulation;

6. Evaluate the effectiveness of tariff regulation mechanisms in the transport system.

In short, the development of a successful tariff policy in the state regulation of the tariff system is a very important factor not only for structural reforms in the field of railway transport, but also to create the opportunity to achieve the expected economic benefits of macro and micro logistics.

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