

Economic Security of Natural Monopolies in the Reforming Context (Case of Rail Transport)

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Abstract- The article is devoted to the issues of economic security of railway transport, as a subject of natural monopoly during the reform period. The prerequisites, main directions and results of the structural reform of railway transport are considered. The role of ensuring branch economic security is defined during structural reform. Parameters and functional components of railway transport economic security are represented.

Keywords- natural monopolies, economic security, railway transport, structural reform of railway branch, components of economic security

I. INTRODUCTION

The problems of ensuring the economic security of economic entities are of particular relevance in modern conditions of economic instability. The problem of ensuring the economic security of natural monopolies, whose activities depend on the stability and security of the development of the country's socio-economic system, is particularly acute.

A natural monopoly is a state of the commodity market in which the satisfaction of demand in this market is more efficient in the absence of competition due to the technological features of production (due to a significant decrease in production costs per unit of product as production increases). It can not be replaced in the consumption of other goods, and therefore the demand for this product market for goods produced by natural monopolies, less dependent on changes in the price of this product than the demand for other types of goods.

The subject of a natural monopoly is an economic entity engaged in the production (sale) of goods in a natural monopoly. The spheres of activity of natural monopolies, in accordance with the current legislation of the Russian Federation include: transportation of oil and oil products through trunk pipelines; transportation of gas through pipelines; rail transportation (currently moving to the provision of services for the use of public rail transport infrastructure in connection with the demonopolization of the rail transportation market); services at transport terminals, ports and airports; public telecommunications and public

postal services; electric power transmission services; services for operational dispatch management in the power industry; heat transfer services; services for the use of inland waterway infrastructure; disposal of radioactive waste; water supply and water disposal using centralized systems, utilities infrastructure systems; icebreaker pilotage, ice pilotage in the waters of the Northern Sea Route [1].

It should be noted that natural monopolies occupy a significant place in the country's economy, because they are a key source of budget revenues, many of them have a significant social infrastructure, and about 11% of the total working-age population of Russia are involved in their activities [2]. In addition, the products produced by the subjects of natural monopolies, has an extremely high social significance, so they form the basis of social stability of society.

Due to the transition to market principles of management in Russia, the question of the adaptation of natural monopolies to new conditions arose, which led to the reform of many subjects of natural monopolies. Considering the special social significance and strategic importance of natural monopoly activities for our country, the issues of ensuring economic security during the period of reforming natural monopoly entities should be given special attention.

Consider the economic security of natural monopolies in terms of reforming on the example of rail transport.

II. RESULTS

Railway transport is designed to provide timely, full and high-quality satisfaction of demand for transportation and to promote the development of national economy.

The central place in this system is taken by railway transport, which is aimed at timely, full and qualitative satisfaction of demand for transportations and to contribute to the development of national economy.

The railroads leading role on the state transport market is explained by the following technical and economic advantages

of railway transport over the majority of other means of transport:

- high carrying and capacity (the double-track electrified railroad can miss up to 200 couples of trains and provide transportation more than 100 million tons of freight per day per direction) [3];
- universality (an opportunity to serve all branches of economy since various types of cars allow transportation of any kinds of freights);
- regularity and periodicity of transportations (implementation of whole-year transportations under any weather conditions);
- high-capacity and loading capability;
- rather low prime cost indicators;
- warranty of freights safety;
- keeping of the Russia territory unity;
- low level of accident and lack of "traffic jams";
- low level of damage to the environment.

Despite all advantages of railway transport and its rather stable operation, the system analysis of a state and tendencies of branch development before a new century showed that there is a number of serious problems, such as:

- 1) heavy drop in volume of transportation (freight transportation has decreased by 41%, passenger one – for 51% during the period from 1991 to 2003);
- 2) high degree of depreciation of fixed assets (picture 1) demanded big costs of their current contents and repair, created danger of loss of technological stability of railway transport and defined the considerable need for investments (the depreciation of fixed assets has increased from 36,5 up to 57,4 percent during the period since 1992);

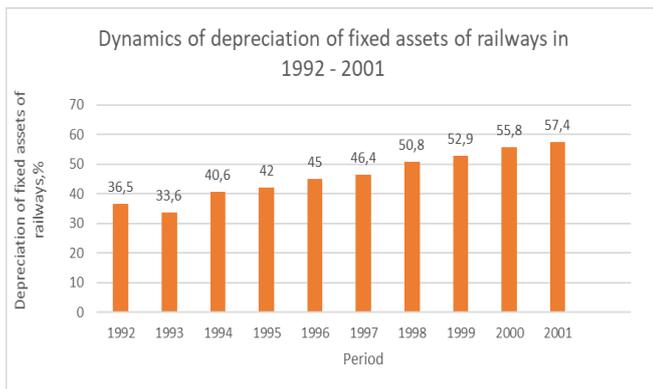


Fig 1. Dynamics of depreciation of fixed assets of railways in 1992 - 2001 [4]

- 3) limited opportunities of attracting investments (the annual volume of investments into branch has decreased more than three times during the period since 1992);

- 4) increase in scales of cross subsidizing of unprofitable kinds of activity (passenger traffic) at the expense of profitable (cargo traffic);
- 5) insufficient of the state tariff regulation system;
- 6) combination of functions of economic activity and state regulation in one branch state body (Ministry of Railways) constrained development of the market relations in branch and interfered the competitive environment development;
- 7) insufficient level of activity quality:
 - low level of motivation of workers;
 - rapid growth of expenses;
 - decrease of the Russian railway transport competitiveness in the traditional and perspective world markets and lack of conditions for changing of this trend [5,6,7].

The problems of technical backwardness of the industry are confirmed by the data given in table 1.

TABLE I Comparative evaluation of indicators of the railways of Russia and developed countries of the world

Indicators	Foreign countries	Russia
Containerization	60	2
Regular speed on high-speed and high-speed lines, km / h	350	200
Overhaul of freight wagons, thousand km	1200	250
Loading capacity of cars, tons	90	67
Frequency of locomotive maintenance, thous. Km	10	1,5
The overhaul mileage of locomotives, thousand km	100	50
Resource accuracy of rails, million tons-km of gross cargo	1500	700

The famous expert in history of the railroads, A.I. Guryev, very precisely characterized the developed system during this period: "In general, the economic relations existing on railway transport, as well as in all national economy, had cost-intensive character. They didn't contain internal engines or motivation for accumulation of overall activity, creations are better also than whenever possible less expensive products or services" [8]. In it he saw the deep lack of the developed model of railway transport leading it into an inevitable deadlock.

Urgency of the above-stated problems solution and existence of rather favorable economic, social and political conditions during this period define need and a possibility of carrying out railway transport structural reform.

Determining the main directions of railway transport system reforming, the following factors were considered:

1. The international experience based on which the choice of model of the organization of railway branch – "American" or "European" was carried out. The American model means the competition between, at least, of two independent infrastructures capable providing alternative services. Fundamental difference of the European model is maintaining

monopoly of the state (represented by railway state holdings) on infrastructure facilities and traffic control. In the course of discussion, both the expert community and governmental authorities' representatives have considered the European model of the organization of branch more preferable;

2. The Russian experience of natural monopolies reforming since activity in the sphere of rail transportation belongs to activity of subjects of natural monopolies. The analysis of experience of the Russian natural monopolies reforming has allowed marking out some principles, which was considered for determining the main directions of railway transport system reforming:

- drawing up the long-term reforming plan regulating the purposes, content and terms of holding necessary actions before the transformations;

- centralization of financial flows and economy management of branch before the organizational transformations;

- keeping the state control over natural monopoly due to maintenance of the greatest share of state ownership in the capital of the enterprise;

- ensuring the maximum financial transparency before the transformations;

- privatization addition with a number of the measures aimed at the development of the intrabranh competition.

3. The restrictions imposed by economic, technology, social and other factors, including factors of ensuring high level economic security of a transport complex at all reform stages.

It should be noted that the ideas and stages of the reform of the railway industry were formulated at the conceptual level several years before the actual beginning of the structural changes (picture 2). So, in 1996, the document «On the Further Development of the Railway Transport of the Russian Federation» was published, in which the ideology of the evolutionary approach to railway transport reform was laid. Later, the Government of the Russian Federation Resolution No. 448 of May 15, 1998 approved the Concept for the structural reform of federal railway transport.

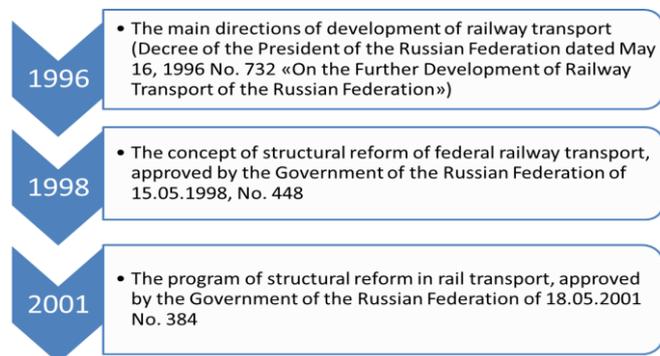


Fig 2. Legislative background of the structural reform of federal railway transport

Thus, in 2001, since the approval of the Russian Federation of the Program of structural reform on railway transport (further "Programs") by the Government, the stage-by-stage realization is being performed [7].

Main objectives of railway transport reforming, according to the Program, were:

- increase in stability of railway transport activity, its availability, safety and quality of the services to providing a common economic space of the state and national economic development;

- formation of the uniform harmonious state transport system;

- decrease of cumulative economic costs of goods transportation by railway transport;

- satisfaction of the growing demand for the services provided by railway transport [6].

The implementation of the structural reform program in railway transport is presented in Table 2.

It should be noted that the reform of railway transport provided for its completion in 2010, however, a number of goals set in the conditions of economic instability has not yet been achieved. In this regard, today the railway transport industry is at the fifth and final stage of reform, which will last until 2030.

In our opinion very important aspect of transport complex reforming is ensuring high level of economic security at all reform stages.

In modern Russian standard and legal base, as well as in standard and legal base "Russian Railway", legislative definition of the concept "economic security" is absent. During the consideration of the general theory of economic security, it is possible to find a large number of approaches to the determination of essence of this concept. However almost all researchers agree in opinion that it is necessary to understand ability of a production system as economic security effectively to function and develop in the conditions of negative impact of factors of external and internal environment. Based on the definition analysis "economic security" it is possible to allocate the following parameters in which it is shown:

TABLE II Implementation of the program of structural reform in railway transport

Stages	Results
Stage 1 (2001-2002)	<ul style="list-style-type: none"> - separated the functions of state regulation and economic management; - regulatory reform framework has been created; - formed the property complex of JSC «Russian Railways»
Stage 2 (2003-2005)	<ul style="list-style-type: none"> - created by JSC Russian Railways; - development of the carrier business is ensured; - subsidiary affiliated companies and conditions were created to increase competition in supporting activities; - measures have been started to reform the passenger complex
Stage 3 (2006-2010)	<ul style="list-style-type: none"> - development of competition in various fields of activity;

Stages	Results
	<ul style="list-style-type: none"> - attracting investments for development through the placement of shares of a number of subsidiaries of JSC Russian Railways on the stock market; - Improving the financial and operating efficiency of the company; - <u>elimination of long-distance cross-subsidization</u>
Stage 4 (2011 - 2015)	<ul style="list-style-type: none"> - completion of the creation of a market for operating freight wagons; - Creation of local carriers. The introduction of a "network contract"; - improvement of tariff regulation; - ensuring break-evenness of suburban passenger companies

- ensuring reliability of functioning - ability to perform functions within social and economic system in full;

- maintenance of stability of the functioning expressed in ensuring rational process of the current functioning and strategic development;

- ensuring effective behavior, as one of the main sources of resources for the solution of increasing reliability and maintaining stability of functioning problems [10].

Having applied these parameters to railway transport branch, we will receive the following:

- railway transport has to be capable to implementation of the main function within social and economic system – full satisfaction of needs for transportation of goods and passengers with the increasing quality of transport service;

- the realization of the main function has to be enabled on condition of maintaining high competitiveness in the markets of transport services, providing in full economic and financial conditions of the current activity and strategic development;

- all organization of transport production and management have to provide them high performance level and returns of resources, since personnel and finishing with financial resources.

In addition, the analysis of the economic security general theory has allowed drawing a conclusion that economic security consists of several functional components, which can have various priorities for each concrete production system depending on specifics of her activity and the nature of the existing threats. With consideration of this approach as the main directions of economic security of railway transport in the reforming conditions, we have defined the following functional components presented in the table 3.

TABLE III Functional components of economic security of railway transport [9,11]

Name	Characteristic
Joint-stock and market component	it is directed to identification of risks and threats of economic stability of transport company in the form of absence or a lack of profit for payment of dividends to shareholders, decrease in stock quotations and deterioration in market positions, underestimation of stock value at their primary placement
Financial component	characterizes the financial stability of transport

Name	Characteristic
	company determined by a condition of her accounts and guaranteeing her constant solvency and necessary liquidity
Marketing component	defines a role and a steady position of transport company in the market
Production component	characterizes technical condition of fixed assets and efficiency of the used technologies and also innovative activity of transport company
Personnel (social) component	characterizes security of transport company with the necessary manpower, their rational use and labor productivity level
Administrative component	provides evaluation of the work of structures of management, their structure and hierarchy and also efficiency and coherence of administrative decisions
Information component	characterizes effective information and analytical ensuring economic activity of transport company
Legal component	characterizes comprehensive legal support of activity of transport company, observance of the current legislation

The set of functional components defines economic security of railway transport, and their complex analysis allows giving an assessment of her level. The complex analysis assumes comparison of the actual or expected values of the indicators which are formed by the principle "is aggregated to reflect functional components and to approach according to the contents the universal indicators having threshold values", with threshold sizes which exit out of limits destabilizes steady work of branch.

By results of assessment of a condition of economic security, it is necessary to develop measures for neutralization of threats, which need to be considered at adoption of the strategic decisions connected with development of railway transport, including the scenario of his reforming.

III. CONCLUSION

Thus, the problem of ensuring high level of economic security of railway transport, especially during the branch reforming, consists in need:

- to ensure safety, stability and availability of system of railway transport at all reforming stages, his trouble-free operation;
- to provide protection of strategic state interests;
- to avoid growth of social tension during reform.

References

- [1] On natural monopolies: Federal Law of August 17, 1995 No. 147-FZ (as amended by Federal Law of July 29, 2017 No. 279-FZ) Meeting of the legislation of the Russian Federation. - 1995. - No. 34. - Art. 3426.
- [2] I.U. Radyukova "Natural monopolies in the system of economic relations of the national economy," Socio-economic phenomena and processes, vol. 2 (048), pp.96-101, 2013.
- [3] [3] Yakshina I.S. "Specifics and threats of ensuring economic security of railway transport," Transport business of Russia, vol. 5, pp. 151-156, 2011.
- [4] N.P. Tereshina, T.A. Flyagina. Economic reforms in railway transport, 2018, p. 94

- [5] Z.P. Mezhokh, I.A. Yushkova. "Questions of maintenance of level of economic security of transport companies," *Transport business of Russia*, vol. 6-1, pp. 111-114, 2012.
- [6] O.A. Dudkevich "Problems of economic security of railway transport in the conditions of reforming of branch," *The Prospects of innovative development of the Russian economy at the present stage: Works of the All-Russian scientific and practical conference*. Khabarovsk: DVGUPS publishing house, pp. 130-136, 2016.
- [7] The resolution of the Government of the Russian Federation of 18.05.2001 N 384 (an edition of 22.07.2009) "About the Program of structural reform on railway transport," A collection of the legislation of the Russian Federation", vol. 30, Art. 3837, 27.07.2009.
- [8] A.I. Guryev "From the deadlock: history of one reform," St. Petersburg: Partner Russian Railway, p.800, 2008.
- [9] R.A. Kozhevnikov *Economic security of transport companies and complexes*, 2015, p. 248.
- [10] O.E. Mikhnenko, V.V. Ilyin "Reforming of a transport complex: economic security and optimization of expenses," *National interests: priorities and safety*, vol. 7. pp. 42- 48, 2012.
- [11] K.A. Grudinina "Value of economic security and its influence on economic stability of Russian Railway holding and other transport companies," *Transport business of Russia*, vol. 2, pp. 150 – 152, 2014.