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The improvement of the institution of railway transportation in the context of modern challenges

Вдосконалення інституту перевезення залізничним транспортом в контексті викликів сучасності

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Abstract

Globalization transformations and the military aggression of the Russian Federation on the territory of Ukraine, as well as the blocking of seaports, have significantly changed the sphere of railway transportation. On the one hand, there were new tasks for the railway as one of the transport options for the export/import of products and the organization of passenger transportation, and on the other hand, the need to bring legislative regulation in accordance with European requirements. Therefore, in this context, it is important to analyze the possibilities for improving the institution of railway transport, to pay attention to the problematic aspects and nuances of railway work. The purpose of the work is to study the prospects for improving railway transportation in modern conditions and to consider problematic issues and challenges related to railway communication. The research methods are the dialectical method, the logical method, the concrete-historical method, the comparative-legal method, the formal-dogmatic method, the method of functional-structural analysis and theoretical-pragmatic analysis. As a result of the research, the current state of the railway industry in Ukraine was analyzed. The

Анотація

Глобалізаційні перетворення та військова агресія російської федерації на території України, а також блокування діяльності морських портів, суттєво змінили сферу залізничних перевезень. З одного боку, постали нові завдання перед залізницею як одним із варіантів транспортного сполучення для експорту/імпорту продукції та організації пасажирських перевезень, а з іншого необхідність приведення законодавчого регулювання відповідно до європейських вимог. Тому, в даному контексті, важливо проаналізувати можливості для вдосконалення інституту перевезення залізничним транспортом, звернути увагу на проблемні аспекти та нюанси роботи залізниці. Метою роботи є дослідження перспектив удосконалення перевезень залізничним транспортом в сучасних умовах та розгляд проблемних питань та викликів щодо залізничного сполучення. Методами дослідження є діалектичний метод, логічний метод, конкретно-історичний метод, порівняльно-правовий метод, формально-догматичний метод, метод функціонально-структурного аналізу та теоретико-

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peculiarities of investment, the dynamics of passenger traffic, the volume of cargo transportation, and the consequences of the war on the territory of Ukraine for Ukrainian railways are considered.

Keywords: railway transport, natural monopolies, freight and passenger transport markets, digitalization, passenger traffic.

Introduction

Thanks to the transport system, it is possible to ensure connections between industries, enterprises, regions of the country, and foreign countries. At the same time, modern transport is characterized by its variety of types. Among all the diversity of transport in Ukraine, as in many countries, an important place is occupied by railway transport, which is quite universal and able to satisfy the needs of the population and business in various conditions.

Railway transport is one of the basic branches of the economy. The importance of railway transport lies in the fact that Ukraine is on the way between the rapidly developing countries of Europe and Asia. Transport corridors such as East-West and Baltic-Black Sea pass through the territory of Ukraine. In addition, low tariffs are attractive. However, there is currently a question about the safety of transportation in wartime conditions.

One of the main functions of railway transport is the transportation of mass industrial and agricultural goods over long distances. In addition, the regularity of traffic is not affected by weather conditions, and railway tracks can be laid in any direction.

Also, an important role in solving the problems faced by railway transport is played by the correct application of legal norms related to transportation. These rules of law mainly belong to civil law. Most of the norms governing civil relations that arise from transportation by rail belong to one of the main sections of civil law – the law of obligation.

The relations that arise between carriers, consignors, and consignees during railway transport are mainly civil-law relations and are regulated by the method of legal equality of the parties, and if there are rights and requirements, then only as a result of a direct indication of the

прагматичного аналізу. В результаті проведеного дослідження, проаналізовано сучасний стан залізничної галузі в Україні. Розглянуто особливості інвестування, динаміку пасажирообігу, обсягу вантажних перевезень та наслідки війни на території України для українських залізниць.

Ключові слова: залізничні перевезення, природні монополії, ринки вантажних та пасажирських перевезень, цифровізація, пасажирооборот.

law or contract. Legal relations arising from transportation by rail transport are established as a result of interaction between the participants of these legal relations with their subjective rights and duties assigned to them.

However, the work of railway transport enterprises, which carry out mass transportation by rail transport, is so diverse and has such specific features, different from the work of other enterprises, that it makes it necessary to regulate relations by special norms.

In the conditions of a full-scale invasion of the Russian Federation into Ukraine, the structure of transportation has changed. Thus, more than 70% of all merchandise exports from our country were carried out through sea ports. However, the ports are currently blocked. This led to the reorientation of cargo flows to other modes of transport, in particular rail. Also, the increase of export railway transportation is extremely important for ensuring the functioning of the national economy in the conditions of a protracted war (Cabinet of Ministers of Ukraine, 2022).

In modern conditions, limiting the capacity of western cross-border crossings, railway transport of Ukraine began to receive much more cargo than this capacity could allow or absorb. Moreover, the need for rapid transportation of products makes it necessary to reform and quickly adapt railway transport to the challenges of security and economic stability.

Thus, the issue of improving the institution of rail transport in the context of modern challenges is relevant, urgent and in need of research.

Theoretical Framework or Literature Review

Such scholars as Zatvornytska, Kolisnichenko, Kuzyo, Zatvornytska, Yablonovskyi, Lawrence,

Lukasevich-Krutnyk, Melnyk, Nikiforuk, Stasyuk, Chmyryova, Fedyai, Yasynchuk were engaged in the research of the institute of railway transportation.

Thus, the work of Zatvornytska (2019) analyzed competitive rules for the Ukrainian railway. The author analyzed possible changes in the field of railway transportation, and, in particular, emphasized the fact that the creation of a railway transportation market requires a regulatory and legal environment, market institutions, and the willingness of private operators to come to the Ukrainian market and adhere to the rules of work on it. The main tasks on this path are the creation of a transport regulator, drawing up a reference document for the railway, determining the principles of tariff formation for access to infrastructure and approving the ownership policy of Joint Stock Company "Ukrainian Railways" (JSC "UZ").

The peculiarities of railway financing and its restoration are analyzed in the article by Kolisnichenko (2022).

The question of the liberalization of the rail transport market in Ukraine using the example of the European Union is considered in the work of Kuzyo, Zatvornytska & Yablonovskyi (2019). The authors consider it necessary to implement the following measures: before opening the rail transport market, the government should implement measures aimed at ensuring that the financing of the future infrastructure operator was sufficient to maintain the railway network of Ukraine in working order; Ukrzaliznytsia must ensure a clear separation of accounting (and economic activity) for infrastructure management from other services – passenger and freight transportation, as well as – independent management of each of the companies; in accordance with the demonopolization strategy of state-owned companies, the government should decide whether Ukrzaliznytsia will be a vertically integrated holding with separate subsidiaries (infrastructure operator and transport operators), or whether the model of complete separation of the infrastructure operator and transport operators will be applied; before the opening of the market, the government should implement measures to cancel cross-subsidization of freight and passenger transportation; it is necessary to establish the National Commission for the Regulation of Railway Transport and to transfer from the Ministry of Infrastructure of Ukraine to its competence the issue of tariff regulation.

Peculiarities of attracting investments in Ukrainian infrastructure are studied in the article by Lawrence (2020). According to the expert, Ukrzaliznytsia is a very essential organization in Ukraine, and over time it will have to abandon commercial freight rail transportation, and at the same time, it is necessary to pay attention to the development of a comprehensive and transparent legal framework; a detailed cost analysis containing long-term capital costs and development costs; sustainable and effective development of labor and operational resources, as well as state support for the provision of passenger services — a valuable commitment to the provision of public services. Also, the expert noted that the World Bank supports the government's activities aimed at carrying out reforms in the railway transport sector and in case of success of the legislative reform, restructuring and division of functions within the company, the state will have the prerequisites for the creation of a freight and transport enterprise.

The legal regulation of transportation contractual relations in the codified acts of civil legislation of individual European countries was analyzed by Lukasevich-Krutnyk (2018).

The directions of the state strategy for the development of railway transport in Ukraine are disclosed in the work of Tokmakova, Ovchynnikova & Korin (2020). In particular, the author noted that for the formation of strategic advantages of railway transport, based on the intellectual leadership of the industry, state support is necessary. Based on this, the author formed the directions of state regulation of the development of railway transport, which take into account the strategic guidelines of the development of the industry and reveal the tools of state support for the processes of forming strategic advantages according to such components of development as innovation-production, investment, energy, environmental, social and international components.

Analytical research on the progress of the rail transport association with the EU was carried out by Melnyk (2022).

The challenges of liberalization for natural monopolies are discussed in detail in the article by Nikiforuk (2018). Among the conclusions drawn by the author, the issues regarding the two polar approaches to transport policy deserve attention, namely, complete non-interference or liberalization of the transport sector and the paternalistic approach, which involves strict regulation of tariffs and a single form of

ownership, the combined approach looks like an alternative in modern conditions in which the principles of liberal (for commercial activities and tariffs) and paternalistic approaches are combined. According to the researcher, the development of a competitive environment in the field of rail freight transportation in Ukraine will depend on the following conditions: the introduction of EU directives on rail transport, further separation of regulated and unregulated activities and reorganization of potentially competing segments.

Stasyuk, Chmyryova & Fedyai (2020) investigated problematic issues and prospects for cargo and passenger transportation in Ukraine. Innovations at Ukrzaliznytsia became the object of research by Yasynchuk (2019). Also, the joint work of Nikiforuk, Stasyuk, Chmyryova & Fedyai (2019) considered the features of digital transformation in the field of railway transportation.

As can be concluded from the above analysis of the literature, the issue of rail transportation and the reform of this type of natural monopoly arouses interest among scientists and, at the same time, the improvement of the institution of rail transportation in the context of modern challenges has not been sufficiently studied.

Methodology

The dialectical method was used during the study of the transportation institute. Legal relations of transportation were analyzed taking into account the principles of formal logic in connection with other legal relations and factors of a legal nature, from the point of view of the dialectics of their development and mutual influence due to historically conditioned dependence. Based on the application of the basic laws of dialectics, the peculiarities of the functioning of transport mechanisms in different countries are characterized from the following points of view: the sequence of cause-and-effect interaction of its qualitative, quantitative and ordinal parameters; the result of the interaction of the interests of the relationship; sequence of transportation transformations in the field of railway transport. The use of the basic categories of dialectics made it possible to reveal problematic issues of the institution of railway transportation, as well as to distinguish functions.

The use of the logical method made it possible to develop theoretical ideas or put forward new theoretical assumptions. Considering that the logical method of research is a method of

reproducing the historical object as a result, the result of a certain process, during which the necessary conditions for its further existence and development as a stable systemic formation were formed, it allowed to get an idea of the "theoretical history" of the object.

Understanding the tools for improving the institution of transportation became possible thanks to the use of the comparative legal method. Thus, this method was utilized when comparing the norms of the national legal systems of Ukraine and some foreign countries that regulate legal relations on transportation. In its essence, the comparative legal method made it possible to select the best samples from legal experience based on comparison for the improvement of national legal systems. In this regard, the comparative legal method has gained the widest application in the process of rule-making, law-enforcement activities, as well as in the field of interpretation of legal norms.

The formal-dogmatic method in combination with others was used in the study of various positions regarding the concept, the legal nature of the contract of carriage by rail, the grounds and conditions of liability. Although this method is usually associated only with the study of law and its essence is that the law is studied as such that nothing is compared, does not agree with the economy, politics, morality and other social phenomena.

The use of a concrete-historical method helped to study the specifics of the state-legal phenomenon of a specific historical period, to trace the dynamics of its development, for example, the peculiarities of the social regulation of the institution of railway transportation in different historical periods. Thus, researching the peculiarities of the legal regulation of the institution of railway transport in different historical periods became possible thanks to the use of this method. Moreover, it made it possible to analyze how specific external circumstances affect the legal regulation of transportation in Ukraine and the world.

Using the method of functional-structural analysis, the peculiarities of the elements of legal relations during transportation by railway transport and the mechanism of their legal regulation under the legislation of Ukraine were established, and proposals for their improvement were developed using the theoretical-prognostic method. It is the prognostic method through its set of techniques, that made it possible to make scientifically based forecasts about the future

state of legal phenomena, as well as to develop proposals on ways to improve the regulation of the institution of rail transport in accordance with the challenges of modernity.

Results and Discussion

Transportation by rail transport is regulated on the basis of the provisions of the Constitution of Ukraine (Law 254к/96-VR, 1996), the Convention on the Protection of Human Rights and Fundamental Freedoms (Council of Europe, 1950), the Convention on international rail transport (COTIF) dated 05/09/1980 (European Union, 1980), the Law of Ukraine "On railway transport" (Law 40, 1996), of the Law of Ukraine "On the Transportation of Dangerous Goods" (Law 28, 2000), provisions of civil legislation, as well as special orders regarding rail transportation and communication (Order 18, 1997; Order 297, 1998).

In general, the legal relationship arising from rail transportation is a single, structurally complex entity consisting of two relatively independent obligations, including the first preceding the second, i.e. the fulfillment of the first obligation acts as a legal fact that causes the emergence the second. The first obligation is the so-called organizational prerequisites of the contract of carriage, which are the mutual actions of the subjects of legal relations to fulfill the assumed duties arising from the application agreed upon and accepted by the carrier. The second obligation is a contract for carriage (of a specific cargo, luggage, passenger, mail, etc.). Legal relations arising from rail transport, regardless of the reason for their origin, according to their construction of relations, exist in an obligatory legal form and, in terms of content, are bilateral complex legal relations, each of the parties of which, possessing a whole set of rights and obligations, acts in front of another at the same time as authorized and obligated. Moreover, a characteristic feature of these legal relations is the relationship between the rights of one subject

and the duties of another, and between the duties of both subjects of the specified legal relations.

First of all, we are talking about a special subject composition – participants in legal relations arising from transportation by rail transport. These are railway transport enterprises that provide transportation services, the consignor, the consignee, as well as the "owner of the railway track", "the owner of the infrastructure complex of railway transport for general and non-general use". Also, as of today, the carrier (Ukrzaliznytsia JSC) and the owner of the railway infrastructure are the same person. That is, three participants of the transportation process are actually observed.

Legal relations arising in connection with the contract of carriage of goods by rail transport are characterized by great complexity and originality. It is generally accepted that the subjects of the railway cargo transportation contract are:

- 1) the consignor;
- 2) carrier;
- 3) consignee.

However, it should be remarked that the subjects of the railway cargo transportation contract should not be equated with the parties to this contract, because the parties to the railway cargo transportation contract are only the consignor and the carrier. In accordance with the provisions of the specified regulatory legal acts, regulatory relations of rail transport should be considered as legal relations that regulate property, material, non-property (personal) relations in the field of rail transport, on the basis of which the participants of such relations act within the framework of the legal field in accordance with the requirements of the current legislation of Ukraine, i.e. lawfully carry out their activities in the field of railway transportation.

Let's consider the international experience of regulation of railway transportation (Table 1).

Table 1.
International experience of regulation of railway transportation

Country	Legal regulation
Lithuania	Lithuanian legislation regulates the concept of a contract of carriage of goods and a contract of carriage of passengers. Under the cargo transportation contract, the carrier undertakes to transport the cargo received from the consignor to the destination and hand it over to the person authorized to receive such goods (the recipient), and the sender (the recipient) undertakes to pay a certain fee for the transportation of the cargo. Also, under the contract of carriage of passengers, the carrier undertakes to transport passengers to the destination, and if the passengers handed over their luggage to him, to transport the luggage to the destination and hand it over to the person authorized to receive such luggage. Passengers undertake to pay the established fee for their transportation and for the transportation of their luggage. Also, an independent place among transportation contracts is occupied by the contract on the organization of transportation.
Czech Republic	Under Czech law, contracts of carriage are governed by binding law. The vehicle operation contract also plays an important role. Thus, according to the civil legislation of the Czech Republic, under the contract for the operation of the vehicle, the operator undertakes to transport the cargo specified by the customer, and for this purpose to perform at least one predetermined trip or to perform a large number of trips within a specified period as determined by the customer, and the customer undertakes to pay the operator a fee. At the same time, the scope of its application is not defined in the definition of the vehicle operation contract.
Poland	Polish legislation regulates the contract of carriage in three sections of the Civil Code: general provisions, carriage of persons, and carriage of goods. Under the contract of carriage, the carrier undertakes, in the field of his business, to transport people or goods for remuneration. Also, the norms of the Civil Code of the Republic of Poland apply to the transportation of certain types of transport only if such transportation is not regulated by separate rules. At the same time, the provisions of the Civil Code of the Republic of Poland do not provide for auxiliary contracts of carriage.
Moldova	The legislation of Moldova establishes a general definition of the concept of a contract of carriage. Under the contract of carriage, one party (the carrier) undertakes to the other party (the passenger or the sender) to transport the passenger and baggage or cargo to the destination in lieu of the agreed fee, which the other party is obligated to pay. Free transportation of persons or things, with the exception of transportation within the framework of business activities carried out by a person who publicly provides transportation services, is not regulated by the provisions of the Civil Code of the Republic of Moldova, while the carrier is only charged with the duty of prudence and diligence. In the provisions of the Civil Code of the Republic of Moldova, there are no regulations on contracts of an organizational nature in the field of providing transport services.

(data provided by Lukasevich-Krutnyk, 2018).

Therefore, from the above analysis of the foreign regulation of the institution of railway transportation, the use of different approaches to the regulation of relations in the field of transportation can be seen.

Based on the ratification on September 16, 2014 of the Association Agreement between Ukraine, on the one hand, and the European Union, the European Atomic Energy Community and their member states, on the other, cooperation in the field of transport is provided for the restructuring and renewal of the transport sector of Ukraine and gradual harmonization current standards and policies with those existing in the EU, in particular through the implementation of the measures outlined in Annex XXXII to this Agreement, and the implementation into national legislation by 2022 of a number of directives and regulations of the Council of the EU. It was taking into account the requirements of this Agreement that the draft law "On railway transport of Ukraine" was developed.

At the same time, there are currently certain problematic issues regarding the reform of the legislation of Ukraine in accordance with the requirements of the above-mentioned agreement. In particular, the key factor in the generation of risks of violation of the legislation on the protection of economic competition is the combination within one legal entity (business entity) of activities that are carried out both in the monopoly and in the competitive market segments (JSC "UZ" is in a state of natural monopoly). In this context, it is important to limit monopoly and promote the development of competition, to create equal conditions for the development of the economic activity of transport enterprises in order to fulfill the obligations of Ukraine under the Association Agreement in terms of railway transport, which consist in the introduction of a new market model similar to European railway systems (Rail.insider, 2021).

It is equally important to change the organizational structure of JSC "Ukrzaliznytsia". Thus, an essential problem is ensuring the transition from an inefficient territorial and sectoral management structure to a market-based, vertically integrated organizational structure based on the main types of activities. It

is also necessary to implement the restructuring of JSC "UZ" in accordance with EU legislation regarding the separation of the functions of infrastructure management and transportation and to create a holding structure of JSC "UZ" according to the functional principle (Melnyk, 2022).

Table 2.
Railway transportation market models

Railway transportation market models	
European	American
Private carriers compete with each other on the same routes. For this purpose, a state infrastructure operator and an independent regulator are created, which monitors the observance of equal access conditions for all carriers to the infrastructure (tracks, terminals, shunting traction, and other services). This market organization means that the regulator determines the conditions for maintaining railway tracks, the rules for access to them, and the distribution of bandwidth between operators, monitors the reasonableness of the tariff for access to the infrastructure.	Private carriers compete on different (parallel) routes, they own tracks and rolling stock. In order not to distort competition, it is urgent that private carriers do not dump (i.e. unreasonably lower the price of services). As a result of unfair competition, carriers may lack investments in upgrading infrastructure and rolling stock. This means that the consumer can get a lower quality service for a lower price. To prevent this from happening, the regulator checks compliance with established pricing rules (Zatvornytska, 2019).

(data provided by Zatvornytska, 2019)

The legislative model of Ukraine is more oriented towards the European model of the rail transportation market (Table 2).

Regarding the prospects for improving the institution of rail transport, the following areas should be highlighted (Table 3):

Table 3.
Prospects for Improving the Institution of Rail Transport

Direction of activity	Realization
Creation of a transport regulator	The purpose of transport is to monitor compliance with the rules of operation on the market. Such a regulator should be independent of all operators, possess new work skills for analyzing large volumes of data (use of digital tools), and coordinate their actions with each other.
Drawing up a reference document for the railway	Contains information on railway infrastructure requirements (access order, capacity, traffic speed) and enables planning of investments in track renewal, modernization and maintenance.
A transparent approach to tariff formation	It is important to determine which expenses will affect the formation of the tariff, and which will not belong to them.
Approval of property policy of JSC "UZ"	Definition of the company's ownership structure, principles of their management, tools for attracting private business/capital, work models and management principles.
Ensuring partnership with international organizations and transportation safety in the conditions of military aggression of the Russian Federation on the territory of Ukraine	It is extremely important to establish cooperation and support of international organizations for the safety of passenger and cargo transportation by Ukrainian railways.

(data provided by authors).

Conclusions

As a result of the conducted research on the improvement of the railway transport institute in the context of modern challenges, the following conclusions were made:

- 1) The Institute of Rail Transport needs to be reformed in order to help increase the capacity of the EU railway system to transport goods from Ukraine, to strengthen the capacity of Ukrzaliznytsia to ensure the restoration and repair works of the railway infrastructure in the volumes necessary for carrying out export transport of goods in

- conditions of possible intensification of shelling from the Russian Federation, and as well as bringing railway operations up to European standards.
- 2) It has been proven that in the conditions of military aggression of the Russian Federation, among all types of transport in Ukraine, the leading place is occupied by railway transport, which is used for long-distance and mass transportation of almost all types of products and goods, as well as passenger transportation.
 - 3) The main problems of railway transport that require immediate solution are highlighted. In particular, these are: imperfection of legal acts, insufficient transparency of financial activities of the industry, high level of wear and tear of fixed assets, lack of state support for innovative development of the industry, lack of additional sources of funding for investments in the development of the material and technical base of railway transport.
 - 4) The main areas of activity for the improvement of railway transportation have been identified, including:
 - the creation of a transport regulator; drawing up a reference document for the railway;
 - a transparent approach to the formation of tariffs;
 - approval of the property policy of JSC "UZ", as well as ensuring partnership with international organizations and transportation safety in the conditions of military aggression of the Russian Federation on the territory of Ukraine.

Regarding further scientific developments in this topic, we consider it necessary to study the international legal experience of reforming the sphere of railway transportation and regulation of this type of transportation in force majeure circumstances.

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