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INSTITUTIONAL BASIS OF AIR TRANSPORT ORGANIZATION: CURRENT STATE AND DEVELOPMENT PROSPECTS

Olena Harazha, Dmytro Shevchuk. «*Institutional basis of air transport organization: current state and development prospects*». The article analyzes the institutional foundations of the organization of air transportation in the context of the current state and prospects for further development.

High-speed delivery of goods by aircraft provides advantages over other popular types of transportation by land and water vehicles. The development of the air transport industry becomes the main factor in strengthening the competitiveness of the transport complex of the national economy. The latest modern information and communication tools of technological processes of processing, analysis and provision of information provide wider opportunities for improving the quality of delivery of goods from the seller to the buyer. At the same time, the issues of institutional support for international transportation, which involve the location of departure and destination points on the territory of two different states or one country with an intermediate stop on the territory of another state, while national transportation is carried out within the borders of one country by licensed business entities on a paid basis, require in-depth study. own or leased aircraft. After all, achieving efficiency from the organizational activity of air transportation is possible thanks to the functioning of the institutional base, the development of which is becoming an extremely urgent problem today.

The purpose of our work is to study the institutional foundations of the organization of international and national air transport of passengers and cargo in the context of sustainable development of the national economy of an individual state and globalization processes at the world level. The primary task of our research

is to identify the challenges and prospects of institutional support for air carriers to improve the quality of passenger service and international cargo delivery.

The disclosure of the purpose and the solution of the set tasks was carried out on the basis of comparative legal and operational methodological approaches with a set of methods of abstraction, concretization, formalization and analogy, induction and deduction. The statutes of international aviation organizations, normative legal acts and rules, scientific developments of domestic and foreign scientists served as reference material.

Based on the results of the study, three directions for the formation of the institutional foundations of the organization of air transportation of goods at the international level were identified: development and guarantee of the fulfillment of contractual conditions by air carriers when transporting goods by several modes of transport; compliance with international quality standards for the provision of transport services by air carriers in the context of fast and safe delivery of goods from the seller to the buyer; increasing the efficiency of the transport activity of air carriers due to the optimization of cargo transportation routes taking into account external and internal factors influencing the existing institutional environment. The prospects for the development of institutional support for air transportation through the implementation of the best global experience in the organization of air transportation are characterized; active participation in international aviation organizations regarding the development of institutional norms and rules for air transportation of cargo and passengers; strengthening of international economic cooperation, balancing the interests of business entities of different countries, for which the rules of concluding international contracts and conducting commercial transactions are important elements.

The key provisions of the institutional foundations of the organization of air transportation are international aviation organizations and regulatory provisions regarding improving the quality of service and flight safety, institutional support for the development of multimodal transportation and the creation of large transnational transport hubs with the latest information and technological equipment.

Keywords: institute, contract, international cooperation, transport, air carrier, cargo, rules, standards

Олена Гаража, Дмитро Шевчук. «Інституціональні засади організації авіаційних перевезень: поточний стан та перспективи розвитку». У статті аналізуються інституціональні засади організації авіаційних перевезень в контексті сучасного стану та перспектив подальшого розвитку.

Швидкісна доставка вантажів повітряними суднами надає переваги серед інших популярних видів транспортування наземними та водними транспортними засобами. Розвиток авіатранспортної галузі стає головним чинником посилення конкурентоспроможності транспортного комплексу національної економіки. Найновітніші сучасні інформаційно-комунікаційні інструменти технологічних процесів обробки, аналізу та надання інформації надають ширші можливості для поліпшення якості доставки вантажів від продавця до покупця. Водночас, поглибленого вивчення потребують питання інституціонального забезпечення міжнародних перевезень, які передбачають розміщення пунктів відправлення та призначення на території двох різних держав або однієї країни із проміжною зупинкою на території іншої держави, а національні перевезення здійснюються в межах однієї країни ліцензованими суб'єктами господарювання на платній основі власним повітряним судном або у лізингу. Зрештою, досягнення ефективності від організаційної діяльності авіаційних перевезень можливе завдяки функціонуванню інституціональної бази, розвиток якої стає надзвичайно актуальною проблемою сьогодення.

Метою нашої роботи є вивчення інституціональних засад організації авіаційних перевезень пасажирів та вантажів міжнародного та національного рівня в контексті сталого розвитку національної економіки окремої держави та глобалізаційних процесів світового рівня. Похідне

завдання нашого дослідження – виявити виклики та перспективи інституціонального забезпечення авіаперевізників для підвищення якості обслуговування пасажирів та доставки вантажів міжнародного рівня.

Розкриття мети та вирішення поставлених завдань проведено на основі порівняльно-правового та діяльнісного методологічних підходів із сукупністю методів абстрагування, конкретизації, формалізації та аналогії, індукції та дедукції. Довідковим матеріалом слугували статuti міжнародних авіаційних організацій, нормативно-правові акти та правила, наукові розробки вітчизняних і закордонних вчених.

За результатами дослідження виділено три основні напрями формування інституціональних засад організації авіаційних перевезень вантажів міжнародного рівня: розробка та гарантування виконання договірних умов авіаперевізниками при транспортуванні вантажів декількома видами транспорту; дотримання міжнародних стандартів якості надання транспортних послуг авіаперевізниками в контексті швидкої та безпечної доставки товару від продавця до покупця; підвищення ефективності транспортної діяльності авіаперевізників за рахунок оптимізації маршрутів перевезень вантажів з урахуванням зовнішніх та внутрішніх факторів впливу існуючого інституціонального середовища. Охарактеризовано перспективи розвитку інституціонального забезпечення авіаційних перевезень шляхом впровадження найкращого світового досвіду організації авіаційних перевезень; активна участь у складі світових авіаційних організацій з приводу розробки інституціональних норм та правил авіаційних перевезень вантажів та пасажирів; зміцнення міжнародного економічного співробітництва, врівноважуючи інтереси суб'єктів господарювання різних країн, для яких важливими елементами стають правила укладання міжнародних контрактів та проведення комерційних операцій.

Ключовими положеннями інституціональних засад організації авіаційних перевезень стають міжнародні авіаційні організації та нормативно-правові положення стосовно підвищення якості обслуговування та безпеки польотів, інституціональне забезпечення розвитку мультимодальних перевезень та створення великих транснаціональних транспортних вузлів з новітнім інформаційно-технологічним обладнанням.

Ключові слова: морський транспорт, пошуково-рятувальні операції, теорія масового обслуговування, ефективність, прийняття рішень, IQ-технології

Introduction. Aviation is a modern fast and comfortable mode of transport that transports passengers and cargo to any country in the world and has significant competitive advantages over rail and road transport systems. Therefore, the development of civil aviation and the organization of transportation become priority issues at the national level of many countries of the world. In turn, air transportation and use of air space becomes the object of regulation of national and international law. Scientific and technical achievements and the use of state-of-the-art information and communication tools in the latest technological processes of processing, analysis, data accumulation and their

connections have become the driving force for dynamic changes in national legislation in general and in its individual branches, in particular. Therefore, international transportation involves placement of destinations on the territory of two different states or one country with a stopover on the territory of another state on the basis of a contract, and national transportation is carried out within the borders of one country by licensed business entities on a paid basis with their own aircraft or under leasing. After all, achieving efficiency from the organizational activity of air transportation is possible thanks to the functioning of the institutional base, the development of which

is becoming an extremely urgent problem today.

Analysis of recent research and publications. The institutional foundations of the organization of air transportation are the subject of research in numerous works of international and domestic scientists. O. M. Kyrylenko, O. B. Naumov, V. O. Novak, K. M. Razumova [1], D. Bugayko, Yu. Ierkovska [2], B. Kenneth, G. McDougall [3] reviewed regulatory changes affecting different parts of the air transport supply chain, different ownership models and ways of providing traffic management and navigation services, the formation of integrated air transport associations, the concept of national aviation risk management, as well as a number of institutional measures: harmonization of national regulation of air transport with the requirements of global and regional levels, development of mechanisms for commercial protection of domestic air transport enterprises, implementation of strategic scenarios for the sustainable development of air transport. J. Thums, L. Künzel, M. Klumpp, M. Bardmann, C. Ruiner [4] investigated air cargo logistics as a component of the latest technologies and international cooperation, the main developments in the cooperation of people and digital systems, the safety of human-technology interaction, and the measurement of productivity due to digitization in airports and the air transport sector. A. Reynolds-Feighan [5] revealed the influence of institutions on the development of international aviation, the spatial distribution of traffic (connections between firm behavior, industry structure and organization, as well as the spatial manifestation of transport production solutions at the national, regional and local levels), the full cost of accessibility due to the "efficiency-availability" compromise, institutions for working with multimodal transport and promoting international combined transportation. B. Kenneth [6] examined the activities of the Ryanair "organization" in relation to other airline "organizations" within the existing set of legal

"institutions" created by the European Union, as well as mergers and new forms of airlines. K. Yokoyama [7] analyzed air transport through the change of institutions and customs of trade operations, as well as the transformation of transactional institutions. A. Odoni [8] studied changes in the international and national regulatory environment of the aviation industry, as well as the influence of governmental and non-governmental organizations (agencies and associations) at the international and national level on regulatory, supervisory or advocacy roles in critical issues (security, economy, defense and defense) of air transport. E. Schneider de Almeida, H. Bettini [9] studied the internationalization of airlines regarding the institutional environment, hybrid forms of organization and management, access of airlines to international markets through bilateral or multilateral agreements between nations. A. Kuhait, S. Mohammed, M. Jasim [10] studied airports from the point of view of multi-functional institutions that perform different activities and provide different services. They proved that the performance-based analysis method provides useful information for the public management of the airport, which allows it to make decisions to increase productivity and improve the implementation of various activities of the airport, which positively affects the quality of services provided to citizens. However, the institutional foundations of the organization of air transportation require a deeper study, based on the significant scientific achievements of scientists from many countries around the world, which confirms the relevance of the chosen topic.

The purpose of the article is to study the institutional foundations of the organization of international and national air transportation of passengers and cargo in the context of sustainable development of the national economy of an individual state and globalization processes at the world level. The derivative task of our research is to identify the challenges and prospects of institutional support of air carriers to improve the quality

of passenger service and international cargo delivery.

Presentation of the main research material. Modern institutional transformation processes are determined by constant changes in the institutional environment under the influence of many internal and external factors. The rapid development of modern technologies creates grounds for the formation of a decisive role of the state as a regulator of social relations, a guarantor and a controller of compliance with established norms and rules. In particular, the effective functioning of modern society requires the creation of a competitive development of the aviation industry. Therefore, the organization of air transportation is influenced by institutional norms and rules, which are established thanks to the state regulation of the aviation industry for the implementation of its tasks, goals and functions in a harmonious combination with the private interests of individual citizens. At the same time, the institutional regulation of air transport involves the formation by law-making international and national organizations and institutions of a system of creating favorable socio-economic relations to guarantee the continuous development of the chain of high-quality deliveries within the air transport system, taking into account multimodal principles with the highest social significance highlighted [11]. Therefore, the state acts as a guarantor of the existence and organization of air transportation to ensure the needs of the economy and the population in obtaining transport services for the economic development of regions and increasing the level of providing citizens with high-quality and safe aviation services. According to the Law of Ukraine "On Transport", air transport includes air transport enterprises that carry out the transportation of passengers, cargo, baggage, mail, aerial photography, agricultural works, as well as airports, airfields, aero clubs, vehicles, air traffic control systems, educational institutions, civil aviation repair plants and other enterprises, institutions and

organizations, regardless of the forms of ownership, that ensure the operation of air transport [12]. The aviation rules of Ukraine "Rules of air transportation of cargo" apply to all subjects of aviation activity and determine the conditions of air transportation of cargo and are mandatory for all subjects of aviation activity [13]. The main document that regulates the procedures and rules for customs security of cargo transportation is the Kyoto Convention [14], which is the Law of Ukraine No. 227-V "On Ukraine's Accession to the Protocol on Amendments to the International Convention on Simplification and Harmonization of Customs Procedures" [15]. The Kyoto Convention envisages cooperation between the state and business on partnership terms to establish rational relations between the interests of the state and the private sector of the economy. In accordance with the Special Annex, all stages of cargo registration are established, from the moment of their arrival at the customs territory, temporary storage, transit, to the moment of creation of economic customs regimes for the purpose of processing, temporary importation, free zones. Prevention of offenses in foreign economic activity has transnational features. Therefore, the effective interaction of customs organizations of different countries will counteract the distribution of narcotics, terrorist acts, weapons, evasion of customs payments and other economic offenses. At the same time, modern information technologies will facilitate similar cooperation between the customs services of Ukraine and foreign countries. Based on the Kyoto Convention, each state has the right to independently justify and adopt a set of norms and rules that correspond to its economic environment and the level of development of the transport system.

International economic cooperation affects the development of the economy of the state and the world, affecting the interests of business entities of various countries, for which the rules of concluding international contracts and commercial transactions are

important elements. In accordance with the Law of Ukraine "On Foreign Economic Activity" dated April 16, 1991, a foreign economic agreement (contract) is a materially executed agreement between two or more subjects of foreign economic activity and their foreign counterparties, aimed at establishing, changing or terminating their mutual rights and obligations in foreign economic activity [16]. Therefore, two features of the conclusion of the contract are distinguished: firstly, one of the subjects is a foreign entrepreneur, secondly, the fulfillment of special conditions must be observed. The written form of the contract usually prevails. At the same time, international commerce contains various contracts in which the content and structure are formed under the influence of the type of foreign economic transaction. Thus, insurance contracts, transportation, loans, licensing, franchising, exchange and leasing agreements, foreign trade contracts of sale, contract, etc. are distinguished.

Institutional regulation of the conclusion of international agreements is carried out by the International Chamber of Commerce through the development and distribution of collections of "International rules for the interpretation of trade terms" - Incoterms, which contain a single set of international rules and trade terms at the international level. Therefore, Incoterms allows you to avoid differences in the interpretation of legal provisions of transport concepts of different countries. In the process of concluding agreements on the transportation of goods, the following must be determined: the name of the port of loading (unloading) of goods, transshipment point, cargo transfer; substantiation of the terms of the charter or bill of lading; providing information about the arrival of the vessel at the port of loading (unloading); inspection of the vessel in accordance with the provisions of its readiness for the ability to carry out cargo transportation. Therefore, the use of Incoterms rules is regulated by Clause 4 of Article 265 of the Economic Code of Ukraine

[17], Article 14 of the Law of Ukraine "On the Application of Special Measures Regarding Imports to Ukraine" [18], Article 8 of the Law of Ukraine "On Transport and Forwarding Activities" [19], Clause 2.19 of Article 2 of the Law of Ukraine "On State Support of the Agriculture of Ukraine" [20], Article 9 of the Law of Ukraine "On Protection of National Product Producers from Dumping Imports" [21].

The organization of the delivery of goods from the place of shipment to the place of destination is regulated by Incoterms in the context of three key transport provisions:

1. Determination of the share of transport costs between the seller and the buyer for the delivery of the goods. Therefore, in the process of concluding the contract, the analysis and grouping of the buyer's and seller's expenses is carried out with the precise determination of the moment of their liability at the route point in time and space.

2. Correlation of responsibility for the risks of cargo delivery between the seller and the buyer. At the same time, the moment of transfer of risks of loss, damage and accidental death of the cargo from the seller to the buyer during its transportation from the place of shipment to the place of destination is discussed and agreed upon.

3. Determination of the date of delivery of goods to the buyer. Therefore, the event of receipt of the goods by the buyer is substantiated by the moment of actual transfer to the possession of the buyer from the seller of the goods or to the disposal of his representative (transport organization). At the same time, compliance with the seller's compliance or non-compliance with the terms of delivery of the goods to the buyer is analyzed.

Obviously, the economic efficiency of foreign economic activity is directly related to the correctness of the choice of means of transport, the route and the basic conditions for the delivery of goods from the seller to the buyer. Therefore, there are two types of duties of the seller (minimum and maximum). According to the first type, where the

minimum actions of the seller include the preparation of the goods for shipment: put the goods in packaging, prepare the container with the packaged goods, mark the product units. At the same time, the buyer must take responsibility for transporting the goods from the place of production to the place of consumption. According to the second type, where the seller is responsible for the maximum actions on the transportation of goods, the basic terms of delivery with or without payment of customs duty are determined.

The basic concepts of the organization of cargo transportation by air transport are regulated by the Air Code of Ukraine [11]. Therefore, cargo is property that is transported by aircraft, but excludes mail, supplies on board the aircraft and accompanying baggage. Cargoes are divided into several categories, among which dangerous ones are highlighted, that is, those that are a threat to health, property, safety and the environment. The procedure for the transportation of dangerous substances and products is regulated by the Aviation Rules [13] and the Air Code of Ukraine [11], which state that the air carrier must operate on the basis of a license, and personnel must be trained in the handling of dangerous goods. At the same time, increasing the competitiveness of cargo air carriers strengthens the information technology component, which helps to develop the transportation route in advance, develop a business plan and optimize it, and save time and paper media. The most modern methods of institutional management are implemented by the International Air Transport Association (IATA). Therefore, IATA, based on EDI standards, developed and implemented the EFreight (electronic freight) technology. The positive aspects of this technology are the reduction of time spent on processing information, the reduction of the cost of work in monetary terms, and the optimization of transportation routes. Obviously, the main advantage is that the state and the air carrier exchange information

exclusively in electronic form. Logistics management of air transportation regulates the integrated cargo flow, not separately allocated cargo transportation. In the process of transportation of various types of cargo, a unified approach to financial-economic, information-service characteristics in space and time is applied not only to the aviation network of carriers, but also to railway, automobile, sea and river companies, as well as redistribution and sales agents and distributors goods. Therefore, regulation of the cargo flow of the airline involves: determination of key points of the transportation route, speed and time of transportation, calculation of income from additional areas of service. The institutional framework for the regulation of cargo air transportation includes regulations from the International Air Transport Association (IATA), the International Organization for Standardization (ISO); International Civil Aviation Organization (ICAO), European Union Aviation Safety Agency (EASA), Federal Aviation Administration (FAA), which are organized by the European Aviation Safety Agency and the US Federal Civil Aviation Administration; by the ISAGO industry standard IATA Safety Audit for Ground Operations.

On the one hand, modern air carriers ensure the quality and transparency of cargo and passenger transportation services, and on the other hand, try to identify and level the challenges of external and internal factors of the institutional environment in order to meet the needs and expectations of both individual customers and large stakeholders in a timely manner. The institutional basis of the organization of air transportation is based on the quality management system of entities whose sphere of activity is related to the maintenance of air transport, execution of work processes, measurement and comparison of real parameters with normative ones. Therefore, the effectiveness of the business of aviation enterprises becomes the main criterion for achieving the development strategy of both an individual

enterprise and the industry as a whole. At the same time, when organizing the transportation of goods, they must be divided into critical and secondary ones. Institutional management of air carriers provides for compliance with the requirements and regulations of international standards and recommendations.

At the current stage of society's development, the state's aviation industry is going through crisis phenomena: a pandemic and martial law. The coronavirus pandemic affected not only the aviation industries of individual countries, but also the entire world. Large global airlines made losses, but were able to refocus in time. Small regional aviation companies were completely ruined. After the end of the pandemic in 2023, the demand for air transportation increased so much that it exceeded the supply. This prompted a rapid increase in the industry's profitability. In Ukraine, the aviation industry went from one crisis state (pandemic) to another (military). During the first, the aviation industry functioned poorly, and during the second, it completely closed. Since the beginning of the political-military conflict, aviation infrastructure has been the object of massive shelling. Active attacks were carried out on civilian, military, and civil-military airfields. European partners anticipated the possibility of a military invasion. Therefore, since mid-February 2022, insurance organizations around the world have refused or suspended insurance of Ukrainian aircraft. As a result, flights of international air carriers to our country were canceled. At the same time, the state came to the defense of aviation companies, providing additional financial guarantees to support the aviation market.

Flights in airspace were suspended due to the full-scale invasion. The main missile strike fell on airfields in order to eliminate air defense. The total number of airfields was 35, of which 19 suffered significant damage. 12 civilian airfields were destroyed. Similar destructive damage was suffered by dual-purpose aviation facilities, that is, civil-military, in the amount of 17 airfields. Some

airfields were subjected to repeated missile attacks. Therefore, damaged airfields should be examined in detail to identify their technical condition and draw up an estimate for their restoration. The preliminary expert assessment of damaged airfields is 2.04 billion dollars. To this should be added losses from non-operating air lines for the transportation of passengers and cargo. During the political crisis, financial revenues from passenger traffic ceased. The expert assessment of losses from non-operating air transportation of passengers and cargo is 5.3 billion dollars [22].

The primary tasks of restoring the aviation industry consist of several important stages. First, calculating losses and creating financial funds for restoration work. Second, carrying out work on the reconstruction and reconstruction of regional airports that would meet modern technological requirements and ICAO standards. Third, with the development of the aviation industry, it is necessary to build additional airports according to world standards. Fourth, launching ICAO audits regarding the guarantee of aircraft safety on flights and civil aviation airports to ensure the safety of passengers, airport workers, aircraft in the sky and at airfields, certification of aircraft and pilots, investigation of accidents and incidents. Fifth, the formation of highly qualified personnel to ensure world standards of quality of passenger service and cargo delivery.

The world economy is developing under the influence of globalization processes in the transport complex and receives a significant contribution from the aviation industry, which provides a wide range of services to changing customer requirements. Therefore, there is a diversification of typical business models, which has increased the level of passenger service and cargo transportation to enter the international market. Thus, new market directions have appeared by reducing the cost of transportation: low-cost, which covers short, medium and long distances of transcontinental flights; economy class, which provides more comfort for little money;

premium class, which is called the model of smart consumption and provides comfort to the passenger; cargo transportation, which has grown on the basis of the development of world trade in the Asia-Pacific region. The main reasons for the growth of air transportation have been an increase in household incomes, the well-being of the population and the profitability of the manufacturing sector of the economy. Therefore, there is an economic readiness to expand air transportation, which is hindered by political disputes between countries and the lack of common infrastructure.

Modern trends in the impact of aviation enterprises on the environment and public health have become the basis for research in recent decades. At the global level, leading associations of airlines, airports, and aviation enterprises are developing the main directions of environmental policy aimed at reducing negative environmental impacts and carbon emissions, increasing environmental efficiency, environmental sustainability of aviation companies, compensation systems for environmental protection measures, and improving environmental performance. The introduction of innovative solutions in the aviation industry involves: the use of biofuels, energy-efficient engines, carbon offsets through financing reforestation funds, and wildlife protection.

In connection with the development of air transportation, the need for highly qualified personnel who have high-tech knowledge of the latest technologies and high-precision equipment used on aircraft, their maintenance, passenger service at airports, at aircraft construction plants, etc. is expanding. The main potential of the aviation industry is made up of highly qualified pilots, the need for which is growing every year. Therefore, the main factors in increasing the demand for aviation industry specialists are: increasing the volume of aircraft maintenance and service, rejuvenation of human resources, increasing the technological equipment of

aircraft, which require a new generation of pilots.

The rapid development of world aviation and the growing demand for passenger air transportation require maximum safety of passengers and their luggage during air travel. Therefore, modern airports simultaneously solve the problem of increasing the efficiency of processing traveler data and compliance with global security standards. For this purpose, biometrics has been introduced in the aviation industry, which helps to observe and determine body measurements and calculations. Obviously, airport security is able to track passenger data very quickly and accurately, thereby reducing waiting times and avoiding queues. The most common types of biometric measurements are: fingerprints, retinal scans, facial recognition. In general, the latest developments help to conduct human health monitoring, which involves automatically determining and measuring temperature, rapid testing for viral infections with the formation of a single database that can be used by different countries to identify the movement of viruses.

The introduction of artificial intelligence to facilitate the work of pilots by creating an intelligent cockpit, which helps ground operators have data on the status of various key indicators of the aircraft and make decisions in real time. Thus, direct communication between the cockpit and ground operators allows: to prevent disruptions to the flight plan based on the analysis of a set of factors and determining flight delays or cancellations, identifying the necessary aircraft maintenance upon landing, the need for refueling; mitigating the consequences of flight cancellations, which involves creating an adjusted plan. At the same time, the formation of the infrastructure for connecting to the cockpit requires significant investments, which in the future should have an economic payback through the level of passenger satisfaction and effective management of resource potential.

Thereby, reducing the costs of the aviation industry and carbon emissions.

The majority of overhead costs in air transportation are maintenance costs, which include a system of comprehensive inspections of aircraft, their maintenance, repair, replacement, installation of components, upgrades and modernization. Direct costs include labor resources and logistics, which are also included in aircraft maintenance. Indirect costs include losses on unplanned maintenance due to delays or cancellations of aircraft flights. Therefore, the modern direction is "smart" maintenance, which allows you to systematize the workplaces of aviation engineers and technicians, who quickly and accurately diagnose technical problems and reduce the time to eliminate them. To implement smart maintenance, the following are used: drones for external inspection of aircraft; "digital twin" technology, which online monitors the external condition of the aircraft and creates its virtual copy at the time of flight in the air with all the shortcomings that need to be eliminated on the ground. In the modern aviation environment, flight safety takes first place. Therefore, advanced technologies are aimed at improving safety standards in the aviation industry. One of the main methods is aircraft testing and continuous improvement of aviation rules and standards. The aviation construction industry uses the latest materials. Therefore, composites are used instead of aluminum and aluminum alloys.

Thus, the strength, safety and operational performance of the aircraft are ensured. At the same time, an improved testing system for newer materials will allow the aerospace testing market to develop. Modern aviation associations require compliance with global standards and regulations based on compliance with regulations and are confirmed by certificates and licenses. Specially authorized management bodies in the aviation industry collect and analyze safety data to identify risks and make forecasts in order to prevent accidents. The product of the combined efforts of scientific aerospace research and operating airlines is the improvement of the testing process and updating of safety standards. It is obvious that a new direction for the aviation industry is a partnership that ensures the prevention of aviation incidents. The aviation environment in Ukraine is focused on restoring infrastructure and transforming airlines into a global market for passenger aviation services and aircraft maintenance to increase capacity.

Current trends in the aviation industry show a recovery after the pandemic and a gradual increase in air passenger and cargo transportation in Europe. As data for the period 2019-2023 show, air cargo transportation in the European Union decreased by up to 96%, and passenger transportation by up to 94% (Table 1).

Table 1. Transport of passengers, cargo and mail in the European Union for the period 2019-2023

Indicators	Years					2023/ 2019, %
	2019	2020	2021	2022	2023	
Air transport of goods by country, tonne	13 739 927,90	12 426 326,60	15 045 040	13 862 510,10	13 141 089,10	96
Air transport of passengers by country, passenger	1 035 119 832	276 758 108	373 809 763	815 689 131	973 032 747	94

Source: [24]

Air transportation is an integral element of the transport system of the global

economic infrastructure, which allows for the rapid and efficient movement of cargo, mail

and passengers to any point in the world. Unfortunately, international armed conflicts become obstacles to the development of the aviation industry, especially civil aviation, negatively affecting flight safety, the economic sustainability of air routes and the functioning of airports. Armed conflicts directly affect air traffic in various regions of the world. As a result, many airlines reduce routes and increase fuel and operating costs. At the same time, the closure of airspace due to military operations is important for ensuring the safety of civil aviation flights. Knowing their locations, alternative routes for commercial flights are developed. However, it negatively affects the cost of air

transportation and the loss of many customers due to high ticket prices and longer flight times. Armed conflicts provoke the threat of terrorist acts and require increased security measures both on the ground and in the air. At the same time, crews must adhere to special safety protocols when crossing dangerous areas. Air transport insurance is associated with increased insurance premiums due to increased risks in the context of hostilities. Therefore, increased insurance costs force insurance companies to refuse due to large financial losses (Fig. 1).

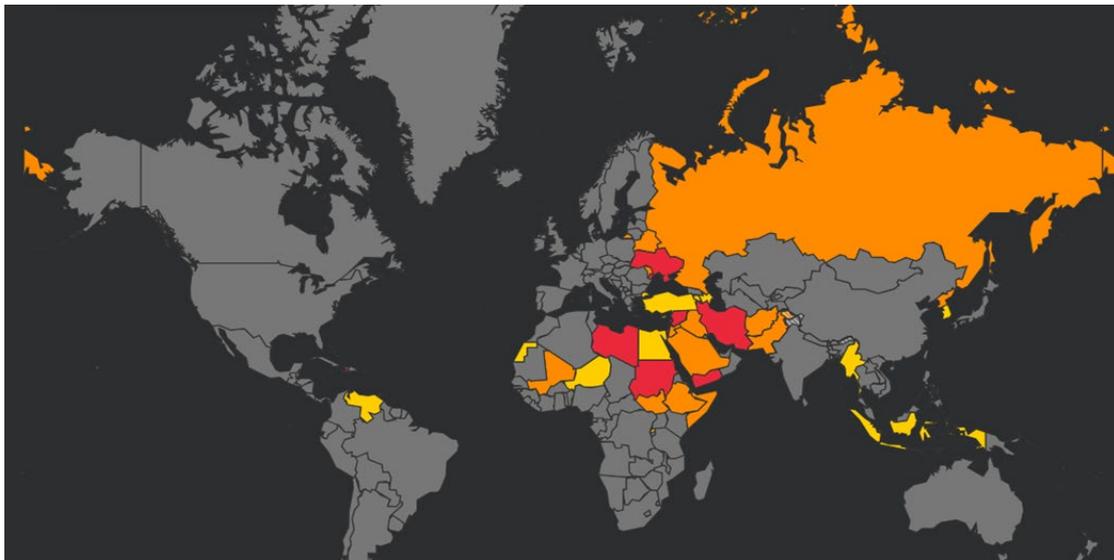


Figure 1 – World map of armed conflicts
Source: [25]

However, armed conflicts affect the aviation industry in the long term even after they end. Because the restoration of destroyed infrastructure does not happen in one day, additional funds are needed to restore airlines, restore the airline brand after a negative reputation, restore passenger confidence in flights in areas that have been under fire, additional costs for advertising and dissemination of truthful information about flight safety in the media. Therefore, a very important element of resolving this issue is international cooperation, the legal basis of which is written in the Chicago Convention,

which contains the main rules governing civil aviation cooperation at the international level.

Conclusions. Regulation of the economic activity of various agents takes place on the basis of institutional mechanisms that balance the interaction between institutions and institutes in the aviation institutional environment. Thus, institutions establish the rules of the game in society and govern repetitive interactions. At the same time, modern legal support for the organization of air transportation of passengers and cargo is based on the national

legislative base and international legal acts. Among cargo transportation, the most common combination is a combination of air and road transport. Therefore, multimodal transportation is aimed at the maximum reduction of cost and delivery time based on the implementation of the most optimal route. The key factors of multimodal transportation include the type of cargo, the final destination of cargo delivery and the terms of transportation to the buyer. The state becomes the guarantor and controller of the adopted norms and rules. The institutional basis of air transport consists of air transport enterprises and organizations. At the same time, the Kyoto Convention provides for cooperation between the state and business on partnership terms with the aim of combining the interests of the state and business regarding the stages of customs clearance of goods in foreign economic

activities with transnational features. The interests of economic entities of different countries regarding the transportation of goods are taken into account in the foreign economic agreement. An important institution in the field of concluding international agreements is the International Chamber of Commerce, which develops a single set of international rules and trade terms (Incoterms). The promising directions of the institutional foundations of the organization of air transportation are the development of a single international normative and legal framework for regulation and the implementation of best practices in the transparency and quality of organizations of air transportation of passengers and cargo at the national level, strengthening of European integration and international cooperation.

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