

Research of the Current State and Prospects for the Development of the Ukrainian Market of Transport Services

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Abstract

The report substantiates that the market of transport services is an integral part of the country's economy. It is of important both economic and social importance, as it serves almost all sectors of the economy and all segments of the population, contributes to the development of transport and economic ties and improves the quality of life of the population. The market of transport services provides domestic and international logistics, mobility of the population and contributes to the integration of the country into the world economic space. analyzes the current state of the transport sector of Ukraine, including the main statistical indicators, development dynamics and key challenges faced by the industry. The study is based on up-to-date data on the functioning of road, rail, air and water transport, assessing their role in the overall transportation system. Special attention is paid to the problems of infrastructure development, the efficiency of logistics processes, the impact of war and economic factors on the work of transport enterprises. The study proves that road transport is one of the main modes of transport in the Ukrainian market of transport services, its share in the total passenger turnover of Ukraine is close to 40%. There are about 25 thousand licensed carriers operating in the passenger transportation market, which have more than 110 thousand buses of various models under their control. The structure of consumer needs in domestic passenger transportation is as follows: intercity trips – 4.5%, suburban – 18.5%, urban communication – 77.0%, these needs are fully satisfied. The analysis made it possible to assess the volume of passenger and freight traffic by mode of transport in Ukraine with the pre-quarantine and pre-war period and to conclude that, firstly, the pandemic and the war with Russia had a significant impact on the transport industry of Ukraine, secondly, the volume of passenger traffic by all modes of transport suffered significant losses during the pandemic and war, and thirdly, quarantine restrictions and hostilities practically did not affect the volume of freight traffic. The report also considers the prospects for the development of the transport services market in Ukraine, taking into account European integration processes, the introduction of innovative technologies, digitalization of the transport industry and opportunities for attracting investments. The authors determine the prospects for the development of the Ukrainian transport services market by key factors: military operations and the destruction of transport infrastructure; European integration processes: Ukraine is actively integrating into the European transport space, which requires adaptation of standards and the opening of new international corridors; Economic recovery: Since the start of the war, there have been significant changes in the economy, including logistics chains. Particular emphasis is placed on the need to reform the industry in accordance with European standards, develop multimodal transportation and increase the competitiveness of Ukrainian transport operators. representatives of public administration, business, experts in the field of logistics and transport infrastructure, as well as for scientists engaged in research on the economic development of the transport sector of Ukraine.

KEY WORDS: *transport industry; Ukraine; current state; market; transport services; segmentation; competition; development; prospects; efficiency*

1. Introduction

The modern market of transport services in Ukraine is characterized by a complex structure, including road, rail, aviation, sea and river transport. Each of these sectors has its own characteristics and challenges. Road transportation is the most common mode of transport in Ukraine. However, a significant part of the market is in the shadows, which leads to losses for the state budget and creates unfair competition. According to estimates, the volume of the shadow market of passenger car transportation alone exceeds UAH 20 billion per year. Rail plays a key role in freight transportation,

providing a significant share of domestic and international traffic. However, the infrastructure needs to be modernized, and the services need to improve the quality to meet European standards. The aviation sector has undergone significant changes due to global challenges and internal factors x16 6. The COVID-19 pandemic and hostilities have affected passenger traffic, but there is a gradual recovery and adaptation to new conditions. Ukraine has significant potential in the field of sea and river transportation due to its favorable geographical location. However, to fully use this potential, investments in infrastructure and simplification of procedures for businesses are necessary.

2. Features of Segmentation of the Ukrainian Market of Transport Services

Segmentation of the transport services market in Ukraine is an important tool for analyzing and understanding the structure of the transport industry. It allows you to divide the market into separate segments according to the criteria of the type of services, geographical coverage, target audience, and other factors. The Ukrainian transport sector includes road, rail, air, water (sea and river) transportation, each of which has its own characteristics.

The study of methods and criteria for segmentation of the transport market helps to identify the main competitors, the volume of demand, opportunities for investment and improvement of the quality of services. This is important both for state planning and for business structures that seek to optimize their activities in the market. The relevance of the study of the segmentation of the transport services market in Ukraine is due to several key factors: hostilities and destruction of infrastructure (the impact of hostilities has significantly changed the transport map of the country, some regions have limited access to transportation, which requires a revision of logistics routes); European integration processes (Ukraine is actively integrating into the European transport space, which requires adaptation of standards and the opening of new international corridors); economic recovery (after the outbreak of hostilities, there have been significant changes in the economy, including logistics chains, segmentation will help to plan resources more efficiently and distribute transport flows); technological development (the introduction of digital technologies, such as electronic tickets, cargo tracking systems and automation of logistics processes, requires a detailed analysis of each segment); environmental challenges (increased attention to the environmental friendliness of transport (electric buses, reduction of CO₂ emissions) requires adaptation of transport infrastructure to new standards); investment attractiveness (the segmental approach allows you to determine which areas require additional investments, for example, the development of railway logistics for the agricultural sector or the modernization of port infrastructure).

Two methodological approaches to the segmentation of the Ukrainian transport services market are proposed for consideration – functional, which provides for the allocation of basic segments of the transport market (Fig. 1) and criterion, which provides for detailed segmentation of the market of certain modes of transport (Table 1).

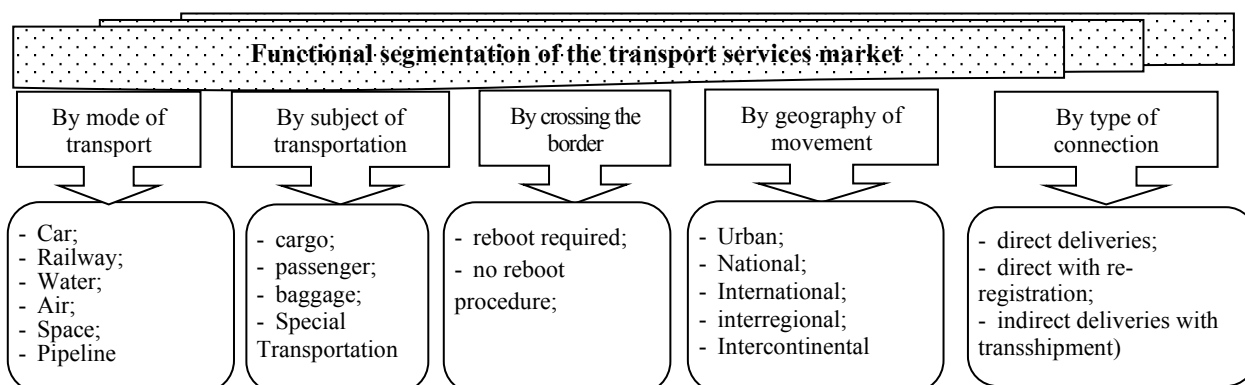


Fig. 1 Functional segmentation of the Ukrainian transport services market. Source: author's development

Segmentation of the transport services market in Ukraine is an important step to increase the efficiency of industry management, optimize logistics processes and attract investments. A detailed analysis of each segment will allow creating strategies for the development of the transport system adapted to modern challenges. Segmentation of the automotive services market in Ukraine provides for the division of the market into separate segments according to different criteria, which allows you to better understand the needs of consumers and adapt services to specific requests. Segmentation of the automotive services market allows you to more effectively plan development strategies, determine competitive advantages and adapt services to the needs of specific groups of consumers. of railway transport in Ukraine provides for the division of the market into several key segments, which allows a better understanding of the structure and functioning of this industry. This contributes to more efficient management, planning of services and meeting the needs of different categories of consumers.

Segmentation of the railway transport services market in Ukraine helps to manage resources more efficiently, develop targeted marketing strategies and improve the quality of service. Railway transport in Ukraine has significant potential for development, in particular in the direction of modernization of rolling stock and integration with European transport systems. Segmentation of the water transport services market of Ukraine provides for the division of the industry into different segments depending on the type of services, the nature of cargo, geographical coverage and other criteria. This allows you to analyze the market in detail and identify key areas of development. Segmentation of the water transport market of Ukraine reflects the complex structure of the industry, which includes both freight and passenger transportation,

as well as services. Further development of the market requires the modernization of port infrastructure, the attraction of private investors and the improvement of international cooperation.

Table 1

Segmentation of the Ukrainian transport services market by various criteria

Carriers of transport services			
Road transport	Rail transport	Water transport	Air transport
<i>Segmentation criterion: passenger transportation</i>			
- city (fixed-route taxis, buses, trolleybuses); - intercity transportation; - international transportation; - taxi services	- city (trams, electric trains, metro); - regional (suburban, intercity); - international (EU countries)	- suburban river routes; - international passenger routes; - Tourist cruises	- regular flights; - business aviation; - charter flights; - Small Aviation Services
<i>Segmentation criterion: freight transportation</i>			
- local transportation; - long-distance and international; - specialized transportation (dangerous, oversized cargo)	- containers, industrial goods; - bulk cargo (grain, coal, ore) - liquid cargoes (oil, gasoline); - specialized transportation	- sea cargo transportation; - river cargo transportation; specialized transportation (oil, gasoline, dangerous goods); - container transportation	- standard goods and containers; - express delivery; specialized transportation (weapons, dangerous, valuable, medical goods)
<i>Segmentation Criterion: Logistics Services</i>			
- warehouse services; - supply chain management; - courier deliveries	- freight forwarding services; - warehouse services; - container terminals	- Towing; - pilotage services; - warehouse and terminal services; - Ship-chandling	- ground handling of aircraft (refueling); - passenger service (check-in, baggage services)
<i>Segmentation criterion: by form of ownership</i>			
- state-owned companies; - private companies; - individual entrepreneurs	- state-owned companies; - private companies; - international companies	- state-owned companies; - private companies; - Mixed enterprises	- state-owned companies; - private companies; - International air carriers
<i>Segmentation Criterion: By Vehicle Type</i>			
- cars; - Minibuses; - trucks of different tonnage; - specialized transport	- electric trains; - diesel trains; - locomotive traction	- passenger ships; - tanker fleet; - bulk carriers (bulk cargo); - barges and bulk carriers	- large passenger aircraft; - regional aircraft; - cargo planes; - Business Aviation Aircraft
<i>Segmentation criterion: by price segment</i>			
- economy class; - business class; - Premium	- economy class; - standard-class; - Premium	- economy class; - standard-class; - Premium	- economy class; - standard-class; - Premium
<i>Segmentation criterion: by target audience of consumers</i>			
- private clients; - corporate clients; - state institutions	- private clients; - corporate clients; - state institutions	- business customers; - individuals; - State institutions	- individuals; - corporate clients; - State institutions

Source: author's development

Segmentation of the air transport market in Ukraine provides for the division of the industry according to various criteria, which helps to assess its structure, key segments and development opportunities. Air transport plays an important role in international passenger transportation and cargo logistics, ensuring the speed and safety of delivery. Ukraine's aviation market shows high potential, but faces challenges, in particular due to the war and economic difficulties. The priority areas for development are the modernization of airports, increasing the number of low-cost flights, attracting international investors and supporting cargo transportation.

3. The Current State of the Ukrainian Transport Services Market

Over the past years of its independent existence, Ukraine has acquired innovative incentives for the growth of the national economy due to the transport services market. The transport services market provides Ukrainians with an additional 13% of GDP, and the cost of fixed assets in the transport industry is almost 25% of the total value of Ukraine's production potential. More than 5% of the able-bodied population of Ukraine is involved in the enterprises of the transport industry [12]. A specific feature of transport is the fact that transport belongs to the sphere of material production, but its products – "transport service", in our opinion, do not reproduce the material form in its pure form. The peculiarities of transport services include the lack of a material form, wear and tear of rolling stock, the impossibility of storage and accumulation, attachment to a separate place, district or region [9, 15]. The production potential of agriculture, coal industry, mining, metallurgical and defense complexes of the country depend to the maximum extent on the efficiency of the transport industry. This state is explained by the geographical features and structure of the real sector of the economy, especially its export-oriented segments.

Recently, the volume of transportation carried out by rail transport in Ukraine has increased significantly. For example, transit traffic in 2024 increased by 16.3% compared to 2023. At the same time, it should be noted that with the beginning of Russia's war against Ukraine, these volumes decreased (if we take the peaceful year of 2021 as a basis of comparison). Domestic volumes of transportation, primarily grain crops and iron ore raw materials, decreased significantly, and the volume of imports and transit transportation also decreased. Russian aggression has had a lesser impact on export rail transport services across the western borders (their reduction is within 10 percent) [1, 4, 6-8].

The volume of the export transportation market in Ukraine is determined by several important factors. It is

important that all railway checkpoints to Belarus and Russia have been closed since the beginning of the war. At this time, there are 10 checkpoints that fairly stably carry out passenger and cargo traffic through the countries of the European Union: 4 checkpoints - with Poland, 2 - with Slovakia, 2 - with Romania and 2 - with Hungary. A purely technical factor is also very important: export traffic is slowed down due to the need to transfer trains from the Ukrainian track to the European one. These technical difficulties are most pronounced at the busiest railway checkpoints, such as Izov, Uzhhorod and Chop, where the border can be delayed for up to 20 days.

Over the past 10 years, the volume of cargo services by various modes of transport has ranged from 600 to 800 million tons (the maximum falls on a fairly successful year in 2011). Our research shows that road and rail transport at this time are leaders in the Ukrainian market of transport services. The volume of road transport services has grown steadily, from 140 million tons in 2009 to a record 244 million tons in 2019, while rail transport during this period fell to an anti-record, transporting only 312.9 million tons in 2019 and only 305.5 million tons in 2020. At the end of 2019, the market shares of freight transportation were distributed as follows: 36% were carried out by road, 46% by rail [3].

The general state of the transport services market of Ukraine includes almost all possible modes of transport for cargo and passenger transportation: road, rail, aviation, pipeline and water (sea and river), the dynamics of which in recent years is given in Table 2 (dynamics of cargo turnover) and Table 3 (dynamics of passenger turnover).

Table 2

Dynamics of cargo turnover in Ukraine (by modes of transport), mln. ton-kilometers

Year	Main modes of transport						In just a year*
	Aviation	Railway	Car	Sea	River	Pipeline	
2015	211,0	195054,4	34504,6	3622,7	1811,2	80676,0	315879,9
2016	226,4	187557,5	37978,6	2669,3	1334,4	94378,8	324145,0
2017	275,3	191915,2	41459,5	2849,1	1423,7	105433,8	343354,8
2018	338,7	186343,3	72069,1	1823,2	1539,8	99240,3	361354,9
2019	296,6	181845,8	64953,4	1774,1	1614,3	104527,7	355010,1
2020	315,2	175588,2	42017,5	1876,9	1373,2	69282,3	290078,8
2021	345,3	180362,1	46809,7	1655,3	1296,4	59171,1	289636,2
2022	51,75	90365,5	36511,1	240,5	349,4	55215,25	182733,5
2023	66,9	90687,2	55489,7	398,6	700,3	31441,4	179359,9

*The total number of passenger-kilometers includes, in addition to the main types of vehicles, also various types of urban electric transport: trolleybuses, trams, subway, etc.

Source: compiled by the authors based on [3, 12-17]

A study of the freight transportation market, focused on determining the volume of transportation services provided, indicates noticeable changes in the market shares of various modes of transport. In 2023, 327.9 million tons of cargo were transported in Ukraine. Preliminary data are published on the website of the State Statistics Service of Ukraine. This volume is 3.3% more than in 2022, but 47.2% less than in 2021 [12, 17]. In 2022, 317.5 million tons of cargo were transported. In 2021, the volume of cargo transported amounted to 621.3 million tons. Cargo turnover in 2023 amounted to about 163.36 billion tonne-kilometers. This is 2% less than in 2022 and 43.6% less than in 2021. In 2021, cargo turnover amounted to about 289.64 billion tonne-kilometers. In 2023, about 2.04 billion passengers were transported. This is 27.4% more than in 2022, but 23.2% less than in 2021. For comparison: in 2022, more than 1.6 billion passengers were transported, and in 2021 - about 2.66 billion passengers. Passenger turnover in 2023 amounted to about 39.39 billion passenger-kilometers. This is 26.5% more than in 2022, but 37.2% less than in 2021. For comparison: in 2022, it was more than 31.14 billion passenger-kilometers. In 2021, passenger turnover amounted to more than 62.73 billion passenger-kilometers. It should be noted that in 2022, cargo transportation decreased by 49%, and passengers by 40% [11, 12, 17].

Estimation of the number of transported goods by mode of transport in millions of tons shows the total predominance of road transport over other types (the share of road transport in the total number of transported goods is from 67 to 71 % according to the years of analysis). At the same time, the study revealed that the existing structure of the truck fleet does not correspond to market demand.

Table 3

Dynamics of passenger turnover volumes in Ukraine (by modes of transport), million passenger-kilometers

Year	Main modes of transport					In just a year*
	Aviation	Railway	Car	Sea	River	
2015	11363	35367,1	34585,2	12,565	10,459	97036,4
2016	15533	36823	34613	17,838	12,554	102200
2017	20346	28117	35542	10,782	19,567	99400
2018	25899	28721	34654	2,089	25,512	104400
2019	30242	28418	33911	1,326	24,462	107200
2020	10107	10754	19161	0,703	3,337	49000
2021	18730	15736	18822	1,346	4,470	62700
2022	2642	11570	12549	0,342	1,054	31142,8
2023	1182	15360	15764	0,764	2,017	39387,6

*The total number of passenger-kilometers includes, in addition to the main types of vehicles, also various types of urban electric

transport: trolleybuses, trams, subway, etc.

Source: formed by the authors based on data [3, 12, 15, 17]

The study proves that in the Ukrainian market of transport services, road transport is one of the main modes of transport, its share in the total passenger turnover of Ukraine is close to 40%. There are about 25 thousand passengers on the passenger transportation market. licensed carriers, which have more than 110 thousand tons under their control. buses of various models [3, 8]. The structure of consumer needs in domestic passenger transportation is as follows: intercity trips – 4.5%, suburban – 18.5%, urban communication – 77.0%, these needs are fully satisfied. It should be noted that international transportation by road makes up only 0.05% of the market volume. In our opinion, there is a clear shortage of quality, comfort and safety of vehicles in this market segment.

4. Prospects for the Development of the Ukrainian Transport Services Market

The identified difficulties and shortcomings of the functioning of the Ukrainian market of transport services urgently need its development and modernization. The results of the study conducted by the authors allow us to conclude that in extremely difficult conditions (war with Russia, destroyed transport infrastructure), the Ukrainian transport industry has found opportunities to quickly adapt to new economic conditions, created new capacities and used all reserves to restore the effective operation of all spheres of the national economy. All these measures have influenced the preservation of Ukraine's status as a reliable exporter of various types of products. In order to achieve a more effective result, in our opinion, it is important to develop an action plan for the restoration and development of the transport services market. Our proposals on this matter for individual modes of transport can be summarized as follows (Fig. 2).

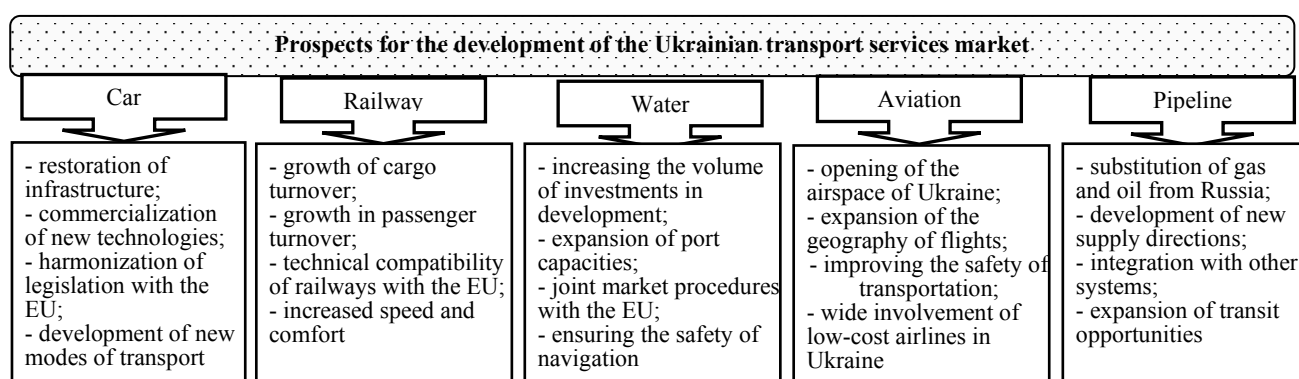


Fig. 2 Formation of prospects for the development of the Ukrainian market of transport services (by modes of transport). Source: formed by the authors

The proposals given in Fig. 2 determine its effective geopolitical location as an important factor in the prospective development of the transport industry of Ukraine. At the same time, it should be noted that the effective operation of Ukrainian transport largely depends on the level of state support, so the restoration and development of the transport industry of Ukraine largely depends on the state policy in this area.

The basic (priority) directions for the development of Ukrainian transport and the prospects for its integration into the European community are most widely set out in the "National Transport Strategy of Ukraine for the period until 2030" [10]. Among the strategic goals that are supposed to be achieved in the development of the transport industry, the following should be highlighted; development of effective principles of public administration in the transport sector; ensuring high quality, comfort and safety of vehicles; active integration of the transport complex of Ukraine into the international transport network; using the opportunities of sustainable financial support for the Ukrainian transport complex.

The above proposals indicate that the priority direction of innovative development of the transport market is the use of benefits and advantages of Ukraine's advantageous geopolitical location. At the same time, it should be noted that the effective operation of Ukrainian transport largely depends on the level of state support, so the restoration and development of the transport industry of Ukraine largely depends on the state policy in this area.

5. Conclusions

The mechanism of the transport market of services as a whole frees the economy from the shortage of goods and services, the transport infrastructure provides a stable connection between consumers and suppliers, solves socio-economic problems and occupies a central place in the market system. One of the most important tasks of transport infrastructure management is the usual consideration of the needs for movement, services and production efficiency. Systematic provision of accelerated growth in the quality of transport services is provided by marketing, i.e. a special role is given to the coordination of supply and demand. The analysis made it possible to assess the volume of passenger and freight traffic by mode of transport in Ukraine from the pre-quarantine and pre-war period and to conclude that, firstly, the pandemic and the war with Russia had a significant impact on the transport industry of Ukraine, secondly, the volume of passenger traffic by all modes of transport suffered significant losses during the pandemic and war, and thirdly,

quarantine restrictions and hostilities practically did not affect the volume of freight traffic. At the same time, it is worth paying attention to a number of internal problems of organizational, strategic, economic and technological nature of the transport industry of Ukraine, in particular, long-term reform; problems related to strategic management; technical and technological lag in the development of infrastructure and rolling stock and a low level of digital transformations in transport.

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