

# ANALYSIS OF EFFECTIVENESS OF LOGISTIC ACTIVITY IN UKRAINE

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## 1. Introduction

Due to the intensification of globalization processes in the world, the scale of the logistic activity of enterprises of all forms of ownership is rapidly increasing. The provision of logistics services has become particularly relevant in current conditions of the global quarantine that was launched to reduce the spread of coronavirus disease 2019 (COVID-19). Logistics has always been a sensitive indicator of economic and social development of any country. The current situation in Ukraine demonstrates the imperfection of the existing delivery system, the impossibility of timely delivery of goods to individuals and legal entities in conditions of sharply increased demand. Because of the mentioned above, the logistics flow management system requires restructuring in the shortest possible time in the whole, necessitates attracting additional staff for temporary work, optimizing supply lots and storage volumes in warehouses, ensuring storage and transportation conditions in accordance with the regulations in particular. In other words, adaptive management systems, focused on the constant updating of the list of forms and methods of providing logistics services, are vitally needed.

According to Satta, Parola and Lee [18] the growing interest in logistics is also connected with other factors. Firstly, production and distribution networks depend on efficient supply chains to ensure the transportation of raw materials and finished products through the EU and beyond. In this context, transport and logistics activities are obtaining strategic business functions, not only because the associated costs account for a large share of the costs of goods sold, but also because the efficiency of logistics and transportation can significantly affect the level of customer service [9]. Therefore, effective external logistics allows enterprises to strengthen their competitive advantage in the end markets.

Secondly, in Europe, where the growth of transported flows has caused congestion, pollution, noise and other environmental problems transport and logistics services using public resources can

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have a strong impact on environmental and territorial systems [2]. They might “contribute to other goals, such as a cleaner environment, energy security, etc.” [15].

Thirdly, there is a proportional increase in flows within and outside the EU which raises many problems. One of the solutions to emerging problems is creation of intermodal transport systems [18]. Considering the fact, that Ukraine is aimed at integration with the EU, but currently is characterised by imperfection of transport infrastructure, and as a result, by insufficient logistics, the country should optimize its transport logistics systems in accordance with the EU requirements, employing existing progressive logistics solutions instead of outdated high-cost solutions.

## **2. Methodology**

To evaluate the logistics transport infrastructure of Ukraine, statistics data were collected, analysed and classified, which allowed to identify the features of logistics activities and the structure of the transport complex. To process the results of the study, the method of comparing and grouping data, the method of numerical indices, tabular and graphical methods were used. The systemic and process approaches combined with causal analysis were the methodological basis of the study. The analytical and statistical materials of The World Bank, of the Ministry of Infrastructure, of the Statistics Service, and some normative acts served as the information base for the study. The works of leading scientists in the field of theory and methodology of logistics activities made the theoretical basis for the research.

## **3. Results**

The mentioned above will result in dramatic transformation of logistics businesses which will be forced to develop a strategy for further development. Currently, there are two contradictory trends which influence logistics: on the one hand, there is increasing globalization, spreading e-commerce, integrating logistic companies worldwide; on the other hand, there is quarantine isolation of each state as a result of Covid-16 pandemia, calling for more sophisticated information and communication technologies. These contradictory trends will probably lead to restructuring of existing models of international trade and, consequently, will change trade flows. Such dramatic changes will raise logistics services to a new level, allocating resources more efficiently and thus improving the quality of shipment.

Thus, it is vitally important to measure the efficiency of logistics in the country. To perform this task the assessment of the index of Logistics Efficiency (LPI), based on ranking countries according to six aspects of trading, is to be carried out. These six aspects include customs, infrastructure, international shipments, logistic competence, tracking and costing, timeliness [13]. The results of the rating are based on the summary of the results of the survey of logistics professionals in certain countries.

The components analysed in the LPI are selected on the basis of modern theoretical and empirical research, as well as generalization of practical experience of logistics professionals directly involved in international cargo transportation. Each parameter is estimated on a five-point scale.

LPI uses standard statistical methods to process data and transform them into a single metric that can be used to make cross-national comparisons. Table 1 presents the dynamics of the Logistics Efficiency Index in Ukraine during 2010–2018.

**Table 1**

***Dynamics of Logistics Efficiency Index in Ukraine [13]***

Year	LPI Rank	LPI Score	Customs	Infrastructure	International shipments	Logistics competence	Tracking & tracing	Timeliness
2010	102	2.57	2.02	2.44	2.79	2.59	2.49	3.06
2012	66	2.85	2.41	2.69	2.72	2.85	3.15	3.31
2014	61	2.98	2.69	2.65	2.95	2.84	3.20	3.51
2016	80	2.74	2.30	2.49	2.59	2.55	2.96	3.51
2018	66	2.83	2.49	2.22	2.83	2.84	3.11	3.42

According to the data presented in table 1, Ukraine had the best logistics performance in 2014 and ranked the 61st in the relevant ranking, but in 2016 its position deteriorated significantly (the 80th place), and in 2018 it returned to the position of the year 2012 and occupied the 66th place [13]. The most problematic parameters are those of the customs, which is caused by the imperfection of the legislation, the opacity of certain procedures and the delay of tax reimbursement; the infrastructure characterized by insufficient level of technical and technological support, poor quality of the road surface, insufficient level of efficiency of organization of the warehouse economy; poor level of international deliveries, characterized by the complexity of border crossing procedures, estimation of customs value, payment of duties; delays in delivery due to the low speed of border crossing, poor quality supporting documents, lack of security services, problems with insurance and customs clearance of goods in full.

Germany, which ranked the first in 2010, 2014, 2016, 2018, appeared to be the leader during the indicated period of analysis, and was among the top five countries in other periods, so it is expedient to use this country's experience in determining the directions of increasing the efficiency of logistics activities.

Continuous innovation is essential for improving logistics. Świtała [19] proposed to group innovations in logistics by the criteria of service, process, marketing and organizational innovations (Table 2).

**Table 2**

***Variables grouped according to the type of innovation [19]***

<b>1. Service innovations</b> (new services available in the offer)	<b>2.Process innovations</b> (new and implemented improvements)
green logistics services, logistics controlling, health care logistics, co-packing services, just-in-time deliveries, in-house services, co-manufacturing services, supply chain management, financial services	GPS, T&T system, EDI technology, RFID technology, automation of internal material flow, pick by light completion systems, pick by voice completion systems, computer network, ERP, WMS, TMS, CRM software, e-orders, e-warehouse, mobile applications
<b>3. Marketing innovations</b> (application of new marketing methods)	<b>4.Organizational innovations</b> (introduction of new methods in organization management)
rebranding, online marketing tools, social media marketing, mobile marketing	motivation system, ethical code, changes in the organizational structure, lean management and/or Kaizen principles, partner of scientific research program developmental works

According to Hertz and Alfredsson, the following 4 categories of 3PL organizations are distinguished:

- standard 3PL provider. This is the most basic form of a 3PL provider. It would perform activities such as, pick and pack, warehousing, and distribution (business) – the most basic functions of logistics. For a majority of these firms, the 3PL function is not their main activity;

- service developer. This type of 3PL provider will offer their customers advanced value-added services such as: tracking and tracing, cross-docking, specific packaging, or providing a unique security system. A solid IT foundation and a focus on economies of scale and scope will enable this type of 3PL provider to perform these types of tasks;

- the customer adapter. This type of 3PL provider comes in at the request of the customer and essentially takes over complete control of the company's logistics activities. The 3PL provider improves the logistics dramatically, but do not develop a new service. The customer base for this type of 3PL provider is typically quite small;

- the customer developer. This is the highest level that a 3PL provider can attain with respect to its processes and activities. This occurs when a 3PL provider integrates itself with the customer and takes over the latter's entire logistics function. These providers will have few customers, but will perform extensive and detailed tasks for them [7].

It must be noted, that at present, this list of providers is significantly expanded and will continue to expand as information and communication technologies are constantly developing. According to Jaeger, P., & Lindenlaub, R. [8] cloud logistics is emerging, where logistics is seen as integrated planning, control, implementation, and monitoring of internal network-wide materials, batches, and product streams, including information flows along value chains throughout the life cycle of a product. Its main purpose is to meet customer requirements. One of the examples of the

current international ISP transformation is the one proposed by Dedola Global Logistics [3], which contains the following:

- 1PL – Shipper;
- 2PL – Traditional Transportation Provider;
- 3PL – Integrated Logistics Service Provider;
- 4PL – High Level Logistics/IT Consulting;
- 5PL – Consulting for the High Level Logistics/IT Consultants;
- 6PL – Artificial Intelligence Driven Supply Chain Management;
- 7PL – Autonomous Competitor Created to Test Alternative Supply Chain Strategies;
- 8PL – Super Committee Created to Analyse Competitor’s Results;
- 9PL – Crowd Sourced Managed Logistics Strategy;
- 10PL – Supply Chain Becomes Self Aware and Runs Itself [3].

In today's realities, the presented classification looks a bit fantastic, but it is quite a real prospect for the coming decades, driven by the development of ICTs and their level of application and pace of distribution. Therefore, these perspectives must be taken into account when developing strategic plans for logistics.

To develop effective plans for the implementation of logistic activities, it is necessary to analyse its state. Table 3 shows the results of logistic activity of domestic enterprises on the basis of the study of volumes of transported goods by different modes of transport in 2010-2018.

**Table 3**

***Dynamics of transported cargo by modes of transport [17]***

Year	Railway		Sea	River	Automobile	Air	Pipeline
	Shipments	Transportations					
2010	357969,10	432897,00	4067,80	6989,50	1168218,80	87,90	153436,60
2011	388715,60	469308,10	4145,60	5720,90	1252390,30	92,10	154971,20
2012	378102,30	457454,50	3457,50	4294,70	1259697,70	122,60	128439,80
2013	377318,30	443601,50	3428,10	2840,50	1260767,50	99,20	125941,10
2014	325171,00	386276,50	2805,30	3144,80	1131312,70	78,60	99679,50
2015	294301,20	349994,80	3291,60	3155,50	1020604,00	69,10	97231,50
2016	292104,70	343433,50	3032,50	3641,80	1085663,40	74,30	106729,20
2017	277288,90	339550,50	2253,10	3640,20	1121673,60	82,80	114810,40
2018	267639,10	322342,10	1892,00	3698,00	1205530,80	99,10	109418,20

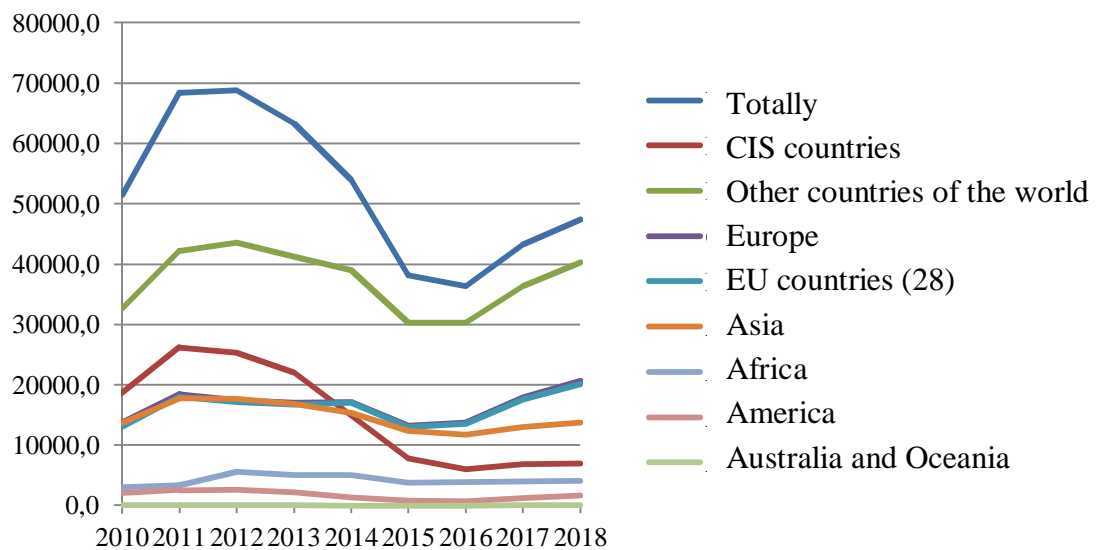
The information presented in Table 3 and Fig. 1 indicates a decrease in the volume of transportation by rail, sea, river modes of transport, during the analysed period, and an increase in the share of transportation by road. The volume of transportation by aviation and pipeline modes of transport did not change significantly. Therefore, based on the analysis of world trends in the transport market and the current situation in Ukraine, we can conclude that the share of road transport in the future will be increasing, which is due to its more considerable flexibility compared



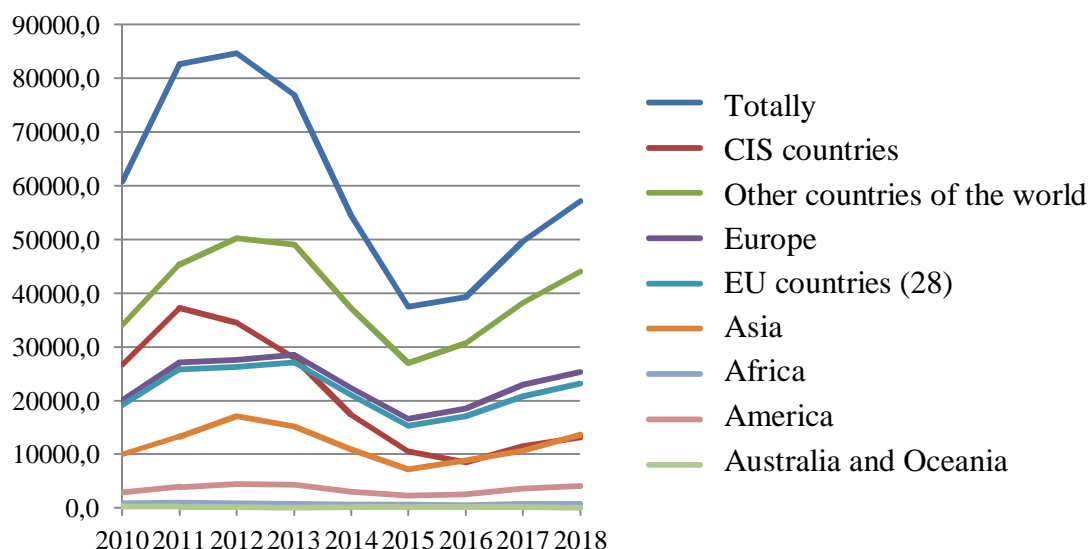
Transport, warehousing, postal and courier activities	19322,4	25498,2	32413,0	18472,6	15498,2	18704,0	25107,8	37943,5	50078,3
Land and pipeline transport	6725,5	8837,8	15076,9	4535,1	3916,2	8120,1	15931,1	22245,7	31005,7
Waterway transport	152,4	130,1	98,7	116,2	204,8	302,5	233,9	253,7	198,2
Air transport	614,9	841,0	774,3	536,1	410,2	647,8	616,1	1302,5	1527,7
Warehousing and auxiliary transport activities	11705,1	15538,2	16077,6	13073,7	10837,0	9529,4	8126,3	13757,7	16962,7
Post and courier activities	124,5	151,1	385,5	211,5	130,0	104,2	200,4	383,9	384,0

Presented in Table 4 information indicates a significant increase in investments in transport, warehousing, land and pipeline transport, aviation transport. Investments in waterway transport were declining due to the decrease in both the volume of maritime, inland waterway transport, and in the number of ports.

The country's logistics system caters not only to domestic but also to foreign markets. Therefore, it is advisable to analyze the dynamics of the geographical structure of foreign trade in goods, which is presented in Fig. 2, 3.



**Fig. 2. Dynamics of the geographical structure of foreign trade in goods (export) [17]**



**Fig. 3. Dynamics of the geographical structure of foreign trade in goods (import) [17]**

Fig. 2, 3 indicates the superiority of exports over imports. From 2010 to 2013, there was an increase in export-import operations, followed by a significant decline until 2015, followed by a slow growth. On the basis of the chosen direction of the country's policy, the volumes of cooperation with the CIS countries gradually decreased in favour of the EU countries. The smallest amount of export-import activity was with such countries as America, Australia and Oceania, which is explained by a long distance.

A detailed analysis of export and import freight transport by road from Ukraine to the EU countries for the period of 2018- 2019 is presented in Tables 5, 6.

**Table 5**

**Export cargo transportation by road from Ukraine to the EU in 2018/19, tons [4]**

	2018	2019	Dynamic, tons	Dynamic, %
EU28	6074125	6138754	64629	1,06
Poland	1794370	1801597	7227	0,40
Germany	906998	815343	-91655	-10,11
Romania	522875	502692	-20183	-3,86
Hungary	496345	456410	-39935	-8,05
Italy	427969	399357	-28612	-6,69
Netherlands	237876	364877	127001	53,39
Czech republic	302587	286322	-16265	-5,38
Lithuania	201567	226988	25421	12,61
Slovakia	230185	208225	-21960	-9,54
Bulgaria	148309	184038	35729	24,09
Austria	157137	179104	21967	13,98
Slovenia	97554	151563	54009	55,36
Belgium	103221	110709	7488	7,25
Latvia	75275	87927	12652	16,81
France	70791	61665	-9126	-12,89
Estonia	60331	58057	-2274	-3,77
Denmark	53871	56395	2524	4,69



Greece	44120	43893	-227	-0,51
Spain	32842	35307	2465	7,51
United kingdom	32193	31533	-660	-2,05
Sweden	22898	23878	980	4,28
Finland	20496	19880	-616	-3,01
Croatia	22565	19543	-3022	-13,39
Luxembourg	10046	11208	1162	11,57
Portugal	1333	2120	787	59,04
Ireland	370	123	-247	-66,76

The analysis of data about export cargo transportation by road shows a significant increase of interaction with the Netherlands (by 53.39%), Slovenia (by 55.36%), Portugal (by 59.04%), in contrast with a significant reduction of interaction with Ireland (by 66.76%). On the whole, the road freight transportation with EU countries increased slightly, by 1.06%.

**Table 6**  
**Import cargo transportation by road from the EU to Ukraine in 2018/19, tons [4]**

Country	2018	2019	Dynamic, tons	Dynamic, %
<b>EU28</b>	<b>5518702</b>	<b>6029983</b>	<b>511281</b>	<b>9,26</b>
Poland	2030454	2258515	228061	11,23
Germany	820946	837420	16474	2,01
Hungary	338184	343177	4993	1,48
Netherlands	275997	288969	12972	4,70
Italy	247574	284438	36864	14,89
Slovakia	222501	239518	17017	7,65
Czech republic	186752	204339	17587	9,42
Romania	173889	184605	10716	6,16
Austria	150395	171190	20795	13,83
Lithuania	128656	150279	21623	16,81
Belgium	135909	147220	11311	8,32
France	124005	141556	17551	14,15
Finland	135409	137904	2495	1,84
Bulgaria	85053	88627	3574	4,20
Greece	44265	81797	37532	84,79
Spain	65083	79097	14014	21,53
Estonia	57084	70020	12936	22,66
United kingdom	70528	69941	-587	-0,83
Latvia	55486	68507	13021	23,47
Sweden	66663	67482	819	1,23
Denmark	58716	64502	5786	9,85
Slovenia	32174	36758	4584	14,25
Luxembourg	3940	4665	725	18,40
Portugal	3468	4092	624	17,99
Croatia	4275	3976	-299	-6,99
Ireland	1294	1392	98	7,57

The analysis of import freight transport by road shows a significant intensification of trade relations with Greece (by 84.79%); Baltic countries, including Latvia (by 23.47%), Estonia (by 22.66%), Lithuania (by 16.81%); Spain (by 21.53%). There was a slight decrease in imports of goods by road from United Kingdom (by as little as 0.83%), Croatia (by 6.99%). Overall, there was a significant, by 9.26% increase in imports of road haulage with the EU countries, indicating positive economic changes. In 2018, there was a tendency for exported cargoes to dominate over imported ones, but in 2019 that trend changed and further investigation on the trends of freight traffic is needed.

The top 50 types of cargoes for import and export by motor transport from the EU to Ukraine in 2019 are presented in Tables 7, 8.

**Table 7**

***Top 50 types of cargoes for import by motor transport from EU to Ukraine in 2019, tons [4]***

Product	2019	Dynamics over 2018, %
Plastics and articles thereof	523512	2,91
Paper and paperboard; articles of paper pulp, of paper or of paperboard	421555	2,70
Vehicles other than railway or tramway rolling-stock, and parts and accessories thereof	393260	25,81
Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	365003	1,74
Iron and steel	244656	16,93
Fertilisers	224426	16,31
Meat and edible meat offal	223573	-7,19
Wood and articles of wood; wood charcoal	182917	3,10
Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	181802	17,30
Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, of radioactive elements or of isotopes	179993	-0,87
Edible fruit and nuts; peel of citrus fruits or melons	178832	66,62
Miscellaneous chemical products	177639	5,63
Ceramic products	174336	2,77
Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles	160954	9,25
Articles of iron or steel	148873	24,04
Beverages, spirits and vinegar	143016	36,35
Soap, organic surface-active agents, washing preparations, lubricating preparations, artificial waxes, prepared waxes, polishing or scouring preparations, candles and similar articles, modelling pastes, 'dental waxes' and dental preparations with a basis of plaster	141336	1,01
Residues and waste from the food industries; prepared animal fodder	140140	14,27
Other made-up textile articles; sets; worn clothing and worn textile articles; rags	98216	-1,43
Salt; sulphur; earths and stone; plastering materials, lime and cement	98015	-10,83
Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring matter; paints and varnishes; putty and other mastics; inks	97697	7,48
Pulp of wood or of other fibrous cellulosic material; recovered (waste and	93823	-11,85

scrap) paper or paperboard		
Articles of stone, plaster, cement, asbestos, mica or similar materials	79961	-5,26
Fish and crustaceans, molluscs and other aquatic invertebrates	79288	12,19
Organic chemicals	75726	8,62
Essential oils and resinoids; perfumery, cosmetic or toilet preparations	74125	2,89
Rubber and articles thereof	70531	5,26
Preparations of cereals, flour, starch or milk; pastrycooks' products	69693	39,56
Glass and glassware	62679	49,62
Cocoa and cocoa preparations	58111	2,77
Edible vegetables and certain roots and tubers	54651	94,74
Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes	53706	68,30
Preparations of vegetables, fruit, nuts or other parts of plants	53610	14,66
Miscellaneous edible preparations	48179	15,69
Dairy produce; birds' eggs; natural honey; edible products of animal origin, not elsewhere specified or included	45688	64,86
Aluminium and articles thereof	38772	-1,22
Albuminoidal substances; modified starches; glues; enzymes	38463	-0,55
Cereals	35464	-9,14
Miscellaneous manufactured articles	33423	-6,86
Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; lamps and lighting fittings, not elsewhere specified or included; illuminated signs, illuminated name-plates and the like; prefabricated buildings	32694	8,77
Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage	30924	18,71
Coffee, tea, maté and spices	28127	8,37
Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal plants; straw and fodder	23784	5,51
Tobacco and manufactured tobacco substitutes	23585	20,84
Pharmaceutical products	22086	1,92
Preparations of meat, of fish or of crustaceans, molluscs or other aquatic invertebrates	21748	18,73
Products of the milling industry; malt; starches; inulin; wheat gluten	20393	20,73
Miscellaneous articles of base metal	19297	9,18
Wadding, felt and nonwovens; special yarns; twine, cordage, ropes and cables and articles thereof	18177	21,72
Sugars and sugar confectionery	13333	-34,54

The information presented in Table 7 indicates that deliveries from the EU to Ukraine of edible vegetables and certain roots and tubers soared spectacularly by 94.74%, the import of animal or vegetable fats and oils and their cleavage products, prepared edible fats, animal or vegetable waxes increased immensely by 68.30%, the import of edible fruit and nuts, peel of citrus fruits or melons rose dramatically by as much as 66.62%. The import of dairy produce, birds' eggs, natural honey, edible products of animal origin increased greatly by 64.86%, and of glass and glassware by 49.62%. The growth of import of cereals preparations, flour, starch or milk, pastry cooks' products was estimated as by 39.56%. Beverages, spirits and vinegar import increased by 36.35%. Deliveries

from the EU of articles other than railway or tramway rolling stock, and parts and accessories increased by 25.81%, the import of articles of iron or steel rose by 24.04%.

In contrast, supplies of sugars and sugar confectionery decreased by 34.54%, of pulp of wood or other fibrous cellulosic material, recovered (waste and scrap) paper or paperboard by 11.85%. The import of salt, sulfur, earths and stone, plastering materials, lime and cement dropped by 10.83%. The import of meat and edible meat offal fell by 7.19%.

**Table 8**

***Top 50 types of cargo for export by road from Ukraine to the EU in 2019, tons [4]***

PRODUCT	2019	Dynamics over 2018, %
Wood and articles of wood; wood charcoal	2721896	-7,33
Articles of iron or steel	300370	-13,04
Glass and glassware	275125	14,58
Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes	245038	18,76
Iron and steel	223395	-1,27
Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; lamps and lighting fittings, not elsewhere specified or included; illuminated signs, illuminated name-plates and the like; prefabricated buildings	211505	20,66
Cereals	193674	252,38
Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, of radioactive elements or of isotopes	134574	9,58
Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal plants; straw and fodder	126275	16,82
Paper and paperboard; articles of paper pulp, of paper or of paperboard	103809	-2,79
Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles	103468	-7,03
Residues and waste from the food industries; prepared animal fodder	103295	44,69
Plastics and articles thereof	96417	16,83
Preparations of vegetables, fruit, nuts or other parts of plants	93542	9,24
Meat and edible meat offal	92474	0,32
Ceramic products	86713	-0,14
Edible fruit and nuts; peel of citrus fruits or melons	86616	-0,46
Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	78155	5,44
Articles of stone, plaster, cement, asbestos, mica or similar materials	66581	13,63
Salt; sulphur; earths and stone; plastering materials, lime and cement	63854	21,73
Railway or tramway locomotives, rolling-stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical (including electro-mechanical) traffic signalling equipment of all kinds	58444	27,46
Preparations of cereals, flour, starch or milk; pastrycooks' products	54676	14,61
Miscellaneous edible preparations	51110	6,99
Edible vegetables and certain roots and tubers	48336	5,70
Beverages, spirits and vinegar	44987	-6,76
Sugars and sugar confectionery	37697	-17,23
Dairy produce; birds' eggs; natural honey; edible products of animal origin,	36303	-3,41

not elsewhere specified or included		
Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring matter; paints and varnishes; putty and other mastics; inks	35943	8,16
Organic chemicals	32007	-12,99
Products of the milling industry; malt; starches; inulin; wheat gluten	30253	-1,27
Miscellaneous chemical products	26052	-9,61
Vegetable plaiting materials; vegetable products not elsewhere specified or included	24294	-11,12
Cocoa and cocoa preparations	22347	19,98
Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	17324	-27,14
Ores, slag and ash	16525	-0,48
Albuminoidal substances; modified starches; glues; enzymes	12118	12,26
Raw hides and skins (other than furskins) and leather	11826	-8,96
Lead and articles thereof	11282	-19,04
Miscellaneous manufactured articles	11180	2,07
Rubber and articles thereof	11055	11,36
Other made-up textile articles; sets; worn clothing and worn textile articles; rags	10679	17,92
Vehicles other than railway or tramway rolling-stock, and parts and accessories thereof	9695	-15,33
Aluminium and articles thereof	9479	-47,69
Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard	9038	16,01
Articles of apparel and clothing accessories, not knitted or crocheted	8835	-4,06
Soap, organic surface-active agents, washing preparations, lubricating preparations, artificial waxes, prepared waxes, polishing or scouring preparations, candles and similar articles, modelling pastes, 'dental waxes' and dental preparations with a basis of plaster	8559	-36,72
Man-made staple fibres	8550	51,38
Miscellaneous articles of base metal	8267	15,36
Footwear, gaiters and the like; parts of such articles	6954	-2,67
Toys, games and sports requisites; parts and accessories thereof	6009	0,92

The information in Table 8 indicates a significant increase in deliveries of cereals by incredible 252.38%, of man-made staple fibres by 51.38%, of aluminium by 47.69%. The export of residues and waste from the food industries, of prepared animal fodder rose by 44.69%. The export of soap supplies, organic surface-active agents, washing preparations, lubricating preparations, artificial waxes, prepared waxes, polishing or scouring preparations, candles and similar articles, modeling pastes, 'dental waxes' and dental preparations with a plaster basis grew by 36.72%.

In contrast, the supply of aluminium and articles decreased by 47.69%; the export of soap, organic surface-active agents, washing preparations, lubricating preparations, artificial waxes, prepared waxes, polishing or scouring preparations, candles and similar articles, modelling pastes, dental waxes and dental preparations with a plaster base fell by 36.72%. The export of mineral

fuels, mineral oils and products of their distillation, of bituminous substances, of mineral waxes dropped as much as by 27.14%.

#### **4. Discussion**

It is difficult to overestimate the importance of effective functioning of logistical enterprises in the external and internal markets. Globalization and integration processes stimulate the development of logistics business. In the current circumstances, logistics is directly linked to the management of interstate supply chains, which are the basis of international trade and represent a complex sequence of coordinated actions [9]. Uneven levels of development in many countries impede the effective development of international logistics [12]. In Ukraine, as well as all over the world, the volume of logistic activity in recent months has been growing significantly. The process of successful integration into the international logistics space has taken place, that is testified by the presence of a large number of enterprises providing logistics services both within the territory of Ukraine and abroad.

Besides, the competitive advantages of Ukraine are its geographical location, and sufficient qualified personnel. The postal logistics market, which is growing at a tremendous pace, should be mentioned as well. Urgent need for transformation and high demand are the main catalysts for innovation. According to Kisil, Ukraine is reforming its IT infrastructure in terms of implementing the latest ERP and WMS systems, robotising operating processes and using Data Science; there is a shift from multi-channel to omni-channel sales technologies and restructuring of operational processes in order to increase the quality of customer service. Postal and logistics companies are proactive in the development of fulfilment destinations and sorting lines [11].

In 2018, the National Transport Strategy of Ukraine for the period until 2030 which defines the priorities of integrated transport policy formulation and effective public administration, the main directions of development of the transport industry was approved [14].

The purpose of this strategy is to form a securely functioning and efficient Ukrainian transport complex integrated into the world transport network, to meet the needs of the population in transportation and to improve the conditions of doing business in order to ensure the competitiveness and efficiency of the national economy [14]. The implementation of this strategy will help accelerate the integration of Ukraine into the EU, facilitate the implementation of the Association Agreement According to the updated national transport strategy of Ukraine, the overall strategic goal will be achieved by focusing on the implementation of the following principles of transport policy: sensitivity to the needs of transport users - industry and citizens; efficiency and effectiveness of freight and passenger transportation systems; increased security and reliability; sustainable development of transport; urban mobility, economic and social integration [1].

However, the existing institutional organization is negatively affected by the lack of separation of functions and appropriate governance which blocks the integrity of the transport sector, and hampers the fight against corruption. The transport sector is also marked by mismanagement. A proper implementation of the transport strategy requires a clear and effective institutional organization that reflects the principles of "good governance" which suggests separation of functions and responsibilities. The public sector lacks professional resources, strategic planning, and policy-making skills. The existing institutional organization is not encouraging private operators to do business in the transport sector.

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#### **4. Conclusion**

Thus, according to The World Bank, Ukraine had the best performance in logistics efficiency in 2014, ranking the 61st, and in 2016, its position deteriorated significantly (the 80th place), and in 2018 it returned to the results of 2012 [13]. The critical components include customs, infrastructure, international supplies, timeliness. The volumes of transportations by rail, sea, river and modes of transport were gradually decreasing during 2010-2018, while the share of transport by road was increasing, though that process was complicated by the low quality of motorways, which impeded the increase in the efficiency of logistics activities. Capital investments in transport, warehousing, land and pipeline transport, aviation transport were gradually increasing, which was a positive trend for improving its performance. The decrease in investment in water transport was associated with the decrease in shipping and inland waterway transport. Foreign trade in goods was gradually stabilizing. Exports outpaced imports in 2018, which was quite positive for the economy. Due to signing of the Association Agreement by Ukraine, the volume of goods to EU Member States has been increasing, which will facilitate even more rapid integration with EU countries [1].

In order to improve the efficiency of logistics operations, it is advisable to introduce modern information and communication technologies; to raise the level of automation of all operational processes; to build transport infrastructure; to implement new logistics flow management systems; to optimize deliveries by time and cost criteria; to look for new ways of customers search and turning them into loyal clients; to use competitive advantages of geographical location, and

existing IT staffing potential. Improved logistics must meet the requirements of flexibility, stability, responsiveness and security.

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