

**V. Liashenko,**

*DrHab (in Economics), Professor,*  
ORCID 0000-0001-6302-0605,  
e-mail: slaval.aenu@gmail.com,

*Institute of Industrial Economics of the NAS of Ukraine, Kyiv,*

**N. Trushkina,**

*PhD (in Economics), Senior Researcher,*  
ORCID 0000-0002-6741-7738,  
e-mail: nata\_tru@ukr.net,

*Research Center for Industrial Problems  
of Development of the NAS of Ukraine, Kharkiv,*

**A. Lukianov,**

*Postgraduate Student,*  
ORCID 0000-0001-9473-327X,  
e-mail: lukianov@gmail.com,

**T. Serbina,**

*Postgraduate Student,*  
*Institute of Industrial Economics of the NAS of Ukraine, Kyiv*

## PROPOSALS FOR THE ORGANIZATION OF INTERNATIONAL LOGISTICS ACTIVITIES OF AGRICULTURAL AND AGRO-PROCESSING ENTERPRISES DURING THE WAR PERIOD

*"Amateurs study strategy, professionals study logistics"*

*Omar Nelson Bradley, the last "five-star" general of the United States*

**Introduction.** The development of the agricultural sector is one of the priorities of the state policy of Ukraine. This type of economic activity is export-oriented and is of great importance both in terms of food security and in the context of ensuring national security in general. And these questions are especially relevant in the modern conditions of military operations.

**Analysis of recent research and publications.** The analysis of scientific sources [1-12] shows that scientists consider various aspects of foreign economic activity of enterprises of different branches. It has been established that economists and practitioners understand this concept as a system; kind of economic activity; development of international economic relations; transformation process; mechanism; form of international trade; totality of foreign economic ties, etc.

As a rule, foreign economic activity is interpreted as: a system of international economic relations; activities of economic entities of Ukraine and foreign economic entities; development of economic relations between countries; the process of transformation of international economic relations; multidimensional integral system of management; one of the aspects of foreign economic relations; the possibility of receiving foreign exchange earnings from exports; a certain system of economic and production activity; measures and actions for the implementation of foreign economic

relations; a set of production-economic, organizational-economic and commercial functions that ensure the exchange of products in material form; the totality of foreign economic relations between countries; form of trade and economic international activity of the state; sphere of economic activity; the mechanism of foreign economic relations.

Scientists pay a lot of attention to the formation of logistic approaches to the organization of foreign economic activities of enterprises. Scientific sources [13-22] use such a conceptual and categorical apparatus as international business; international trade; international economic relations; global logistics; global logistics management; international logistics; euro-logistics; logistics of foreign economic activity; customs logistics; export-import logistics; logistics in international business; international logistics activity; foreign economic logistics activity; logistics for international companies; global supply chain management; management of international trade operations; customs and logistics regulation in the system of international economic relations, etc.

It was found that the majority of scientists [23-31] interpret customs logistics as an object of scientific research; specific field of logistics; practical activity.

The analysis of the literature and the results of our own preliminary studies [32-39] show that there is no

single theoretical approach to the term “international logistics”. As a result of the study, it was established that most scientists consider international logistics as planning, organization, control and management of the movement of flows (material, financial, informational, etc.) that cross national borders, from the point of their origin to the final consumer in space and time.

On the basis of methods of grouping and classification, the approaches to the interpretation of international logistics proposed by various scientific schools are conventionally systematized, according to the following groups: the basis of global logistics; development factors of the globalization of the world economy; functional field of logistics; management science; management process; management functions; the art of flow management; flow management method; strategic management of the international supply chain.

Despite the wide range of scientific research on the chosen topic, the multifacetedness and debatable nature of certain issues require further development. And especially the solution of this problem is actualized at

the current stage during the armed aggression of Russia against Ukraine due to the emergence of significant problems in the organization of foreign economic logistics activities of enterprises of the agro-industrial complex due to the blocking of seaports.

In this regard, **the purpose of this article** is to substantiate proposals for overcoming modern challenges, threats, trends and barriers in the organization of international logistics activities of agrarian enterprises in wartime conditions.

**Presentation of the main research material.** The agro-industrial complex is recognized as one of the strategic sectors of the national economy, which in the pre-war period accounted for an average of 10.8% of the gross added value and 9.3% of the all-Ukrainian GDP.

According to the information and analytical materials of the State Statistics Service of Ukraine, the volume of export deliveries of grain crops increased by 5.04 times in 2010-2021; products of vegetable origin – 3.93 times; fats and oils – 2.7 times; products of animal origin and live animals – 1.75 times (Table 1).

Table 1

**Dynamics of the volume of export deliveries of domestic agricultural products, million dollars USA**

Years	Name of agricultural products			
	Live animals; products of animal origin	Products of plant origin	including grain crops	Fats and oils of animal or vegetable origin
2010	770.8	3949.9	2447.1	2605.0
2011	935.0	5514.5	3604.5	3380.8
2012	959.2	9173.1	6970.4	4184.6
2013	1083.1	8849.1	6351.7	3497.4
2014	1014.5	8736.1	6544.1	3822.0
2015	823.4	7971.5	6057.5	3299.8
2016	775.0	8093.7	6073.9	3963.0
2017	1108.8	9215.7	6501.1	4605.7
2018	1210.6	9886.1	7240.6	4496.5
2019	1277.0	12914.5	9633.3	4732.2
2020	1188.2	11883.2	9410.7	5746.9
2021	1345.3	15538.3	12343.9	7037.3

Source: compiled based on information and analytical materials of the State Statistics Service of Ukraine.

During this period, the share of export deliveries of products of plant origin in the commodity structure of foreign trade of Ukraine increased by 15 percentage points (from 7.8 to 22.8%); grain crops – by 13.3

percentage points (from 4.8 to 18.1%); fats and oils – by 5.2 percentage points (from 5.1 to 10.3%); products of animal origin and live animals – by 0.5 p.p. (from 1.5 to 2.0%) (Table 2).

Table 2

**Dynamics of the share of export deliveries of agricultural products in the commodity structure of foreign trade of Ukraine, %**

Years	Name of agricultural products			
	Live animals; products of animal origin	Products of plant origin	including grain crops	Fats and oils of animal or vegetable origin
2010	1.52	7.78	4.82	5.13
2011	1.38	8.16	5.33	5.00
2012	1.42	13.53	10.28	6.17
2013	1.74	14.20	10.19	5.61
2014	1.88	16.21	12.14	7.09
2015	2.16	20.91	15.89	8.65
2016	2.13	22.26	16.70	10.90
2017	2.56	21.30	15.03	10.65
2018	2.56	20.89	15.30	9.50
2019	2.55	25.80	19.25	9.45
2020	2.42	24.16	19.13	11.68
2021	1.98	22.82	18.13	10.34

Source: compiled based on information and analytical materials of the State Statistics Service of Ukraine.

As the analysis shows, the volume of import deliveries of grain crops increased in 2021 compared to 2010 by 14.2%; products of plant origin – by 39.5%;

products of animal origin and live animals – by 30.8%. The volume of imported fats and oils decreased by 1.6% (Table 3).

Table 3

**Dynamics of the volume of import deliveries of Ukrainian agricultural products, million dollars USA**

Years	Name of agricultural products			
	Live animals; products of animal origin	Products of plant origin	including grain crops	Fats and oils of animal or vegetable origin
2010	1216.7	1526.9	145.4	451.6
2011	1008.3	1774.3	219.5	468.6
2012	1681.3	2366.1	248.9	406.2
2013	1850.4	2607.6	306.5	403.3
2014	1124.1	2031.6	366.6	301.7
2015	548.2	1146.2	154.7	182.3
2016	626.3	1284.8	148.8	246.0
2017	731.5	1368.0	176.8	266.6
2018	918.0	1529.2	191.1	267.4
2019	1071.5	1794.6	180.8	253.3
2020	1258.1	1989.3	178.9	280.4
2021	1591.7	2129.6	166.1	444.2

Source: compiled based on information and analytical materials of the State Statistics Service of Ukraine.

At the same time, it should be noted that the specific weight of imported supplies of agricultural products in the commodity structure of Ukraine's foreign trade is insignificant. The share of imports of

plant products was 2.93% in 2021 (2.53% in 2010); live animals and products of animal origin – 2.19% (in 2010 – 2.02%); fats and oils – 0.61% (in 2010 – 0.75%); grain crops – 0.23% (in 2010 – 0.24%) (Table 4).

Table 4

**Dynamics of the share of imported supplies of agricultural products in the commodity structure of foreign trade of Ukraine, %**

Years	Name of agricultural products			
	Live animals; products of animal origin	Products of plant origin	including grain crops	Fats and oils of animal or vegetable origin
2010	2.02	2.53	0.24	0.75
2011	1.24	2.19	0.27	0.58
2012	2.02	2.85	0.30	0.49
2013	2.44	3.44	0.40	0.53
2014	2.07	3.73	0.67	0.55
2015	1.46	3.06	0.41	0.49
2016	1.60	3.27	0.38	0.63
2017	1.47	2.76	0.36	0.54
2018	1.61	2.67	0.33	0.47
2019	1.76	2.95	0.30	0.42
2020	2.32	3.66	0.33	0.52
2021	2.19	2.92	0.23	0.61

Source: compiled based on information and analytical materials of the State Statistics Service of Ukraine.

In Ukraine, there is a tendency to reduce the amount of investment in the development of agriculture (Table 5). During 2010-2019, the volume of direct investments from the countries of the world in the development of domestic agriculture decreased by 24.7%, or from 719.5 to 542.1 million dollars USA, and their share in the total volume of direct investments for all types of economic activity – from 1.59 to 1.51%. The volume of direct investments from Ukraine in the development of agriculture in various countries of the world decreased in 2019 compared to 2013 by 8.9% or from 19 to 17.3 million dollars USA, and their specific weight in the total amount of direct investments for all

types of economic activity was insignificant and amounted to only 0.28%.

It is worth emphasizing that at this stage, the organization of foreign economic logistics activities of agrarian enterprises needs drastic changes. This is due, firstly, to the blocking of domestic Black Sea ports. In the pre-war period, 90% of grain and oil crops were exported through the Danube Rivers and with the help of maritime infrastructure. But today there is a reorientation of cargo to the ports of EU countries. At the same time, these ports are unable to process such volume of export deliveries; therefore part of product shipments must be carried out through the western borders by rail and road transport.

**Direct investments from the countries of the world in the economy of Ukraine, million dollars USA**

Years	The total amount of direct investment	including from EU countries
2010	45370.0	36969.1
2011	48197.6	39268.9
2012	51705.3	41132.3
2013	53704.0	41032.8
2014	38356.8	29308.0
2015	32122.5	24982.8
2016	31230.3	23425.7
2017	31606.4	24145.2
2018	32905.1	25972.3
2019	35809.6	28289.3

Source: compiled based on information and analytical materials of the State Statistics Service of Ukraine.

According to expert assessments of the Ministry of Agrarian Policy and Food of Ukraine, more than 30% of crops or 5 million hectares were lost due to the war. In this regard, the unearned revenue of agrarian business will amount to 5-7 billion dollars USA. Animal husbandry is destroyed by 15%, which will amount to approximately 2 billion dollars losses. More than 90 million tons of grain was blocked in the ports of Ukraine. In March 2022 alone, the domestic agricultural sector lost 2.5 billion dollars in real prices. Total losses from the war in the field of agriculture are estimated at approximately 15 billion dollars. According to the calculations of the Center for Economic Strategy, the volume of export supplies of agricultural products has been reduced by 4 times. According to the Ukrainian Grain Association, the volume of grain exports decreased 6 times (from 6 to 1 million tons per month).

All this led to problems in the organization of international logistics activities of agricultural enterprises, including: 1) a decrease in the volume of export deliveries of agricultural products due to the blocking of seaports; 2) violation of food supply chains; 3) improper fulfillment of terms of foreign economic contracts; 4) increase in transaction costs and logistics; 5) threats of losing part of the 2021/2022 marketing year harvest; 6) reduction of the final indicators of the harvest and the level of food security; 7) shortage of fuel due to the destruction of fuel warehouses and complex transport logistics; 8) insufficiently effective use of marketing management tools in the process of distributing agricultural products to the final consumer, as well as a network approach to managing partnership relations with consumers in the logistics management system; 9) limited amount of direct investments in the formation and functioning of the relevant logistics infrastructure (terminals, warehouse complexes, distribution centers, cluster formations).

In addition, it should be noted that, despite the positive steps taken to facilitate the border crossing between Ukraine and the EU, on the Ukrainian side, thousands of wagons and trucks are waiting for customs clearance. For example, according to the European Commission, the average waiting time for wagons is 16 days, and in some places even 30 days. At the same time,

domestic wagons are not compatible with most railway networks of the European Union countries due to different track widths. That is why products often have to be transported by trucks.

**Conclusions.** As a result of the conducted research, it was established that, despite the challenges and threats associated with Russia's aggression against Ukraine, state and local self-government bodies are doing significant work to solve the urgent logistical problems of the agrarian industry in foreign trade in order to ensure national and global food security.

For more effective and timely adaptation and transformation of export opportunities for producers of agricultural products in wartime, public authorities (the relevant Committees of the Verkhovna Rada of Ukraine, the Ministry of Economy of Ukraine, the Ministry of Agrarian Policy and Food of Ukraine, the Ministry of Infrastructure of Ukraine) are actively involving international experts, representatives of Trade and the Chamber of Industry of Ukraine, the State Institution "Office for the Development of Entrepreneurship and Export", agrarian business specialists.

Joint efforts are being made to develop alternative logistics routes for the supply of domestic agricultural products abroad; new rules, institutions, opportunities for export, mechanisms and special customs regimes of transit are defined; searching for partners; additional control measures for organic products from Ukraine, which were implemented in 2015-2021, are eliminated; strategic programs of state support of the agrarian industry on foreign trade issues are being formed. For example, the Ministry of Economy of Ukraine is discussing with representatives of the ministries of various European countries a number of alternative options regarding combined routes and the possibility of canceling customs duties and quotas for Ukrainian exports, including agricultural products.

According to the calculations of the Food and Agricultural Organization of the United Nations (FAO), 115.4 million dollars is needed for financial support for the development of the Ukrainian agricultural sector.

It should be noted that in order to solve the existing problems of the export of agricultural products, the European Commission has developed the Action Plan

“Paths of EU-Ukraine Solidarity”. It envisages alternative logistics routes for the organization of export supplies of agricultural products from Ukraine using all types of transport, i.e. on the basis of multimodality and environmental friendliness. This programming document contains a series of steps:

1) provision of additional ships and trucks by participants of the European market; creation of a logistics platform for the coordination of demand, offers and requests, establishment of contacts, establishment of contact points according to the “single window” principle;

2) increasing the throughput of transport networks and transshipment terminals;

3) acceleration of customs procedures and checks at the border between Ukraine and the European Union;

4) temporary storage of goods on the territory of the EU;

5) increasing the capacities of the infrastructure of export corridors and improving communication between Ukraine and the EU in the medium term.

One of the priority directions for eliminating existing barriers that prevent the effective organization of foreign economic logistics activity should be the activation of network interaction and partnership relations based on the creation of export-oriented agro-cluster structures [40-41], networks of agro-industrial and agro-eco-industrial parks, the association of small farms for the proper execution of contracts

(cooperation), as well as joint activity in the agricultural sphere of two or more companies and different groups of stakeholders to achieve a common goal and a synergistic effect (collaboration).

In order to increase the efficiency of transportation of agricultural products by railway, to reduce the cost of logistics and to preserve the volume of transportation:

The Ministry of Infrastructure, together with the Ministry of Economy, Ministry of Agrarian Policy, will improve tariff formation for the services of JSC “Ukrainian Railways” (JSC “Ukrzaliznytsia”) taking into account the forecasts regarding the negative dynamics of the volume of production of agricultural products for export;

to coordinate transport flows in all sections of the logistics chain of agricultural export, review the cost of using grain trucks and develop measures to increase responsibility for cargo delivery times;

develop a set of measures to ensure a full cycle of transshipment to large-tonnage vessels in the Danube ports and speed up the formation of external raids for the ports of Ismail, Reni, Ust-Dunaisk.

**Prospects for further research** are the development of practical recommendations for reviving the development of the agrarian sector in the post-war period in the context of the implementation of the Strategy of post-war modernization and development of the national economy of Ukraine.

#### Literature

1. Ліпич Л. Г., Фатенок-Ткачук А. О. Формування стратегії розвитку зовнішньоекономічної діяльності машинобудівних підприємств: монографія. Луцьк: Волинський нац. ун-т ім. Лесі Українки, 2010. 220 с.
2. Шмиголь Н. М., Павлюк Т. С. Проблемні питання розвитку зовнішньоекономічної діяльності України. *Причорноморські економічні студії*. 2016. Вип. 3. С. 118-121.
3. Хоменко Т. Ю., Круш П. В. Методичні підходи до оцінки ефективності управління зовнішньоекономічною діяльністю. *Актуальні проблеми економіки та управління*. 2017. № 11. URL: <http://ape.fmm.kpi.ua/article/view/102593> (дата звернення: 17.09.2022).
4. Сучасні тенденції міжнародних економічних відносин і зовнішньоекономічні зв'язки України: колективна монографія / В. М. Фомішина, А. В. Рибчук, В. В. Зінченко та ін.; за ред. В. М. Фомішиної. Херсон: ТОВ «ВКФ «СТАР» ЛТД», 2017. 340 с.
5. Бугас В. В., Казімірова О. В. Сутність, види та особливості розвитку зовнішньоекономічної діяльності підприємств електроенергетики в національній економіці України. *Ефективна економіка*. 2018. № 12. DOI: <https://doi.org/10.32702/2307-2105-2018.12.75>.
6. Тарасюк Г. М., Горшкова Л. О. Підходи до вирішення проблем зовнішньоекономічної діяльності підприємств України. *Глобальні та національні проблеми економіки*. 2018. Вип. 21. С. 412-415.
7. Експортно-імпорتنі операції / Я. В. Белінська, О. В. Коляда, М. І. Назаров та ін. Ірпінь: Ун-т ДФС України, 2018. 254 с.
8. Акименко О. Ю. Теоретична концептуалізація зовнішньоекономічної діяльності як вагомого фактору економічної стабілізації держави. *Причорноморські економічні студії*. 2019. Вип. 38-1. С. 37-42.
9. Дідух С. М. Зовнішньоекономічна діяльність вертикально інтегрованих агропромислових холдингів в умовах євроінтеграції. *Зовнішньоекономічна діяльність України в системі глобальних конкурентних відносин: агропродовольчий вимір*: монографія / за ред. О. І. Павлова. Одеса: Астропринт, 2019. С. 58-67.
10. Рахман М. С., Євтушенко В. А., Рудас Д. С. Зовнішньоекономічна діяльність України з країнами ЄС. *Інфраструктура ринку*. 2020. Вип. 47. С. 39-44. DOI: <https://doi.org/10.32843/infrastructure47-7>.
11. Козак Ю., Сукач О., Бурлаченко Д. Зовнішньоекономічна діяльність підприємства. Київ: Центр навчальної літератури, 2020. 268 с.
12. Кононов І. І. Сутність зовнішньоекономічної діяльності як об'єкта облікового моделювання. *Бізнес Інформ*. 2020. № 5. С. 79-86. DOI: <https://doi.org/10.32983/2222-4459-2020-5-79-86>.
13. Смирнов І. Г., Хільчевська І. Г. Логістика у зовнішньоекономічній діяльності. Регулювання зовнішньоекономічної діяльності / за ред. І. І. Дахна. Київ: Центр учбової літератури, 2009. С. 65-150.
14. Холод Б., Зборовська О. Глобалізація як фактор впливу на процеси логістичного управління зовнішньоекономічною діяльністю підприємств. *Європейський вектор економічного розвитку*. 2014. № 2(17). С. 261-270.
15. Банзекуливахо Ж. М. Международная логистика. Полоцк: Б.и., 2014. 124 с.

16. Тюріна Н. М., Гой І. В., Бабій І. В. Логістика. Київ: Центр учбової літератури, 2015. 392 с.
17. Сивак Р. Б. Глобальна логістика у забезпеченні сталого розвитку світового господарства. *Науковий вісник Міжнародного гуманітарного університету. Сер.: Економіка і менеджмент*. 2015. Вип. 13. С. 26-29.
18. Стеценко І. До питання сутності сучасної міжнародної логістики. *Ринок цінних паперів України*. 2016. № 7-8. С. 53-57.
19. Лебединська О. І. Особливості міжнародної логістики в умовах глобалізації. *Вісник Харківського національного аграрного університету. Сер.: Економічні науки*. 2017. № 3. С. 195-201.
20. Шевченко І. В. Світовий досвід ефективного здійснення логістичних процесів на підприємствах. *Глобальні та національні проблеми економіки*. 2017. Вип. 16. С. 520-524.
21. Малащук Д. В., Гринчак Н. А. Вплив системи інтегрованої міжнародної логістики на формування глобального логістичного менеджменту. *Інвестиції: практика та досвід*. 2018. № 13. С. 22-25.
22. Козак Ю. Г., Моїсєєв Д. С. Сутність та особливості міжнародної логістики. URL: <https://conf.ztu.edu.ua/wp-content/uploads/2018/09/283.pdf> (дата звернення: 23.08.2022).
23. Хмелевський О. В. Міжнародна логістика у ключових трендах її розвитку. *Інфраструктура ринку*. 2019. Вип. 38. С. 61-67. DOI: <https://doi.org/10.32843/infrastruct38-10>.
24. Смирнов І. Г. Митна логістика: компонентна структура. *Науковий вісник Волинського державного університету ім. Лесі Українки*. 2007. № 2. С. 160-168.
25. Пономарьова Н. В., Столяр Т. В. Аналіз логістичної організації процесу митної переробки вантажів. *Вестник ХНАДУ*. 2008. № 41. С. 119-122.
26. Смирнов І. Г. Митна логістика: картографічний аспект. *Часопис картографії: зб. наук. пр.* Київ: КНУ ім. Т. Шевченка, 2011. Вип. 1. С. 168-187.
27. Гужевська Л. А. Митна логістика: сьогодення та перспективи. *Управління проектами, системний аналіз і логістика. Технічна серія*. 2011. Вип. 8. С. 34-37.
28. Зайцева К. В. Митна логістика як передумова інтеграції України у світову логістичну систему. *Вісник економіки транспорту і промисловості*. 2012. № 38. С. 11-12.
29. Jablonskis A., Petersone M., Ketners K. Insights into the definition of customs logistics. *Intellectual Economics*. 2019. URL: [https://www.researchgate.net/publication/330842477\\_Insights\\_into\\_the\\_definition\\_of\\_customs\\_logistics](https://www.researchgate.net/publication/330842477_Insights_into_the_definition_of_customs_logistics) (дата звернення: 07.09.2022).
30. Остапенко А. С., Повод Т. М. Управління ефективністю та митними ризиками в логістичних процесах зовнішньоекономічної діяльності. *Східна Європа: економіка, бізнес та управління*. 2020. Вип. 1(24). С. 221-228. DOI: <https://doi.org/10.32782/easterneurope.24-33>.
31. Яременко О. Ф. Митна логістика: поняття, функції, особливості. *Вісник Хмельницького національного університету*. 2021. Т. 1. № 6. С. 32-36. DOI: <https://doi.org/10.31891/2307-5740-2021-300-6-5>.
32. Ляшенко В. І., Осадча Н. В., Трушкіна Н. В. Інституційні умови підвищення ефективності використання транзитного потенціалу Придніпровського економічного району. *Науковий вісник Ужгородського національного університету. Сер.: Міжнародні економічні відносини та світове господарство*. 2020. Вип. 34. С. 137-146. DOI: <https://doi.org/10.32782/2413-9971/2020-34-23>.
33. Осадча Н. В., Трушкіна Н. В. Генезис понять «транзитний потенціал регіону» і «митний режим транзиту» у міжнародній логістиці. *Інфраструктура ринку*. 2021. Вип. 52. С. 9-19. DOI: <https://doi.org/10.32843/infrastruct52-2>.
34. Трушкіна Н. В., Сербіна Т. В. Міжнародна логістична діяльність у структурі зовнішньої торгівлі України: бар'єри, загрози та виклики. *Moderní aspekty vědy: XX. Díl mezinárodní kolektivní monografie*. Česká republika, Jesenice: Mezinárodní Ekonomický Institut s.r.o., 2022. Str. 611-623.
35. Трушкіна Н., Сербіна Т. Міжнародна логістика у системі зовнішньоекономічної діяльності підприємства. *International Science Journal of Management, Economics & Finance*. 2022. Vol. 1. No. 3. P. 101-114. DOI: <https://doi.org/10.46299/j.isjmef.20220103.7>.
36. Гнатишин Л. Б., Трушкіна Н. В. Цифрова трансформація системи управління логістичною діяльністю аграрних підприємств. *Бізнес Інформ*. 2021. № 12. С. 98-107. DOI: <https://doi.org/10.32983/2222-4459-2021-12-98-107>.
37. Hnatyshyn L., Prokopyshyn O., Trushkina N. Transformation of marketing activity of agricultural enterprises in the digital economy: theoretical aspects. *Digitalization and Information Society. Selected Issues: Monograph 53 / Edited by A. Ostenda, T. Nestorenko*. Katowice: Publishing House of University of Technology, 2022. P. 361-372.
38. Trushkina N., Prokopyshyn O., Dranus L. Customer relationship management in the system of logistics administration at agricultural enterprises. *Security management of the XXI century: national and geopolitical aspects: collective monograph. Iss. 4 / in edition D. Diachkov; Poltava State Agrarian University. Prague: Eastern European Center of the Fundamental Researchers, Nemoros s.r.o., 2022. P. 190-196.*
39. Прокопишин О. С., Трушкіна Н. В., Сербіна Т. В. Щодо організації зовнішньоекономічної логістичної діяльності аграрних підприємств в умовах війни. *Вісник економічної науки України*. 2022. № 1(42). С. 209-217. DOI: [https://doi.org/10.37405/1729-7206.2022.1\(42\).209-217](https://doi.org/10.37405/1729-7206.2022.1(42).209-217).
40. Прокопишин О., Пушак Г., Трушкіна Н. Організаційно-економічний механізм управління розвитком кластерних структур в агропромисловому комплексі економічних районів України. *Věda a perspektivy*. 2021. № 7(7). Str. 175-188. DOI: [https://doi.org/10.52058/2695-1592-2021-7\(7\)-175-188](https://doi.org/10.52058/2695-1592-2021-7(7)-175-188).
41. Кошкалда І. В., Прокопишин О. С., Трушкіна Н. В. Концептуальні засади створення інноваційних агрокластерів в умовах сталого розвитку національної економіки. *Науковий вісник Івано-Франківського національного технічного університету нафти і газу. Сер.: Економіка та управління в нафтовій і газовій промисловості*. 2022. № 1(25). С. 74-88. DOI: [https://doi.org/10.31471/2409-0948-2022-1\(25\)-74-88](https://doi.org/10.31471/2409-0948-2022-1(25)-74-88).

## References

1. Lypych, L. H., Fatenok-Tkachuk, A. O. (2010). Formuvannia stratehii rozvytku zovnishnoekonomichnoi diialnosti mashynobudivnykh pidpriemstv [Formation of a strategy for the development of foreign economic activity of machine-building enterprises]. Lutsk, Volyn National University. University named after Lesya Ukrainka. 220 p. [in Ukrainian].

2. Shmyhol, N. M., Pavliuk, T. S. (2016). Problemni pytannia rozvytku zovnishnoekonomichnoi diialnosti Ukrainy [Problematic issues of the development of foreign economic activity of Ukraine]. *Prychornomorski ekonomichni studii – Black Sea Economic Studies*, Issue 3, pp. 118-121 [in Ukrainian].
3. Khomenko, T. Yu., Krush, P. V. (2017). Metodichni pidkhody do otsinky efektyvnosti upravlinnia zovnishnoekonomichnoiu diialnistiu [Methodical approaches to the assessment of the effectiveness of management of foreign economic activity]. *Aktualni problemy ekonomiky ta upravlinnia – Actual problems of economy and management*, 11. Retrieved from <http://ape.fmm.kpi.ua/article/view/10> [in Ukrainian].
4. Fomishyna, V. M., Rybchuk, A. V., Zinchenko, V. V. et al. (2017). Suchasni tendentsii mizhnarodnykh ekonomichnykh vidnosyn i zovnishnoekonomichni zviazky Ukrainy [Modern trends of international economic relations and foreign economic ties of Ukraine]. Kherson, VKF "STAR" LLC. 340 p. [in Ukrainian].
5. Buhas, V. V., Kazimirova, O. V. (2018). Sutnist, vydy ta osoblyvosti rozvytku zovnishnoekonomichnoi diialnosti pidpriemstv elektroenerhetyky v natsionalnii ekonomitsi Ukrainy [The essence, types and peculiarities of the development of foreign economic activity of electric power enterprises in the national economy of Ukraine]. *Efektivna ekonomika – Efficient economy*, 12. DOI: <https://doi.org/10.32702/2307-2105-2018.12.75> [in Ukrainian].
6. Tarasiuk, H. M., Horshkova, L. O. (2018). Pidkhody do vyrishennia problem zovnishnoekonomichnoi diialnosti pidpriemstv Ukrainy [Approaches to solving problems of foreign economic activity of Ukrainian enterprises]. *Hlobalni ta natsionalni problemy ekonomiky – Global and national economic problems*, Issue 21, pp. 412-415 [in Ukrainian].
7. Belinska, Ya. V., Koliada, O. V., Nazarov, M. I. et al. (2018). Eksportno-importni operatsii [Export-import operations]. Irpin. SFS University of Ukraine. 254 p. [in Ukrainian].
8. Akymenko, O. Yu. (2019). Teoretychna kontseptualizatsiia zovnishnoekonomichnoi diialnosti yak vahomoho faktoru ekonomichnoi stabilizatsii derzhavy [Theoretical conceptualization of foreign economic activity as an important factor of economic stabilization of the state]. *Prychornomorski ekonomichni studii – Black Sea Economic Studies*, Issue 38-1, pp. 37-42 [in Ukrainian].
9. Didukh, S. M. (2019). Zovnishnoekonomichna diialnist vertykalno integrovanykh ahropromyslovykh kholdynhiv v umovakh yevrointehratsii [Foreign economic activity of vertically integrated agro-industrial holdings in the conditions of European integration]. *Zovnishnoekonomichna diialnist Ukrainy v systemi hlobalnykh konkurentnykh vidnosyn: ahroprodovolchyi vymir [Foreign economic activity of Ukraine in the system of global competitive relations: agro-food dimension]*. (pp. 58-67). Odesa. Astroprint [in Ukrainian].
10. Rakhman, M. S., Yevtushenko, V. A., Rudas, D. S. (2020). Zovnishnoekonomichna diialnist Ukrainy z krainamy YeS [Foreign economic activity of Ukraine with EU countries]. *Infrastruktura rynku – Market infrastructure*, Issue 47. pp. 39-44. DOI: <https://doi.org/10.32843/infrastruct47-7> [in Ukrainian].
11. Kozak, Yu., Sukach, O., Burlachenko, D. (2020). Zovnishnoekonomichna diialnist pidpriemstva [External economic activity of the enterprise]. Kyiv, CEL. 268 p. [in Ukrainian].
12. Kononov, I. I. (2020). Sutnist zovnishnoekonomichnoi diialnosti yak objekta oblikovoho modeliuвання [The essence of foreign economic activity as an object of accounting modeling]. *Biznes Inform – Business Inform*, 5, pp. 79-86. DOI: <https://doi.org/10.32983/2222-4459-2020-5-79-86> [in Ukrainian].
13. Smyrnov, I. H., Khilchevska, I. H. (2009). Lohistyka u zovnishnoekonomichnii diialnosti. Rehuliuвання zovnishnoekonomichnoi diialnosti [Logistics in foreign economic activity. Regulation of foreign economic activity]. (pp. 65-150). Kyiv, Center for Educational Literature [in Ukrainian].
14. Kholod, B., Zborovska, O. (2014). Hlobalizatsiia yak faktor vplyvu na protsesy lohistychnoho upravlinnia zovnishnoekonomichnoiu diialnistiu pidpriemstv [Globalization as a factor influencing the processes of logistics management of foreign economic activities of enterprises]. *Yevropeyskyi vektor ekonomichnoho rozvytku – European vector of economic development*, 2(17), pp. 261-270 [in Ukrainian].
15. Banzekulivaho, Zh. M. (2014). International logistics. Polotsk, N.p. 124 p. [in Russian].
16. Tiurina, N. M., Hoi, I. V., Babii, I. V. (2015). Lohistyka [Logistics]. Kyiv, CEL. 392 p. [in Ukrainian].
17. Syvak, R. B. Hlobalna lohistyka u zabezpechenni staloho rozvytku svitovoho hospodarstva [Global logistics in ensuring the sustainable development of the world economy]. *Naukovyi visnyk Mizhnarodnoho humanitarnoho universytetu. Ser.: Ekonomika i menedzhment – Scientific Bulletin of the International Humanitarian University. Ser.: Economics and management*, Issue 13, pp. 26-29 [in Ukrainian].
18. Stetsenko, I. (2016). Do pytannia sutnosti suchasnoi mizhnarodnoi lohistyky [To the question of the essence of modern international logistics]. *Rynok tsinnykh paperiv Ukrainy – Securities market of Ukraine*, 7-8, pp. 53-57 [in Ukrainian].
19. Lebedynska, O. I. (2017). Osoblyvosti mizhnarodnoi lohistyky v umovakh hlobalizatsii [Peculiarities of international logistics in the conditions of globalization]. *Visnyk Kharkivskoho natsionalnoho ahroarnoho universytetu. Ser.: Ekonomichni nauky – Bulletin of Kharkiv National Agrarian University. Ser.: Economic Sciences*, 3, pp. 195-201 [in Ukrainian].
20. Shevchenko, I. V. (2017). Svitovyi dosvid efektyvnoho zdiisnennia lohistychnykh protsesiv na pidpriemstvakh [World experience of effective implementation of logistics processes at enterprises]. *Hlobalni ta natsionalni problemy ekonomiky – Global and national economic problems*, Issue 16, pp. 520-524 [in Ukrainian].
21. Malashchuk, D. V., Hrynychak, N. A. (2018). Vplyv systemy integrovanoi mizhnarodnoi lohistyky na formuvannia hlobalnoho lohistychnoho menedzhmentu [The influence of the system of integrated international logistics on the formation of global logistics management]. *Investytsii: praktyka ta dosvid – Investments: practice and experience*, 13, pp. 22-25 [in Ukrainian].
22. Kozak, Yu. H., Moisieiev, D. S. Sutnist ta osoblyvosti mizhnarodnoi lohistyky [The essence and features of international logistics]. Retrieved from <https://conf.ztu.edu.ua/wp-content/uploads/2018/09/283.pdf> [in Ukrainian].
23. Khmelevskiy, O. V. (2019). Mizhnarodna lohistyka u kliuchovykh trendakh yii rozvytku [International logistics in the key trends of its development]. *Infrastruktura rynku – Market infrastructure*, Issue 38, pp. 61-67. DOI: <https://doi.org/10.32843/infrastruct38-10> [in Ukrainian].
24. Smyrnov, I. H. (2007). Mytna lohistyka: komponentna struktura [Customs logistics: component structure]. *Naukovyi visnyk Volynskoho derzhavnoho universytetu im. Lesi Ukrainky – Scientific Bulletin of the Volyn State University named after Lesya Ukrainka*, 2, pp. 160-168 [in Ukrainian].
25. Ponomarova, N. V., Stoliar, T. V. (2008). Analiz lohistychnoi orhanizatsii protsesu mytnoi pererobky vantazhiv [Analysis of the logistics organization of the process of customs processing of goods]. *Visnyk KhNADU – Herald of the Khnadu*, 41, pp. 119-122 [in Ukrainian].

26. Smyrnov, I. H. (2011). Mytna lohystyka: kartohrafichniy aspekt [Customs logistics: cartographic aspect]. *Chasopys kartohrafii – Journal of cartography*, Issue 1, pp. 168-187 [in Ukrainian].
27. Huzhevska, L. A. (2011). Mytna lohystyka: sohodennia ta perspektyvy [Customs logistics: present and prospects]. *Upravlinnia proektamy, systemnyi analiz i lohystyka. Tekhnichna seriia – Project management, system analysis and logistics. Technical series*, Issue 8, pp. 34-37 [in Ukrainian].
28. Zaitseva, K. V. (2012). Mytna lohystyka yak peredumova intehratsii Ukrainy u svitovu lohystychnu systemu [Customs logistics as a prerequisite for the integration of Ukraine into the global logistics system]. *Visnyk ekonomiky transportu i promyslovosti – Herald of the economy of transport and industry*, 38, pp. 11-12 [in Ukrainian].
29. Jablonskis, A., Petersone, M., Ketners, K. (2019). Insights into the definition of customs logistics. *Intellectual Economics*. Retrieved from [https://www.researchgate.net/publication/330842477\\_Insights\\_into\\_the\\_definition\\_of\\_customs\\_logistics](https://www.researchgate.net/publication/330842477_Insights_into_the_definition_of_customs_logistics).
30. Ostapenko, A. S., Povod, T. M. (2020). Upravlinnia efektyvnosti ta mytnymy ryzykamy v lohystychnykh protsesakh zovnishnoekonomichnoi diialnosti [Management of efficiency and customs risks in logistics processes of foreign economic activity]. *Skhidna Yevropa: ekonomika, biznes ta upravlinnia – Eastern Europe: Economy, Business and Management*, Issue 1(24), pp. 221-228. DOI: <https://doi.org/10.32782/easterneurope.24-33> [in Ukrainian].
31. Yaremenko, O. F. (2021). Mytna lohystyka: poniattia, funktsii, osoblyvosti [Customs logistics: concepts, functions, features]. *Visnyk Khmelnytskoho natsionalnoho universytetu – Bulletin of the Khmelnytskyi National University*, Vol. 1, No. 6, pp. 32-36. DOI: <https://doi.org/10.31891/2307-5740-2021-300-6-5> [in Ukrainian].
32. Liashenko, V. I., Osadcha, N. V., Trushkina, N. V. (2020). Instytutsiini umovy pidvyshchennia efektyvnosti vykorystannia tranzynnoho potentsialu Prydniprovskoho ekonomichnoho raionu [Institutional conditions for increasing the efficiency of using the transit potential of the Dnipro economic district]. *Naukovyi visnyk Uzhhorodskoho natsionalnoho universytetu. Ser.: Mizhnarodni ekonomichni vidnosyny ta svitove hospodarstvo – Scientific Bulletin of the Uzhhorod National University. Ser.: International economic relations and world economy*, Issue 34, pp. 137-146. DOI: <https://doi.org/10.32782/2413-9971/2020-34-23> [in Ukrainian].
33. Osadcha, N. V., Trushkina, N. V. (2021). Henezys poniat «tranzynnyi potentsial rehionu» i «mytnyi rezhym tranzytu» u mizhnarodnii lohystytsii [Genesis of the concepts "transit potential of the region" and "customs regime of transit" in international logistics]. *Infrastruktura rynku – Market infrastructure*, Issue 52, pp. 9-19. DOI: <https://doi.org/10.32843/infrastruct52-2> [in Ukrainian].
34. Trushkina, N. V., Serbina, T. V. (2022). Mizhnarodna lohystychna diialnist u strukturi zovnishnoi torhivli Ukrainy: bariery, zahrozy ta vyklyky [International logistics activity in the structure of foreign trade of Ukraine: barriers, threats and challenges]. *Moderni aspekty vedy: XX. Dil mezinárodní kolektivní monografie*. (pp. 611-623). Česká republika, Jesenice, Mezinárodní Ekonomický Institut s.r.o. [in Ukrainian].
35. Trushkina, N., Serbina, T. (2022). Mizhnarodna lohystyka u systemi zovnishnoekonomichnoi diialnosti pidpriemstva [International logistics in the system of foreign economic activity of the enterprise]. *International Science Journal of Management, Economics & Finance*, Vol. 1, no. 3, pp. 101-114. DOI: <https://doi.org/10.46299/j.isjmef.20220103.7> [in Ukrainian].
36. Hnatyshyn, L. B., Trushkina, N. V. (2021). Tsyfrova transformatsiia systemy upravlinnia lohystychnoiu diialnistiu ahrarnykh pidpriemstv [Digital transformation of the logistics management system of agrarian enterprises]. *Business Inform*, 12, pp. 98-107. DOI: <https://doi.org/10.32983/2222-4459-2021-12-98-107> [in Ukrainian].
37. Hnatyshyn, L., Prokopyshyn, O., Trushkina, N. (2022). Transformation of marketing activity of agricultural enterprises in the digital economy: theoretical aspects. *Digitalization and Information Society. Selected Issues: monograph 53 / Edited by A. Ostenda, T. Nestorenko*. (pp. 361-372). Katowice, Publishing House of University of Technology.
38. Trushkina, N., Prokopyshyn, O., Dranus, L. (2022). Customer relationship management in the system of logistics administration at agricultural enterprises. *Security management of the XXI century: national and geopolitical aspects: collective monograph*. Iss. 4 / in edition D. Diachkov; Poltava State Agrarian University. (pp. 190-196). Prague, Eastern European Center of the Fundamental Researchers, Nemoros s.r.o.
39. Prokopyshyn O. S., Trushkina, N. V., Serbina, T. V. (2022). Shchodo orhanizatsii zovnishnoekonomichnoi lohystychnoi diialnosti ahrarnykh pidpriemstv v umovakh viiny [Regarding the Organization of Foreign Economic Logistics Activities of Agrarian Enterprises in the Conditions of War]. *Visnyk ekonomichnoi nauky Ukrainy*, 1 (42), pp. 209-217. DOI: [https://doi.org/10.37405/1729-7206.2022.1\(42\).209-217](https://doi.org/10.37405/1729-7206.2022.1(42).209-217) [in Ukrainian].
40. Prokopyshyn, O., Pushak, H., Trushkina, N. (2021). Orhanizatsiino-ekonomichniy mekhanizm upravlinnia rozvytkom klasternykh struktur v ahropromyslovomu kompleksu ekonomichnykh raioniv Ukrainy [Organizational and economic mechanism of managing the development of cluster structures in the agro-industrial complex of economic regions of Ukraine]. *Věda a perspektivy*, 7(7), pp. 175-188. DOI: [https://doi.org/10.52058/2695-1592-2021-7\(7\)-175-188](https://doi.org/10.52058/2695-1592-2021-7(7)-175-188) [in Ukrainian].
41. Koshkalda, I. V., Prokopyshyn, O. S., Trushkina, N. V. (2022). Kontseptualni zasady stvorennia innovatsiinykh ahroklasteriv v umovakh staloho rozvytku natsionalnoi ekonomiky [Conceptual principles of creation of innovative agroclusters in conditions of sustainable development of the national economy]. *Naukovyi visnyk Ivano-Frankivskoho natsionalnoho tekhnichnoho universytetu nafty i hazu. Ser.: Ekonomika ta upravlinnia v naftovii i hazovii promyslovosti – Scientific Bulletin of the Ivano-Frankivsk National Technical University of Oil and Gas. Ser.: Economics and Management in the Oil and Gas Industry*, 1(25), pp. 74-88. DOI: [https://doi.org/10.31471/2409-0948-2022-1\(25\)-74-88](https://doi.org/10.31471/2409-0948-2022-1(25)-74-88) [in Ukrainian].

**Ляшенко В. І., Трушкіна Н. В., Лук'янов А. І., Сербіна Т. В. Пропозиції щодо організації зовнішньоекономічної логістичної діяльності аграрних та агропереробних підприємств у воєнний період**

Аграрний сектор є драйвером і «точкою зростання» національної економіки України. Сільське господарство формує у деяких регіонах у середньому 16% валової доданої вартості та відіграє ключову роль у забезпеченні продовольчої безпеки.

Однак сучасні умови воєнного стану в Україні призвели до проблем організації логістичної діяльності підприємств агропромислового комплексу унаслідок невиконання умов контрактів; появи ризиків зриву посівної кампанії; зменшення фінальних показників врожаю та рівня продовольчої безпеки; зниження обсягів експортних поставок сільськогосподарської продукції; порушення ланцюгів постачання продовольства; відсутності належного фінансування та об'єктів логістичної інфраструктури; недостатньо ефективного використання інструментарію маркетингового менеджменту і мережевого підходу в процесі розподілу аграрної продукції до кінцевого споживача; збільшення трансакційних витрат тощо.



У статті виконано статистичний аналіз основних показників розвитку зовнішньоекономічної діяльності підприємств агропромислового комплексу України у довоєнний період. Виявлено бар'єри, які гальмують ефективну організацію міжнародної логістичної діяльності аграрних підприємств у воєнний час.

Запропоновано пріоритетні напрями усунення існуючих бар'єрів, що перешкоджають організації зовнішньоекономічної логістичної діяльності, суть яких полягає в активізації мережевої взаємодії та партнерських взаємовідносин на основі створення агрокластерних структур; об'єднання дрібним фермерських господарств для належного виконання контрактів, а також спільної діяльності в аграрній сфері двох або більше компаній і різних груп стейкхолдерів для досягнення загальної мети і синергетичного ефекту.

*Ключові слова:* національна економіка, агропромисловий комплекс, аграрні підприємства, логістична діяльність, зовнішньоекономічна діяльність, структура зовнішньої торгівлі, міжнародна логістика, експортно-імпортні операції, інвестиції зовнішньоекономічної діяльності, загрози, виклики, бар'єри, логістичні проблеми, управління взаємовідносинами зі споживачами, маркетинговий менеджмент, логістичний менеджмент.

### **Liashenko V., Trushkina N., Lukianov A., Serbina T. Proposals for the Organization of International Logistics Activities of Agricultural and Agro-Processing Enterprises During the War Period**

The agricultural sector is the driver and “point of growth” of the national economy of Ukraine. Agriculture accounts for an average of 16% of gross value added in some regions and play a key role in ensuring food security.

However, the current conditions of martial law in Ukraine have led to problems in the organization of logistics activities of enterprises of the agro-industrial complex as a result of non-fulfilment of the terms of contracts; emergence of risks of disruption of the sowing campaign; decrease in final harvest indicators and the level of food security; decrease in the volume of export deliveries of agricultural products; disruption of food supply chains; lack of adequate financing and logistics infrastructure facilities; insufficiently effective use of marketing management tools and a network approach in the process of distributing agricultural products to the final consumer; increase in transaction costs, etc.

The article provides a statistical analysis of the main indicators of the development of foreign economic activity of enterprises of the agro-industrial complex of Ukraine in the pre-war period. Barriers that inhibit the effective organization of international logistics activities of agrarian enterprises in wartime have been identified.

Priority directions for eliminating existing barriers that prevent the organization of foreign economic logistics activities are proposed, the essence of which is to activate network interaction and partnership relations based on the creation of agro-cluster structures; unification of small farms for the proper execution of contracts, as well as joint activity in the agrarian sphere of two or more companies and different groups of stakeholders to achieve a common goal and a synergistic effect.

*Keywords:* national economy, agro-industrial complex, agricultural enterprises, logistics activity, foreign economic activity, structure of foreign trade, international logistics, export-import operations, investments of foreign economic activity, threats, challenges, barriers, logistical problems, management of relationships with consumers, marketing management, logistics management.

Creative Commons Attribution 4.0  
International (CC BY 4.0)



Received by the editors 03.10.2022