ОРИГІНАЛІЗАЦІЙНИ ФОРМИ ІНТЕГРАЦІЇ АГРОПРОДОВОЛЬЧИХ РИНКІВ І СЕКТОРОВ DO ГЛОБАЛЬНИХ ЛАНЦЮГІВ ВАРТОСТІ

Актуальність. В Україні наявні можливості для інтеграції в глобальні ланцюги вартості в першу чергу в складі агропродовольчих ринків. Концентрація цих стратегічних ресурсів у структурних підрозділах агропродовольчих підприємств у всіх сегментах глобального ринку з формуванням динамічних конкурентних переваг національних економік країн-експортерів сировинних товарів із низьким рівнем внутрішньої доданої вартості, що підтверджено секторальним аналізом аграрних ринків. Аналіз проблем з ефективності глобальних агропродовольчих ланцюгів доданої вартості та конкретного учасника ринку, практика свідчать про відсутність злагодженої взаємодії ланок експорто-орієнтованих товаропотоків, які в багатьох випадках використовують логістичні резерви в процесі обслуговування експортних потоків. Останні дані свідчать, що в міру збільшення країнами участі в глобальних агропродовольчих ланцюгах створення вартості товарних ринків, темпи зростання їх валового внутрішнього продукту збільшуються. Важливо роль відіграють ланцюги створення вартості в якості

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джею дії визначає робочих місць. Так торгівля та постачання у продовольчих хабах в рамках логістичних
ланцюгів ринків збуту продовольчих товарів, стимулює розвиток логістики як критично важливої складової
глобальних ланцюгів, позаяк украй важливу проблемою є постачання продуктів у потребній кількості,
потрібній якості, у конкретній термін. Акцент дослідження також робиться на залежні ринкові чинники, що
впливають на ефективність у конкретних логістичних ланцюгах доданої вартості у зовнішньому вимірі.

Висновки. У дослідженні запропоновано концептуальний підхід до інтеграції агропродовольчих ринків в
глобальні ланцюги вартості шляхом створення агропродовольчих хабів. Особливість даної концепції полягає у
формуванні мереж спеціалізованих хабів, які мають обслуговувати товарні потоки споріднених ринків. Основу
агропродовольчих хабів мають формувати логістичні функції, пов’язані з маркетинговою діяльністю,
інструментами іншерного планування товарних постачань, їх інституційним супроводженням. Це дозволить
забезпечити ефективні логістичні маршрути товарних постачань, їх інституційним супроводженням. Це дозволить
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Ключові слова. ефективні логістичні ланцюги, додана вартість, товарний ринок, агропродовольчий хаб.

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ORGANIZATIONAL FORMS OF INTEGRATION OF AGRICULTURAL MARKETS TO GLOBAL VALUE CHAINS

Topicality. In Ukraine, there are opportunities for integration into global value chains, primarily in the agri-
food markets. Concentration of these strategic resources in the structural units of agri-food enterprises in all segments
of the global market with the formation of dynamic competitive advantages of national economies of their countries.
This process is facilitated by the availability of developed transport infrastructure, especially sea and river ports,
attracting investment, including foreign in increasing crop production, productive land, increased role of the state in
regulating strategic agri-food markets. At the same time, this powerful potential is not used effectively. Significant
losses are due in particular to the creation of logistics of export flows, which in many cases make domestic food
products uncompetitive in foreign markets, due to inflated costs of supply to final consumers. Such inflated costs
indicate the lack of coordinated interaction of export-oriented chains and organizational and economic mechanisms,
their regulation.

Aim and tasks. The purpose of the study is to substantiate the scientific provisions and organizational and
economic forms of logistics support for the integration of agri-food markets into global value chains.

Research results. The current methodological approaches to the analysis of global value chains are analyzed, it
is established that the main analytical indicator for agri-food markets and their individual sectors is a two-component
"index of participation in global value chains". Low rates of participation of commodity markets in global chains are
characteristic of developing countries and exporting countries of commodities with low levels of domestic value added,
as evidenced by the sectoral analysis of agricultural markets. Analysis of problems with the efficiency of global agri-
food value chains and specific market participants, practice shows that the producer achieves the greatest economic
effect when it sells not raw materials, but products of processing, with increased value. In particular, the urgency of this
issue is exacerbated by the need to use logistical reserves in the process of servicing export flows. Recent data suggest that as countries participate in global value chains, commodity growth rates increase. Value chains play an important role as a source of job creation. Thus, trade and supply in food hubs within the logistics chains of food markets stimulates the development of logistics as a critical component of global chains, as the most important problem is to supply products in the right quantity, quality, on time. The study also focuses on general market factors that affect the efficiency of specific value chains in the external dimension.

**Conclusion.** The study proposes a conceptual approach to integrating agri-food markets into global value chains by creating agri-food hubs. The peculiarity of this concept is the formation of networks of specialized hubs that should serve the commodity flows of related markets. The basis of agri-food hubs should be formed by logistics functions related to marketing activities, tools for end-to-end planning of commodity supplies, and their institutional support. This will ensure efficient logistics routes of goods supply, strengthen cooperation between the links of the chains, fully take into account the specifics of the requirements of foreign consumer markets. Prospects for further research on this issue include bringing the rules of tax and customs legislation in line with international standards, ensuring insurance of export contracts and more.

**Keywords.** efficient logistics chains, added value, commodity market, agri-food hub.

**Problem statement and its connection with important scientific and practical tasks.** Recent decades have been characterized by a qualitative transformation of international business, which is reflected primarily in the integration of logistics chains into global value chains in order to ensure global competitive leadership. In Ukraine, there are certain prerequisites for integration into global value chains of agri-food markets. This process is facilitated by the availability of developed transport infrastructure, especially seaports, the interest of foreign investors in the development of export-oriented agricultural production (grain, sunflower, etc.), the availability of fertile land resources, agriculture, the state's attention in regulating strategic agri-food markets. At the same time, this powerful potential is not used effectively. This is primarily due to significant losses in the supply of agri-food products to foreign markets. Which makes the products uncompetitive [1, p.202]. This indicates a lack of coordinated interaction of export-oriented chains and organizational and economic mechanisms for their regulation.

**Analysis of the recent publications on the problem.** Significant contribution to the development of concepts of global value chains in the context of increasing the international competitiveness of countries R. Kaplinsky, M. Porter, W. Rostow, D. Tagtioni, M. Hess, E. Helpman, T. Hopkins, D. Humels, E. Krykavskyi, V. Geets, I. Guzhva, O. Nikishina, V. Lysyuk, M. Postan, V. Sabluk, V. Andriychuk, V. Bondarenko, T. Dudar [2-5,11-14,19-22]. At the same time, such scientists as T. Stapgen [6, p.11] and D. McCopmick [7, p.9] studied the issues of integration into global value chains of agri-food products. The similarity of views of cars in definition of the concept of a chain of commodity markets is observed. They define it as a combination of activities related to the formation of added value in commodity markets, which is aimed at ensuring the end of consumption. M. Baker [8, p.92] attaches special importance to the definition of food quality, introducing the concept of the cycle of creating quality of products, goods and services. The company covers production, marketing and logistics processes responsible for the formation and implementation of the relevant skills.

**Allocation of previously unresolved parts of the general problem.** The role and place of value chains is especially important in relation to agri-food markets. However, despite the generally positive assessment of research published in the scientific literature, it should be noted that the problem of entering agri-food markets in GVC requires additional research in terms of strengthening the role of logistics, especially service units in ensuring the effectiveness of foreign trade.

**Formulation of research objectives (problem statement).** The purpose of the study is to substantiate the scientific provisions and organizational and economic forms of logistics support for the integration of agri-food markets into global value chains.

**An outline of the main results and their justification.** The general principle of maximizing value added is to sell finished products for final consumption. In these circumstances, exporters add special unique characteristics to goods due to the complex processing of raw materials, the implementation of the full cycle to the sales service completion of goods and, thus, realize the final product of consumption at higher prices [9, p.73].

The emergence and development of GVC is primarily associated with the activities of TNCs and global trade networks. According to UNCTAD, up to 80% of the world's trade in GVC is controlled by leading international companies. In the agri-food markets, agricultural traders play a leading role in active participation in world trade. Among the world's largest agricultural traders are, for example, ADM, Bunge, Cargill, Louis-Dreyfus (ABCD), which are involved in the production of basic agri-food products, have horizontal and vertical market support, have global food storage and delivery systems [25].
The issues of developing conceptual bases for integration of domestic agri-food markets into GVC primarily concern the definition of external preconditions for GVC entry, substantiation of priority integration markets and determination of logistical reserves in solving this topical issue. At the same time, international agricultural holdings are moving production capacity to other countries, due to the fact that the global economy has already formed a fairly stable dependence of exports on the cost of production of goods [10, p.279]. This trend is further accelerated by such factors as increased competition for the markets of underdeveloped countries, the current impact of COVID-19 on the localization of world trade and more.

According to FAO, world trade in agricultural products has more than doubled since 1995 to $ 1.5 trillion. USA; exports from developing economies in transition are also growing steadily, accounting for more than a third of the world's total. At the same time, about a third of world exports of agricultural products and food are sold within global chains and cross the borders of at least two foreign countries Taking into account the above-mentioned features, objective preconditions are created for the integration of agri-food market participants into global agri-food value chains. The specificity of agri-food chains is manifested in the regularity of centralization of trade flows and their concentration in intermediate centers of storage, processing and distribution of products. This pattern corresponds to the processes of market integration into global agri-food chains, which are characterized by large-scale sales [24].

The general principle of operation of GVC, which is to sell finished products on the basis of broad international cooperation, encourages each participant to increase its share of value added in the final product. In these circumstances, the competition for places in the GVC intensifies as we approach the finish line. In these circumstances, the possibility of integrating domestic agri-food markets into GVC by increasing exports of high value-added products in the short and medium term is extremely limited. An effective way to achieve this is to organize GVC, the final stages and control over trade flows will be carried out within the national boundaries of agri-food markets. In this case, one could expect to receive the largest share of the added value of GVC. But in Ukraine, there are currently no businesses that are able to attract an international network of logistics chains.

The basis of agricultural exports is formed by crops with a low share of value added, primarily cereals (corn, wheat, barley, soybeans, rapeseed), which in 2021 accounted for 91.6% of total revenue [22, p.19; 28]. As an example, the national legal corporation Nibulon, which specializes in serving the export of such food products as grain, barley, corn, etc., can be considered as an organizational and legal form of integration of grain crops into GVC with appropriate restrictions. [19, p.84]. Nibulon's network includes 287 leading companies and 770 branches, of which about 70% are located in Ukraine and the rest in foreign countries [30]. The effectiveness of the Nibulon Corporation is ensured by the use of standardized logistics technologies adapted to the parameters of global traffic routes [12, p.26].

At the same time, along with exported grain goods, the corresponding share of supplies falls on finished food products. As can be seen from Table 1, exports of finished food products increased from 1215 million dollars. to 1305 million dollars, or 107.4%, and the share of finished products in 2020 reached 53.2%. Food products - positions 16-22 decreased from 2286 million dollars. in 2017 to 1146 million dollars. or 1140 million dollars. [29]. Also noteworthy is the growth of such export goods as live animals, products of animal and vegetable origin and products of the food industry (fats and oils of animal or vegetable origin and finished food products). If in general exports decreased by 41.6%, the group of agri-food products decreased by 9.7%, and for fats and oils of animal or vegetable origin, exports increased to 3963 million dollars, or 113.3% (shown in table 1).

Table 1.

<table>
<thead>
<tr>
<th>Agri-food products in the export of Ukraine for 2017-2021 (according to codes 1-24 UKTZED)</th>
<th>Year</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2021 in% until 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indexes</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>1. Exports, in total, billion dollars.</td>
<td>62.3</td>
<td>53.9</td>
<td>38.1</td>
<td>36.4</td>
<td>58.4</td>
<td></td>
</tr>
<tr>
<td>2. Agri-food products, million dollars</td>
<td>16930</td>
<td>16669</td>
<td>14563</td>
<td>15284</td>
<td>90.3</td>
<td></td>
</tr>
<tr>
<td>in% to total exports</td>
<td>27.2</td>
<td>30.9</td>
<td>38.2</td>
<td>42.0</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>3. Agricultural products, million dollars</td>
<td>9932</td>
<td>9751</td>
<td>8795</td>
<td>8870</td>
<td>89.3</td>
<td></td>
</tr>
<tr>
<td>3.1. Live animals and products of animal origin, million dollars</td>
<td>1083</td>
<td>1015</td>
<td>823</td>
<td>775</td>
<td>71.6</td>
<td></td>
</tr>
<tr>
<td>3.2. Plant products, million dollars</td>
<td>8849</td>
<td>8736</td>
<td>7972</td>
<td>8095</td>
<td>91.5</td>
<td></td>
</tr>
<tr>
<td>in% to agro-industrial complex products</td>
<td>58.7</td>
<td>58.5</td>
<td>60.4</td>
<td>58.0</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>
Continuation of Table 1

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2021 in% to agro-industrial complex products</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>Fats of animal or vegetable origin, million dollars</td>
<td>6998</td>
<td>6918</td>
<td>5768</td>
<td>6414</td>
<td>91,6</td>
</tr>
<tr>
<td>42</td>
<td>Finished food products, million dollars</td>
<td>3497</td>
<td>3822</td>
<td>3300</td>
<td>3963</td>
<td>113,3</td>
</tr>
<tr>
<td></td>
<td>in% to agro-industrial complex products</td>
<td>41,3</td>
<td>41,5</td>
<td>39,6</td>
<td>42,0</td>
<td>x</td>
</tr>
</tbody>
</table>

*Source: Calculated by the authors based on data from the State Statistics Service of Ukraine [28].

The market of ready-made food products is characterized by a decrease in the share in agro-food chains. If in 2018 the export of finished products in the amount of 3501 million dollars, its share in agricultural products amounted to 20.7%, in 2021 exports fell to 2451 million dollars, and the share decreased to 16.0%. The dynamics and commodity structure of exports of finished food products are shown in Table 2.

### Table 2

**Dynamics and structure of food exports for 2018-2021 (according to codes 16-23 UKTZED)**

<table>
<thead>
<tr>
<th>Code and name of the goods according to UKTZED</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2021 in% until 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV Finshed food</td>
<td>3501</td>
<td>100,0</td>
<td>3096</td>
<td>100,0</td>
<td>2468</td>
</tr>
<tr>
<td>16. Meat and fish products</td>
<td>43</td>
<td>1,2</td>
<td>33</td>
<td>1,1</td>
<td>12</td>
</tr>
<tr>
<td>17. Cocoa and articles thereof</td>
<td>555</td>
<td>15,9</td>
<td>323</td>
<td>10,4</td>
<td>187</td>
</tr>
<tr>
<td>18. Finished grain products</td>
<td>412</td>
<td>11,8</td>
<td>390</td>
<td>12,6</td>
<td>268</td>
</tr>
<tr>
<td>19. Products of vegetable processing</td>
<td>404</td>
<td>11,5</td>
<td>298</td>
<td>9,7</td>
<td>184</td>
</tr>
<tr>
<td>20. Various foods</td>
<td>251</td>
<td>7,2</td>
<td>212</td>
<td>6,8</td>
<td>117</td>
</tr>
<tr>
<td>21. Alcoholic and non-alcoholic beverages, vinegar</td>
<td>362</td>
<td>10,3</td>
<td>251</td>
<td>8,1</td>
<td>183</td>
</tr>
<tr>
<td>22. Residues and waste from the food industry</td>
<td>922</td>
<td>26,3</td>
<td>1108</td>
<td>35,8</td>
<td>996</td>
</tr>
<tr>
<td>23. Tobacco and industrial tobacco substitutes</td>
<td>293</td>
<td>8,4</td>
<td>334</td>
<td>10,8</td>
<td>351</td>
</tr>
</tbody>
</table>

*Source: Calculated by the authors based on data from the State Statistics Service of Ukraine [28].

Given the fact that they are mostly perennial crops, the growth rate of costs for them is much lower compared to other types of agricultural products. This factor is attractive in terms of attracting investment in this type of business and its development in small and medium-sized farms. After all, due to the high yield of 1 hectare, which can reach UAH 1 million or more, the return on investment can be 4-6 years, depending on the selected crops and the right marketing strategy. All you need is some knowledge of the technology of their cultivation, the desire to do so and the initial investment capital for planting along with a small plot of land. It is also necessary to take a comprehensive approach to the study of possible and potential markets and to resolve the issue of product storage in advance [23, p.18].

The consolidated analysis of the export structure of agri-food products made it possible to conclude that the integration of agri-food markets in GVC at the present stage should be to create conditions along with cereals to expand the range of agricultural products to attract GVC with further "rise" of value added, on the links of the global chain. Such goods should primarily include fruit and berry, vegetables, meat and dairy products. Thus, coastal regions, in particular Odessa region, occupies a leading position in the country in the production of grapes from the total harvest (56.5%), melons (40.5%), peaches (68.2%), plums (38.7%) [24].

The general features of the logistics service of commodity flows of these markets include:
- the presence of patterns of centralization of trade flows and their concentration in intermediate centers of storage, processing and distribution of products;
- the formation of relatively small batches of products, which increases the total cost of trade;
- the dependence of the effectiveness of logistics services for the supply of goods from the use of centralized forms of planning of trade flows, including tools for end-to-end interaction of interlink relations;
- diversification of consumer countries, which requires in-depth marketing research on consumer requirements with the removal of customs and other barriers of importing countries;
- high level of competition for the creation of new consumer products, which provides access to modern production technologies;
- the need to form flexible chains of trade in accordance with the volume, range, directions of supply of goods, taking into account the requirements of importing countries and international trade.

We consider agri-food hubs to be one of the promising logistical reserves for the integration of commodity flows into the GVC. According to popular belief, the main difference between the hub, as an organizational and logistical form of servicing goods flows, is to provide a diverse range of logistics services [25]. This set of services must meet the full range of customer requirements for a particular product flow. In accordance with the above, the agri-food hub will be understood as one of the types of multimodal logistics centers, which has a strategic geographical location on the main transit routes and their intersections, has a developed logistics infrastructure to provide a variety of logistics services and flexible response nomenclature, directions of commodity supplies taking into account the requirements of importing countries, international trade standards (INCOTERMS-2020 [27]), etc. Taking into account the logistical specifics of servicing the markets under study, as well as the increased dependence of integration in GVC on the conditions of planning, marketing, information support, etc. the author's point of view is the need to focus on . This step-by-step approach will provide an opportunity to form the optimal production structure of hubs in terms of capacity, product specialization, technological processes, etc. [26].

A typical sectoral structure of the service functions of the agri-food hub is given in Fig. 1. It includes:
- sector of marketing services for analysis and forecasting of parameters and conditions of entry into the GVC (1);
- sector for legal support of contractual relations, the functions of which are related to the conclusion of agreements with the participants of the GVC, the resolution of disputes, etc. (2);
- the sector of advisory services for the subjects of agri-food markets on the issues of joining the GVC (3);
- the sector of planning of commodity deliveries, directed on coordination of plans of commodity deliveries of production with plans of foreign participants of GVC (4);
- sector of institutional support and implementation of regulatory, regulatory, administrative, program and other documents of integration of agri-food market entities into the GVC (5);
- sector of information services for participants through connection to electronic platforms of international trade, for example, to the electronic platform World Trade Platform - eWTP (6) [28].

![Fig. 1. Typical sectoral structure of service functions of agri-food hub](image-url)

* Author's development

The leading results of the use of service functions include:
- reproductive effect, which will consist in a reasonable increase in value added as the integration into the GVC deepens;
- logistical effect of matching the parameters of the chain links in accordance with the parameters of the GVC;
- economic effect, which is to reduce the total logistics costs of integration into the GVC;
- social effect as a result of creating additional jobs;
- ecological effect from the introduction of resource-saving logistics technologies, the use of prefabricated consignments, the implementation of general eco-oriented measures to reduce harmful emissions into the environment [29].

The development of economic strategy of integration processes, which should be based on methodological provisions for assessing the economic efficiency (budget, business, economic) of the proposed long-term solutions [30], should increase the effectiveness of integration of agri-food markets into GVC.

**Conclusions and perspectives of further research.** The study proposes a conceptual approach to integrating agri-food markets into global value chains by creating agri-food hubs. The peculiarity of this concept is the formation of networks of specialized hubs that should serve the commodity flows of related markets. The basis of agri-food hubs should be formed by logistics functions related to marketing activities, tools for end-to-end planning of commodity supplies, and their institutional support. This will ensure efficient logistics routes of goods supply, strengthen cooperation between the links of the chains, fully take into account the specifics of the requirements of foreign consumer markets. Prospects for further research on this issue include bringing the rules of tax and customs legislation in line with international standards, ensuring insurance of export contracts and more.

**ЛІТЕРАТУРА**
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