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International Trade in Agri-Food Products in the Context of Regional Peculiarities and International Economic Integration

Abstract
This paper examines world trade in agri-food products in the context of international economic integration. This is due to the importance of foreign trade for the economic development of countries, especially in the context of globalisation, the increase in the number of integration groups whose participation affects the terms of trade of their member and non-member countries, and the aggravation of the food crisis. The *purpose* of this article is to identify the state and trends of world trade in agri-food products, taking into account regional characteristics and the participation of countries in integration groupings, and to determine their role in the future. *Methodology*. The research is based on a comparison of parts of individual regions and integration groups in world trade, identifying trends and features. The publication uses the methods of analysis, synthesis, generalisation, comparative assessment, and graphical methods, in particular, to identify the main trends, draw conclusions, etc. *Results*. The study shows that world trade in agri-food products is growing significantly, both globally and by region. The countries of Europe and the Americas are the main exporters, but the countries of Asia, South and Central America and Africa are the fastest growing exporters. However, the main suppliers remain the member countries of the most advanced integration groupings – the European Union, the North American Free Trade Agreement (NAFTA) and the Southern Common Market (MERCOSUR). It is proposed to divide the main exporters into regions, integration groups and countries. The issue of food security is one of the most important in modern conditions and within the integration groups. It is advisable that they contribute to some extent to solving this problem at the regional level and in relation to third countries. To this end, it is advisable to develop measures to provide food aid to countries affected by natural disasters, climate change or other adverse circumstances on several fronts: within integration groups, in the region and at the global level. These groups are expected to remain among the largest suppliers of agri-food products in the future, and one of the main reasons for this is their participation in integration groups, which facilitates the liberalisation of the movement of new technologies, in particular to the agricultural sector.

Keywords
regional trade agreements, integration groups, agricultural products, foreign trade, exports, imports

JEL: F10, F15, Q17

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1 Introduction

International trade continues to play an important role in solving many problems, particularly food security, which remains one of the world's most important issues. Demand for agri-food products continues to increase due to population growth, changing production conditions, the climate crisis, etc.

Scientists have been studying international trade issues for centuries, including representatives of mercantilism, A. Smith, D. Ricardo and, of course, modern scientists. The economic development of countries depends to a large extent on their foreign trade.

The development of world trade, particularly in agricultural and food products, makes it possible to better meet population demand and solve food security problems. Population growth and the effects of climate change are exacerbating food security problems. Given the increase in the number of integration groups and the consequent removal of trade barriers, the importance of integration in addressing the issue of food security within integration groups and in relation to third countries is quite relevant. International economic integration plays an important role in the development of external trade. The number of regional trade agreements is increasing, especially according to the WTO. Regional trade agreements (RTAs) have grown in number and scope over the years, including a notable increase in large plurilateral agreements. Non-discrimination between trading partners is one of the core principles of the WTO; however, RTAs, which are reciprocal preferential trade agreements between two or more partners, constitute one of the exceptions and are permitted under the WTO, subject to a set of rules (Regional trade agreements).

Effective development of integration should contribute to the development of foreign trade, economic growth of countries and, consequently, to solving the problem of food security. Among the largest exporters of agri-food products within individual regions and the world, there are developed integration groups and, in particular, their leading countries. The share of world exports of regions that are not among the largest suppliers to the world market is growing. It is advisable to solve the problem of world food security through the main exporters, which are proposed to be divided into regions, integration groups and individual countries. The development of measures to liberalise trade and provide food support by integration groups and countries, depending on the territorial location of the countries in need, participation in integration groups, etc., may be significant.

In this work it is advisable to identify the share and trends in the participation of individual regions, integration groups and countries in world trade, taking into account their regional affiliation. In today's conditions it is necessary to determine their possible role and participation in solving the problem of food security, to foresee trends in the future situation on the world market and to identify the corresponding reasons.

Given the growing number of integration groups, it is advisable to consider research on their impact on foreign trade, investment and economic growth of countries. As countries of almost all continents and levels of economic development are integrating, attention should be paid to the development of integration among developing countries, which are more often faced with food problems. In the context of the tasks assigned, the participation of regions, integration groups and countries should be analysed according to their status and trends in participation in world trade in agricultural products and taken into account in the context of developing proposals to address the issue of food security.

2 The Role of International Economic Integration for Economic Development

The development of international economic integration is of particular importance in the current environment. Moreover, even at the initial stages, trade liberalisation is expected to affect the economic development of countries.

The quality of social life depends on environmental, cultural, economic and political factors, the measurement of which is a fundamental challenge for understanding their role and for designing appropriate policies. This task is made even more complex by the process of international integration, which is increasing the degree of interdependence between human societies around the world, so that it is becoming increasingly meaningless to approach the study of any community without explicitly considering its links with the rest of the world (Philippe de Lombaerde, P. Lelio Iapadre, 2008). Economic integration and trade liberalisation processes are underway in several regions of the world, and there is diffuse concern about the impact of these processes on spatial disparities (Ottaviano, Gianmarco, 2009). Regional economic integration occurs when countries come together to form free trade areas or customs unions, which offer members preferential trade access to each other's markets. The impact on the world trading system is unclear. There is little evidence that regionalism has slowed multilateral liberalisation, but there is also no support for the view that the continued expansion of regional arrangements will obviate the need for multilateral liberalisation efforts (Venables, 2015). Since trade and FDI are recognised as the two main channels of economic integration, the most topical issues in the debate on agreements relate to trade creation, trade diversion, the "redirection" of FDI from non-members to RIA members and the phenomenon of "tariff-jumping FDI" (Di Mauro, 2000).

Rapid global integration has led to significant economic expansion, particularly in developed countries, but also in developing countries with outward-oriented economic and trade policies (Ndukwe, 2004). Trade liberalisation has had a major impact on the world economy, and as countries continue to engage in preferential trade and with the launch of the first multilateral round of the World Trade Organisation, the need to understand the consequences of trade liberalisation has never been greater (Kowalczyk, 1999).

The internal logic of the development of the economic integration mechanism reflects the evolutionary process of market formation, which begins with simple forms of eliminating obstacles to the development of international trade relations and leads to an increase in supranational regulation of social and economic life within the framework of integration. Thus, the benefits and losses that the economy may receive as a result of integration should be taken into account when developing and implementing the country's foreign economic policy (Zayats, 2013).

The developing countries involved in integration generally do not have a high share of intra-regional trade and a low share of external trade, or a low share of external trade relative to domestic product and a high degree of complementarity between the members' economies. But these countries continue to press ahead, arguing that economic integration would break down national economic boundaries to provide a larger market for the expansion of existing industries as well as the establishment of new ones (Nguyen Tien Hung, 1968).

The dynamism of the Ukrainian economy is largely determined by global and regional economic trends, as well as foreign economic and integration policy priorities (Mazaraki, 2016). By joining a regional association, countries are involved in foreign economic relations (Ohinok, 2016). It is necessary to solve the problem of effective integration into the system of interfirm relations in the conditions of formation of a modern model of international division of labour. And they rightly emphasise that the globalisation of the international economy does not miss Ukraine, which is gradually taking its place in the system of new international economic relations and actively influencing all aspects of its economic development. Ukraine's potential for participation in global markets is quite high, although it has both positive and negative consequences (Plakhotnik & Pavlenko, 2002).

3 Agri-Food Trade in the Main Regions

In the XXI century, European countries exported mainly agri-food products, their share in world exports did not fall below 41.4% (2015), and the maximum value was almost 49.9% in 2004. And although the value of the indicator is slightly decreasing, in particular in 2003–2005 it did not fall below 49.2%, and in 2018–2020 it did not exceed 43.6%, the value of the region's exports from 2000 to 2020 increased 3.5 times – from 187.2 to 651.1 billion USD. This is despite the fact that global exports grew by 3.7 times. American countries also account for a significant share of exports, with their share in the world ranging from 26.4 (2004, 2005) to 30.6% (2001), which was almost the same as that of other countries – 23.5 (2003) to 29.7% (2017) (Table 1). A significant share of exports is

TABLE 1 World trade and the share of agri-food products of selected regions in world exports (exports, billion USD)

Year	Ukraine	% of the world	% of the world	Europe	% of the world	Americas	% of the world	Other countries	% of the world
2000	1,6	0,4	403,3	187,2	46,4	119,3	29,6	96,8	24,0
2001	1,8	0,4	406,9	184,6	45,4	124,5	30,6	97,8	24,0
2002	2,4	0,6	434,8	205,9	47,4	123,4	28,4	105,4	24,3
2003	2,7	0,5	516,2	254,0	49,2	140,7	27,3	121,5	23,5
2004	3,4	0,6	596,2	297,3	49,9	157,5	26,4	141,4	23,7
2005	4,3	0,7	641,7	318,0	49,6	169,4	26,4	154,3	24,0
2006	4,6	0,7	708,2	346,5	48,9	189,3	26,7	172,4	24,3
2007	6,2	0,7	859,0	414,7	48,3	237,2	27,6	207,1	24,1
2008	10,7	1,0	1049,0	491,6	46,9	303,2	28,9	254,2	24,2
2009	9,4	1,0	935,8	440,3	47,1	263,8	28,2	231,7	24,8
2010	7,5	0,7	1065,4	465,3	43,7	309,7	29,1	290,5	27,3
2011	12,7	1,0	1295,5	553,9	42,8	378,2	29,2	363,4	28,1
2012	17,8	1,4	1310,4	560,0	42,7	381,7	29,1	368,8	28,1
2013	17,0	1,2	1365,3	594,1	43,5	392,8	28,8	378,3	27,7
2014	16,6	1,2	1421,5	604,3	42,5	403,5	28,4	413,6	29,1
2015	14,5	1,1	1274,9	528,0	41,4	369,3	29,0	377,7	29,6
2016	15,2	1,2	1287,4	540,4	42,0	371,8	28,9	375,3	29,1
2017	17,7	1,3	1411,3	599,2	42,5	392,7	27,8	419,4	29,7
2018	18,5	1,3	1454,2	631,2	43,4	399,7	27,5	423,2	29,1
2019	20,1	1,4	1444,4	623,6	43,2	398,7	27,6	422,1	29,2
2020	22,0	1,5	1492,2	651,1	43,6	418,4	28,0	422,8	28,3

Source: author's calculations based on FAO database

also accounted for by the Americas, with their share in the world ranging from 26.4 (2004, 2005) to 30.6% (2001), which was almost the same as in other countries – 23.5 (2003) to 29.7% (2017).

It is worth noting that since 2014, the value of exports from the latter countries has become higher than from the former, and while it has increased by 3.5 times for the American countries, it has increased by 4.4 times for other countries. That is, the growth is higher than for the regions of Europe and America. Ukraine's exports of agricultural and food products also increased significantly, reaching 22.0 billion USD in 2021, and its share in world exports reached 1.5%, although in 2000 it was only 0.4% (Table 2).

The value of Ukraine's agri-food exports is only 2.6 times lower than in Oceania and 2.5 times lower than in Africa, which confirms the country's importance to the world. Figure 1 shows that Europe has the highest exports, while Africa has the lowest. However, the value of exports from Asia, South and Central America, and Africa has increased more, by 5, 4.9, and 4.1 times respectively. In Europe and North America, the value of exports has increased by 3.5 and 2.8 times respectively.

This means that global exports of agri-food products are growing, with the largest share coming from Europe and a smaller share from the Americas, which is almost equal to the value of the indicator for other countries, although since 2014 it has been higher for the latter.

Cereals

The value of global grain exports grew 3.5 times from 33.7 to 118.9 billion USD, but exports from South America, Europe and Africa grew more – by 6.1, 5.3 and 4.4 times, respectively, and exports from North and Central America, Asia and Oceania grew by 2.1, 2.3, 3.7 and 1.3 times, respectively. The export growth trend and its correlation between countries are partially shown in Figure 2.

Europe and America account for more than half of the world's supplies, with the value and share of exports of the latter always being higher; the opposite situation was observed only in 2020, when Europe's share in the world reached 39.4%. As for other countries, their share ranged from 22.3% (in 2008) to 28.8% (in 2002). It is necessary to take into account the significant difference between North, Central and South America, as in 2020 exports amounted to 27.1 billion USD, 0.2 billion USD and 17.2 billion USD, respectively, meaning that the main suppliers are the first and third regions, although the value of North American exports has consistently exceeded the value of South American exports – from 1.3 to 4.6 times, in recent years there has been a tendency to reduce the difference and in 2020 it was 1.6 times (Table 3).

TABLE 2 World trade in agri-food products (exports, billion USD)

Year	Ukraine	World	Europe	Americas	North America	Central America	South America	Asia	Oceania	Africa
2000	1,6	403,3	187,2	119,3	71,1	12,5	33,7	62,2	21,4	13,3
2001	1,8	406,9	184,6	124,5	72,8	12,0	37,4	62,4	22,2	13,2
2002	2,4	434,8	205,9	123,4	70,9	12,0	38,5	68,4	22,7	14,4
2003	2,7	516,2	254,0	140,7	78,7	13,2	46,9	80,6	23,2	17,8
2004	3,4	596,2	297,3	157,5	83,0	15,1	57,4	90,3	30,9	20,2
2005	4,3	641,7	318,0	169,4	85,5	16,8	65,3	102,4	31,1	20,8
2006	4,6	708,2	346,5	189,3	94,4	19,8	72,9	117,3	32,2	22,8
2007	6,2	859,0	414,7	237,2	120,2	22,5	92,2	147,5	34,6	25,0
2008	10,7	1049,0	491,6	303,2	154,7	25,4	120,8	185,3	38,4	30,5
2009	9,4	935,8	440,3	263,8	130,1	24,8	106,3	162,8	35,4	33,5
2010	7,5	1065,4	465,3	309,7	151,7	28,0	127,4	211,9	43,5	35,1
2011	12,7	1295,5	553,9	378,2	179,2	34,7	161,7	270,7	48,5	44,2
2012	17,8	1310,4	560,0	381,7	184,5	35,9	158,0	268,7	57,8	42,2
2013	17,0	1365,3	594,1	392,8	187,8	36,9	164,8	269,5	60,1	48,6
2014	16,6	1421,5	604,3	403,5	200,0	39,1	160,8	298,4	62,8	52,4
2015	14,5	1274,9	528,0	369,3	179,8	40,2	145,7	271,0	55,6	51,1
2016	15,2	1287,4	540,4	371,8	180,4	42,5	145,3	272,8	53,4	49,1
2017	17,7	1411,3	599,2	392,7	186,1	47,8	154,9	302,2	62,2	55,0
2018	18,5	1454,2	631,2	399,7	189,5	48,9	157,9	306,8	60,0	56,4
2019	20,1	1444,4	623,6	398,7	185,0	50,3	159,8	307,0	59,4	55,7
2020	22,0	1492,2	651,1	418,4	198,7	51,7	164,6	311,3	56,7	54,8

Source: author's calculations based on FAO database

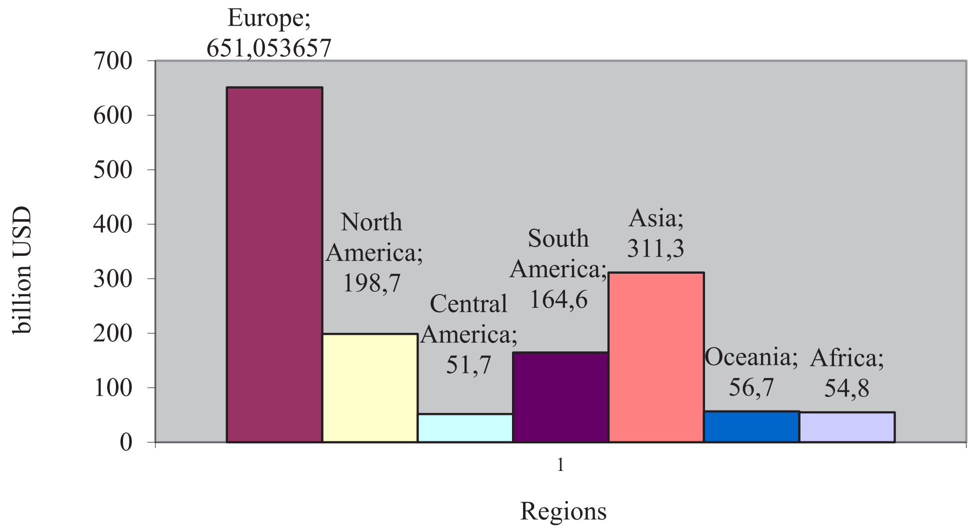

FIGURE 1 World trade in agri-food products in 2020, billion USD
Source: author's calculations based on FAO database

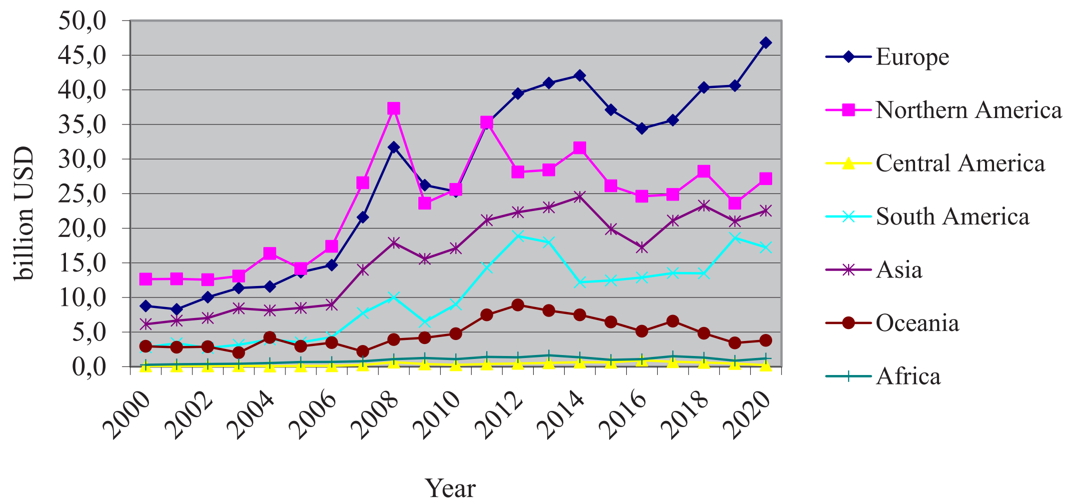

FIGURE 2 Dynamics of grain exports by major regions of the world, billion USD
Source: author's calculations based on FAO database

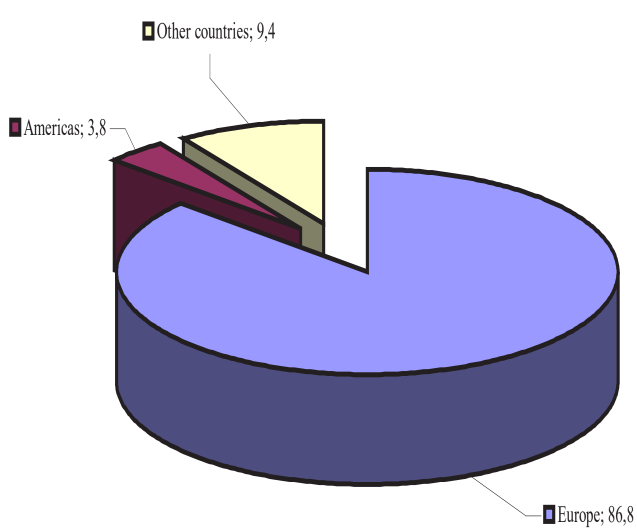

FIGURE 3 Structure of crude sunflower oil, 2020, %
Source: author's calculations based on FAO database

Ukraine's grain exports grew significantly, reaching 7.9% of global exports in 2020, which is higher than in Central America, Africa and Oceania, where the share was only 0.2%, 1.0% and 3.2%, respectively.

Crude sunflower oil

Europe remains the main exporter of sunflower oil, with its share in global exports not falling below 53.6% (2000–2001), but growing and since 2012 constantly exceeding 80%, reaching 86.8% in 2020 (Table 4).

The opposite situation is typical for the Americas. As for other countries, their share has changed less – from 4.6 per cent (2007) to 12.8 per cent (2014–2015), and although there were fluctuations, there was a general upward trend. Thus, Europe continues to account for the bulk of xports, and much less for other countries (Figure 3).

TABLE 3 World grain exports, billion USD, 2000–2020

Year	Ukraine	World	Europe	Americas	North America	Central America	South America	Asia	Oceania	Africa
2000	0,1	33,7	8,8	15,6	12,6	0,1	2,8	6,1	3,0	0,3
2001	0,5	34,3	8,3	16,2	12,7	0,1	3,4	6,7	2,8	0,3
2002	1,0	35,7	10,0	15,4	12,6	0,1	2,7	7,0	2,9	0,4
2003	0,4	38,7	11,4	16,4	13,1	0,1	3,2	8,4	2,0	0,4
2004	0,8	44,8	11,6	20,4	16,4	0,1	3,9	8,1	4,2	0,5
2005	1,4	43,5	13,6	17,8	14,2	0,1	3,5	8,5	2,9	0,7
2006	1,4	49,6	14,7	21,8	17,4	0,1	4,3	9,0	3,5	0,7
2007	0,8	73,1	21,6	34,6	26,6	0,2	7,7	14,0	2,2	0,8
2008	3,7	102,6	31,7	48,0	37,3	0,7	10,0	17,9	3,9	1,1
2009	3,6	77,7	26,2	30,5	23,6	0,4	6,5	15,6	4,2	1,2
2010	2,0	83,2	25,3	34,9	25,6	0,3	9,0	17,1	4,8	1,1
2011	3,6	115,2	35,1	50,0	35,3	0,4	14,3	21,2	7,5	1,4
2012	7,0	119,5	39,5	47,5	28,1	0,5	18,9	22,3	8,9	1,3
2013	6,4	120,7	41,0	46,9	28,4	0,5	18,0	23,0	8,1	1,6
2014	6,5	119,9	42,1	44,5	31,6	0,6	12,2	24,5	7,5	1,4
2015	6,1	103,7	37,1	39,2	26,1	0,6	12,5	19,9	6,4	1,0
2016	6,1	96,3	34,4	38,4	24,6	0,9	12,9	17,3	5,1	1,1
2017	6,5	103,9	35,6	39,1	24,9	0,7	13,5	21,1	6,6	1,5
2018	7,2	112,1	40,3	42,3	28,2	0,6	13,5	23,3	4,8	1,3
2019	8,5	108,6	40,6	42,7	23,6	0,4	18,6	21,0	3,4	0,9
2020	9,4	118,9	46,8	44,6	27,1	0,2	17,2	22,5	3,8	1,2

Source: author's calculations based on FAO database

TABLE 4 World exports and share of crude sunflower oil in selected regions, 2000–2020 (billion USD, %)

Year	Ukraine	% of the world	World	Europe	% of the world	Americas	% of the world	Other countries	% of the world
2000	0,4	19,9	1,8	0,9	53,6	0,7	40,9	0,1	5,5
2001	0,2	14,8	1,5	0,8	53,6	0,6	39,4	0,1	7,0
2002	0,3	18,6	1,8	1,0	57,3	0,7	37,1	0,1	5,6
2003	0,5	25,4	2,2	1,4	63,3	0,6	30,0	0,1	6,7
2004	0,5	21,9	2,4	1,6	64,6	0,7	29,1	0,2	6,3
2005	0,5	19,5	2,8	1,8	63,8	0,8	29,8	0,2	6,4
2006	0,9	25,7	3,6	2,5	68,4	0,9	24,0	0,3	7,6
2007	1,5	33,0	4,6	3,5	76,9	0,9	18,5	0,2	4,6
2008	1,6	22,4	7,2	4,9	68,0	1,8	25,5	0,5	6,4
2009	1,6	29,5	5,5	4,1	74,5	1,0	18,2	0,4	7,3
2010	1,7	31,2	5,6	4,3	76,8	0,8	14,3	0,5	8,9
2011	3,1	33,3	9,4	7,1	75,3	1,4	14,4	1,0	10,2
2012	4,0	35,5	11,2	9,1	81,2	1,1	9,9	1,0	8,9
2013	3,3	32,7	10,0	8,3	82,6	0,7	7,1	1,0	10,3
2014	3,6	36,8	9,7	7,9	81,5	0,5	5,7	1,2	12,8
2015	3,0	36,3	8,3	6,7	80,9	0,5	6,3	1,1	12,8
2016	3,7	38,7	9,6	7,9	82,7	0,6	6,2	1,1	11,1
2017	4,3	39,7	10,9	9,2	84,5	0,7	6,4	1,0	9,1
2018	4,1	39,5	10,4	9,0	86,2	0,6	5,7	0,8	8,2
2019	3,7	34,7	10,6	9,1	85,7	0,6	5,4	0,9	8,9
2020	5,3	40,3	13,2	11,5	86,8	0,5	3,8	1,2	9,4

Source: author's calculations based on FAO database

It should be noted that Ukraine is one of the main exporters of sunflower oil, and its share in global exports has grown significantly – from 19.9% (2000) to a maximum of 40.3% (2020), with a minimum of 14.8% in 2001. Until 2010, the figure did not exceed 29.5% (2009), with the exception of 2007 (33.0%), and did not fall below 31.2% (2010).

Between 2000 and 2020, global exports of crude sunflower oil increased by 7.5 times, with the largest increases coming from Europe, Asia and Africa – by 12.2, 14.9 and 8 times, respectively – but declines were observed for Oceania, North and South America. However, the value of exports from the latter region was higher than that of North and Central America consistently over the period (Table 5).

The value of Ukraine's exports increased significantly from 2000 to 2020, namely by 15.2 times, and in 2020 was higher than in the Americas, Asia, Oceania and Africa by 10.5, 5.1, 2070.0 and 28.5 times, respectively. This demonstrates the importance and significance of Ukraine in this market today and its prospects for the future.

4 Integration Groups in the Global Market

The development of international economic integration has had a significant impact on international trade. This has primarily contributed to the development of intra-regional trade, in particular through the removal of trade barriers, and has led to its restriction in relation to third countries. States sign regional trade agreements (RTAs) with dozens of countries on different continents. The EU is a highly integrated grouping, and it has regional agreements with a number of countries.

It should be borne in mind that integration with different countries and even within the same group can develop in different ways. Therefore, flexible integration is seen as part of the integration process, characterised by the unequal participation of countries in integration projects, based on their desires or capabilities, involving unequal rights and obligations of participants, and leading to the creation of different configurations inside or outside the EU, with the possible inclusion of third countries (Savka, 2021). The terms of trade

TABLE 5 Global exports of crude sunflower oil, billion USD

Year	Ukraine	World	Europe	Americas	North America	Central America	South America	Asia	Oceania	Africa
2000	0,35	1,76	0,94	0,72	0,12	0,02	0,58	0,07	0,003	0,02
2001	0,22	1,47	0,79	0,58	0,12	0,02	0,44	0,08	0,008	0,01
2002	0,33	1,80	1,03	0,67	0,09	0,02	0,56	0,08	0,006	0,02
2003	0,55	2,16	1,37	0,65	0,04	0,04	0,57	0,12	0,002	0,02
2004	0,53	2,41	1,56	0,70	0,08	0,03	0,59	0,11	0,002	0,04
2005	0,55	2,80	1,78	0,83	0,06	0,03	0,74	0,15	0,006	0,02
2006	0,92	3,59	2,46	0,86	0,08	0,03	0,75	0,23	0,009	0,03
2007	1,52	4,61	3,54	0,85	0,08	0,05	0,73	0,18	0,003	0,03
2008	1,62	7,23	4,92	1,84	0,09	0,05	1,71	0,33	0,008	0,12
2009	1,62	5,49	4,09	1,00	0,11	0,03	0,86	0,29	0,010	0,10
2010	1,74	5,58	4,28	0,80	0,10	0,04	0,66	0,32	0,010	0,17
2011	3,15	9,44	7,11	1,36	0,06	0,05	1,25	0,67	0,007	0,29
2012	3,97	11,21	9,10	1,11	0,04	0,06	1,01	0,78	0,006	0,21
2013	3,28	10,02	8,28	0,71	0,05	0,06	0,60	0,82	0,008	0,21
2014	3,55	9,65	7,87	0,55	0,06	0,05	0,43	1,07	0,007	0,16
2015	3,02	8,34	6,74	0,53	0,05	0,04	0,44	0,93	0,005	0,13
2016	3,70	9,56	7,91	0,59	0,05	0,02	0,52	0,92	0,006	0,13
2017	4,31	10,85	9,17	0,70	0,05	0,02	0,63	0,83	0,003	0,16
2018	4,11	10,40	8,96	0,59	0,06	0,02	0,51	0,68	0,002	0,16
2019	3,70	10,65	9,12	0,57	0,07	0,02	0,48	0,75	0,003	0,19
2020	5,32	13,20	11,46	0,50	0,07	0,03	0,40	1,05	0,003	0,19

Source: author's calculations based on FAO database

TABLE 6 Share of the EU, NAFTA and MERCOSUR in global exports of cereals and sunflower, safflower or cottonseed oil and their fractions, refined or unrefined, %

	Cereals					
	2003	2010	2015	2020	2021	2022
EU 27	23,1	23,1	23,3	22,2	20,1	21,0
NAFTA	33,6	30,5	25,7	23,1	25,7	23,5
MERCOSUR	7,7	10,1	11,4	14,0	12,9	17,0
	Sunflower, safflower or cottonseed oil and its fractions, refined or unrefined					
EU 27	32,9	30,4	27,0	24,9	26,5	34,9
NAFTA	5,0	3,0	1,8	1,1	0,9	1,3
MERCOSUR	25,2	9,0	5,1	2,4	4,5	4,0

Source: author's calculations based on International Trade Center database

significantly affect its development both within and outside integration groups.

The most developed integration groups are the EU, NAFTA and MERCOSUR. Consider their share in world exports of grains and sunflower, safflower or cottonseed oil and its fractions, refined or unrefined (Table 6).

From the above data, it is clear that almost more than half of the cereals are exported by only 3 integration groups, and their share in 2022 is 61.6%, which is lower than in some previous years. Within the integration groupings, the largest exporting countries are also highlighted, e.g., in 2022, France accounts for 31.4% of the group's exports in EU-27, the USA for 74.6% in NAFTA and Argentina for 47.1% in MERCOSUR.

However, important factors, especially for agri-food trade, are the existence of suitable natural and climatic conditions and the agricultural policy of the country and the group. For example, although the above associations account for more than 40% (2022) of exports of sunflower, safflower or cottonseed oil and fractions thereof, whether refined or not, the share of NAFTA and MERCOSUR is quite low.

These groups and countries belong to three different regions and continents. Hence, it is proposed to divide the major exporters into regions, integration groups and countries. Since the issue of food security is one of the fundamental issues at global level and for individual countries, and is one of the main objectives of individual trade and economic organisations, it is advisable that they contribute to its solution within the group and in relation to third countries. To this end, it is suggested that food aid measures should be developed depending on whether the country is a member of an integration grouping or belongs to the same region. The available data shows that although the share of integration groups has varied in some years, exports are growing and they are expected to take a leading position in the future, in particular due to the trade policy of integration groups, free movement of new technologies, etc.

5 Conclusions

Global trade in agri-food products, in particular grains and sunflower oil, is mainly concentrated in three regions – Europe, North and South America. At the same time, exports from Asia, South and Central America, and Africa are growing the fastest.

Considering the development of international economic integration, it should be noted that the main suppliers of agri-food products are mainly the most developed integration groups – the EU, NAFTA and MERCOSUR, where the largest share belongs to the leading countries.

Given the specifics of trade, it is proposed to divide the main exporters into regions, integration groups and countries. It is advisable that integration groups contribute to a certain extent to solving the problem of food security at the regional level and in relation to third countries. Thus, it was proposed to develop measures to provide food aid to countries affected by unfavourable circumstances in several areas: within integration groups, in the region and at the global level. Despite the increase in exports from countries in Asia, South and Central America and Africa, these groups are expected to remain among the largest suppliers of agri-food products, mainly due to their participation in integration processes that contribute to trade liberalisation and the diffusion of new technologies, especially in the agricultural sector. Ukraine is an important supplier of strategic agri-food products to the world market and can strengthen its position in the future, given its production and export potential, growing demand and the impact of climate change on agricultural production. Ukraine currently has a free trade agreement with the EU, which should help to increase Ukraine's ability to export to this market and other developed countries, particularly as a result of the harmoni-sation of quality standards with European standards.

References

[1] Di Mauro, F. (2000). The impact of economic integration on FDI and exports: a gravity approach. Working document, 156 p.

[2] Food and Agriculture Organization of the United Nations (n.d.). E-source: https://www.fao.org/statistics/en/

[3] International trade statistics. E-source: https://www.trademap.org/Index.aspx

[4] Kowalczyk, Carsten (Ed.) (1999). *Economic Integration and International Trade.* Cheltenham: Elgar.

[5] Mazaraki, A. A. (Ed.) (2016). Foreign trade of Ukraine: XXI century. Kyiv: Kyiv National University of Trade and Economics.

[6] Ndukwe, F. O. (2004). Promoting Trade: Regional Integration and the Global Economy". In *New Partnership for Africa's Development*. USA: International Monetary Fund. DOI: https://doi.org/10.5089/9781589062627.072.ch0006

[7] Nguyen Tien Hung, G. (1968). Economies of Scale and Economic Integration.

[8] Ohinok, S. V. (2016). Evolution of views on issues of economic integration and establishing the EU single market. *Uzhhorod National University Herald. Series: Law*, 6 (2), 138–142.

[9] Ottaviano, Gianmarco (2009). Liberalización delcomercio, integración económica y disparidades regionales. *CAF Documento de trabaj*, 2009/05 1–48.

[10] Philippe de Lombaerde, P. Lelio Iapadre (2008). International Integration and Societal Progress: A Critical Review of Globalisation Indicators. Chapter 21, 327-331 of OECD (2008). Statistics, Knowledge and Policy 2007: Measuring and Fostering the Progress of Societies, OECD, Paris.

[11] Plakhotnik, O. O., & Pavlenko, A. A. (2002). The impact of globalization on the development of the world economy and the economy of Ukraine. *Ekonomika ta derzhava*, 5, 62–67.

[12] Regional trade agreements. World Trade Organization. E-source: https://www.wto.org/english/tratop_e/region_e/region_e.htm

[13] Savka, V. Ia. (2021). Scopes of flexible integration and its form – enhanced cooperation in the EU. *Regional Studies*, 33–37.

[14] Venables, A. (2015). International Trade: Economic Integration. *International Encyclopedia of the Social & Behavioral Sciences.* (2 nd ed.). The Netherlands. 574579.

[15] Zayats, O. I. (2013). Theoretical basis of international economic integration in conditions of trade and economic relations among countries. *Efektyvna ekonomika*, 10. E-source: http://www.economy.nayka.com.ua/?op=1&z=2432

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