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UKRAINE – A VIEW OF AGRICULTURAL PRODUCTION AND INTERNATIONAL TRADE

ABSTRACT

The present paper gives a brief overview of the current position of Ukraine in the European and world agri-food markets. It analyses the main evolutions of the country's agri-food exports and imports, as well as the composition of trade flows for the main commodity groups. The analysis shows that Ukraine gradually increased its presence in the Single Market after 2012, but much more after the enforcement of the DCFTA (Deep and Comprehensive Free Trade Agreement) with the EU in 2017. The latest events (war started in February 2022) are expected to diminish the agricultural production and exports, given the shortage of inputs (fertilizers, diesel, labour) and blockage of the ports in Azov and Black Sea that were the main points of shipping the exported products to their various destinations.

Key words: Ukraine, agricultural production, agri-food exports, cereals, oilseeds, vegetable oils.

JEL Classification: Q02, Q13, Q17.

1. INTRODUCTION

With an agricultural area of 42 million hectares (3 times larger than Romania's), covering about 70% of the country's territory (as compared to 61% in Romania) and 30 million hectares arable land (79% of the agricultural area, as compared to 64% in Romania), plus an estimation of 25% of the world's black soil, Ukraine is one of the world's top agricultural producers and exporters, and plays a critical role in supplying cereals, oilseeds and oils on the global market (IMF, 2021).

In Ukraine, agriculture represents 9.3% of the country's GVA, as compared to 5% in Romania, and provides 14% of employment, as compared to 20% in Romania. Ukrainian agri-food exports totalled USD 27.8 billion in 2021, accounting for 41 percent of the country's overall exports, while in Romania agri-food exports totalled USD 11.3 billion, accounting for 13% of the overall exports.

Its agricultural production intensified in the last two decades, by concentrating land into large farms that benefit from economies of scale, specialization and far better and modern technology than small households. The value of agricultural production increased by 52% in the last decade (2010–2021), but faster in agricultural enterprises (+88.5%). This shift towards large enterprises also meant a strong specialisation in crops (cereals and oilseeds), and a diminishment of the share of animal production (Table 1). The orientation to crop production occurred in all types of agricultural holdings, but much more in enterprises. Even in the household farms, the value of animal production diminished.

The number of cattle, sheep and goats diminished almost constantly, while the number of pigs and poultry showed minor oscillations. The diminution in the number of animal heads was reflected in the animal production as well, only the liveweight of slaughter pigs showed a slight increase over the years. Imports of staples increased in 2016–2021, more significantly in milk and dairy products, fruit and processed food.

Table 1

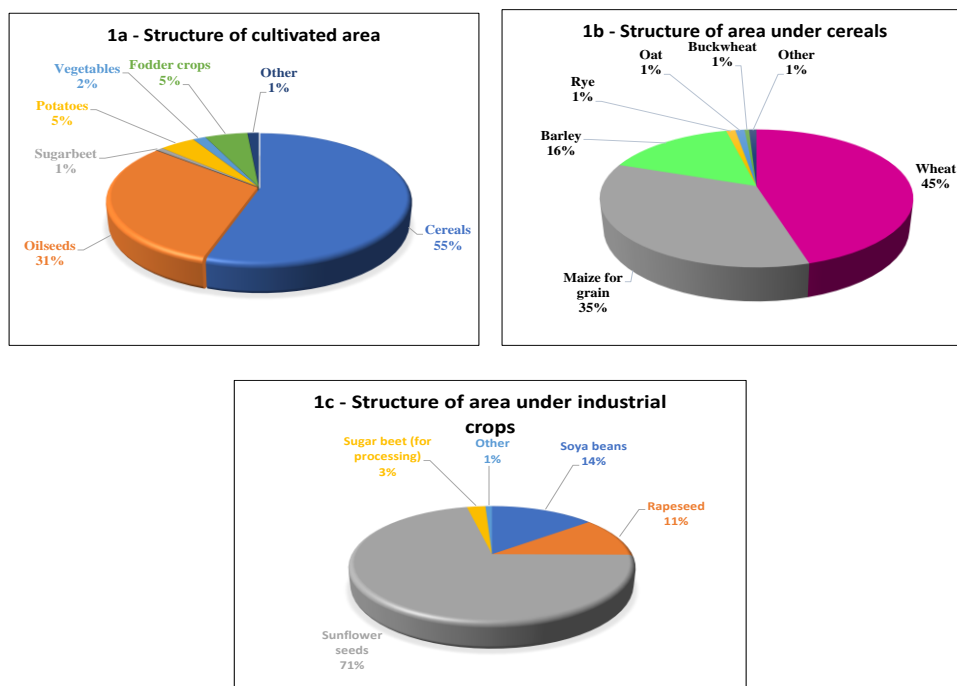
Share of crop and animal production in agricultural output value in Ukraine (selected years)

– % –

Item	2010		2016		2021	
	Crop production	Animal production	Crop production	Animal production	Crop production	Animal production
Total agricultural holdings	70.5	29.5	77.9	22.1	81.4	18.6
Enterprises	78.2	21.8	83.5	16.5	85.3	14.7
Household farms	61.1	38.9	68.3	31.7	73.2	26.8

Source: Calculations based on data from State Statistics Service of Ukraine

In the last decade, the current crop production exceeded by far the domestic consumption, and allowed Ukraine to become a major exporter of cereals, oilseeds and vegetable oil on the world markets. Exports went mostly by sea, through ports at Azov and Black Sea. Unfortunately, since February 2022, the war has severely jeopardized the agricultural production and exports. In 2021, the cultivated area was mainly under cereals (55%) and oilseeds (31%) (Figure 1a). The area under cereals was mainly occupied by wheat, maize and barley crops (Figure 1b), while oilseeds took 96% of the area under industrial crops (Figure 1c).



Source: Calculations based on data from State Statistics Service of Ukraine

Figure 1. Structure of cultivated area in Ukraine, 2021

The crop production in 2021 came mostly from intensive cultivation in large enterprises, except for potatoes, which came mostly from household farms, but it is aimed for domestic consumption, not for export (Table 2).

Table 2

Area and production for the main crops in Ukraine (2021)

Item	Cultivated area, of which:		Production, of which:	
	Total area (1000 ha)	Area cultivated in enterprises (%)	Total production (1000 t)	Production in enterprises (%)
Agricultural crops	28,387.5	70.5	–	–
Wheat	7,099.6	76.5	32,719.67	79.8
Maize for grain	5,474.8	80.2	39,819.37	86.3
Barley	2,474.5	53.5	9,646.23	59.3
Soy beans	1,280.3	85.7	3,409.34	89.4
Rapeseed	1,009.5	98.7	2,960.08	98.9
Sunflower seeds	6,509.7	83.0	16,439.84	86.6
Sugar beet (for processing)	226.6	93.9	9,834.62	94.9
Potatoes	1,283.1	1.5	21,299.51	2.0
Vegetables (in open field)	452.8	7.0	9,885.88	13.8

Source: calculations based on data from State Statistics Service of Ukraine

According to its authorities, in 2022 Ukraine has lost 25% of its cultivated area so far, and the structure of cultivated crops has also changed: farmers sowed less export-oriented crops, due to the blockade of maritime ports; less soybeans (by 50,000 ha), due to the fact that it is the most lenient crop for mineral fertilizers, and less maize (by 900,000 ha) due to shortage of inputs such as fertilizers, diesel and labour.

It is estimated that besides easily covering the domestic consumption (which diminished due to mass displacement and massive emigration), exports will still be made, but severely diminished, since the cereal output is expected to be 40% lower as compared to 2021 (Media Center of Ukraine, 2022).

2. STATE OF KNOWLEDGE

The Food and Agriculture Organization of the United Nations (FAO) and the United Nations World Food Programme (WFP) issued in early June 2022 the report “Hunger Hotspots – FAO-WFP early warnings on acute food insecurity”, which emphasizes the multiple shocks threatening rural fragile agri-food systems: multiple, looming food crises, driven by conflict, climate shocks (such as recurrent droughts or flooding), problems generated by the COVID-19 pandemic, massive public debt burdens.

It identifies 20 ‘hunger hotspots’ where acute hunger is expected to worsen from June–September 2022 and calls for actions to save lives and livelihoods, and prevent famine, given that all these realities are exacerbated by the ripple effects of the war in Ukraine, which has pushed food and energy prices to accelerate almost all over the world.

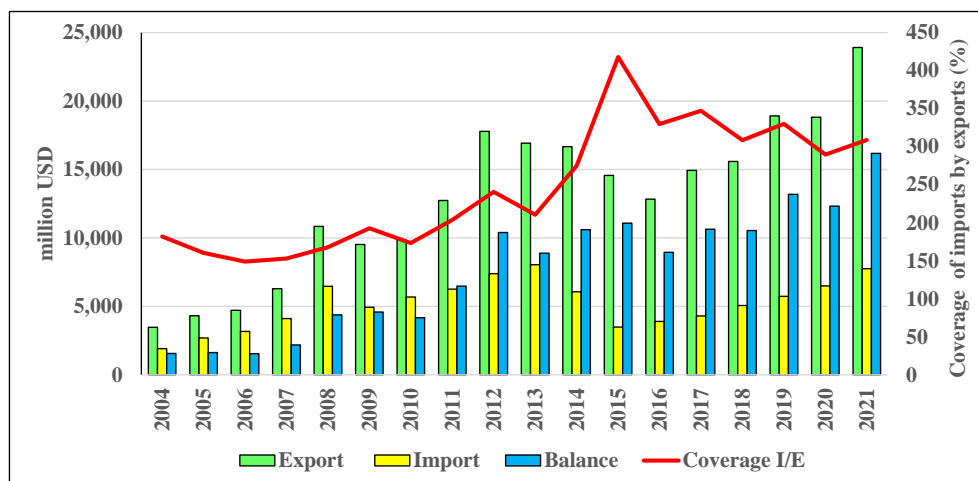
3. MATERIAL AND METHOD

Since Ukraine is not a member of the EU and its statistics are not yet included in Eurostat, calculations in the present paper were made using three different sources of publications from the State Statistics Service of Ukraine, FAOSTAT database (for trade matrixes) (expressed in UDS) and Eurostat (for data on Ukrainian trade with the EU, expressed in EUR). We worked on data in Combined Nomenclature (2 digit-level), chapters 01–24. Values, volumes, ranking, directions and composition of the trade flows were analysed.

4. RESULTS AND DISCUSSIONS

4.1. UKRAINIAN AGRI-FOOD TRADE WITH THE WORLD

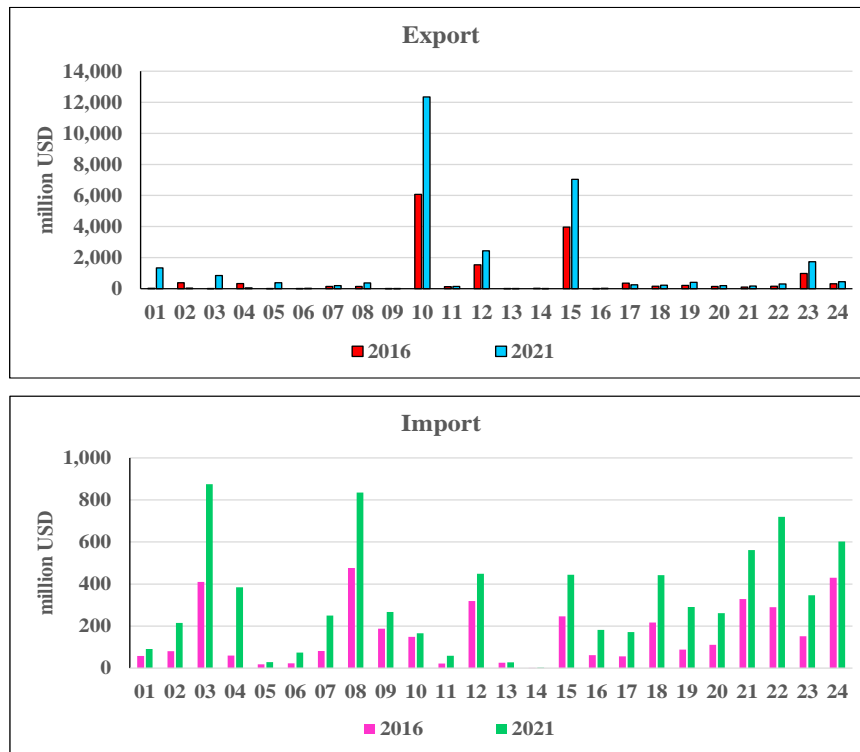
In the last two decades, Ukrainian total agri-food trade increased 10-fold. Data show a 5-fold increase of exports between 2004 and 2013 (when they reached USD 16.9 billion), followed by a slight decrease down to USD 12.8 billion. Imports fell abruptly in 2013–2015 (by 57%). Since the enforcement of DCFTA (Deep and Comprehensive Free Trade Area with the EU) in 2017, the trend has been mostly upwards for exports, imports, and trade balance. The highest values were reached in 2021 (USD 23.9 billion in exports and USD 7.7 billion in imports, resulting in the highest surplus USD +16.2 billion). In 2004–2021, the coverage of imports by exports ranged from 149% to 418% (Figure 2).



Source: Calculations based on data from State Statistics Service of Ukraine

Figure 2. Ukrainian agri-food trade (2004–2021)

The Ukrainian export model is poorly diversified: in 2016 (last year before enforcement of DCFTA), cereals only took 40% of exports, followed by oils (26%) and oilseeds (10%). In 2021, the pattern was similar (42%, 24%, 8% respectively). Basically, these three groups of products accounted for $\frac{3}{4}$ of the total export value (Figure 3). Although this export model is vulnerable to unfavorable weather conditions and international price volatility, the magnitude of its production and exports allowed Ukraine to become a major player on the international cereal and oilseed markets.



Notes: Chapters 01–24 in Combined Nomenclature (which include all agri-food products): 01–live animals; 02–meat & offal; 03–fish & seafood; 04–milk, dairy products, eggs & honey; 05–other animal products; 06–live plants; 07–vegetables; 08–fruit; 09–coffee, tea & spices; 10–cereals; 11–products of the milling industry; 12–oilseeds; 13–lacs, gums & resins; 14–other crop products; 15–oils & fats; 16–meat & fish preparations; 17–sugar & confectionery products; 18–cocoa & cocoa products; 19–bakery & pastry products; 20–vegetables & fruit preparations; 21–miscellaneous food preparations; 22–beverages; 23–animal feed; 24–tobacco & tobacco products.

Source: Calculations based on data from State Statistics Service of Ukraine

Figure 3. Structure of Ukrainian agri-food trade by product groups

Ukraine is normally the world's top producer of sunflower meal, oil and seed and the world's top exporter of sunflower meal and oil. It normally produces one-third of the world's sunflower oil and accounts for nearly half of global exports. Top markets in 2021 were India, the EU and China. The country normally supplies nearly two-thirds of the world's sunflower meal, with exports valued at \$1.2 billion in 2021, with main destinations China, the EU, and Turkey (Table 3).

Ukraine was the world's eighth-largest maize producer and the fourth-largest exporter in 2021, worth \$5.9 billion, having as main destinations China (32%) and the EU (30%), Egypt, Iran and Turkey. Ukraine is the world's ninth-largest global wheat producer. In 2021, wheat exports were valued at \$5.1 billion, with Egypt (17%), Indonesia (13%), Turkey (8%), Pakistan and Bangladesh as main destinations, but exports are expected to halve in 2022/23.

Table 3

Ukraine's agricultural exports (2021 calendar year)

Product	Value	Top Markets (\$ billion)		
Total	\$27.8 billion	EU (\$7.7)	China (\$4.2)	India (\$2.0)
Sunflower oil	\$6.4 billion	India (\$1.9)	EU (\$1.9)	China (\$0.9)
Maize	\$5.9 billion	China (\$1.9)	EU (\$1.8)	Egypt (\$0.5)
Wheat	\$5.2 billion	Egypt (\$0.9)	Indonesia (\$0.7)	Turkey (\$0.4)
Rapeseed	\$1.7 billion	EU (\$1.1)	Pakistan (\$0.2)	UK (\$0.2)
Barley	\$1.3 billion	China (\$0.7)	Turkey (\$0.2)	Saudi Arabia (\$0.1)
Sunflower meal	\$1.2 billion	China (\$0.6)	EU (\$0.3)	Belarus (\$0.1)

Source: Trade Data Monitor LLC

USDA Foreign Agricultural Service projections for the marketing year 2022/23 (USDA, 2022) indicate that Ukraine's share in global oil production and exports is projected to shrink to 21 and 35 percent, respectively; the share of sunflower meal global exports is projected to decline from 50 to 40%.

The Ukrainian agri-food imports are much more diversified; in 2021 the largest imports were of fish, fruit, beverages (mostly wine), tobacco and cigarettes and processed food (bakery & pastry products, vegetables & fruit preparations, miscellaneous food preparations).

Although being the top sunflower seeds producer since 2008, the 2022 production is expected to diminish due to the war, to about 9.5 million tons (19% of global production, ranking third after Russia and EU and worth 21% of global exports).

4.2. UKRAINIAN AGRI-FOOD TRADE WITH THE EU

In 2009, the EU launched the Eastern Partnership, which aimed at regional cooperation and strengthening EU's relations with neighbours from Eastern Europe and South Caucasus: Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine. It provided a good framework for multilateral cooperation, while facilitating a better bilateral cooperation with the EU.

The Association Agreement, which included the Deep and Comprehensive Free Trade Area (DCFTA) was signed with Ukraine in 2014. The DCFTA has been provisionally applied since January 1, 2016. The Association Agreement (AA) formally entered into force on September 1, 2017 following ratification by all EU Member States.

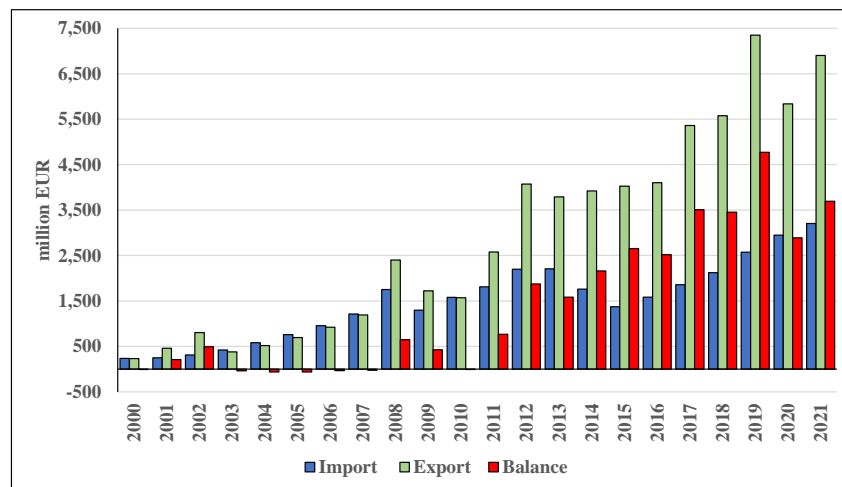
DCFTA offered Ukraine a framework for modernising its trade relations and for economic development by the opening of markets by progressive removal of customs tariffs and quotas, and by an extensive harmonisation of laws, norms and regulations in various trade-related sectors, creating the conditions for aligning key sectors of the Ukrainian economy to EU standards. To better integrate with the EU market, Ukraine is aligning its legislation to the EU's norms and standards for industrial and agri-food products.

DCFTA aimed at removing customs duties on imports and exports (for most products except agricultural ones), incorporating fundamental WTO rules on non-tariff

barriers (NTBs), reducing obstacles to trade arising from technical barriers to trade (TBT), aligning legislation regarding sanitary and phytosanitary (SPS) measures. For agricultural goods, important concessions have been made. Duty-free tariff rate quotas have been granted to Ukraine for goods such as cereals, pork, beef, poultry, while for others the progressive elimination by the EU of custom duties occurred over a longer transition period (generally 10 years). Thus, for particularly sensitive sectors, the DCFTA gave producers more time to adapt to a more competitive environment while offering consumers a wider choice of products at lower prices (EC, 2004). The EU granted Autonomous Trade Measures (ATMs) for Ukraine, topping up the concessions included in the Association Agreement/DCFTA for several agricultural products since October 2017 for a period of three years. It was estimated that Ukrainian agriculture would benefit most from cuts in duties: about €330 million for agricultural products, and €53 million for processed agricultural products.

Among all origin countries for EU extra-community imports, in 2000–2006, Ukraine ranked 29th; after DCFTA was applied, in 2017–2021, it ranked 5th (after Brazil, USA, Norway and China), providing 4.4% of total EU imports from non-EU countries.

All facilities that were granted through DCFTA resulted in higher exports of Ukraine to the EU, and while imports increased as well, since 2011 the Ukraine-EU agri-food trade balance has been continuously positive, with a trade surplus that peaked in 2019 (EUR +4.8 million) (Figure 4).

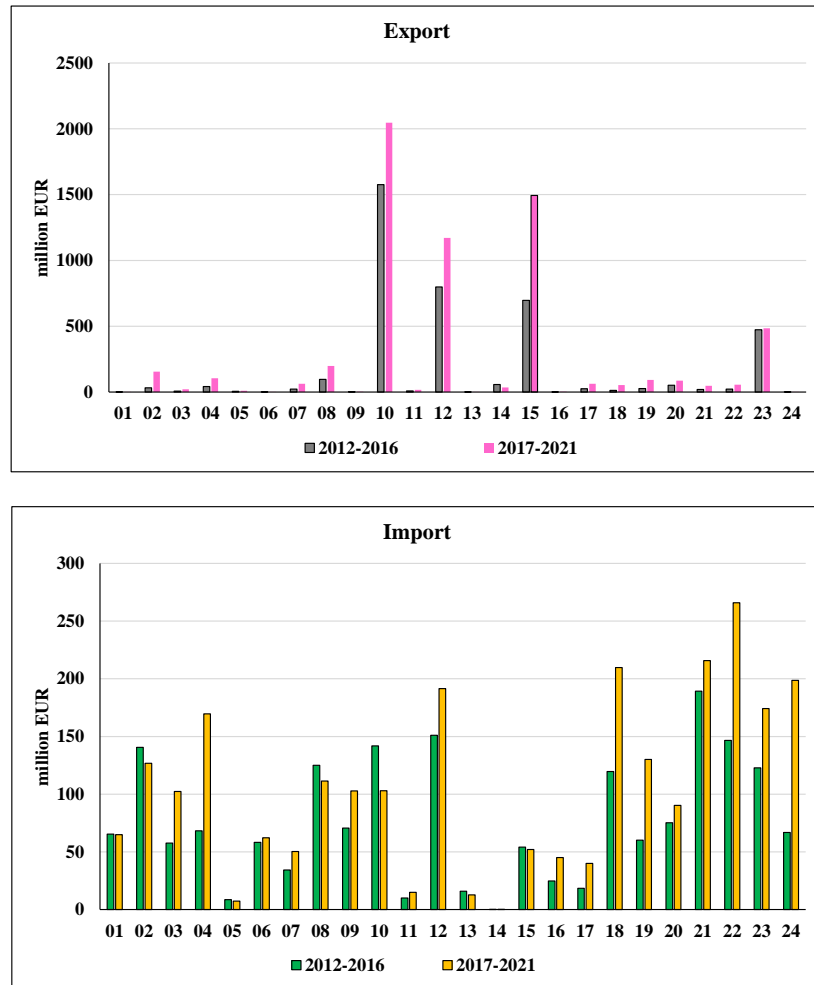


Source: calculations based on Eurostat data

Figure 4. Ukrainian agri-food trade with the EU

Ukrainian exports to the EU are following similar patterns as world exports, that is mostly cereals, vegetable oil and oilseeds, which take 75% of exports. Export values of all product groups increased after the enforcement of the DCFTA; cereals by 30%, oilseeds by 47%, while vegetable oil exports more than doubled. The structure of Ukrainian imports from the EU is an entirely different story: almost all

24 product groups of the Combined Nomenclature are represented. The highest value is represented by beverages (mostly wine) (11%), followed by processed products: miscellaneous food preparations, cocoa and cocoa products, cigarettes, petfood, dairy products, each group representing 6–8% of the import value (Figure 5).



Notes: Chapters 01–24 in Combined Nomenclature (which include all agri-food products): 01–live animals; 02–meat & offal; 03–fish & seafood; 04–milk, dairy products, eggs & honey; 05–other animal products; 06–live plants; 07–vegetables; 08–fruit; 09–coffee, tea & spices; 10–cereals; 11–products of the milling industry; 12–oilseeds; 13–lacs, gums & resins; 14–other crop products; 15–oils & fats; 16–meat & fish preparations; 17–sugar & confectionery products; 18–cocoa & cocoa products; 19–bakery & pastry products; 20–vegetables & fruit preparations; 21–miscellaneous food preparations; 22–beverages; 23–animal feed; 24–tobacco & tobacco products.

Source: Calculations based on data from State Statistics Service of Ukraine

Figure 5. Structure of Ukraine agri-food trade with the EU by product groups

The main EU countries from which Ukrainian imports are originating are Germany, Poland Italy, France and Hungary, while Romania ranks 11th.

Ukrainian agri-food trade with Romania can be characterized as occasional until 2009, valued up to EUR 6.5 million (Gavrilescu & Voicilas, 2016). Since 2010, both exports and imports increased steadily. Ukrainian exports to Romania tripled in 2012–2015, and from 2017 to 2021, they went up from EUR 0.8 to 1.3 billion, while imports from Romania expanded from EUR 487 to 684 million. As a result, if until 2014, Ukrainian agri-food trade balance with Romania was negative, it shifted to positive since 2015, to reach EUR +656 million in 2021.

5. CONCLUSIONS

In conclusion, it can be appreciated that Ukraine is a major player on the current main agricultural world and European markets, and at least for the marketing year 2022/23 it will remain so, despite some diminutions in production and exports due to the war that is disrupting normal production and trade flows.

It is essential to support Ukraine in continuing its production and mainly exports (through alternative ways, other than direct shipping from its ports that currently (June 2022) are under military blockade. Ukrainian presence on the cereal, vegetable oil and sunflower world and European markets is extremely important in order to avoid major disruptions in terms of supply and prices, especially with regard to countries that are major importers, such as North-African and Asian countries. As its neighbour, Romania can play an important role in this respect.

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