Black Sea Trade & Development Bank

BSEC REGION:
THE BREADBASKET OF THE WORLD

bstdb.org

Key Takeaways

- ***The BSEC Region is the breadbasket of the world***, accounting for about one-fifth of the global production of key cereal grains, including wheat, barley, rye and oats.

- ***The biggest producers of cereal grains in the Region are Russia, Ukraine and Türkiye***. The production of wheat, maize, barley, rye and oats in the first two countries exceeds domestic demand, allowing for significant amounts of the surplus production to be exported. On the other hand, Türkiye continues to rely on imports to meet its domestic demand for cereal grains.

- The conflict between Russia and Ukraine has significantly distorted the production of cereal grains in Ukraine, as, in a context of high inventories from the previous year's harvest and disruptions in the export infrastructure, farmers opted to scale down the planted area in the marketing year (MY) 2022-2023. ***This is expected to reduce the supply of cereal grains from Ukraine to the international market in 2023, creating upward pressures on global prices***.

- BSEC countries are among the main exporters of cereals on a global scale. ***In 2021, cereal exports from the Region surged by 22.9% y/y in value terms, reaching a new record high of USD 29.3bn***. This corresponded to 19.2% of global cereal exports, outlining the prominent role of the Region in the global supply of cereals. In addition to the two biggest exporters - Ukraine and Russia - it is important to note the rising importance of mid-sized countries in the Region (e.g. Romania, Bulgaria and Serbia) for the global supply of cereals.

- ***Wheat was the main cereal exported by BSEC countries in 2021, with exports of USD 16bn, followed by maize*** (USD 9.9bn) ***and barley*** (USD 2.9bn).

- Thanks to the vast arable land and developed production and transport infrastructure, ***the BSEC Region as a whole has relatively low dependence on imports of cereals***. In 2021, cereals for a value of USD 6.9bn were imported, which corresponded to 0.7% of the total imports of the countries in the Region and to 0.2% of their combined GDP.

- ***In 2021, the cereal trade surplus of the BSEC Region reached a new record high of USD 22.4bn***. This corresponded to 0.63% of the combined GDP of BSEC countries in 2021, up from a 0.45% share in 2016.

- ***Six BSEC countries are net exporters of cereals***: Ukraine, Russia, Romania, Bulgaria, Serbia and Moldova. The remaining seven countries - Türkiye, Azerbaijan, Greece, Georgia, Albania, Armenia and North Macedonia - rely on imports to meet domestic demand, thus posting trade deficits in cereals.

- In terms of cereal domestic demand, it should be noted that ***Armenia and Georgia are the BSEC countries mostly dependent on imports of cereals. Five other countries also rely on imports: Albania, Greece, Azerbaijan, North Macedonia and Türkiye***. On the other hand, Ukraine and Bulgaria were the BSEC countries with the highest excess production of cereals, allowing for significant exports. Other net exporters in the Region were Russia, Serbia, Moldova and Romania.

- ***Agriculture is one of the priority sectors for BSTDB***. The Bank aims to provide long-term financial support to agribusiness companies for investments, expansion and working capital as well as other types of corporate loans, such as trade finance. ***Among the current client portfolio of the Bank are leading sector players from Ukraine (Kernel Group, Epicentr Group and Prometey Group), Moldova (Trans-Oil Group), Romania (Agricover Group) and Bulgaria (Oliva), the latter co-financed with the European Investment Bank (EIB)***.

1. Overview of the Cereal Grain Industry in BSEC Countries

The BSEC Region[1] is among the major global producers of agricultural crops, with a combined arable land of 196.9mn ha at end-2020, according to the latest available data from the World Bank. In particular, ***the Region is home to three of the top 20 countries with the most extensive arable land in the world***, namely Russia (3rd place, with 121.6mn ha), Ukraine (8th place, with 32.9mn ha) and Türkiye (16th place, with 19.6mn ha).

The BSEC Region has often been referred to as the breadbasket of the world, as it accounts for more than one-fifth of the production of key cereal grains, including wheat, barley, rye and oats. This prominent role has been exacerbated by the conflict between Russia and Ukraine since February 2022. The conflict has severely disrupted the supply of key commodities from the Region, put upside pressures on prices and created food security challenges in several countries around the globe.

2. Cereal Production in BSEC Countries

The BSEC Region has a leading position in the production of cereal grains. Also referred to as the world's wheat field, the Region accounted for one-fifth of global **wheat** production in 2021, according to the Food and Agriculture Organization of the United Nations (FAO). Wheat output in the Region is mainly concentrated in three countries - Russia, Ukraine and Türkiye - which together accounted for 16.3% of global output in 2021 (*see Table 1*). Romania and Bulgaria followed suit, with shares of 1.4% and 1%, respectively, in global production in the same year.

Furthermore, the BSEC Region is among the biggest **maize** producers in the world, accounting for 7.7% of global output in 2021 (*see Table 2*). On a country level, Ukraine was the largest producer, with a 3.5% global share, followed by Russia (1.3%), Romania (1.2%), Türkiye (0.6%) and Serbia (0.5%).

Table 1
Wheat Production in BSEC Countries, 2021

Country	Volume, thou tons	% of World Total
Albania	225.2	0.03%
Armenia	97.0	0.01%
Azerbaijan	1,837	0.24%
Bulgaria	7,343	0.95%
Georgia	135.9	0.02%
Greece	1,058	0.14%
Moldova	1,565	0.20%
North Macedonia	243.7	0.03%
Romania	10,434	1.35%
Russia	76,057	9.87%
Serbia	3,442	0.45%
Türkiye	17,650	2.29%
Ukraine	32,183	4.17%
BSEC Region	**152,272**	**19.75%**

Source: FAO, own calculations

Table 2
Maize Production in BSEC Countries, 2021

Country	Volume, thou tons	% of World Total
Albania	414.3	0.03%
Armenia	6.0	0.0005%
Azerbaijan	279.2	0.02%
Bulgaria	3,427	0.28%
Georgia	233.0	0.02%
Greece	1,323	0.11%
Moldova	2,793	0.23%
North Macedonia	134.0	0.01%
Romania	14,821	1.22%
Russia	15,240	1.26%
Serbia	6,027	0.50%
Türkiye	6,750	0.56%
Ukraine	42,110	3.48%
BSEC Region	**93,557**	**7.73%**

Source: FAO, own calculations

[1] BSEC Region includes the 13 member countries of the Black Sea Economic Cooperation (BSEC), namely: Albania, Armenia, Azerbaijan, Bulgaria, Georgia, Greece, Moldova, North Macedonia, Romania, Russia, Serbia, Türkiye and Ukraine.

The BSEC Region also has a prominent position in the production of **barley**, being responsible for over 26% of global output in 2021. Russia, Ukraine and Türkiye were the three major producing countries, with a combined share of 22.8% in the same year (*see Table 3*). Other key producers in the Region were Romania, Azerbaijan, Bulgaria, Serbia and Greece.

Rye is another key cereal grain cultivated in the Region. BSEC countries accounted for about one-fifth of global rye production in 2021 (*see Table 4*). Russia was the biggest producer, with a 13% share in global output during the year, followed by Ukraine (4.5%) and Türkiye (1.5%). Romania, Serbia, Greece and Bulgaria also stood out with a share of above 0.1% each in global production during the same year.

The BSEC Region is also a key supplier of **oats**, accounting for slightly more than one-fifth of global production in 2021 (*see Table 5*). Russia was the leading producer with a 16.7% global share, followed by Ukraine (2.1%) and Türkiye (1.2%). Other main producers in the Region were Romania (a 0.9% share), Greece (0.3%) and Serbia (0.25%).

Table 3

Barley Production in BSEC Countries, 2021

Country	Volume, thou tons	% of World Total
Albania	15.3	0.01%
Armenia	38.0	0.03%
Azerbaijan	1,117	0.77%
Bulgaria	704.1	0.48%
Georgia	58.1	0.04%
Greece	332.0	0.23%
Moldova	253.4	0.17%
North Macedonia	151.4	0.10%
Romania	1,981	1.36%
Russia	17,996	12.36%
Serbia	553.9	0.38%
Türkiye	5,750	3.95%
Ukraine	9,437	6.48%
BSEC Region	**38,387**	**26.36%**

Source: FAO, own calculations

Table 4

Rye Production in BSEC Countries, 2021

Country	Volume, thou tons	% of World Total
Albania	3.3	0.02%
Armenia	0.4	0.003%
Azerbaijan	0.5	0.004%
Bulgaria	16.9	0.13%
Georgia	0.2	0.001%
Greece	17.4	0.13%
Moldova	3.1	0.02%
North Macedonia	8.5	0.06%
Romania	35.1	0.27%
Russia	1,722	13.02%
Serbia	18.7	0.14%
Türkiye	200.0	1.51%
Ukraine	593.2	4.49%
BSEC Region	**2,619**	**19.81%**

Source: FAO, own calculations

Table 5
Oats Production in BSEC Countries, 2021

Country	Volume, thou tons	% of World Total
Albania	33.1	0.15%
Armenia	4.1	0.02%
Azerbaijan	11.6	0.05%
Bulgaria	24.3	0.11%
Georgia	3.2	0.01%
Greece	72.0	0.32%
Moldova	5.6	0.02%
North Macedonia	2.4	0.01%
Romania	209.9	0.93%
Russia	3,776	16.73%
Serbia	56.0	0.25%
Türkiye	276.0	1.22%
Ukraine	467.9	2.07%
BSEC Region	**4,942**	**21.89%**

Source: FAO, own calculations

According to the November 2022 forecast of the U.S. Department of Agriculture Foreign Agricultural Service (USDA FAS), global wheat production is projected to rise by 0.4% y/y to 782.7mn tons in the marketing year (MY) 2022-2023.[2] Among the main driving forces will be the higher output from Russia (+21.1% y/y) and Türkiye (+7.8% y/y), the fourth- and the tenth-biggest producers on a global scale respectively (*see Table 6*). On the other hand, a sharp decrease in production is forecast for Ukraine (37.9% down y/y), mainly due to problems with exports of previous year's harvest, planting uncertainties and disruptions caused by widespread physical destruction from the conflict with Russia. This is expected to reduce the supply of wheat from Ukraine to the international market in 2023, resulting in upward pressures on global prices. Nevertheless, ***Ukraine is forecast to retain its position as the ninth-largest wheat producer in MY 2022-2023***.

[2] Marketing year (MY) refers to the 12-month period at the onset of the main harvest, when the crop is marketed (i.e. consumed, traded or stored). The marketing year varies across countries in the Black Sea Region.

Table 6

Top 10 Countries by Production of Wheat in MY 2022-2023f, thou tons

Ranking	Country/Region	MY 2018-2019	MY 2019-2020	MY 2020-2021	MY 2021-2022	MY 2022-2023f	y/y change
1	China	131,441	133,600	134,250	136,946	138,000	0.8%
2	European Union*	123,124	138,799	126,691	138,289	134,300	-2.9%
3	India	99,870	103,600	107,860	109,586	103,000	-6.0%
4	**Russia**	**71,685**	**73,610**	**85,352**	**75,158**	**91,000**	**21.1%**
5	United States	51,306	52,581	49,751	44,804	44,902	0.2%
6	Canada	32,352	32,670	35,437	22,296	35,000	57.0%
7	Australia	17,598	14,480	31,923	36,347	34,500	-5.1%
8	Pakistan	25,076	24,349	25,248	27,464	26,400	-3.9%
9	**Ukraine**	**25,057**	**25,420**	**25,420**	**33,007**	**20,500**	**-37.9%**
10	**Türkiye**	**19,000**	**18,250**	**18,250**	**16,000**	**17,250**	**7.8%**
-	Others	134,411	141,147	134,348	139,545	137,823	-1.2%
-	**World Total**	**730,920**	**761,507**	**761,507**	**779,442**	**782,675**	**0.4%**

Source: USDA FAS, Grain: World Markets and Trade (November 9, 2022), own calculations
* Data for 27 countries in the European Union, including Bulgaria, Greece and Romania.

Regarding **maize**, global output is set to decrease by 4% y/y in MY 2022-2023, according to USDA FAS. The main factors for this are the lower output in the European Union (22.8% down y/y), as a result of a prolonged drought, as well as in Ukraine (25.2% down y/y) (*see Table 7*). Nevertheless, ***Ukraine is set to retain its position as the world's seventh-biggest maize producer in MY 2022-2023***.

Table 7

Top 10 Countries by Production of Maize in MY 2022-2023f, thou tons

Ranking	Country/Region	MY 2018-2019	MY 2019-2020	MY 2020-2021	MY 2021-2022	MY 2022-2023f	y/y change
1	United States	364,262	345,962	358,447	382,893	353,836	-7.6%
2	China	257,174	260,779	260,670	242,552	274,000	0.5%
3	Brazil	101,000	102,000	87,000	116,000	126,000	8.6%
4	Argentina	51,000	51,000	52,000	51,500	55,000	6.8%
5	European Union*	64,351	66,742	67,440	70,979	54,800	-22.8%
6	India	27,715	28,766	31,647	33,000	32,000	-3.0%
7	**Ukraine**	**35,805**	**35,887**	**30,297**	**42,126**	**31,500**	**-25.2%**
8	Mexico	27,671	26,658	27,346	26,762	27,600	3.1%
9	South Africa	11,824	15,844	16,951	16,300	16,700	2.5%
10	**Russia**	**11,415**	**14,275**	**13,872**	**15,225**	**15,000**	**-1.5%**
-	Others	176,524	174,843	183,620	190,126	181,949	-4.3%
-	**World Total**	**1,128,741**	**1,122,756**	**1,129,290**	**1,217,463**	**1,168,385**	**-4.0%**

Source: USDA FAS, Grain: World Markets and Trade (November 9, 2022), own calculations
* Data for 27 countries in the European Union, including Bulgaria, Greece and Romania.

According to USDA FAS, global output of **barley** is forecast to rise by 2.4% y/y to 149mn tons in MY 2022-2023. This will be supported by a double-digit growth in the production in Türkiye (64.4% up y/y), the United States (45.2% up y/y), Canada (42.3% up y/y) and Russia (20% up y/y), mainly as a result of improved weather conditions and higher planted area compared to the previous marketing year. As a result, these four countries are set to improve their positions in the global ranking of barley production in MY 2022-2023 (*see Table 8*). On the other hand, output in Ukraine is set to fall by 35.5% y/y, pushed down by higher inventories, lower planted area in MY 2022-2023 and disruptions in export routes caused by the conflict with Russia. As a result, ***Ukraine is set to become the seventh-largest producer of barley in MY 2022-2023, three positions down compared to the previous year***.

Table 8

Top 10 Countries by Production of Barley in MY 2022-2023f, thou tons

Ranking	Country/Region	MY 2018-2019	MY 2019-2020	MY 2020-2021	MY 2021-2022	MY 2022-2023f	y/y change
1	**European Union***	49,470	55,180	54,234	52,046	51,300	-1.4%
2	**Russia**	**16,737**	**19,939**	**20,269**	**17,505**	**21,000**	**20.0%**
3	**Australia**	8,819	10,127	14,649	13,906	12,700	-8.7%
4	**Canada**	8,380	10,383	10,741	6,959	9,900	42.3%
5	**Türkiye**	**7,000**	**7,900**	**8,100**	**4,500**	**7,400**	**64.4%**
6	**United Kingdom**	6,510	8,048	8,117	6,961	7,100	2.0%
7	**Ukraine**	**7,604**	**9,528**	**7,947**	**9,923**	**6,400**	**-35.5%**
8	**Argentina**	4,635	3,615	4,035	5,300	4,500	-15.1%
9	**United States**	3,343	3,756	3,719	2,615	3,796	45.2%
10	**Iran**	2,800	3,600	3,600	2,700	3,000	11.1%
-	**Others**	24,325	26,293	25,140	23,103	21,906	-5.2%
-	**World Total**	**139,623**	**158,369**	**160,911**	**145,518**	**149,002**	**2.4%**

Source: USDA FAS, Grain: World Markets and Trade (November 9, 2022), own calculations
* Data for 27 countries in the European Union, including Bulgaria, Greece and Romania.

In MY 2022-2023, global **rye** production is forecast to drop by 4.3% y/y to 12mn tons, according to USDA FAS (*see Table 9*). This is explained by lower output in Türkiye (3% down y/y), the European Union (4.2% down y/y) and Argentina (28.9% down y/y), stemming mainly from unfavorable weather conditions, prolonged droughts in particular. Ukraine's output is also set to plummet by 52.5% y/y, due to high inventories, lower planted area and disruptions in the export channels caused by the conflict with Russia. As a result, ***Ukraine is set to become the world's seventh-biggest rye producer, three positions down compared to the previous year***. A partial relief is expected from an increase in rye production in Russia, by 10.7% y/y, and in the United States, by 25.3% y/y, in MY 2022-2023.

Table 9

Top 10 Countries by Production of Rye in MY 2022-2023f, thou tons

Ranking	Country/Region	MY 2018-2019	MY 2019-2020	MY 2020-2021	MY 2021-2022	MY 2022-2023f	y/y change
1	European Union*	6,173	8,395	8,968	7,948	7,615	-4.2%
2	**Russia**	**1,914**	**1,424**	**2,376**	**1,716**	**1,900**	**10.7%**
3	Belarus	503	756	1,051	800	750	-6.3%
4	Canada	236	333	488	473	470	-0.6%
5	**Türkiye**	**320**	**320**	**320**	**330**	**320**	**-3.0%**
6	United States	214	270	293	249	312	25.3%
7	**Ukraine**	**396**	**339**	**459**	**600**	**285**	**-52.5%**
8	Argentina	87	220	135	225	160	-28.9%
-	Others	157	200	209	203	194	-4.4%
-	**World Total**	**10,000**	**12,257**	**14,299**	**12,544**	**12,006**	**-4.3%**

Source: USDA FAS, Grain: World Markets and Trade (November 9, 2022), own calculations
* Data for 27 countries in the European Union, including Bulgaria, Greece and Romania.

In MY 2022-2023, global **oats** production is forecast to rise by 8.5% y/y to 24.5mn tons, according to USDA FAS (*see Table 10*). This increase will be driven by a double-digit growth in production in Canada (63.8% up y/y) and the United States (44.8% up y/y), which in turn is boosted by higher domestic demand. A more modest increase in output is expected in the European Union (3.3% up y/y) and Russia (1.8% up y/y). In addition to Russia, two other BSEC countries rank among the top 15 oats producers globally - Ukraine (11th place) and Türkiye (14th place). According to the USDA FAS, oats production in Ukraine will decline by 16.3% y/y in MY 2022-2023, due to high inventories, reduced planted area and disruptions in the export channels. Output in Türkiye, however, is forecast to remain unchanged compared to the previous year.

Table 10

Top 10 Countries by Production of Oats in MY 2022-2023f, thou tons

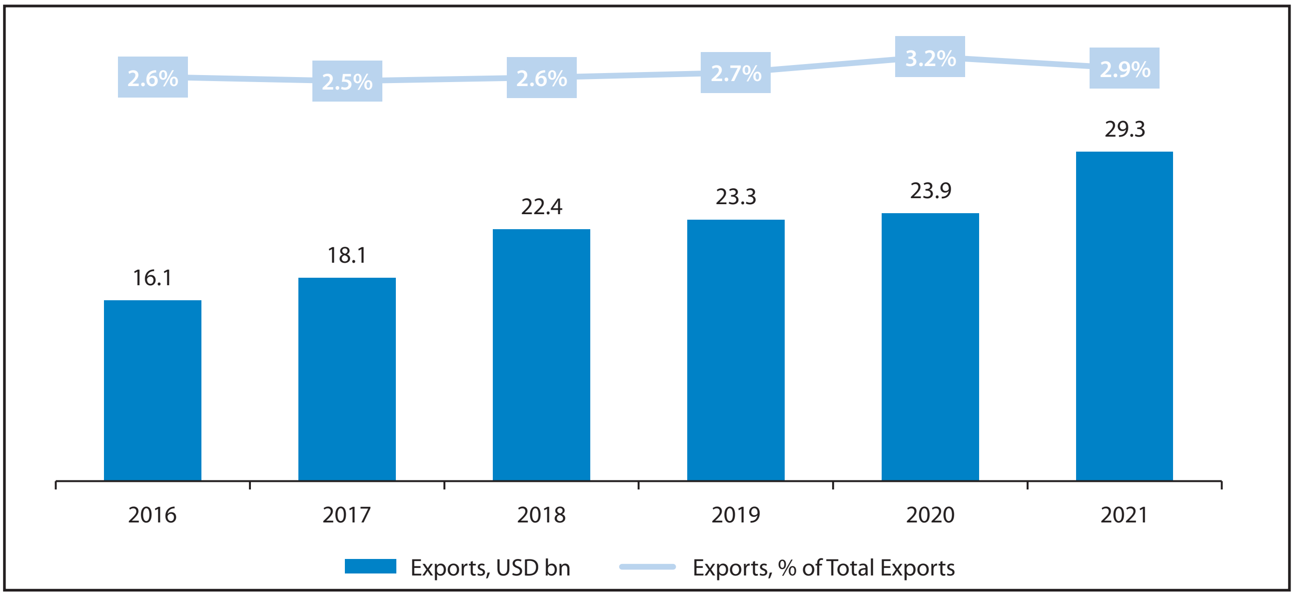
Ranking	Country/Region	MY 2018-2019	MY 2019-2020	MY 2020-2021	MY 2021-2022	MY 2022-2023f	y/y change
1	European Union*	6,940	6,965	8,473	7,528	7,775	3.3%
2	Canada	3,436	4,227	4,576	2,808	4,600	63.8%
3	**Russia**	**4,715**	**4,420**	**4,127**	**3,733**	**3,800**	**1.8%**
4	Australia	1,135	1,143	1,898	1,619	1,400	-13.5%
5	Brazil	795	879	853	1,143	1,155	1.0%
6	United Kingdom	850	1,076	1,031	1,123	1,050	-6.5%
7	United States	815	773	954	578	837	44.8%
8	Argentina	572	600	510	725	645	-11.0%
9	China	560	600	600	600	600	0.0%
10	Chile	385	477	525	578	550	-4.8%
-	Others	409	361	367	445	387	-13.0%
-	**World Total**	**22,205**	**23,214**	**25,723**	**22,545**	**24,454**	**8.5%**

Source: USDA FAS, Grain: World Markets and Trade (November 9, 2022), own calculations
* Data for 27 countries in the European Union, including Bulgaria, Greece and Romania.

3. Cereal Exports of BSEC Countries

On the back of expanding production and rising global demand in recent years, BSEC countries have consolidated their positions as one of the main suppliers of cereal grains on a global scale. Data from the Trade Map database of the International Trade Center (ITC) shows that cereal exports from the countries in the Region expanded at a robust compound annual growth rate (CAGR) of 10.3% in nominal USD terms over the 2016-2020 period.[3] ***In 2021, exports from the Region surged by 22.9% y/y, reaching a new record high of USD 29.3bn*** (*see Chart 1*). This corresponded to 19.2% of global cereal exports (which in turn amounted to USD 152.9bn), outlining the prominent role of the Region in the global supply of cereals.

Chart 1
Cereal Exports of BSEC Countries*



Source: ITC Trade Map, own calculations
Note: * Defined as products under Harmonized System (HS) tariff code 10

Country-wise, the top cereal exporter in the Region was Ukraine, with exports of USD 11.8bn in 2021, followed by Russia (exports of USD 9.2bn) (*see Table 11*). Among the mid-sized exporters in the Region were Romania (exports of USD 4.3bn), Bulgaria (USD 2bn) and Serbia (USD 0.9bn). Three other countries also stood out - Türkiye, Moldova and Greece - with external sales of cereals of between USD 0.3bn and USD 0.5bn in 2021. The remaining BSEC member countries - Albania, Armenia, Azerbaijan, Georgia and North Macedonia - reported marginal cereal exports as local production is mainly destined for the domestic market.

The level of importance of the cereal grain industry for the overall economy varies across BSEC countries. An outstanding example is Ukraine. ***Cereals accounted for about 1/5 of the total exports of Ukraine and were equivalent to 6% of the country's GDP in 2021***. Moldova followed suit, as cereals accounted for 11.7% of the total exports during the year. Three other countries also stood out - Romania, where cereals accounted for 4.9% of the total exports in 2021, Bulgaria (4.8%) and Serbia (3.6%).

[3] Cereals are defined as products under Harmonized System (HS) tariff code 10, which includes: wheat and meslin; maize; rice, barley; grain sorghum; buckwheat, millet, canary seed and other cereals; oats; and rye.

Table 11

Cereal Exports by BSEC Country in 2021*

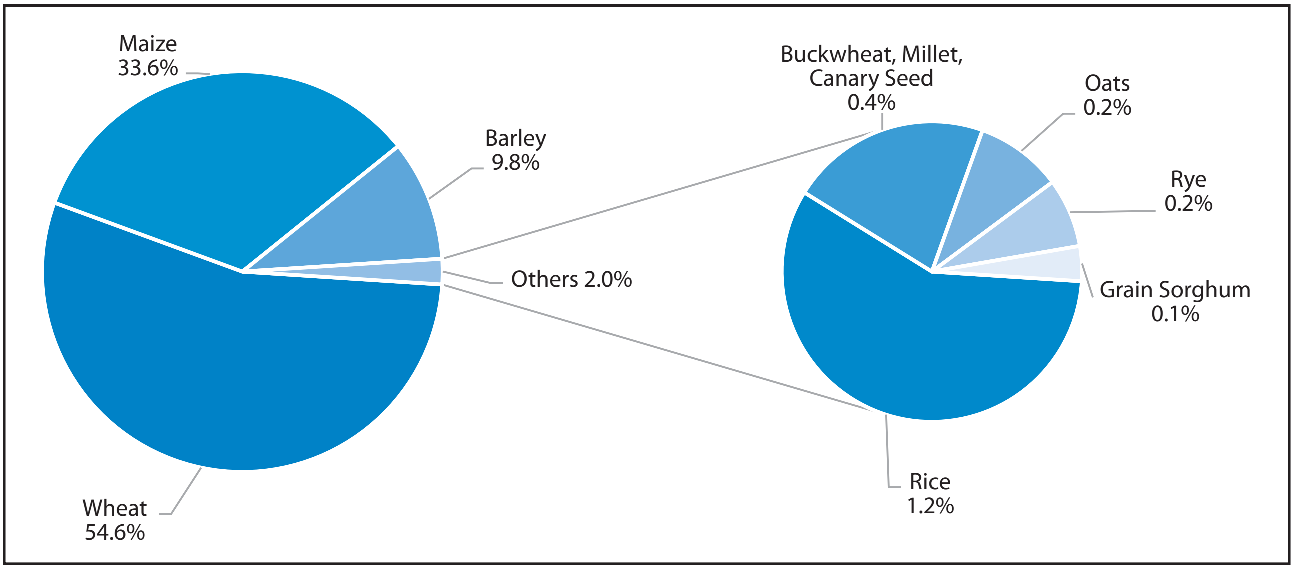
Country	USD bn	% of Total Exports	% of GDP
Albania	0.00002	0.001%	0.0001%
Armenia	0.001	0.02%	0.004%
Azerbaijan	0.01	0.04%	0.02%
Bulgaria	2.03	4.8%	2.52%
Georgia	0.003	0.1%	0.01%
Greece	0.29	0.6%	0.13%
Moldova	0.37	11.7%	2.69%
North Macedonia	0.01	0.1%	0.08%
Romania	4.28	4.9%	1.51%
Russia	9.17	1.9%	0.52%
Serbia	0.91	3.6%	1.44%
Türkiye	0.42	0.2%	0.05%
Ukraine	11.84	18.0%	5.97%
BSEC Region	**29.32**	**2.88%**	**0.82%**

Source: ITC Trade Map, IMF, own calculations
Note: * Defined as products under Harmonized System (HS) tariff code 10

Thanks to vast arable land, favorable weather conditions and developed production and transport infrastructure, the BSEC Region as a whole has gained a leading position in the exports of cereal grains. Data in Chart 2 shows that ***wheat was the major cereal exported by BSEC countries, accounting for 54.6% of total cereal exports in 2021***. It was followed by maize (33.6%) and barley (9.8%). The remaining 2% of cereal exports consisted of rice; buckwheat, millet and canary seed; oats, rye and grain sorghum.

Chart 2

Cereal Export Structure of BSEC Countries in 2021



Source: ITC Trade Map, own calculations

Wheat exports of BSEC countries amounted to USD 16bn in 2021, accounting for 28.7% of global wheat exports during the year (*see Table 12*). In particular, Russia was the world's leading supplier of the commodity, with a 13.1% share in global exports. Three other BSEC member countries - Ukraine, Romania and Bulgaria - also had prominent positions, ranking among the top 15 world's exporters of wheat in 2021.

Maize is the second most important cereal grain exported by BSEC countries, with external sales of USD 9.9bn in 2021, corresponding to about one-fifth of global exports (*see Table 13*). In particular, Ukraine was the third-biggest maize exporter globally, with an 11.4% share in global exports of the commodity. Four other countries - Romania, Russia, Serbia and Bulgaria - also ranked among the top 15 global exporters of maize during the year.

BSEC countries also have a key role in the global supply chain of barley, with external sales of USD 2.9bn in 2021 or 27.5% of global exports (see Table 14). Country-wise, Ukraine was the world's third- biggest exporter of barley, with an 11.3% share in global exports, followed closely by Russia (fourth-largest exporter, with a 9.3% share). Romania and Bulgaria also have an important role, ranking among the top 15 suppliers of barley globally in 2021.

Rye and oats are the other two main cereal grains exported by BSEC countries. In 2021, the Region exported rye for a value of USD 44.6mn, corresponding to 8.4% of global exports (*see Table 15*). The leading supplier was Ukraine, the world's fifth-biggest exporter, with a 4.3% share of global exports, followed closely by Russia (sixth-largest exporter, with a 3.9% share).

Oats exports from the Region reached USD 56.2mn in 2021, accounting for 5.5% of global exports (*see Table 16*). Russia was the major supplier, accounting for 4.8% of global exports during the year, followed at a large distance by Ukraine (0.4%) and Bulgaria (0.2%).

Table 12
BSEC Countries in Global Exports of Wheat, 2021

Ranking	Country	Exports, USD mn	% of Global Exports
1	Russia	7,302	13.1%
5	Ukraine	4,723	8.5%
9	Romania	1,822	3.3%
11	Bulgaria	1,372	2.5%
20	Serbia	269.8	0.5%
23	Greece	209.1	0.4%
24	Moldova	207.7	0.4%
32	Türkiye	97.8	0.2%
47	North Macedonia	5.5	0.01%
55	Armenia	0.6	0.001%
58	Georgia	0.4	0.001%
-	**BSEC Region**	**16,010**	**28.7%**

Source: ITC Trade Map, own calculations

Table 13
BSEC Countries in Global Exports of Maize, 2021

Ranking	Country	Exports, USD mn	% of Global Exports
3	Ukraine	5,855	11.4%
5	Romania	1,941	3.8%
10	Russia	694.2	1.4%
12	Serbia	605.1	1.2%
14	Bulgaria	486.4	0.9%
21	Türkiye	143.6	0.3%
22	Moldova	127.2	0.2%
50	Greece	5.7	0.01%
63	Azerbaijan	2.6	0.01%
72	Georgia	1.0	0.002%
80	North Macedonia	0.7	0.001%
137	Armenia	0.001	0.000002%
-	**BSEC Region**	**9,862**	**19.2%**

Source: ITC Trade Map, own calculations

Table 14
BSEC Countries in Global Exports of Barley, 2021

Ranking	Country	Exports, USD mn	% of Global Exports
3	Ukraine	1,173	11.3%
4	Russia	966.8	9.3%
8	Romania	499.5	4.8%
13	Bulgaria	113.6	1.09%
23	Türkiye	38.7	0.37%
26	Moldova	32.2	0.31%
28	Serbia	29.6	0.28%
33	Azerbaijan	7.1	0.07%
35	North Macedonia	2.6	0.02%
44	Georgia	0.6	0.01%
49	Greece	0.3	0.003%
-	**BSEC Region**	**2,864**	**27.5%**

Source: ITC Trade Map, own calculations

Table 15
BSEC Countries in Global Exports of Rye, 2021

Ranking	Country	Exports, USD mn	% of Global Exports
5	Ukraine	7,302	4.3%
6	Russia	4,723	3.9%
26	Serbia	1,822	0.1%
29	Bulgaria	1,372	0.05%
34	Greece	269.8	0.01%
35	Romania	209.1	0.01%
41	Türkiye	207.7	0.0002%
-	**BSEC Region**	**44.6**	**8.4%**

Source: ITC Trade Map, own calculations

Table 16
BSEC Countries in Global Exports of Oats, 2021

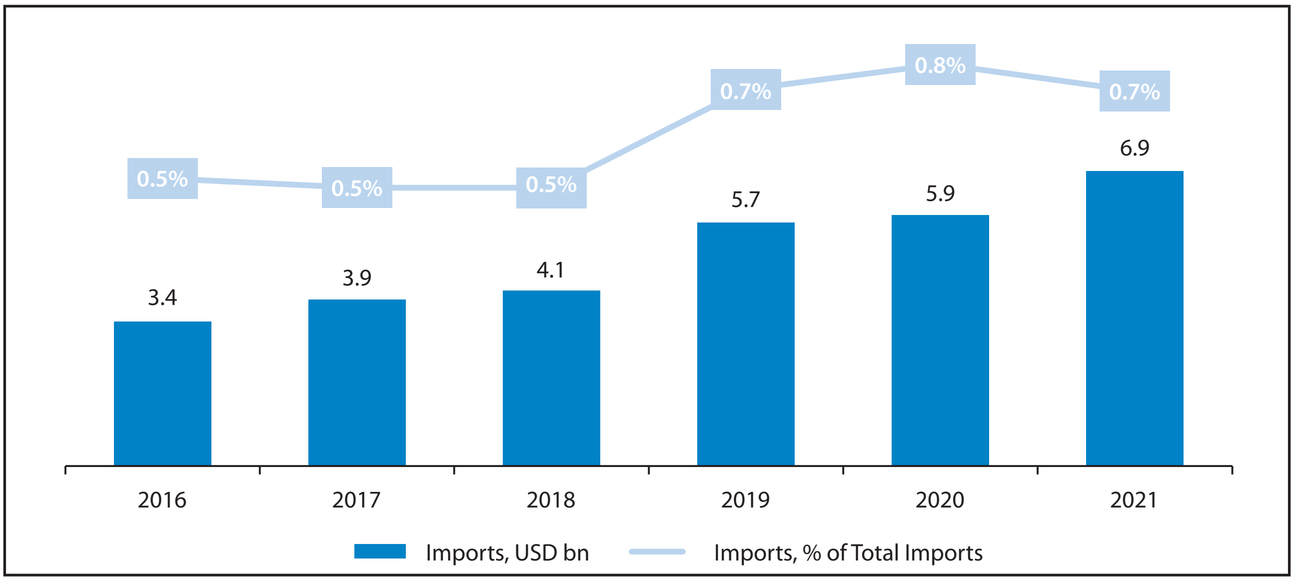
Ranking	Country	Exports, USD mn	% of Global Exports
6	Russia	49.0	4.8%
20	Ukraine	4.1	0.4%
26	Bulgaria	2.2	0.2%
35	Romania	0.4	0.04%
36	Serbia	0.4	0.03%
39	Greece	0.2	0.02%
56	Türkiye	0.02	0.002%
65	Moldova	0.01	0.001%
-	**BSEC Region**	**56.2**	**5.5%**

Source: ITC Trade Map, own calculations

4. Cereal Imports in BSEC Countries

Growing domestic demand in recent years in the BSEC Region has led to a steady expansion of cereal imports. Over the 2016-2020 period, cereal imports rose at a CAGR of 14.8% in nominal USD terms. ***In 2021, imports rose by another 17.6% y/y, reaching USD 6.9bn*** (*see Chart 3*). This corresponded to 0.7% of the total imports of the countries in the Region and to 0.2% of their combined GDP.

Chart 3
Cereal Imports in BSEC Countries*



Source: ITC Trade Map, own calculations
Note: * Defined as products under Harmonized System (HS) tariff code 10

The top cereal importer in the Region was Türkiye, with imports of USD 4.3bn in 2021, followed at a large distance by Romania (USD 0.8bn), Greece (USD 0.6bn) and Azerbaijan (USD 0.4bn) (*see Table 17*). The remaining BSEC countries reported cereal imports of less than USD 300mn during the year.

Table 17

Cereal Imports in BSEC Countries in 2021

Country	USD bn	% of Total Imports	% of GDP
Albania	0.10	1.5%	0.5%
Armenia	0.09	1.7%	0.6%
Azerbaijan	0.39	3.3%	0.7%
Bulgaria	0.12	0.3%	0.2%
Georgia	0.12	1.6%	0.7%
Greece	0.58	0.8%	0.3%
Moldova	0.03	0.4%	0.2%
North Macedonia	0.04	0.4%	0.3%
Romania	0.76	0.7%	0.3%
Russia	0.27	0.1%	0.0%
Serbia	0.03	0.1%	0.1%
Türkiye	4.25	1.6%	0.5%
Ukraine	0.16	0.2%	0.1%
BSEC Region	**6.90**	**0.7%**	**0.19%**

Source: ITC Trade Map, IMF, own calculations
Note: * Defined as products under Harmonized System (HS) tariff code 10

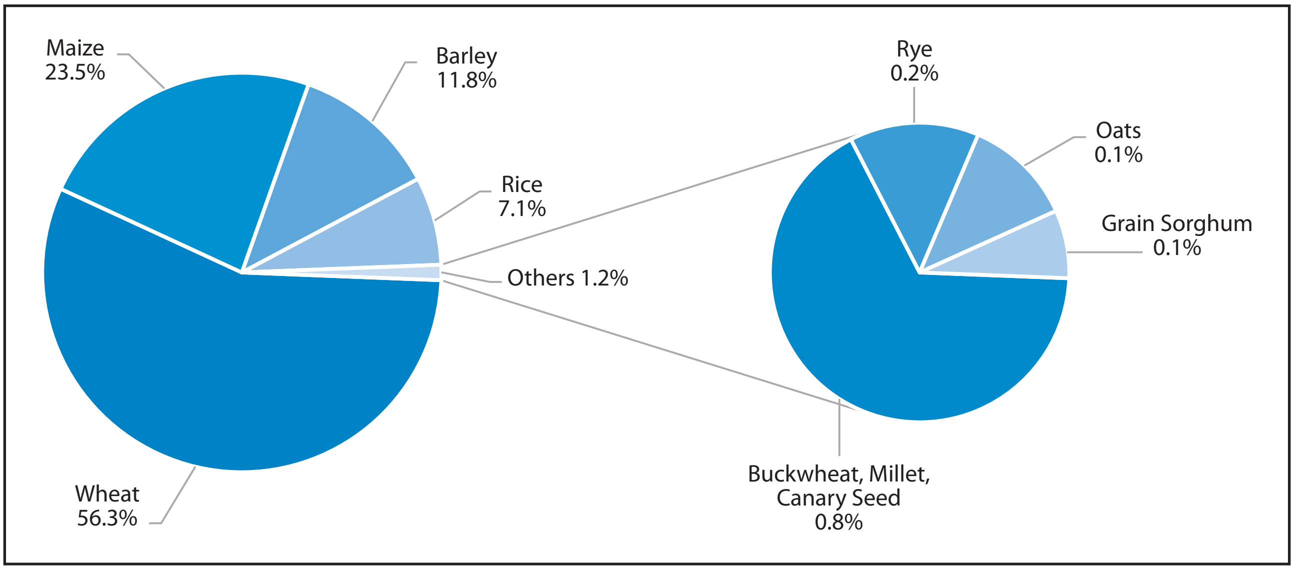
A closer look at Table 17 shows that the ***BSEC Region as a whole has a low dependence on the imports of cereals***. In particular, cereals accounted for 0.7% of the total imports and were equivalent to 0.2% of the regional GDP in 2021. Nevertheless, these two indicators vary significantly across the countries in the Region.

In 2021, ***Azerbaijan was the country with the highest share of cereals in total imports***, i.e. 3.3%. This is explained by the reliance of the country on the imports of cereals - wheat in particular - to meet its domestic demand. Four other countries also feature an above-average share of cereals in total imports - Armenia (1.7%), Georgia (1.6%), Türkiye (1.6%) and Albania (1.5%). This is related to their dependence on the imports of wheat and maize. At the other end of the spectrum are Moldova, North Macedonia, Bulgaria, Ukraine, Russia and Serbia, where cereals accounted for less than 0.5% of total imports in 2021. The main cereal imported by these countries is rice since it is not cultivated at a commercial scale, due to unfavorable climate factors.

Product-wise, ***wheat was the main cereal imported by BSEC countries in 2021, with a share of 56.3% in total cereal imports*** (*see Chart 4*). It was followed by maize (23.5%), barley (1.8%) and rice (7.1%). The remaining 1.2% of cereal imports during the year corresponded to buckwheat, millet and canary seed; rye; oats; and grain sorghum.

Chart 4

Cereal Import Structure of BSEC Countries in 2021



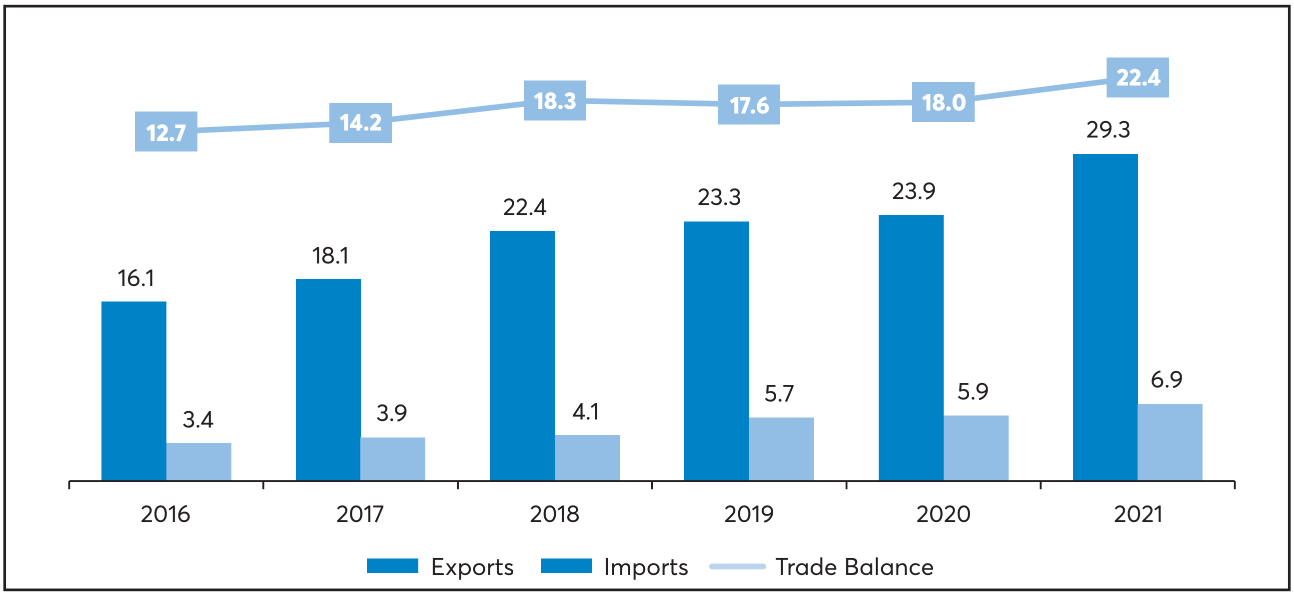
Source: ITC Trade Map, own calculations

5. Cereal Trade Balance of BSEC Countries

BSEC countries have recorded a widening trade surplus in cereals in recent years. ***Over the 2016-2020 period, the trade surplus expanded at a CAGR of 9.1% in nominal USD terms. In 2021, it reached a new record high of USD 22.4bn, up by 24.6% compared to the previous year*** (*see Chart 5*). This was related to accelerated growth of export volumes combined with upward price dynamics of the main cereals exported by BSEC countries - wheat and maize.

Chart 5

Cereal Trade Balance of BSEC Countries,* USD bn

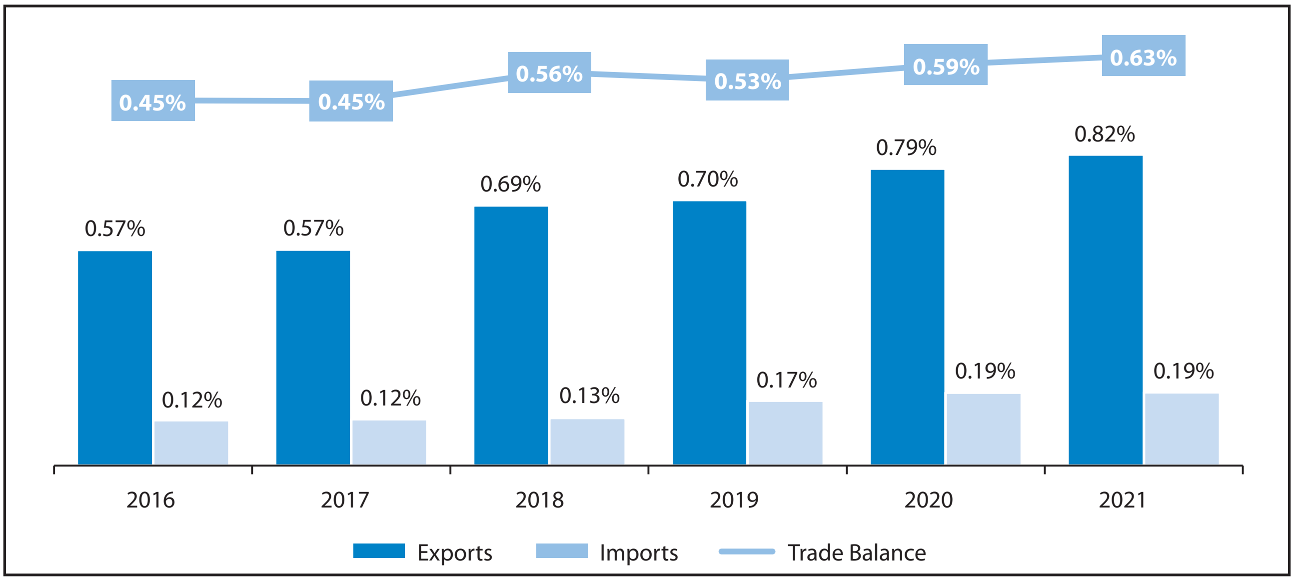


Source: ITC Trade Map, own calculations
Note: * Defined as products under Harmonized System (HS) tariff code 10

The expansion of the trade surplus in cereals also had a positive contribution to the overall balance of payments and foreign currency generation of the countries in the Region. Notably, ***the trade surplus in cereals corresponded to 0.63% of the combined GDP of BSEC countries in 2021, up from a 0.45% share in 2016*** (*see Chart 6*).

Chart 6

Cereal Trade Balance of BSEC Countries,* % of GDP



Source: ITC Trade Map, own calculations
Note: * Defined as products under Harmonized System (HS) tariff code 10

Given the divergencies in the availability of arable land, climate factors, production and transport infrastructure, the external trade balance in cereals varies across countries in the Region. BSEC countries can be classified in two groups. The first group is that of the ***net exporters of cereals***. It was led by Ukraine, with a trade surplus of USD 11.7bn in 2021 (*see Table 18*). It was followed by Russia (USD 8.9bn), Romania (USD 3.5bn), Bulgaria (USD 1.9bn), Serbia (USD 0.9bn) and Moldova (USD 0.3bn).

In terms of economic contribution of cereal grain production, as measured by the sector's trade surplus in relation to GDP, Ukraine clearly stands out, with a ratio of 5.9% in 2021. Moldova and Bulgaria also rely strongly on the cereal grain trade surplus for foreign currency generation, as their trade surplus reached 2.5% and 2.4% of the GDP respectively, in 2021.

The remaining ***seven BSEC countries are net importers of cereals***. This group of countries is led by Türkiye, which reported a trade deficit in cereals of USD 3.8bn in 2021. It was followed by Azerbaijan (USD 0.4bn), Greece (USD 0.3bn), Georgia (USD 0.1bn) and Albania (USD 0.1bn). The trade deficit of the remaining two countries - Armenia and North Macedonia - was below USD 100mn during the year.

Among the net importers of cereals, Azerbaijan had the highest cereal trade deficit-to-GDP ratio of 0.7% in 2021. It was followed closely by Armenia (0.6%), Georgia (0.6%), Türkiye (0.5%) and Albania (0.5%). The indicator was significantly lower in the case of North Macedonia (0.2%) and Greece (0.1%).

Table 18

Cereal Trade Balance by BSEC Country in 2021*

Country	USD bn	% of GDP
Albania	-0.10	-0.5%
Armenia	-0.09	-0.6%
Azerbaijan	-0.38	-0.7%
Bulgaria	1.90	2.4%
Georgia	-0.12	-0.6%
Greece	-0.29	-0.1%
Moldova	0.34	2.5%
North Macedonia	-0.03	-0.2%
Romania	3.52	1.2%
Russia	8.91	0.5%
Serbia	0.87	1.4%
Türkiye	-3.83	-0.5%
Ukraine	11.68	5.9%
BSEC Region	**22.42**	**0.63%**

Source: ITC Trade Map, IMF, own calculations
Note: * Defined as products under Harmonized System (HS) tariff code 10

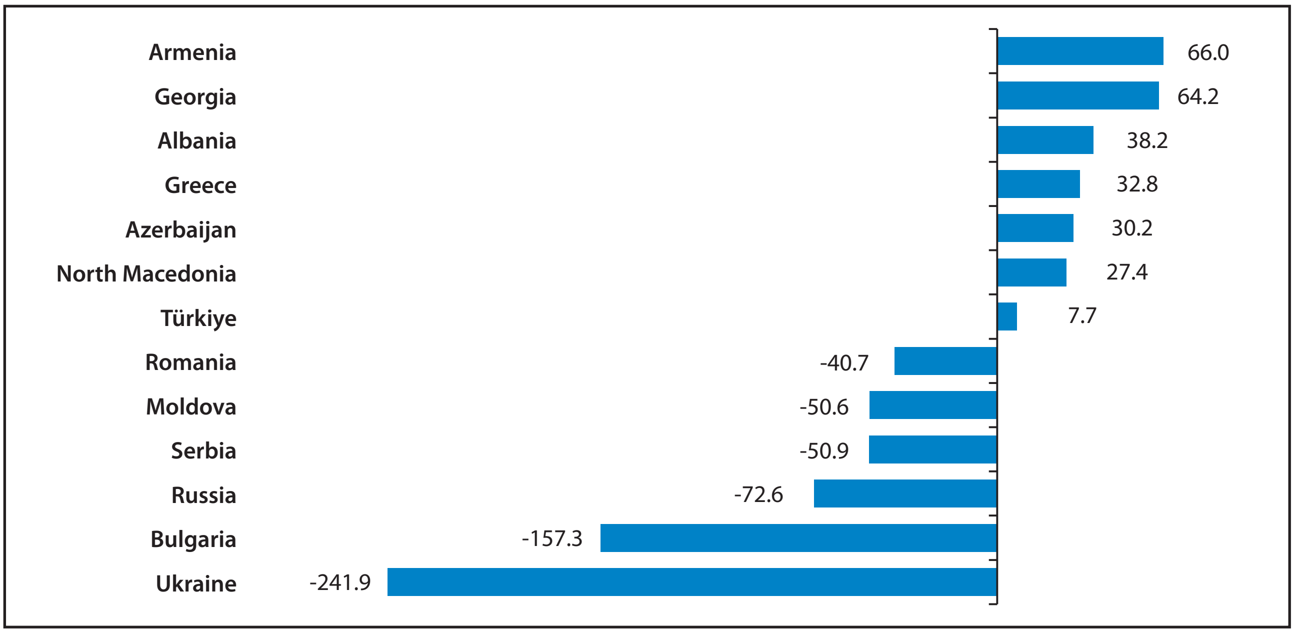
A particularly interesting indicator for the ***cereal grain demand in BSEC countries is the cereal import dependency ratio***.[4] Based on this indicator, ***Armenia and Georgia are the most dependent BSEC countries on imports of cereal grains*** (*see Chart 7*). Notably, over the 2017-2019 period, about two- thirds of their domestic demand for cereals came from imports. Four other countries - Albania, Greece, Azerbaijan and North Macedonia - also feature relatively high import dependency ratio - imports were between 25% and 40% of their cereal domestic demand over the 2017-2019 period. Türkiye reported the lowest import dependency ratio, i.e. 7.7%, in the same period. On the other hand, thanks to abundant arable land and developed production infrastructure, five countries are net exporters of cereals (in other words, they have a negative import dependency ratio). ***Ukraine was the BSEC country with the highest excess production of cereals***, with import dependency ratio of -241.9%, i.e. its net exports exceeded 2.4 times domestic demand. ***Bulgaria ranked second, with net exports of cereals surpassing 1.6 times domestic demand***. These two countries were followed at a large distance by the remaining net exporters of cereals in the Region - Russia, Serbia, Moldova and Romania.

[4] Import dependency ratio (IDR) is defined as: $IDR = \frac{\text{Imports - Exports}}{\text{Production + Imports - Exports}} * 100$

It indicates how much of the available domestic supply has been imported and how much comes from the country's own production. The indicator assumes only values less than or equal to 100. A high ratio implies greater dependence on imports. Negative values indicate that the country is a net exporter. The indicator is calculated in three-year averages, to reduce the impact of possible errors in estimated production and trade, due to the difficulties in properly accounting for stock variations in cereals.

Chart 7

Cereal Import Dependency Ratio, 3-Year Average, 2017-2019, %



Source: FAO

6. BSTDB Projects for Promotion of Agriculture in the BSEC Region

BSTDB's mandate is to support economic development and regional cooperation in the Black Sea Region through several instruments (e.g. loans, guarantees, trade financing, equity participation) targeting both public and private entities in its member countries. ***Agriculture is one of the priority sectors for BSTDB***. The Bank aims to provide long-term financial support to agribusiness companies for investments, expansion and working capital as well as other types of corporate loans, such as trade finance.

Among the main clients of BSTDB in the sector is **Kernel Group**, a leading player in the Ukrainian agricultural market and the world's largest exporter of sunflower oil. The Bank has successfully completed pre-export and capex finance operations for Kernel Group for a total amount of USD 45mn. Additionally, in March 2021, BSTDB participated in a USD 300mn syndicated secured finance facility extended to Kernel. The proceeds from the facility were destined to support the group's current operations, strengthen its working capital and increase its export potential.

Another strategic partner of BSTDB in the sector is **Epicentr Group**, a Ukrainian company active in the agribusiness sector and do-it-yourself home improvement market. In December 2019, the Bank provided a USD 70mn loan to fund Epicentr Group's agricultural business program for the 2019-2021 period aimed at the construction and modernization of grain silos and the acquisition of agricultural machinery. In April 2021, the Bank provided a second long-term loan to Epicentr Group for a value of USD 22mn to fund the Group's expansion program.

In February 2020, BTSDB extended a USD 10mn loan to **Prometey Group**, a Ukrainian company with more than 20 years of experience in the grain market, providing services for buying, storing and processing of grains and oilseeds. The funds were used for the acquisition and reconstruction of two grain silos, working capital needs and development of the export potential of the company.

BSTDB has also partnered with **Trans-Oil Group**, the largest producer of vegetable oils and the biggest exporter of sunflower seeds and wheat in Moldova. In April 2019, the Bank became an anchor investor in a USD 300mn bond issued by Trans-Oil Group, the first corporate bond ever in Moldova. The company used the proceeds to finance its capital investment program in Moldova and Romania. In October 2019, BSTDB contributed USD 20mn to a USD 150 million syndicated pre-export finance facility to Trans-Oil Group. In March 2021, BSTDB participated with USD 30mn in the second issue of bonds of Trans-Oil Group, the proceeds of which were allocated to general corporate investments. Additionally, in July 2021, BSTDB participated with USD 25mn in a USD 275mn syndicated pre-export finance facility extended to Trans-Oil Group. The facility was used for seasonal working capital needs associated with origination, processing, storage and transportation of agricultural products for the marketing years up until 2023.

Additionally, BSTDB has a strategic partnership with **Agricover Group**, a leading agricultural company in Romania, which dates back from 2013. The most recent transaction is the subscription by the Bank of a EUR 10mn corporate bond issued by Agricover Group in January 2021. The proceeds were used to support the operations of group's financial arm (Agricover Credit IFN), specialized in the provision of financing to grain farmers in Romania.

BSTDB also has a longstanding partnership with **Oliva**, the biggest producer and trader of sunflower oil in Bulgaria. Under a joint financing program with the European Investment Bank (EIB) targeting small and medium-sized companies (SMEs) and medium capitalization companies (Mid Caps) across Bulgaria, Romania and Greece, BSTDB provided EUR 35mn in a EUR 90mn syndicated trade finance facility extended to Oliva in June 2020. The financing was used for working capital needs related to the operation of a new sunflower and rapeseed crushing plant in Bulgaria, which doubled Oliva's production capacity and boosted its exports. In March 2021 at the maturity of the syndicated loan facility, BSTDB – under the same financing program with EIB – extended a bilateral trade-finance loan to Oliva in the amount of EUR 35mn.

2023