

Cross-contextual food security

Ukraine is a leading exporter of cereals and starches globally. With the 24 February conflict escalation, not only has food access been a concern in-country, but so has the impact of potentially catastrophic disruption of nearly every link on the value chain of Ukraine's major agricultural exports. This factsheet relies on data made available by the State Statistical Service of Ukraine (SSSU) to understand domestic agricultural production, value of crop exports, and trade flows with key partners. Analysis by specialists and international reportage help contextualise the figures, offering indications of how the agricultural impacts of the conflict may carry over into international trade and ultimately threaten global food security.

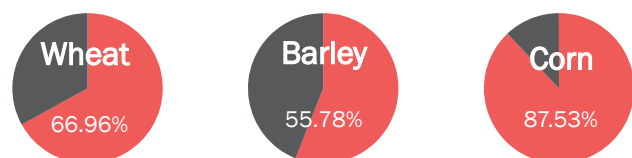
See page 3 for scenarios on how supply chain disruptions may affect global food markets through late 2022.

Agricultural production

A large amount (59%) of cereal production in Ukraine is intended for export to the global market.¹ This applies particularly to corn and wheat, where Ukraine is a leading exporter. For less commonly farmed cereals, annual numbers are more variable, but from 2017-2021, the average annual yields for rice and buckwheat were 53 and 128 thousand tonnes, respectively.²

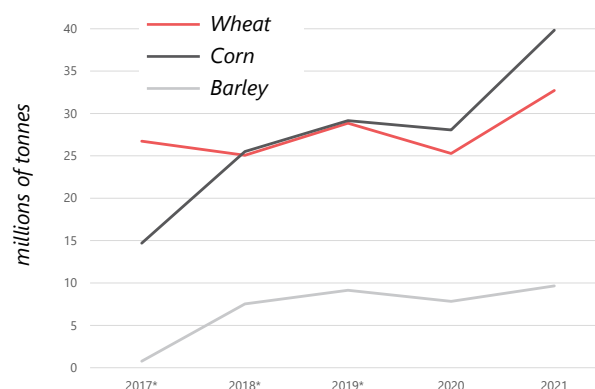
The escalation of February 24 coincided with the sowing campaign for winter wheat, rye, and barley, as well as that of corn planting in early summer.³ As a result of the conflict, the overall sown area was reduced for wheat (9.3%), corn (16.8%) and barley (24.6%) compared with 2021.⁴ As such, while the pre-war trend was increased production for all major cereals, reduced yields are expected in the 2022 summer harvest.

Cereal production share for export (%)



3-year average, 2019-2021, SSSU

Annual production volume of key crops



* 2017-2019 data excludes December (a non-harvest month)

Conflict-affected agricultural land

While many conflict-affected areas have been demobilized, most notably in Kyivska, Chernihivska and Sumska oblasts, the initial disruption to the spring 2022 sowing campaign will continue to have impact throughout the harvest season.

This is not just a question of access to cultivated land: agricultural transformation enterprises, seed and grain storage facilities and logistical infrastructure have also been damaged or captured during the conflict.

For corn and wheat in particular, this represents a series of cascading crises across the value chain: first limited land access for sowing, then in some areas again for harvest, then highly constrained export channels potentially leading to a storage crisis, generating more potential waste before these starches get to the global market.

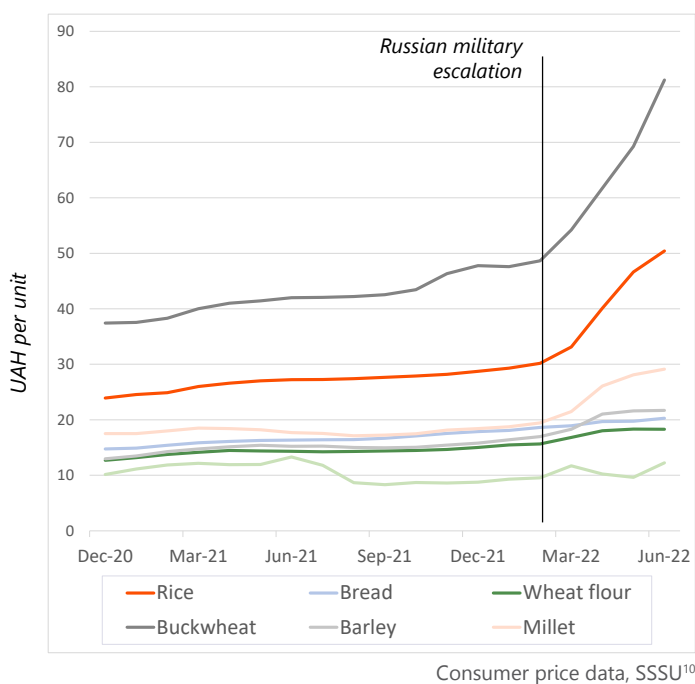
In spite of predicted decreases in yields, starch and cereal availability is not expected to be a problem in Ukraine this year. Rather, the bigger impact is related to agricultural livelihoods, with global implication. If the 2021-2022 season ends badly due to catastrophic disruption to the export market or reduced access to harvestable crops in conflict areas, many farmers (particularly smaller operations) will not have the necessary funds to purchase



agricultural inputs for the coming autumn planting season, or might make different planting choices based on their experiences. Finally, these affected areas cast a longer shadow on Ukrainian agriculture due to the longer-term threats of mined fields (probably 4.8 million hectares were mined, excluding the Chernobyl exclusion zone, rivers and swamps) and other military-related contamination.

Price monitoring of staple starches

Average national prices



Since February 2022, grains have become more expensive across the board. Bread, wheat flour, buckwheat and rice are staple food items and feature in the Joint Market Monitoring Initiative (JMMI) basket (a subset of the Minimum Expenditure Basket maintained by the SSSU). Buckwheat and rice in particular have experienced dramatic price hikes.

In 2021, Ukraine sourced most of its buckwheat from Russia, followed by Kazakhstan and Belarus. Prices of this staple grain have soared since GoU banned Russian imports in March. As for rice, most imports came from India, China, Pakistan and Thailand through Black Sea ports in 2021, which, following the escalation of hostilities earlier this year, were entirely blocked until 1 August 2022. The domestic rice production that does exist is located in the conflict-affected oblasts of Odesa and Kherson. Being principally imported commodities, price inflation of buckwheat and rice is a direct result of deteriorated relations with trading partners (namely Russia and Belarus) and barriers to import.

Starches accounted for

33%*

of the value of food items in the JMMI basket in Jan 2022 compared with

38%*

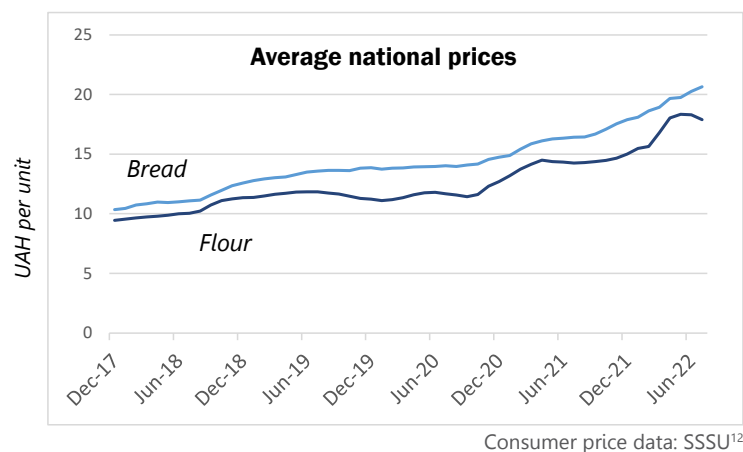
as of July 2022

*excl. water and complementary cereal¹¹

A closer look at bread and flour

While prices of bread and flour have not seen sharp increases since the Russian military escalation, especially when compared with rice and buckwheat, the two items have experienced consistent cost-push inflation since 2017. Significant drivers of this inflation have been increasing global wheat and natural gas prices in recent years, along with additional expenses incurred as a result of the constrained operating environment for agricultural and processing industries during the peak of the COVID-19 pandemic. To put this in perspective, while the consumer price index increased by 43.5% from December 2017 to July 2022,⁵ the prices of bread and flour increased by 99.6% and 89.5% respectively.⁶ Even before the February invasion, the Government of Ukraine had taken steps to ease some of the inflationary pressures by (i) enabling millers to access natural gas at a reduced price;⁷ and (ii) limiting retailers to a 10% markup on wholesale prices.⁸

Giving millers access to discounted gas comes after years

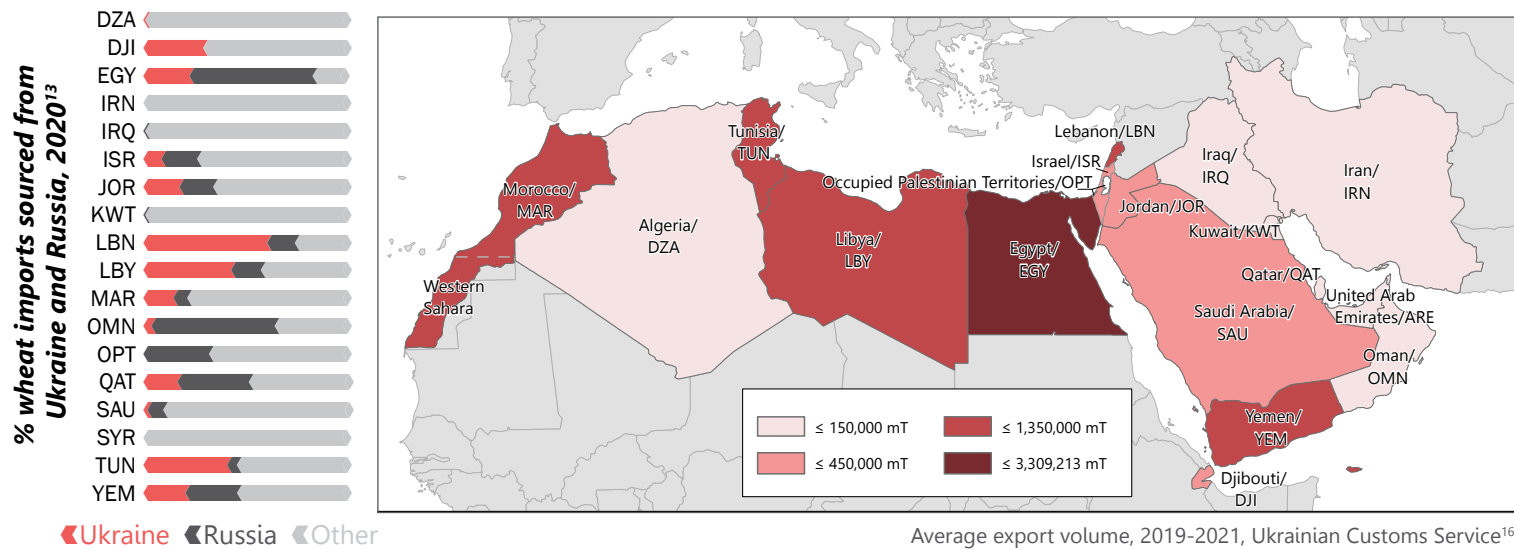


of declining production and exports of Ukrainian flour,⁹ with one industry leader pointing to a lack of state support for their activities leaving them vulnerable to the increasing cost of inputs. The upshot of this is milling capacity to spare and with the abundance of affordable Ukrainian wheat on the market as a result of limited exports, for the time being no one is worried about bread shortages. This factor, alongside a levelling off in demand for wheat flour as sufficient reserves are established to meet needs in the medium term and supply is embedded in retail chains, has helped to counterbalance high energy prices and logistics challenges. This explains the recent downward curve of flour prices. On a side note, Kyiv and Kharkiv are among the top four flour producing regions in Ukraine, which may help explain the spike in flour prices in March, when these oblasts were more severely affected by active hostilities.

The more energy-intensive operation of manufacturing baked goods from flour means consumers are seeing bread prices continue to rise. As exports of wheat from Ukrainian ports resume under the July agreements (see below), grain wholesalers will regain access to the international market and domestic wheat prices will adjust towards global prices. This will likely drive up flour prices and bread prices even further.

Going beyond market dynamics, it is important to draw attention to the specificities of bread manufacture and distribution. In Ukraine, bread is normally manufactured and sold locally, meaning any disruptions to supply will be acutely felt by the surrounding population. Reports of bread manufacturing facilities being targeted serve as a reminder of the vulnerability of food supply networks to the effects of conflict. There have been at least five such incidents across Ukraine, three of them in Kyivska oblast, since February 2022.

Dependence on Ukrainian wheat throughout the MENA region



In 2020, Ukraine and Russia together accounted for 28.5% of global wheat exports (Ukraine 9.0%, 4.6 billion USD; Russia 19.5%, 10.1 billion USD), the great majority of which was purchased by lower-income countries, particularly in the Middle East and North Africa (MENA), Asia, and sub-Saharan Africa.¹⁴ These vulnerable countries’ heavy reliance on Ukrainian grain locked in Black Sea ports, as well as on sanctioned Russian exports, has been a cause for alarm among aid actors. In particular, the World Food Programme (WFP) purchased roughly one-half of its in-kind wheat from Ukraine prior to the escalation,¹⁵ and the pressures it and other actors have faced due to blocked supply chains and rising global wheat prices have forced widespread cuts in food aid.

Ukraine and the global export crisis: Scenarios

On 22 July 2022, after months of negotiations, agreements were signed by Ukraine, Russia, Türkiye, and the United Nations to implement a common framework governing the export of grain from Ukraine’s western Black Sea ports. The first ship to fall under these agreements left Odesa on 1 August.¹⁷ The grain agreements were welcomed by the international community as a genuine effort to avert the risk of global food insecurity. Based on our analysis of the context in which the grain agreements were drafted, we have developed four scenarios to help aid actors prepare for **possible** outcomes over the next few months.

SCENARIO 1:
Ports remain open, export by sea reaches capacity

With a shipping lane opening more than a month before the end of the summer harvest, Ukraine should be able to ramp up its grain exports and partly clear its backlog, though export throughput will likely be well below previous levels of 6 million metric tonnes per month. Markets, however, have been optimistic, with global wheat prices beginning to stabilise at around 20% above their levels on 1 January 2022. Further drops would be likely if confidence in the agreements grows.

SCENARIO 2:
Ports remain open, export by sea remains difficult

The July grain agreements imposed a complex regime of escorts and inspections on all ships leaving Ukrainian ports, which may challenge efforts to rapidly increase capacity, as might some insurers’ reluctance to provide cover for high-risk grain shipments. If export capacity remains uncertain, wheat prices would remain nearly as volatile as between March and July 2022, with speculation driving up global prices even as Ukrainian markets experience a glut of wheat due to a lack of long-term storage options.

SCENARIO 3:
Agreements break down, export by sea is halted

Suspensions among signatories remain high, and at any time, conflict events or perceived violations could cause one or both partners to pull out of the grain agreements, again halting all export by sea. Though Ukraine’s land border crossings have expanded their capacity throughout 2022, overland transporters and customs inspectors are still not in a position to absorb the shortfall in exports by sea, which would lead to a storage crisis within Ukraine and major losses to viable grain.

SCENARIO 4:
Major shift in conflict dynamics

If active on-the-ground conflict reaches Odesa or another port governed by the grain agreements, it can be assumed that Scenario 3 would apply. In the event of a shift in territorial control, large quantities of grain could also change hands—both grain produced by farms near the Black Sea coast and grain from elsewhere being stored in local warehouses as it waits for export—which would lead to unpredictable changes in export dynamics.

Endnotes

- 1 SSSU, crops growing: https://ukrstat.gov.ua/operativ/operativ2006/sg/sg_rik/sg_u/rosl_1991-2020_ue.xls ; Ukrainian Customs: <https://customs.gov.ua/web/content/5733>
- 2 SSSU: https://www.ukrstat.gov.ua/operativ/operativ2021/sg/vpt/arh_vpt2021_u.html
- 3 Latifundist, 2022: <https://latifundist.com/posevnaya-online-2022>
- 4 SSSU: <https://ukrstat.gov.ua/operativ/operativ2021/sg/ppsgk/ppsgk2021.xlsx> ; Latifundist: <https://latifundist.com/posevnaya-online-2022>
- 5 SSSU, Basic consumer price index: https://ukrstat.gov.ua/operativ/operativ2010/ct/bisc/bisc_u/arh_bisc_u.htm
- 6 SSSU, Average consumer price for goods: https://ukrstat.gov.ua/operativ/operativ2018/ct/sctp/Arch_sctp_u.htm
- 7 Government portal, news: <https://www.kmu.gov.ua/en/news/minagropolitiki-zatverdilo-spisok-virobniv-kiv-socialno-vazhlivih-produktiv-yaki-zmozhut-kupuva-ti-gaz-za-znizhenoyu-cinoyu?=print>
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- 9 Elevatorist, "The work of millers during the war", 13 April 2022: <https://elevatorist.com/blog/read/773-robota-boroshnomeliv-pid-chas-viyni-navantajennya-i-problemi>
- 10 State Statistical Services of Ukraine (SSSU): [link](#)
- 11 State Statistical Services of Ukraine (SSSU): [link](#)
- 12 SSSU, Average consumer price for goods: https://ukrstat.gov.ua/operativ/operativ2018/ct/sctp/Arch_sctp_u.htm
- 13 2020 is the most recent year for which the Observatory of Economy Complexity provides this data.
- 14 Observatory of Economic Complexity, <https://oec.world>
- 15 UN News, "WFP ramping up operations as hunger rises in Ukraine", 4 March 2022: <https://news.un.org/en/story/2022/03/1113352>
- 16 Statistics and registries, Ukraine Customs Service: <https://customs.gov.ua/en/statistika-ta-reiestri>
- 17 New York Times, "First cargo ship passes Russia's Black Sea blockade under grain deal", 1 August 2022: <https://www.nytimes.com/2022/08/01/world/europe/ukraine-grain-ship.html>

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