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Prepared By:

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Report Highlights:

Ukraine's dairy cow inventory decreased drastically after the full-scale Russian invasion in February 2022. The industry had to reduce the number of animals due to supply chain disruptions for raw milk delivery to processing facilities. In 2022, millions of Ukrainians left the country as refugees, which reduced the domestic demand for milk. This resulted in an excess supply of raw milk, which led to a spike in exports of processed dairy products. Industrial milk production somewhat stabilized in 2023 though household production continued on a long-term downward trend. The decreased raw milk supply in 2023 will lead to lower exports. Milk production is expected to further decrease slightly in 2024. Ukraine imports some dairy products, primarily cheese from Poland, Germany, and other EU countries.

Ukraine Dairy and Products Annual Report 2023

***Data included in this report is not official USDA Data. Official USDA data is available at http://www.fas.usda.gov/psd*. Data for the Autonomous Republic of Crimea is included in the PSD tables wherever possible.**

Executive Summary:

Russia's full-scale invasion of Ukraine significantly impacted Ukraine's cattle production and dairy industry, more than other types of animal protein production. The majority of Ukraine's cattle are dairy animals with the share of beef and dual-purpose cattle being very small. Almost the entire industry relies on uninterrupted milk sales and the functioning of the dairy processors. The war resulted in logistics chain interruptions, demand drop, and temporary operations suspension by many dairy processors. Some processors located close to war-impacted areas and in occupied territories could not resume production as of 2023.

Households are responsible for a dominant share of milk production in Ukraine. A small share of the households rely on locally procured inputs and are subsistent in nature: milk is consumed by the families, shared with neighbors and relatives, or sold locally. These family farms were better prepared for war challenges when access to inputs and access to markets for product sales was limited. The majority of households rely on milk sales to dairy processors and suffered greatly from the war. Many had no financial cushion to overcome production and sales problems, unlike the bigger industrial dairy farms. In most cases, households could not switch to a different dairy processor located in a safer place, cope with raw milk procurement price swings, or find another source of veterinary drugs or other inputs. The reduction in milk production in the household subsector continues in 2023. To a lesser extent, it is expected to last in 2024, contributing to further reductions in cattle inventory and reduction in raw milk production.

Although the war's impact on industrial dairy farms was also very significant, the larger-scale industry managed to stabilize milk production and sales for further processing by the second half of 2023. However, some dairy farms close to the warfare areas, or those located on the Ukrainian territories liberated through 2022 and 2023, or on occupied territories, stopped milk production completely. Farm damage, loss of animals, logistical problems related to milk sales, and input procurement decreased production. Raw milk sales for further processing almost stabilized in the second half of 2023 and are expected to stabilize further in 2024. The drop in the production of processed dairy products is not expected to be significant.

The massive outflow of Ukrainian citizens from the country and a significant disposable income drop resulted in a decrease in demand for processed dairy products. Almost all refugees were women and children, which are active consumers of dairy products, and thus most of the demand drop was observed in 2022. The situation started to stabilize in the middle of 2023 and dairy processing facilities stabilized procurement of raw milk and production of dairy products. The situation is expected to level out further in 2024, but some reduction in production is still expected.

Despite the major milk processing and dairy products production decrease, Ukrainian processors could not find domestic consumers for many dairy products and had no choice but to increase production of exportable dairy products (butter, hard cheese, and dry milk) in 2022. The drop in domestic demand was more significant than the drop in supply. Exports slowed in 2023 and are expected to drop further in 2024. The increasing raw milk procurement price in 2023 is believed to be a stabilizing factor for the dairy industry, but it will decrease the competitiveness of Ukrainian dairy products outside Ukraine. Ukraine imports some dairy products, particularly cheese from Poland, Germany, Netherlands, France, and Italy.

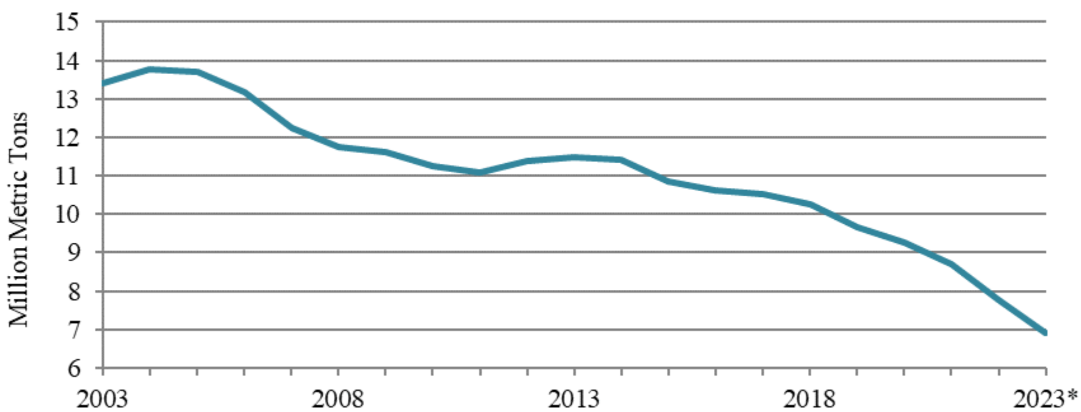
The 2023-24 forecast is extremely fragile and is based on the existing military status quo.

Production:

Raw Milk

Before Russia's full-scale invasion in February 2022, Ukrainian raw milk production remained on its 30-year-long gradual downward trend.

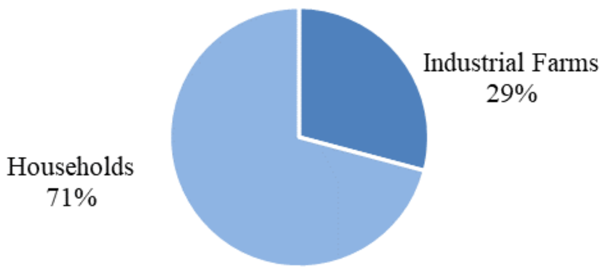
Figure 1. Ukraine's Fluid Milk Production



Source: FAS USDA
** Forecast*

Overall industry efficiency and profitability have remained low. Almost three-quarters of Ukrainian milk was produced by private households. Milk yields in the private sector are lower, but inefficiency is partially compensated by it being a lower-cost production model. Household-produced milk is often of lower quality due to the veterinary and/or sanitation practices which are implemented. Some households view milk production as a safety net necessary to provide their families with food in case of a significant crisis. This low-cost, self-sufficient production model has proven to be critically important and resilient throughout the war and throughout various economic crises of the last 20 years. Although many households sell their milk to local dairy processors, most processors usually prefer industrial milk over household produced milk. The share of household-procured milk has been consistently decreasing in pre-war years.

Figure 2. Dairy Cow Inventory Composition (as of January 1st) 2023



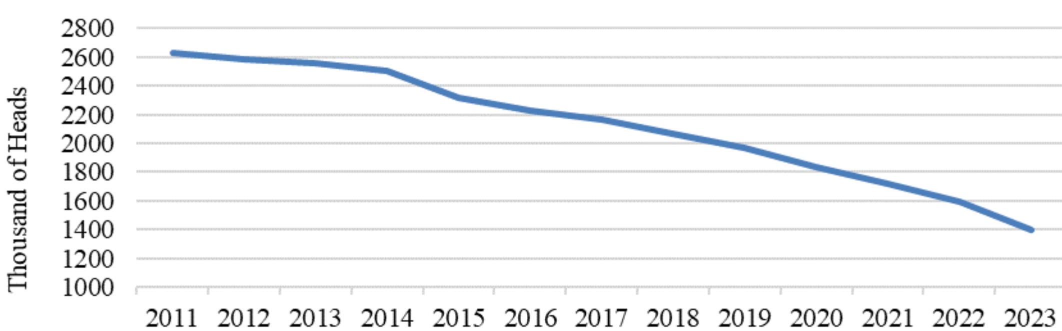
Source: Ukraine's State Statistics Service

Ukrainian commercial dairy production is dominated by two production models: old-style small/mid-size dairy farms, and new modern farms that utilize innovative production practices and growing in size. Many old-style farms have their roots in Soviet-era collective farm-based production systems. A small, but growing share of western-style profitable dairy enterprises use modern production techniques and are responsible for the stabilization of Ukraine's industrial milk yield in 2023.

Similar to other countries, Ukraine's milk production concentrates around the major urban centers. The war has impacted Ukrainian dairy production significantly. As milk-producing areas around Kyiv and Chernihiv (partially occupied and then liberated in late spring 2022) recover, the major milk-production area around Kharkiv shows little sign of recovery. War-related risks, electricity shortages of 2022 and electricity price increase of 2023, and land mines and unexploded ordinances in fields, led to feed production shortages and a further decrease in milk production. Large milk-producing pockets in central and western Ukraine were not impacted directly, however, they also suffered from disrupted input supply chains, labor force shortages due to immigration and conscription for the war, blackouts caused by Russian missile attacks on civilian infrastructure, and an unstable macroeconomic environment.

Ukraine's Statistics Service resumed the publication of animal inventory and milk yield numbers. However, recent dairy processing numbers are not available.

Figure 3. Number of Cows (Farms of All Types as of January 1st)

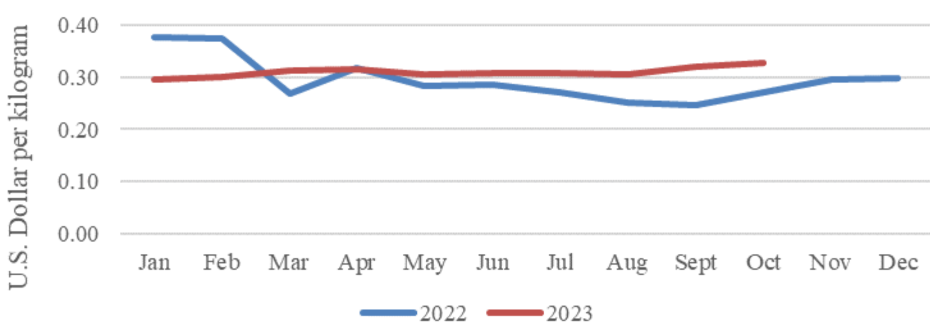


Source: State Statistics Service of Ukraine; FAS Kyiv calculations

Although dozens of dairy farms were destroyed in the war completely, their share in national milk yield was small. According to industry sources, the number of direct losses of cows and heifers from war-related causes on industrial farms may exceed 50,000. A larger number of farms remain in occupied territories in eastern and southern Ukraine. No production data is available from those areas so Ukrainian official production statistics numbers do not include those farms. Dairy farms which were on occupied territory likely have no or very limited milk sales. The territories which are currently occupied by Russia were not large dairy producers historically, compared to other regions of Ukraine.

Similarly to many other EU countries, Ukraine experienced drought in June-July of 2023 which impacted pastures, and thus affected the supply of milk. When coupled with the stabilization of dairy products consumption, this resulted in raw milk price increases in 2023. However, Ukraine's milk price remains almost one-third lower than those in nearby countries. In October of 2023, Ukrainian raw milk price reached USD 0.33 per kilogram while milk price in neighboring Poland was close to USD 0.45 per kilogram. Although Ukrainian prices tend to converge with the neighboring countries, the gap remains significant.

Figure 4. Average Raw Milk* Procurement Price



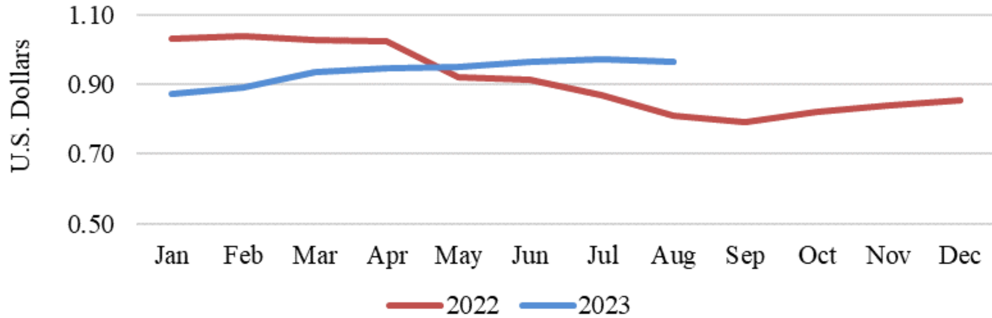
Source: Association of Ukrainian Dairy Producers;
** A weighted average of all three milk quality grades;*
Pre-war February price and approximate March price are provided

Industrial milk production is expected to stabilize in 2024, while household production is expected to shrink a bit further due to war-related factors and the general inefficiency of smaller-scale businesses.

<u>*Pasteurized Fluid Milk*</u>

Reduced domestic demand resulted in a drop in pasteurized milk production and prices in 2022. In 2023, reduced supplies and stable demand allowed for some milk prices rebound. Pasteurized milk prices are expected to follow raw milk prices trend with production stabilization in 2024.

Figure 5. Pasteurized Milk with Fat Content at and Above 2.6 Percent (1 kilogram)



Source: Ukraine's State Statistics Service, FAS/Kyiv calculations

<u>*Cheese (Hard and Soft)*</u>

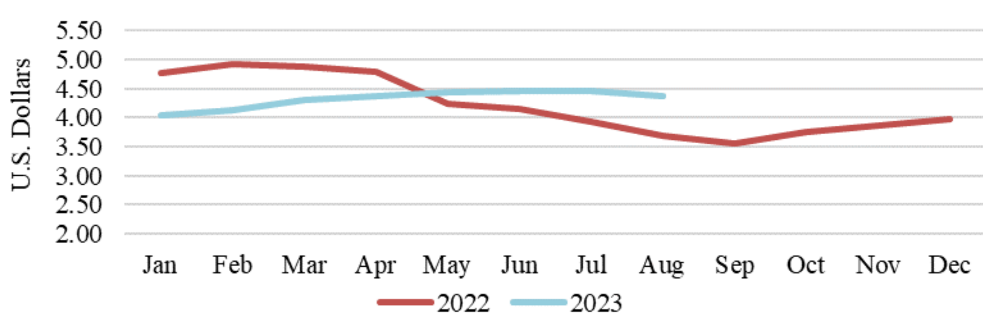
Due to war-time data publication restrictions, official statistics on cheese production in 2022-23 are not publicly available.

Decreased raw milk supply and drop in consumer demand due to the outflow of refugees following Russia's full-scale invasion resulted in a drop in cheese production in 2022. Both soft and hard cheese production were impacted. Domestic production concentrated on lower and middle market segments due to competition with EU-produced cheese in the upper segment. In 2023, production is expected to stabilize (but remain under the 2022 production) with insignificant further decrease in 2024. No significant recovery is expected until return of the refugees and consequent domestic demand growth.

A lot of cheese production facilities concentrated in southern Ukraine had to relocate production to central and western regions of the country. Electricity outages caused by Russian attacks on civilian energy infrastructure were the main reason obstructing production in winter 2022. Energy price increases in late spring 2023 impacted production costs this year. The industry remains cautiously optimistic and is working on mitigation of energy supply risks.

Only the domestic soft cheese retail price is officially available due to war-related statistics publication restrictions. Real retail (U.S. dollar-denominated) soft cheese prices grew from October 2022, providing the industry with much needed cash flow.

Figure 6. Cottage Cheese Retail Price (for 1 kilogram)



Source: Ukraine's State Statistics Service, FAS/Kyiv calculations

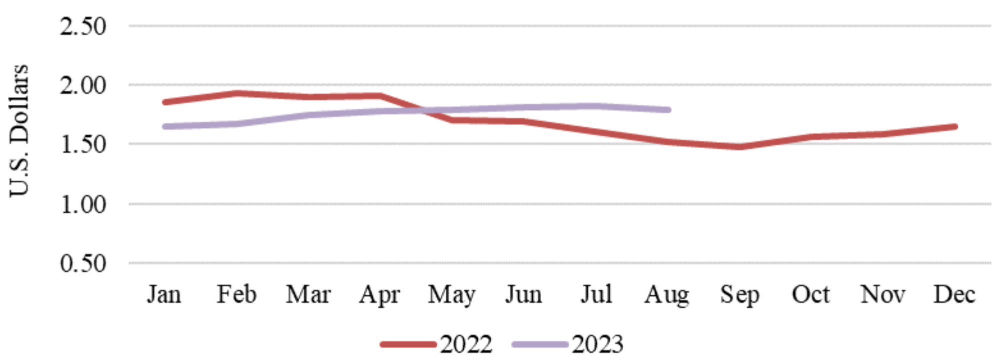
Butter

Due to war-time data publication restrictions, official statistics on butter production in 2022-23 are not publicly available.

In the pre-war period, Ukrainian butter producers concentrated predominately on the domestic market, with exports playing a marginal role. In 2022, the industry reduced butter production significantly but faced even more significant demand drop due to outflow of refugees. After the loss of cattle inventory and production facilities, Ukraine found itself in an excess milk supply situation. Companies increased milk processing into exportable commodities and exports significantly. Due to high raw milk production seasonality, most of the production increase took place in May-September of 2022. As expected, the phenomenon was short-leaved, with raw milk production reduction in 2023 and industry return to "usual" production model. Production of butter in 2023 is expected to stabilize and be sufficient to cover most of the remaining domestic demand. The 2024 production is expected to reduce marginally driven by further shrinkage of raw milk supplies.

Butter domestic price behavior is similar to other dairy products. Following a decrease, prices stabilized in the second half of 2022. The higher price led to production stabilization in the first half 2023.

Figure 7. Butter Retail Price (for 0.2 kilogram standard package)



Source: Ukraine's State Statistics Service, FAS/Kyiv calculations

Skim Milk Powder (SMP)

Due to war-time data publication restrictions, official statistics on SMP production in 2022-23 are not publicly available. The product is not sold in retail, so no price information is available.

The skim milk powder (SMP) production trend mirrors the butter trend as those products are produced together. The SMP exhibited domestic market excess supply. A large number of Ukrainian processors which used SMP as an ingredient had to curtail production due to the reduction in the number of consumers. Women and children who left the country were the major consumers of those processed products. This extra SMP product had to be exported.

Due to the link to butter, SMP production is expected to decrease in 2023 and a bit further in 2024, following the shrinking raw milk supply.

Whole Milk Powder (WMP)

Due to war-time data publication restrictions, official statistics on WMP production in 2022-23 are not publicly available. The product is not sold in retail, so no price information is available.

In comparison to butter and SMP production, whole milk powder (WMP) production is less attractive for the Ukrainian dairy processors. It also has limited foreign demand. Although limited quantity of WMP will be produced for the domestic food processing industry (predominately bakery and confectionary), the output is expected to be insignificant both in 2023 and 2024. The producers are expected to pay more attention to SMP and butter combo production. Local demand for WMP is not expected to notably recover until the refugees return to the country.

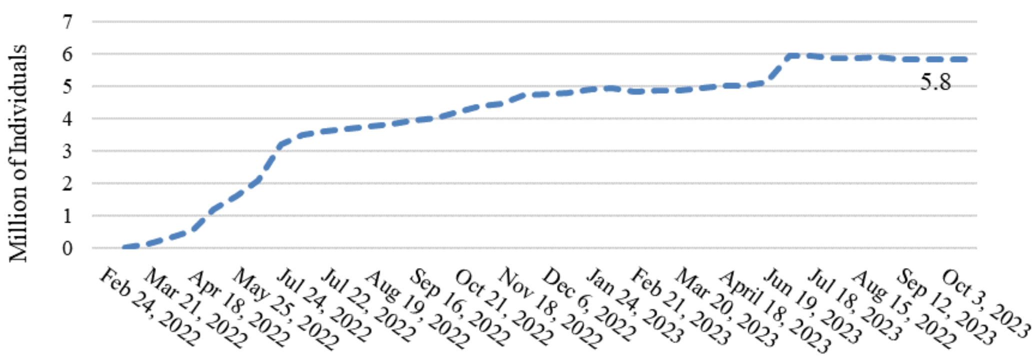
Consumption:

The major population outflow after the full-scale invasion in February 2022 resulted in a significant consumption drop of all dairy products. Whole dairy products, ice cream, and infant formula suffered the biggest drop as many women and children left the country. Within weeks after the full-scale invasion, almost one-quarter of the population had fled their homes to seek refuge abroad or in other parts of Ukraine. This is the biggest refugee flow in Europe since the end of World War II.

Ukraine's official population was 41.1 million people as of February 1st, 2022. After Russia's invasion, 6.2 million people (15 percent of the population) were displaced to other countries around the globe by mid-October 2023. Another 2.4 million Ukrainians remain in the EU without refugee status. The number of Ukrainians expelled to Russia or refugees who fled to Russia is not known. According to some estimates, the number may exceed one million. In total, the total number of Ukrainians outside Ukraine may exceed 9.5 million. Although the outflow trend stabilized, and some who had fled have now returned to Ukraine in 2023, no major trend change is expected before the war ends.

The post-war situation is difficult to forecast as it will depend on the population. If some Ukrainians abroad do not return, Ukraine is unlikely to return to pre-war consumption levels.

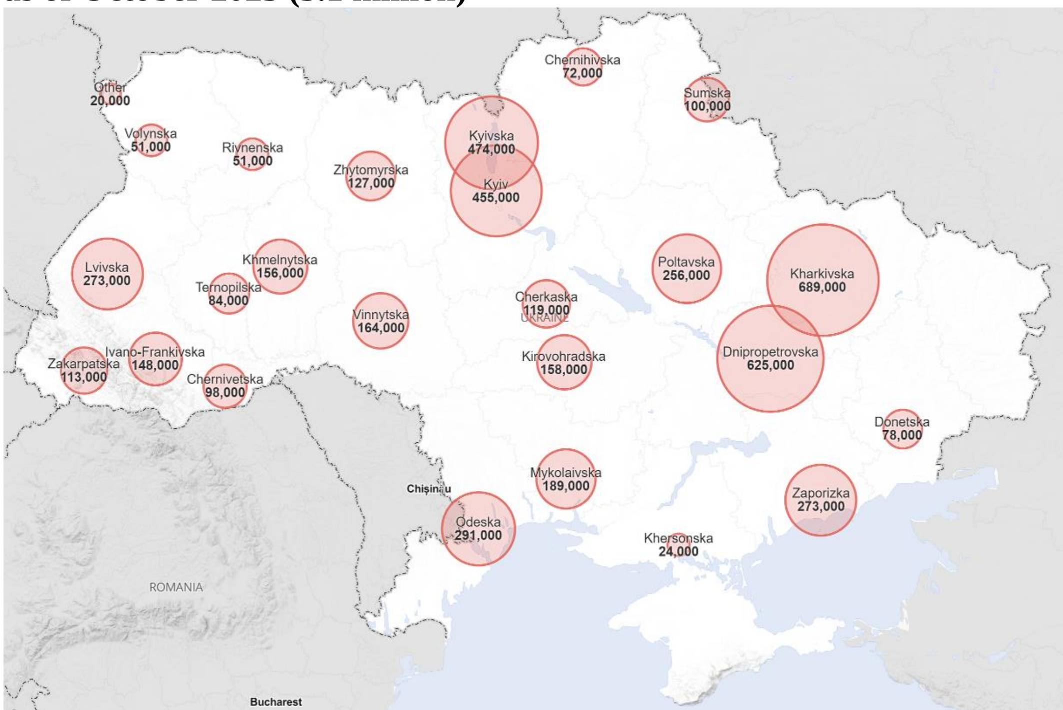
Figure 8. Number of Refugees from Ukraine Recorded in Europe*



Source: UN Refugee Agency (https://data.unhcr.org/)
** This graph does not include individual refugees (refugees who did not apply for the temporary protection status) nor does it include refugees outside of the EU*

Another important factor influencing domestic consumption is large number of internally displaced persons (IDPs). This group includes people that left the occupied territories as well as those who fled territories that are adjacent to military activity areas. The number of individuals remaining in occupied territories is not clear, as the situation changes daily. Many of these people lost their sources of income and consume fewer dairy products.

Figure 9. Distribution of Internally Displaced Persons in Ukraine by Region as of October 2023 (5.1 million)



The Total number of Internally Displaced Individuals is 5,088,000
Source: UN Refugee Agency (https://data.unhcr.org/)

In addition to the internal and external refugee crisis, the drop in disposable income contributed to the decrease in consumption of milk and dairy products. Incomes have been impacted by war-related job loss, economic downturn, as well as growing inflation. Most of these factors were profound in 2022 when GDP dropped by over 29 percent and inflation exceeded 26 percent. The economic situation in Ukraine has stabilized in 2023 as the country returned to modest economic growth. Economic stabilization is expected to facilitate dairy product consumption leveling.

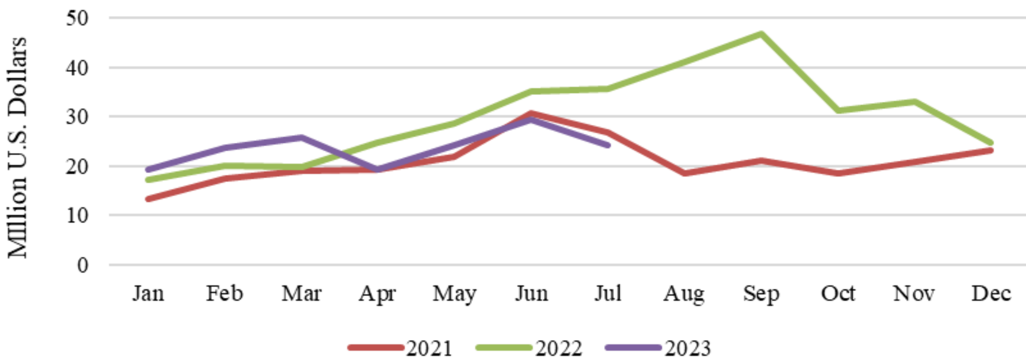
Trade

Due to war-time data publication restrictions, official trade statistics from Ukraine's State Statistical Service are not publicly available. Alternative sources and industry data are used.

The demand shrinkage exceeded the supply shrinkage in 2022, resulting in excess raw milk supply and consequent increase in exports. This excess milk supply became more significant in the summer months when Ukrainian raw milk production peaked, resulting in a peak in processed dairy product exports in

September 2022. The sharp reduction of raw milk production balanced the market in 2023 although the value of Ukraine's winter-spring dairy exports remain above 2021.

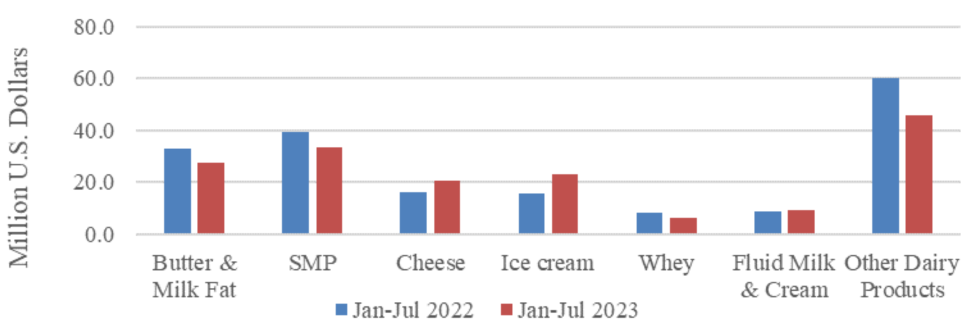
Figure 10. Export of Dairy Products from Ukraine



Source: Trade Data Monitor

Ukraine main dairy products exports include SMP, butter, and basic hard cheese. All exports transited the EU countries as the EU border (and the border with neighboring Moldova) remained the only export route available after the full-scale invasion and the Black Sea blockade. In 2022, the exporters complained about refrigerated container shortages and delays due to long truck lines at Ukraine's western borders. Most problems were resolved by 2023. Some Ukrainian dairy products exported to the EU were shipped further to other foreign destinations by Polish, Dutch, and Lithuanian traders. However, limited shipments of cheese, butter, and whole dairy products ended up in EU countries. The number of Ukrainian EU-approved processing facilities skyrocketed, reaching 51 by the fall of 2023. Exports of dairy products dropped in 2023, driven by the smaller raw milk supply, but remained close to the pre-war (2021) level.

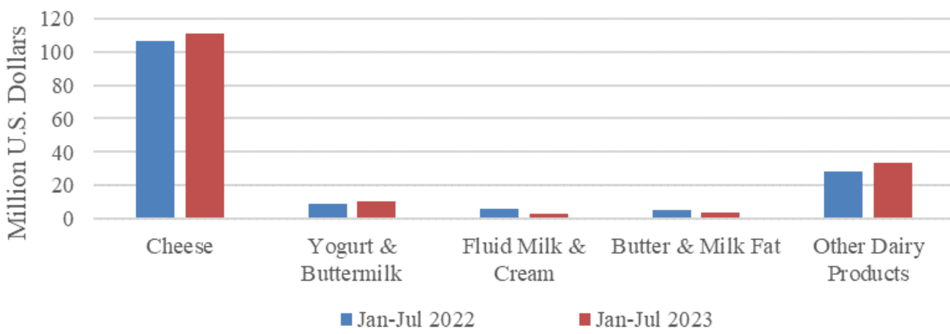
Figure 11. Ukraine's Dairy Exports



Source: *Trade Data Monitor, LLC*

Imports of dairy products remained significant both in 2022 and 2023. Consumer demand in high and middle market segments was predominately covered by imports, while Ukrainian producers concentrated on the lower segments. Ukraine is expected to remain an importer of upper- and some middle-market segment dairy products in 2023 as the economic situation and disposable incomes stabilize. Ukrainian currency depreciation in 2022 was one of the major import obstacles in 2022. In 2023, the currency remains stable with the National Bank increasing control over the currency market.

Figure 12. Ukraine's Dairy Imports

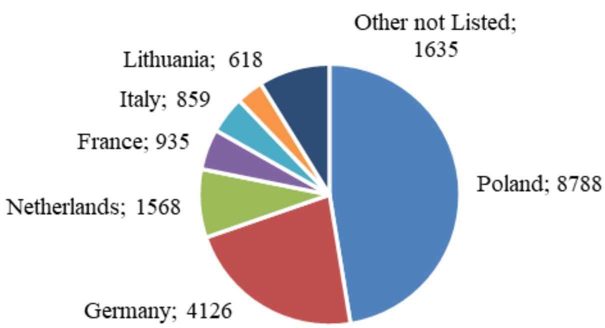


Source: *Trade Data Monitor, LLC*

<u>Cheese</u>

Growing demand for higher-quality cheese was the main trend in the pre-war years. Domestic dairy processing industry has not kept up with the demand and eventually was focused on the lower quality market segment. The EU became the major supplier with France, Italy, and Netherlands supplying cheese in the premium segment. Poland, Lithuania, and Germany dominated in the middle and upper-middle segments. The war did not change the trend, although total imports dropped by almost 40 percent in 2022 and another eight percent in 2023. Imports are expected to stabilize in 2023 and grow in 2024, following disposable income recovery.

Figure 13. Ukraine's Cheese Imports in Jan-Jul 2023, MT



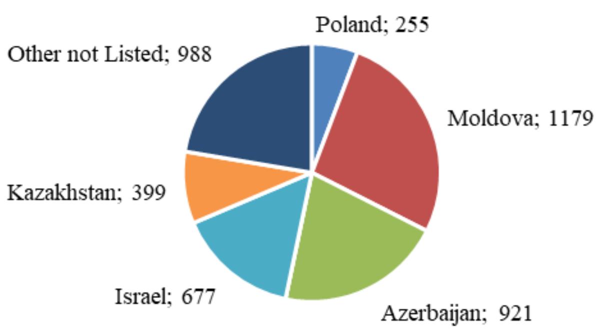
Source: *Trade Data Monitor, LLC*

Exports of cheese products are small and limited by traditional Ukrainian markets in Moldova and Kazakhstan. Facing an excess supply of raw milk, Ukrainian cheese producers exported limited quantities of cheese to the EU market (predominately in the lower market segment). The situation is not expected to repeat itself in 2023 or 2024, but Ukraine's exports to the traditional markets (Kazakhstan, Moldova, and Azerbaijan) will remain strong.

Butter

A butter and SMP combo traditionally was one of the most profitable export commodities for Ukrainian processors during the summer periods, when raw milk is abundant and domestic demand is the lowest. The 2022 situation is different because lower demand has lasted throughout nearly the entire year. Excess raw milk supply also started earlier and lasted longer. In response, Ukraine increased butter exports significantly in 2022. In addition to traditional markets in the Former Soviet Union (FSU) countries, exports to the Netherlands, Poland, Lithuania, and Bulgaria started. Import duties zeroing by the EU for all Ukrainian products in early June 2022 also played a role in Ukraine's increased exports. According to industry sources, traders from these new EU importers found a way to ship Ukrainian butter to other destinations. Significant logistical problems of the first half of 2022 were generally resolved in 2023.

Figure 14. Ukraine's Butter Export in Jan-Jul 2023, MT



Source: Trade Data Monitor, LLC

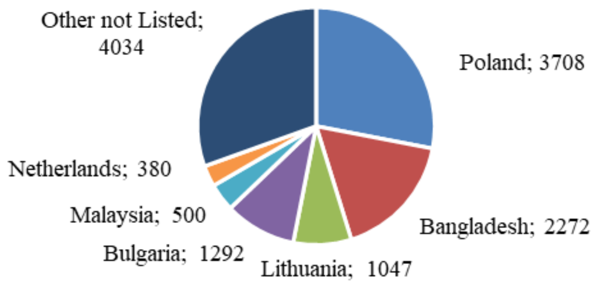
The import of butter in 2022 is insignificant. Imported butter occupies the premium segment in a small number of top-end supermarkets. This niche market has shrunk and is not expected to grow during the war.

Skim Milk Powder

SMP production is tied to butter, and SMP trade is driven by the same factors. Trade peaked in 2022 driven by raw milk excess supply and decreased in 2023 after the raw milk production drop. Similarly to butter, the availability of new tariff-free EU markets changed export patterns. Although the role of Ukraine's traditional SMP export markets in Southeast Asia, North Africa, and the Middle East remained strong, traders from the Netherlands, Poland, Lithuania, and Bulgaria imported significant volumes.

Since SMP production is expected to decrease in 2023 and 2024, trade flows are expected to reflect this decrease.

Figure 15. Ukraine's SMP Exports, Jan-Jul 2023, MT



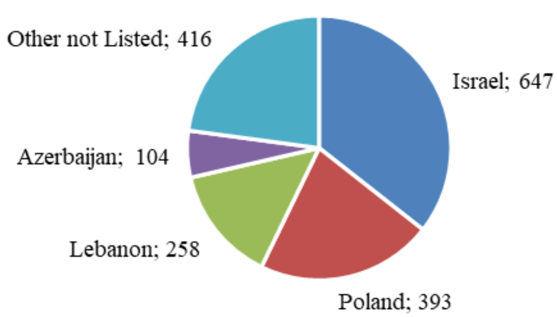
Source: Trade Data Monitor, LLC

Ukraine is not expected to import any significant amount of SMP in 2023 or 2024.

Whole Milk Powder

Traditionally, WMP production in Ukraine has been insignificant, as the SMP and butter combo provided Ukrainian processors with better margins. Foreign demand for WMP is also low. Similar to other dairy products, the availability of the EU market allowed for exports to Poland, the Netherlands, and Bulgaria.

Figure 16. Ukraine's Dry Whole Milk Powder Exports Jan-Jul 2023, MT



Source: Trade Data Monitor, LLC

Driven by lower milk yields and weak domestic and foreign demand, WMP exports are expected to remain low in 2023 and 2024.

Annex 1. Dairy Products Production, Supply, and Distribution Tables

Table 1. Fluid Milk Production, Supply, and Distribution*

Dairy, Milk, Fluid Ukraine, Thousand Metric Tons	2022		2023		2024
	Market Year Begin: Jan 2022		Market Year Begin: Jan 2023		Market Year Begin: Jan 2024
	USDA Official	New Post	USDA Official	New Post	New Post
Cows In Milk (Thousands of animals)	1 450	1 591	1 360	1 400	1 300
Cows Milk Production	7 300	7 780	6 980	6 900	6 500
Other Milk Production	180	177	180	115	105
Total Production	7 480	7 957	7 160	7 015	6 605
Other Imports	9	9	5	5	5
Total Imports	9	9	5	5	5
Total Supply	7 489	7 966	7 165	7 020	6 610
Other Exports	23	29	15	29	30
Total Exports	23	29	15	29	30
Fluid Use Dom. Consum.	4 150	4 387	4 010	3 851	3 490
Factory Use Consum.	2 596	2 800	2 490	2 490	2 470
Feed Use Dom. Consum.	720	750	650	650	620
Total Dom. Consumption	7 466	7 937	7 150	6 991	6 580
Total Distribution	7 489	7 966	7 165	7 020	6 610

**These are not official USDA numbers*
Crimea numbers are included.

Table 2. Hard and Soft Cheese Production, Supply and Distribution*

Dairy, Cheese Ukraine, Thousand Metric Tons	2022		2023		2024
	Market Year Begin: Jan 2022		Market Year Begin: Jan 2023		Market Year Begin: Jan 2024
	USDA Official	New Post	USDA Official	New Post	New Post
Beginning Stocks	7	7	7	7	7
Production	150	150	145	135	132
Other Imports	34	34	30	20	23
Total Imports	34	34	30	20	23
Total Supply	191	191	182	162	162
Other Exports	9	9	10	10	10
Total Exports	9	9	10	10	10
Human Dom. Consumption	175	175	165	145	145
Other Use, Losses	0	0	0	0	0
Total Dom. Consumption	175	175	165	145	145
Total Use	184	184	175	155	155
Ending Stocks	7	7	7	7	7
Total Distribution	191	191	182	162	162

*These are not official USDA numbers

Crimea numbers are included.

Table 3. Butter Production, Supply, and Distribution*

Dairy, Butter Ukraine, Thousand Metric Tons	2022		2023		2024
	Market Year Begin: Jan 2022		Market Year Begin: Jan 2023		Market Year Begin: Jan 2024
	USDA Official	New Post	USDA Official	New Post	New Post
Beginning Stocks	14	14	10	10	10
Production	60	60	55	57	55
Other Imports	1	1	0	1	1
Total Imports	1	1	0	1	1
Total Supply	75	75	65	68	66
Other Exports	13	13	10	12	10
Total Exports	13	13	10	12	10
Domestic Consumption	52	52	45	46	46
Total Use	65	65	55	58	56
Ending Stocks	10	10	10	10	10
Total Distribution	75	75	65	68	66

*These are not official USDA numbers
Crimea numbers are included.

Table 4. Skim Milk Powder Production, Supply, and Distribution*

Dairy, Milk, Nonfat Dry Ukraine, Thousand Metric Tons	2022		2023		2024
	Market Year Begin: Jan 2022		Market Year Begin: Jan 2023		Market Year Begin: Jan 2024
	USDA Official	New Post	USDA Official	New Post	New Post
Beginning Stocks	3	3	2	2	2
Production	25	25	30	28	27
Other Imports	0	0	0	0	0
Total Imports	0	0	0	0	0
Total Supply	28	28	32	30	29
Other Exports	22	22	25	25	23
Total Exports	22	22	25	25	23
Human Dom. Consumption	4	4	5	3	4
Other Use, Losses	0	0	0	0	0
Total Dom. Consumption	4	4	5	3	4
Total Use	26	26	30	28	27
Ending Stocks	2	2	2	2	2
Total Distribution	28	28	32	30	29

**These are not official USDA numbers*
Crimea numbers are included.

Table 5. Whole Milk Powder Production, Supply, and Distribution *

Dairy, Dry Whole Milk Powder Ukraine, Thousand Metric Tons	2022		2023		2024
	Market Year Begin: Jan 2022		Market Year Begin: Jan 2023		Market Year Begin: Jan 2024
	USDA Official	New Post	USDA Official	New Post	New Post
Beginning Stocks	1	0	0	0	0
Production	9	10	8	8	7
Other Imports	0	0	0	0	0
Total Imports	0	0	0	0	0
Total Supply	10	10	8	8	7
Other Exports	2	3	2	2	2
Total Exports	2	3	2	2	2
Human Dom. Consumption	8	7	6	6	5
Other Use, Losses	0	0	0	0	0
Total Dom. Consumption	8	7	6	6	5
Total Use	10	10	8	8	7
Ending Stocks	0	0	0	0	0
Total Distribution	10	10	8	8	7

**These are not official USDA numbers*
Crimea numbers are included.

Attachments:

No Attachments