

Shifting to the next phase of the cycle

Global dairy quarterly Q4 2023





Summary

As 2023 draws to a close, the global dairy market continues to walk a tightrope of limited “new” milk and sluggish demand. Looking back on 2023, it is a story of soft global dairy commodity pricing due to weaker underlying fundamentals. Milk supply growth around the globe was underwhelming in 2023, with a brief return to growth for three consecutive quarters before lower milk prices, elevated costs, and weather disruption put the brakes back on. The global markets patiently awaited the rebalancing of the Chinese market, only to experience the second consecutive year of large shortfalls in net dairy imports.

Looking to 2024, the global market is transitioning to the next phase of the cycle. There is growing evidence that the bottom in the dairy commodity markets has passed, and the general trend is for prices to move higher through 2024.

Milk supply growth will be sluggish in 2024 across most export regions. Stock levels in the export regions are comfortable but not burdensome. This means that international dairy buyers must keep a close watch on supply availability amid structural weakness in production growth in some export regions. The New Zealand seasonal flush has passed with modest growth, and markets await seasonal increases from the Northern Hemisphere in 1H 2024.

The next phase of the demand story remains key to watch. It’s a complex story of high dairy inflation, broader cost-of-living issues, and weak consumer confidence remaining on the horizon. Sluggish underlying dairy demand and changes in consumer purchases are impacting volumes in some economies and channels. Demand settings are on the mend, but market uncertainty remains due to rising unemployment in some economies. Its ongoing impact on consumer purchasing power will be a watch for 2024.

China’s import appetite for dairy commodities is still expected to drive any Oceania commodity price rally in 2024. Rabobank expects China’s import volume to flatline in 2024, which would be a positive result, given the previous two years of withdrawal from the global markets. This is an opportunity for importers outside of China to build stocks in 2024. Prices are moving modestly higher, from low bases, and the current demand signals have yet to trigger a rush to take coverage.

In Rabobank’s view, the base case is for a slow recovery in commodity prices back to long-term averages. However, current fundamentals provide the perfect ingredients for price volatility and a possible market whiplash. A high degree of risk and uncertainty permeates all global markets, including dairy. Geopolitical instability risks, volatile energy markets, and weak macroeconomic conditions will be something to watch in 2024 for the global dairy markets and the broader food system.

Regional dairy markets

US

Tightening margins drove increased culling and a subsequent milk production pullback. Slaughter has slowed and profitability is improving, but not yet signaling expansion.

EU

Milk supply is moving into a year-on-year decline on the back of weak on-farm margins, high comparables, and unfavorable weather conditions.

China

A cautious demand outlook remains for 2024, but there are some positive signs. A mild 0.2% year-on-year increase in China's net annual import volumes is expected in 2024.

South America

South America milk production growth remains sluggish, but with a better period ahead in 2024. Weather disruption is a major culprit.

Australia

While very dry conditions have started to take a toll, ample supply of feed and irrigation water will help farmers mitigate the impact.

New Zealand

Forecast milk prices for the 2023/24 production season have improved, but prudent spending will remain a theme for most farmers given ongoing margin pressure.



Global focus

Global dairy commodity prices found a bottom in Q3 2023. Preliminary performance for Q4 showed double-digit increases across most of the complex. Cheese was the volatile outlier in the US and Oceania, with prices mostly flat into Q4. Emerging signs of weakening milk supply growth have spurred some further inventory rebuilding from major importers. For context, the Oceania commodity complex is still below the five-year average (between 8% to 10%) on a spot basis, excluding butter.

Farmgate milk prices across the export regions (in local currencies) will close out 2023 anywhere between 20% to 40% lower versus the start of the year. There are signs of life, with some regional milk prices heading higher in recent weeks, boosting farmgate margins, as the 2024 feed cost outlook is shaping up more favorably.

Nonetheless, Rabobank's milk supply outlook for 2024 has weakened. The milk supply export engine never fully fired on all cylinders in 2023 and declined year-on-year in Q3 by 0.2%. Year-over-year milk production from the Big 7 is forecast to decrease through Q1 2024 before turning positive. Overall, milk supply is forecast to grow by a modest 0.3% YOY for the entire year in 2024.

On the demand side, changes in consumer purchasing decisions continue to impact the performance of dairy categories. Some comfort for consumers is that the peak in food and dairy

inflation has passed. Different economies are at very different stages of the cycle in terms inflation and disinflation and how consumers are responding to the income squeeze. Dairy demand settings are most pressured in emerging markets and low-income households. While dairy disinflation and wage inflation are welcomed, a story of rising unemployment in 2024 in many major economies must be considered. A degree of uncertainty surrounding underlying demand remains for 2024. As a result, importers/buyers will be watchful, pending supply risks.

Progress toward rebalancing the Chinese market continued in Q3 2023. However, the speed has been underwhelming for dairy exporters so far. Milk production is trending lower but was still quite strong through Q3 2023. Dairy demand settings are mixed. Consumer prices are falling, and foodservice recovery continues, but overall consumption growth is sluggish. The internal rebalance continues, and Rabobank expects a modest (0.2%) increase in annual import volumes in 2024.

Global market fundamentals look set to remain finely balanced in 2024. Rabobank expects global milk powder prices to drift higher to long-term average prices through 1H 2024. As mentioned in the last edition, a sluggish supply outlook could mean the world quickly becomes short on milk if demand settings beat expectations (particularly in China) and/or the supply outlook deteriorates.



What to watch

A mildly softer grain and oilseed price outlook across much of the agricultural complex is expected in 2024. Rabobank's [Agri Commodity Markets Research 2024 Outlook](#) points to a boost in the global feed grain supply, which is positive for dairy farm margins. There are some exceptions, particularly for palm oil and soft commodities with more bullish outlooks.

El Niño risks remains a key factor to watch across many food and agricultural markets. A moderate El Niño through 2024 will create challenges in some production regions, mainly for Southern Hemisphere livestock producers and crop farmers.

Livestock markets continue to be mixed in export regions, with strong cull cow prices in the US market, contrast to weaker prices in Europe and Oceania. This is impacting cash flow at a time of milk price downturn.

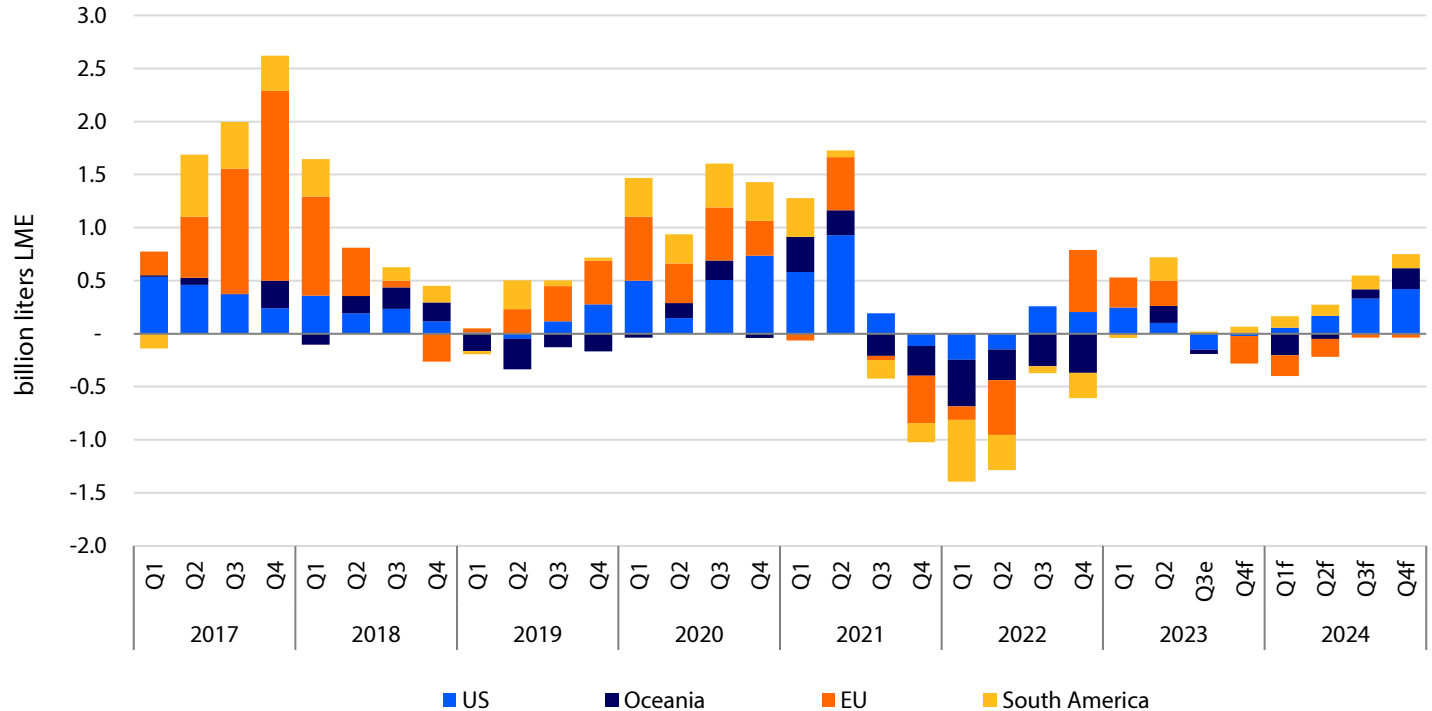
China's economic recovery was slower than expected through much of 2023. Recently announced sizeable stimulus packages will provide support, but will also take time to kick in. We still expect annual GDP growth to be slightly lower in 2024 versus 2023.

The Israel-Hamas war is a humanitarian crisis and has created heightened risk to global markets. An escalation of the war to a broader regional conflict would be problematic for oil markets, the global economy, and the wider food system, [as explored in a recent RaboResearch report](#).

The US dollar has been on a bumpy ride on the back of weak inflation data. The global risk appetite and the strength of the US economy will drive its future direction and may enhance the outlook for riskier currencies. A softer US dollar will partly offset some of the commodity USD recovery for dairy exporters as their currencies appreciate.

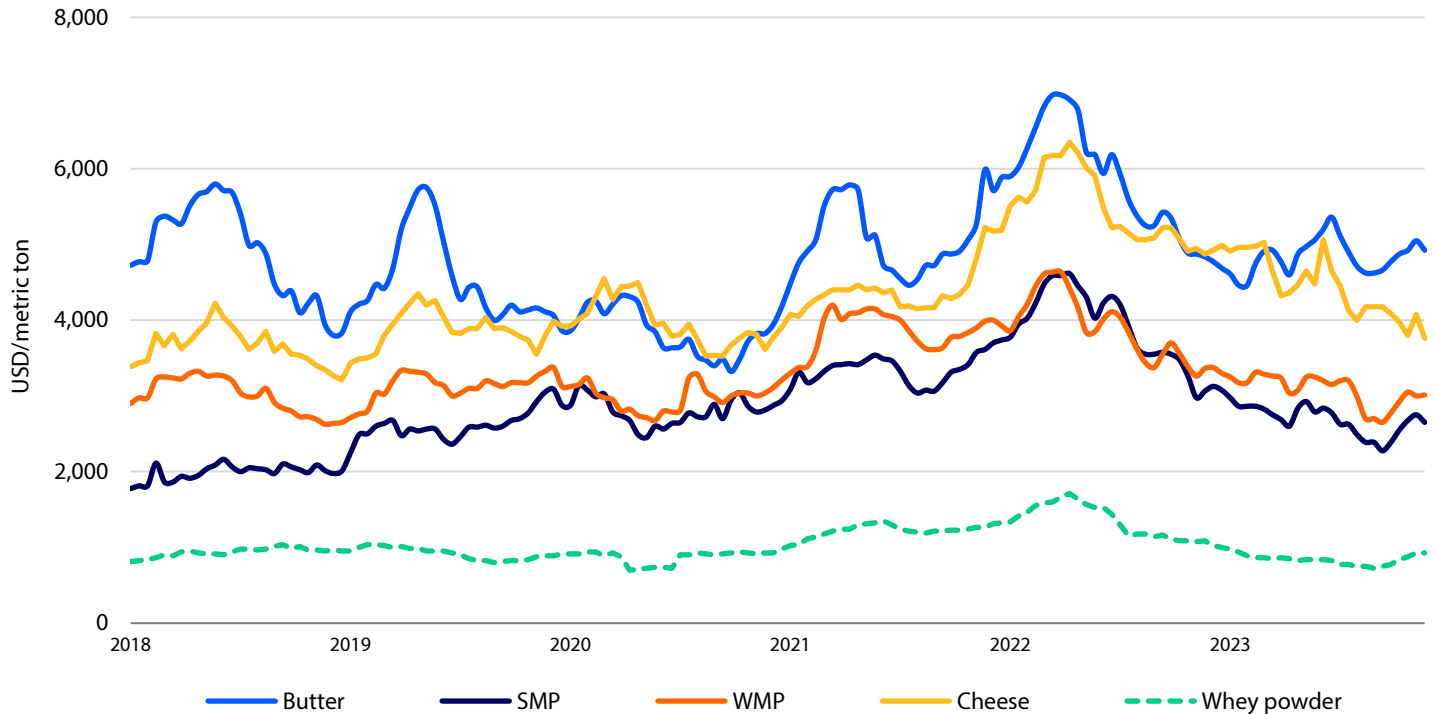
A drought of historical magnitude is disrupting global shipping through the Panama Canal. The last quarter of the year is usually a busy period for agricultural trade, particularly for South and North America flows. Without rain, we could see lower throughput, delays, and higher costs.

Figure 1: Milk production growth, Big 7 exporters (actual and Rabobank forecast), 2017-2024f*



*Note: The Big 7 includes the EU, US, New Zealand, Australia, Brazil, Argentina, and Uruguay.
 Source: Big 7 government industry agencies, Rabobank 2023

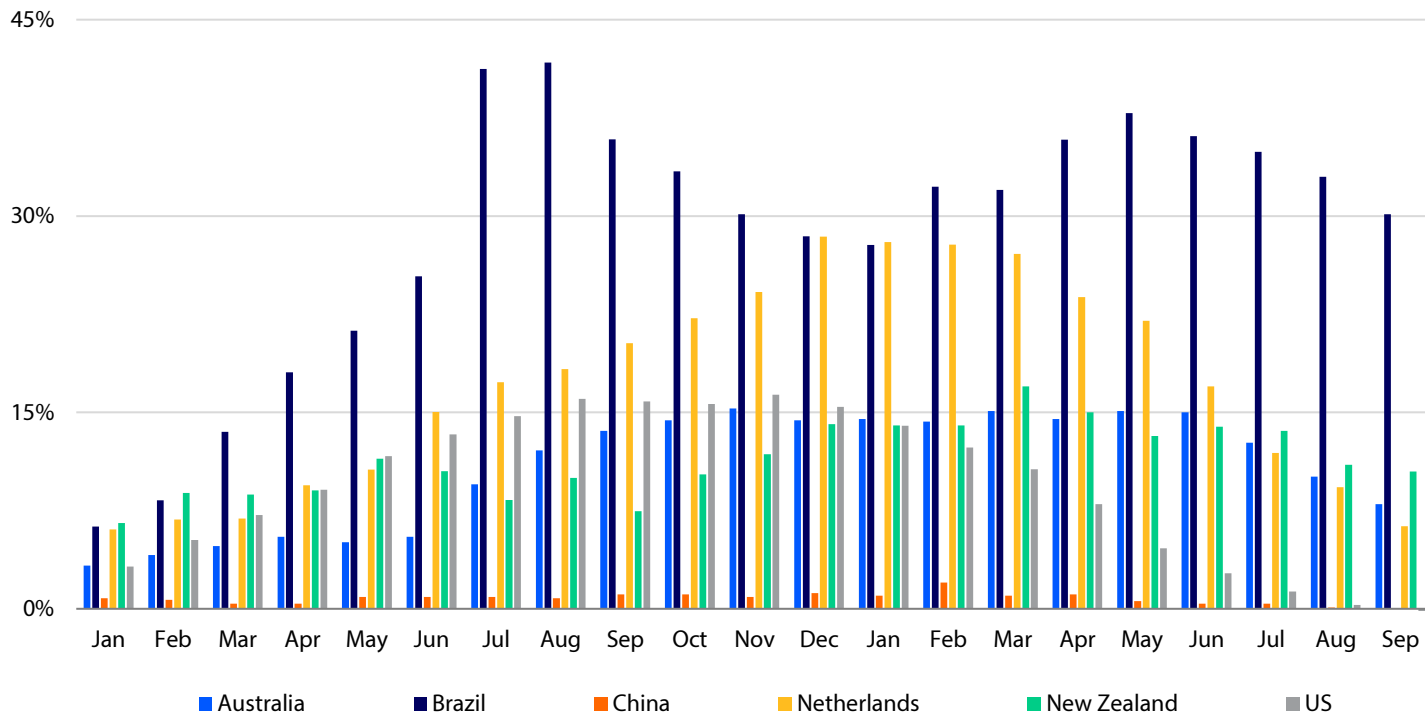
Figure 2: Dairy commodity prices, FOB Oceania, 2018-2023*



*Note: Whey is FOB in western Europe.

Source: USDA, Rabobank 2023

Figure 3: Dairy product consumer price indices by key region, Jan 2022-Sep 2023



Source: Government reporting agencies, Rabobank 2023



EU

What a difference a year makes! A year ago, EU milk prices and production growth were rising. The situation in Q4 2023 is just the opposite. Weather conditions became less favorable in most parts of northwestern Europe from mid-September. Excessive rainfall tempered harvest conditions for corn and other arable crops. However, feed availability is not a major concern heading into the winter.

As anticipated EU-27+UK milk deliveries moved into negative territory in Q3 2023, declining by 0.1% YOY (-47,000 metric tons).

A 0.5% YOY gain in July slipped to a decrease of 0.9% by September, with the largest drop in volume in France (-184,000mt or 3.2%), followed by Italy (-102,000mt or 3.2%) and Ireland (-34,000mt or 1.9%). In contrast, Poland posted steady growth (+1.6% or 52,000mt). Germany (+1.1%), the UK (+0.2%), and the Netherlands (+0.3%) reported year-on-year growth for Q2. Preliminary data shows lower volumes from September or October against high year-on-year comparables.

In recent months, the Netherlands has faced a rapid spread of bluetongue, an animal disease spread by midges that causes fever and blisters or sores on the nose, in the mouth, or on the udder. An infection generally also causes a significant drop in milk yields. Currently, there is no vaccine for this variety of bluetongue, and calf exports have become more restricted. As

the colder winter months approach, new infections are expected to ease, but the risk of a new peak exists once temperatures rise. In addition, tighter conditions for the nitrogen derogation exposed farmers to higher costs to move manure off farm. As such, we anticipate Q4 milk deliveries to decline by 0.7% YOY.

EU-27 farmgate base milk prices moved sideways to a provisional EUR 43.47/100kg (-0.6%) in October from EUR 43.73/100kg in July, reflecting a drop of more than 23% YOY. For Germany, the Netherlands, Ireland, and Denmark the year-on-year decline exceeded 30% – with current milk prices in the range of EUR 40/100 to EUR 42/100kg – indicating the increased margin pressure farmers face, as costs haven't decline at a similar pace.

Looking ahead to Q1 2024, we anticipate milk prices to strengthen due to the recent improvements in underlying European dairy commodity prices and a relatively tight market with balanced and anticipated lower/low stocks at year-end. Several large dairy processors in northwest Europe have already announced higher milk prices for November and December.

For 1H 2024, Rabobank anticipates milk deliveries to decline by 0.5% YOY in Q1 and 0.4% YOY in Q2 (previously -0.2%). For 2H 2024, we foresee a 0.2% YOY decline for now.

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EU

EU dairy commodity prices strengthened from mid-August to mid-November. SMP prices rose by 16%, or EUR 350/mt, to EUR 2,623/mt, while WMP prices increased to EUR 3,651/mt (+8.6% or EUR 290/mt). Butter prices strengthened by 13%, or EUR 590/mt, to EUR 5,081/mt, while whey powder prices jumped by 25%, or EUR 165/mt, to EUR 825/mt. Although the EU Gouda price remained stable, with a minor gain of 0.5% (+EUR 20 to EUR 4172/mt), the Gouda foil spot price jumped by 19% (+EUR 675 to EUR 4,150/mt) during the same period. Mozzarella spot prices improved by EUR 200/mt, up 5.7% to EUR 3,700/mt. Dutch raw milk spot prices reached EUR 49/100kg in mid-November, up from EUR 41/100kg in mid-August, indicating tighter milk availability at the factory gates.

As 2024 approaches, we anticipate dairy product prices to move sideways compared to the recent market strength. The rise in the EU-27 dairy consumer price index eased to 5.6% YOY in October, from 17.7% YOY in June, and the index remains well above 2021 levels. Dairy CPI gains in Germany and the Netherlands slowed to 4.7% YOY and 2.6% YOY, respectively, versus 20.4% and 17% in June. In contrast, the October French dairy CPI remains higher by double digits, up 11.2% YOY.

The outlook for foodservice demand (by volume) has stabilized as disposable income is

improving due to contracting inflation and rising salaries (assuming stable employment). Although supportive, the impact on demand will not occur overnight. Higher interest costs on home mortgages could temper this outlook, while promotional activity may support demand. Nonetheless, it's unlikely that foodservice operators will turn to large-scale promotions as operating costs for labor, ingredients/inputs, and energy remain elevated.

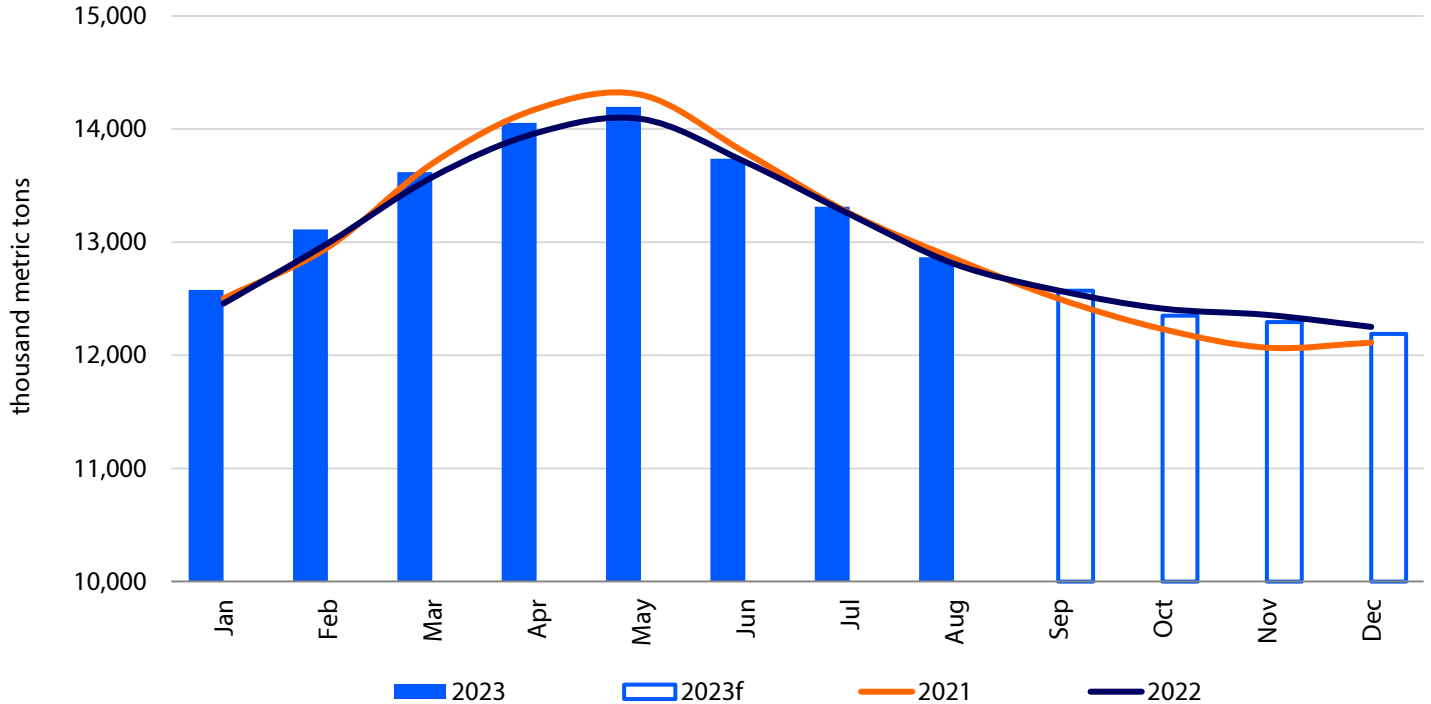
As such, we expect that the response in foodservice demand will be fairly range-bound for 2024, with deviations across products, regions, and channels.

EU dairy export volumes slowed in Q3 2023, but year-on-year gains remain strong against low comparables. WMP (+15% YOY or 8,300mt) and butter (+32% YOY or 14,300mt) exports jumped. Foreign sales of cheese (+5.6%) and SMP (+9.3%) also showed strong year-on-year export growth, while liquid milk (-6.9%) and whey (-1.4%) trade volumes declined.

Looking ahead, the price competitiveness of EU exports will remain challenged, but year-on-year volume growth for Q4 is expected, against weak comparables. Furthermore, 1H 2024 EU export volumes could be challenged by supply availability due to lower year-on-year milk production growth and a slight recovery in domestic demand.

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Figure 4: EU milk production, Jan 2021-Dec 2023f



Source: ZMB, Rabobank 2023



US

US milk production marked its fourth consecutive year-on-year decline in October (-0.5%), negatively impacted by fewer cows and lower yield. The largest year-on-year decline, year-to-date, occurred in July, when production fell 0.9%. The weakness was not unexpected. Low milk prices created negative margins earlier this year, forcing farmers to cut costs and shed unprofitable cows. Looking ahead, production growth is expected to be flat in the coming months before moving higher in mid- to late-2024. Rabobank forecasts 2023 milk production to be up 0.2% YOY this calendar year, with 1% growth expected in 2024.

The US herd size declined by 74,000 head from March to October. Firm slaughter rates throughout the summer drove the sharp reduction in cow numbers. However, culling slowed in November, as lower-producing cows have already exited the herd and farmgate milk prices have rebounded. At 9.37 million head, the October herd was the lowest of any month since January 2022. Rabobank expects the herd to expand slowly and steadily throughout 2024.

Milk per cow was lower in three of the four months between July and October. Several months of lower yield is relatively rare in the

US, where the longer-term average growth rate is closer to 1% per year. Variable feed issues and weather are contributing to weaker milk per cow gains.

The Class III milk price has improved from July's extreme low, but values are still lower than most farm's production costs. Higher butter and nonfat dry milk (NDM) prices support Class IV prices, which maintained a premium over Class III each month year-to-date except for April. At USD 4.65/cwt, the October Class IV premium over Class III was the third highest on record.

Butter showed significant strength in Q3, posting a record high USD 3.5025/lb on October 6 at the CME spot market. A record-high NDPSR price of USD 3.3212/lb was set in the week ending October 21. Exceptional butter prices coupled with modest NDM price increases have spurred strength in the Class IV price. Alternatively, cheddar cheese prices have struggled to gain momentum in Q4, typically a peak demand period that provides a seasonal boost. Adequate supply coupled with lower export demand are preventing bullishness from materializing in cheese markets. On the other hand, renewed dry whey purchases drove the mid-November NDPSR price to the highest since May.

US



Dairy product production trends have been mixed. Total September cheese production eked out a slight 0.1% YOY gain following two consecutive months of weakness. Output was again supported by American-style strength while Italian-style production declined for the seventh consecutive month. Butter production is up 3.5% YTD; in September, volume was up an impressive 11.4% YOY in the Central region. Combined, NDM/SMP marked their fourth consecutive decline into September while dry whey was down in the month as well.

Dairy export trends are largely unchanged since the last quarterly update. Total shipments have struggled throughout most of this year compared to a record 2022. Mexico has been a bright spot though, importing impressive quantities of US cheese and NDM. However, that trend might be slowing; September NDM sales to Mexico fell below prior year for the first time since August 2022. Cheese sales remained firm, but the peso has weakened, reducing purchasing power.

Stocks remain neutral, with most dairy commodities neither burdensome nor tight. September total cheese stocks exceeded the prior year but posted a stronger-than-usual monthly decline. Butter stocks have fallen

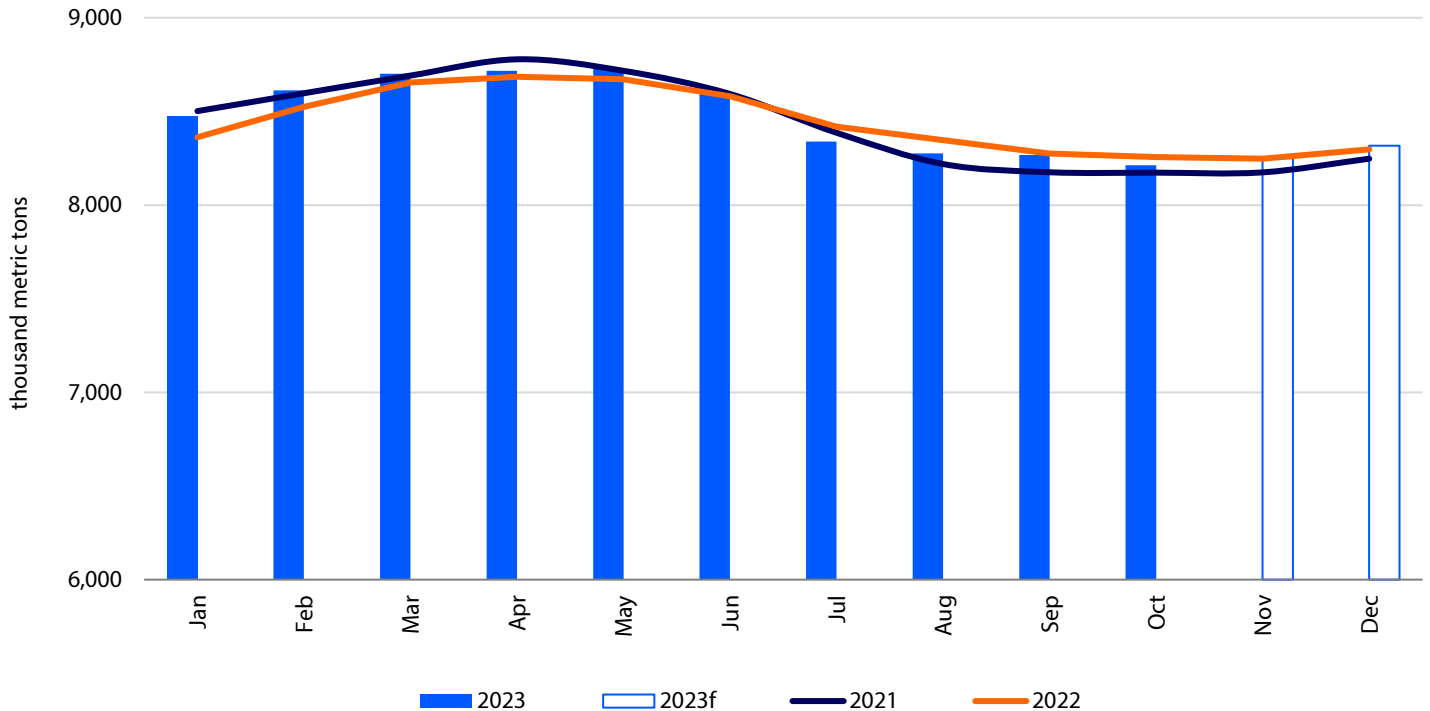
nearly 100m lb since the May peak. Notably, NDM stocks declined for the seventh consecutive month into September, falling to the lowest since November 2019.

From a demand perspective, Q3 export disappearance plummeted 11.2% on a total solids basis versus the prior year, following Q2's 12.5% YOY decrease. **Conversely, improved domestic demand pushed solids disappearance up 3.4% YOY, with total disappearance up 0.8%. While still positive, total disappearance posted its lowest YOY gain since Q2 2022.**

Dairy deflation has arrived, according to the consumer price index. The dairy products CPI was down 0.2% YOY in September and 0.4% in October, the first time the dairy CPI was lower for two consecutive months since December 2018 to January 2019. The weakness comes following the prior year's gains of more than 15%.

Rabobank estimates 1H 2024 milk prices of USD 17.78/cwt for Class III and USD 19.24/cwt for Class IV, with full-year 2024 estimates at USD 18.38/cwt and USD 20.37/cwt, respectively, as Class IV continues to hold its premium versus Class III.

Figure 5: US milk production, Jan 2021-Dec 2023f



Source: USDA, Rabobank 2023

New Zealand



Fonterra's forecast milk price for the 2023/24 season has improved since the last quarterly, lifting from NZD 6.75/kgMS to NZD 7.25/kgMS. Yet margin pressure lingers. Cash flow impacts are likely to be most acute over Q2 and Q3 2024, depending on the processor and business system. Fonterra suppliers have had cash flow buoyed by a helpful healthy dividend return to shareholder suppliers. RaboResearch anticipates some upside in milk price as 2023/24 draws to a close. The latest forecast payout stands at NZD 7.75/kgMS.

The spring flush month of October was less disappointing than expected, given the challenging spring in the Waikato. Output was marginally lower than last season's poor performance on a tonnage basis, but 0.9% higher YOY on a milk solids basis, reflecting the continued trend of more milk from fewer cows. The North Island saw a slower start to the new season's milk, with milk per cow taking some time to hit its stride. Budgets dictated cheaper feed being prioritized to plug any gaps. Good weather and cow conditions in the South Island helped offset the loss from the North Island. Feed availability is mixed in the North Island and good on the South Island. The biggest uncertainty lies on the North Island. In some areas, higher-than-usual levels of maize silage have already been fed after a challenging maize harvest in summer/autumn 2023.

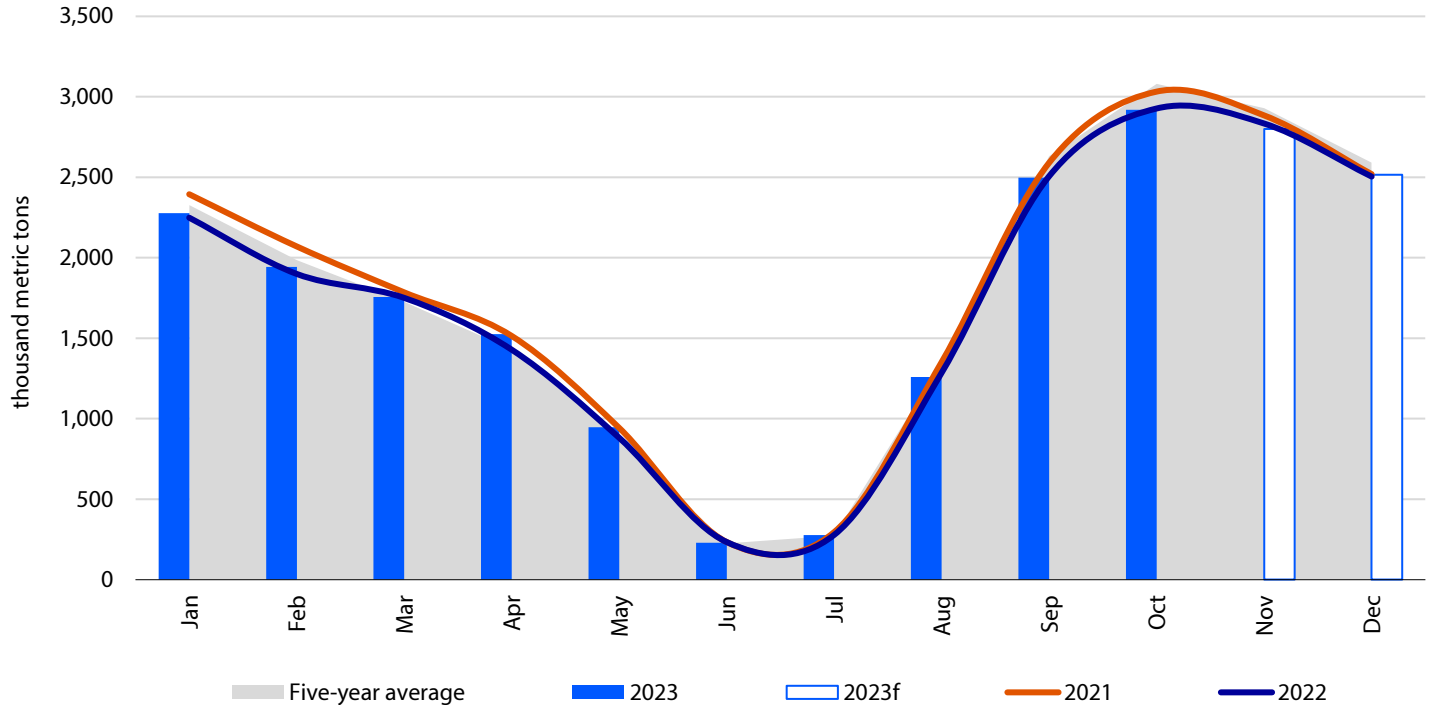
El Niño conditions continue to intensify, with variable effects so far. The broad trend over the next three months is for drier conditions in the east and north of New Zealand, with wetter conditions on the west coast of the South Island. Trends are likely to be more established from the end of November 2023 and could linger through to autumn 2024, according to NIWA.

Autumn calving businesses could be most impacted by the dry period, which could coincide with budget constraints and expensive feed. Being an island nation, however, requires agility. There is still hope that tropical weather systems could provide (manageable) rain relief in the shoulder season.

Full-season production is estimated to decline by up to 2% YOY for this season.

This season will continue to be a story of two islands, with year-on-year milk production growth in the North Island likely to continue to trail behind the South Island over the coming months. Conservative budgets mean a cautious approach for farming through summer and into autumn. This is likely to impact milk flows in the second half of the season (1H 2024). Animal health management is key for establishing a strong start to the 2024/25 season, but it will be at risk if farmers look to milk hard to make up for the lower forecast milk price.

Figure 6: New Zealand milk production, Jan 2021-Dec 2023f



Source: DCANZ, Rabobank 2023

Australia



Australia's milk supply modestly recovered in the first quarter of the new season. Milk production reached 2.036bn liters in the July to September period, 0.5% YOY higher. Growth has been elusive in Western Victoria and Northern Victoria.

El Niño's impact is becoming evident in dry conditions. For most of Australia's key dairying regions, rainfall between August and October was below average, negatively impacting soil moisture. The latest climate outlook leans toward below-average rainfall into Q1 2024.

Dairy farmers are well-equipped to combat these seasonal conditions. Most dairy farmers have access to good carryover feed reserves, ample supply of supplementary feed, and irrigation water. Nonetheless, after three consecutive record winter crops, the current winter crop will decline materially.

Cost inflation on farm has peaked. Milk production costs are moving to the next phase of the cycle. Feed and fertilizer input costs are expected to track closer to long-term averages, which is good news for producers. However, interest rates are still increasing, and inflation is evident across most overhead costs.

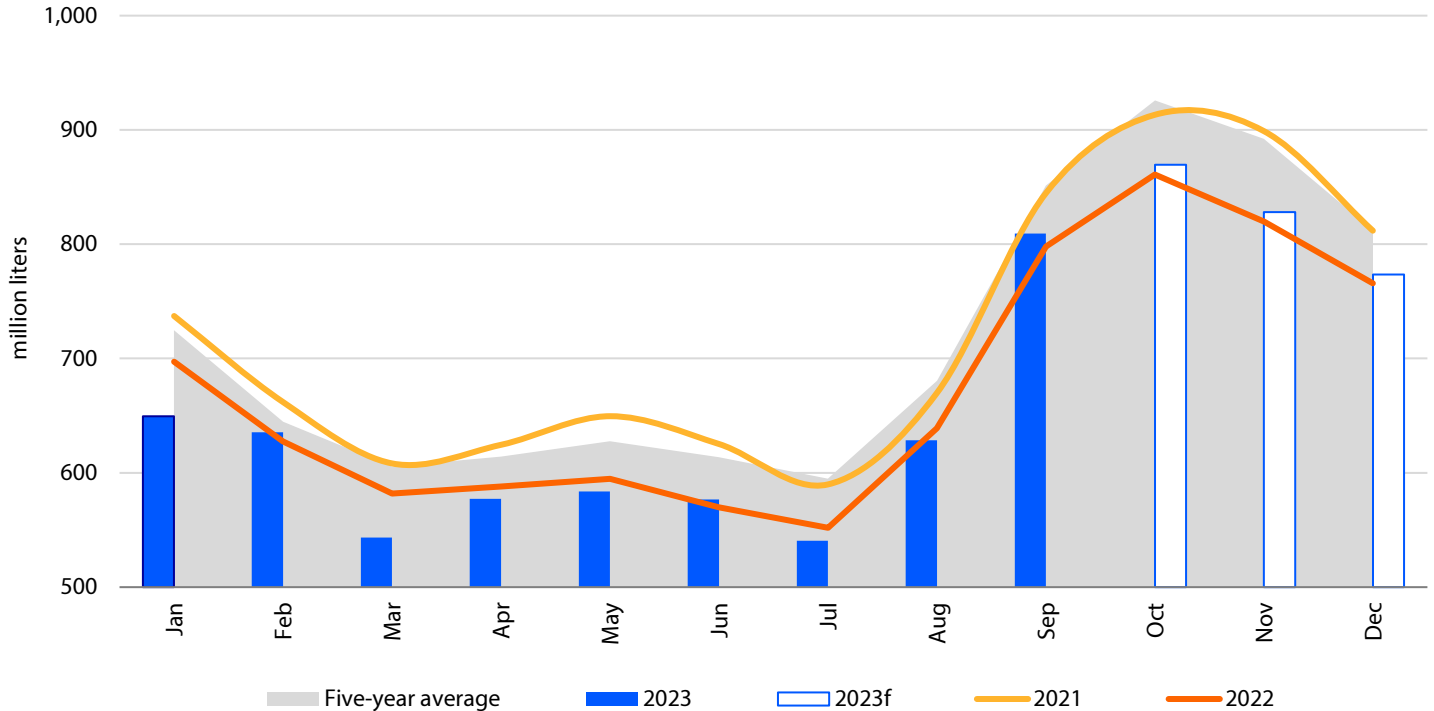
Australian farmgate milk prices are set for the remainder of the season (ending June 30, 2024). Farmgate prices remain at or near record levels, buffering the sector from global markets.

Australian dairy exports continue to plummet. In the first three months of the new season, export volumes are down more than 13% YOY with big falls in milk powder ingredients, bulk cheese, and butter. Export volumes of liquid milk, a growth sector in recent years, are off 30% YOY. A tight domestic milk supply is part of the story. However, export price competitiveness remains an issue given the high price of farmgate milk versus major competitors. Australia's butter and cheese imports are up 43% and 21% YOY, respectively.

Australian households continue to adjust purchasing behaviors in response to an income squeeze. Across the food market, trading down is becoming more prominent in grocery channels, and the average basket size is shrinking. While dairy purchases are generally outperforming other discretionary food items, all signs point to some volume declines across the different channels. The dairy CPI for the September quarter shows it has peaked and is trending lower, but it is still elevated by historical comparison. In 2024, economic conditions are expected to remain sluggish, with unemployment levels widely predicted to rise.

Rabobank expects Australia's exportable surplus to gradually stabilize over the course of 2023/24. A further recovery in milk supply will be the catalyst. However, export competitiveness will remain an issue in the near term.

Figure 7: Australia milk production, Jan 2021- Dec 2023f



Source: DairyAustralia, Rabobank 2023

Brazil



Milk production continued to recover in 2H

2023. After growing by just under 4% in Q2 2023, milk production is on track to post moderate gains in Q3 and Q4 2023. Falling production costs and ample rainfall in the southern region supported farm margins despite lower farmgate milk prices.

Farmgate prices are trending lower with rising supply.

The decline in farmgate milk prices started in Q2 and continued into Q4 as milk availability increased from both production and imports. After peaking at BRL 2.86/liter (USD 0.57) in May, average farmgate milk prices fell to BRL 2.05/liter (USD 0.41) in October, according to Cepea. Lower-than-expected domestic demand contributed to the softer milk prices.

Rabobank expect milk prices to recover in 1H

2024. With production entering its seasonal peak in Q4 2023 and Q1 2024, additional declines in farmgate milk prices are expected. However, imports will be less competitive, and expectations of a hotter-than-average summer (Q1 2024 in Brazil) could see farmgate prices rebound from Q2 2024 onward.

Import competitiveness will be under pressure in the coming months.

Dairy imports are 72% higher YTD October in volume terms compared to 2022 levels. It's a less impressive mark than a few months ago, but still very high for the year in comparison to 2022. Imports so far in 2023 are

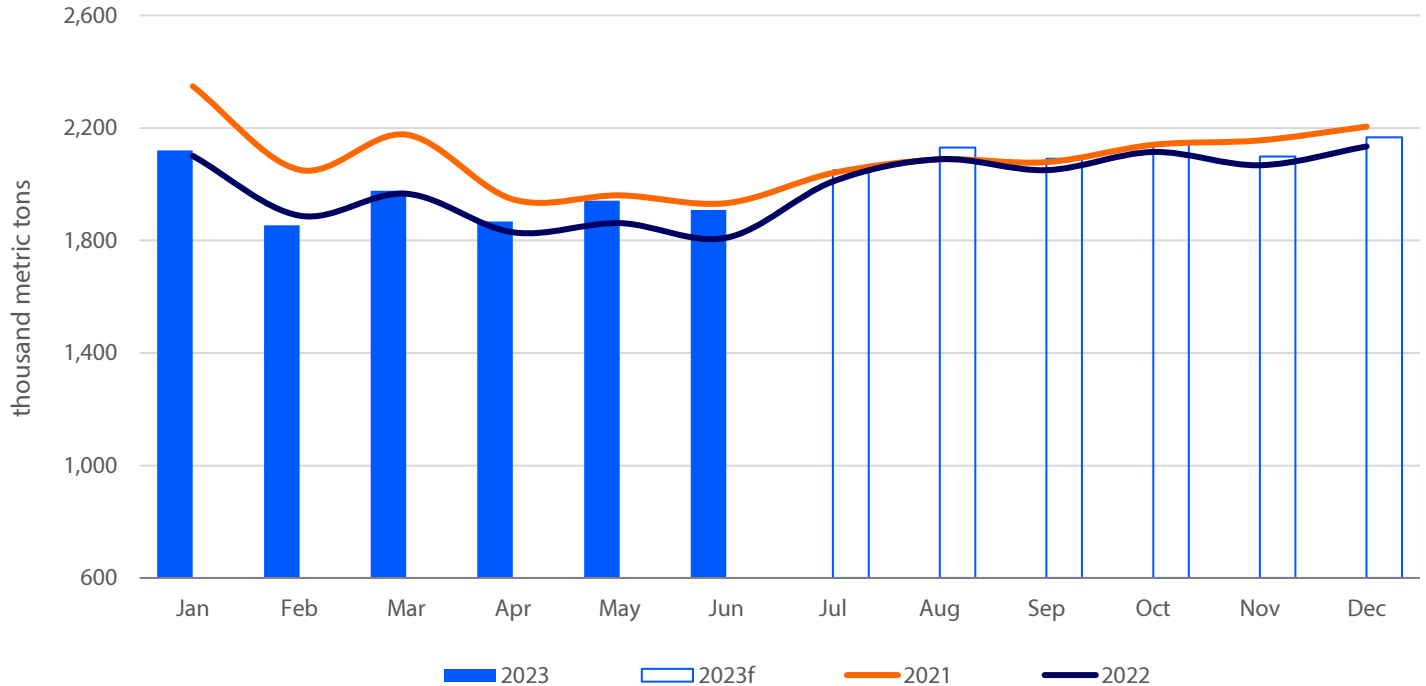
also 99%, 77%, and 89% higher compared to the same periods of 2021, 2020 and 2019, respectively. This shows that 2023 has been an outlier in terms of import volumes compared to recent years. However, imported WMP and other products are unlikely to be as competitive next year, if global market prices continue to recover.

Demand has been lackluster and remains the key variable for 2024.

While macro indicators improved in 2022 and 2023, leading to GDP growth of ~3% in both years and lower unemployment levels, consumer demand has remained below expectations for dairy products. It is worth remembering that food and beverage prices moved significantly higher since 2020 (over 30% since Jan 2020), while real wages have only just started to post some real growth during that same period. With lower economic growth forecast next year, there are questions surrounding demand's ability to grow in the short term. For now, Rabobank projects volume growth of between 1% and 2% in 2024.

El Niño's intensity is a growing concern. Most of Brazil has seen record temperatures so far in Q4 2023, and records could be broken again in Q1 2024, according to several weather forecasts. This is a concern for pasture availability and livestock sectors. Record temperatures could also drive energy prices higher, putting pressure on costs for the entire dairy supply chain in the coming months.

Figure 8: Brazil milk production, Jan 2021-Dec 2023f



Source: IBGE, Rabobank 2023

Argentina



Milk production is expected to stabilize in 1H 2024. Milk production is on course to finish 2023 around 1% lower compared to 2022. However, ample rainfall in late 2023 and a gradual increase in feed availability should help farmers stabilize production and start growing again during the first half of 2024.

Larger farmers are showing resilience. The overall conditions for milk farmers in 2023 have been very difficult. Limited forage, drought at the start of the year, and low margins have all been hard to navigate. However, Argentina's milk production is only expected fall marginally in 2023 because its production is much more concentrated than in the past. This year, larger farmers are proving that, despite difficult conditions, they can continue maintain production and, in some circumstances, expand. According to data from OCLA, farmers producing over 10,000 liters per day represent 34% of output, up from just 5% back in 2010.

What to expect after the election? The uncertainty surrounding the presidential election is now over after the victory of Javier Milei in the runoff vote. All eyes will now be on the composition of the new government and his first actions once he officially takes power officially December 10. The initial market reactions to his victory and first speech have been positive, but his ambitious reform agenda will face a divided congress and a challenging macroeconomic setting.

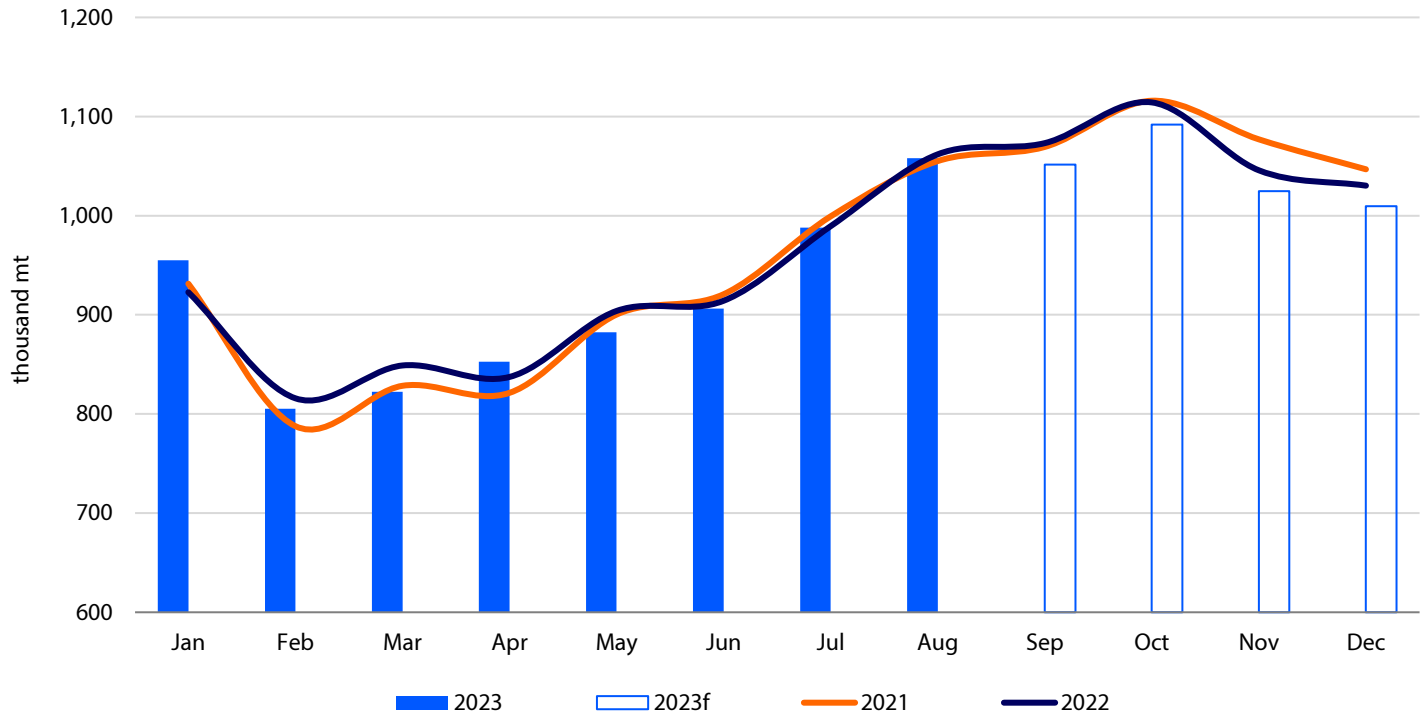
Dairy exports are on track for an annual decline. Exports declined by 17.4% in volume terms during the first eight months of the year, compared to the same period of 2022. The decline in value has been similar (-19.4%) in US dollar terms during the same period of 2023. In terms of destinations, Brazil accounted for 46% of exports so far in 2023 compared to 25% in 2022. Algeria declined from 25% in 2022 to 7% in 2023.

Higher global commodity prices could help rebalance exports. If global prices continue to recover, exports outside of Mercosur should increase in 2024, especially if milk prices in Brazil take longer to recover.

Domestic consumption is expected to remain under pressure. It is likely that it will take some time to stabilize the domestic economy and tame inflation in 2024, which means that consumers will continue to face tough choices when purchasing dairy products. Domestic consumption will remain under pressure in 2024 with lower-value products set to outperform the broader dairy category.

Higher feed reserves are a takeaway from 2023. Drought conditions limited silage and pasture reserves back in 1H 2023. It is likely that most dairy farmers will increase their feed reserves in 2024 and beyond, given the risk of volatile weather causing severe shortages in the future and threatening production for extended periods.

Figure 9: Argentina milk production, Jan 2021-Dec 2023f



Source: IBGE, Rabobank 2023

China



Through September 2023, China's milk production grew by 7.2% YOY, according to the National Bureau of Statistics (NBS). Due to this higher-than-expected production growth, Rabobank adjusted its 2023 milk production forecast to 6.3% YOY, with total production estimated at 41.8m mt.

Farmgate milk prices remain bearish.

Average Chinese farmgate milk prices continued to decrease, reaching CNY 3.71/kg (USD 0.51) in November, down 10.3% YOY. The weak raw milk price suggests an ongoing oversupply due to strong domestic milk production growth and weak demand. Based on Rabobank's latest import parity analysis, recent Oceania WMP prices show a discount of 15% to the domestic milk price, on par with the historical average since 2013.

For 2024, Rabobank retains the view that China's milk production growth will slow in 2024 with forecast growth of 2% YOY.

Ongoing weak farmgate milk prices and comparatively elevated production costs continue to pressure farmgate margins, further discouraging production and investment in the near term.

The Chinese October dairy CPI remains unchanged, at 0% YOY, showing ongoing weakness in domestic dairy demand.

Rabobank's channel checks indicate that retailers continue to offer discounts and promotions across liquid milk aisles, dragging down the retail price. According to CnAgri, the average retail price of liquid milk declined by 4.3% YOY in October, reaching CNY 12.46/kg.

Consumer demand for dairy products improved in 2H 2023 versus 1H 2023.

The NBS reports that from January to October total dairy production, a proxy for demand, increased 3.7% YOY. While demand recovery remains the key swing factor for the raw milk price, we have observed some improvement in demand-supply balance through H2 2023. According to Rabobank industry discussions, in August and September 2023 – the peak season for milk consumption, and off-peak season for production – leading processors stopped milk drying activities, which aided the destocking of WMP. **Another sign of demand recovery comes from the foodservice sector.** From January to October 2023, sales grew by 18.5% YOY in value, according to NBS data. The accumulated sales during this period surpassed pre-Covid level sales, growing at a CAGR of 3.2% since 2019.

Overall, Rabobank is forecasting dairy consumption growth (LME) at 2.8% YOY for 2023.

China

China's leading dairy players reported mixed earnings results in Q3 2023. Yili and Mengniu reported ongoing sales improvement in the liquid milk category in Q3 2023. Yili reported 8% YOY growth in Q3 versus 1% in Q2 and -2.6% in Q1 2023, while Milkground/Bright Dairy posted a revenue decline.

Based on the year-to-date results from an aggregate of five listed Chinese leading dairy companies' sales, Rabobank calculated 3% to 4% YOY growth in their liquid milk segments. Cheese sales, mainly processed cheese sticks, is expected to decline in 2023, due to lower-than-expected demand.

Chinese net dairy product import volumes (LME) declined by 15% YOY from January to October 2023. During this period, whole milk powder (WMP) imports totaled 388,700mt, down 38% YOY. We maintain our estimate of full-year WMP import volumes at 470,000mt in 2023, down 230,000mt versus 2022. Other visibly weaker import categories include liquid milk (-18% YOY), butter (-9%), and infant milk formula (-10.7%). In contrast, SMP, cheese, and whey powder maintained 8%, 18%, and 11% YOY growth, respectively.

Rabobank slightly lifted China's annual net import deficit to 12.2m mt LME in 2023, a 13% YOY decline versus 15% in the previous

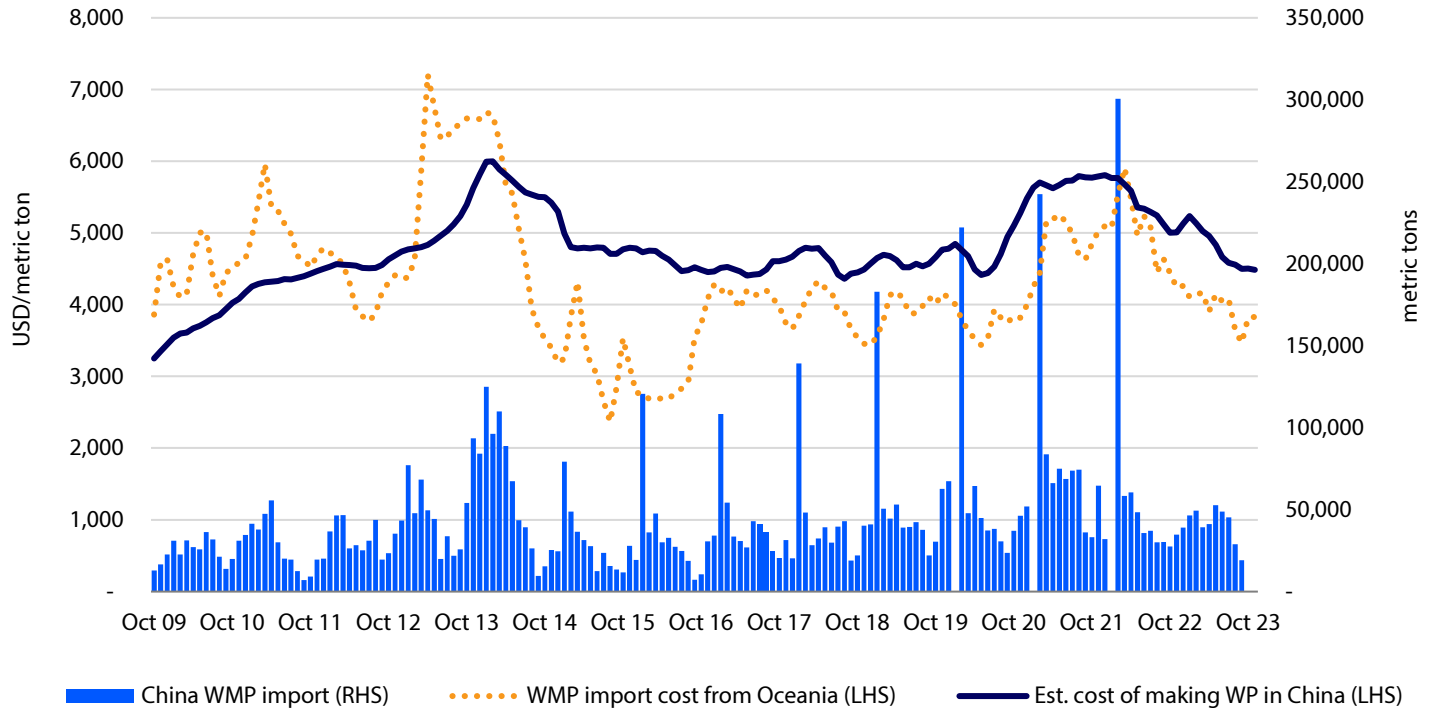
quarterly. This reflects an improved supply-demand balance in Q3 and Q4. Rabobank estimates that further destocking is required in the form of slower Q1 2024 imports to rebalance the market.

In 2024, consumer demand for dairy is likely to continue to improve. Rabobank anticipates dairy consumption growth (LME) at 2.5% YOY for 2024. We forecast stock-to-use (inventory) levels to normalize by the end of Q2 2024 based on ongoing improvement in supply-demand dynamics.

Rabobank lifts its forecast for net dairy imports to 0.2% YOY growth. In 2024, the annual import deficit will reach 12.2m mt LME. Chinese demand for WMP has been weak, and there is downside risk, but Rabobank is forecasting some improvement in WMP demand in 2024, largely due to ongoing improvements in supply-demand balance and New Zealand dairy imports becoming tariff-free in Jan 2024.

WMP imports in 2024 are expected to total 480,000mt, a 2% YOY increase versus 2023's weak comparables, but still 17% below the 10-year average import volume (since 2014). Rabobank remains cautious, given weak demand-side fundamentals, with risk skewed to the downside.

Figure 8: China WMP import parity, Oct 2009-Oct 2023



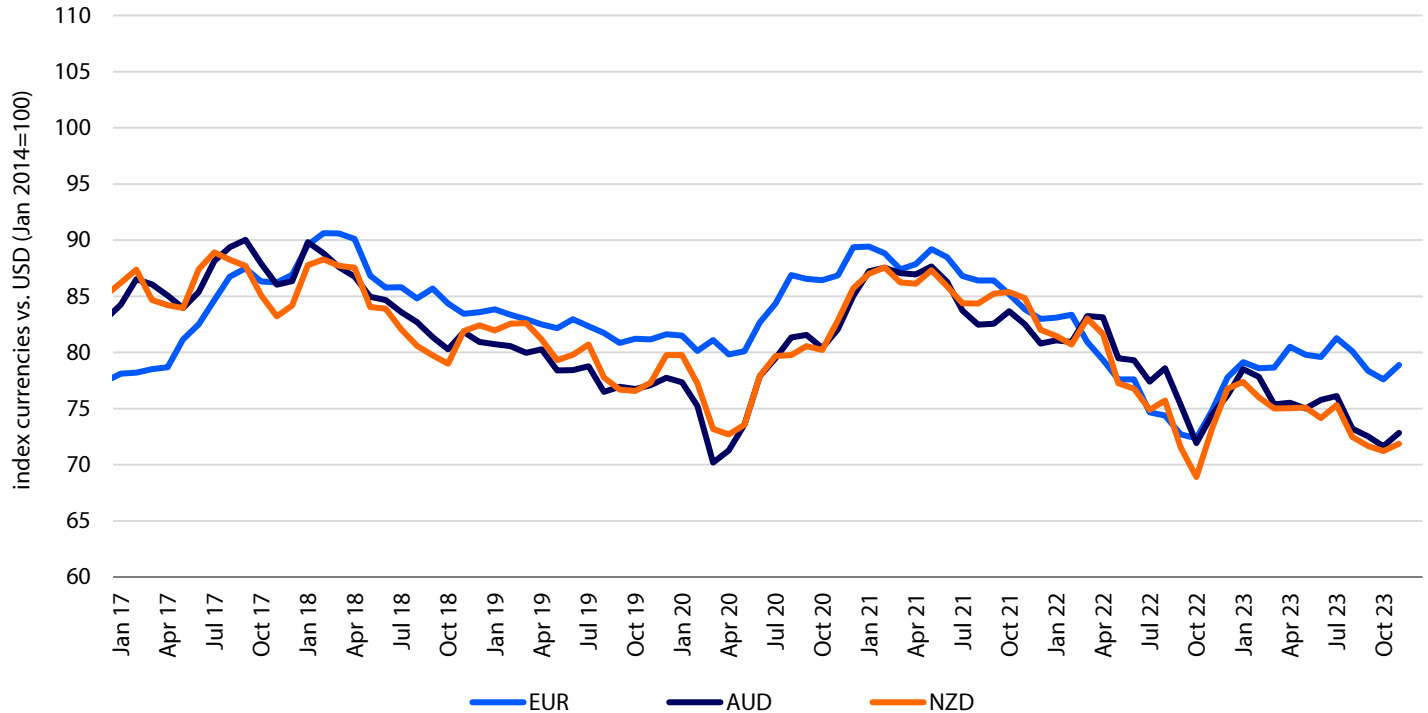
Source: China Customs, Eucolait, Chinese Ministry of Agriculture, Rabobank 2023

Table 1: Quarterly dairy commodity prices (historic and forecast), 2022-2024f

		2022		2023				2024f			
		1H	2H	Q1	Q2	Q3e	Q4f	Q1	Q2	Q3	Q4
Butter											
Europe	EUR/metric ton	6,477	6,879	4,999	4,699	4,520	5,075	5,350	5,500	5,700	5,800
US	USD/metric ton	6,039	6,601	5,366	5,365	5,810	6,459	5,440	5,475	5,950	6,320
Oceania	USD/metric ton	6,435	5,153	4,700	5,010	4,825	4,950	5,000	5,000	4,900	4,900
Cheese											
Europe (Gouda)	EUR/metric ton	4,294	5,168	4,909	4,418	4,165	4,175	4,250	4,350	4,400	4,500
US (Cheddar)	USD/metric ton	4,746	4,567	4,144	3,755	3,865	3,785	3,830	4,080	4,150	4,145
Oceania (Cheddar)	USD/metric ton	5,856	5,050	4,858	4,611	4,230	4,000	3,950	4,000	4,100	4,200
Dry whey powder											
Europe	EUR/metric ton	1,312	1,069	813	732	675	810	840	900	925	950
US	USD/metric ton	1,584	1,088	923	840	605	810	965	1,000	1,060	1,080
Skim milk powder											
Europe	EUR/metric ton	3,830	3,527	2,635	2,457	2,315	2,575	2,625	2,700	2,800	2,850
US	USD/metric ton	3,906	3,525	2,804	2,552	2,500	2,600	2,735	2,865	2,995	3,085
Oceania	USD/metric ton	4,275	3,435	2,830	2,790	2,680	2,700	2,800	2,850	2,950	3,000
Whole milk powder											
Europe	EUR/metric ton	4,807	4,738	3,625	3,456	3,385	3,575	3,625	3,675	3,700	3,850
Oceania	USD/metric ton	4,208	3,504	3,240	3,160	2,995	2,950	3,100	3,200	3,400	3,600
South America	USD/metric ton	4,228	4,260	3,725	3,750	3,515	3,600	3,600	3,700	3,800	3,800

Source: USDA, EU Commission, forecasts by Rabobank 2023

Figure 9: Exchange rates, USD vs. exporters, Nov 2017- Nov 2023



Source: UDM Board of Governors of the Federal Reserve System, Rabobank 2023

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