

Dairy's Global Economic Outlook

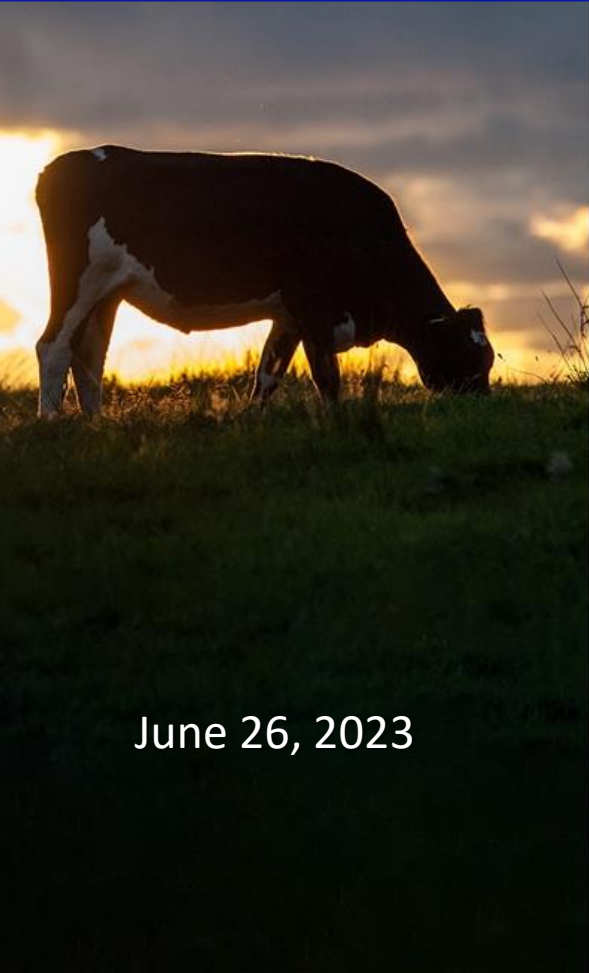


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Global dairy overview and key developments by 2030 and beyond

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June 26, 2023



Rabobank is the leading bank for the global food sector through its strategic pillar: Banking for Food

Dairy Top 20 companies

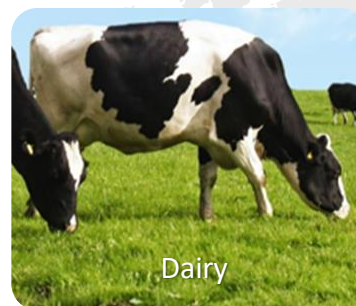
17/20

Mission: Growing a better world together

Among Top 50 banks globally
€632bn
balance sheet total, active in 36 countries

Ratings:
Moody's: Aa2
S&P: A+
Fitch: A+

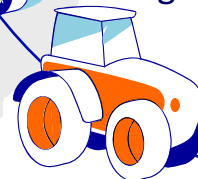
Sustainalytics ESG Risk Rating:
#1
Out of 390 diversified banks



Your partner at the heart of the global F&A ecosystem

€105bn

Lending to Food & Agri



90+

Food & Agribusiness
Research analysts



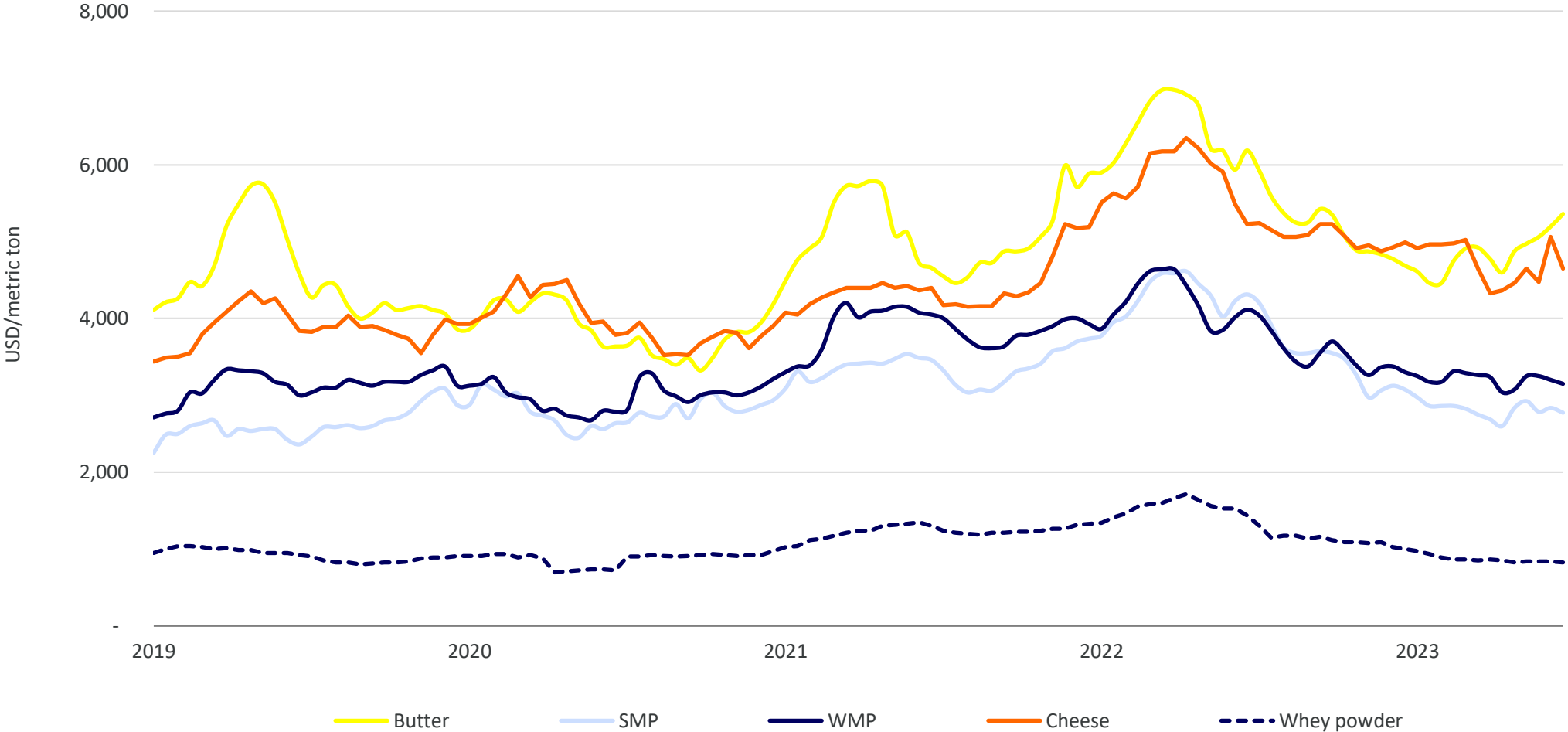
RaboResearch Dairy Team



Today's discussion

- 1 Regional and global milk production outlook
- 2 US dairy product production & stocks
- 3 Global dairy trade update
- 4 2030 Global dairy supply and demand outlook

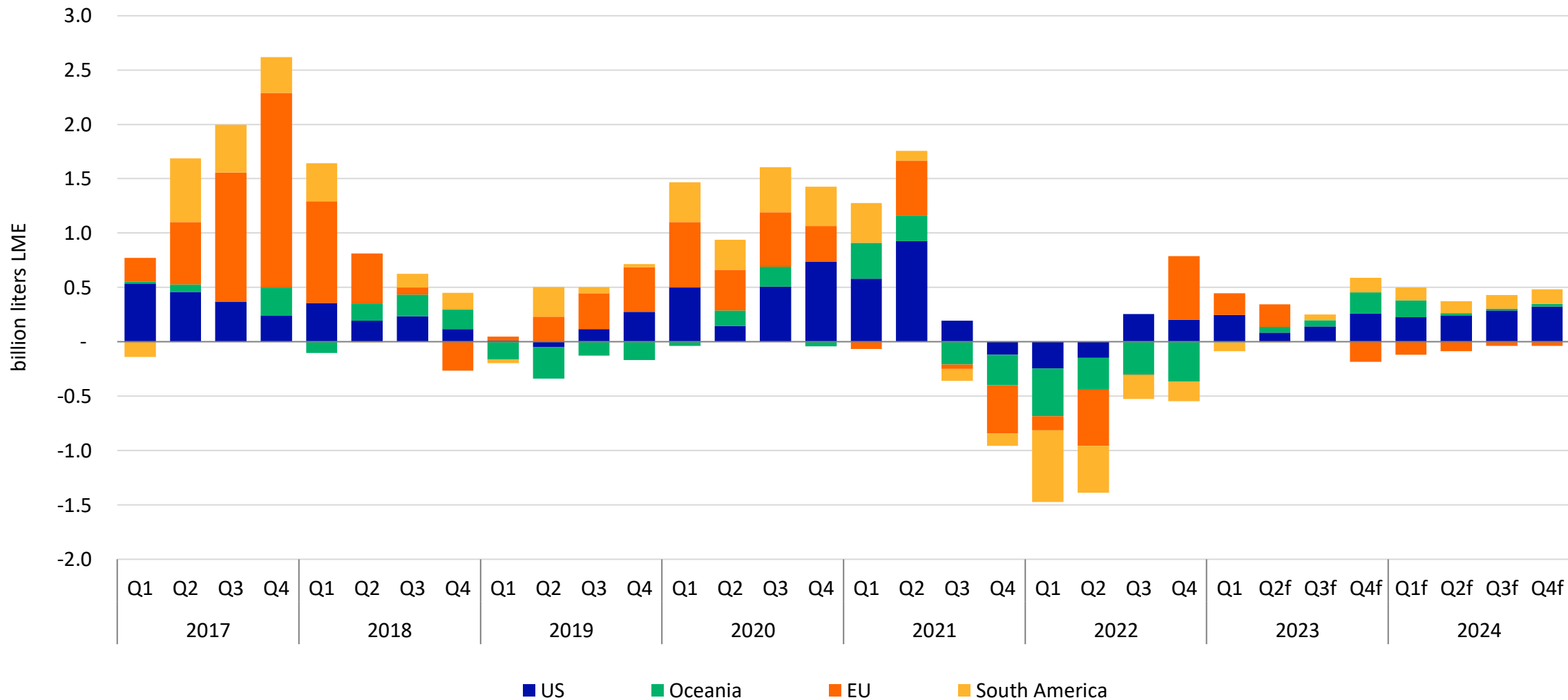
Dairy commodity prices, FOB Oceania, 2019-2023*



*Note: Whey is FOB in western Europe.
Source: USDA, Rabobank 2023

Milk production is expected to grow by 0.5% YOY in 2023

Milk supply growth, big-7 exporters (actual and Rabobank forecast), 2017- 2024f*

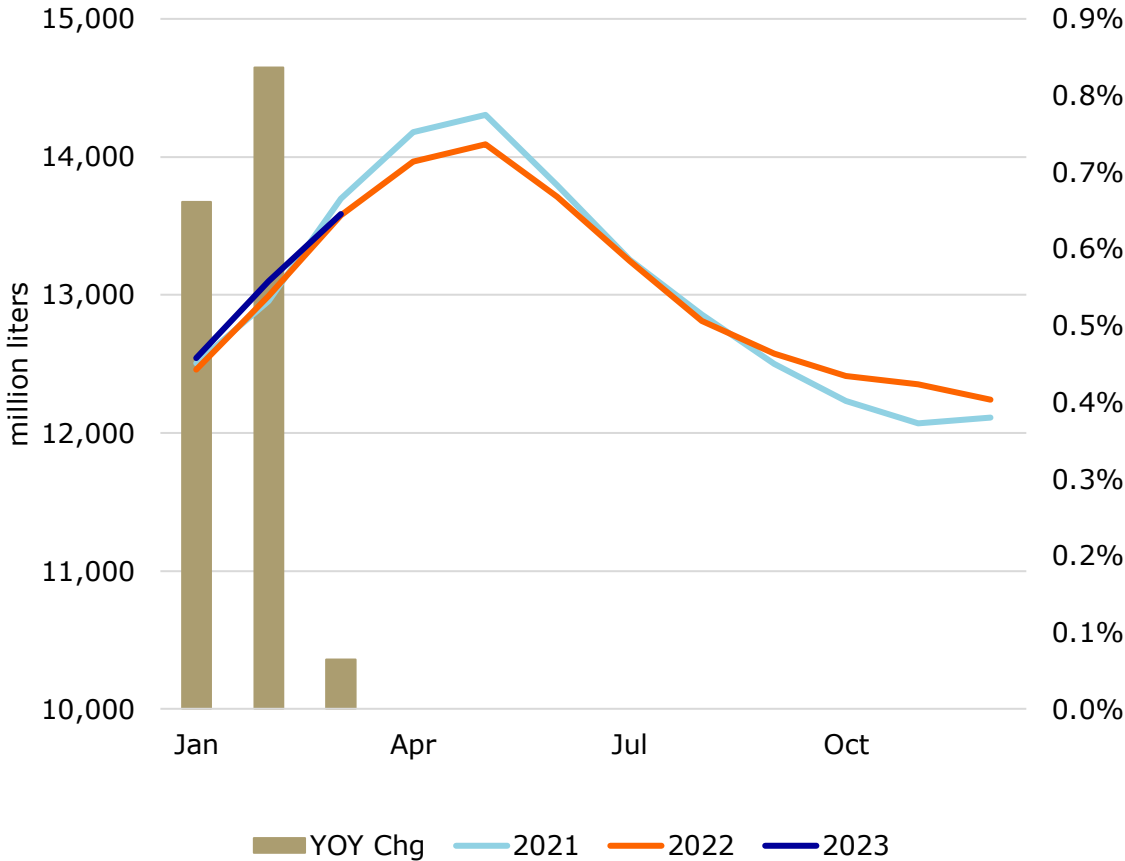


Source: Big-7 government industry agencies, Rabobank 2023

Milk production growth due to positive margins and mild weather conditions, but gains are only modest against 2021 levels

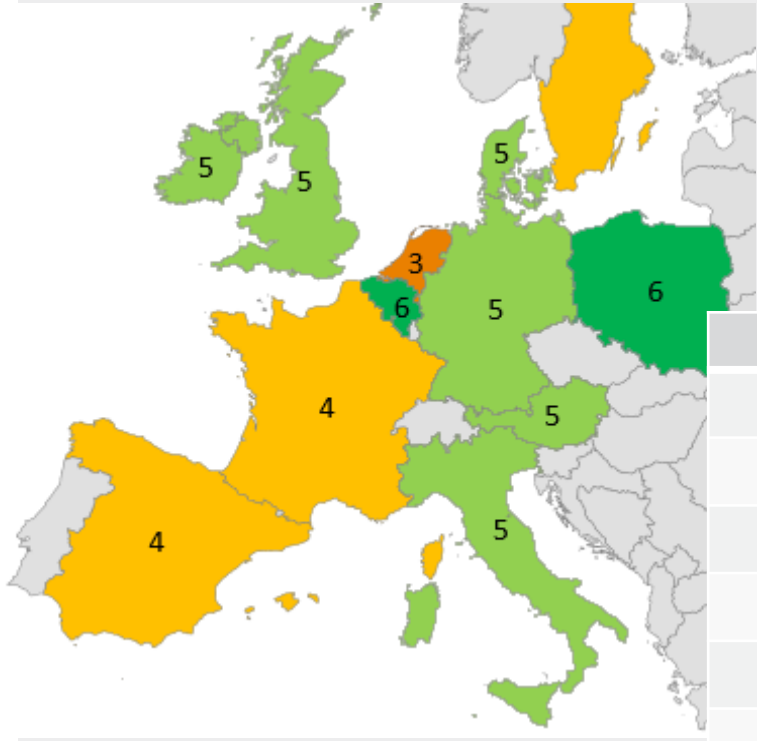
Expect a marginal decline in 2H 2023 due to stronger YOY comparisons and weaker farm margins

Milk deliveries 2021 – Q1 2023



Anticipating modest YOY growth of 0.1% in 2023

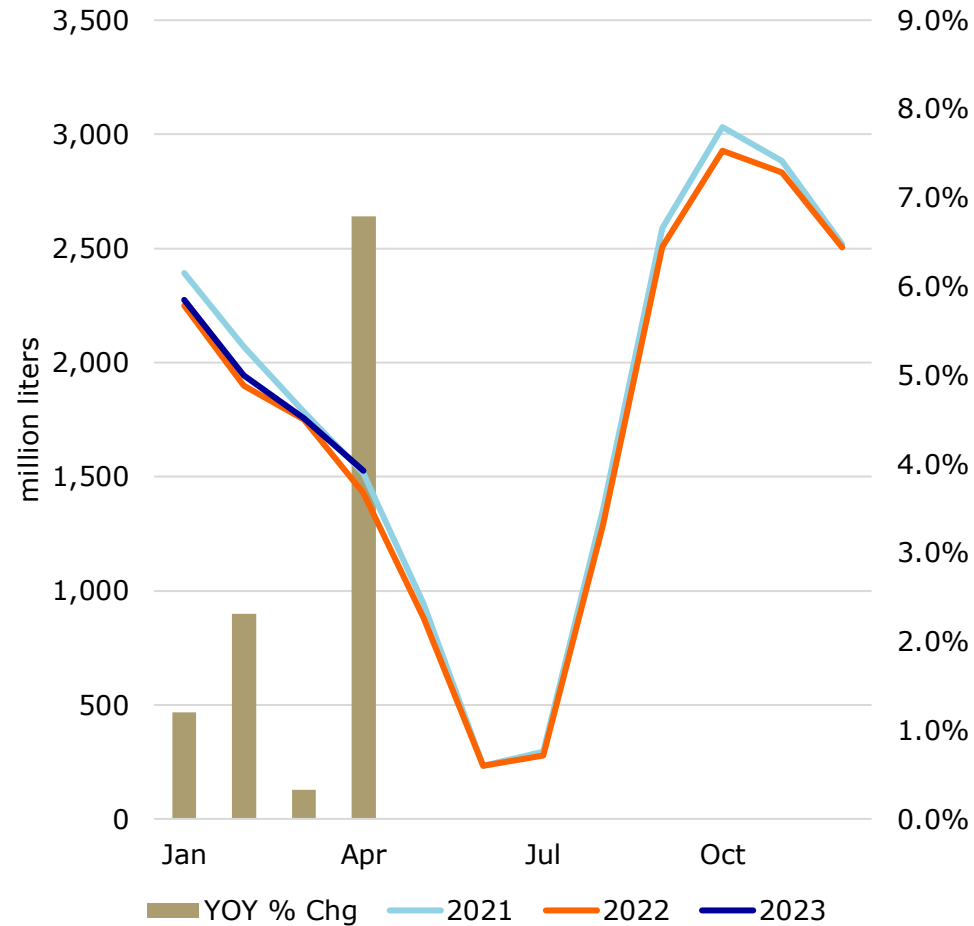
Milk delivery growth outlook on 7 point scale: 1=strong decline, 7=strong growth, 4 is stable



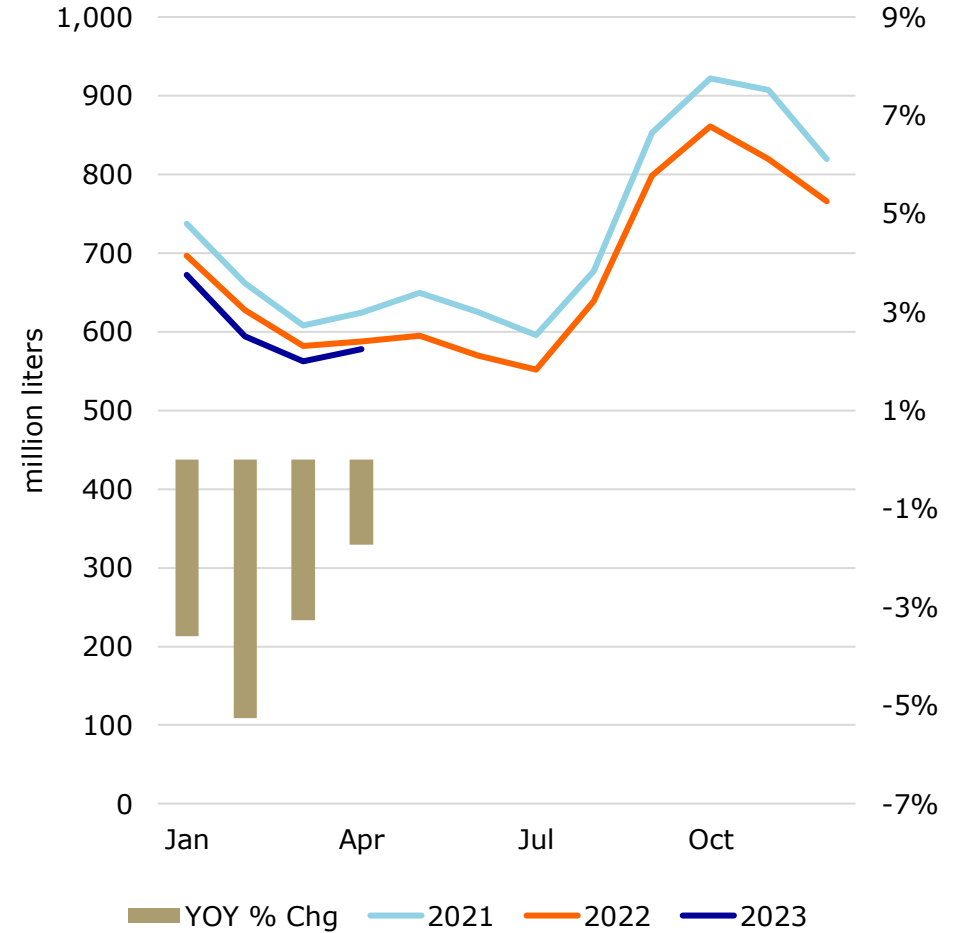
	Annual growth %
1	<-2.5
2	=/> -2.5 - <-1
3	<-0.25 - =/> -1
4	=/> -0.25 - </= 0.25
5	>0.25 - </= 1.0
6	> 1.0 - </= 2.5
7	>2.5

Oceania – lower milk production in 2022/23 season

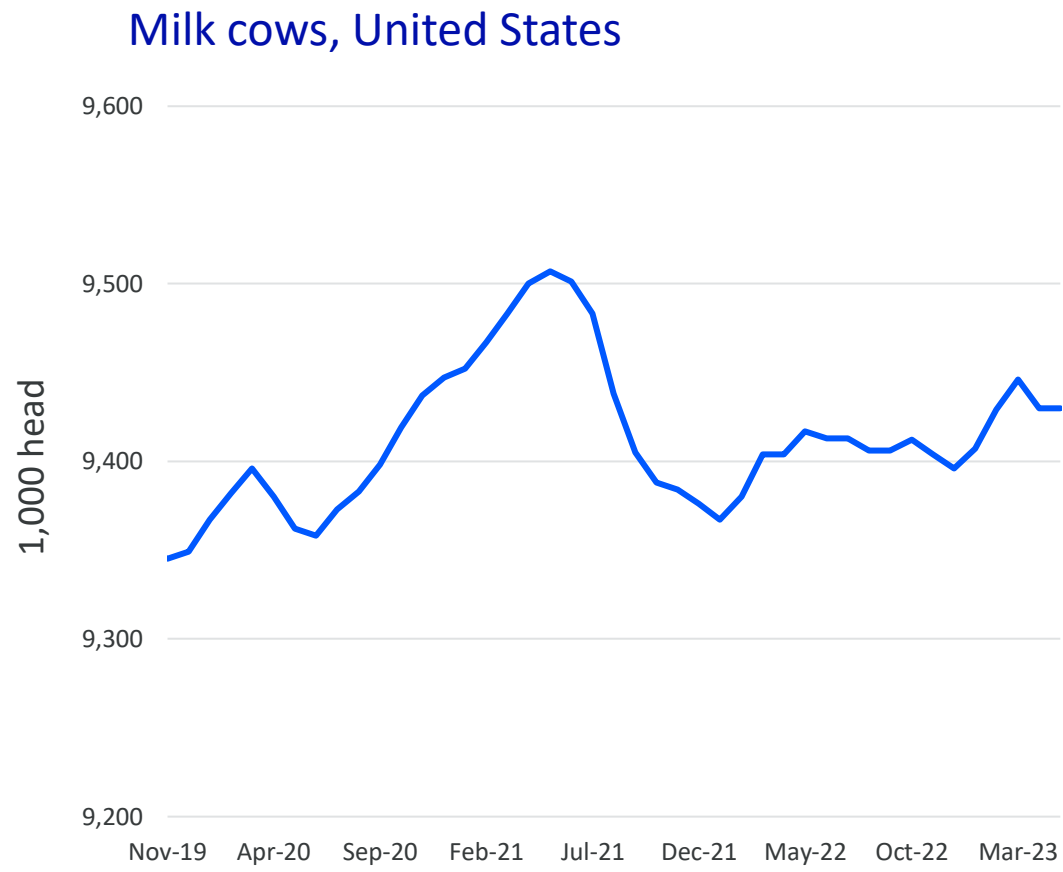
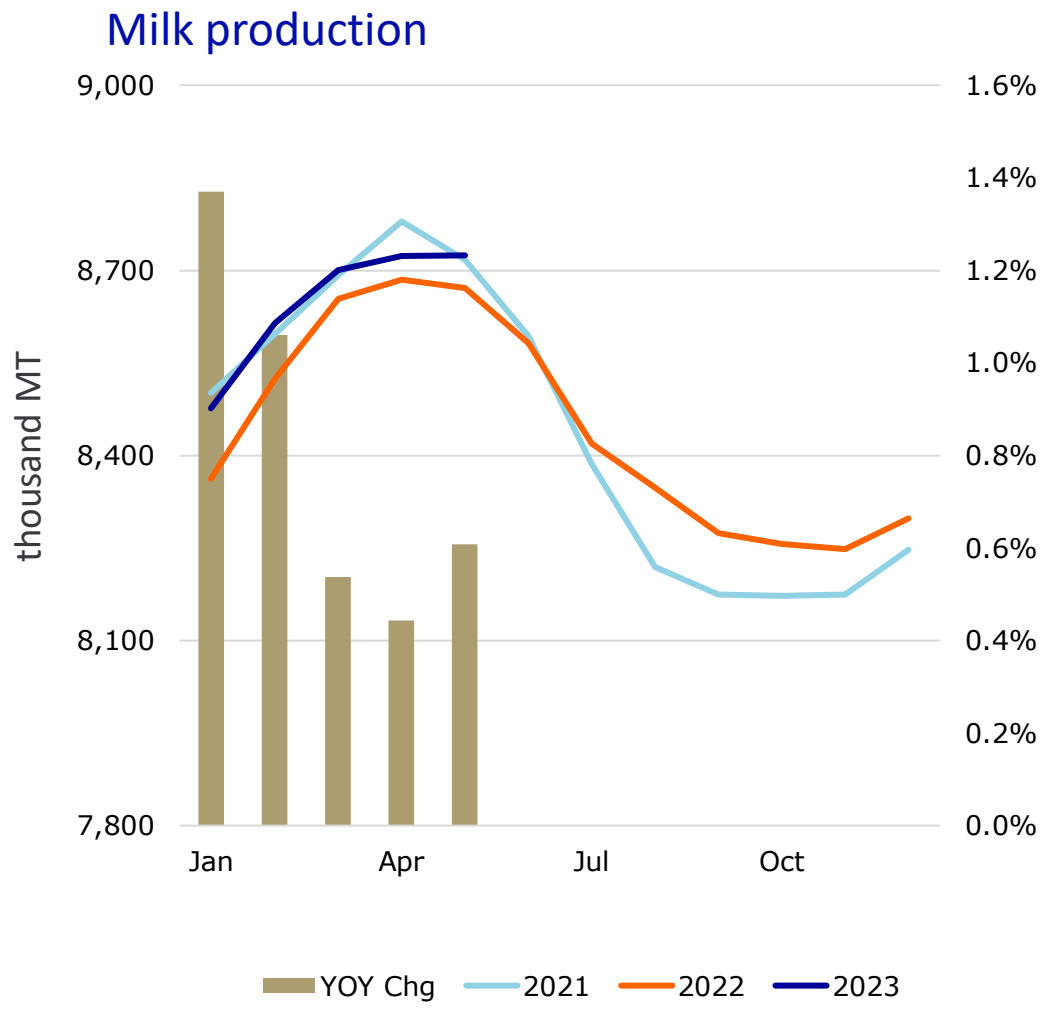
New Zealand: Milk production has turned positive YOY



Australia: Adverse weather and competing agricultural options

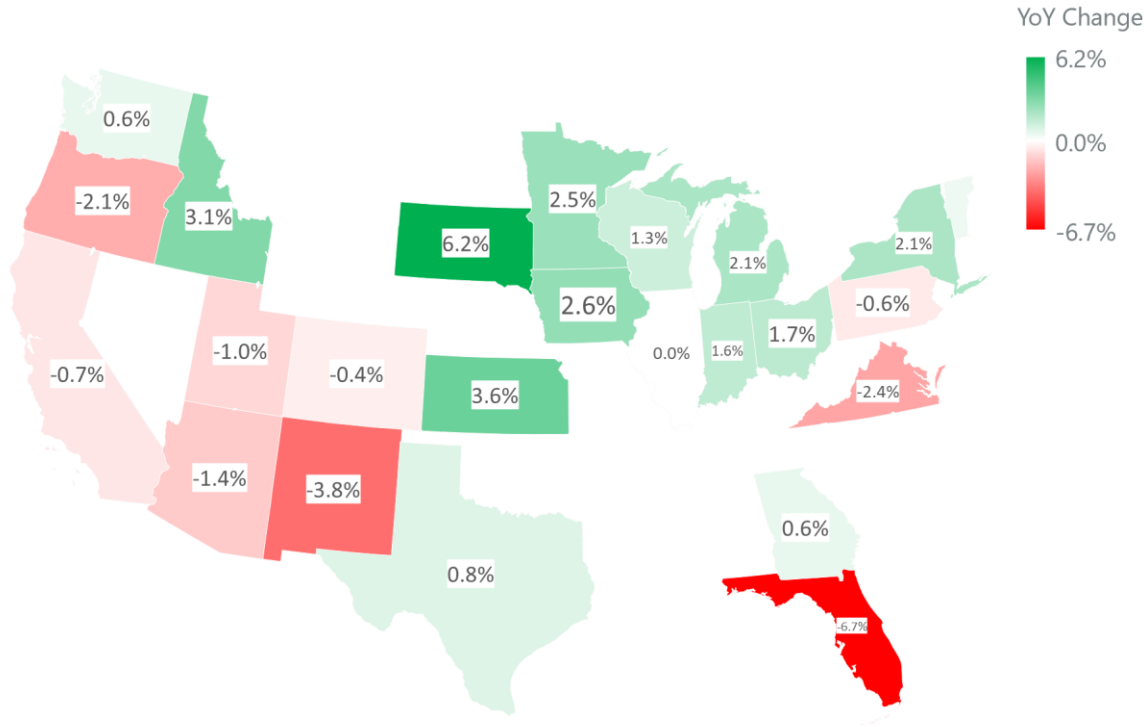


US herd size stabilizes into May



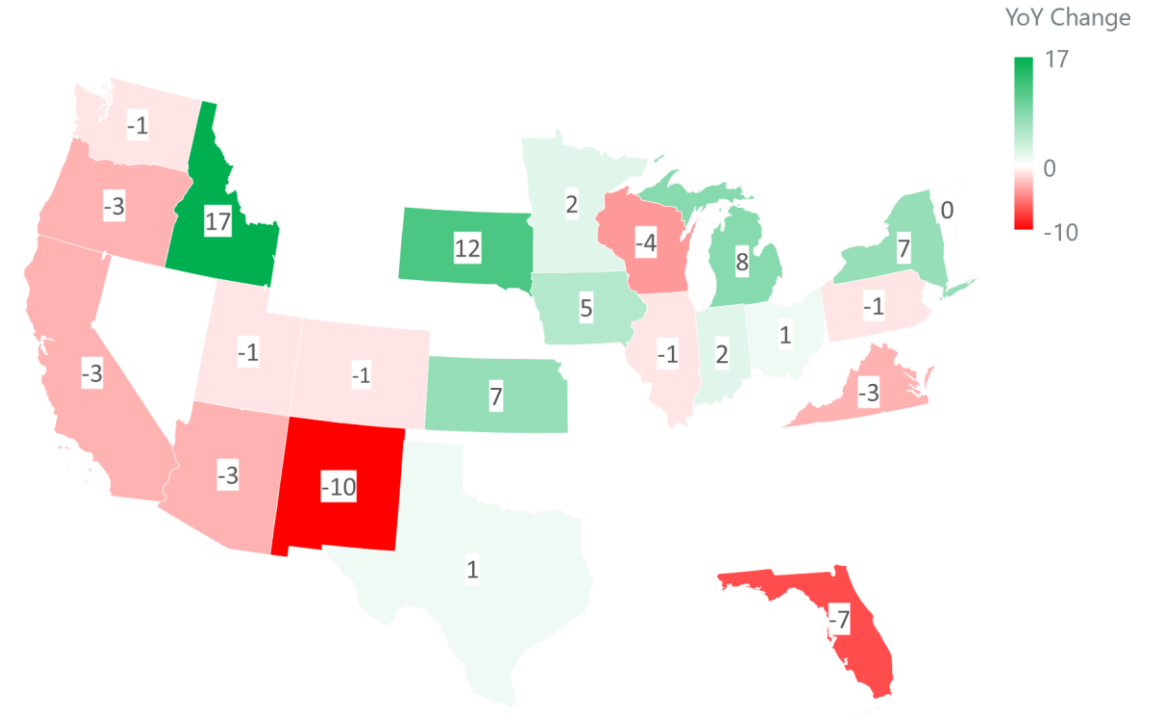
South Dakota again shows largest YOY gain

May YoY milk production change



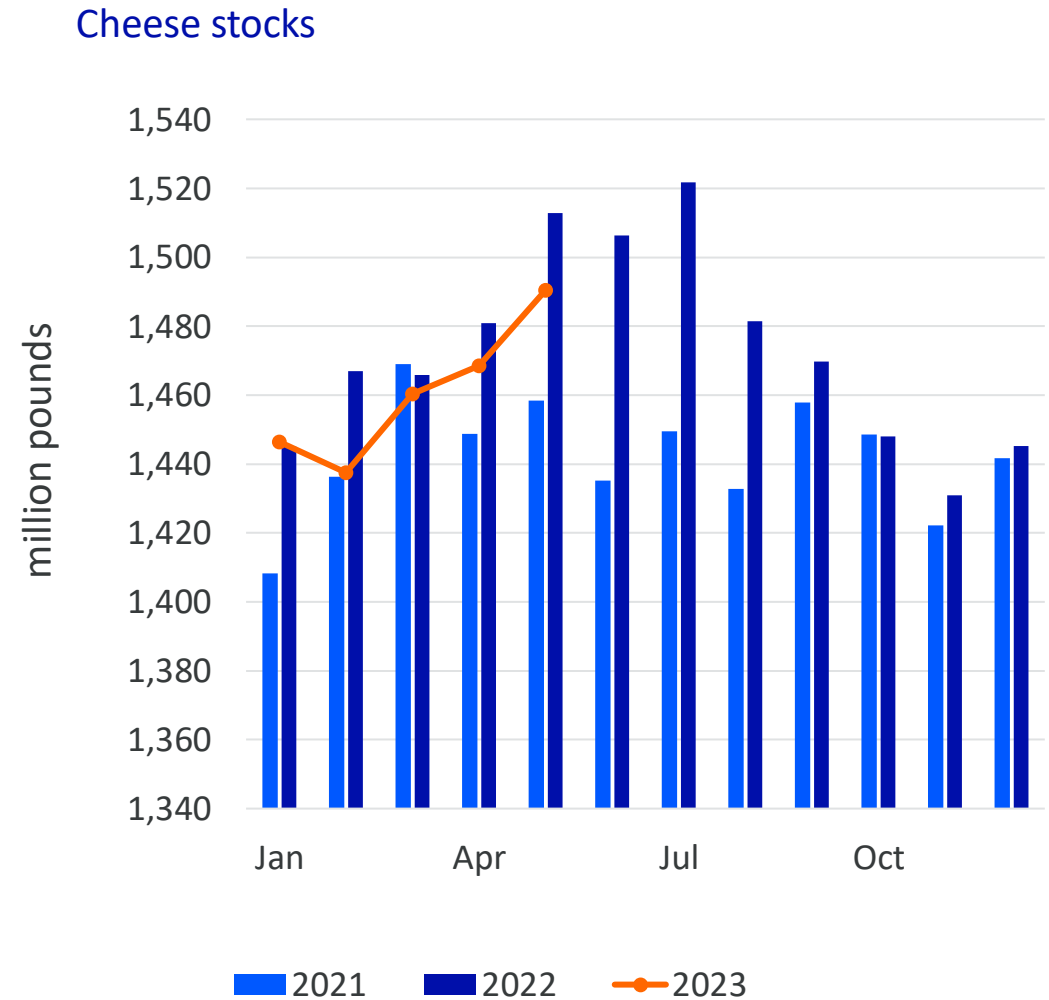
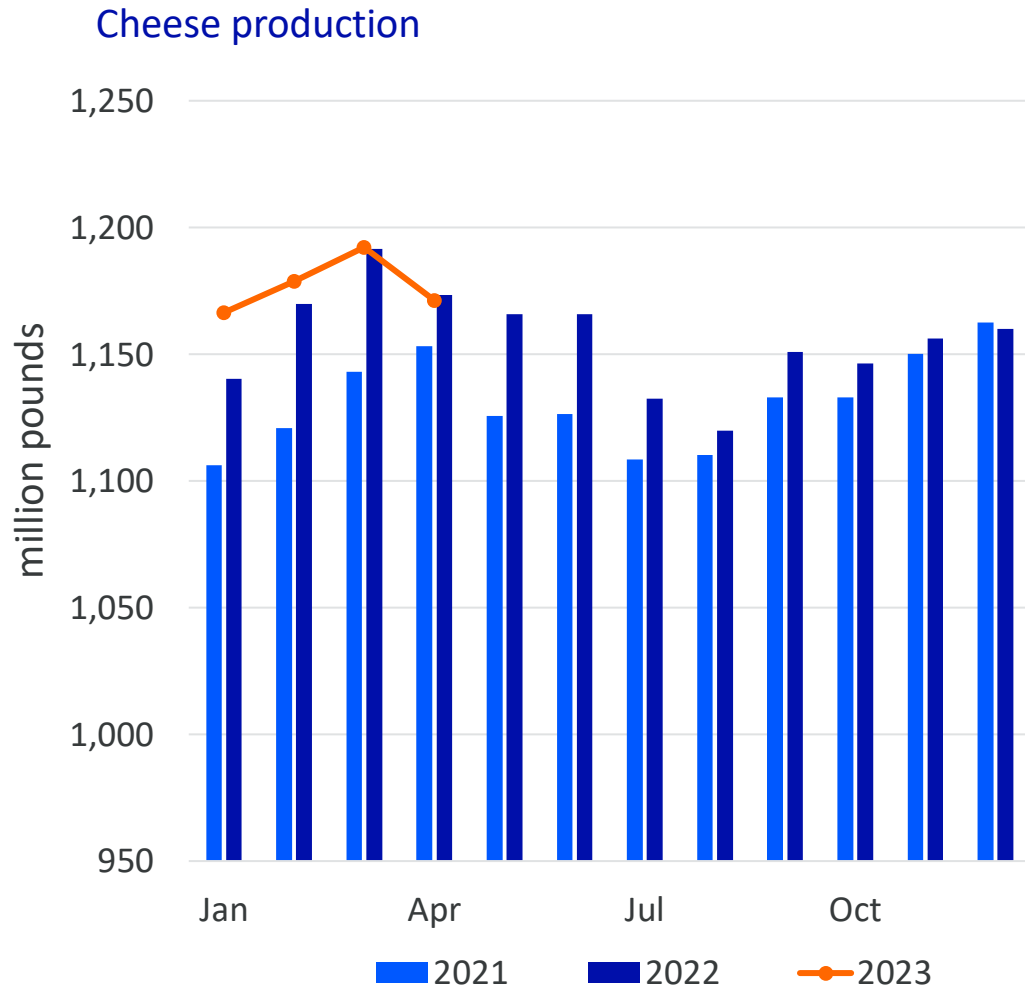
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May YoY cow number change

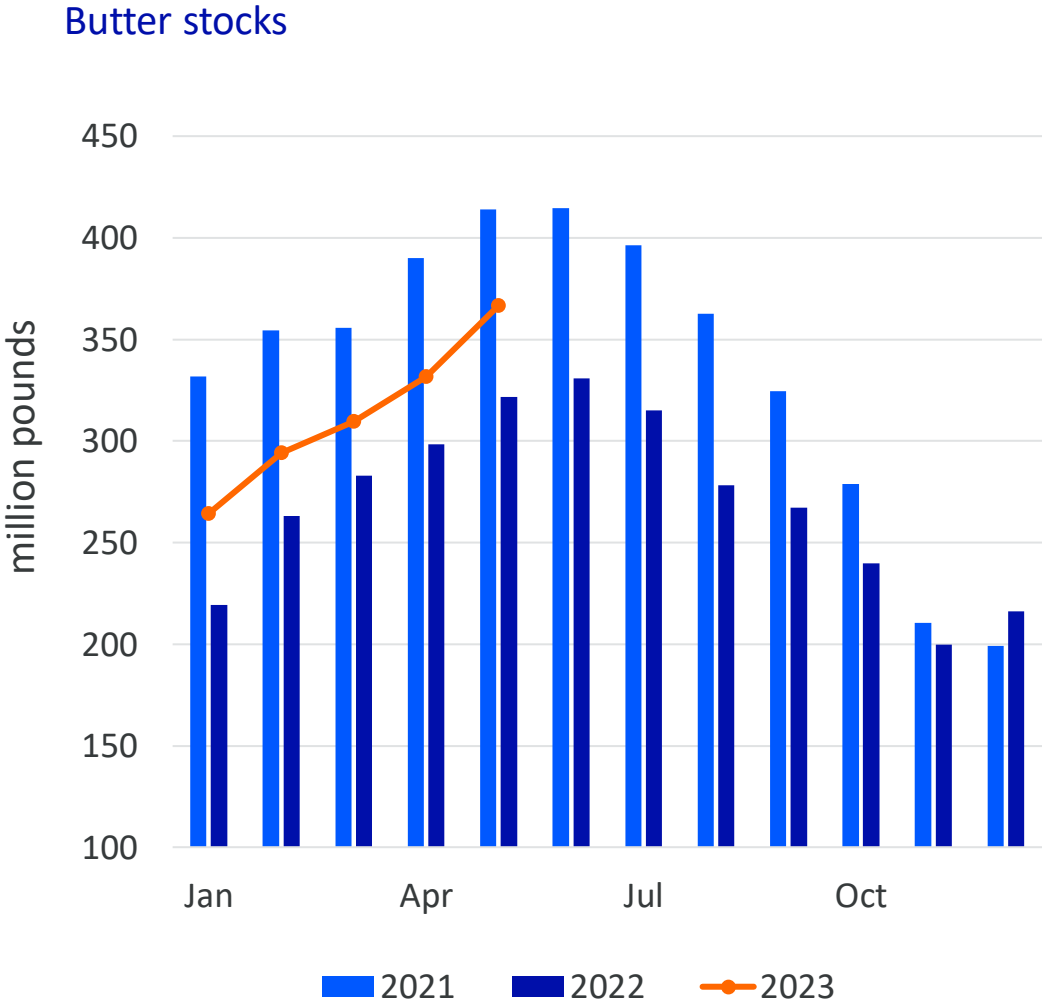
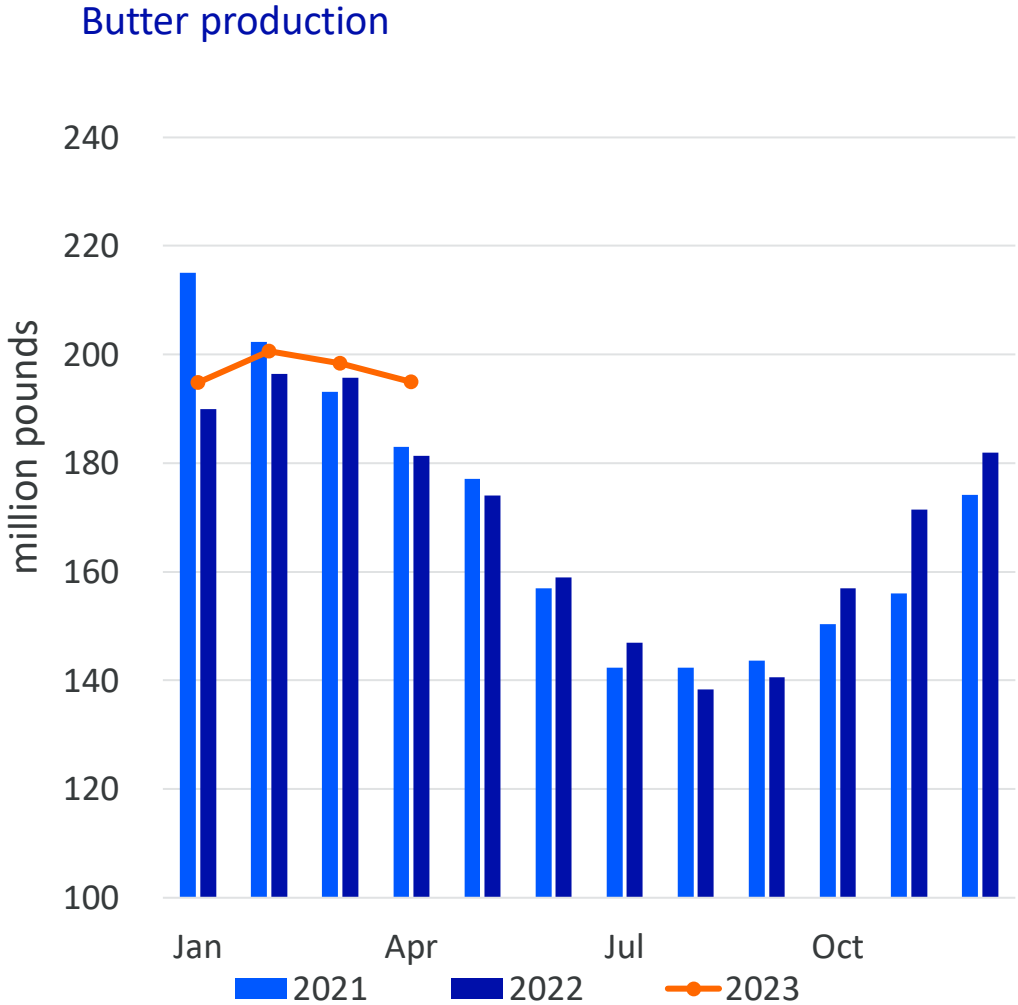


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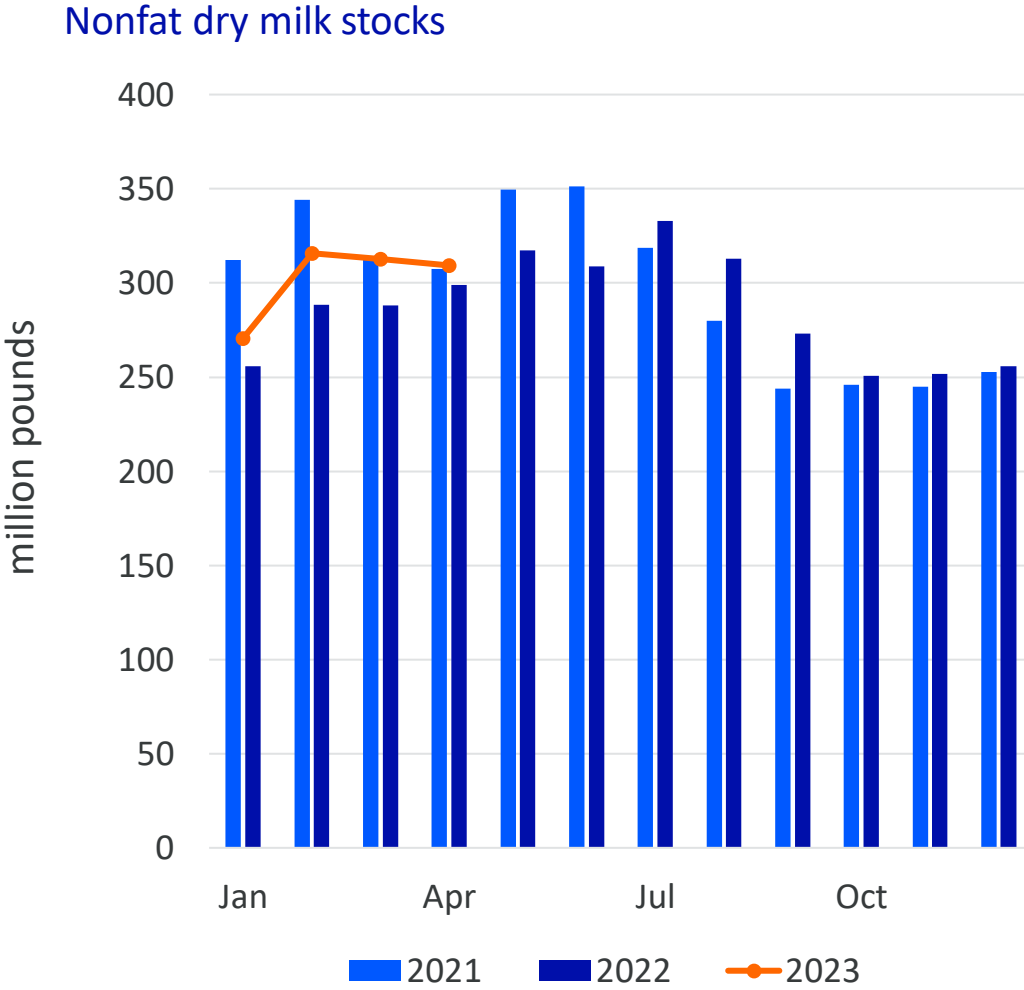
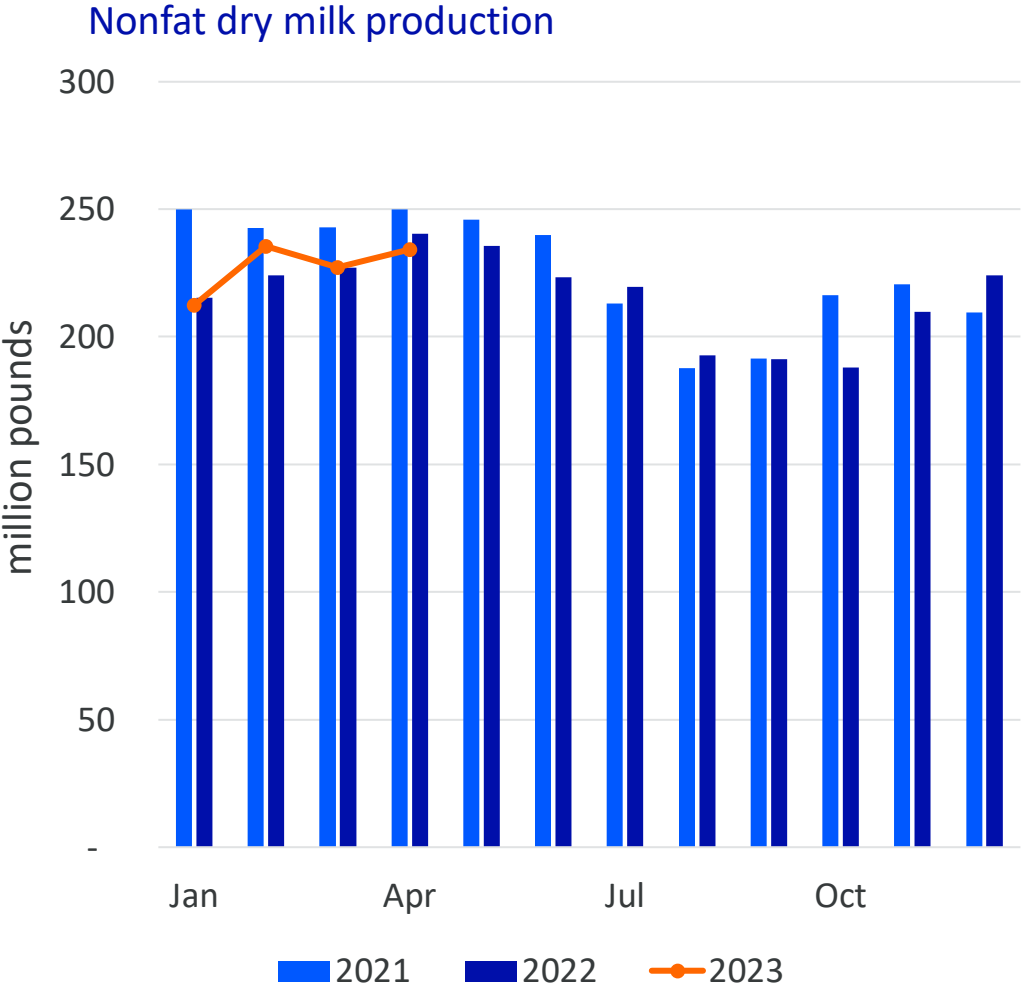
Cheddar production stronger, ensuring ample supply



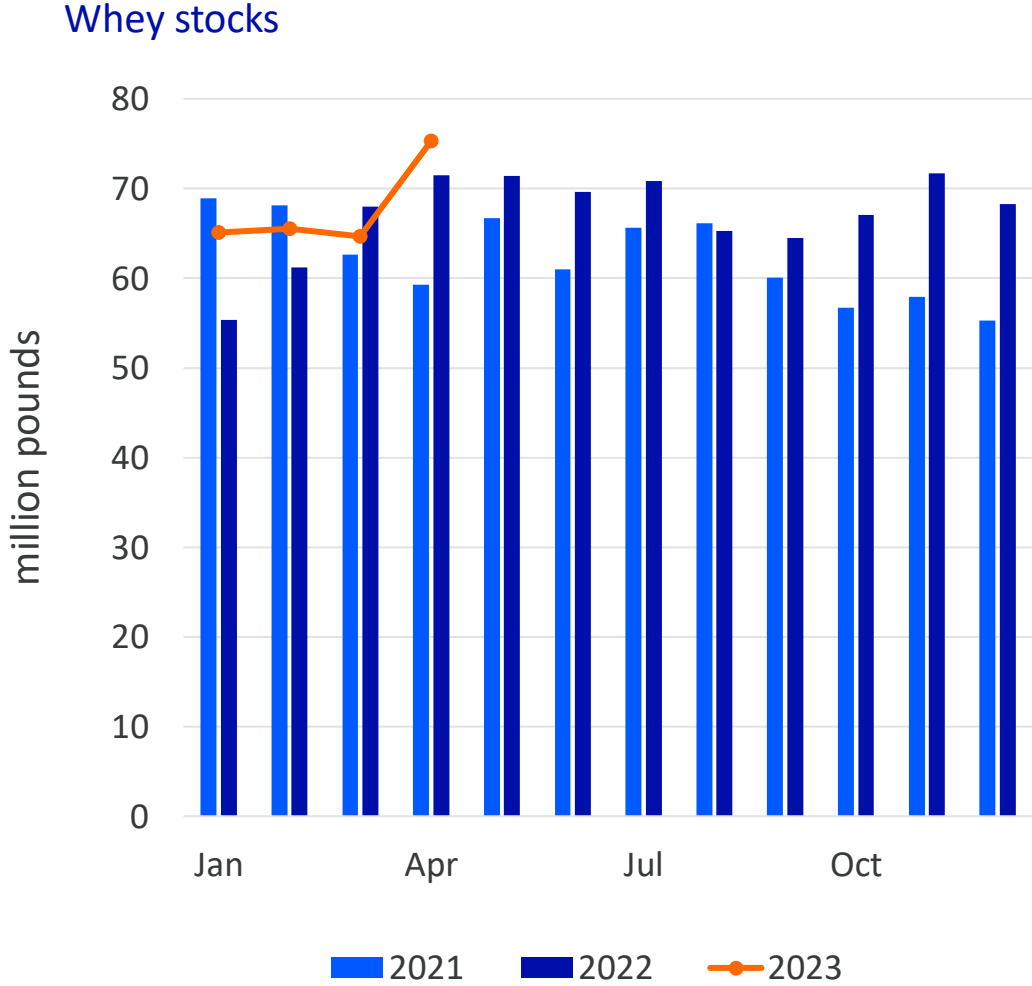
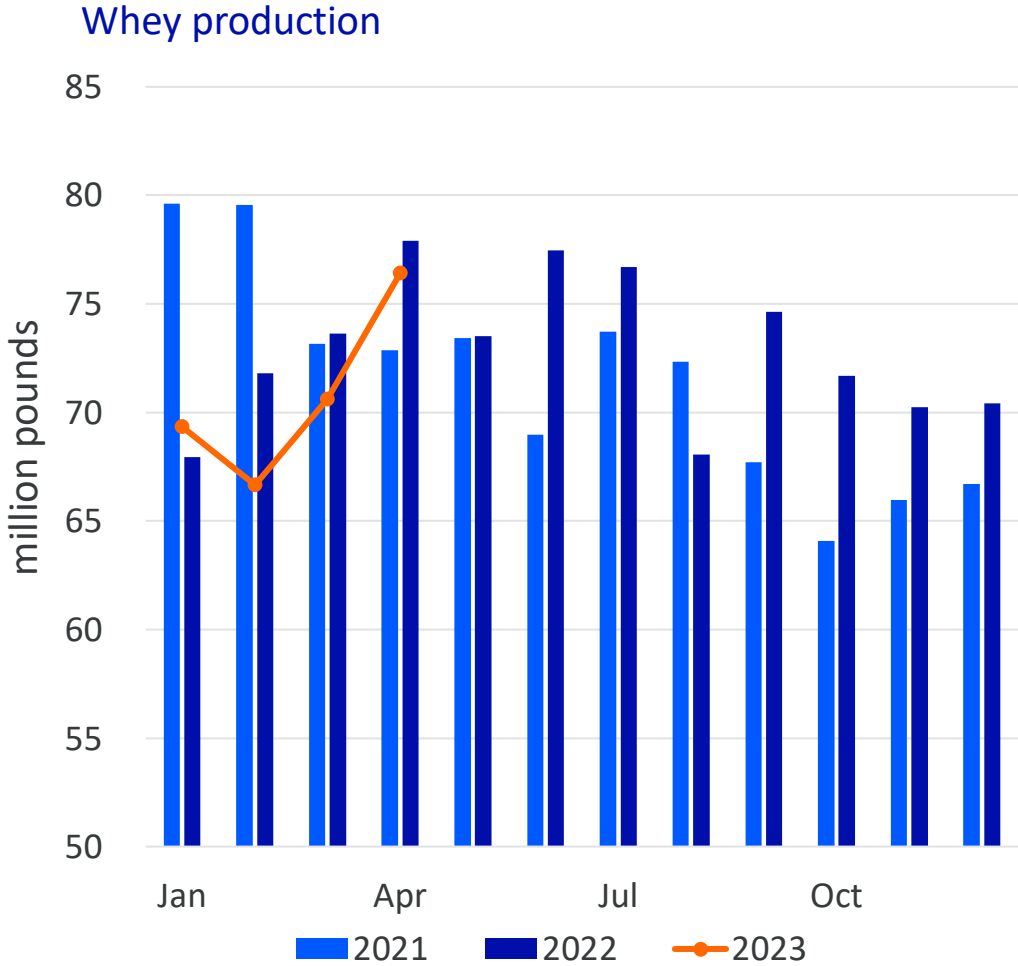
Butter stocks into summer will be key market indicator



Nonfat dry milk stocks stabilize into March, April

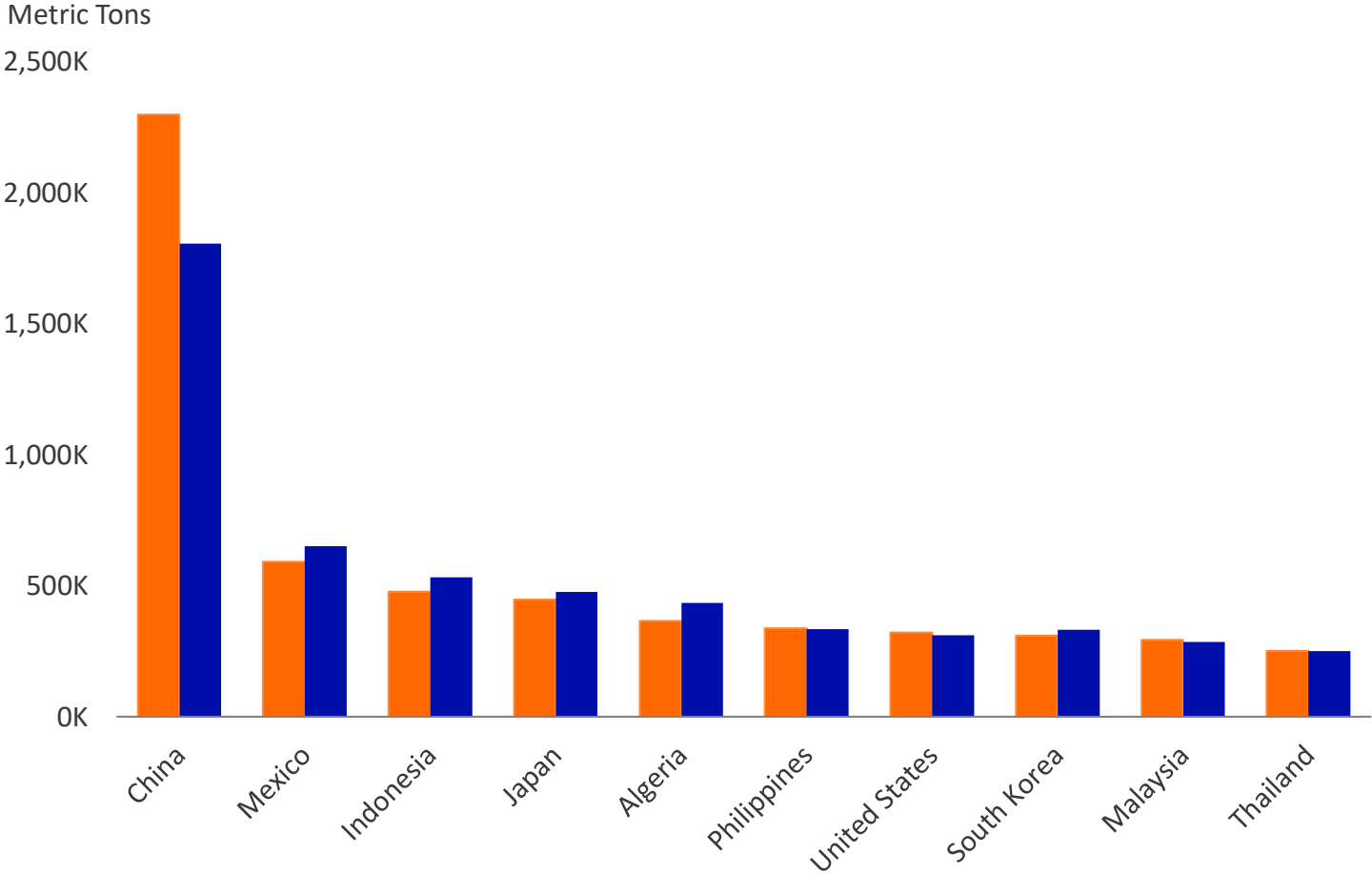


Dry whey market pressured as production, stocks climb



Global dairy imports 2022 vs. 2021

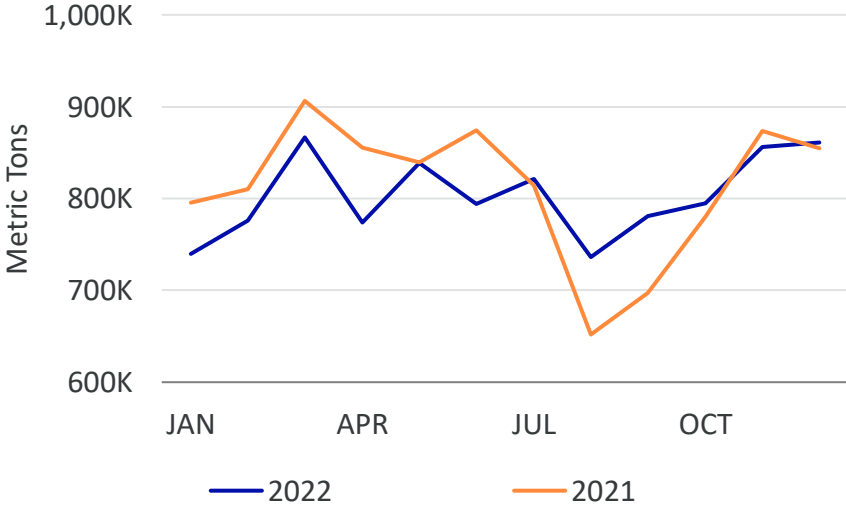
When China sneezes, the world catches a cold...



Source: Trade Data Monitor, Rabobank 2023

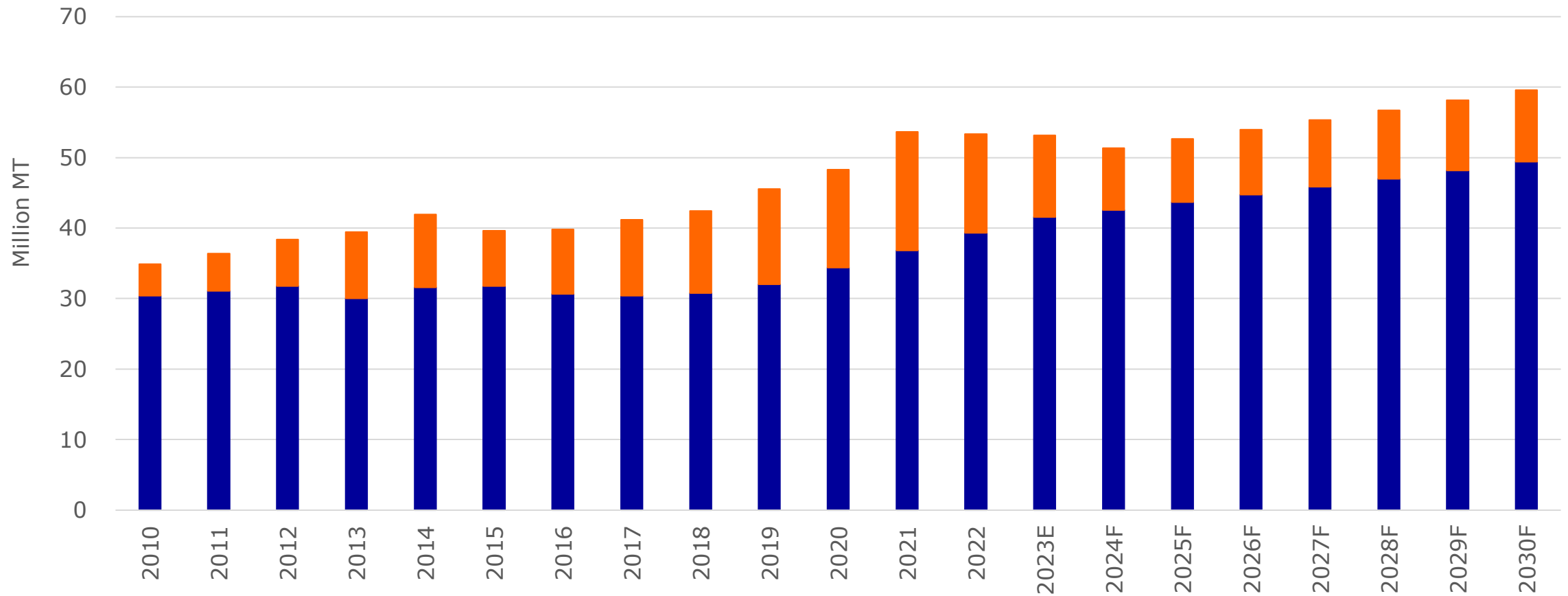
■ 2021 ■ 2022

Product Group	Qty	YOY % Change
Whey	2,488,440	2%
SMP	2,164,589	-3%
WMP	2,152,274	-7%
Cheese	2,035,535	0%
Butterfat	799,558	7%
Total	9,640,395	-1%



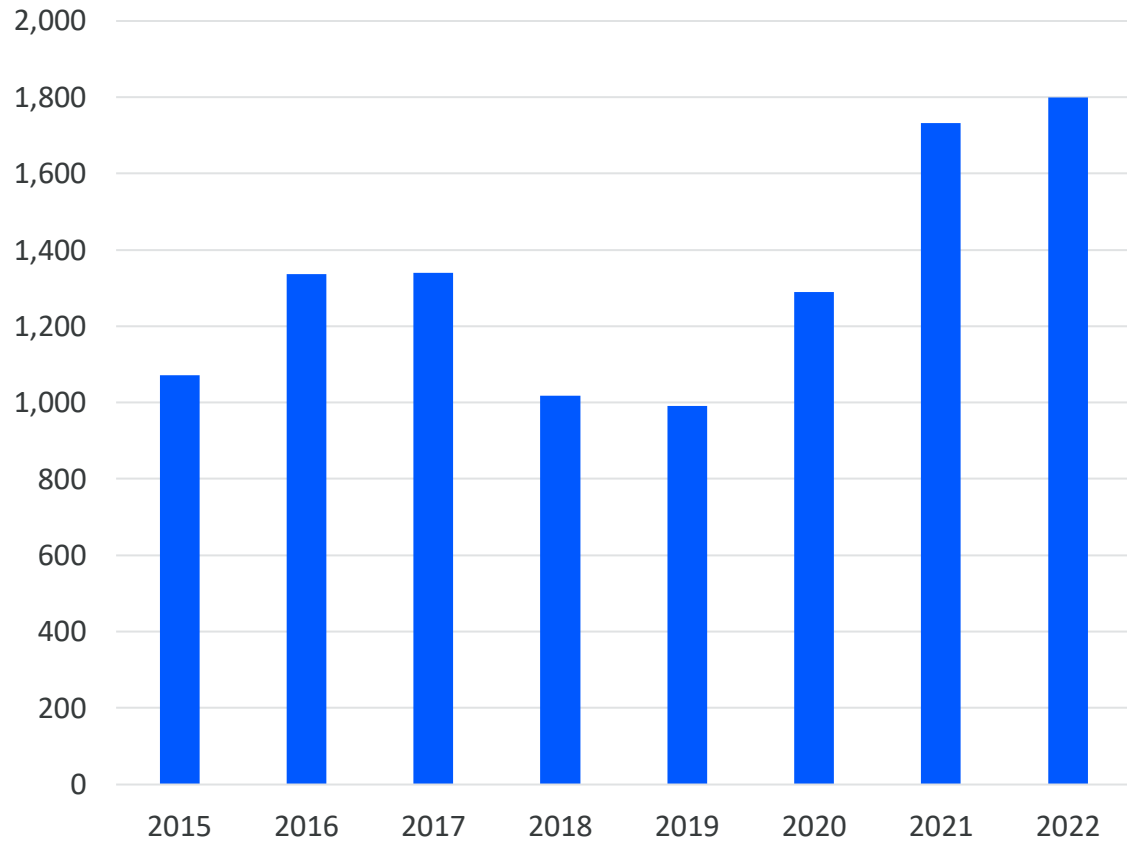
Rising domestic Chinese production is tempering imports

China added 10 million MT of production from 2017 to 2023

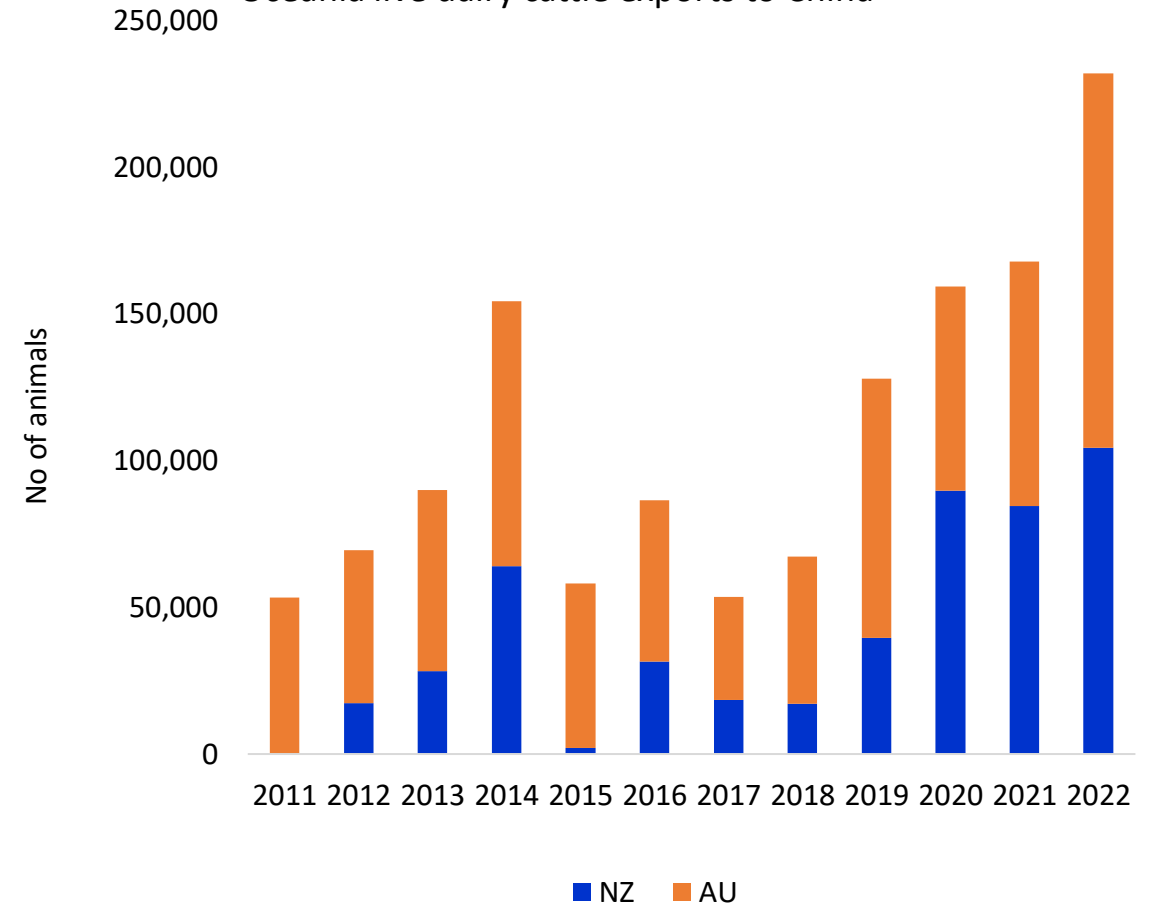


Supporting the growth of the Chinese dairy sector

US Alfalfa Exports to China (1,000 MT)

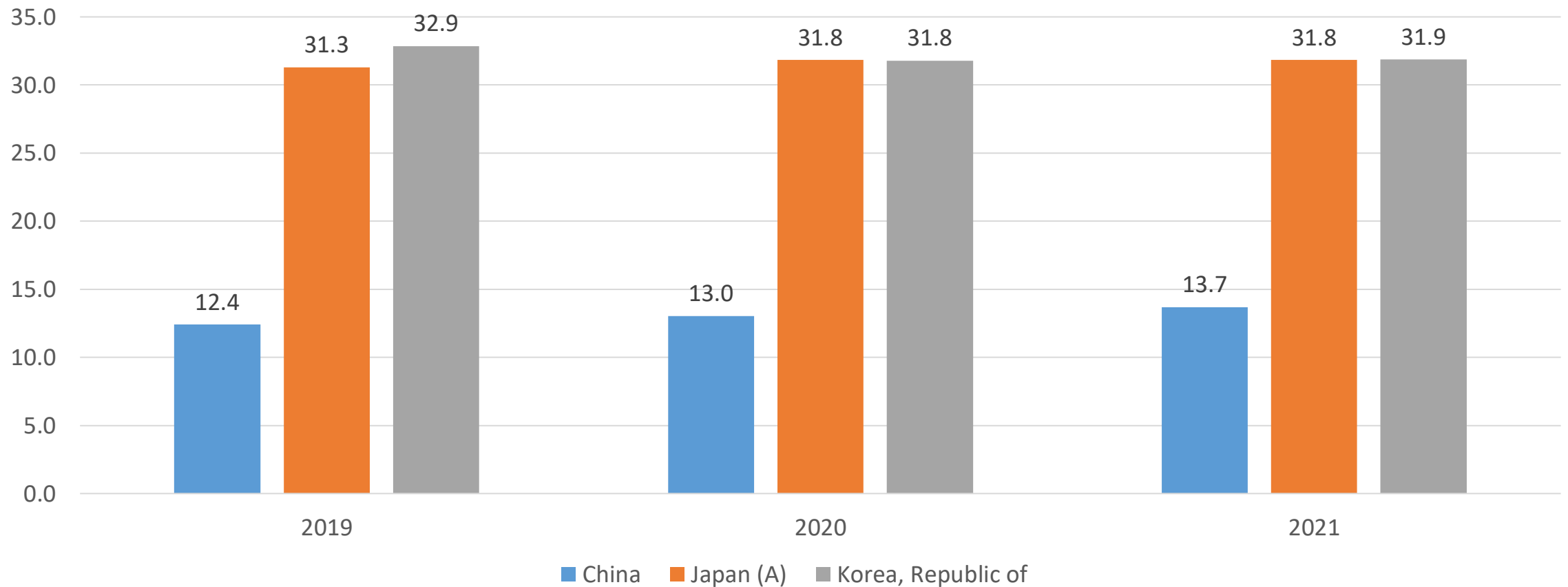


Oceania live dairy cattle exports to China



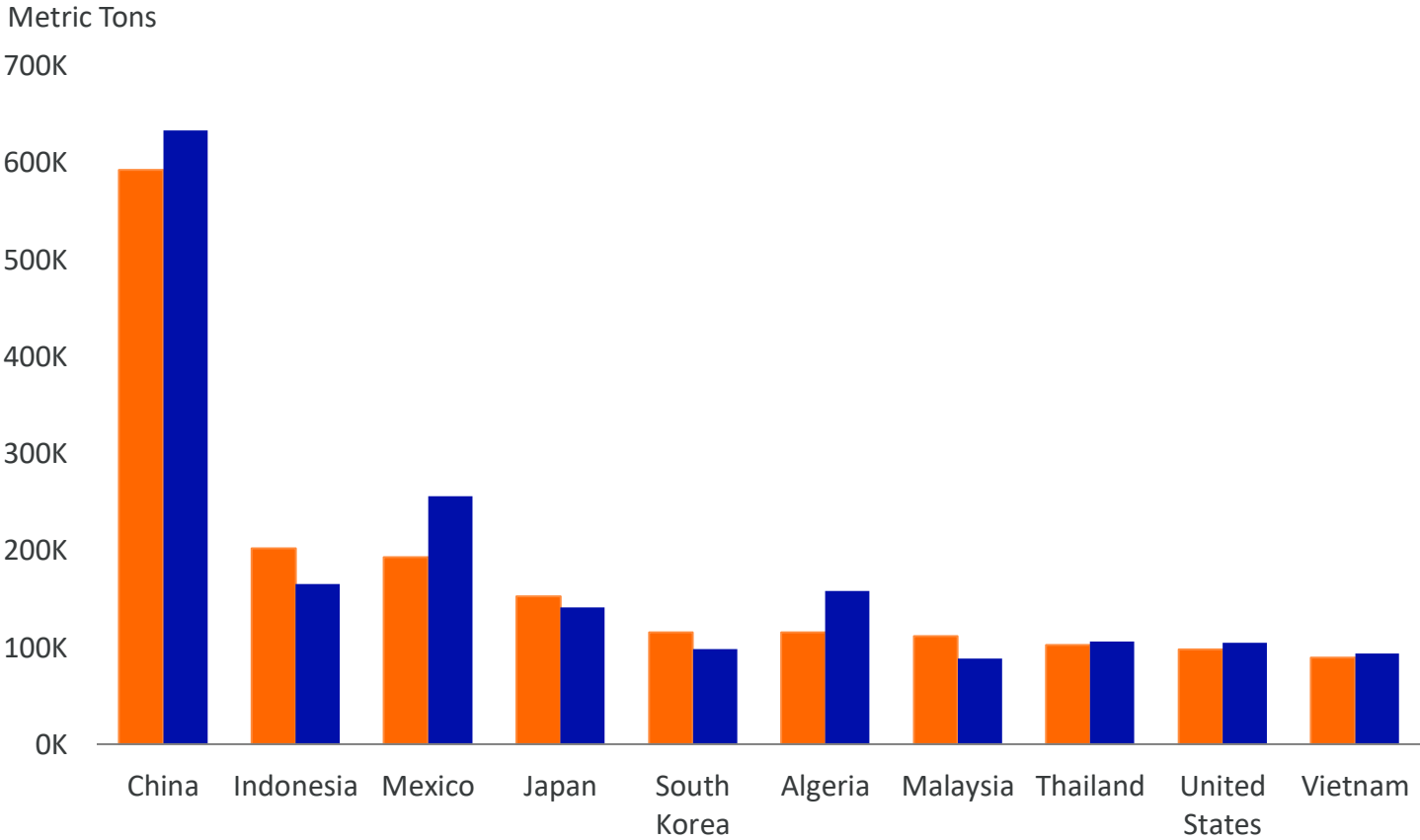
Chinese dairy consumption has significant potential

Per capita consumption of fluid milk in kilograms

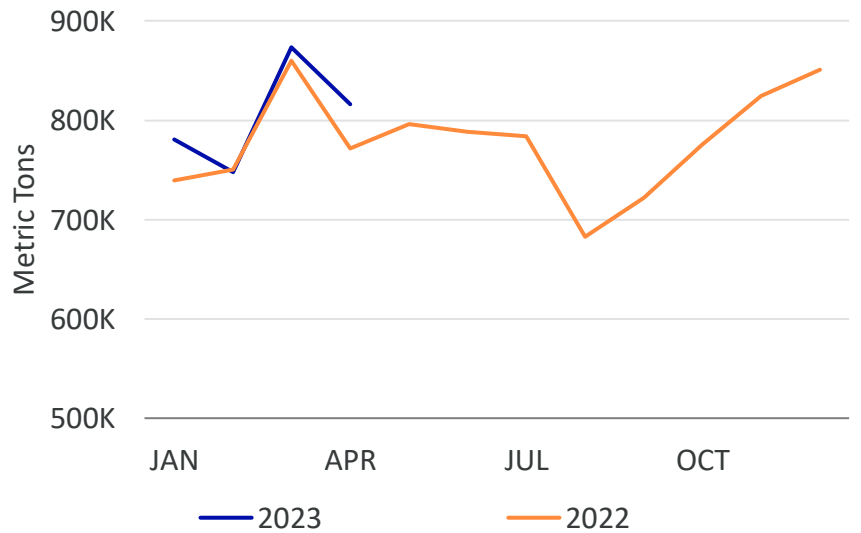


Global dairy imports YTD April 2023 vs. 2022

Weakness from Southeast Asia



Product Group	Qty	YOY % Change
Whey	793,243	1%
SMP	810,043	13%
WMP	658,434	-3%
Cheese	673,307	0%
Butterfat	283,515	5%
Total	3,218,542	3%



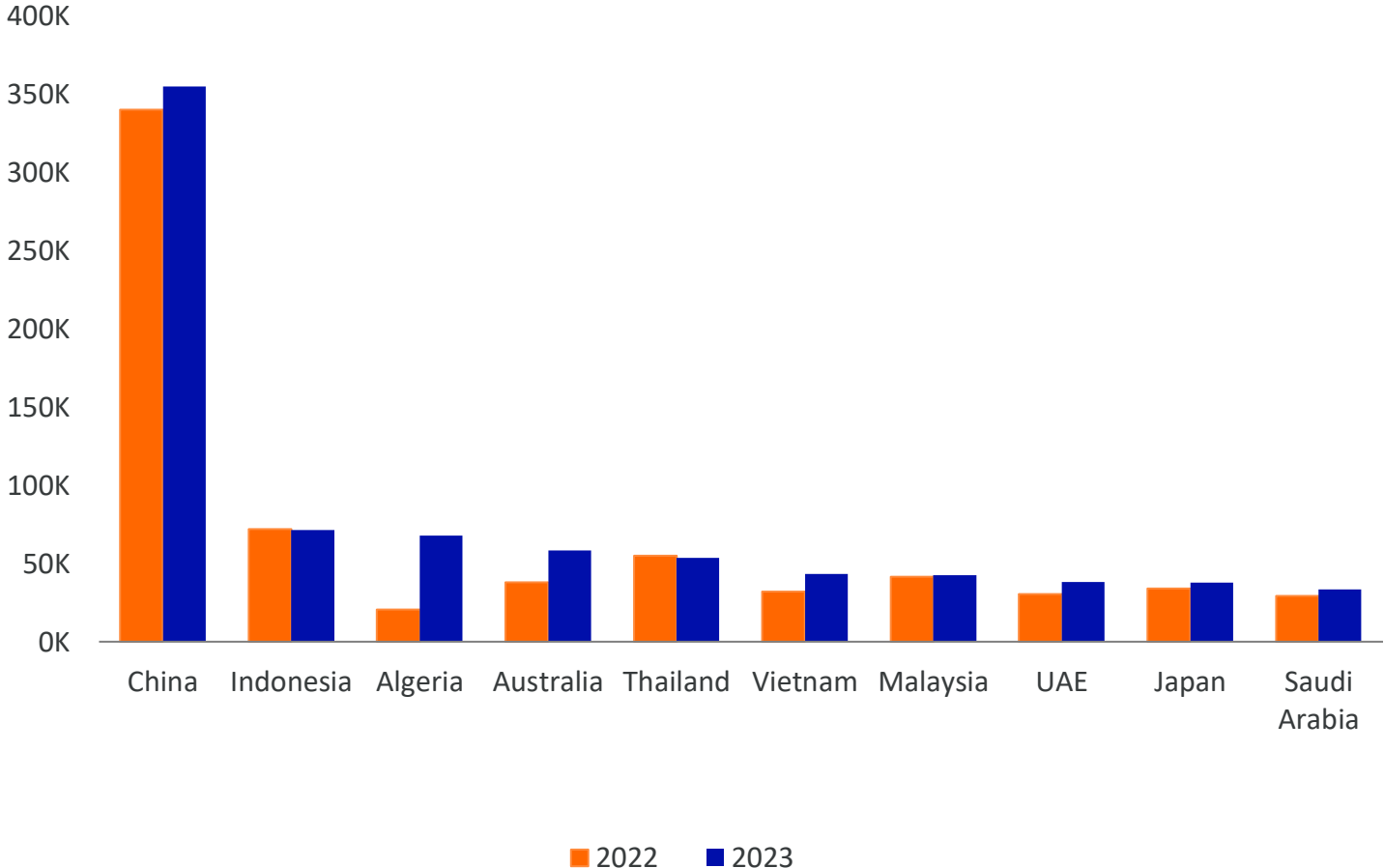
Source: Trade Data Monitor, Rabobank 2023

■ 2022 ■ 2023

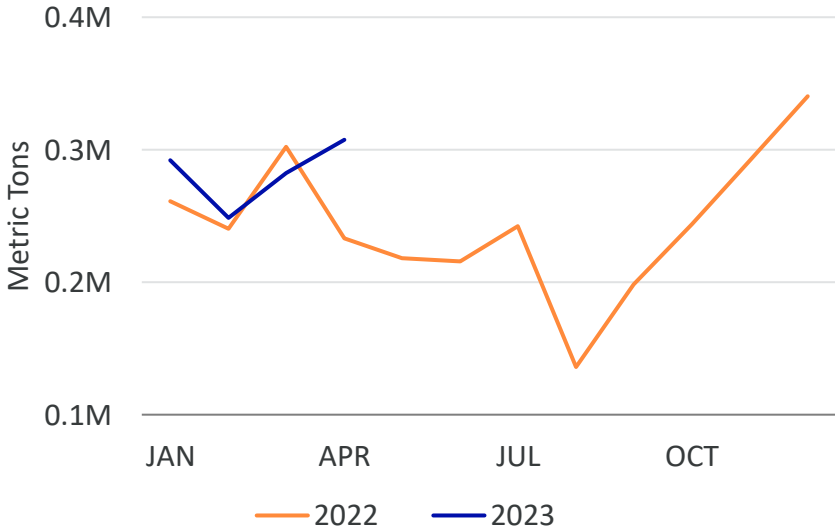
New Zealand's exports improving from low comparable

Diversifying portfolio: geographical and product mix (butter, AMF, SMP)

Metric Tons

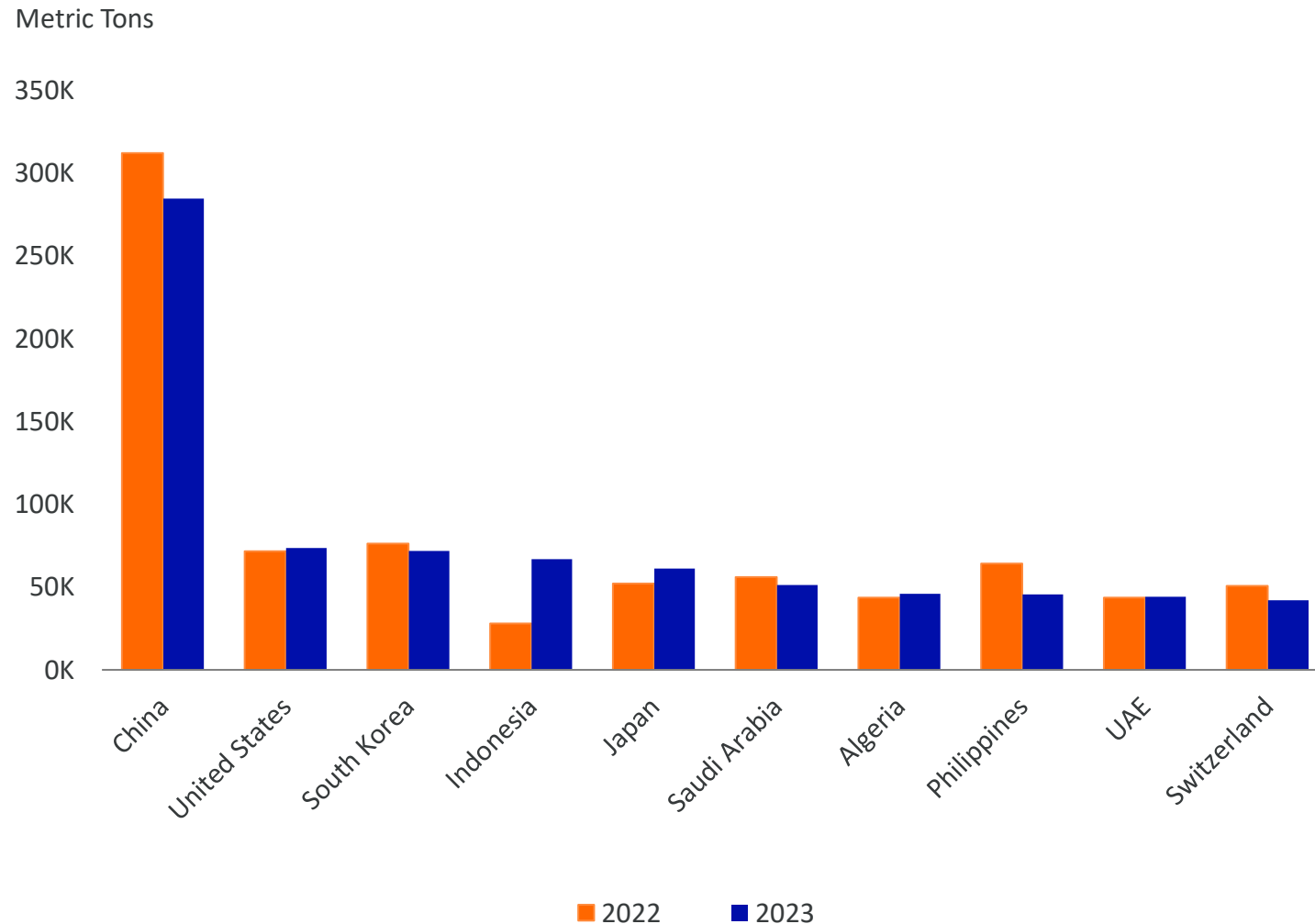


Product Group	Qty	YOY % Change
WMP	475,048	(0%)
Whey	52,625	7%
SMP	180,289	47%
Cheese	142,444	15%
Butter and Fat	169,272	11%
Total	1,019,679	8%

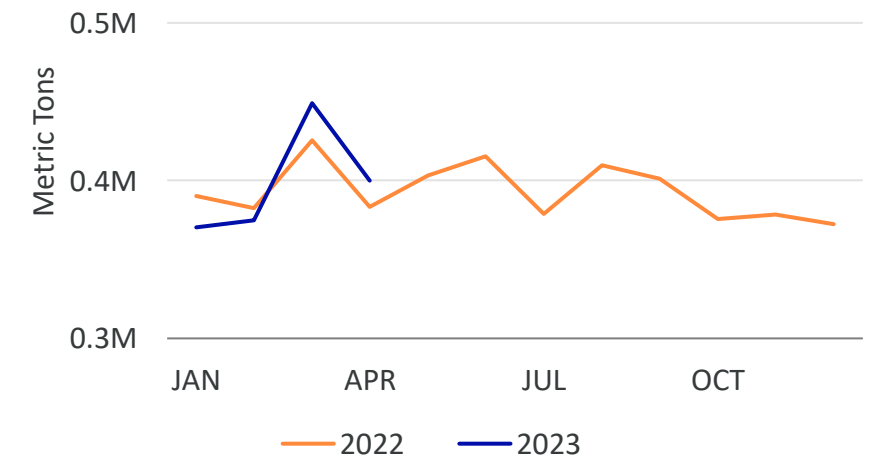


Source: Trade Data Monitor, Rabobank 2023

The EU's 2023 exports also picking up



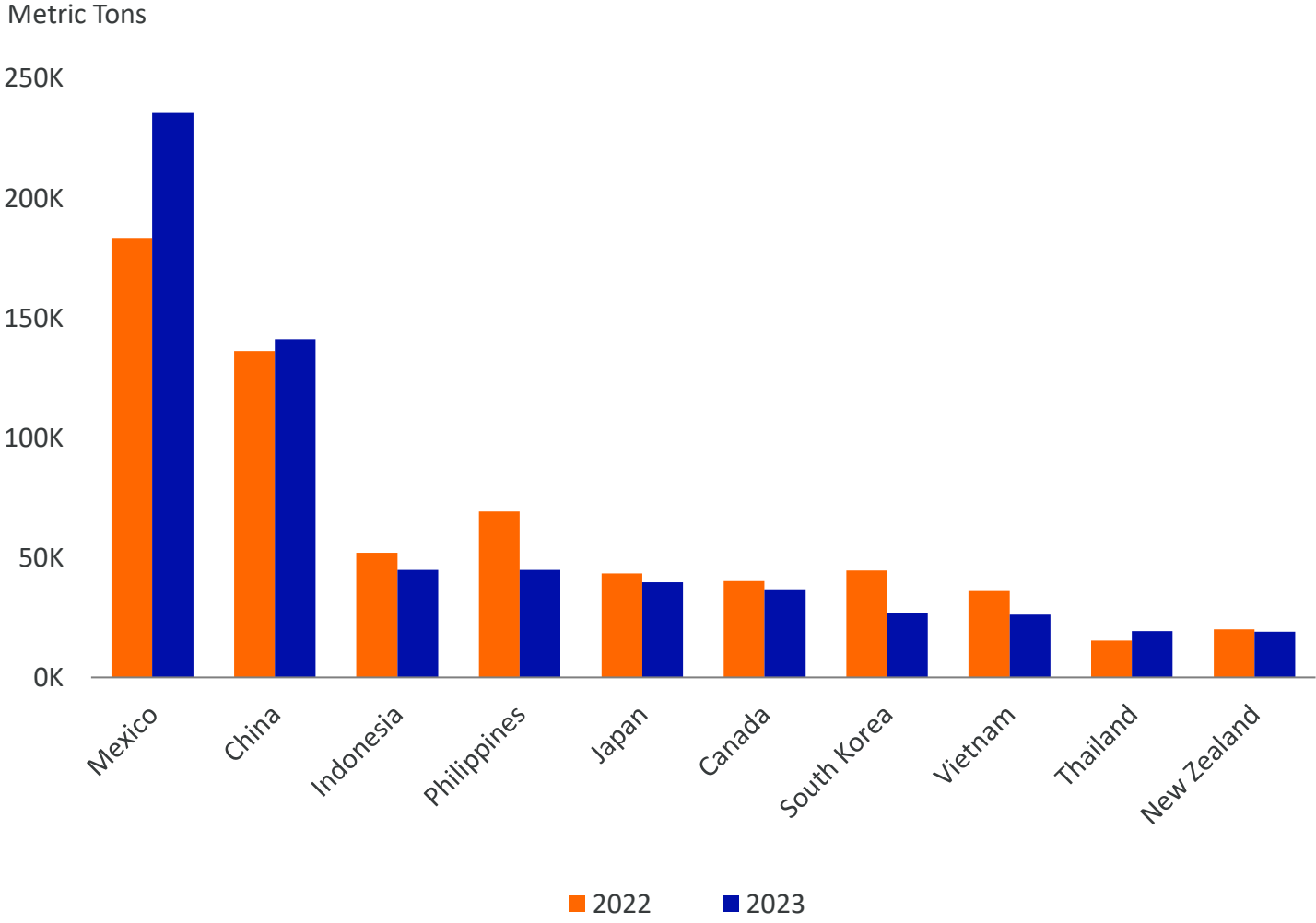
Product Group	Qty	YOY % Change
WMP	77,756	(-2%)
Whey	324,612	(-2%)
SMP	284,818	31%
Cheese	303,620	(-3%)
Butterfat	80,986	16%
Total	1,071,792	8%



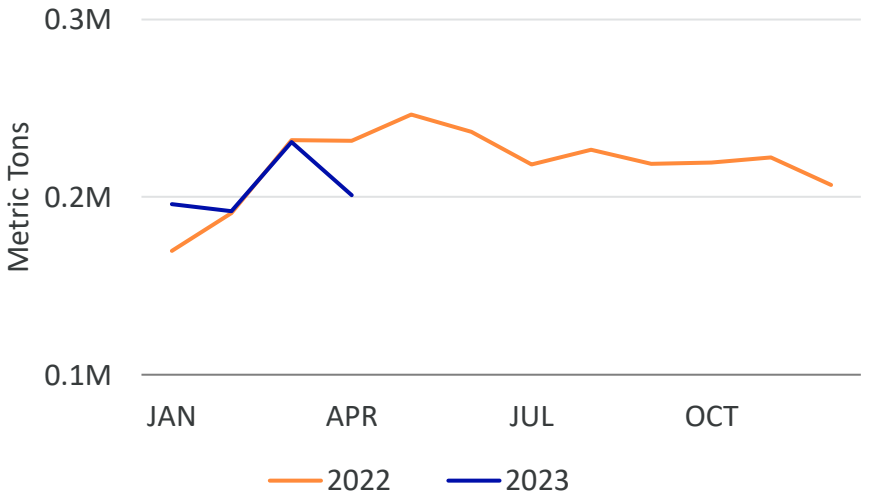
Source: Trade Data Monitor, Rabobank 2023

US exports facing greater competition

Most notably the butter category



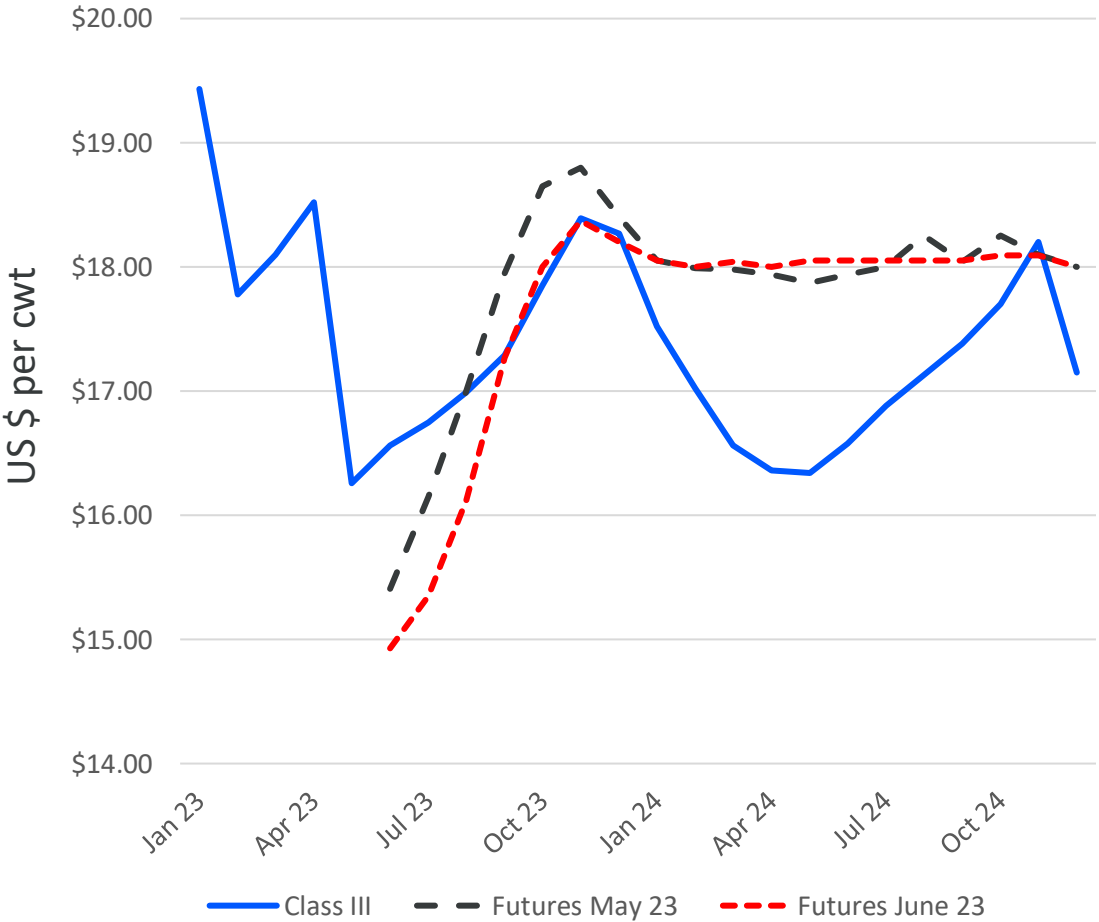
Product Group	Qty	YOY % Change
WMP	8,173	(-38%)
Whey	351,784	4%
SMP	276,329	(-2%)
Cheese	145,461	0%
Butter and Fat	15,431	-39%
Total	797,178	-1%



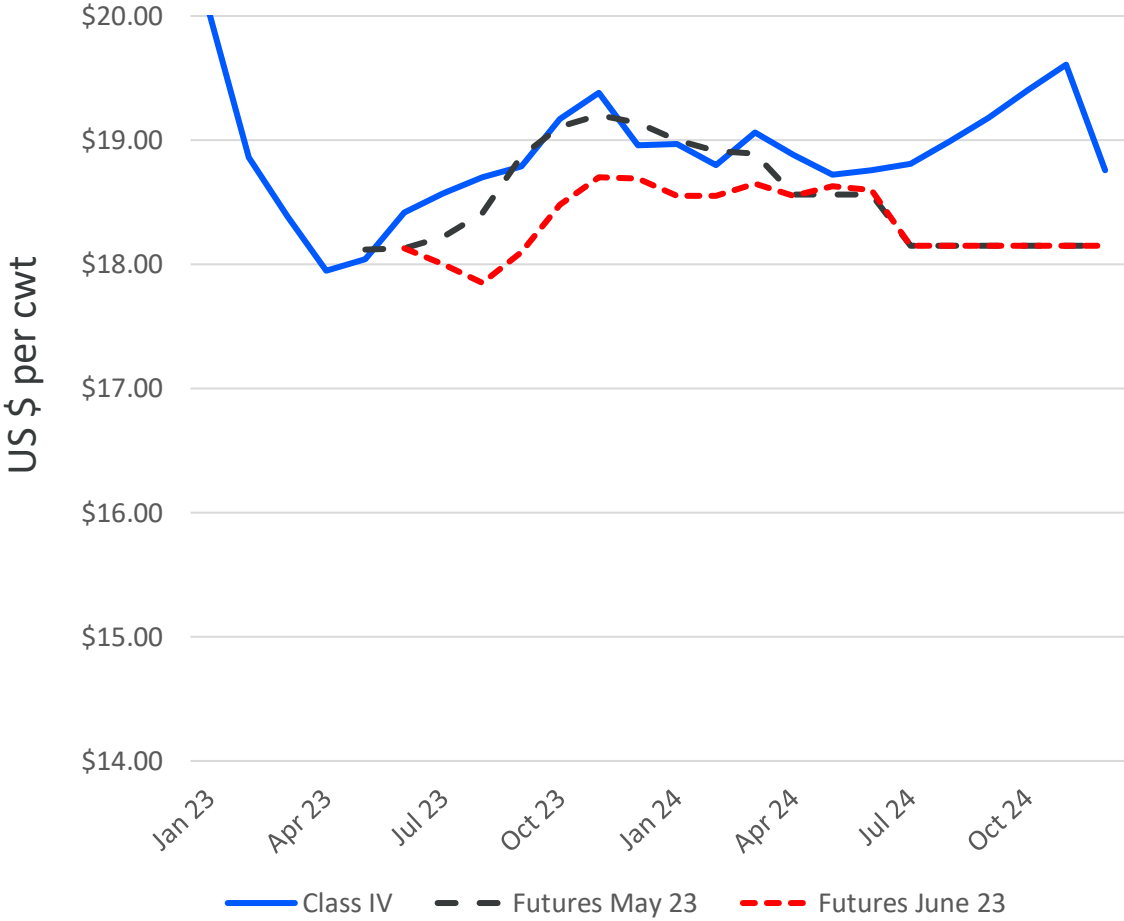
Source: Trade Data Monitor, Rabobank 2023

US milk price forecasts

Class III price forecast



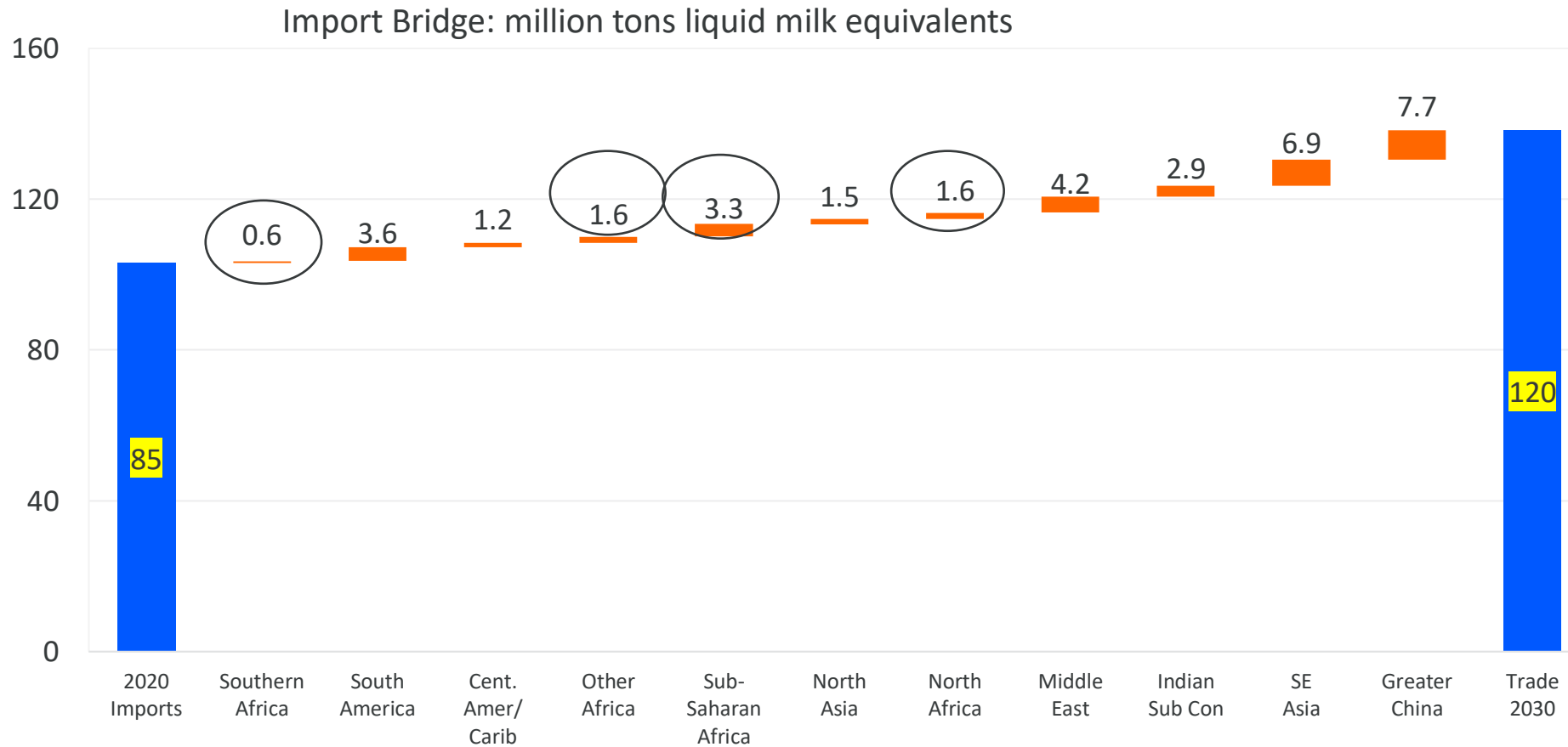
Class IV price forecast



2030 Dairy Supply and Demand Outlook



Global dairy demand outlook: 2020 to 2030

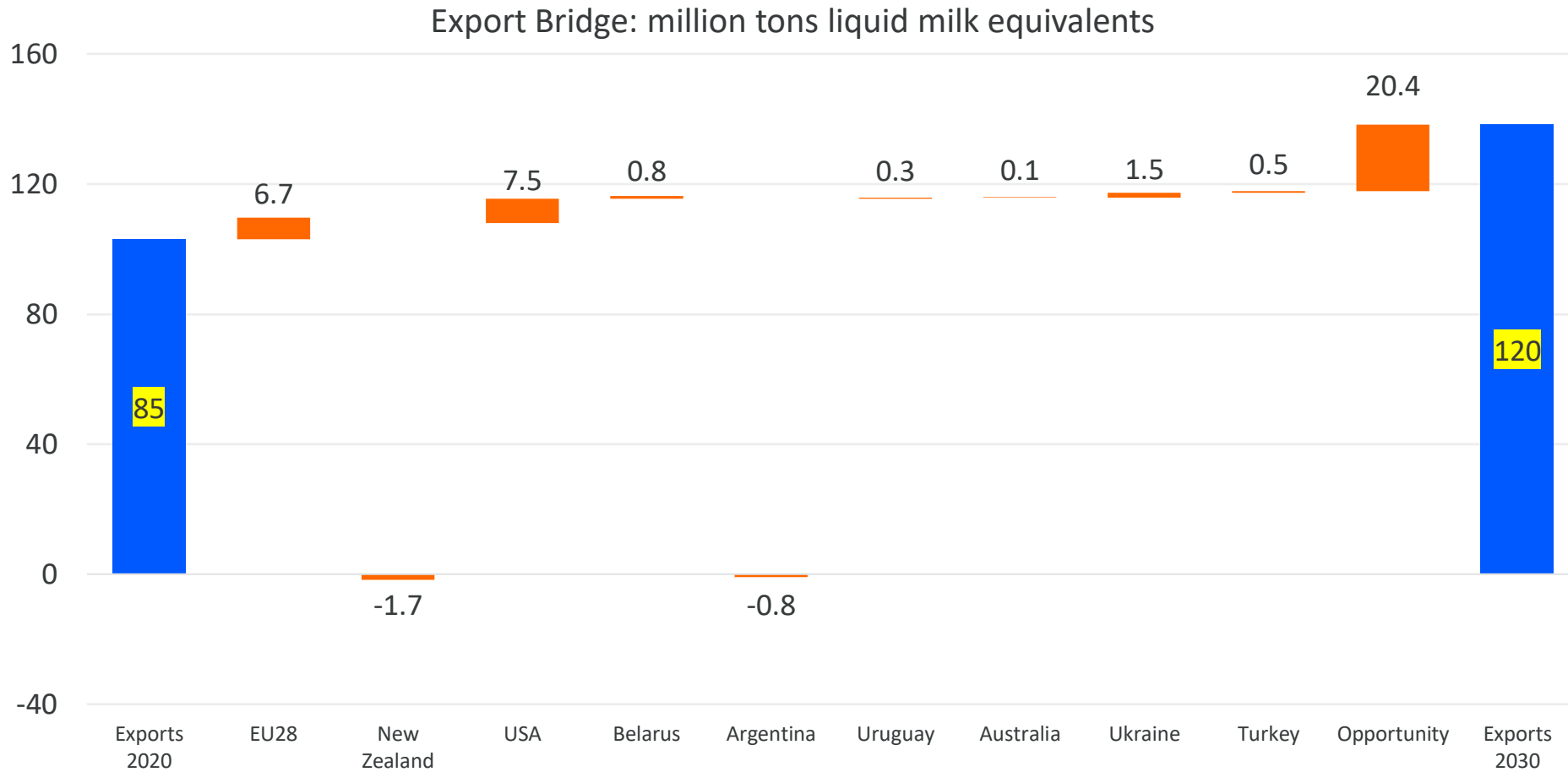


Key points

- Global dairy trade forecast to increase at 2.5% CAGR
- Import demand driven by Greater China, SE Asia and (combined) Africa
- Each of these regions account for a growth of about 7 to 8 million tons in LME's

Source: Rabobank, 2023

Global dairy supply outlook: 2020 to 2030

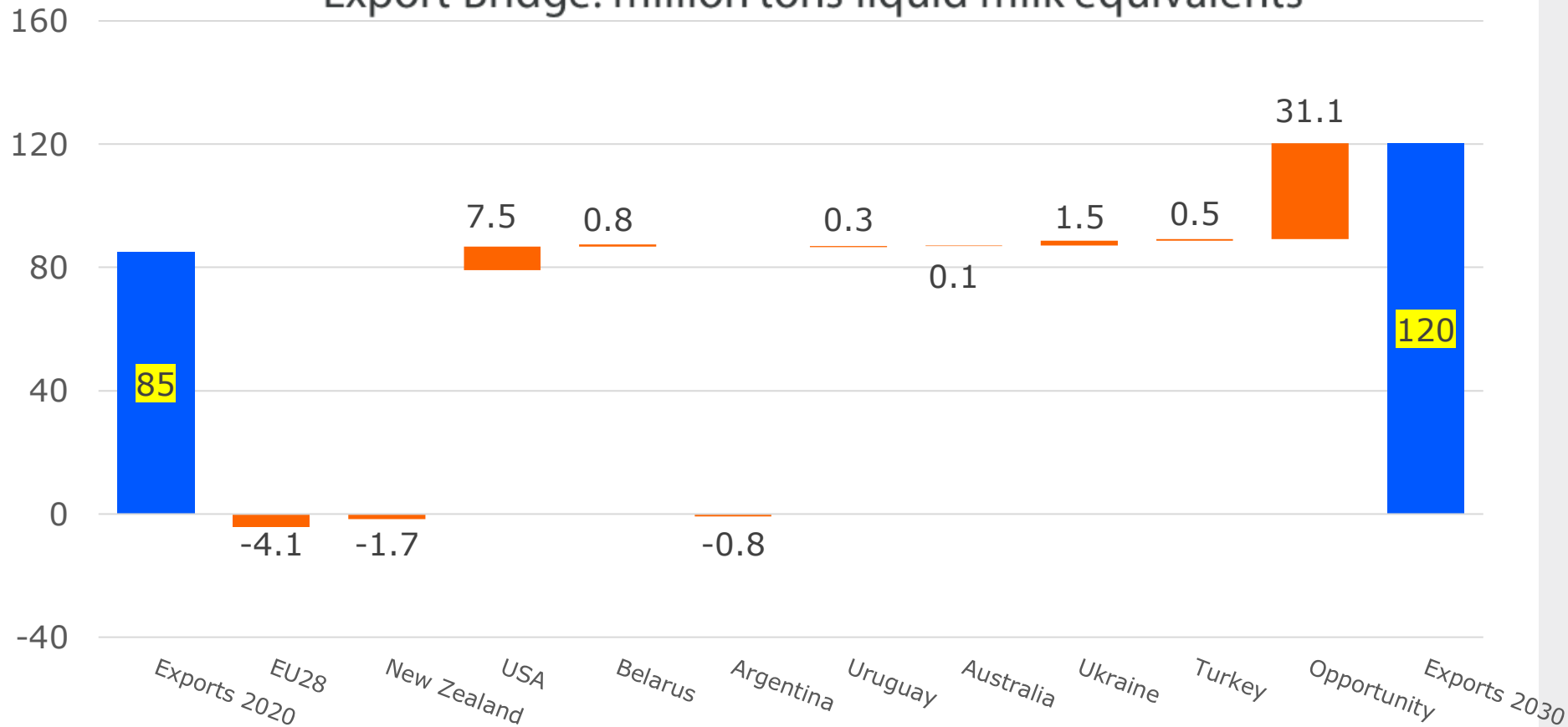


Key points

- The US grows its export presence
- New Zealand is expected to have less exportable surplus in 2030 than in 2020 – but remains a key dairy exporting country
- The 20 million-ton-gap represents a potential market opportunity for the dairy sector, as well as, for alternative or hybrid dairy products. It also represents the rising risk of food insecurity.

Alternative scenario: EU downside risk

Export Bridge: million tons liquid milk equivalents



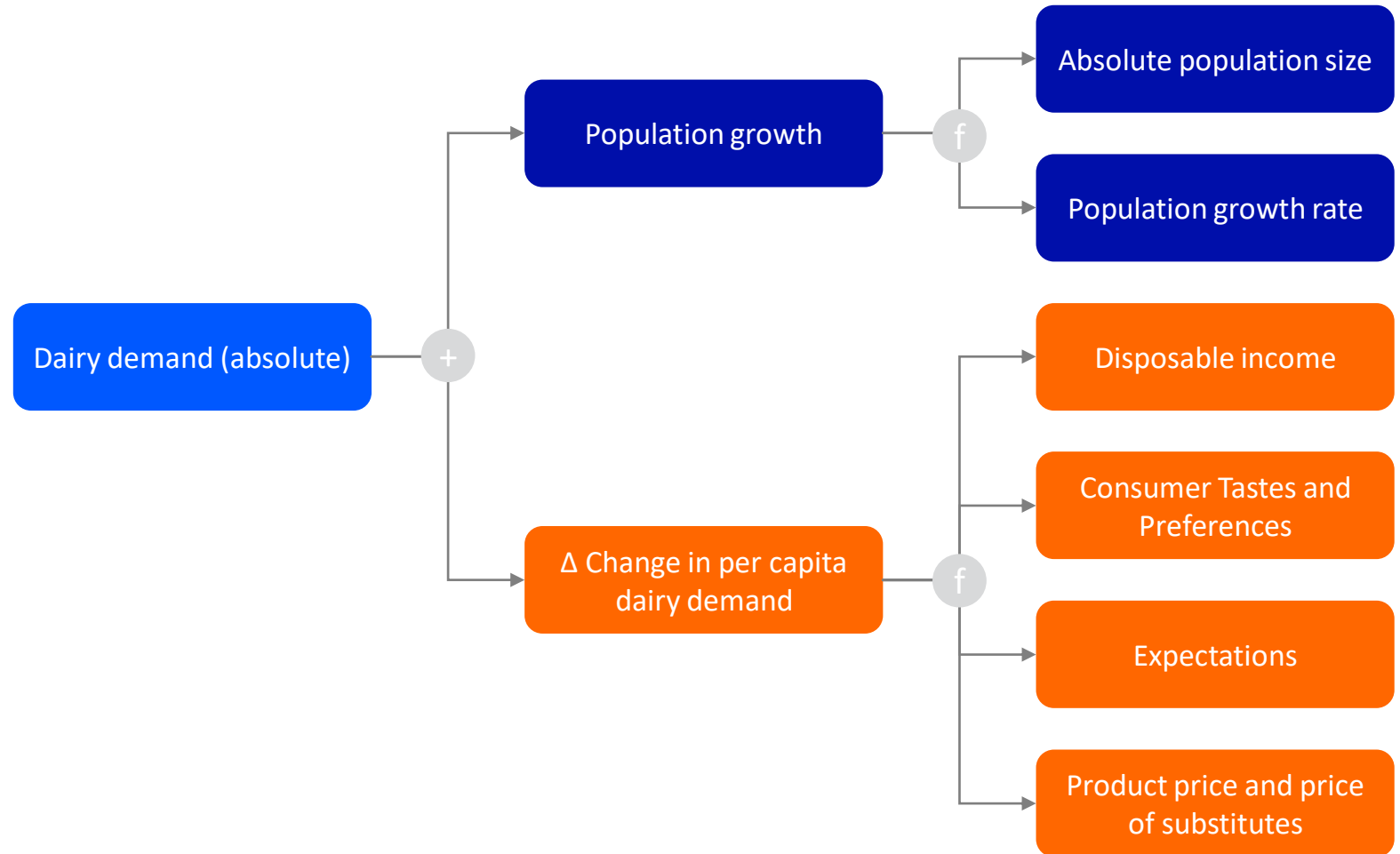
Key points

Pressure on EU milk volume growth due to a combination of:

- Margin pressure
- Labour/succession
- Environmental constraints
 - Animal welfare
 - Biodiversity
 - Climate measures/cost of compliance
- EU-28 milk supply expected to decline by 0.2% YOY, with most of the volume loss in Northwest Europe

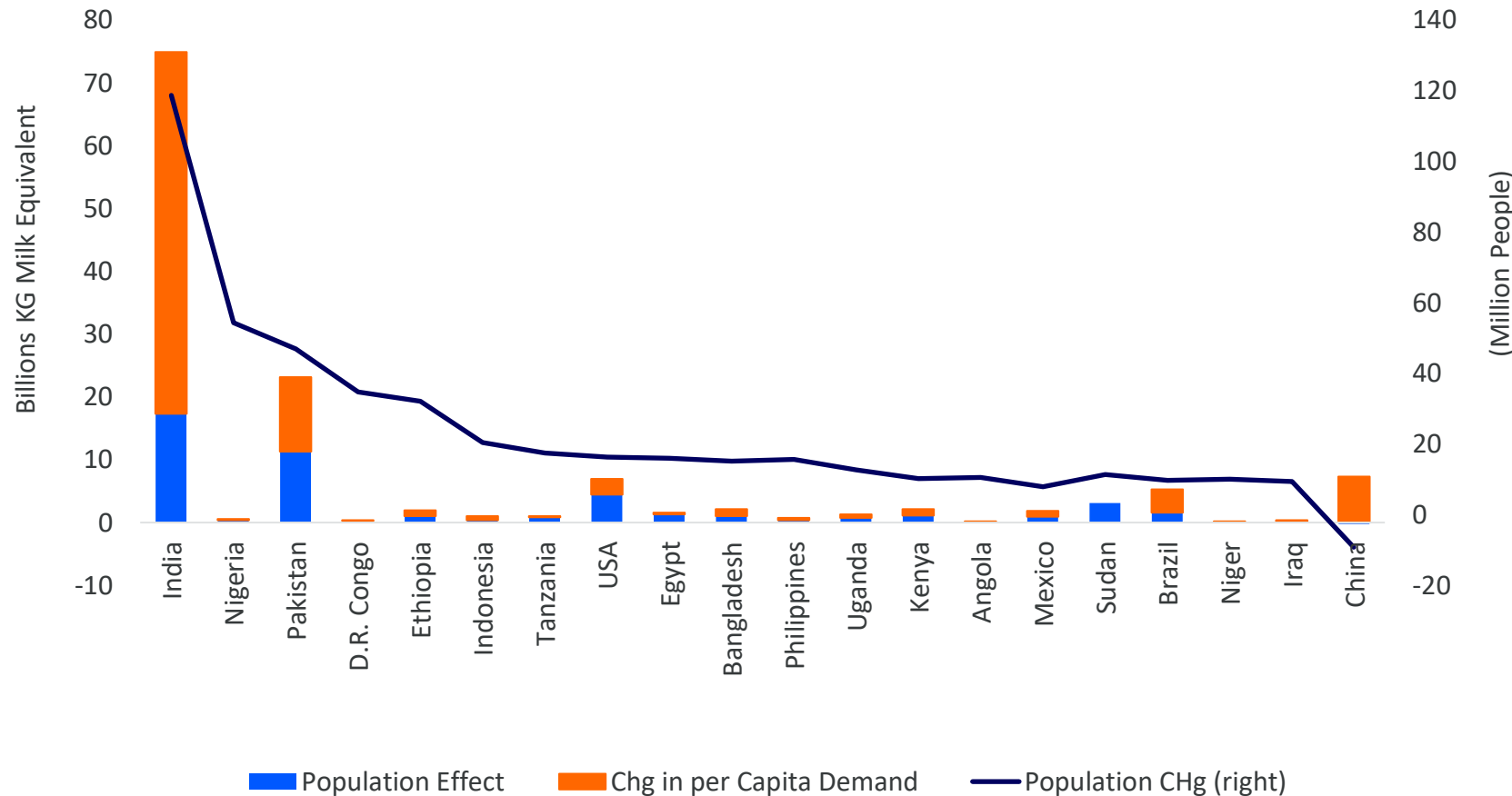
Changing demographics will impact dairy demand

1. The most significant driver of greater dairy consumption is population and income growth in developing countries, especially those with a dairy-consumption culture and regions with government-supported dairy consumption programs. For example, but not limited to, India, Pakistan, China, Brazil, Mexico
2. Followed by maintaining existing high per capita consumption of dairy in populous developed countries/regions: Europe/US



How does an additional 705 million people impact the sector?

Growth in dairy consumption from 2020 to 2030 due to **population growth** and change in **per capita dairy demand**



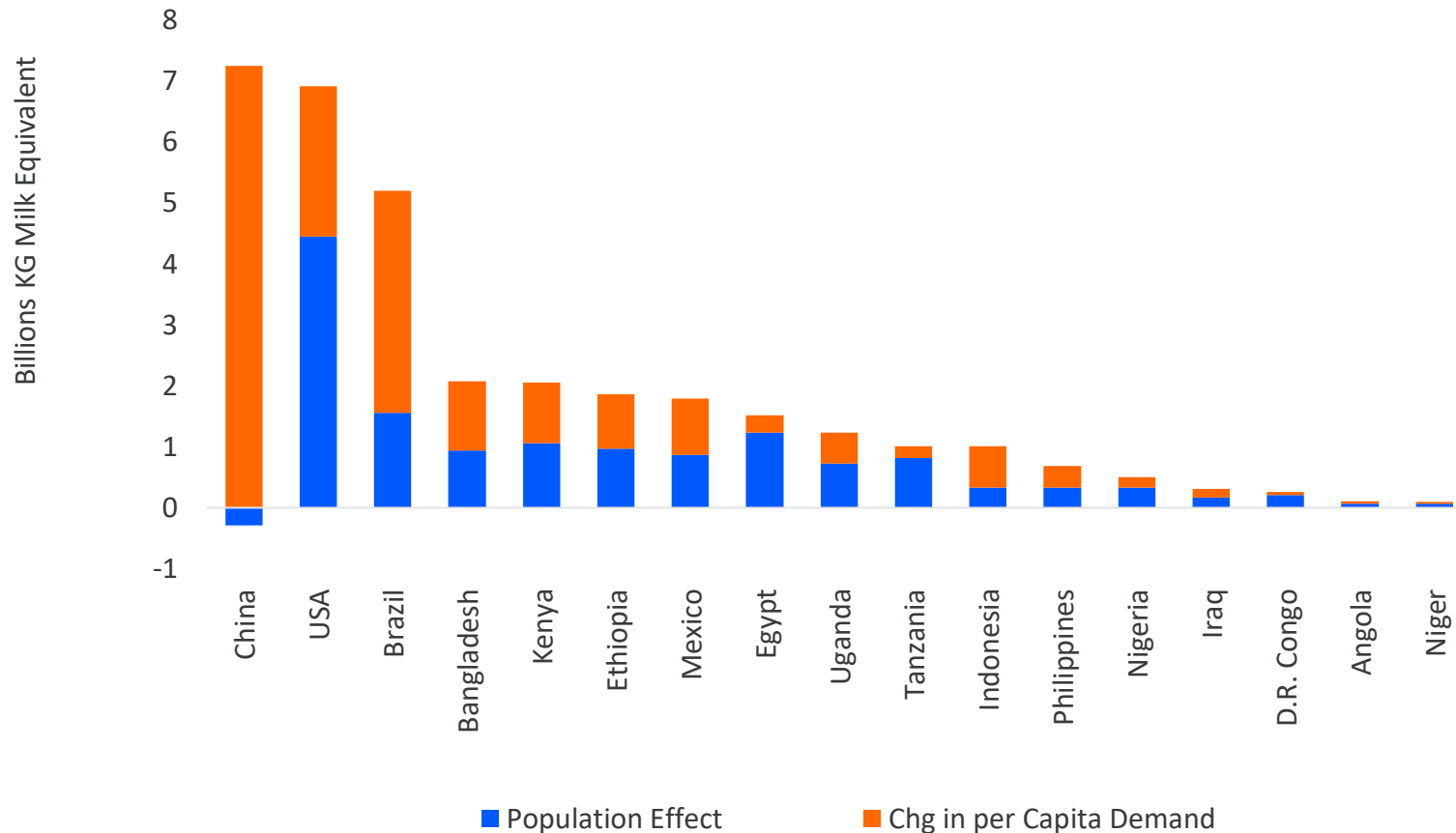
Population growth

- The UN's latest forecast indicates a population growth of 705 million people from 2020 to 2030.
- Over 50% of the population growth will occur in Africa, followed by India +17%, Pakistan +6.6%, Indonesia +2.9%, the Philippines and Bangladesh +2.4%, and the US +2.3%.
- The top 20 countries in population growth account for about two-thirds of the world population growth, driving a 2.5% CAGR in dairy demand.
- It's noteworthy that China's population is forecast to decline by 9.3 million during this decade.

Source: UN Population Estimates, OECD, IFCN, RaboResearch, 2023

Excluding India and Pakistan, these are the top growing dairy markets

Forecast growth in dairy demand, 2020 to 2030



Market Opportunities

- These markets represent the largest volume growth in dairy demand based on population and per capita consumption (PCC) growth
- Despite the forecasted 9.3-million-person decrease in China's population, the remaining 1.4 billion people are expected to increase dairy consumption by 1.6%.
- In contrast, the US demand growth is driven by 0.5% increase in population and 0.25% gain in PCC – due to existing high PCC
- Several other countries present interesting opportunities.

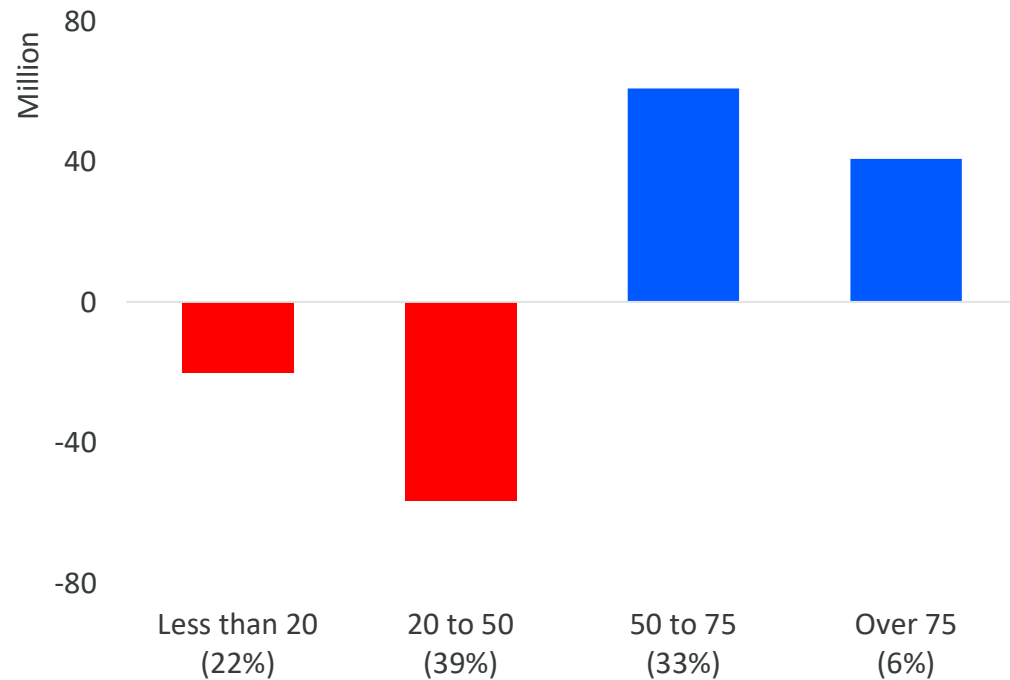
Note: Sudan is primarily an informal market.

Source: UN Population Estimates, OECD, IFCN, RaboResearch, 2023.

China: declining and growing older

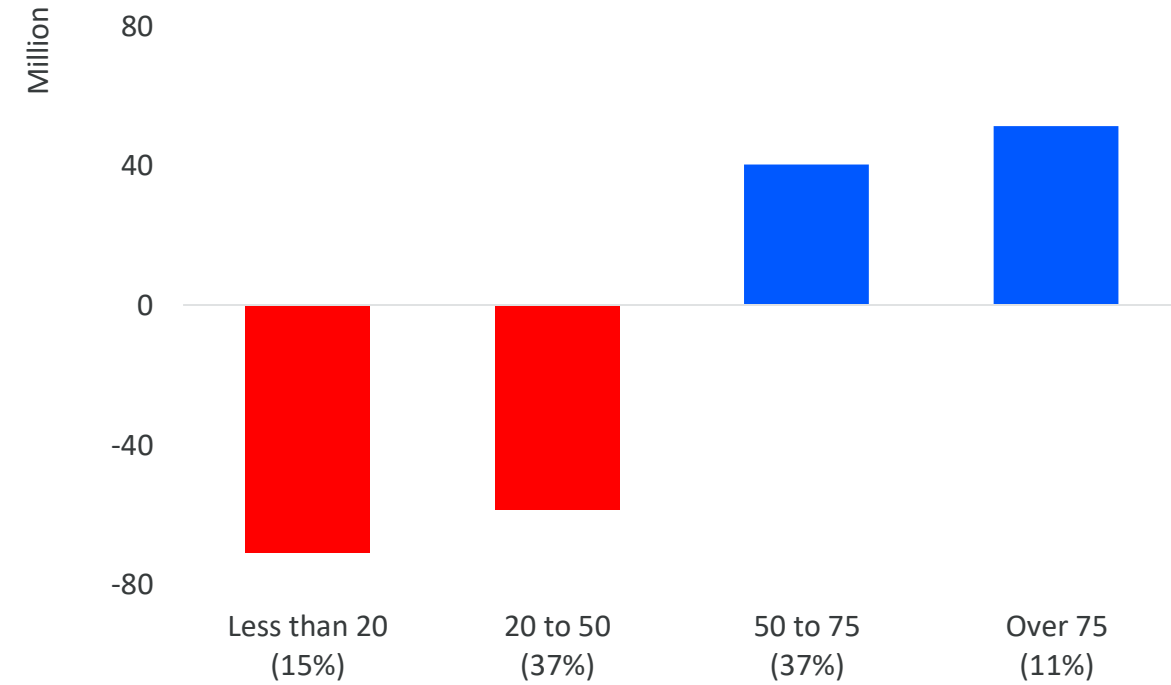
Change in demographics 2030 v. 2020

China: Population declines by 9.3m to 1.42b



Change in demographics 2040 v. 2030

China: Population declines by 38m to 1.38b



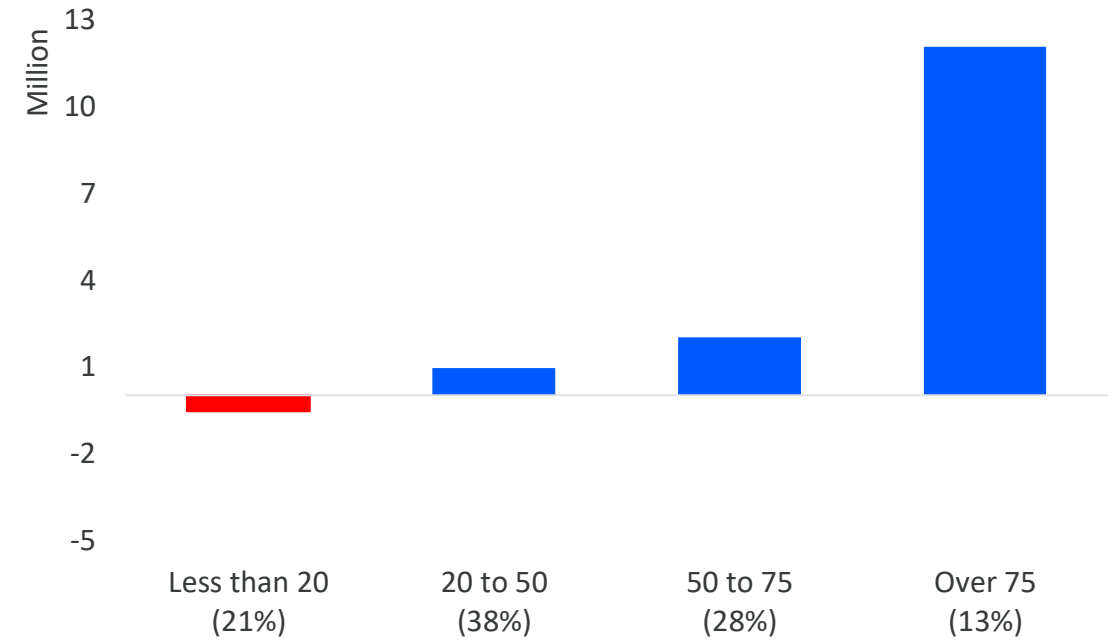
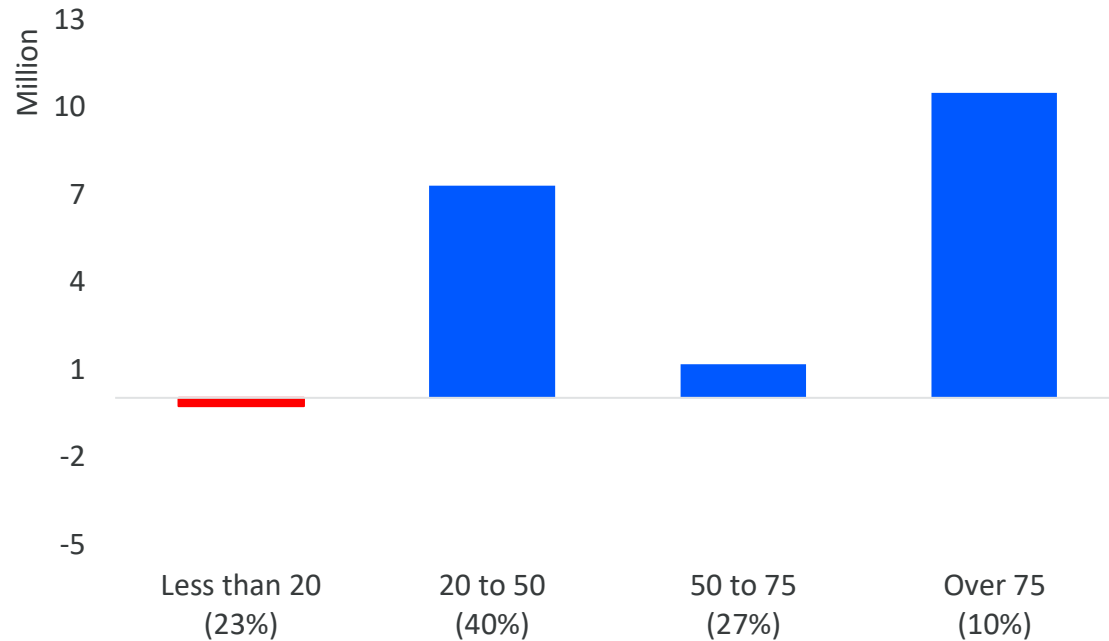
United States: growing and growing older

Change in demographics 2030 v. 2020

Change in demographics 2040 v. 2030

US: Population growth of +16.2m to 352m

US: Population growth of +14.5m to 367m

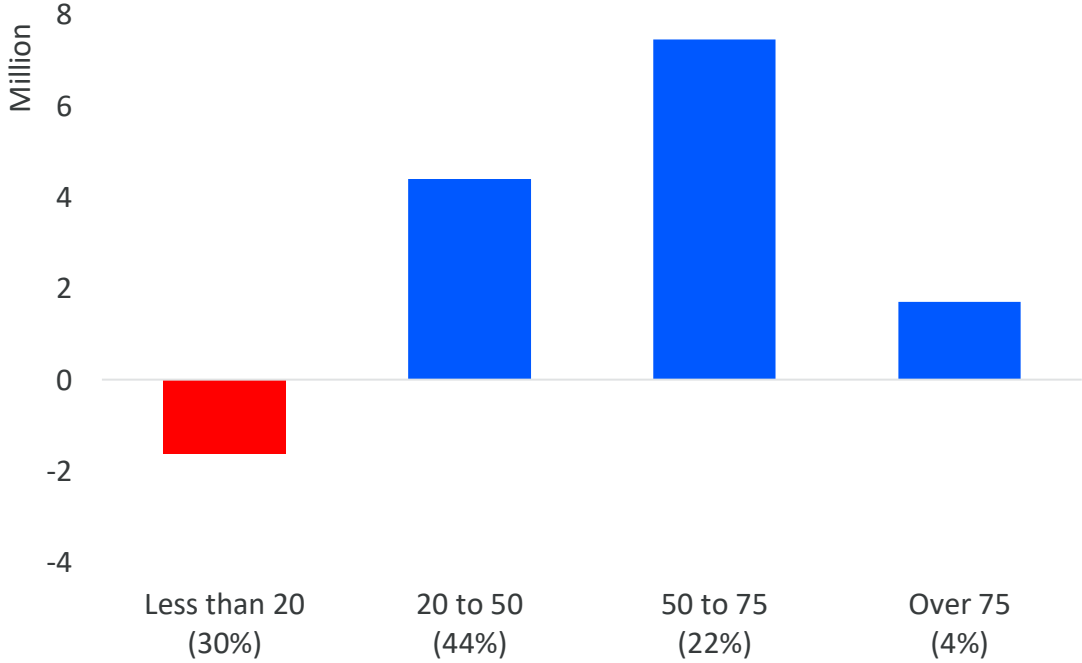


Source: UN Population Estimates, OECD, IFCN, RaboResearch, 2023

Mexico: growing and also growing older

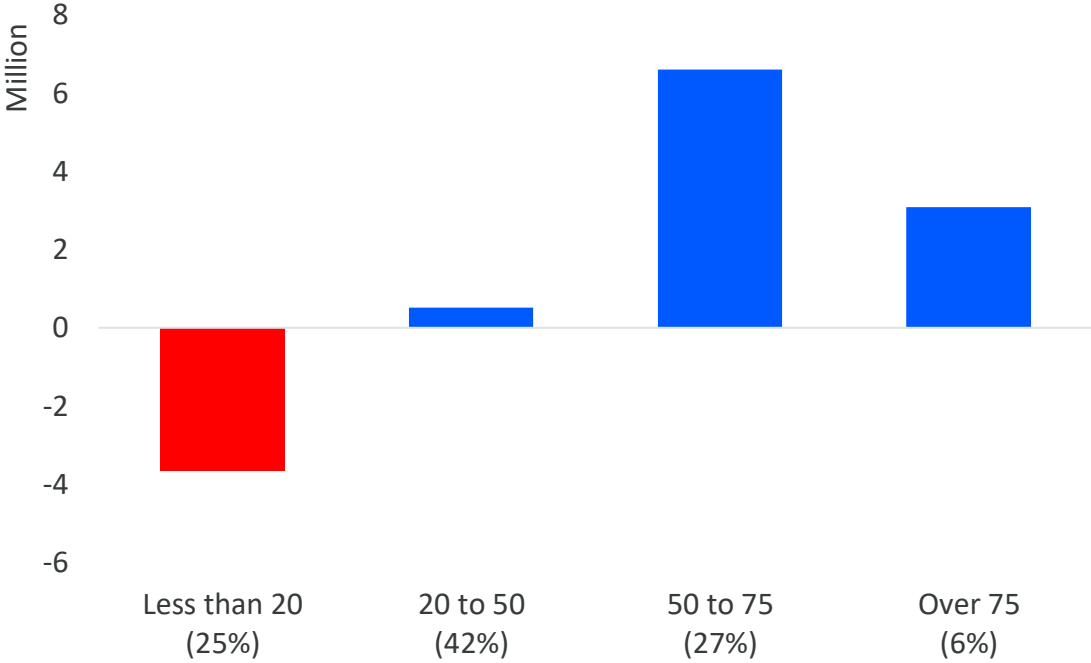
Change in demographics 2030 v. 2020

Mexico: Population growth of 8.5m to 135m



Change in demographics 2040 v. 2030

Mexico: Population growth of 6m to 141m

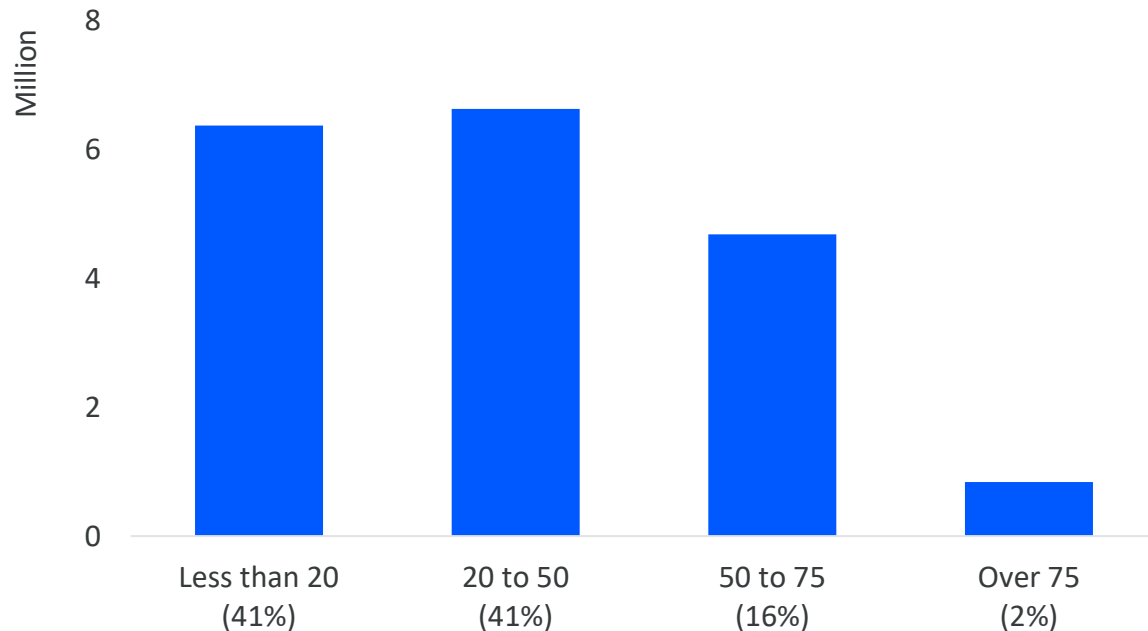


Source: UN Population Estimates, OECD, IFCN, RaboResearch, 2023

Egypt: growth driven by lifespan

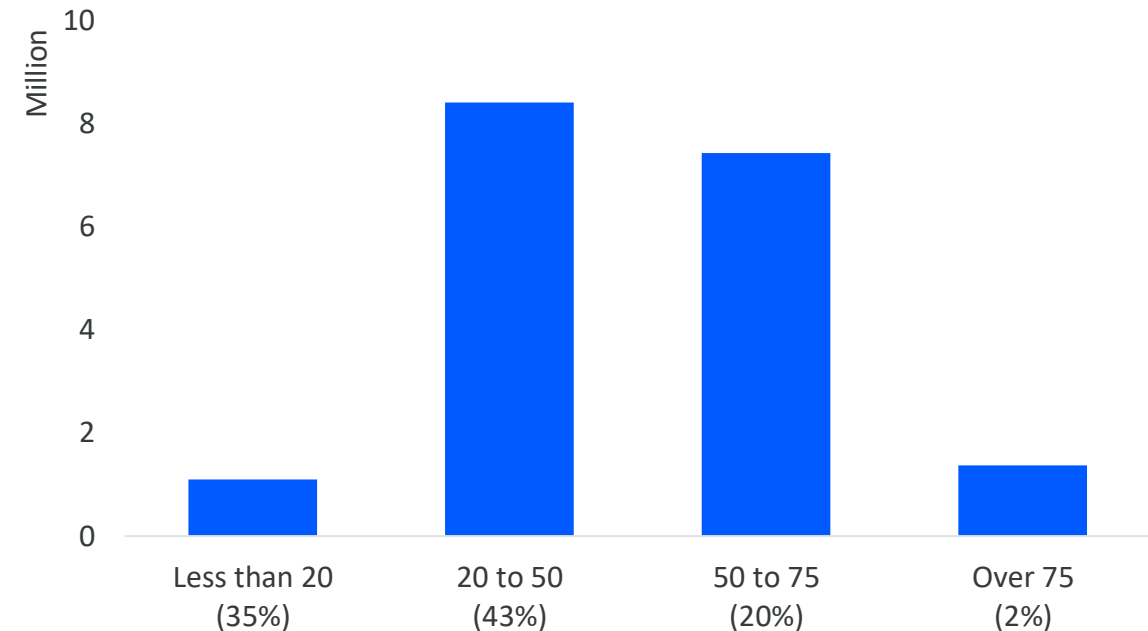
Change in demographics 2030 v. 2020

Egypt: Population growth of 18m to 125m



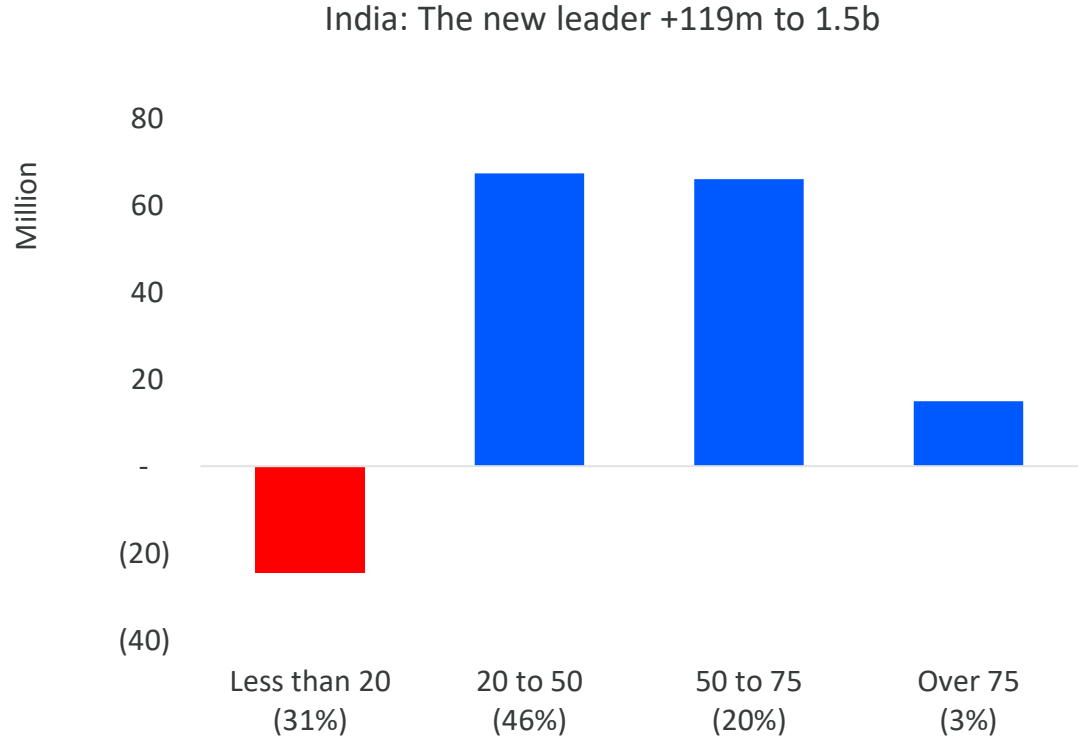
Change in demographics 2040 v. 2030

Egypt: Population growth of 18m to 143m

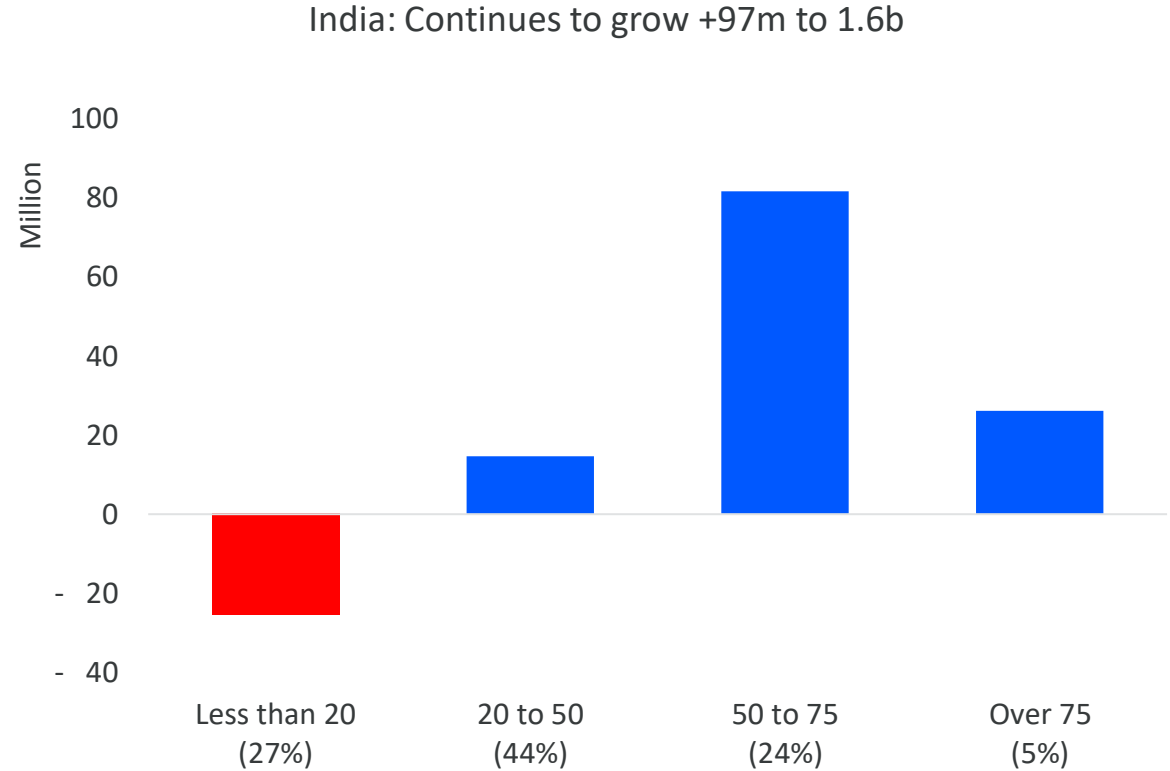


India: growth, aging, and potential market opportunity

Change in demographics 2030 v. 2020



Change in demographics 2040 v. 2030



Source: UN Population Estimates, OECD, IFCN, RaboResearch, 2023

Just an observation – 10km from Kilimanjaro base camp



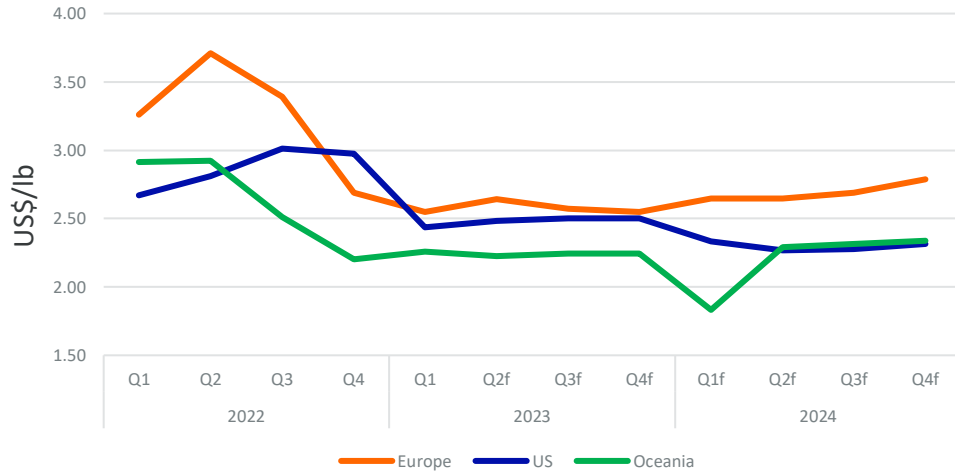
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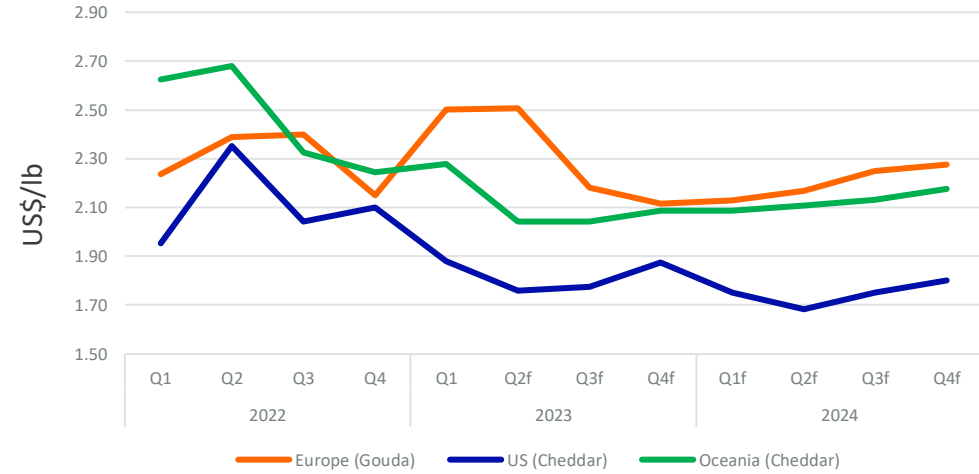


Global dairy commodity price forecasts

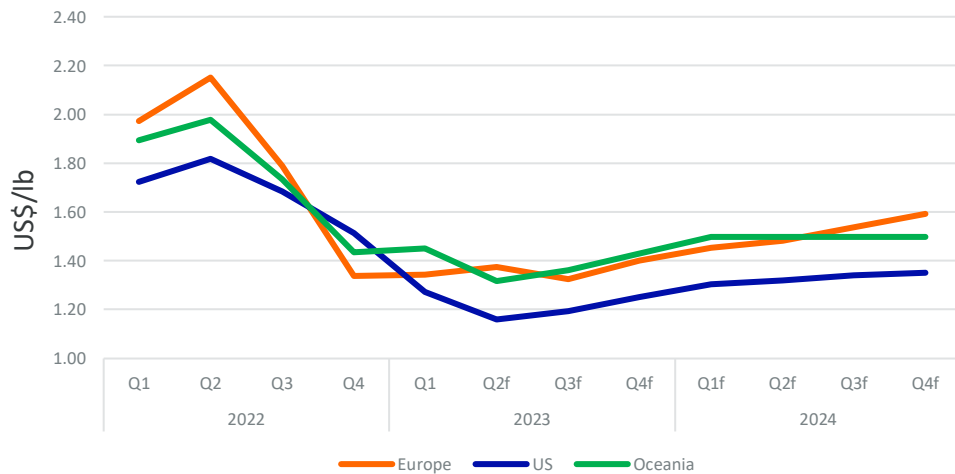
Butter Forecast



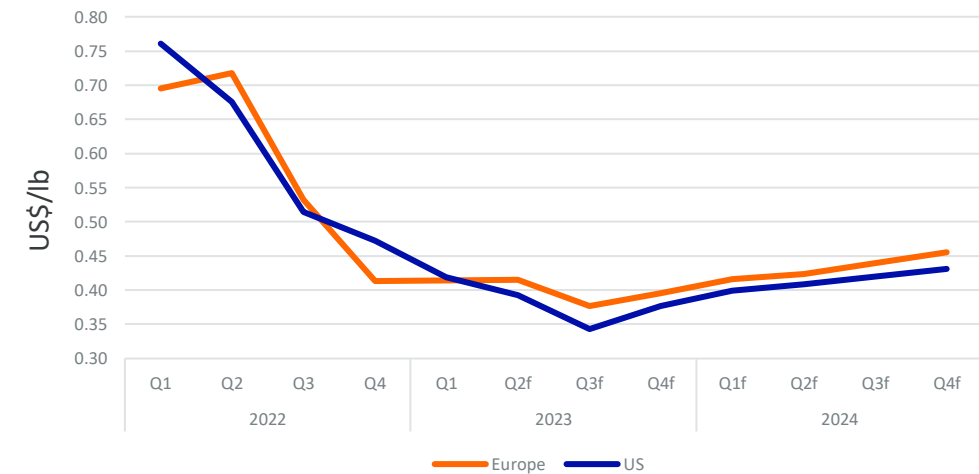
Cheese Forecast



Skim Milk Powder Forecast



Dry Whey Forecast



Presenting



LOOK FOR THE SEAL.
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Hospitality



Gold



Silver



Bronze

