MREC Conference
2023 Dairy Outlook

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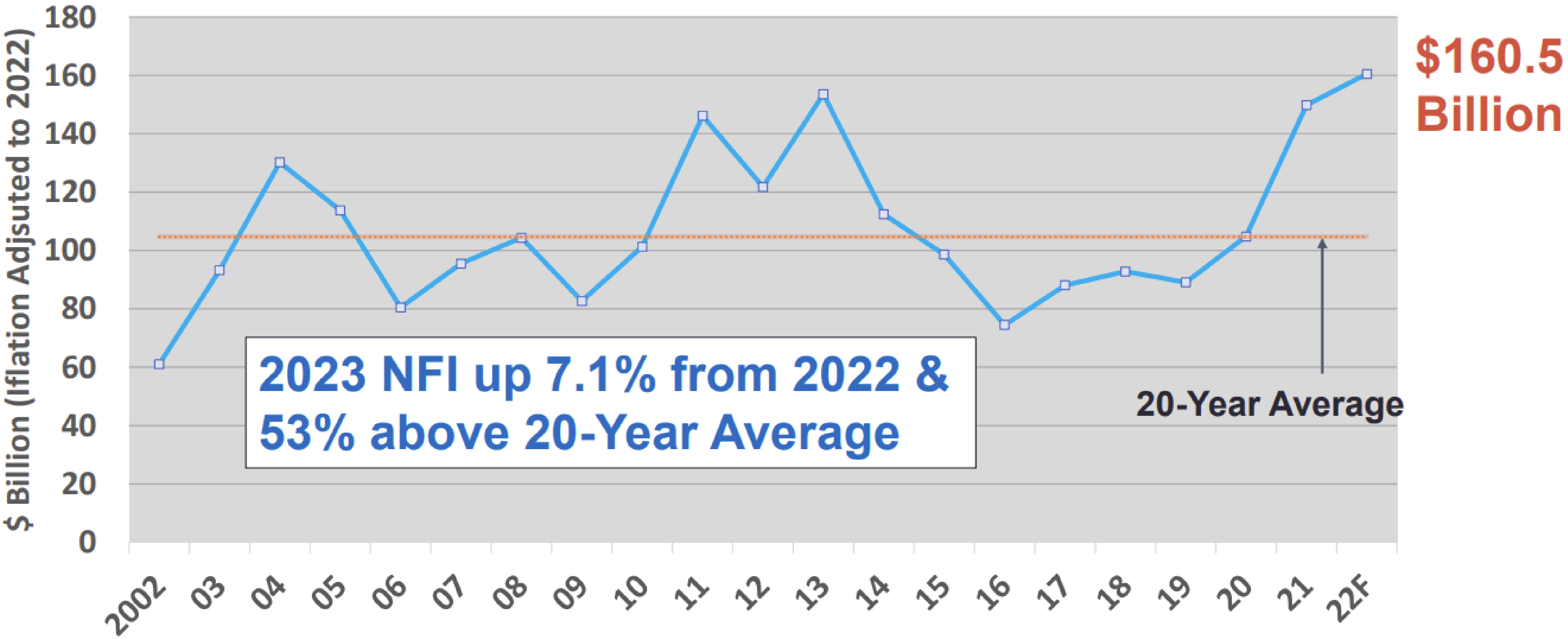
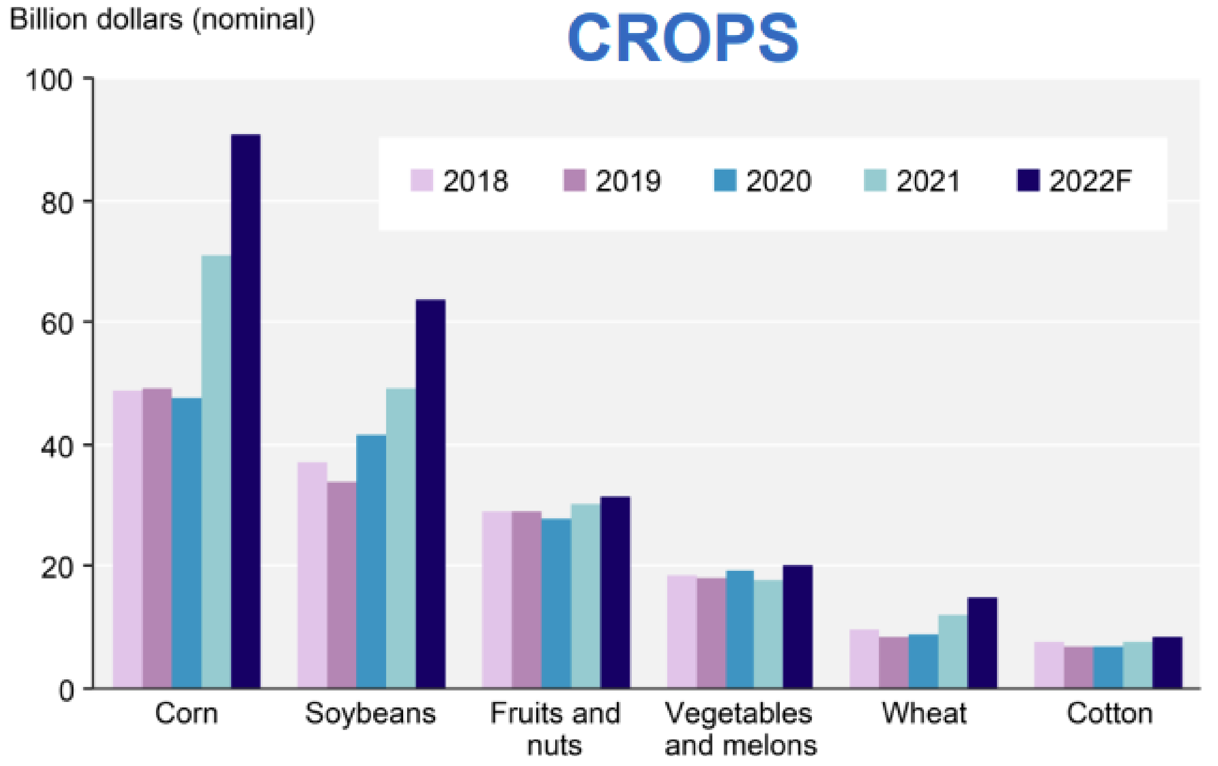
US Net Farm Income 2002-2022F



% Change Cash Receipts 2022 vs 2021 and 2020

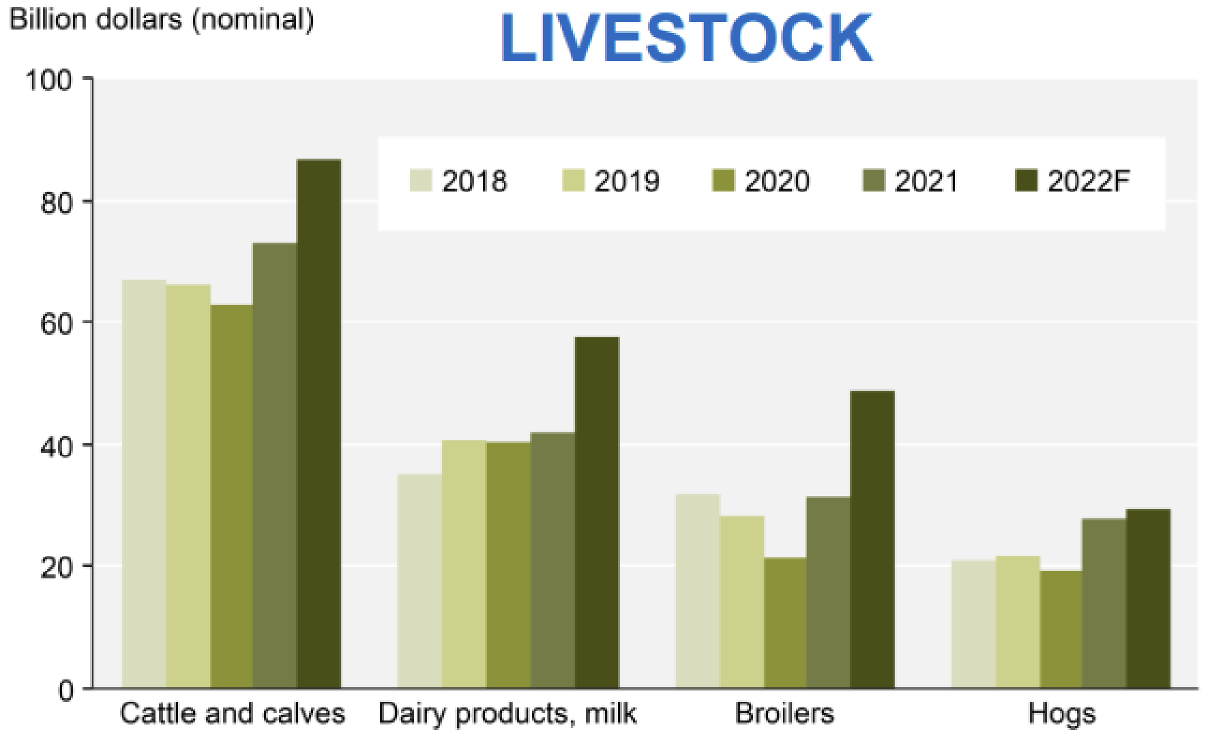
Comparison	Corn	Soybean	Dairy	Cattle
2022 vs 2021	+28%	+30%	+38%	+19%
2022 vs 2020	+90%	+54%	+43%	+38%

U.S. cash receipts for selected crops, 2018–22F



Note: F = forecast.
Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.
Data as of December 1, 2022.

U.S. cash receipts for selected animals/products, 2018–22F



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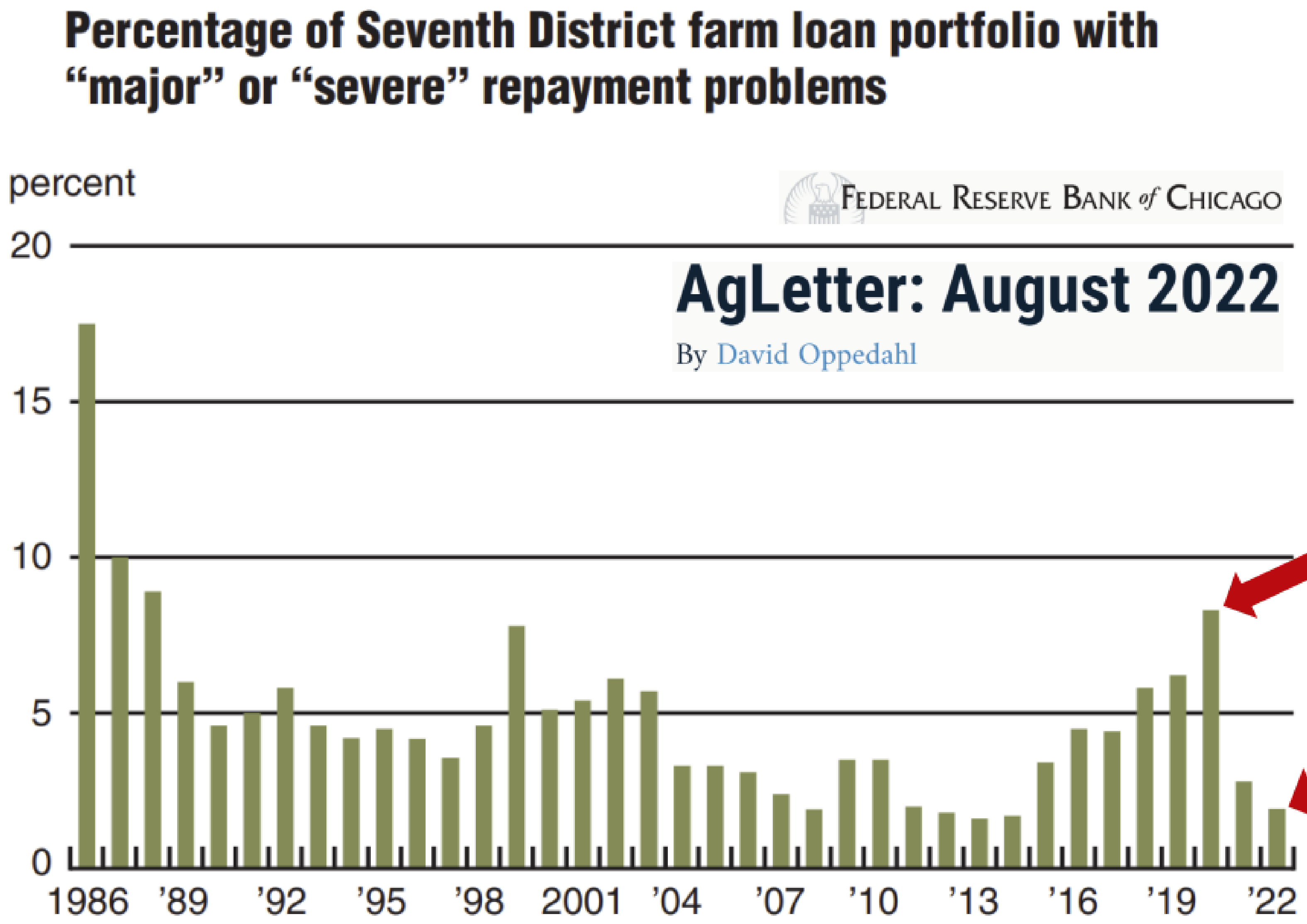
Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.
Data as of December 1, 2022.

https://www.ers.usda.gov/topics/farm-economy/farm-sector-income-finances/farm-sector-income-forecast/

Farmers Continue to Pay Down Debt



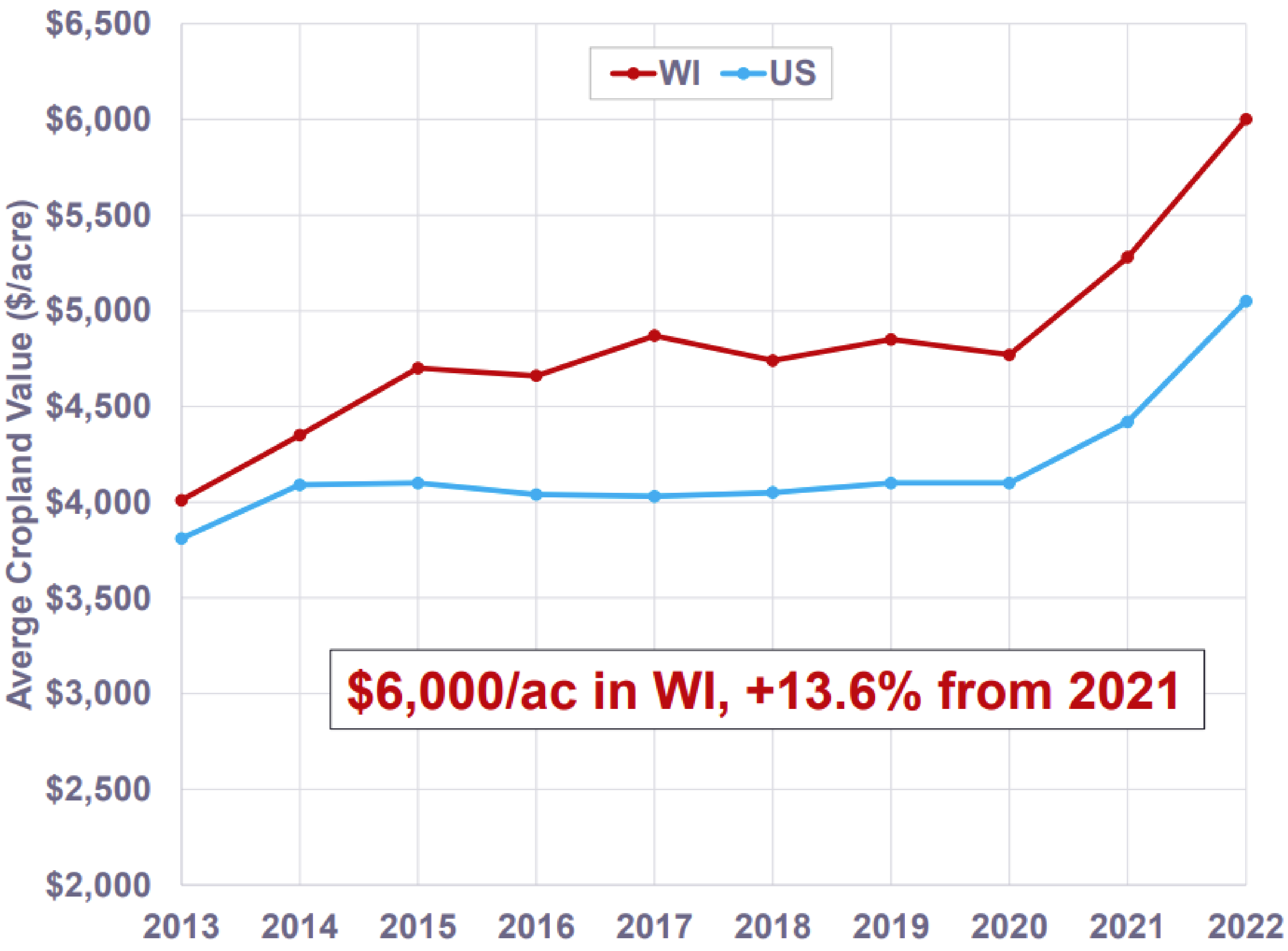
2020: Highest rate of repayment problems since the 1980's

2022: lowest since 2014

https://www.chicagofed.org/publications/agletter/2020-2024/august-2022

Average Cropland Values 2013-2022

- After several years of steady land values, rapid rise in 2021-2022



USDA NASS Aug 2022: https://www.nass.usda.gov/Publications/Todays_Reports/reports/land0822.pdf

Where Does This Place Farmers Financially?

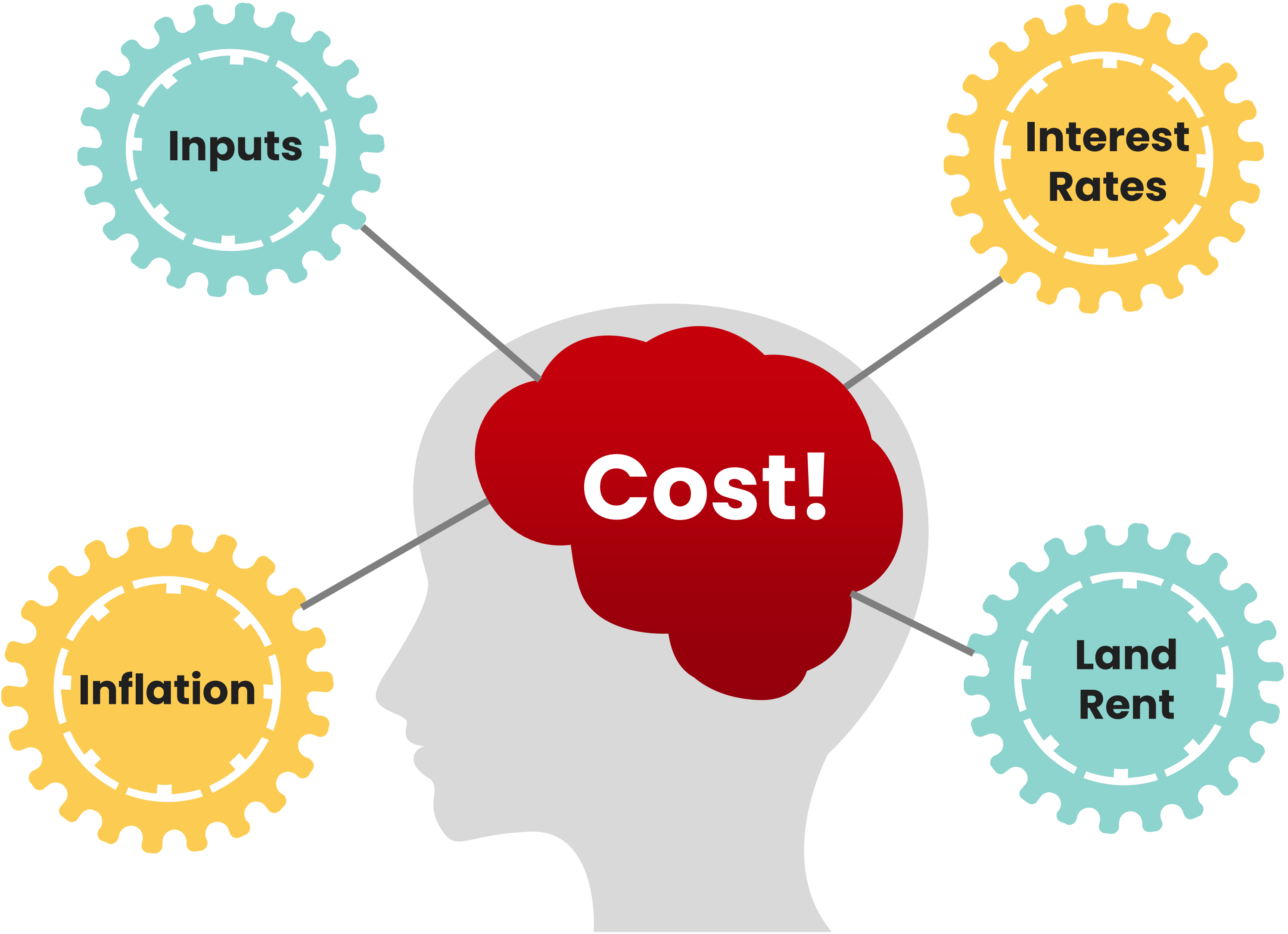
2 Years of High Income and Increased Land Values

Ave Farmer Going into 2023 In Solid Financial Position

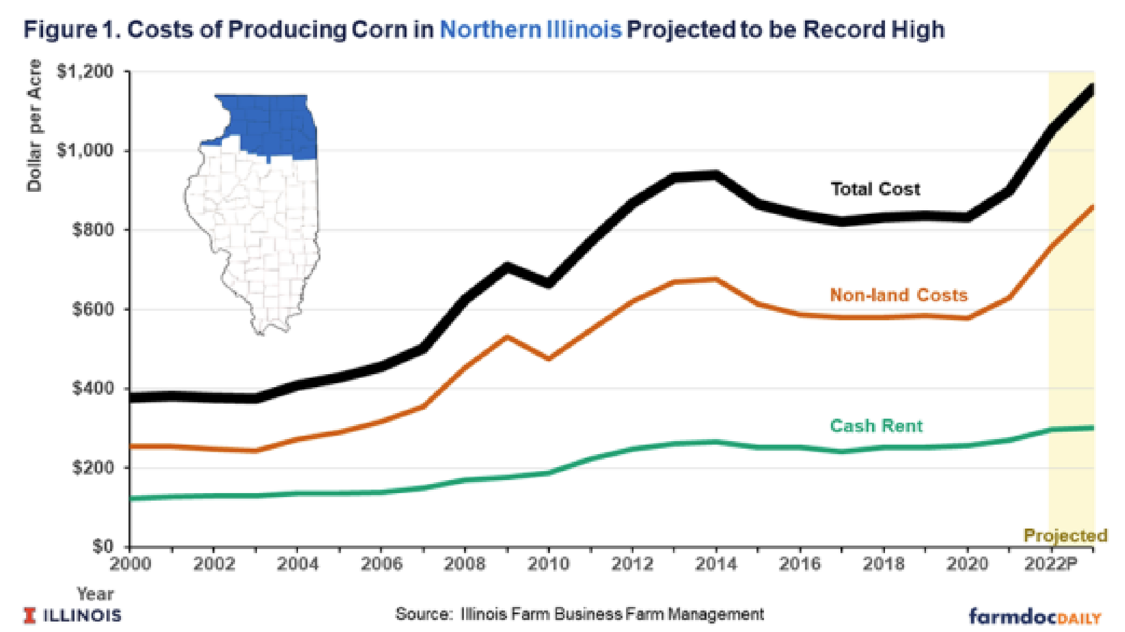
Increased Equity on Balance Sheet

Debts paid down; loans refinanced with low interest rates.

So, what is on Farmer's Minds?



Record Costs to Plant Corn and Soybean in 2023



	Corn	Silage	Soybean	Rent
UW	$1,017	$1,134	$696	$185
ISU	$1,091	$1,310	$758	$296
NIL	$1,168	--	$820	$301
Breakeven Prices				
UW	$5.81	$60.65	$13.39	
ISU	$5.50	$50.39	$11.66	
NIL	$5.38	--	$12.62	

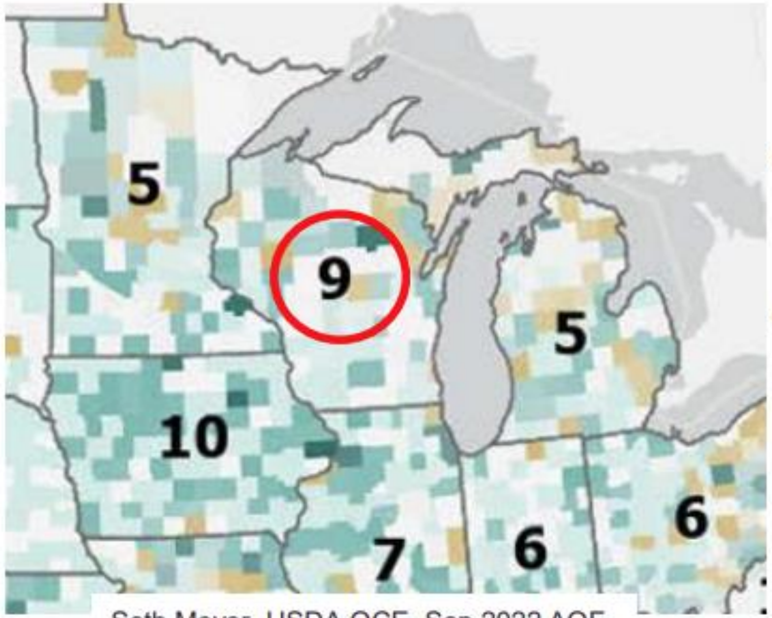
- UW: https://cropsandsoils.extension.wisc.edu/article-topic/economics-budgets-financial/
- ISU: https://www.extension.iastate.edu/agdm/crops/html/a1-20.html
- IL-N: https://farmdocdaily.illinois.edu/2022/12/revised-2023-crop-budgets.html

Crop costs in 2023 are up 10% to 20% from 2022

Division of Extension
University of Wisconsin-Madison

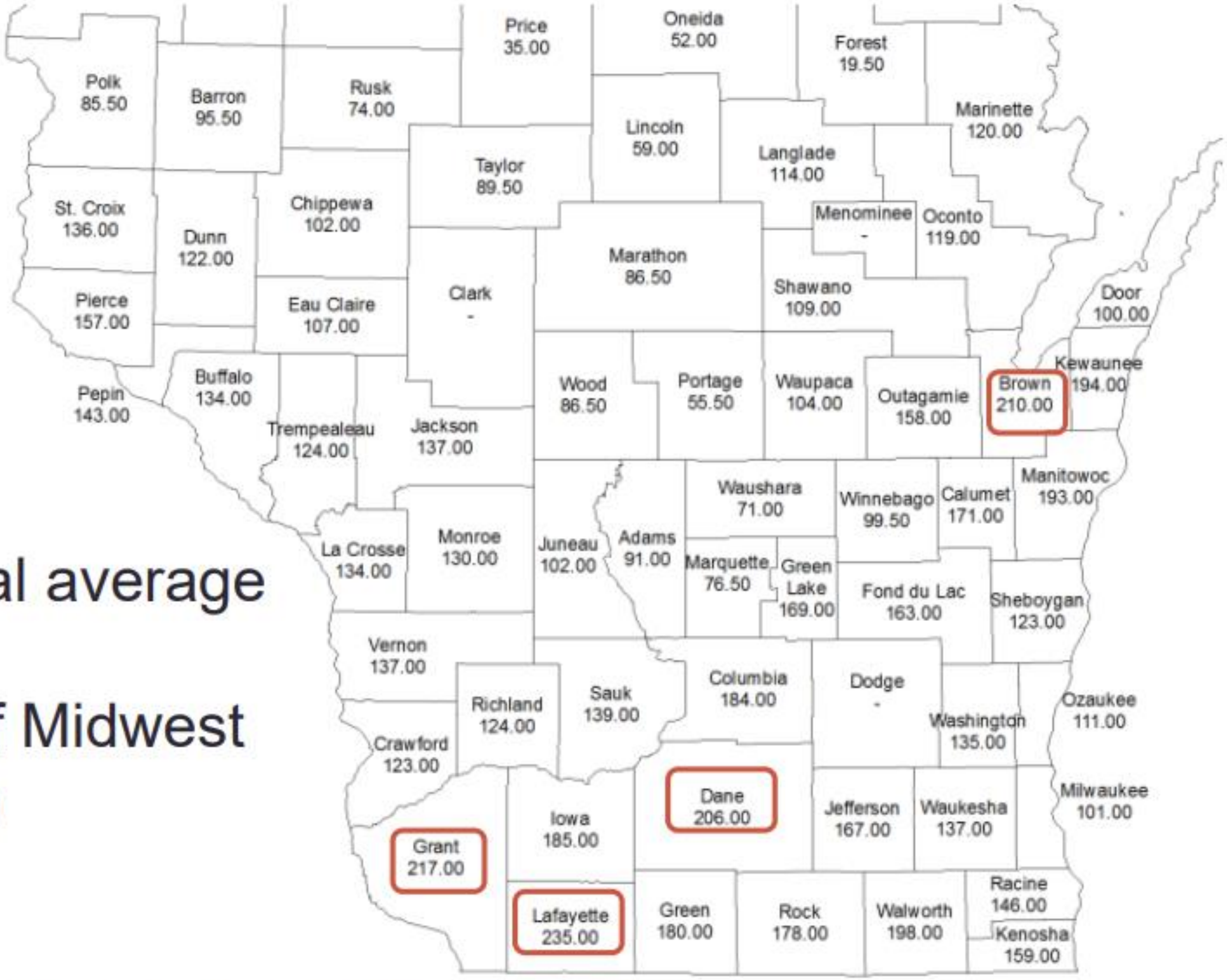
Land Rents up all over the Midwest

- WI average $145/ac in 2022, up 9%
- WI irrigated average $250/ac, up 5.5%



Seth Meyer, USDA OCE, Sep 2022 AOF
http://www.agbizkc.com/agoutlookforum

- National average +5.5%
- Most of Midwest 5%-7%



USDA NASS Aug 26, 2022: https://www.nass.usda.gov/Statistics_by_State/Wisconsin/Publications/County_Estimates/2022/WI-CtyEst-Cash-Rent-08-22.pdf

Fun Fact

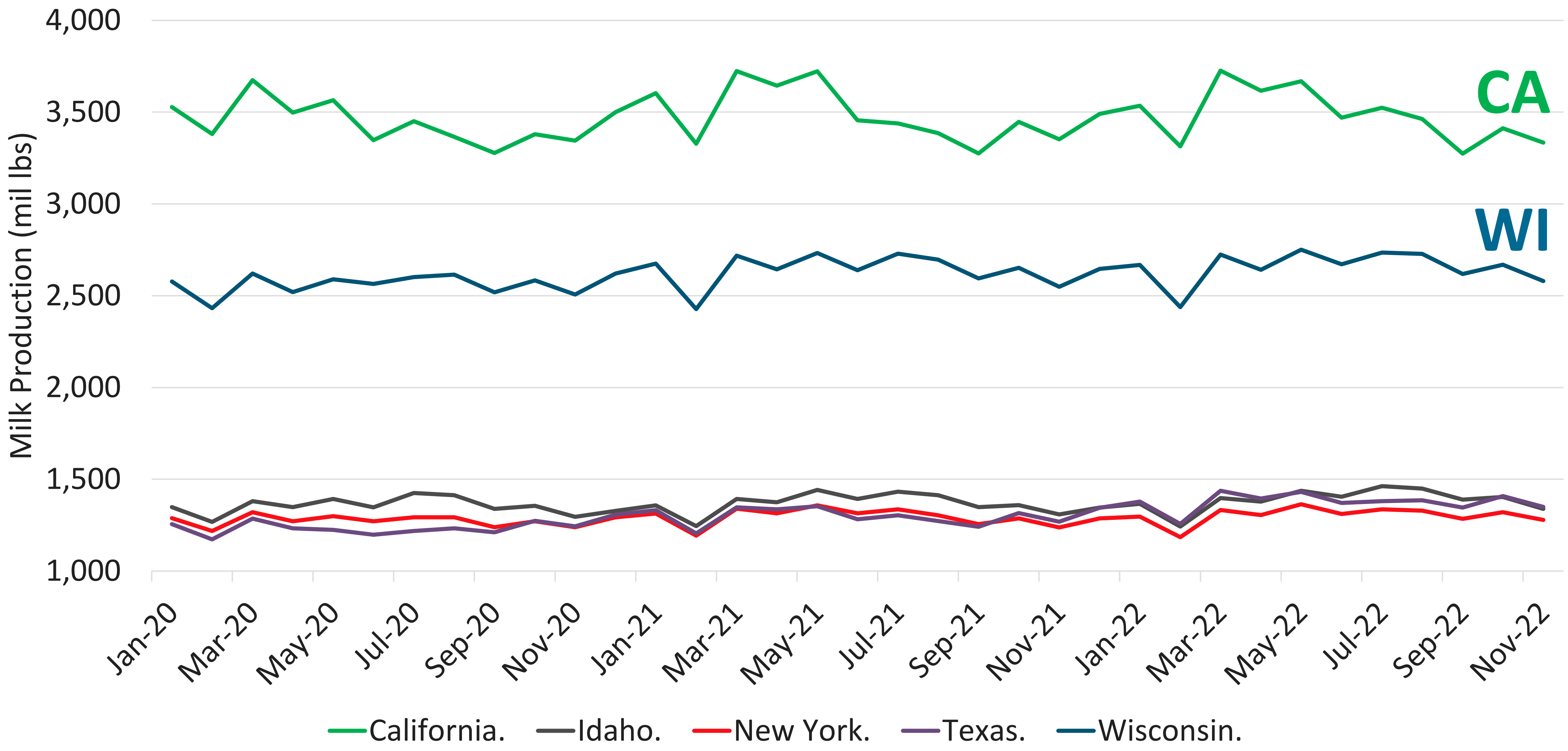
What state led the US in milk production in 2022?

Fun Fact

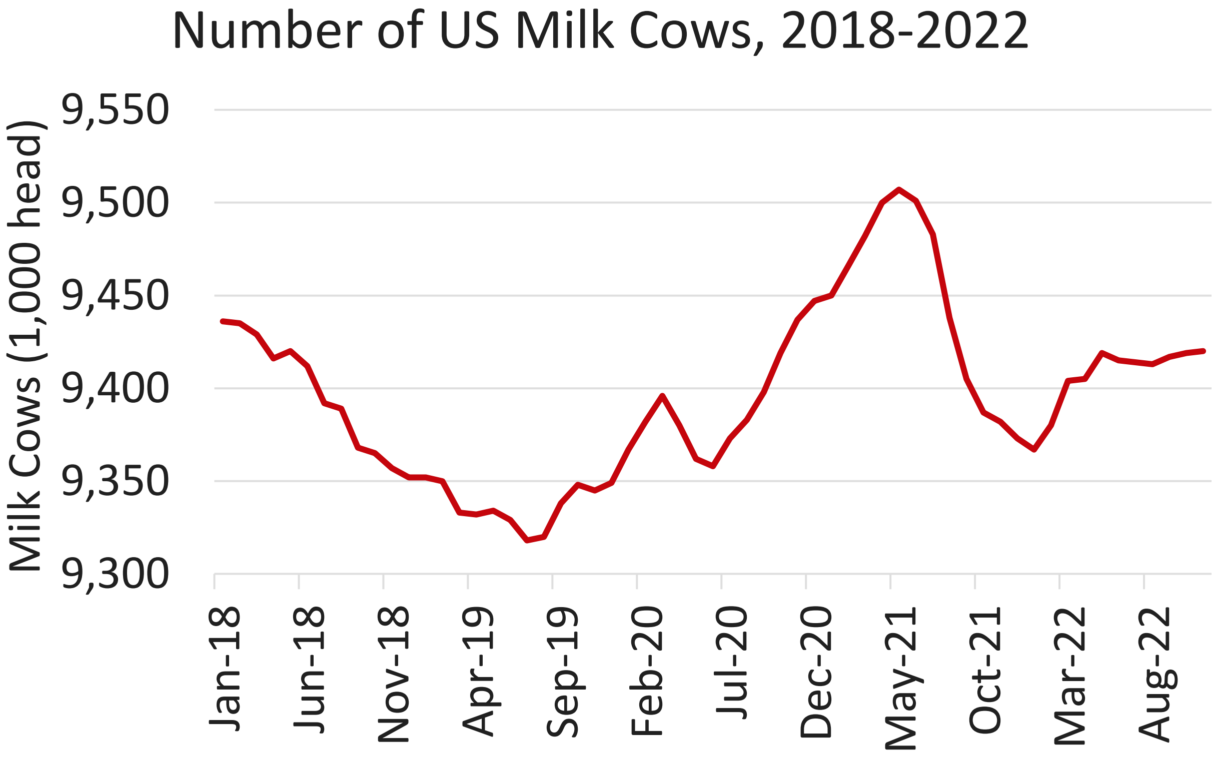
Answer:

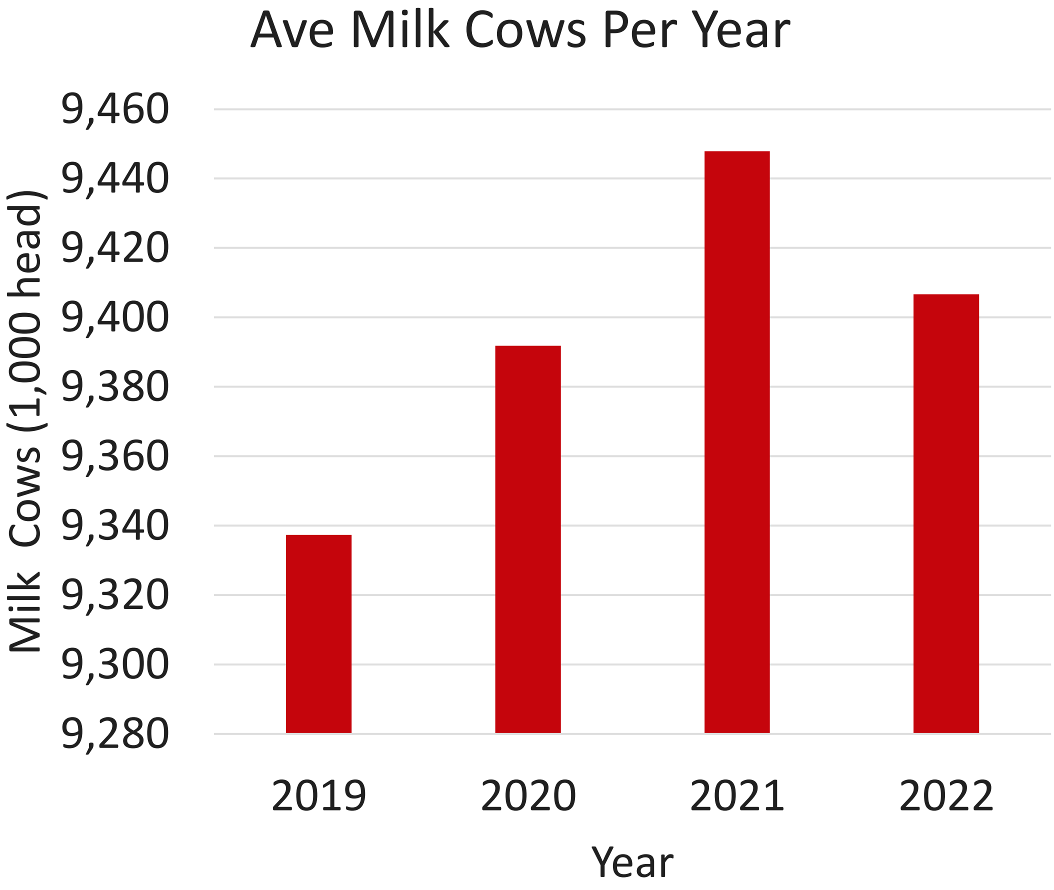
California

Top 5 Milk Producing States

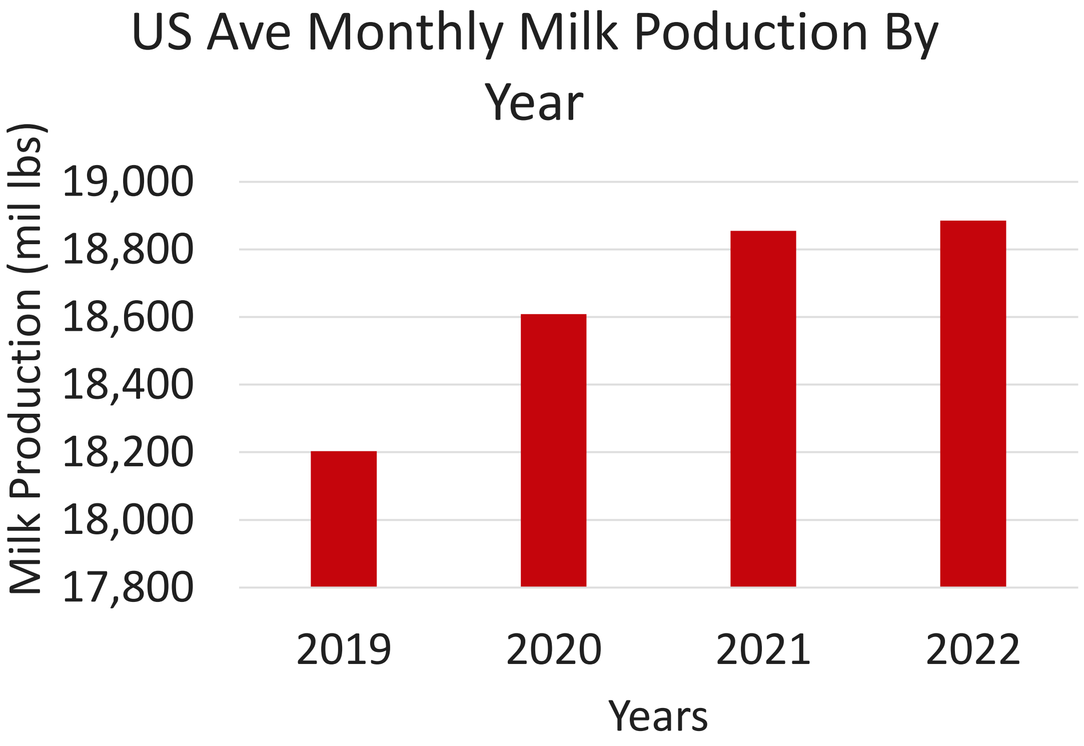


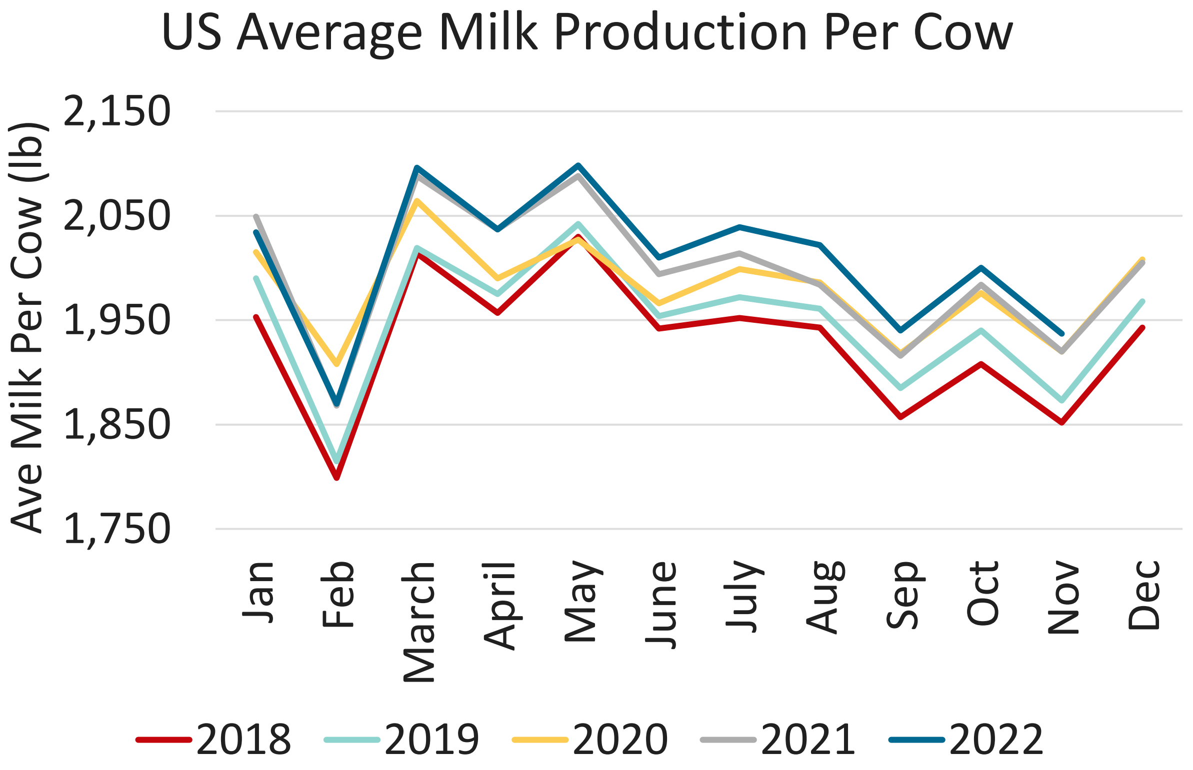
National Dairy Herd Cow Numbers



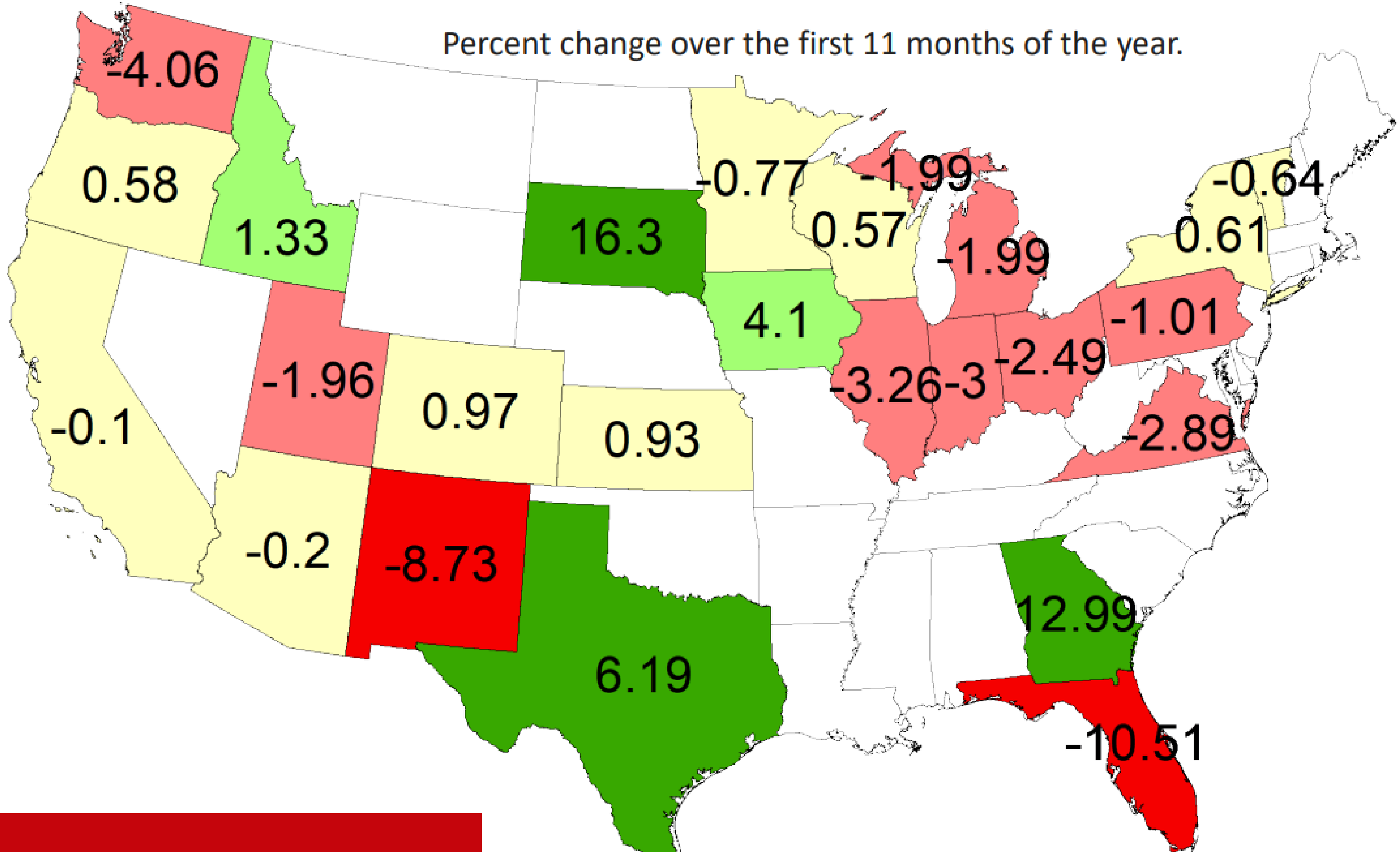


National Herd Milk Production and Production Per Cow



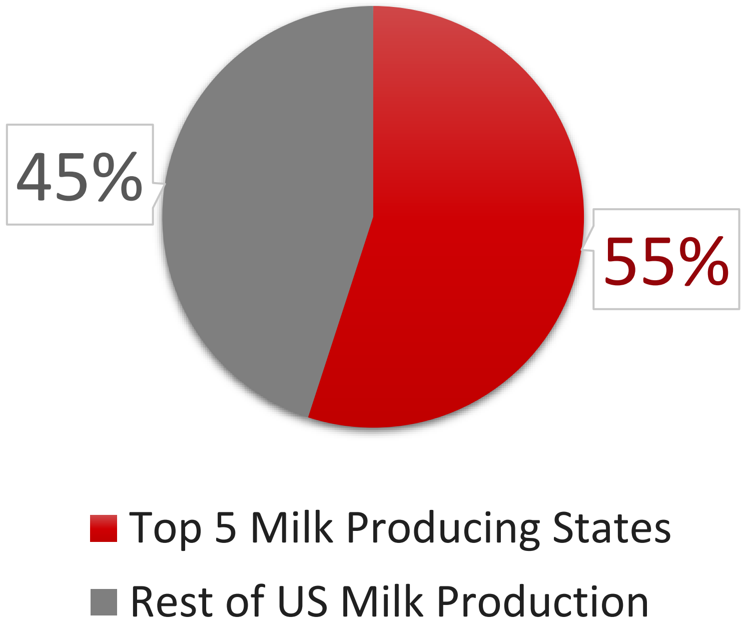


3 big gains, 2 big losses, but the "ups" carry the day

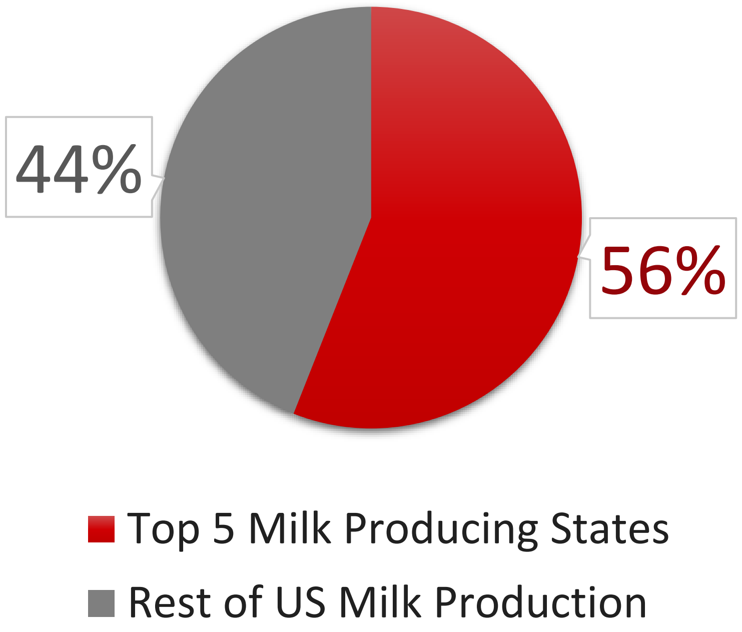


Top 5 Milk Producing States Percent of Total US Production

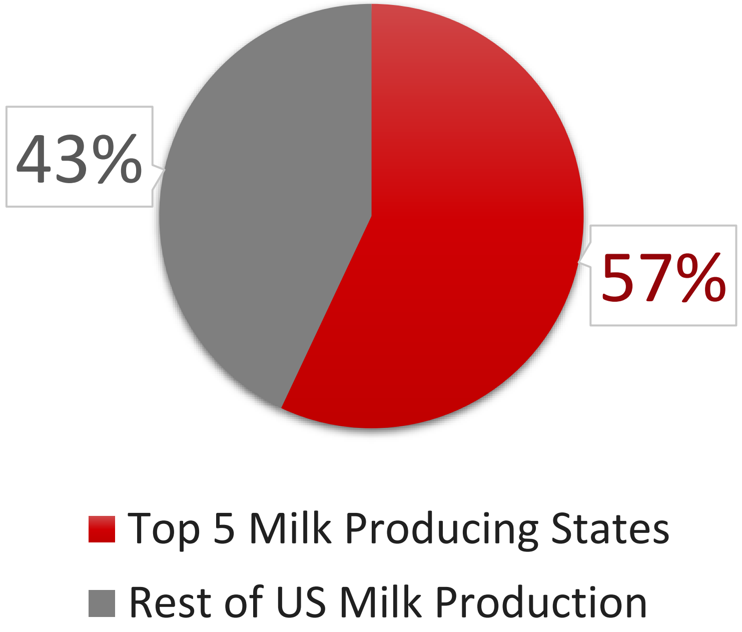
2018-2019



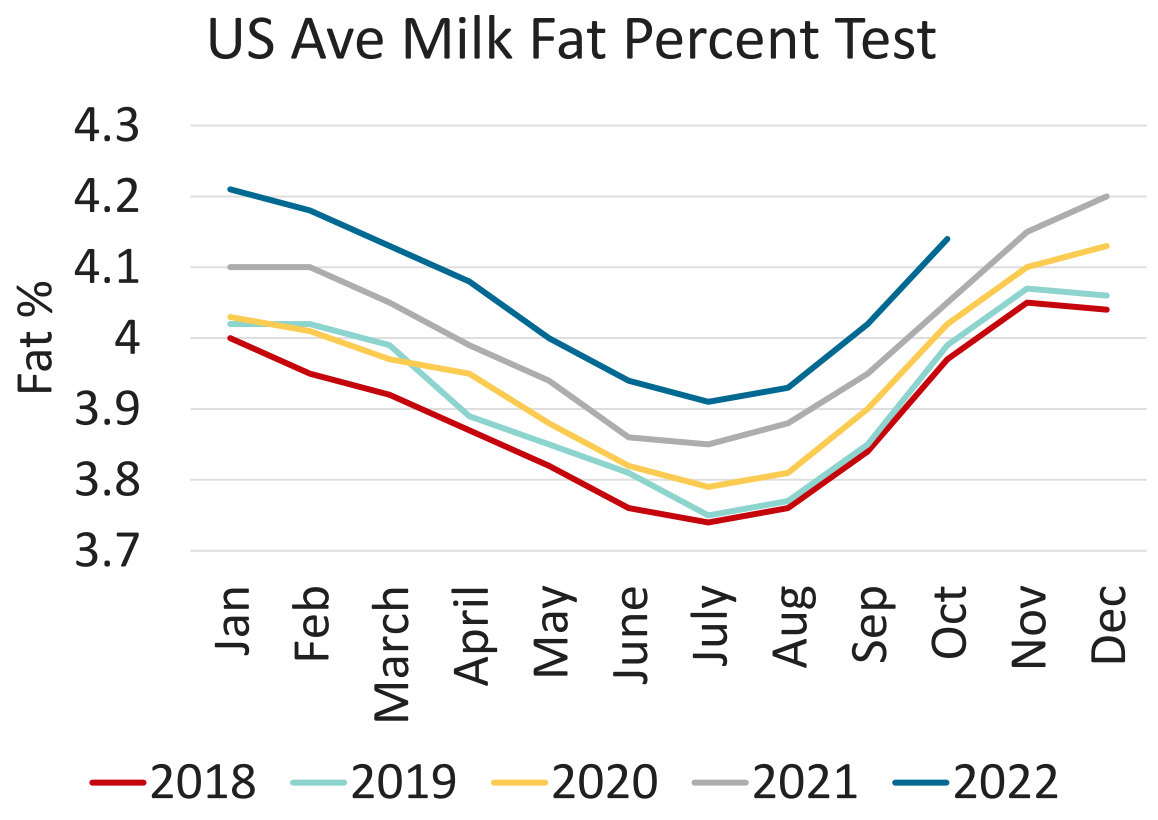
2020-2021

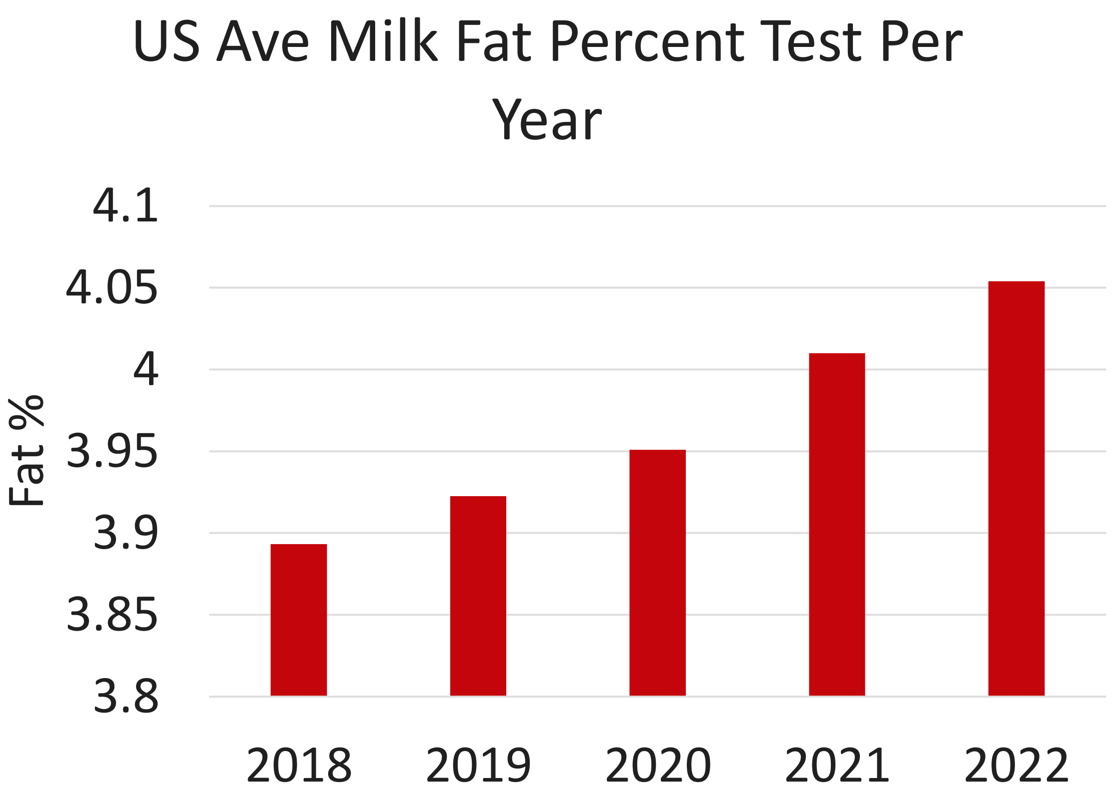


2022

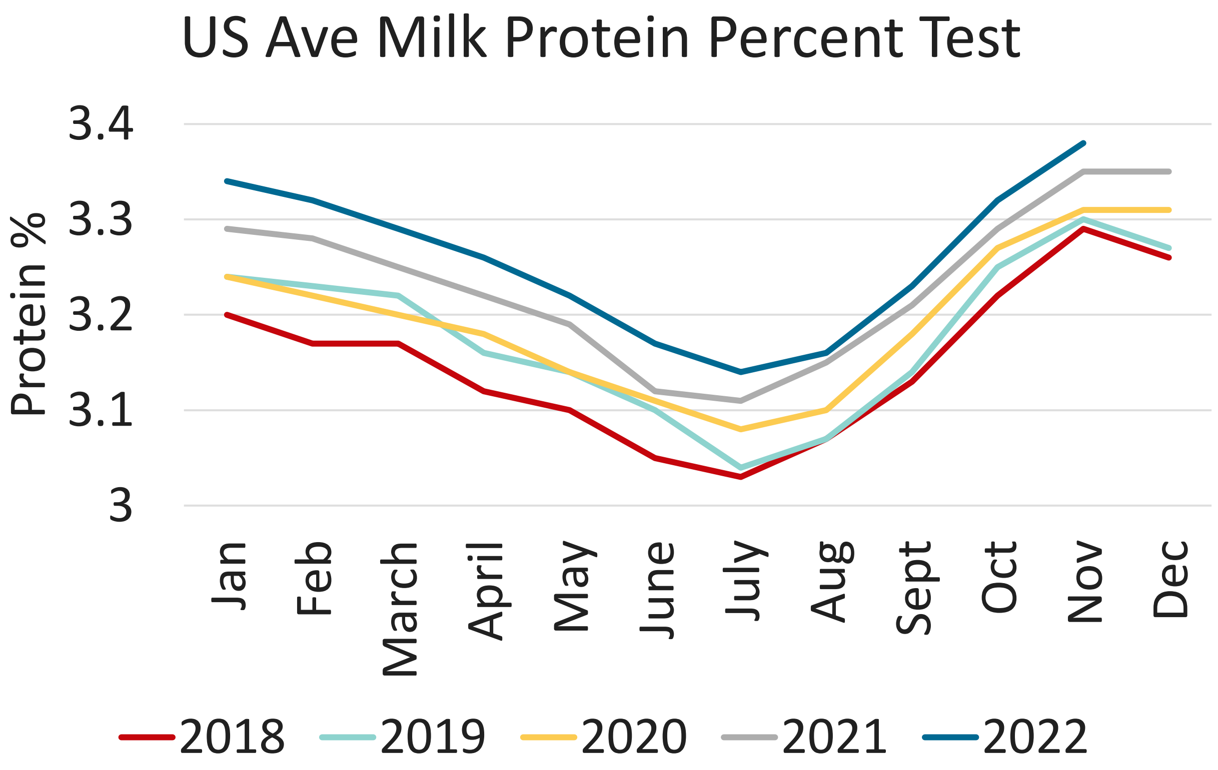


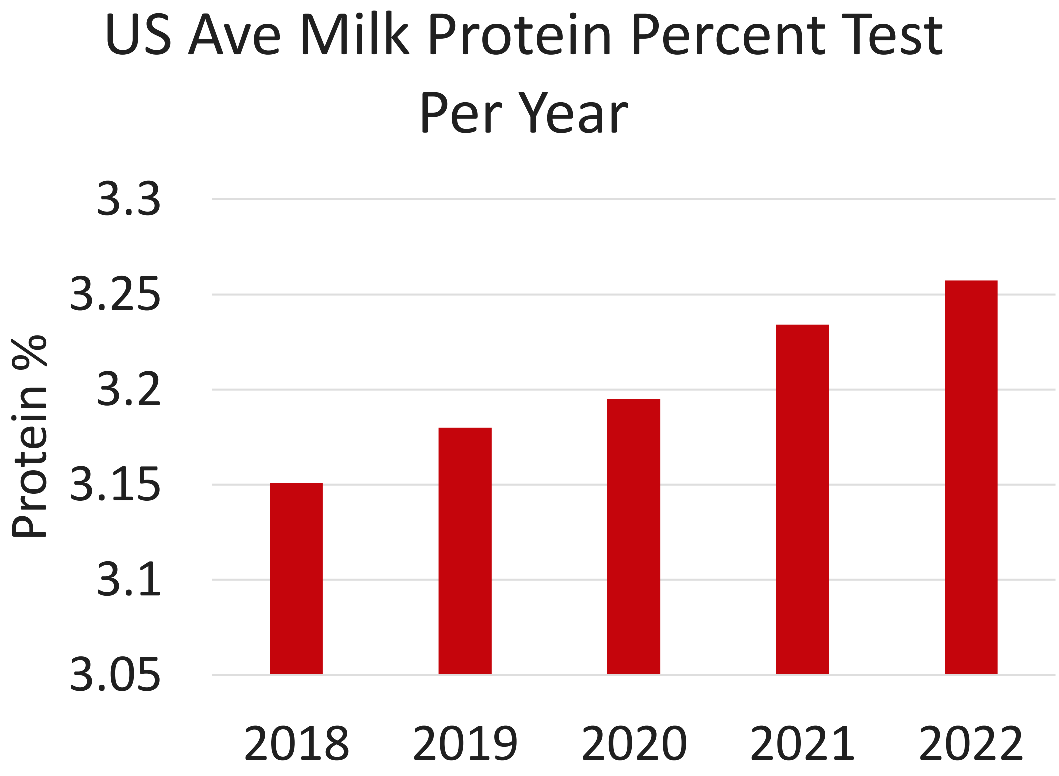
Components, Fat



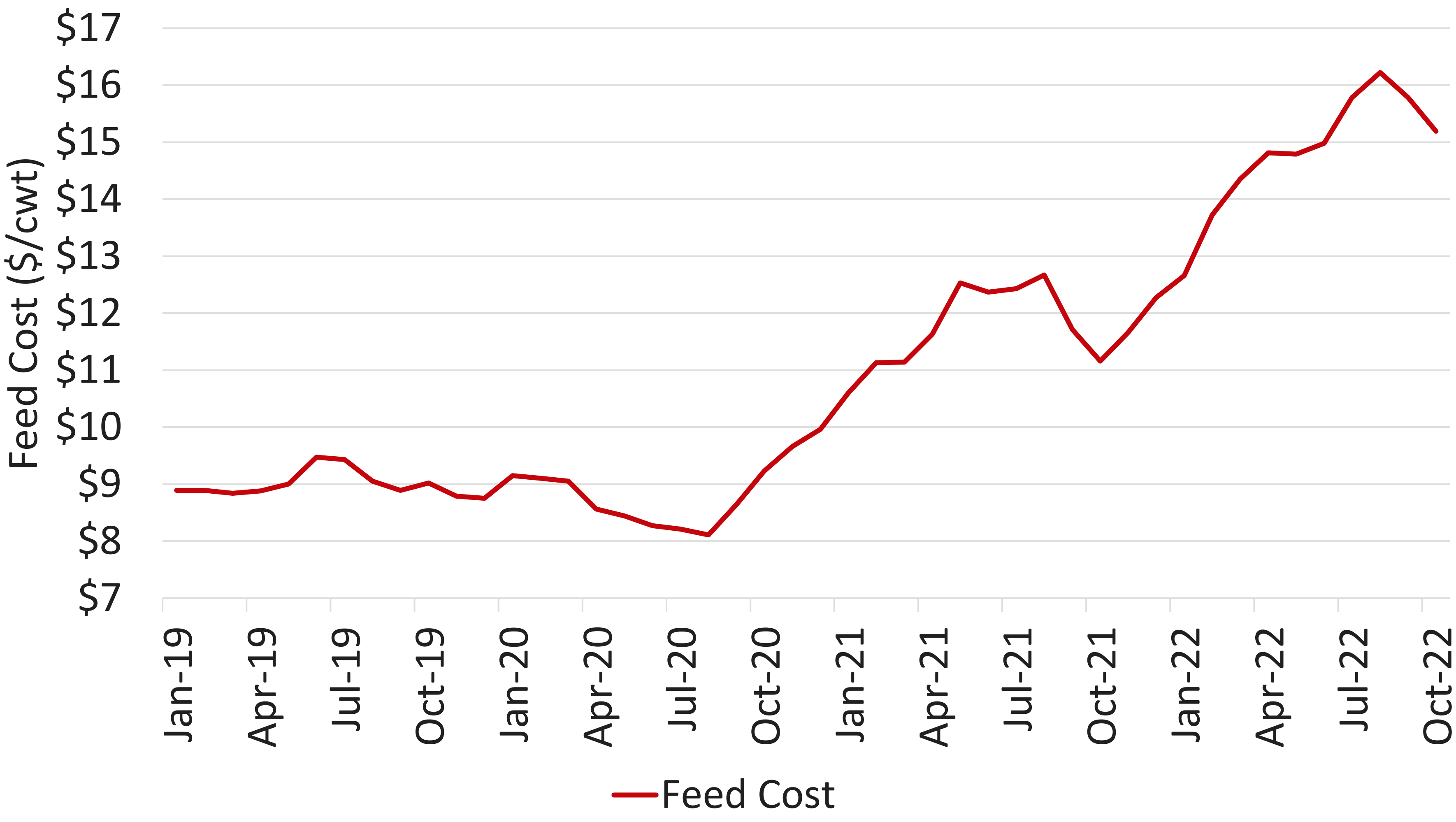


Components, Protein

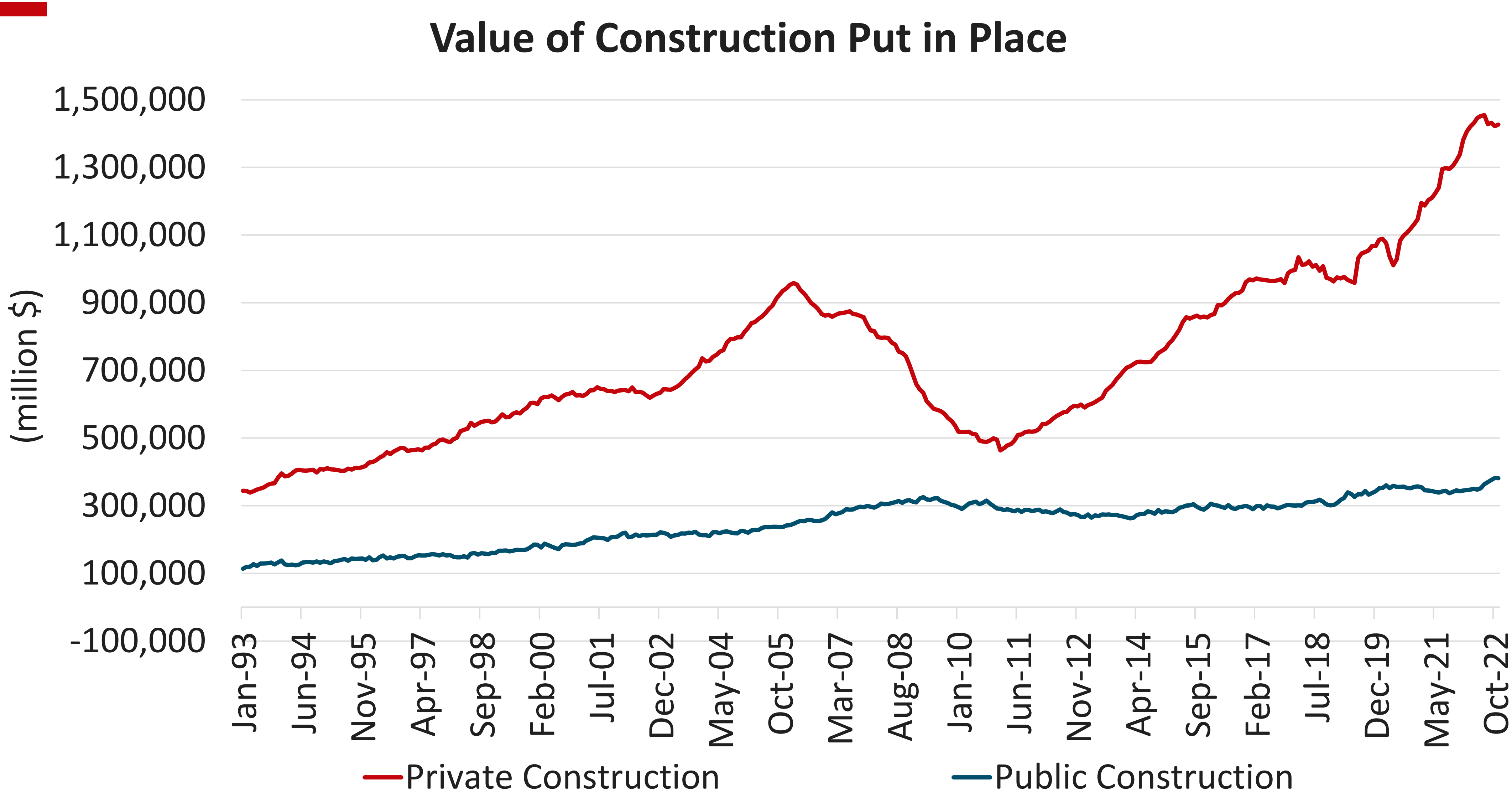




Limiting Factors… Feed Cost



Limiting Factors… Cost of Expansion



Where are these components going?

Fun Fact

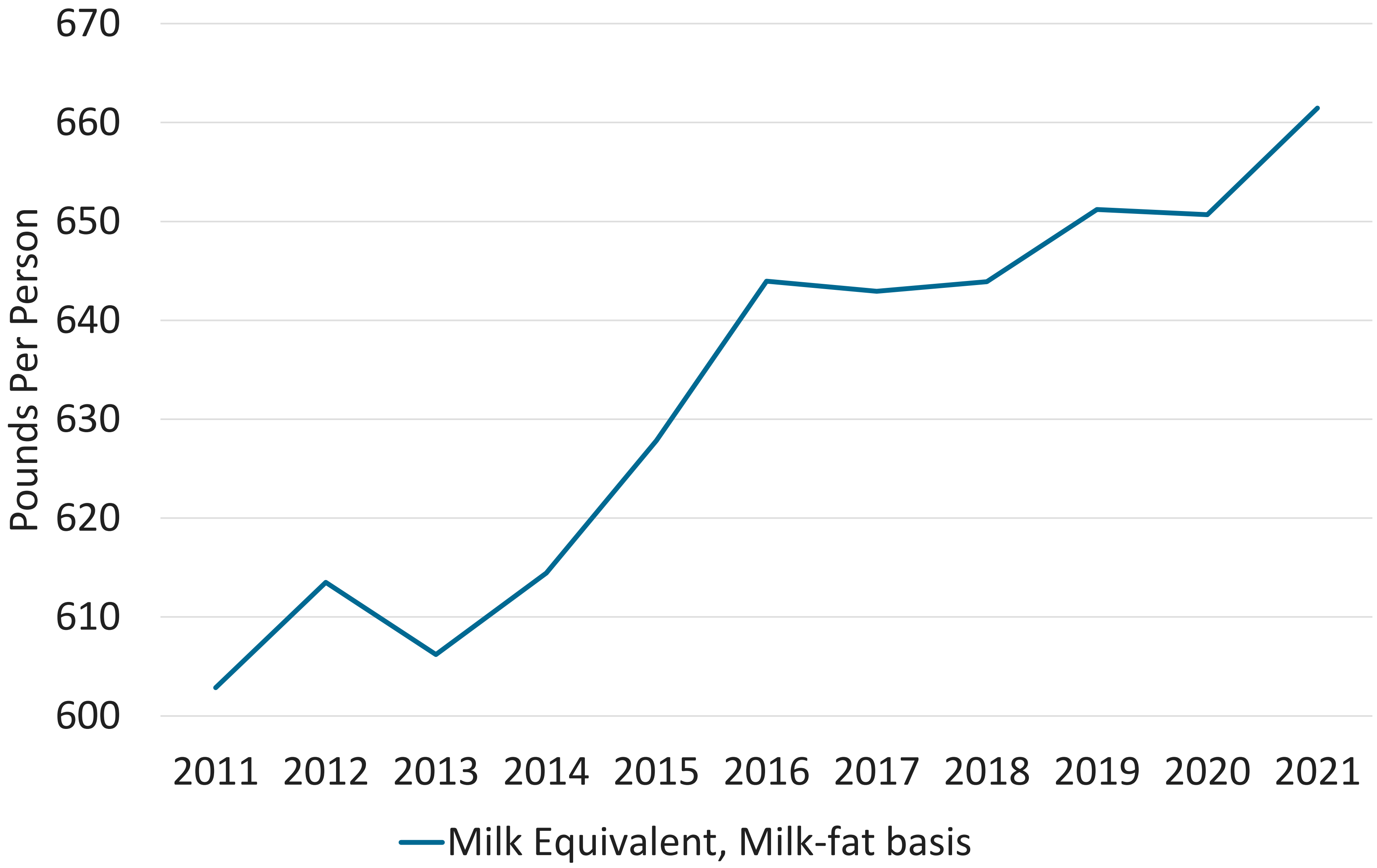
Is US per capita dairy consumption increasing, decreasing or unchanged?

Fun Fact

Answer:

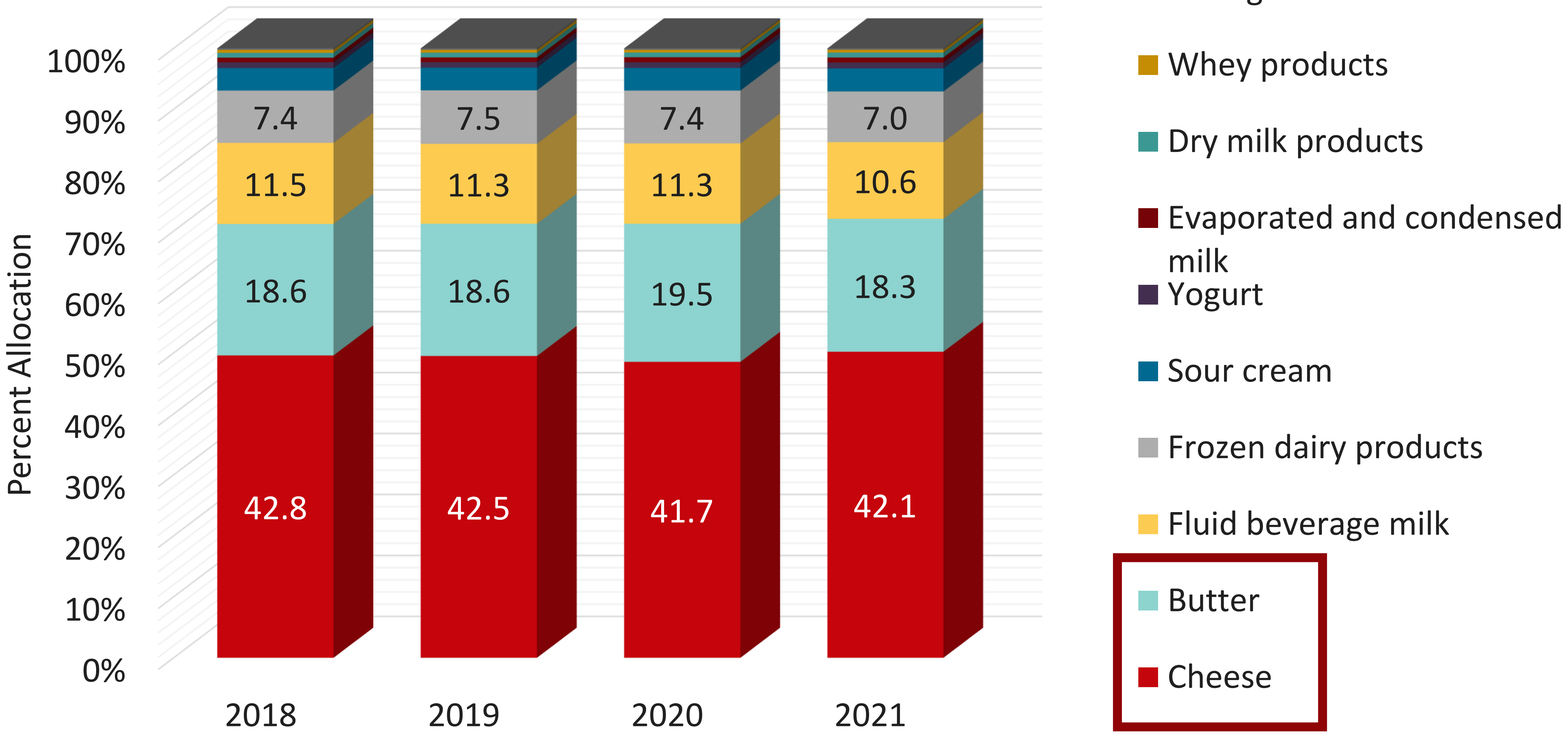
Consumption measured by ‘Milk Equivalents’ is increasing

Per Capita Consumption

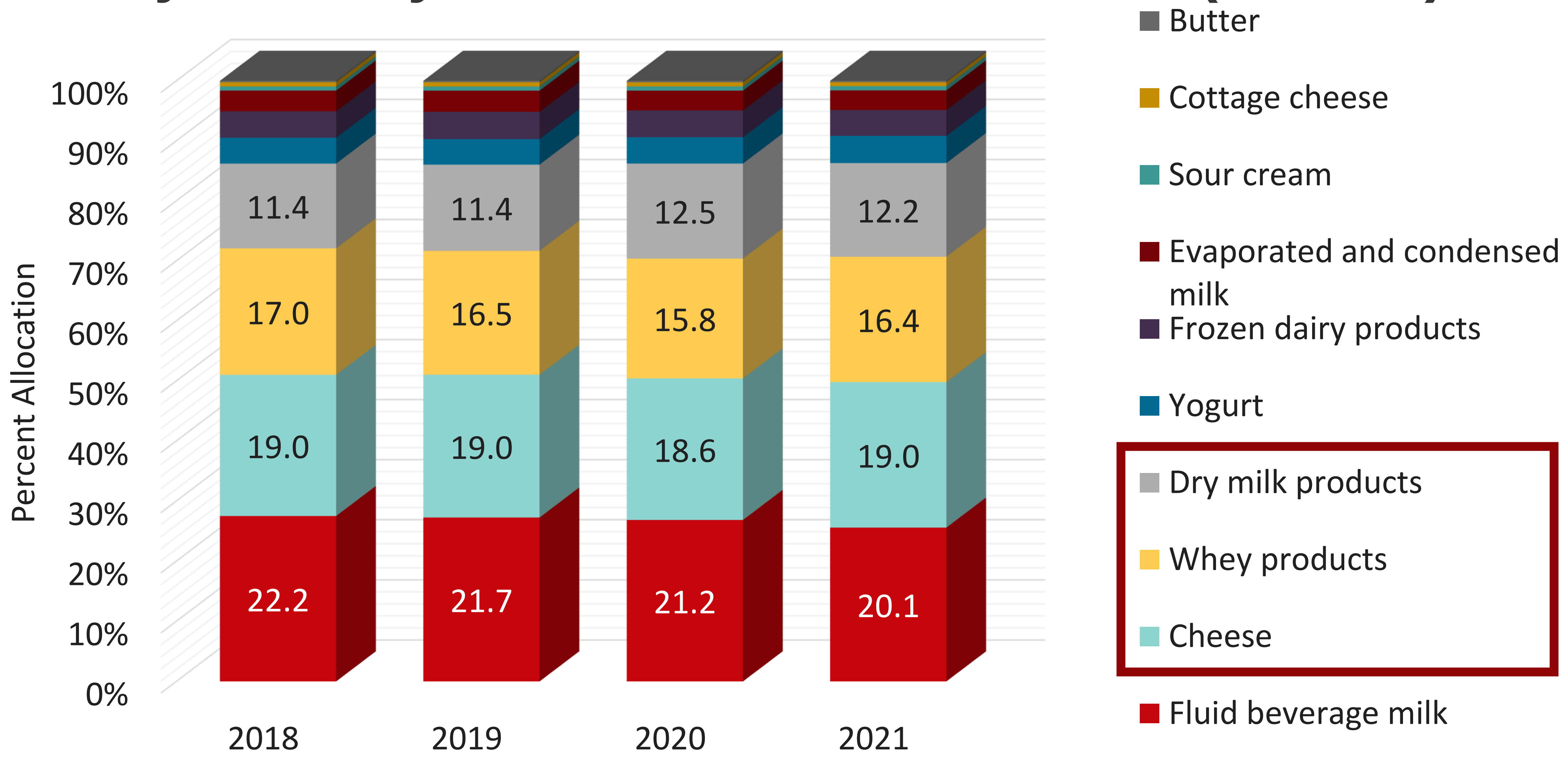


Ave of 3.65, 8 oz glasses of milk per day

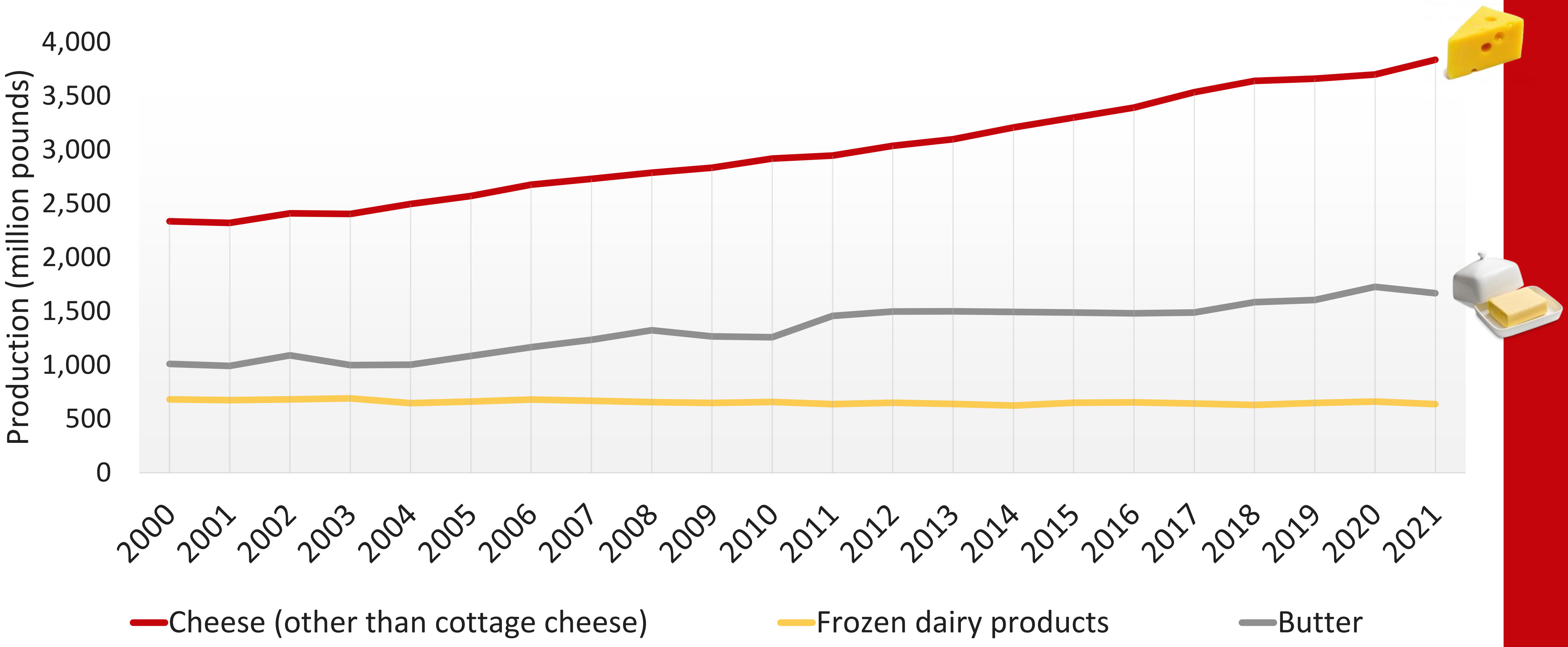
Dairy Industry Allocation of Milk Fat



Dairy Industry Allocation of Skim-Solids (Protein)

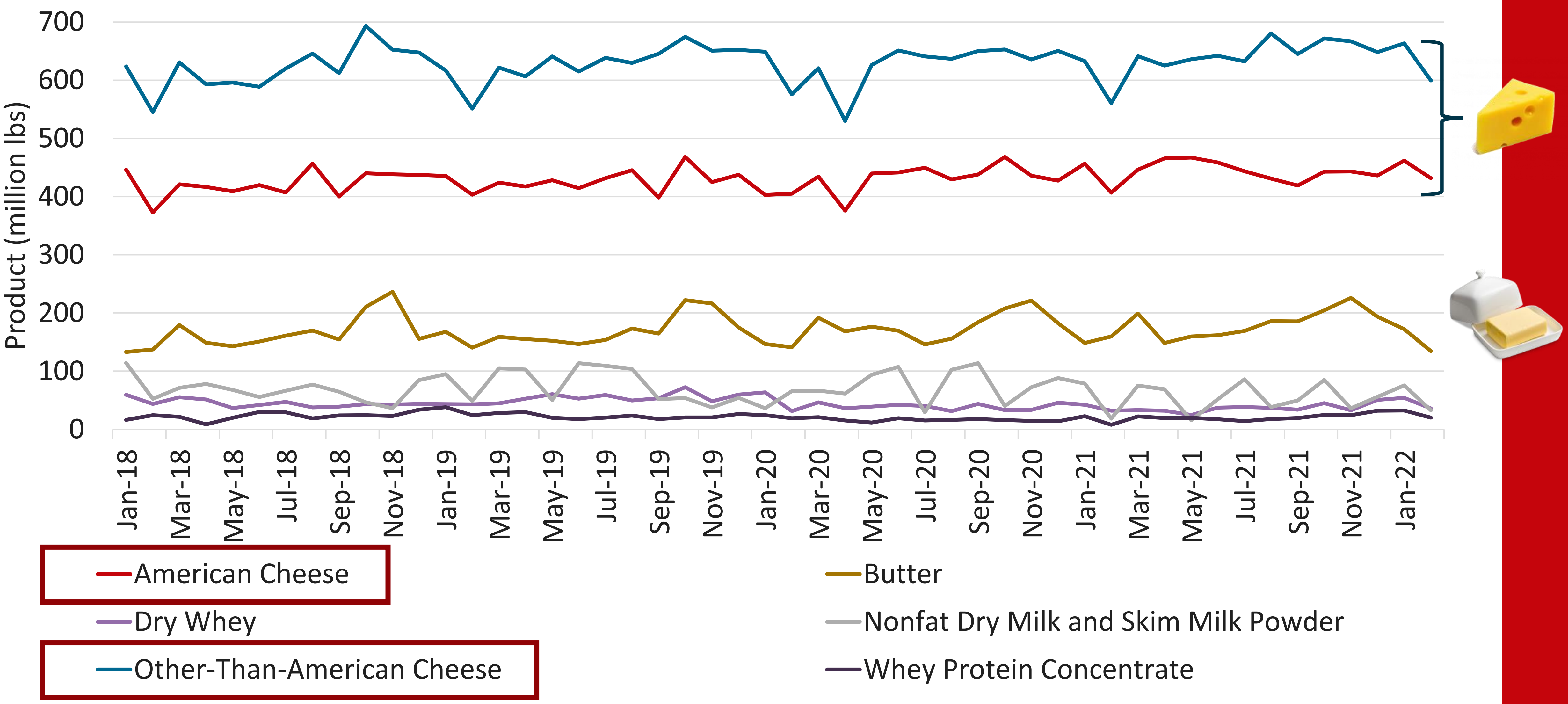


Dairy Industry Allocation of Milk Fat



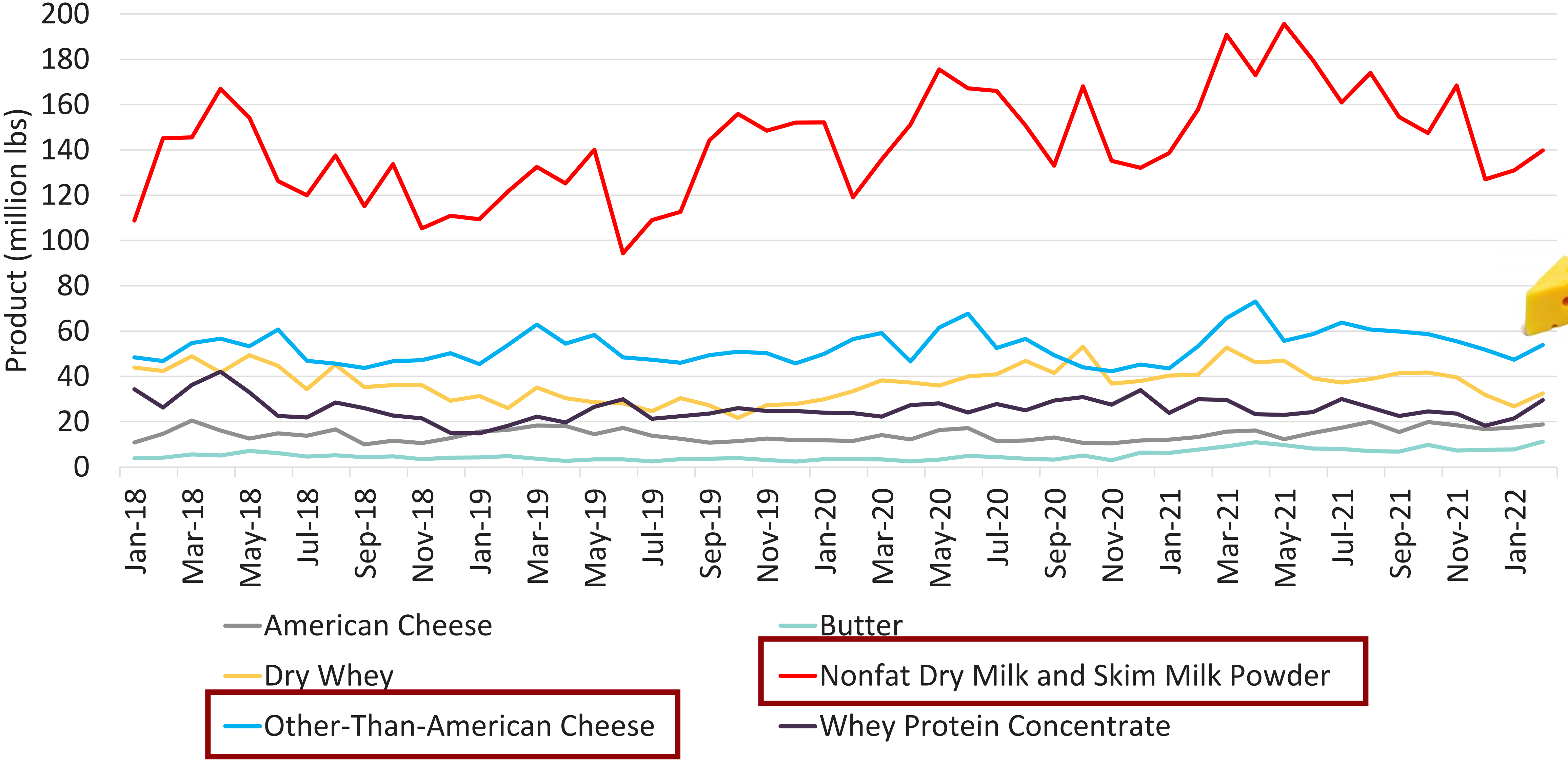
What happens to these products?

Domestic Disappearance by Product Volume

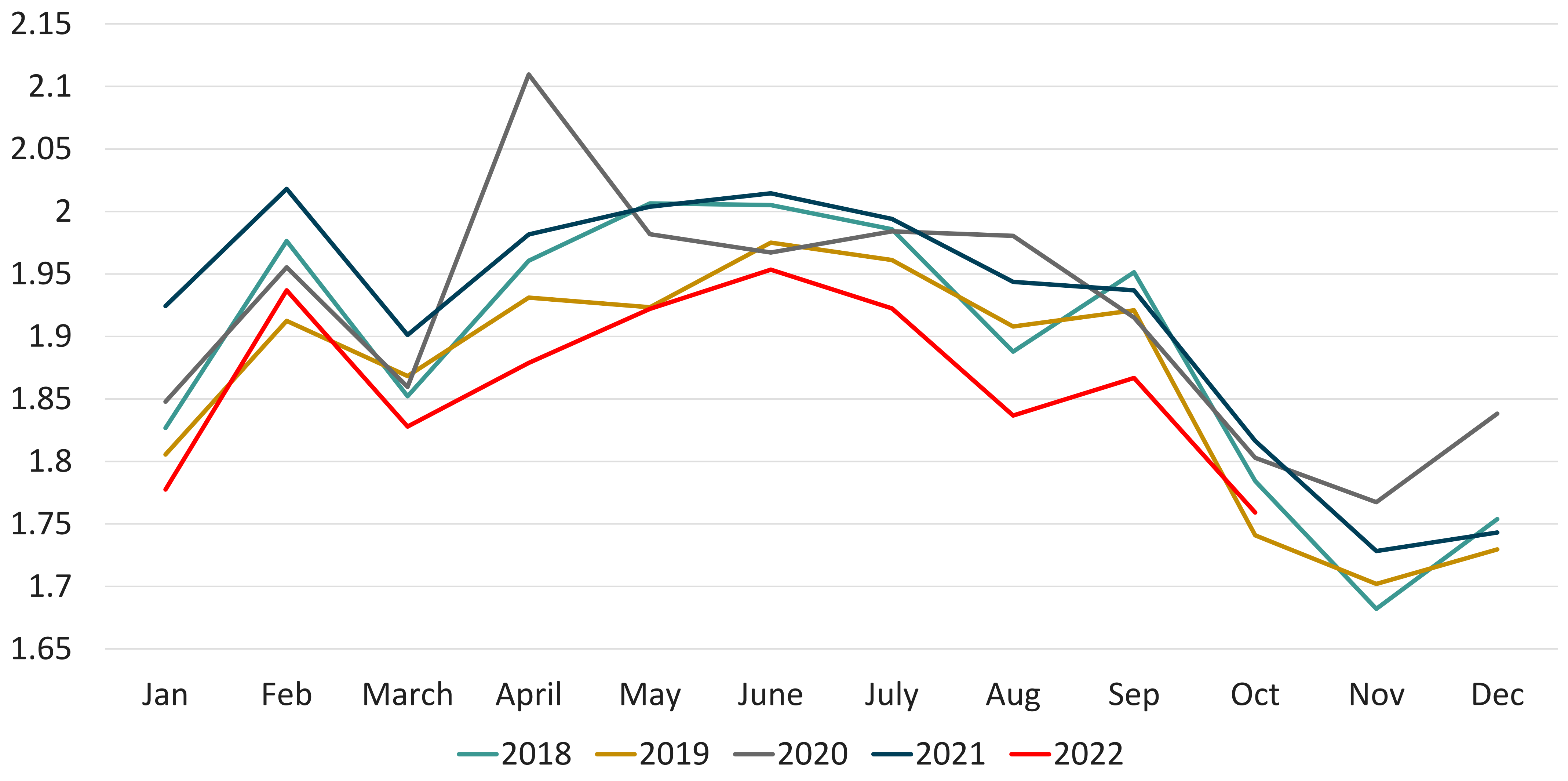


Export Volume by Product

(~18% of Total US Milk Solids Produced)



Milk Fat Coverage Ratio



Fun Fact

Which type of cheese had the largest increase in demand?

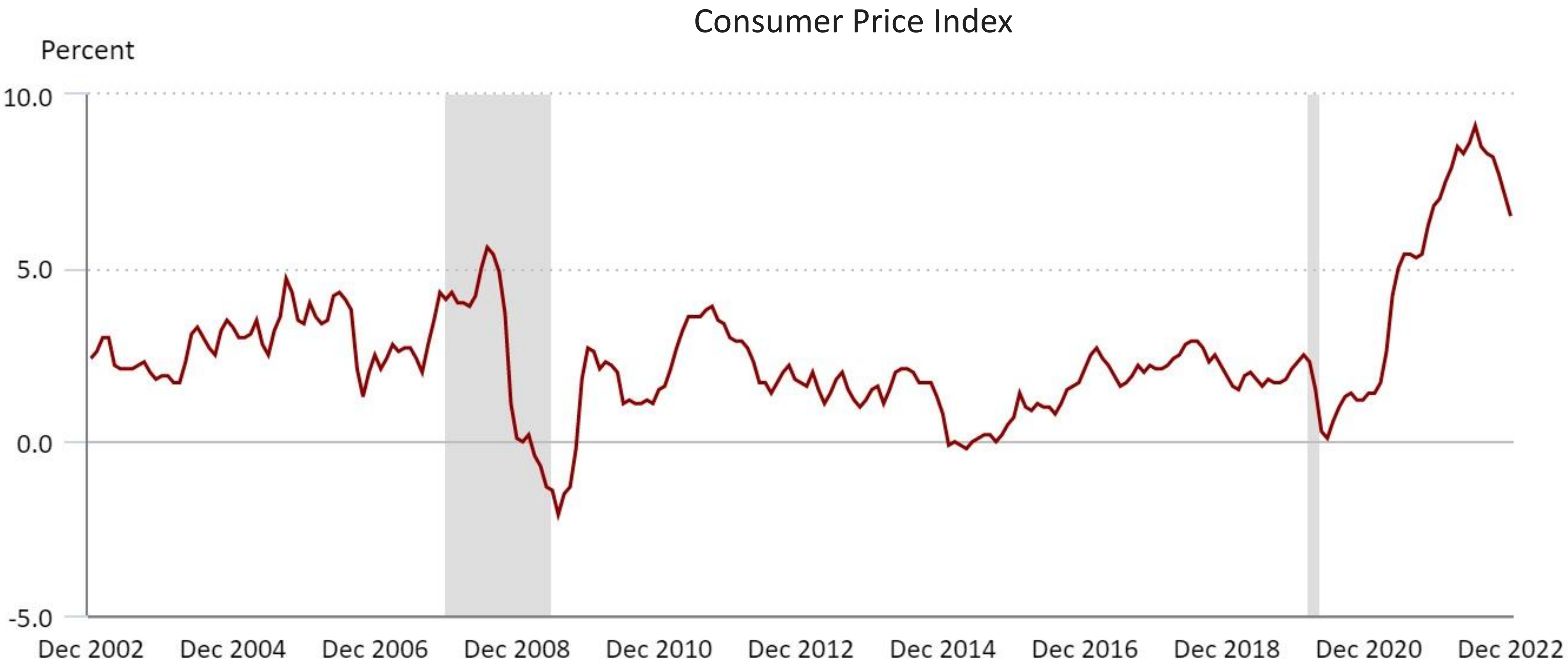
Fun Fact

Answer:

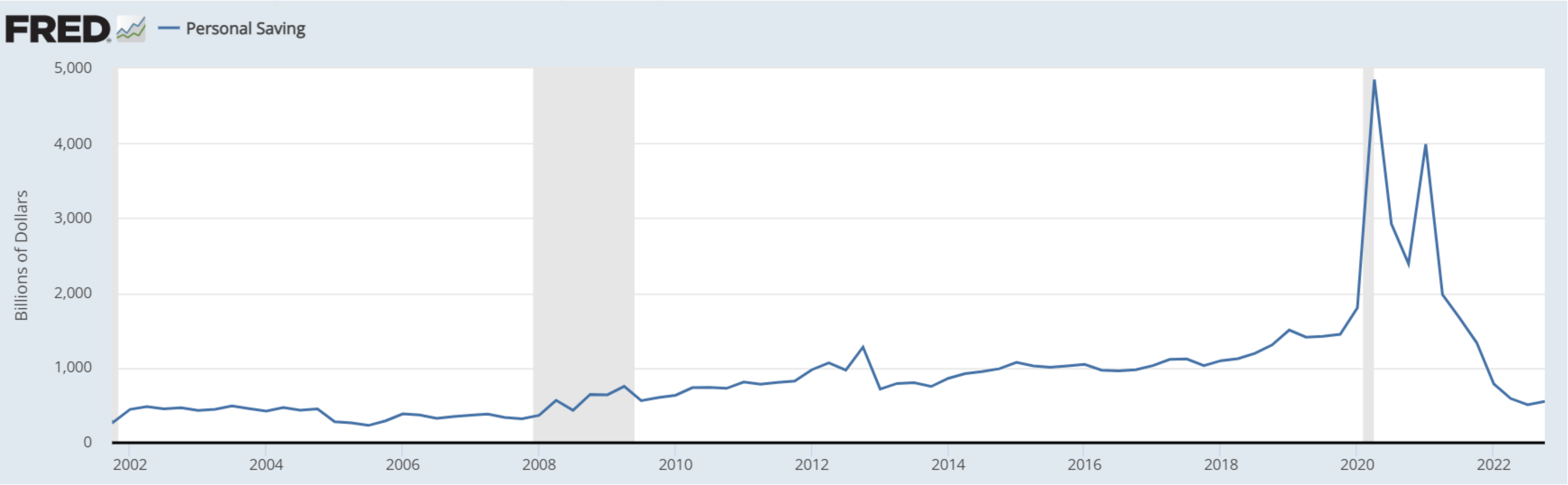
American Cheese

Additional Economic Factors

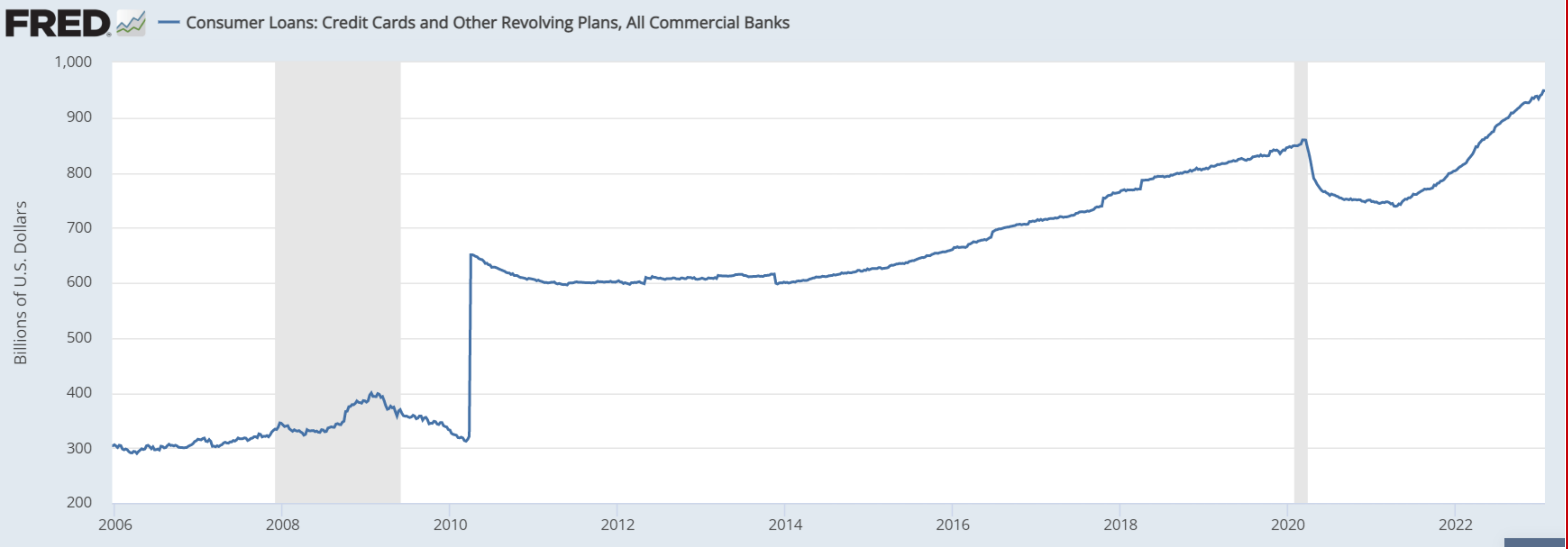
Inflation is improving, but we are not there yet…



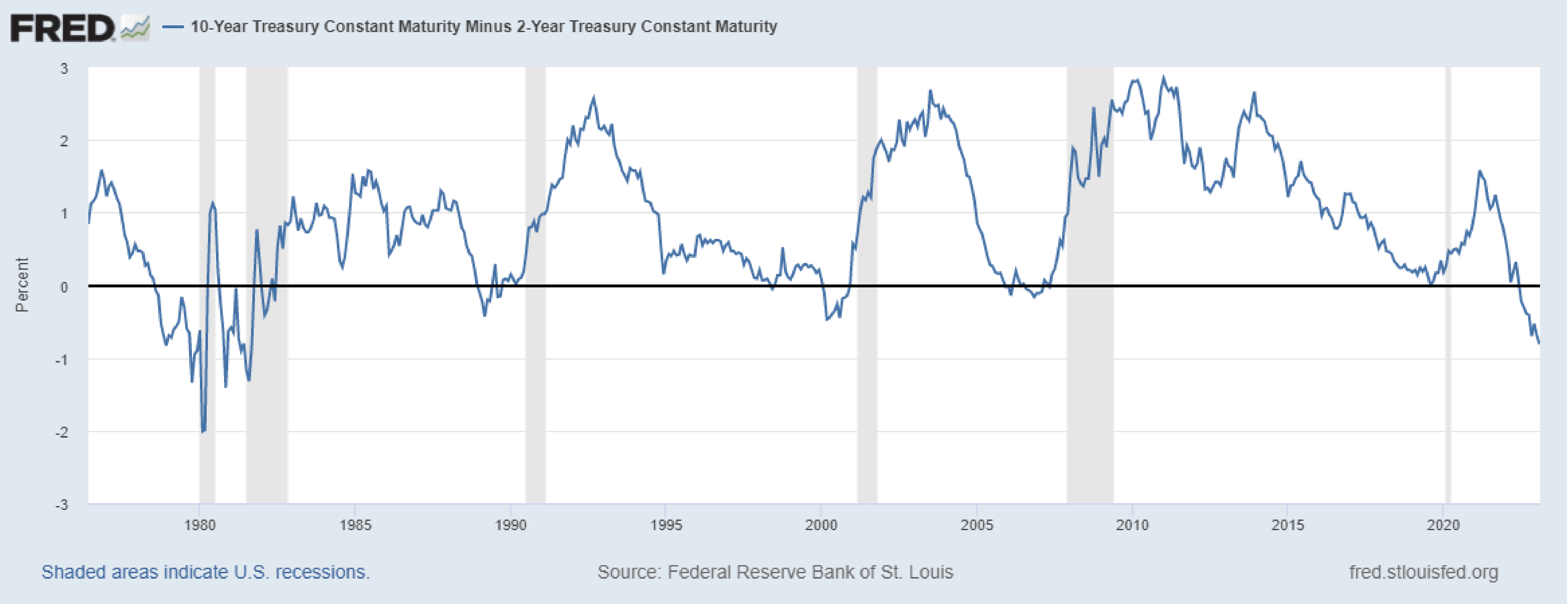
We’ve been meeting inflation at the expense of savings



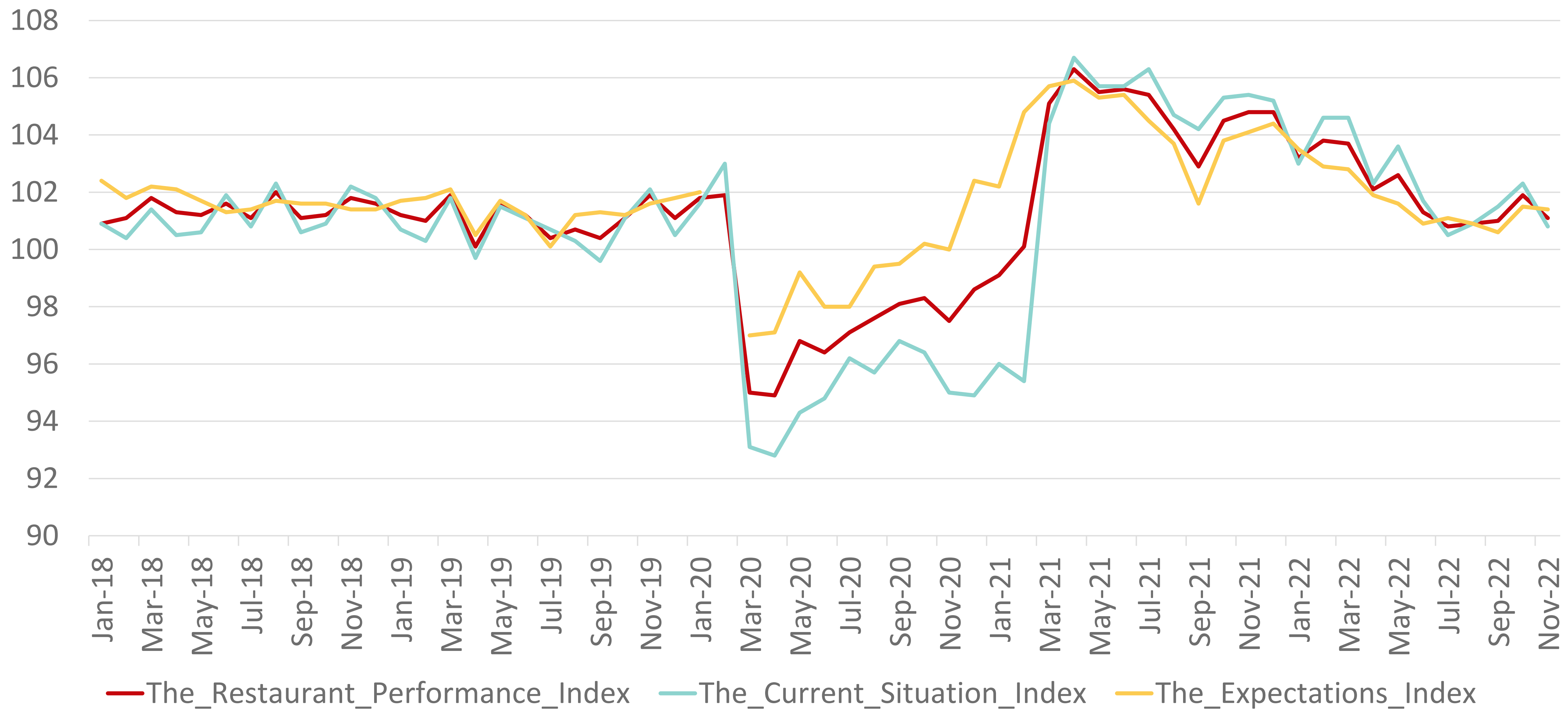
We have also accommodated inflation with credit



We have an inverted yield curve

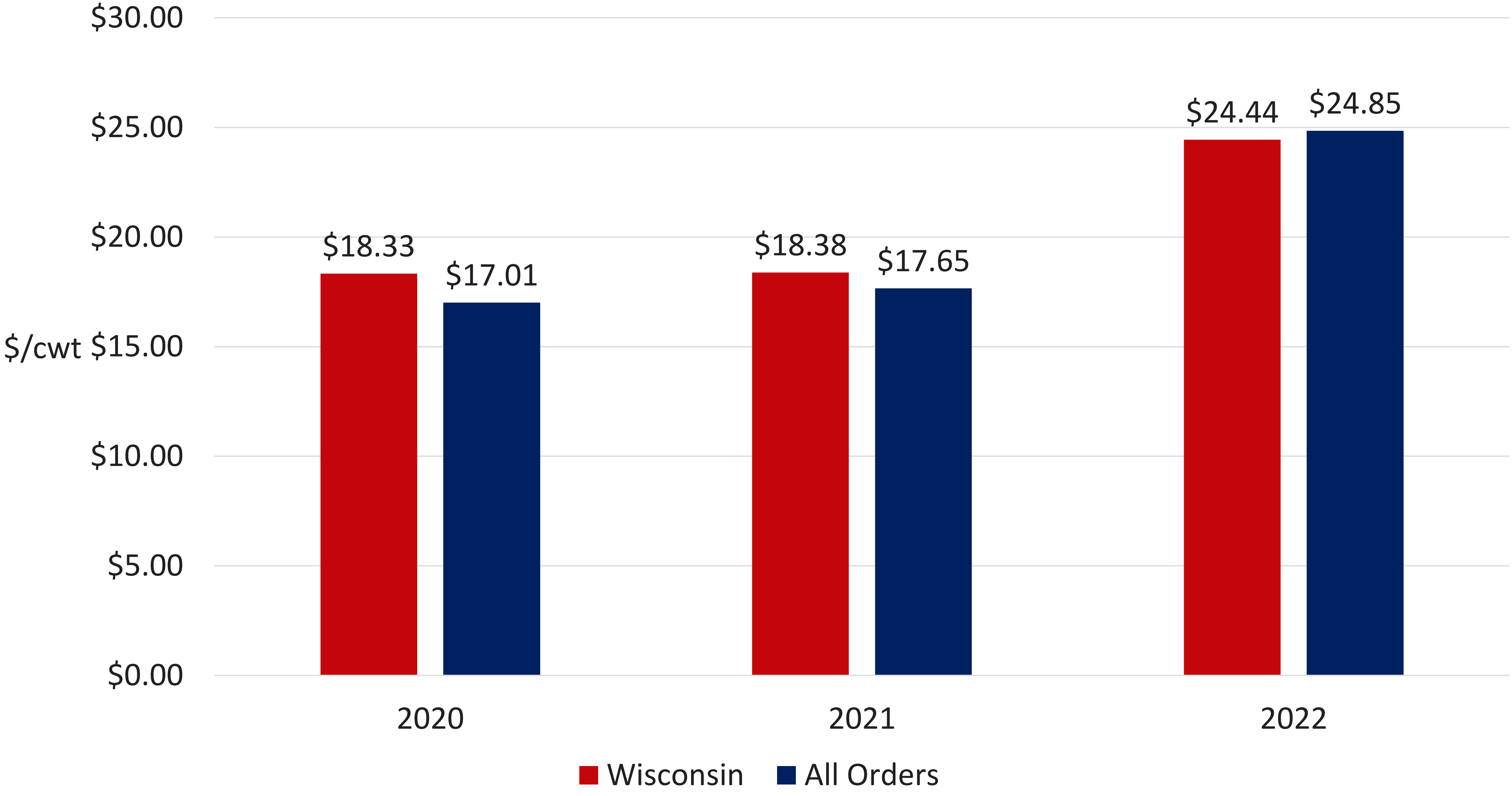


Restaurant Performance Index

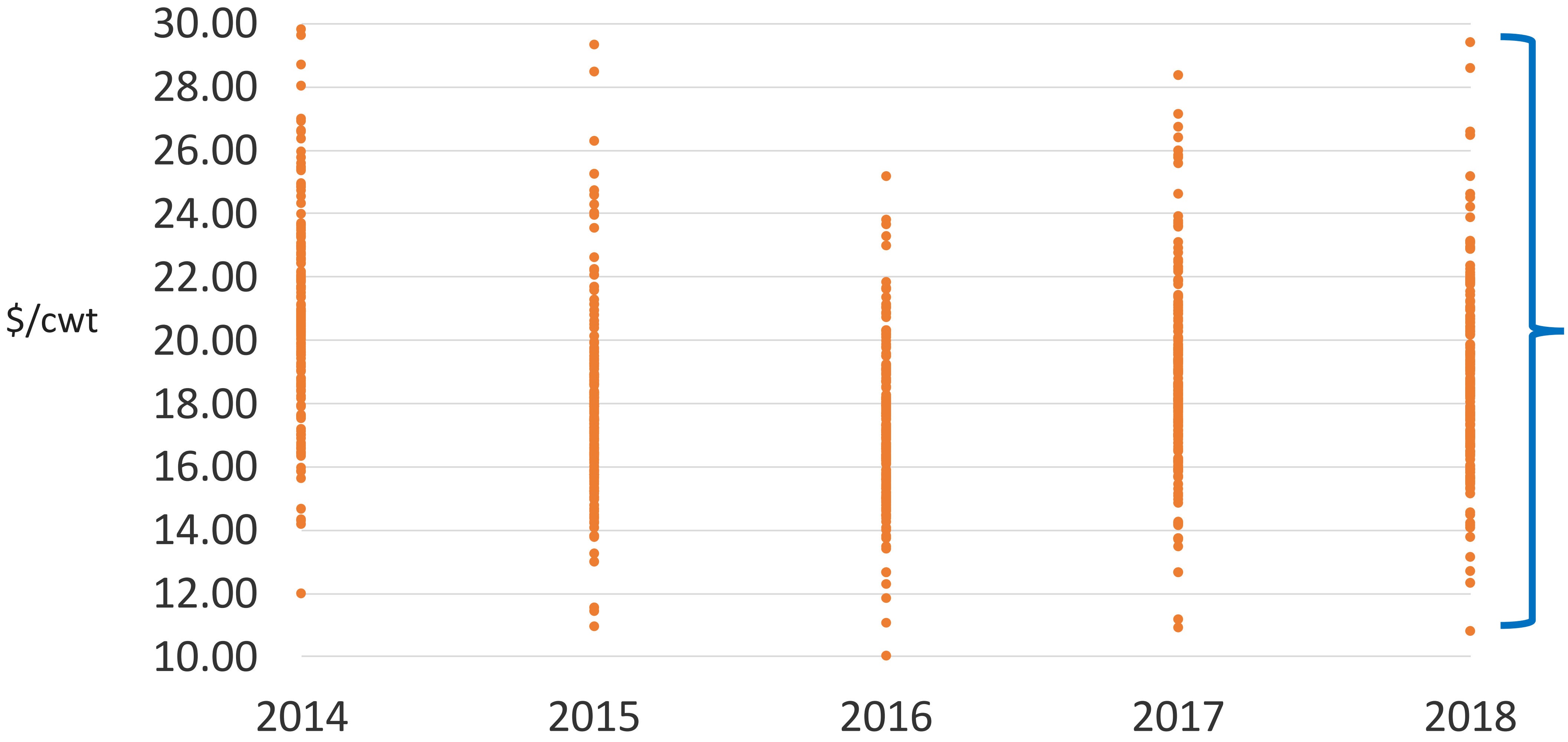


Farm Level

Average FMMO Mailbox Price Per Year



Dairy Farm Cost of Production



Source: AgFA, Center for Dairy Profitability, Univ of WI

Ave Interest Rates By Loan Type, Federal Reserve

Historic Interest Expense

Low
<$0.20/cwt

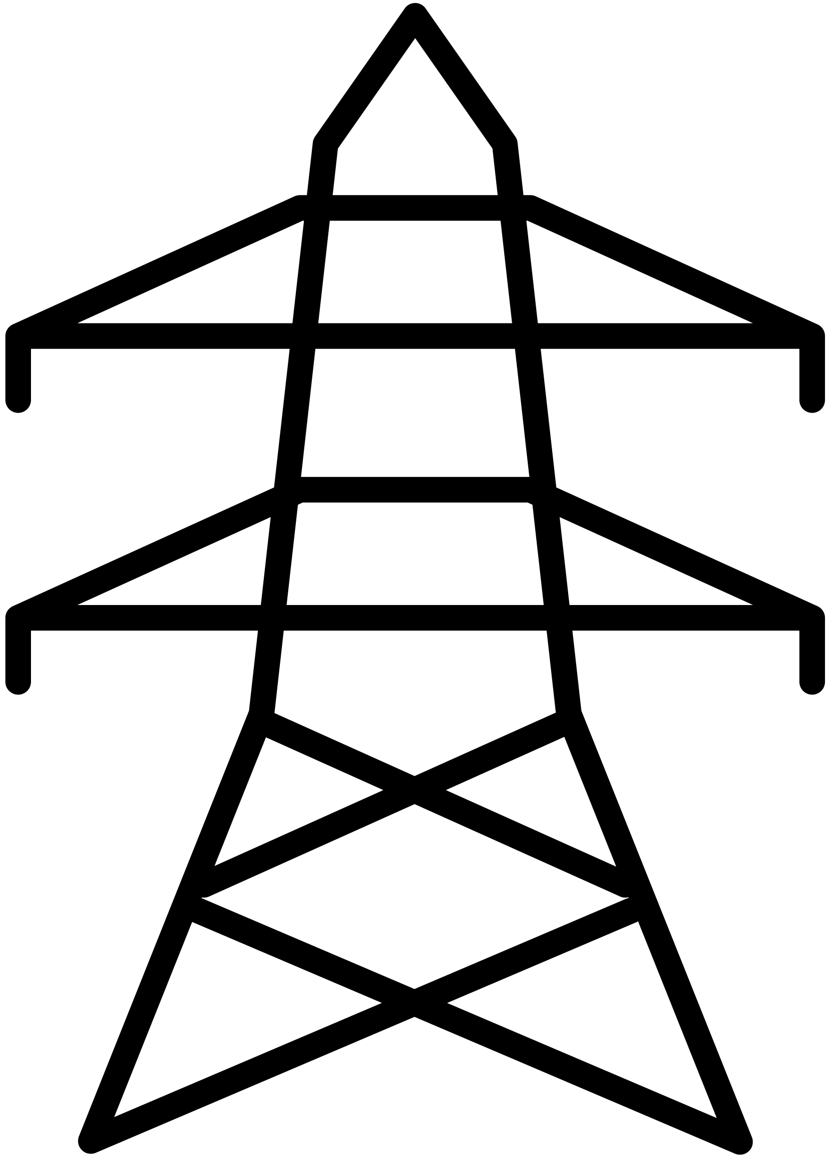
Med
~$0.30/cwt

High
$0.80+/cwt

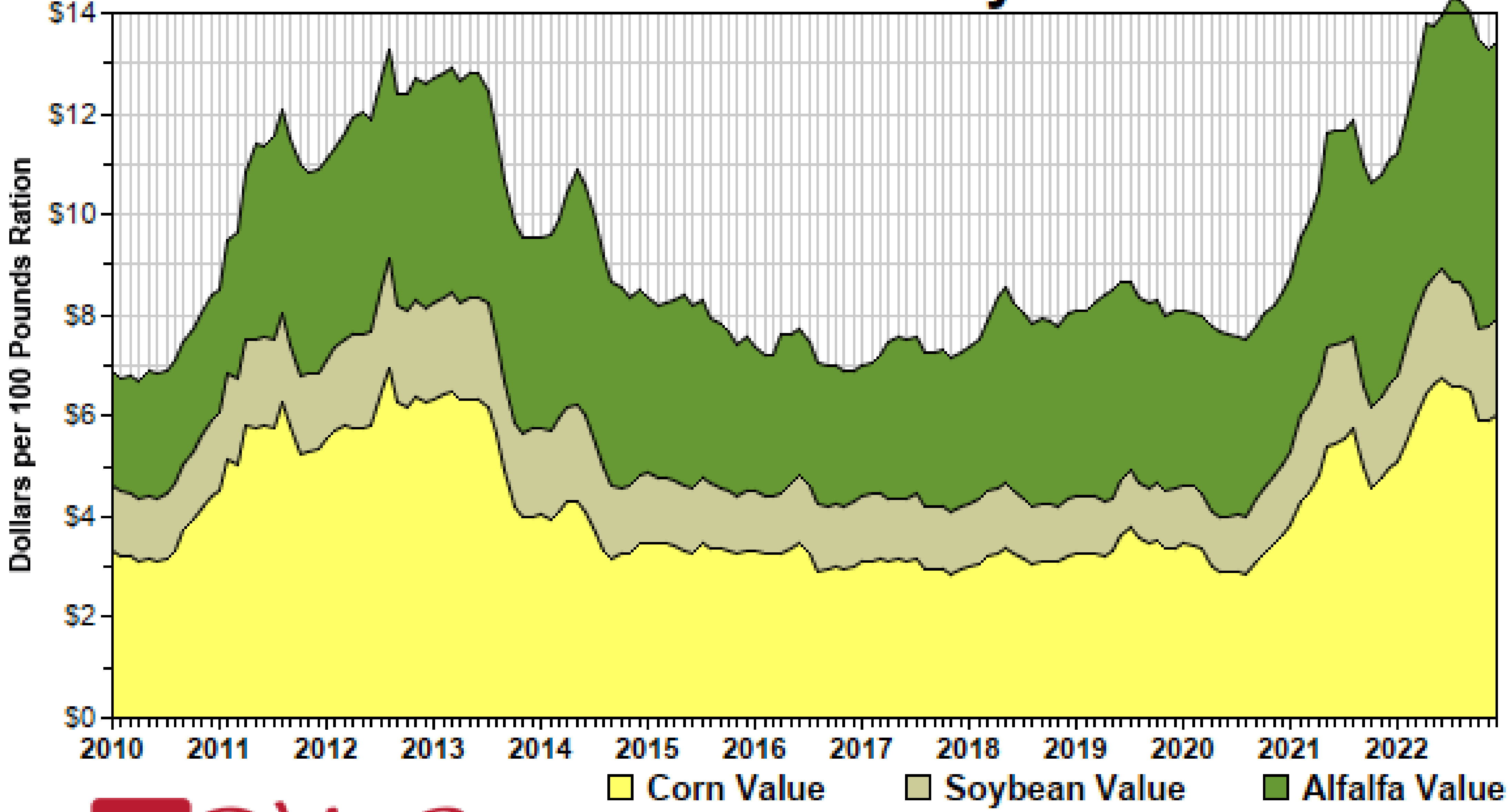
Utility Cost Per Year

$200/hd

$120/hd



NASS Value of the Dairy Ration

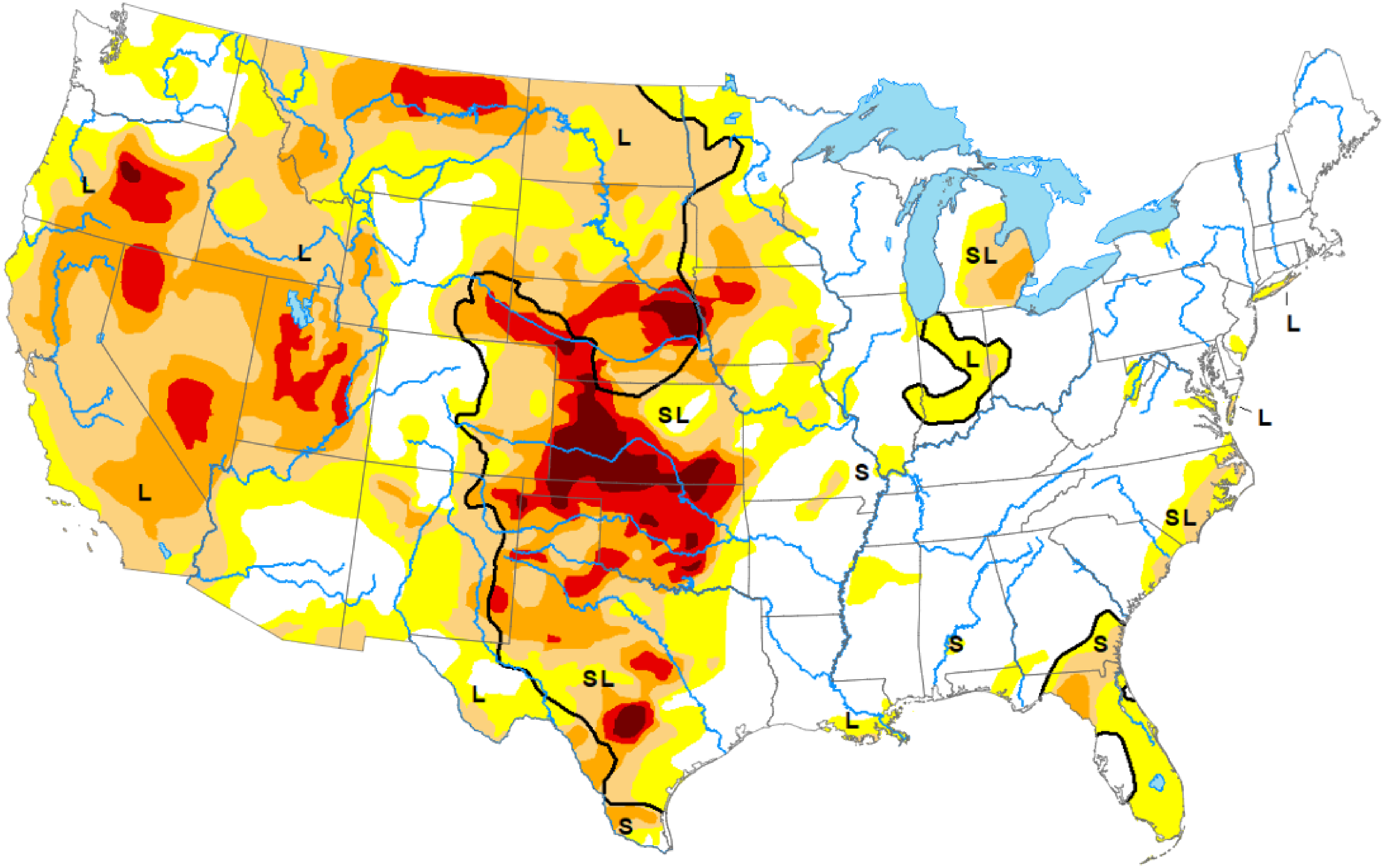


DMaP Dairy Markets and Policy

Updated 1/31/23

Map released: February 2, 2023

Data valid: January 31, 2023

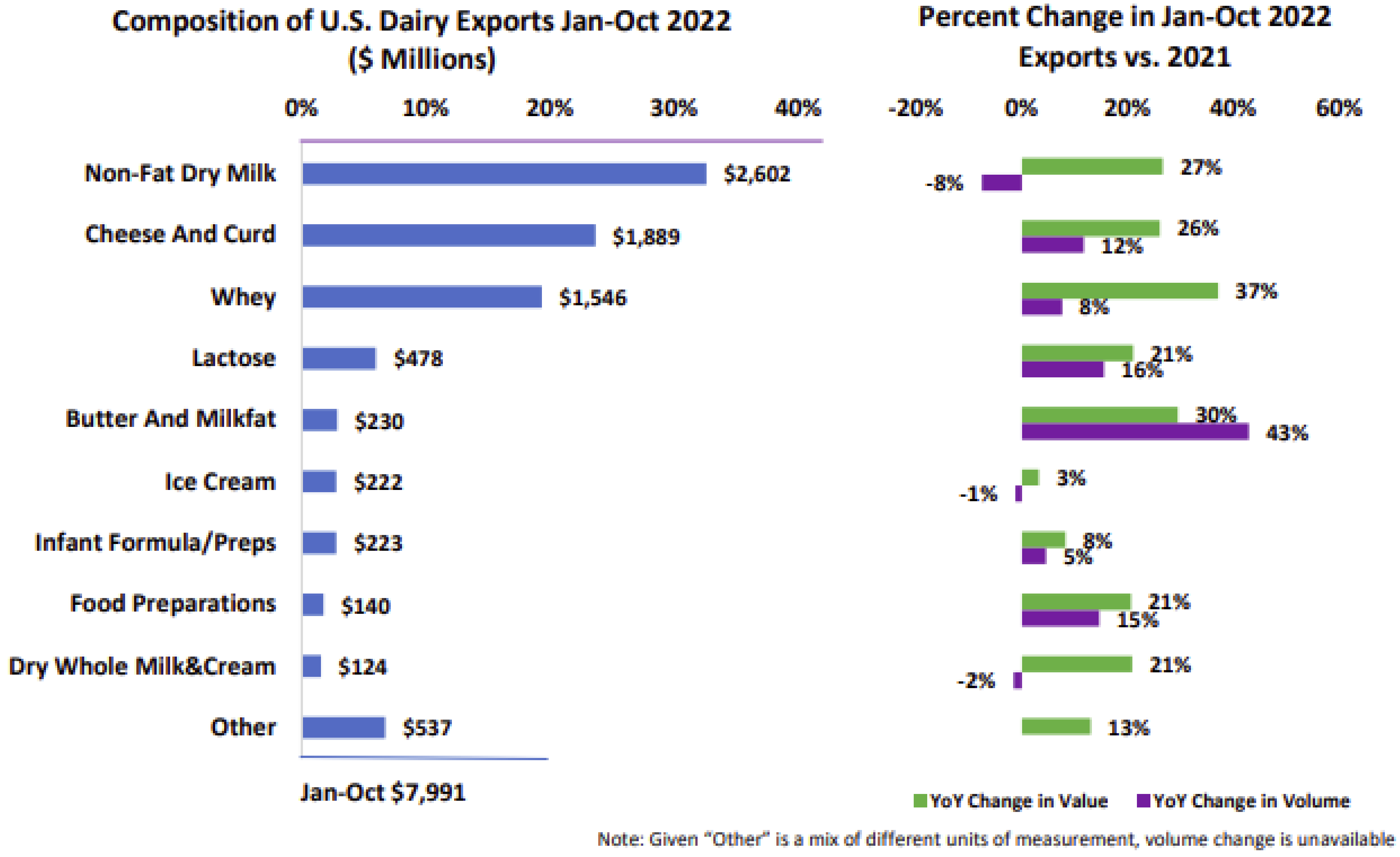


World View

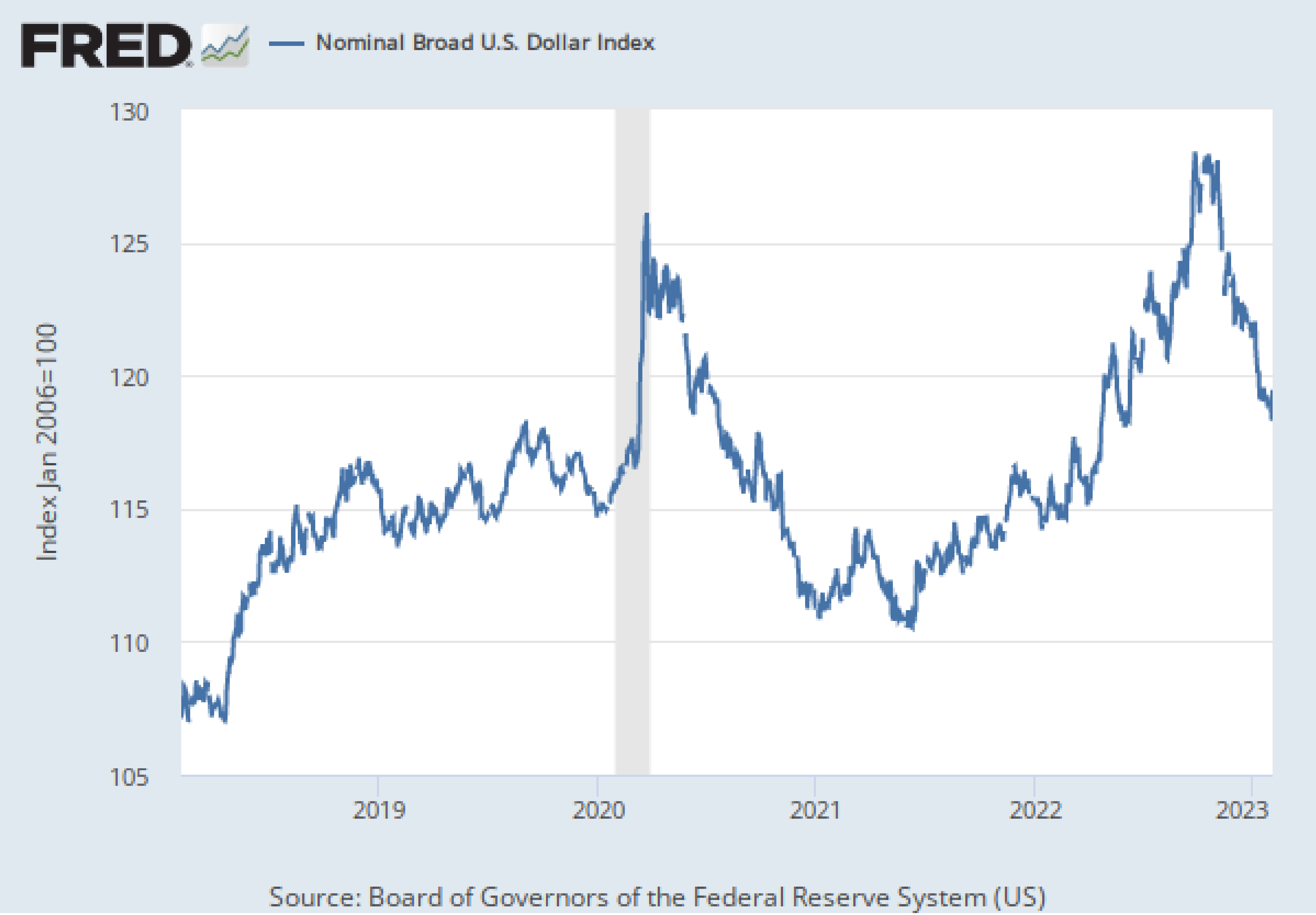
Exports on a Milk Equivalent Basis Through October 2022

Top Dest. -M.E. Milkfat Basis (Mill. lbs)	2022	
MEXICO	2,628	23%
CANADA	1,824	16%
SOUTH KOREA	1,336	12%
JAPAN	717	6%
CHINA (MAINLAND)	443	4%
BAHRAIN	402	4%
Other	3,951	35%
TOTAL	11,300	

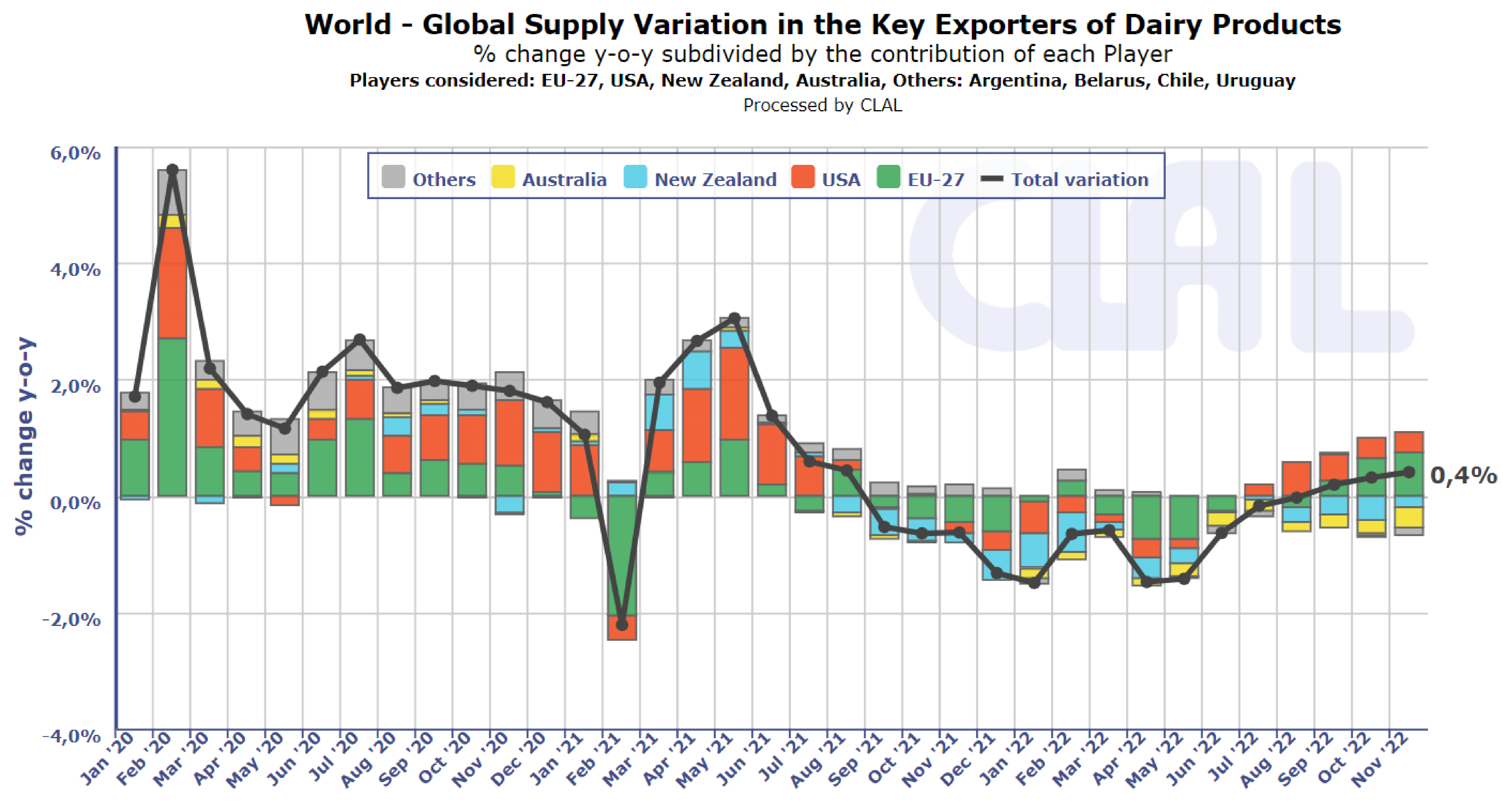
Top Dest.-M.E. Skim Basis (Mill. lbs)	2022	
MEXICO	9,787	22%
CHINA (MAINLAND)	9,191	21%
PHILIPPINES	3,446	8%
INDONESIA	2,920	7%
JAPAN	2,054	5%
CANADA	1,932	4%
Other	14,812	34%
TOTAL	44,143	



Composition of U.S. Dairy Exports Jan-Oct 2022
($ Millions)
0%
10%
20%
30%
40%
Non-Fat Dry Milk
$2,602
Cheese And Curd
$1,889
Whey
$1,546
Lactose
$478
Butter And Milkfat
$230
Ice Cream
$222
Infant Formula/Preps
$223
Food Preparations
$140
Dry Whole Milk&Cream
$124
Other
$537
Jan-Oct $7,991
Percent Change in Jan-Oct 2022
Exports vs. 2021
-20%
0%
20%
40%
60%
27%
-8%
26%
12%
37%
8%
21%
16%
30%
43%
3%
-1%
8%
5%
21%
15%
21%
-2%
13%
YoY Change in Value
YoY Change in Volume
Note: Given "Other" is a mix of different units of measurement, volume change is unavailable



FRED
Nominal Broad U.S. Dollar Index
130
125
120
115
110
105
Index Jan 2006=100
2019
2020
2021
2022
2023
Source: Board of Governors of the Federal Reserve System (US)



World - Global Supply Variation in the Key Exporters of Dairy Products
% change y-o-y subdivided by the contribution of each Player
Players considered: EU-27, USA, New Zealand, Australia, Others: Argentina, Belarus, Chile, Uruguay
Processed by CLAL
Others
Australia
New Zealand
USA
EU-27
Total variation
% change y-o-y
6,0%
4,0%
2,0%
0,0%
-2,0%
-4,0%
0,4%
Jan '20
Feb '20
Mar '20
Apr '20
May '20
Jun '20
Jul '20
Aug '20
Sep '20
Oct '20
Nov '20
Dec '20
Jan '21
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Jan '22
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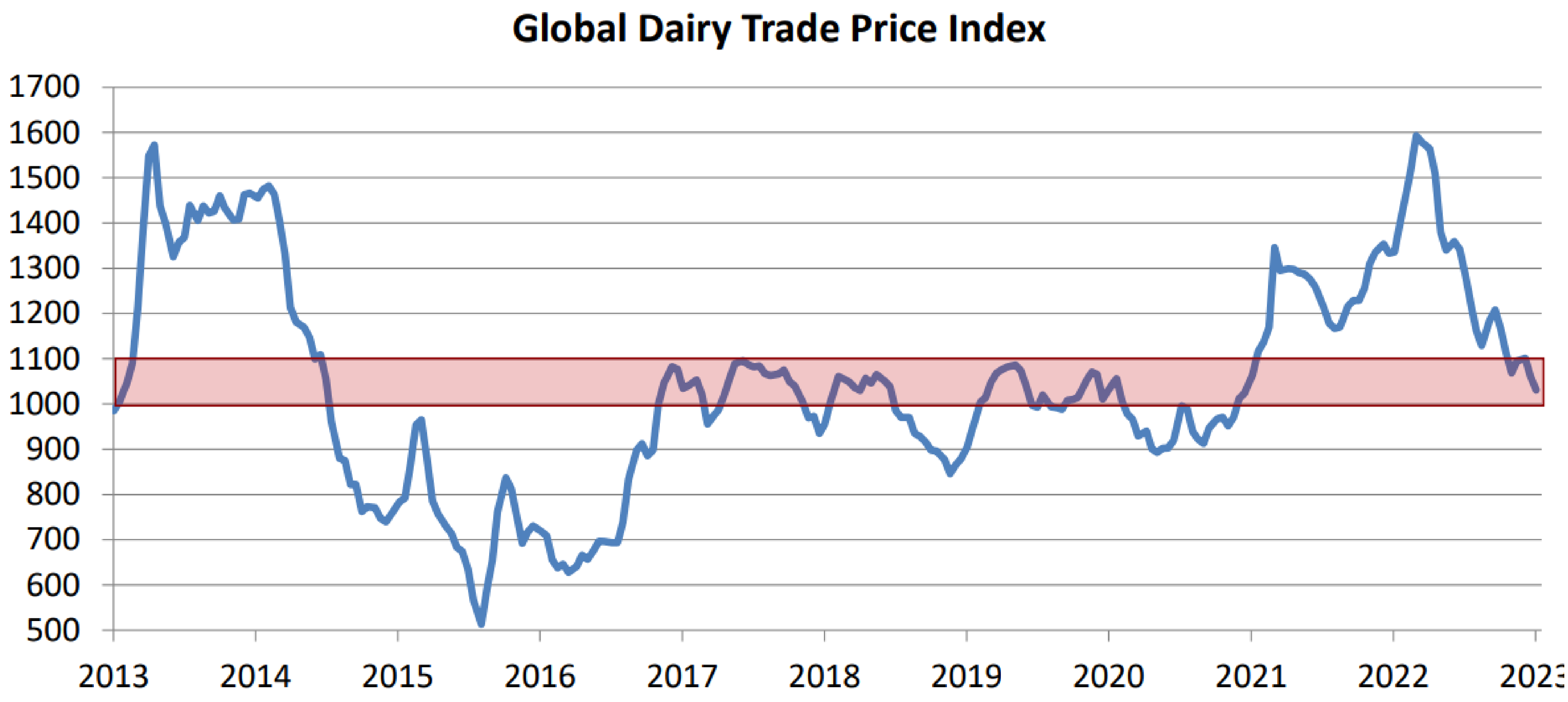
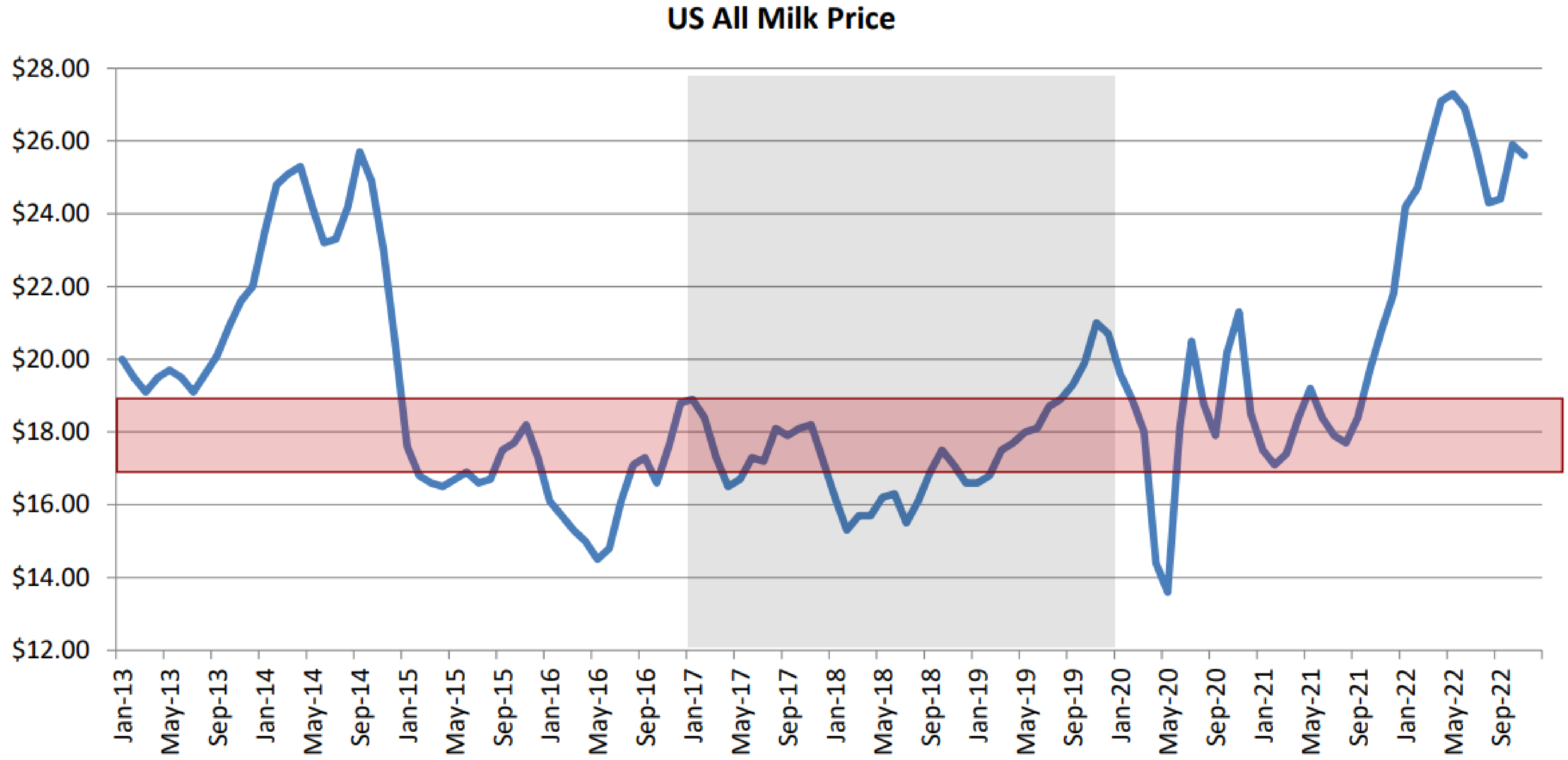
Aug '22
Sep '22
Oct '22
Nov '22

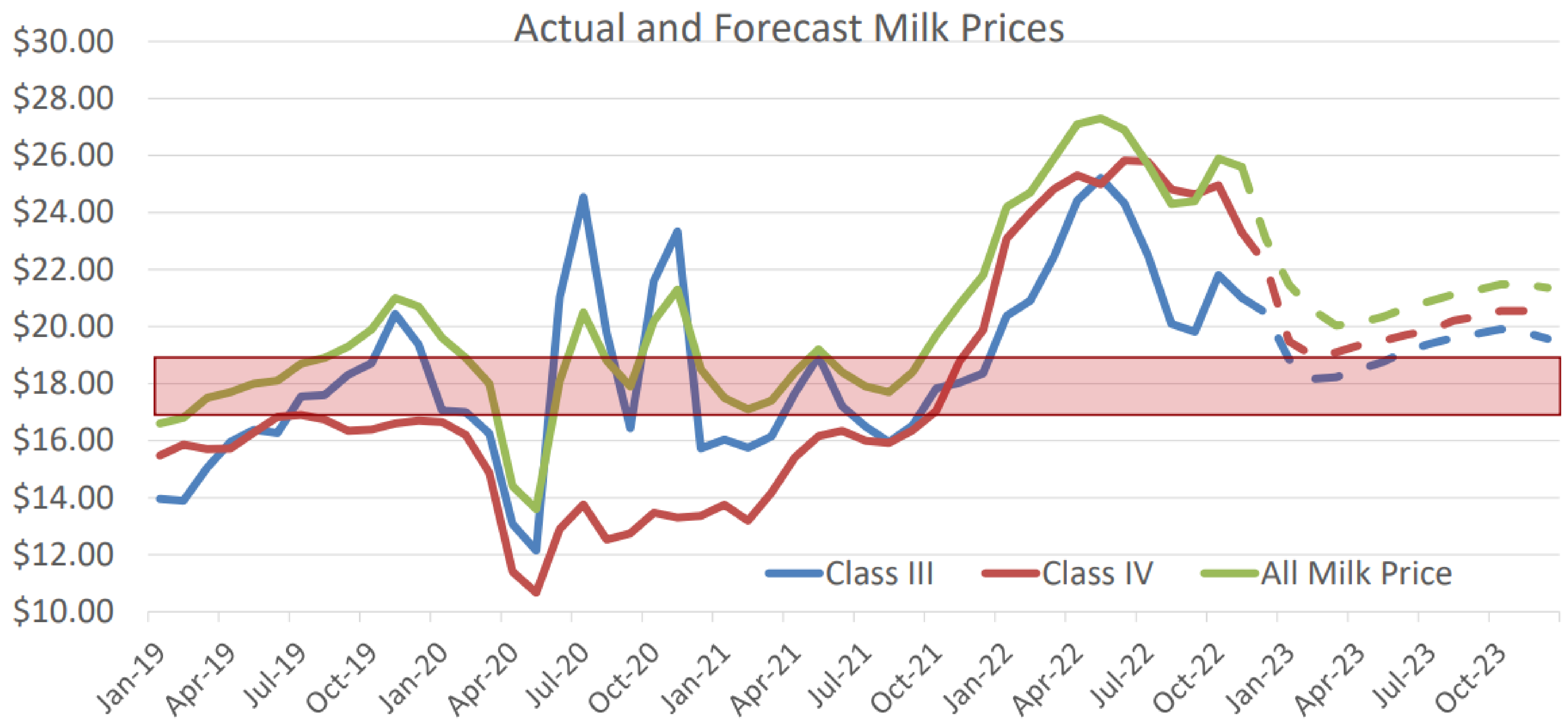
What does the GDT index tell us?



What does the GDT index tell us?

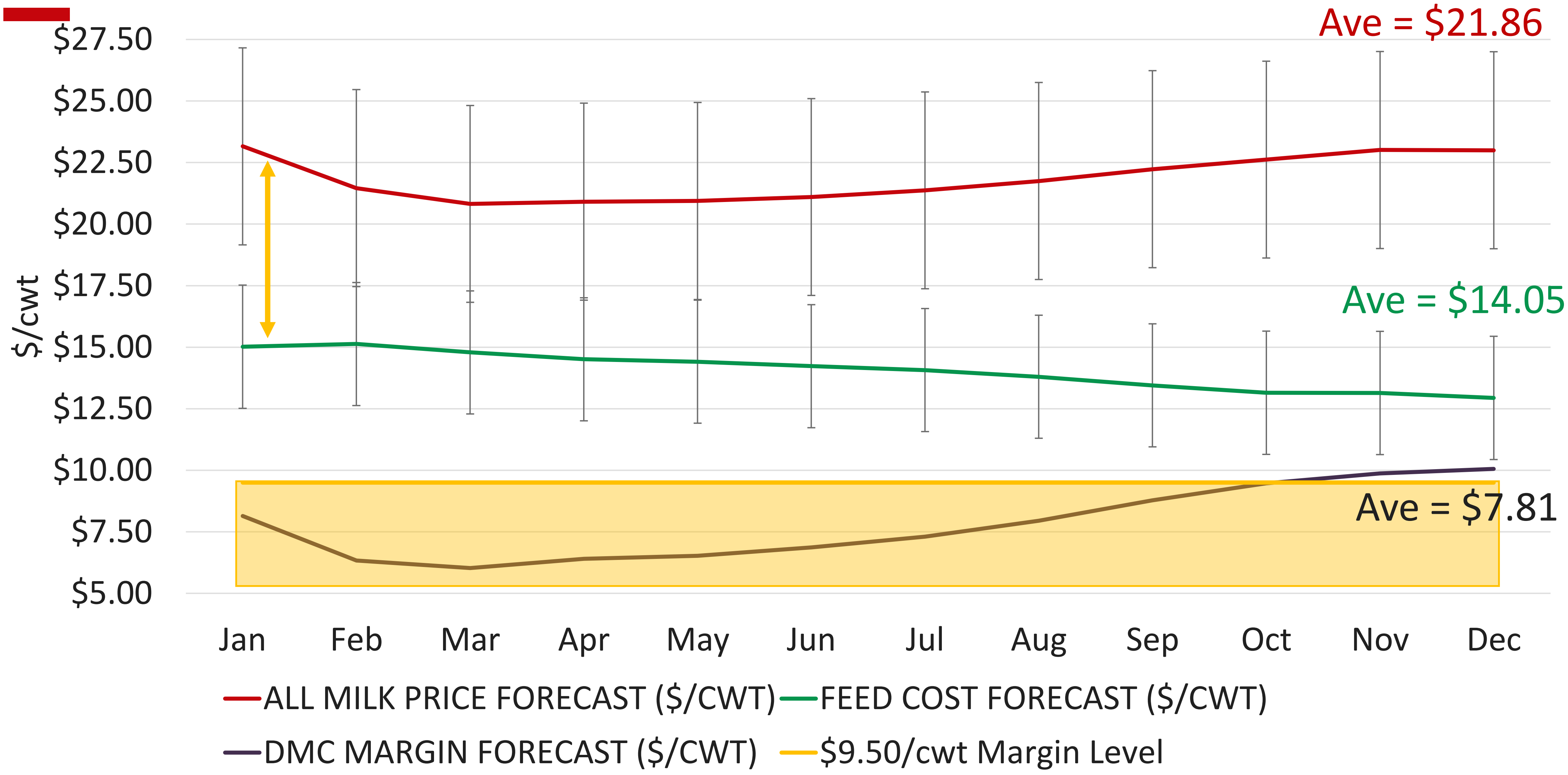


CME futures based forecast



Forecast

2023 Price Forecast



In Conclusion

In summary…

- Domestic demand has held up surprisingly well in the face of inflation
- Consumers have bought a year's worth of inflation from savings and credit cards—this is not a long-term strategy
- I am concerned about the probability of a recession
  - What will consumer strategy be under this scenario
- Milk production has been cautious but there is new plant capacity being planned
- High milk prices have yielded decent margins for most producers in 2022. I'm not sure the same thing will be the case in 2023.
- Expect milk prices to be $4.50 to $5.50 lower this year.

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