

OUTLOOK FOR THE U.S. DAIRY SECTOR IN 2023

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2022 Milk Production Higher...

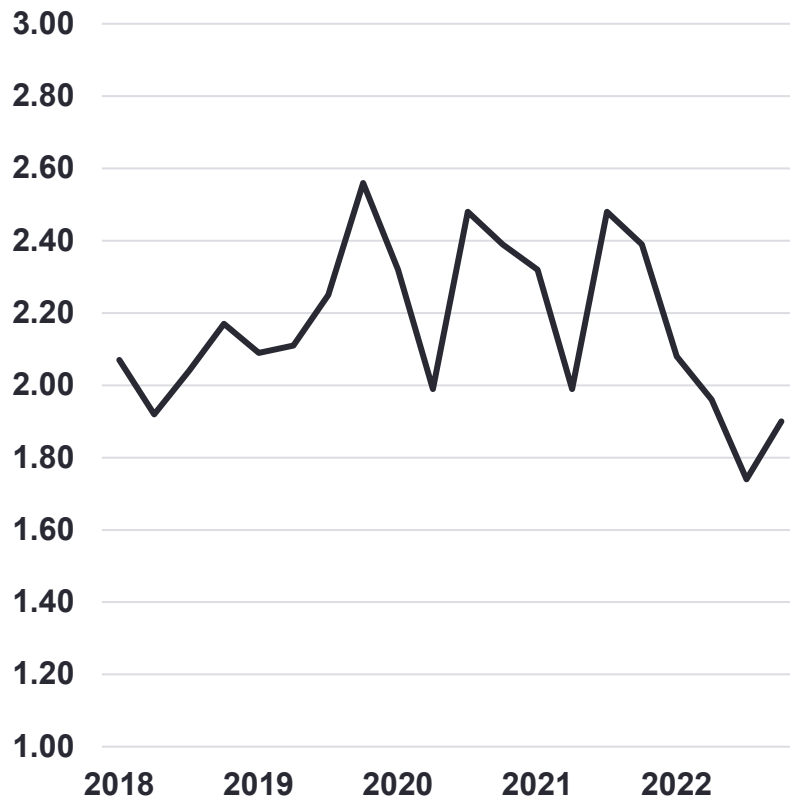
- Producers responded to favorable returns earlier in 2022
 - Improved milk-feed ratios in late 2021 and first-half 2022
 - Cow inventories began increasing in first-quarter 2022
- Production in 2022: 226.5 billion pounds
 - Slow increase in cows through third-quarter
 - Early-year forage-related issues reduced milk per cow with slow recovery as the year progressed

...But There have Been Challenges

- Producer's milk-feed margins have weakened since early-2022
 - Milk prices high
 - Feed prices higher
 - Cow slaughter higher
 - Producers holding fewer heifers for addition to the herd

Milk Feed Ratio Reflect Relatively High Feed Prices

Quarterly Milk-Feed Price Ratio



Lower Feed Prices Expected in 2023/24

2022/23

- Corn: \$6.70/bu
- Soybean meal: \$450/ton
- Alfalfa hay (2022) \$255/ton

2023/24

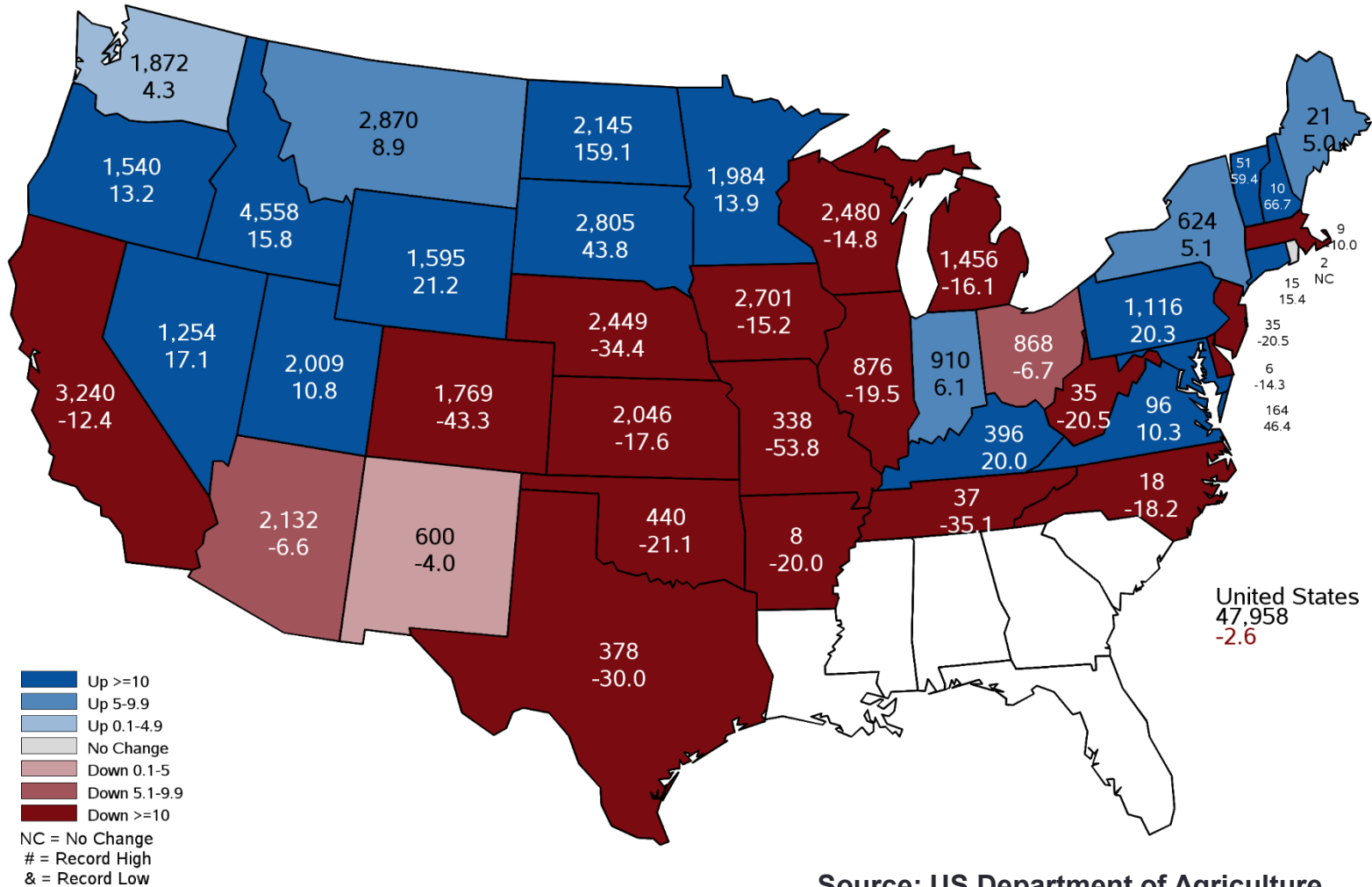
- Corn: \$5.60/bu
- Soybean meal: \$410/ton

Forage Supplies Tight

- Drought in parts of the country
- 2022 Alfalfa production 2.6 lower than 2021
- Dec 1 all hay stocks 9 percent lower

2022 Alfalfa Production

Thousand Tons and Percent Change From 2021



Source: US Department of Agriculture
National Agricultural Statistics Service

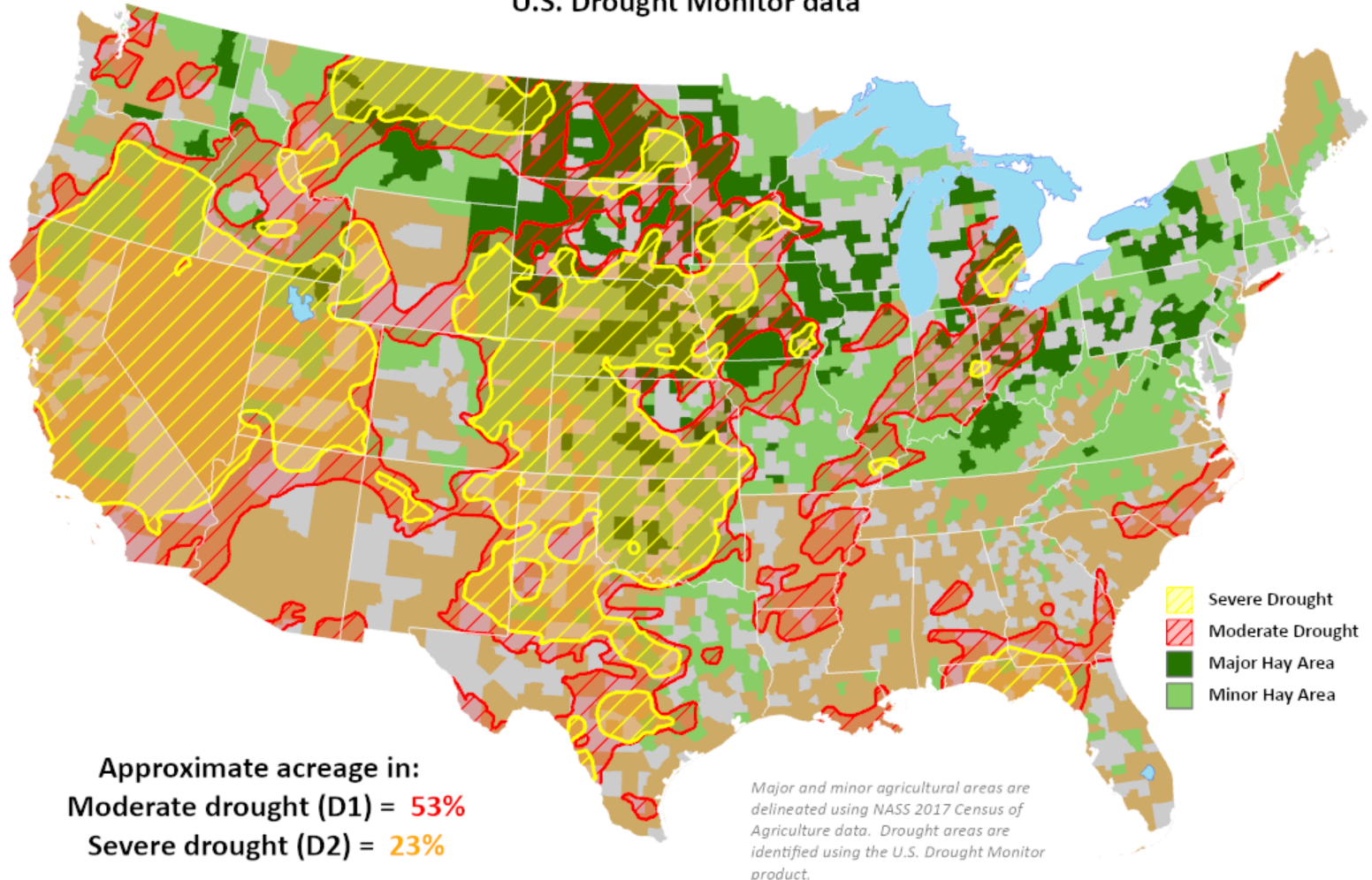
Dryland Hay Supplies Subject to Weather



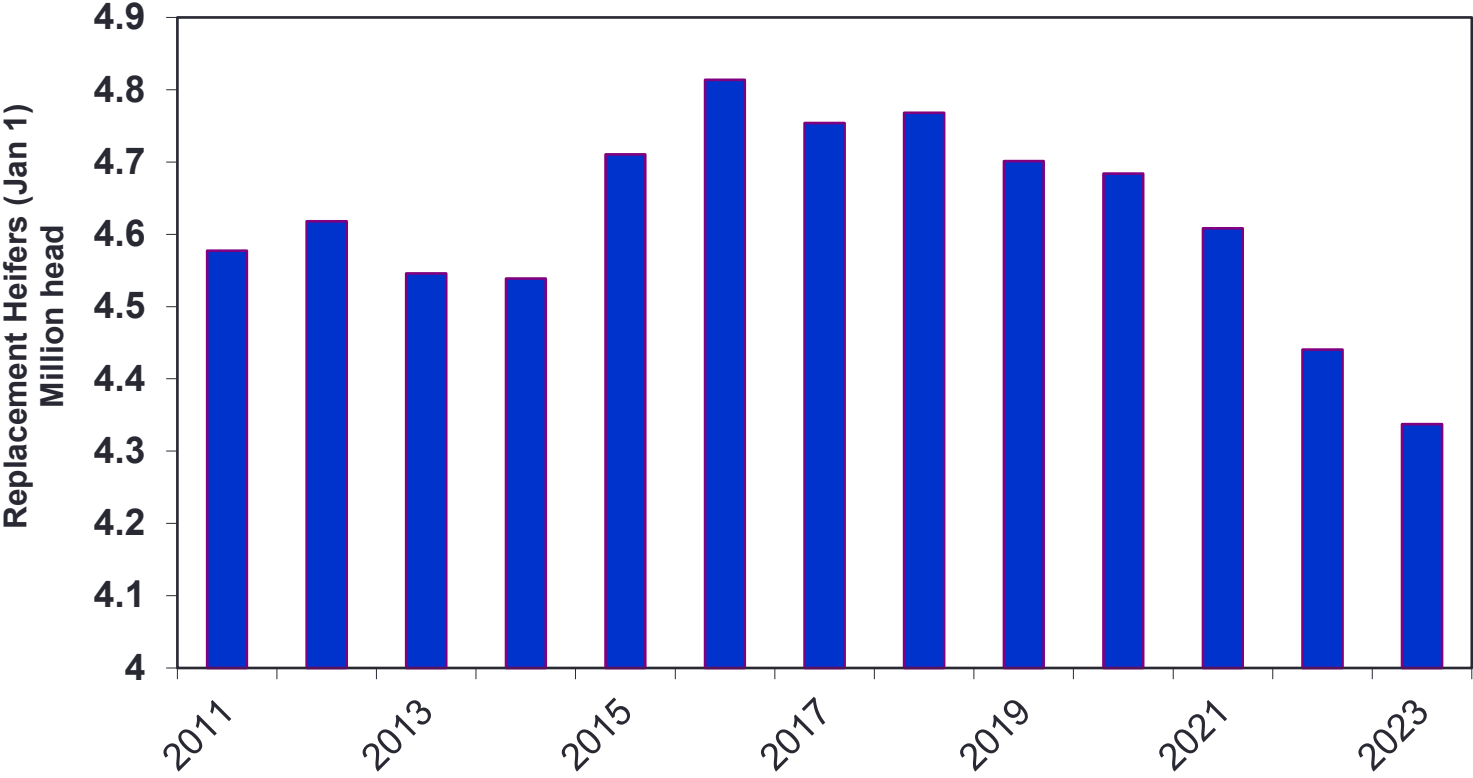
Dryland Alfalfa Areas in Drought

*This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)*

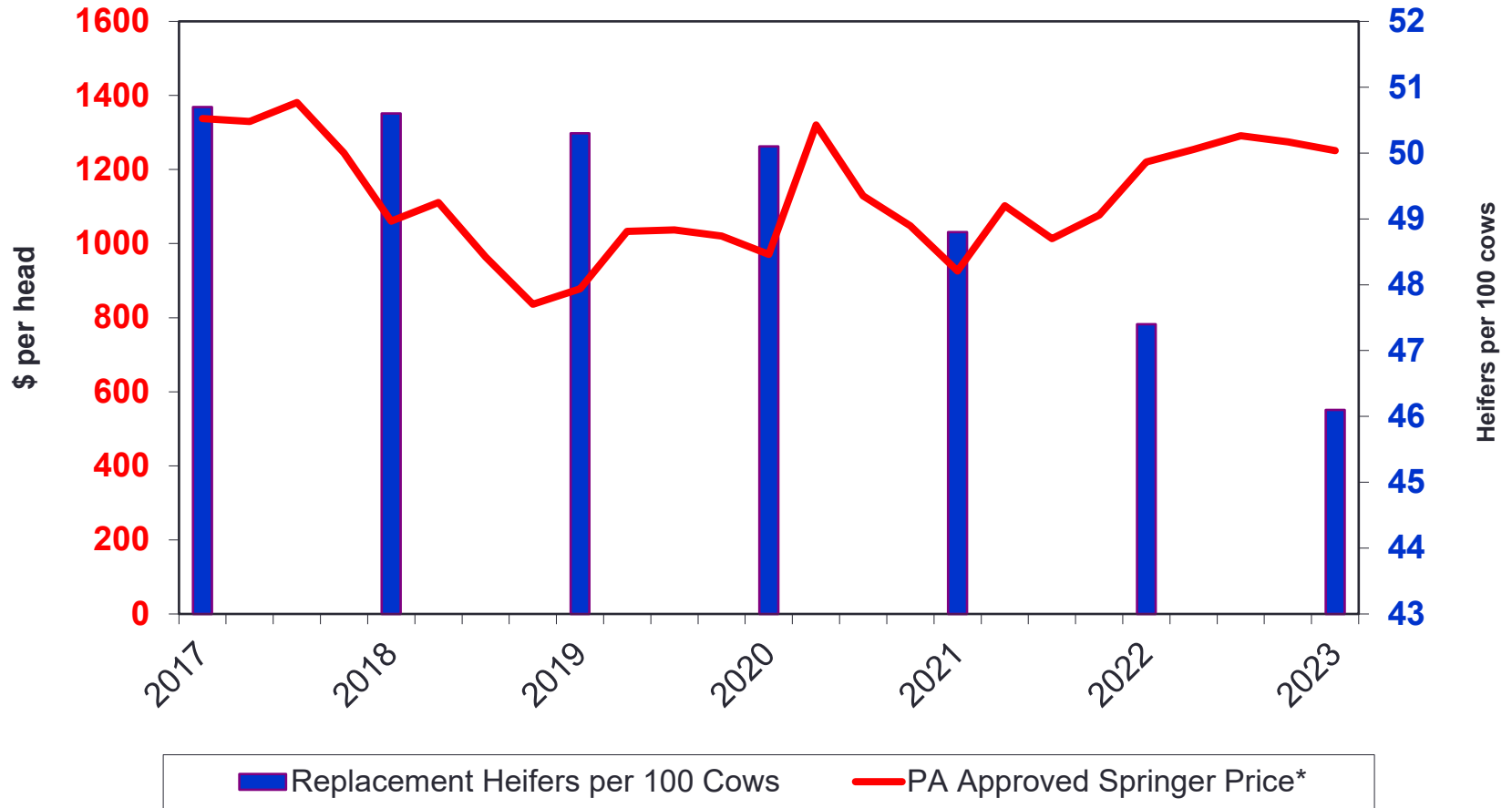
Reflects **December 27, 2022**
U.S. Drought Monitor data



Fewer Heifers Retained

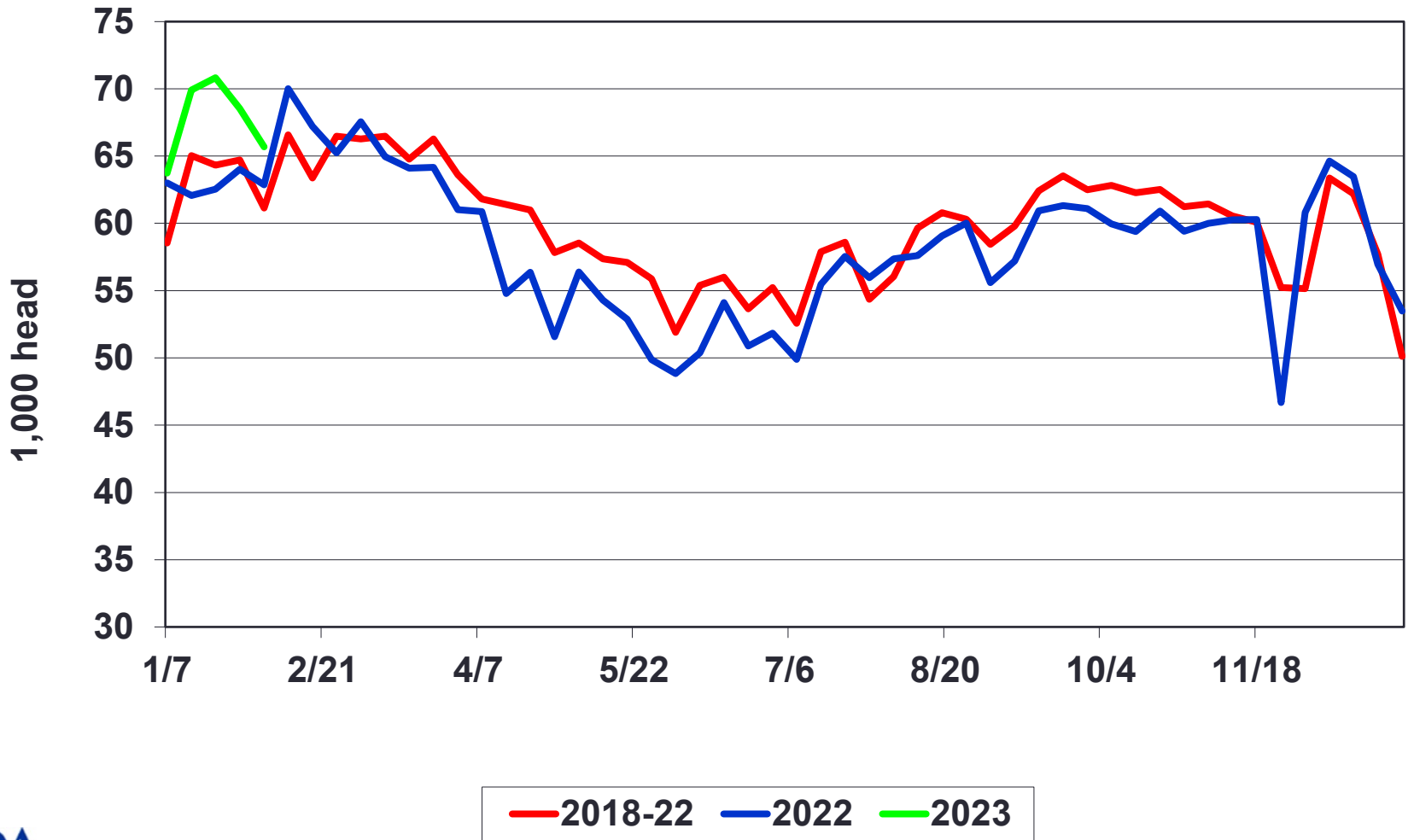


Replacement Heifer Prices Remain High

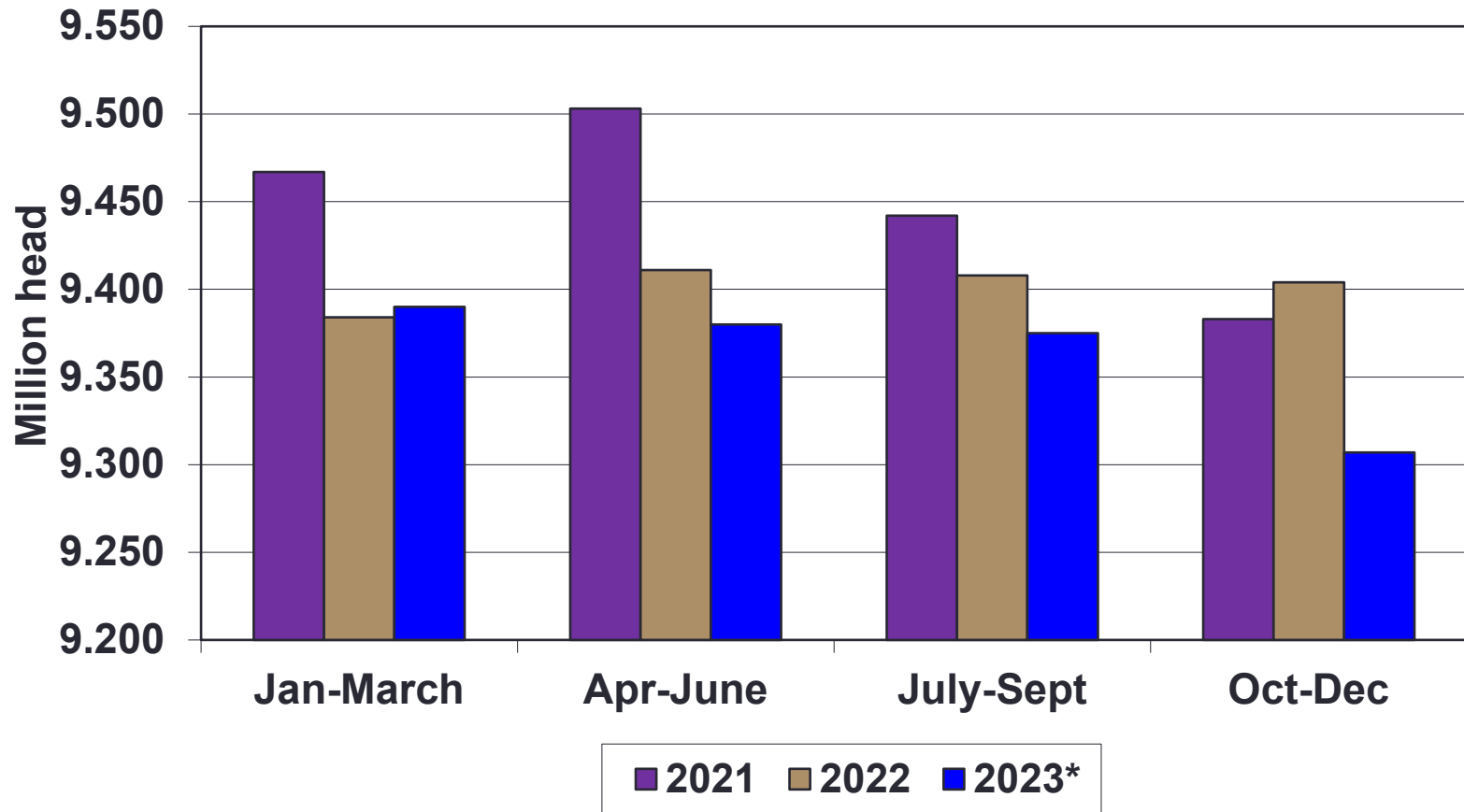


*2023: Jan-Feb

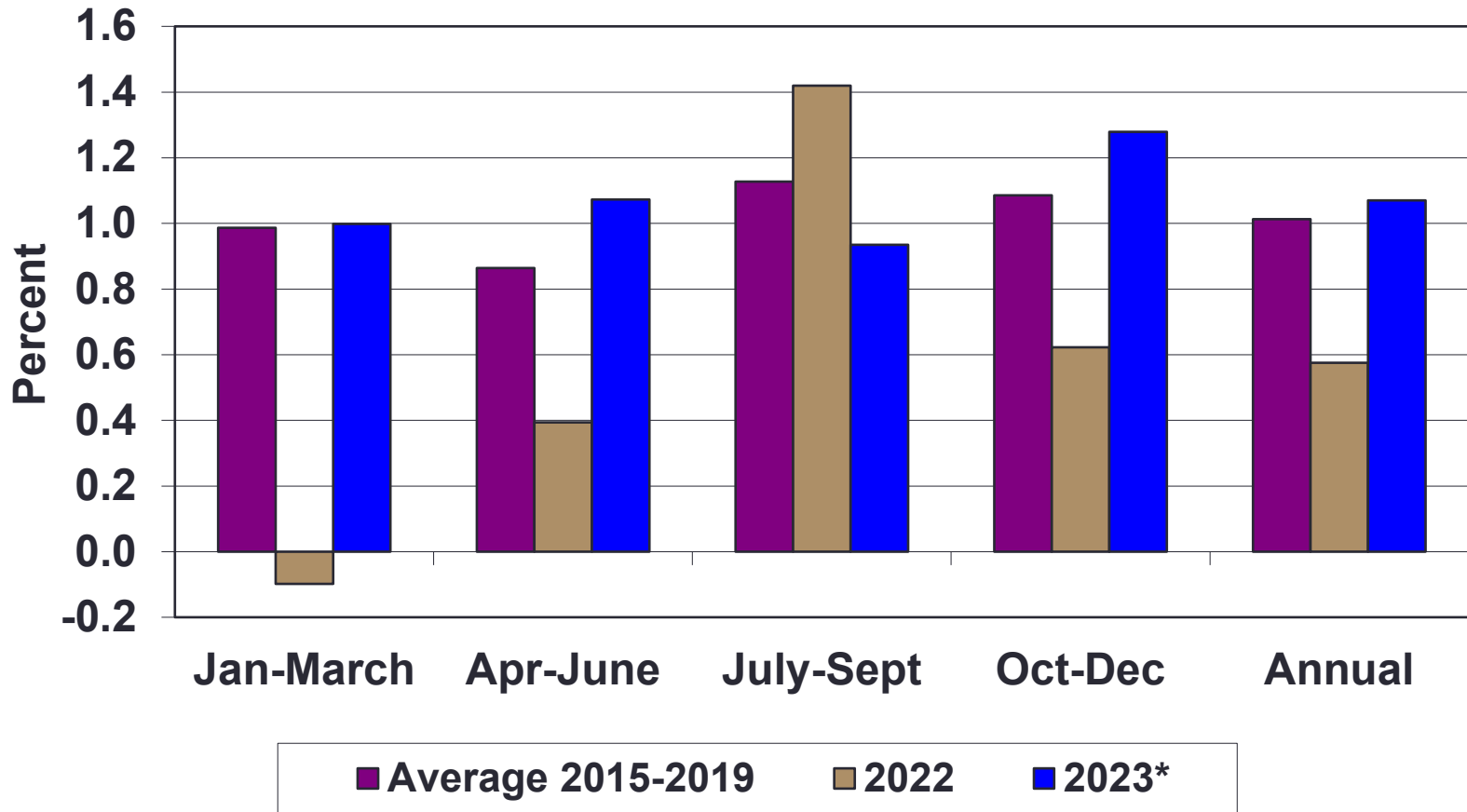
Dairy Cow Slaughter Above Last Year Levels



Quarterly Average U.S. Cow Herd



Milk per Cow Growth Adjusted for Leap Year

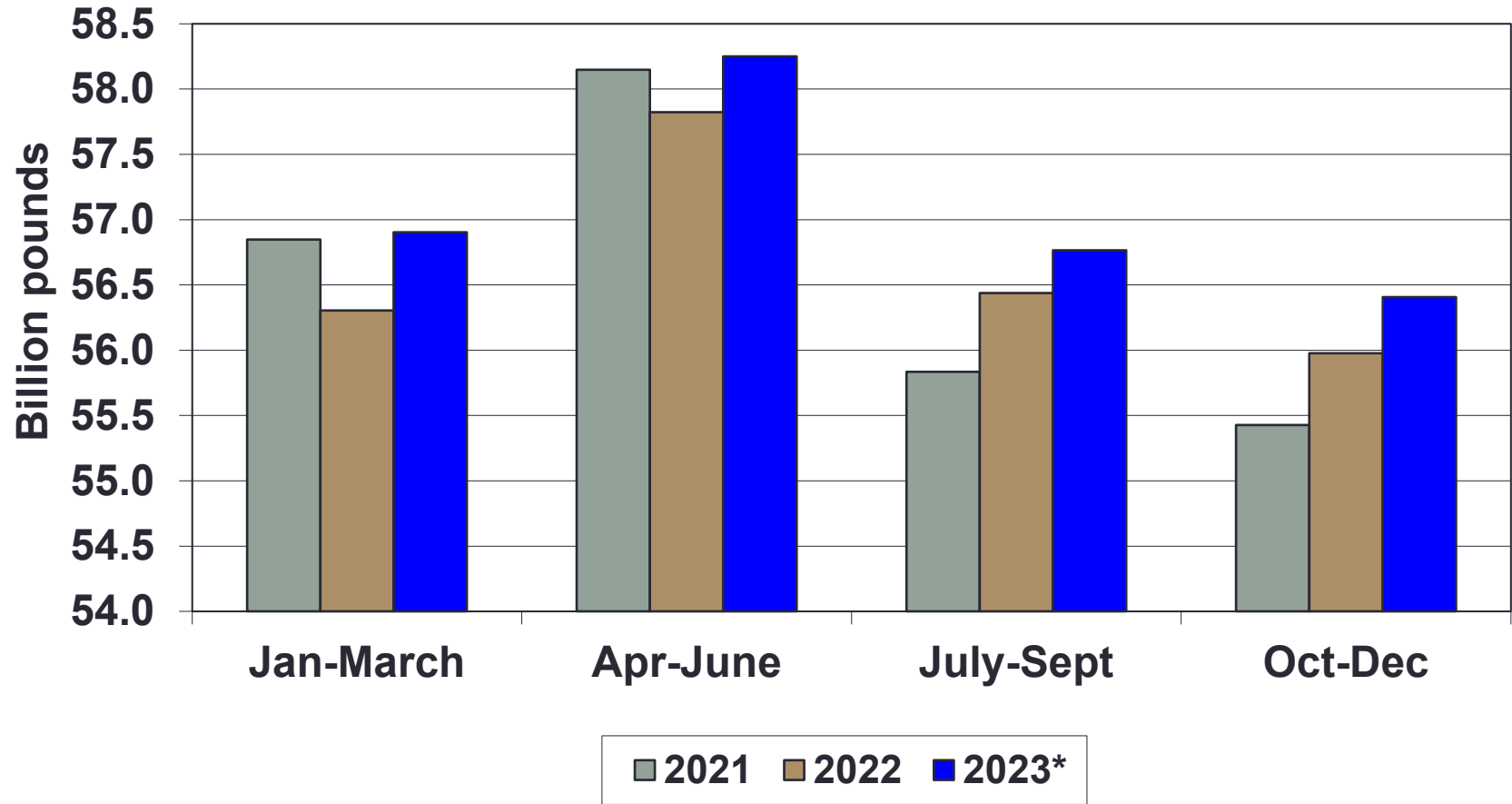


* Forecast

...But There have Been Challenges

- Producer's milk-feed margins have weakened since early-2022
 - Milk prices high
 - Feed prices higher
 - Cow slaughter higher
 - Producers holding fewer heifers for addition to the herd
- **Production in 2023: 228.3 billion pounds**
 - Smaller dairy herd
 - Slightly more rapid growth in milk per cow

Quarterly U.S. Milk Production

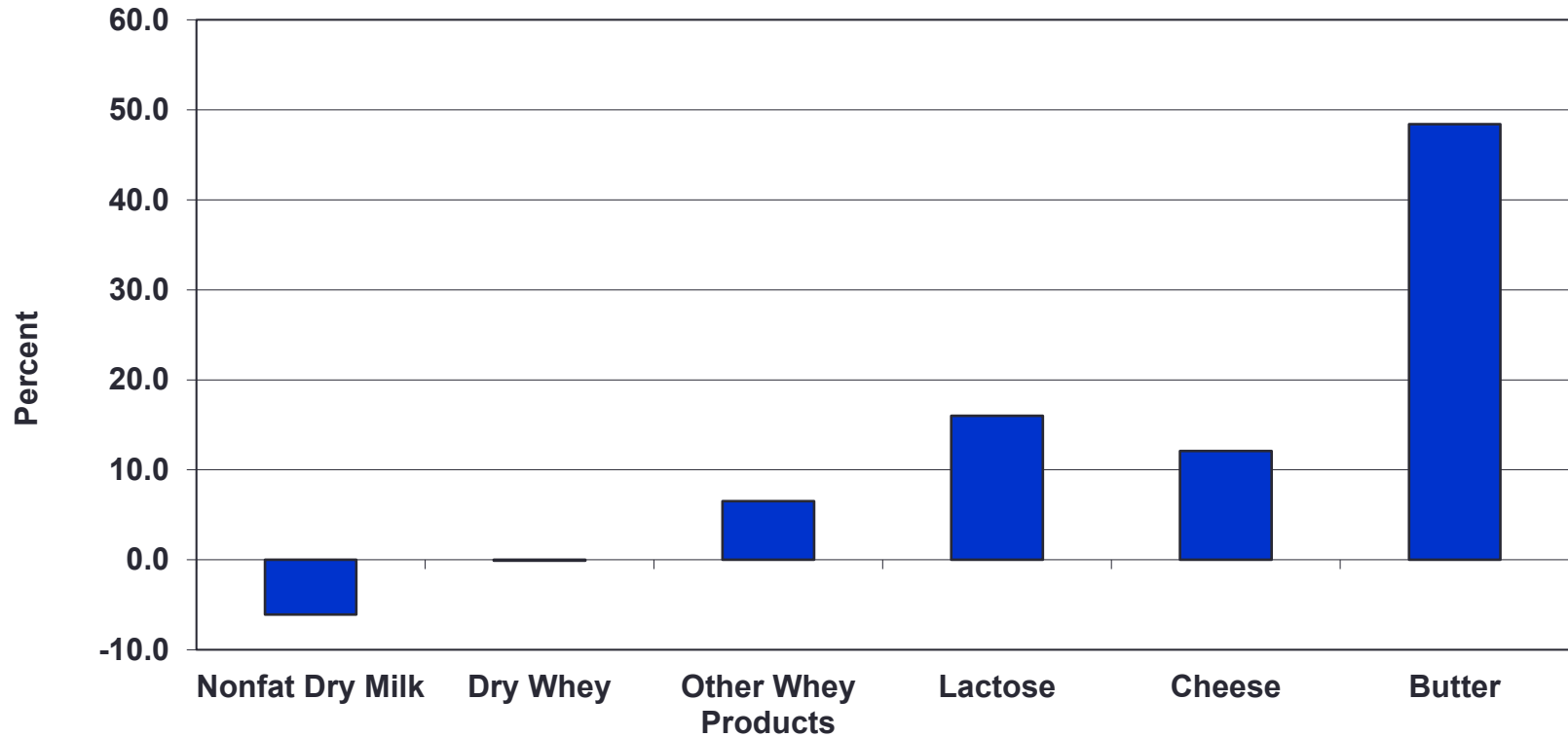


*Forecast

Export Performance Varied During 2022

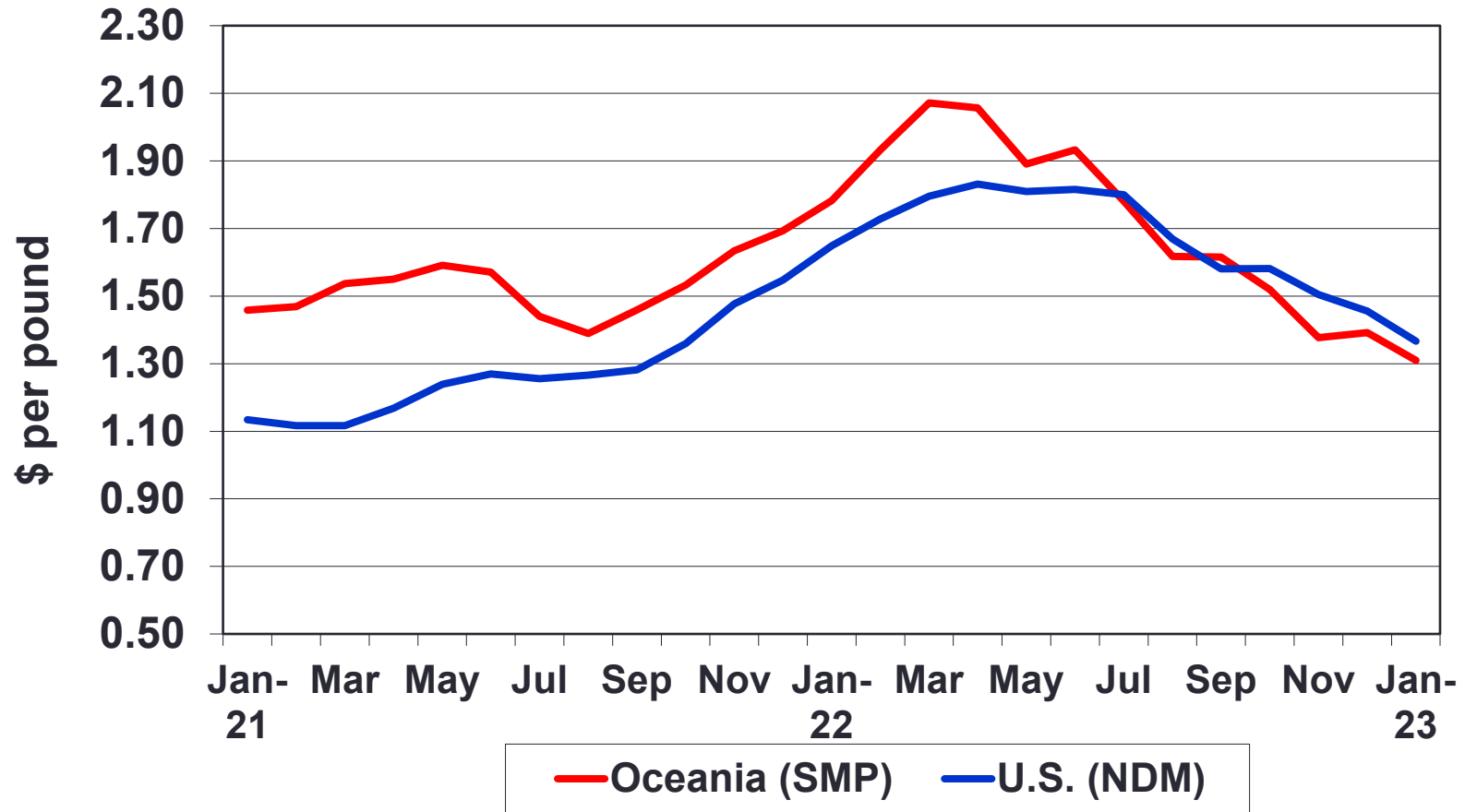
- Total Dairy Exports Were Record High on a Fat and Skims-solids Bases
- Nonfat Dry/Skim Milk and Dry Whey Exports Dropped
 - Weaker demand in several Asian markets
 - Stronger competition
 - Decline in dry whey more than offset by higher exports of other whey products
- Cheese and Butter Exports Stronger
 - Earlier year price competitiveness
 - Price advantage eroded later in the year

Annual Changes in 2022 Major Product Exports



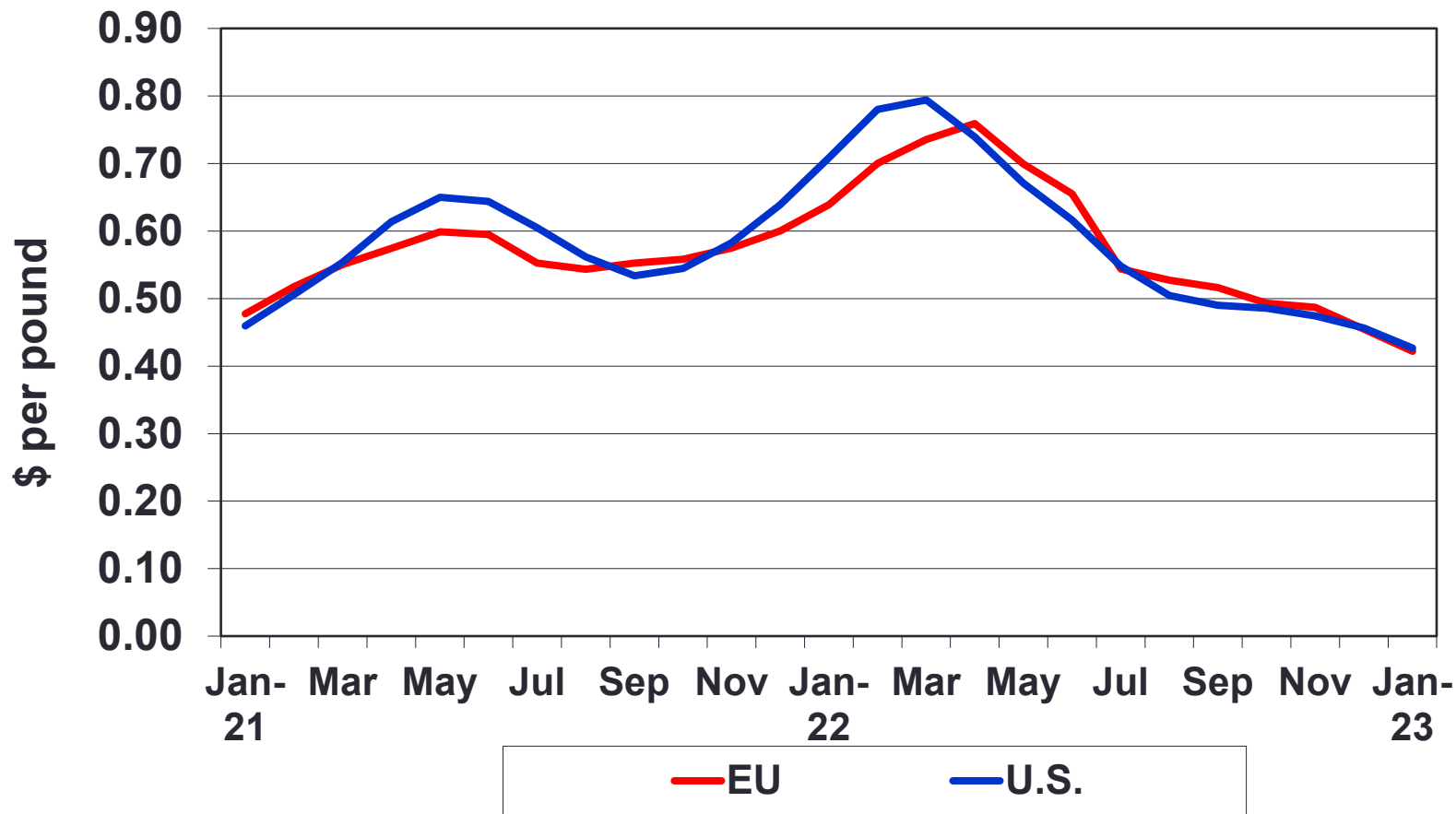
Nonfat/Skim Milk Powder Prices

Monthly Average



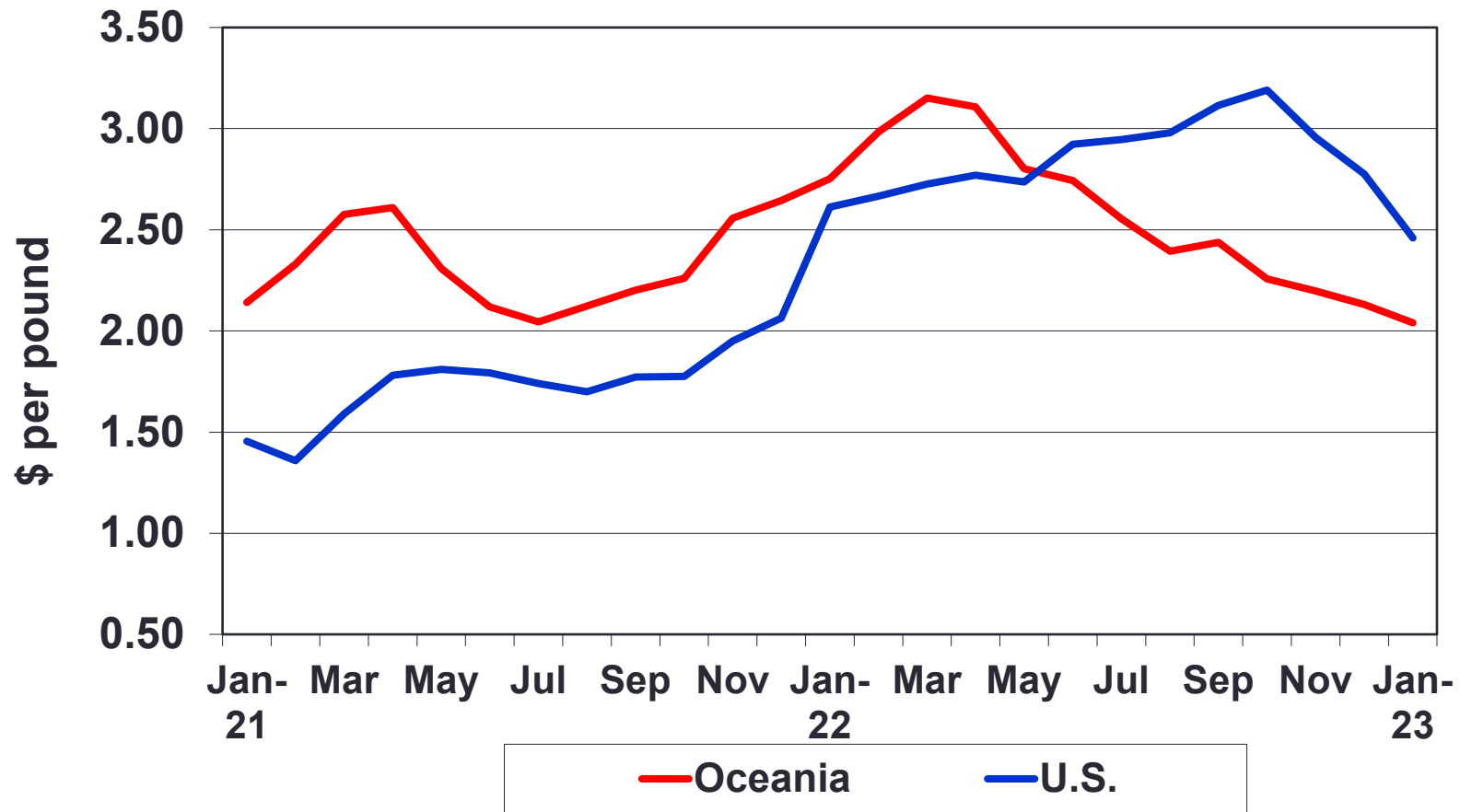
Dried Whey Prices

Monthly Average



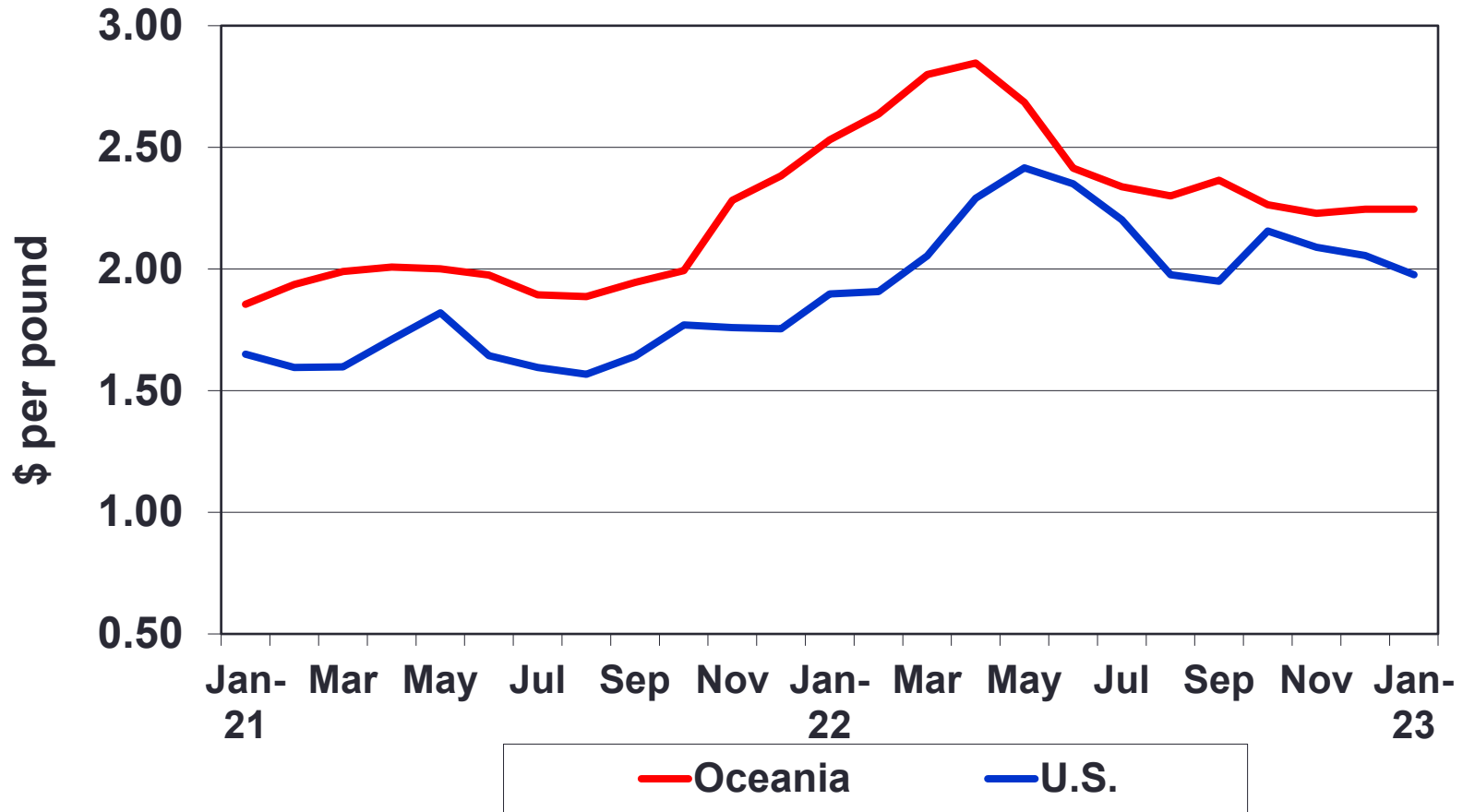
Butter Prices

Monthly Average



Cheddar Cheese Prices

Monthly Average

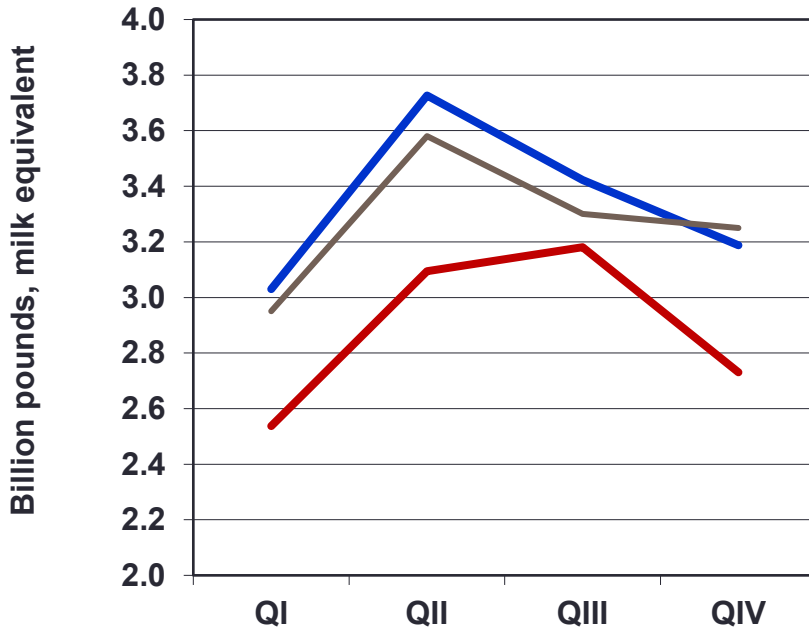


Exports Weaker in 2023

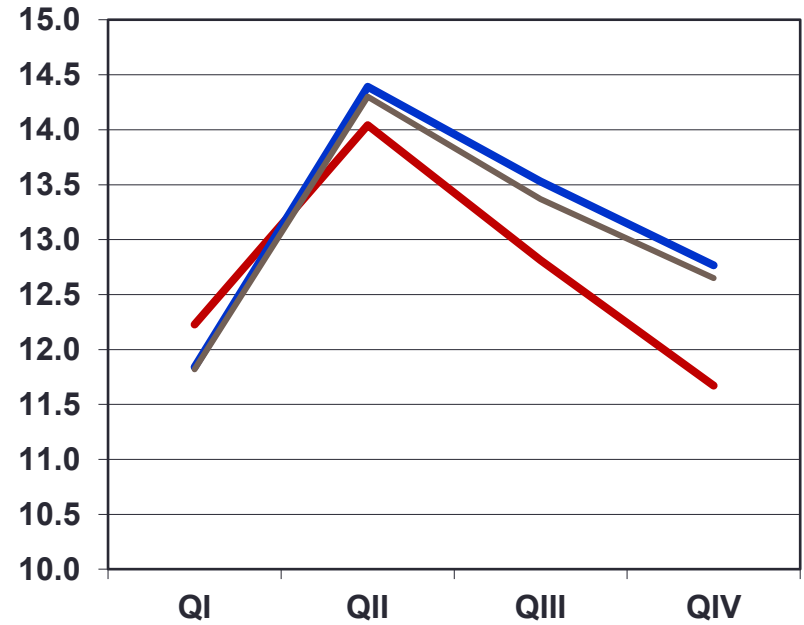
- Exports are expected to decline in 2023
 - Relatively weak global economy
 - Increased price competition
 - However, less competitor production in some products
 - Weaker dollar may help competitiveness

Lower Exports in 2023

Fat Basis



Skim Solids Basis



— 2021 — 2022 — 2023*



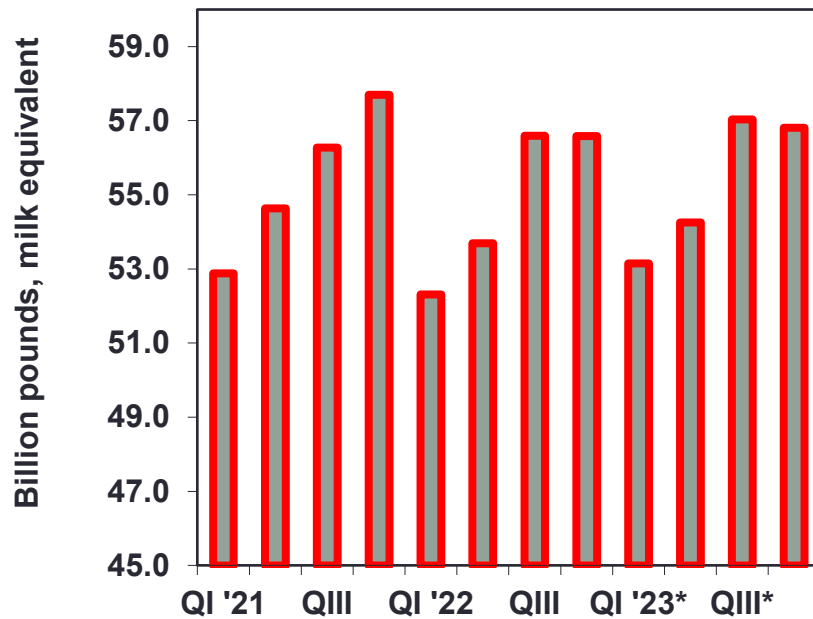
*Forecast

Slow Growth in 2023 Domestic Use

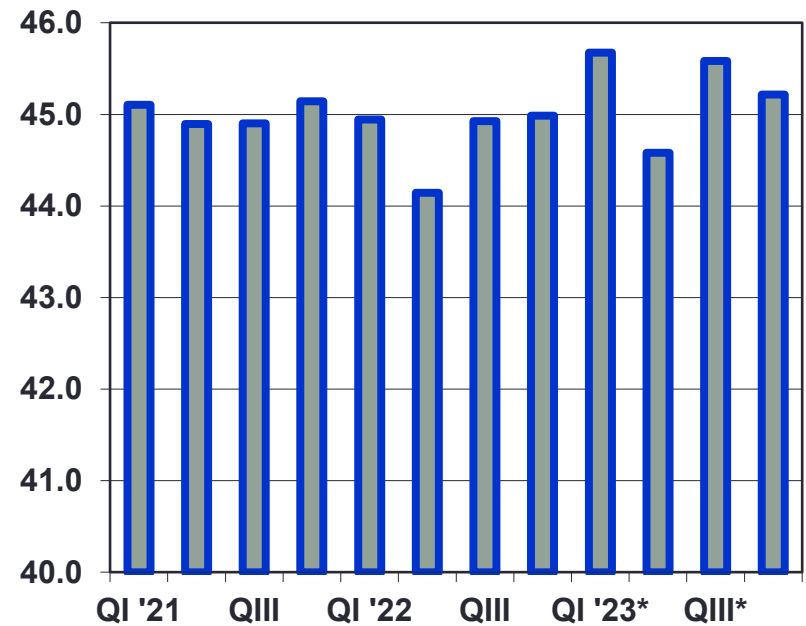
- **Domestic use is expected to average higher than 2022 during the year**
 - Economic weakness may be a drag on demand
 - Lower product prices may help support increased use.

Slow Growth in Domestic Use

Fat Basis

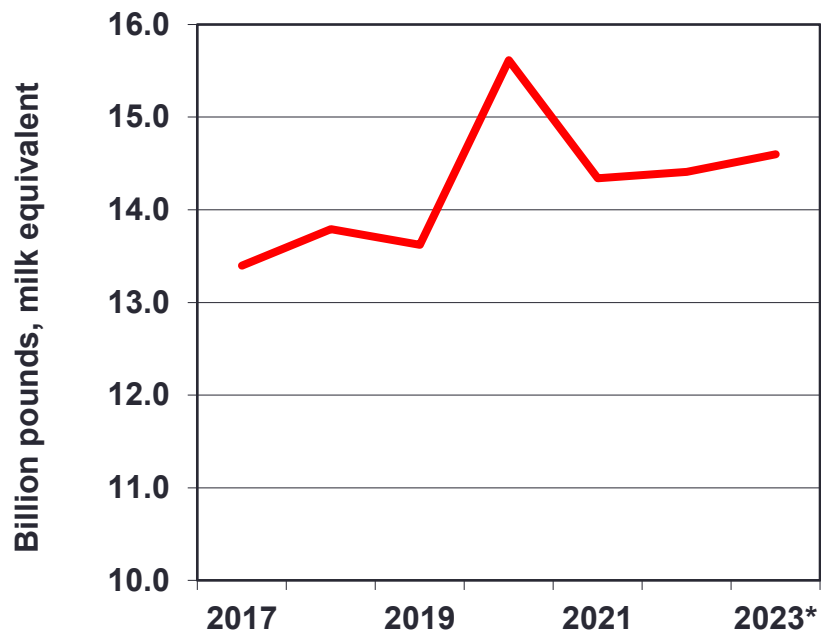


Skim Solids Basis

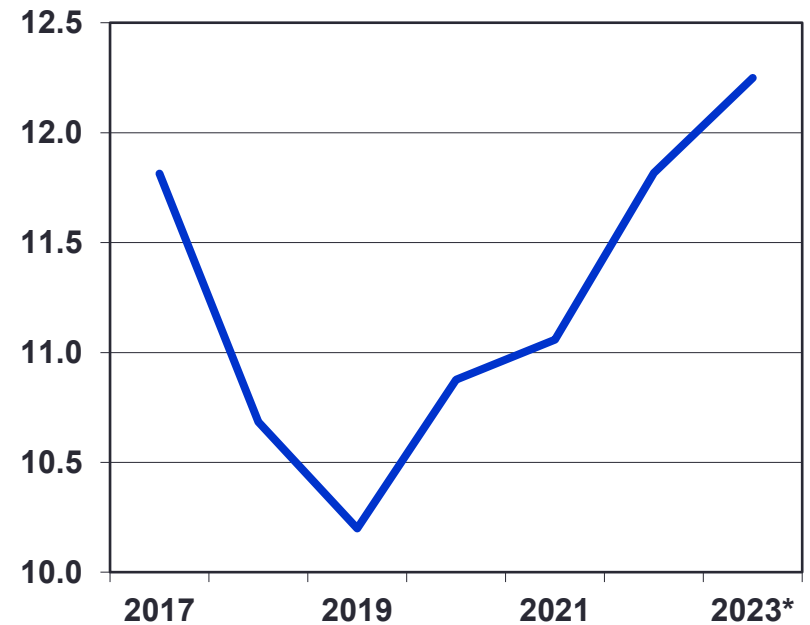


...But Higher Stocks Will Overhang the Market

Year End Stocks, Fat Basis



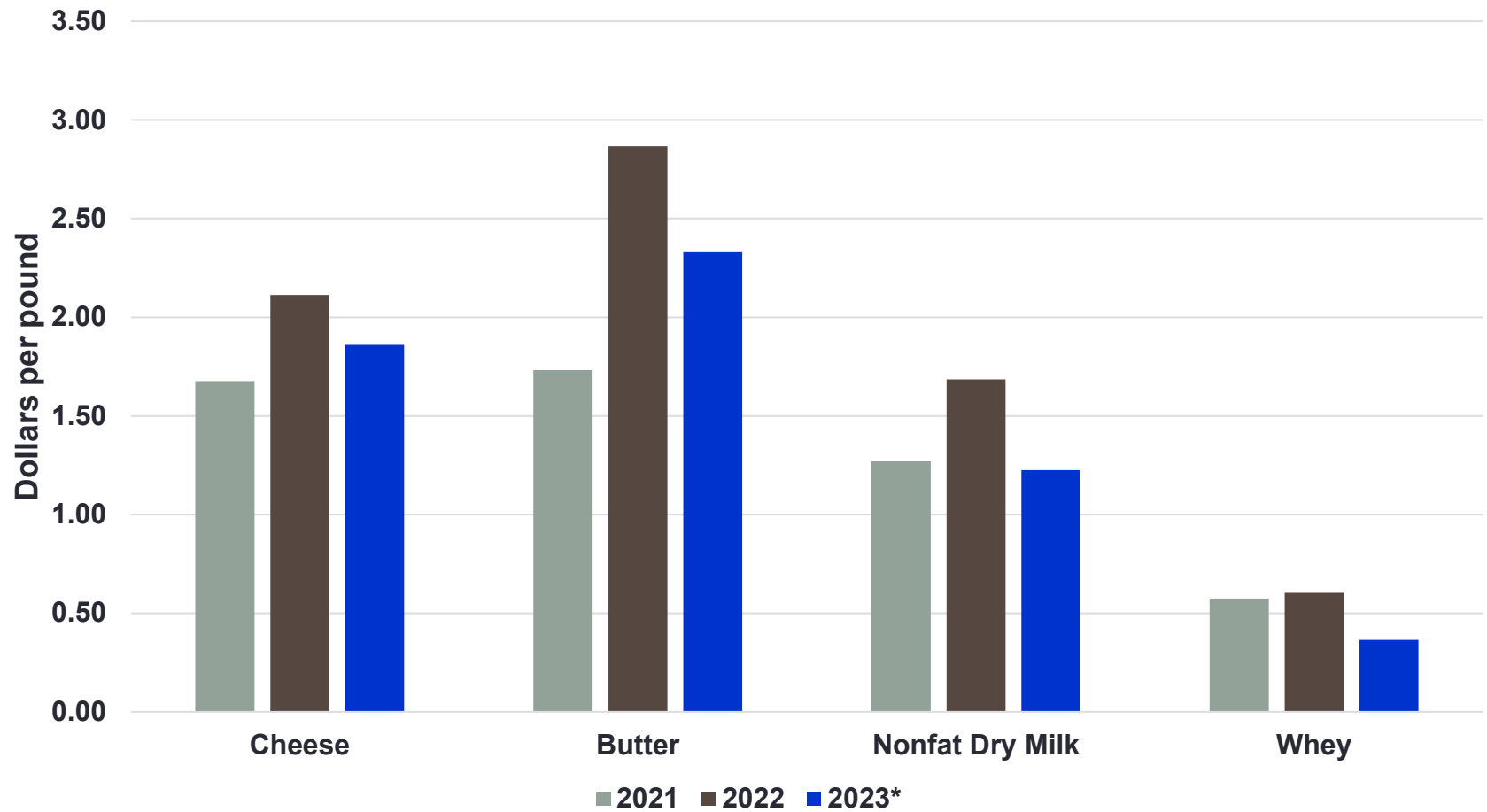
Year End Stocks, Skim Solids Basis



Lower 2023 Dairy Prices Are Expected With Larger Supplies vs Slowly Improving Use

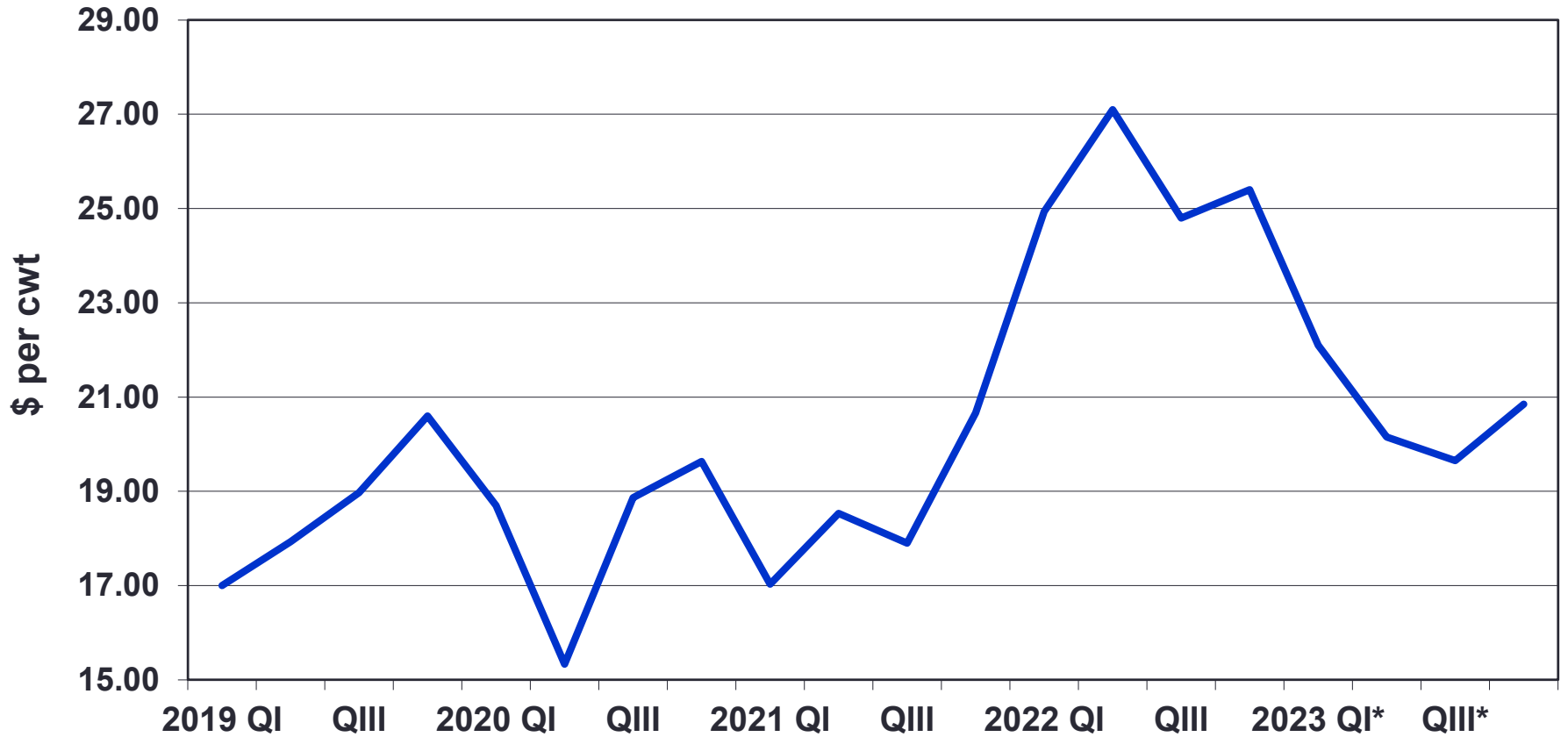
- Class III price to average \$17.90 per cwt
 - Cheese price weaker: \$1.860 per pound
 - Whey price weaker: \$0.365 per pound
- Class IV price to average \$18.25 per cwt
 - Butter price lower: \$2.330 per pound
 - Nonfat dry milk price lower: \$1.225 per pound
- All milk price to average \$20.70 per cwt

Lower Product Prices in 2023



*Forecast

Quarterly Average All Milk Prices



*Forecast

Additional Information on the Outlook for 2023 is Available on the Following Websites:

- World Agricultural Supply and Demand Estimates
 - <http://www.usda.gov/oce/commodity/wasde/index.htm>
- Livestock, Dairy, and Poultry Situation and Outlook
 - <https://usda.library.cornell.edu/concern/publications/g445cd121?locale=en>
- Dairy: World Markets and Trade
 - <http://www.fas.usda.gov/data/dairy-world-markets-and-trade>