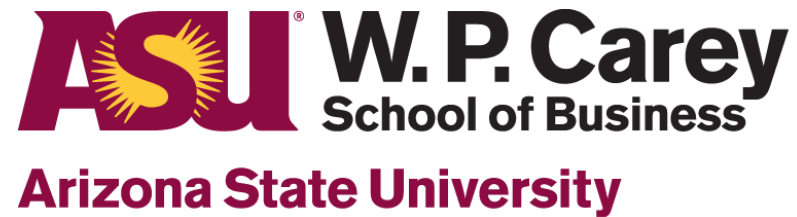


2024 Ag Forum – AZ ASFMRA

State, Regional & National Economic Outlook

Mark Manfredo, Ph.D.
Professor – Morrison School of Agribusiness
W. P. Carey School of Business
Arizona State University



Morrison School of Agribusiness



ChatGPT

"Why did the agricultural economist bring a ladder to the economic forecast meeting in Arizona?"

Because he heard the best way to predict the future in our state is to climb up a saguaro cactus and hope for a 'prickly' accurate outlook on the harvest!"

overview



Economic growth

Interest rates & inflation

Farm income &
commodity price outlook

Thoughts...

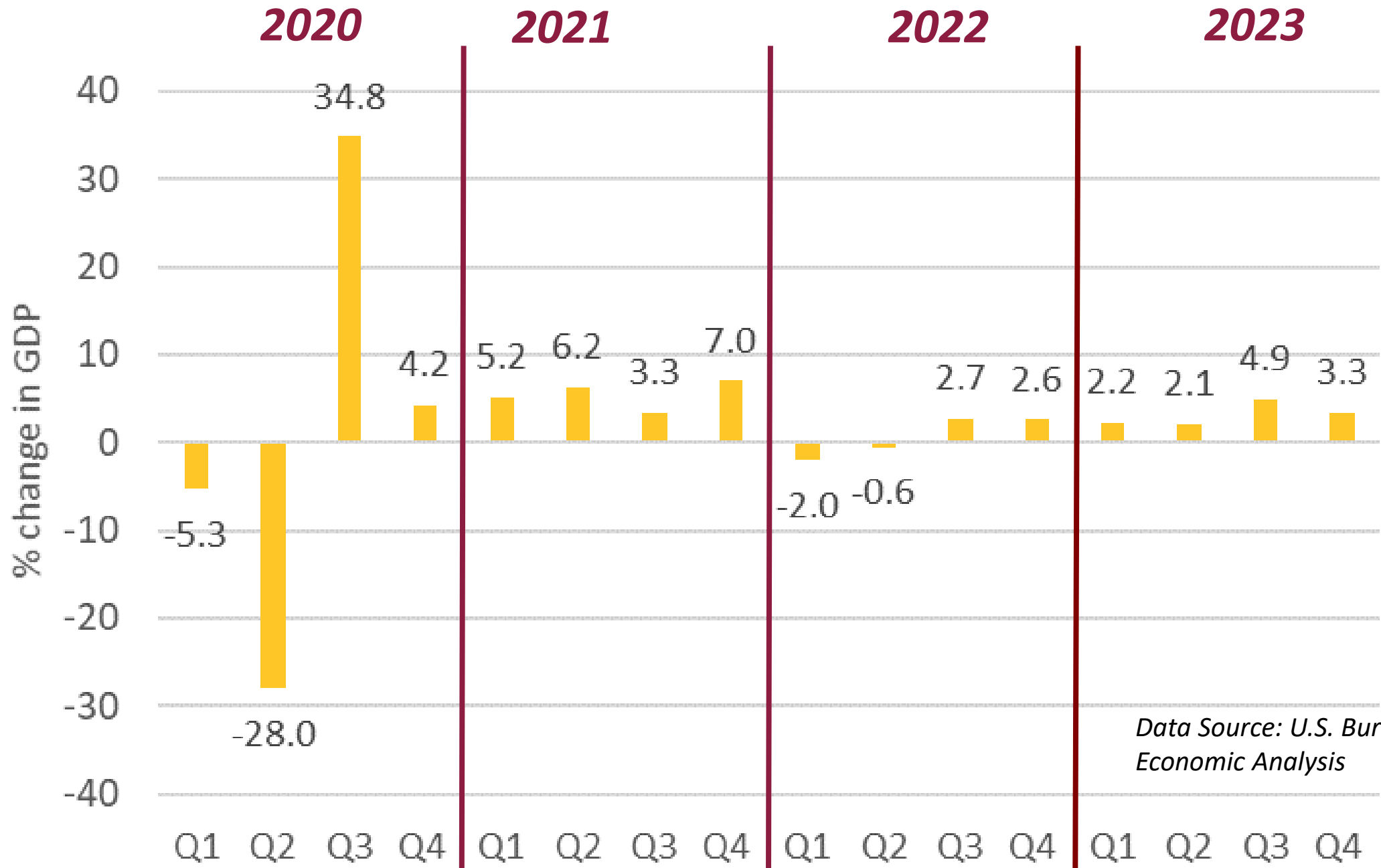
Takeaways for 2024

- Stable economic growth
- Inflation “rate” generally under control
- “Mostly” lower output prices and higher input prices with declining aggregate farm income

Economic growth

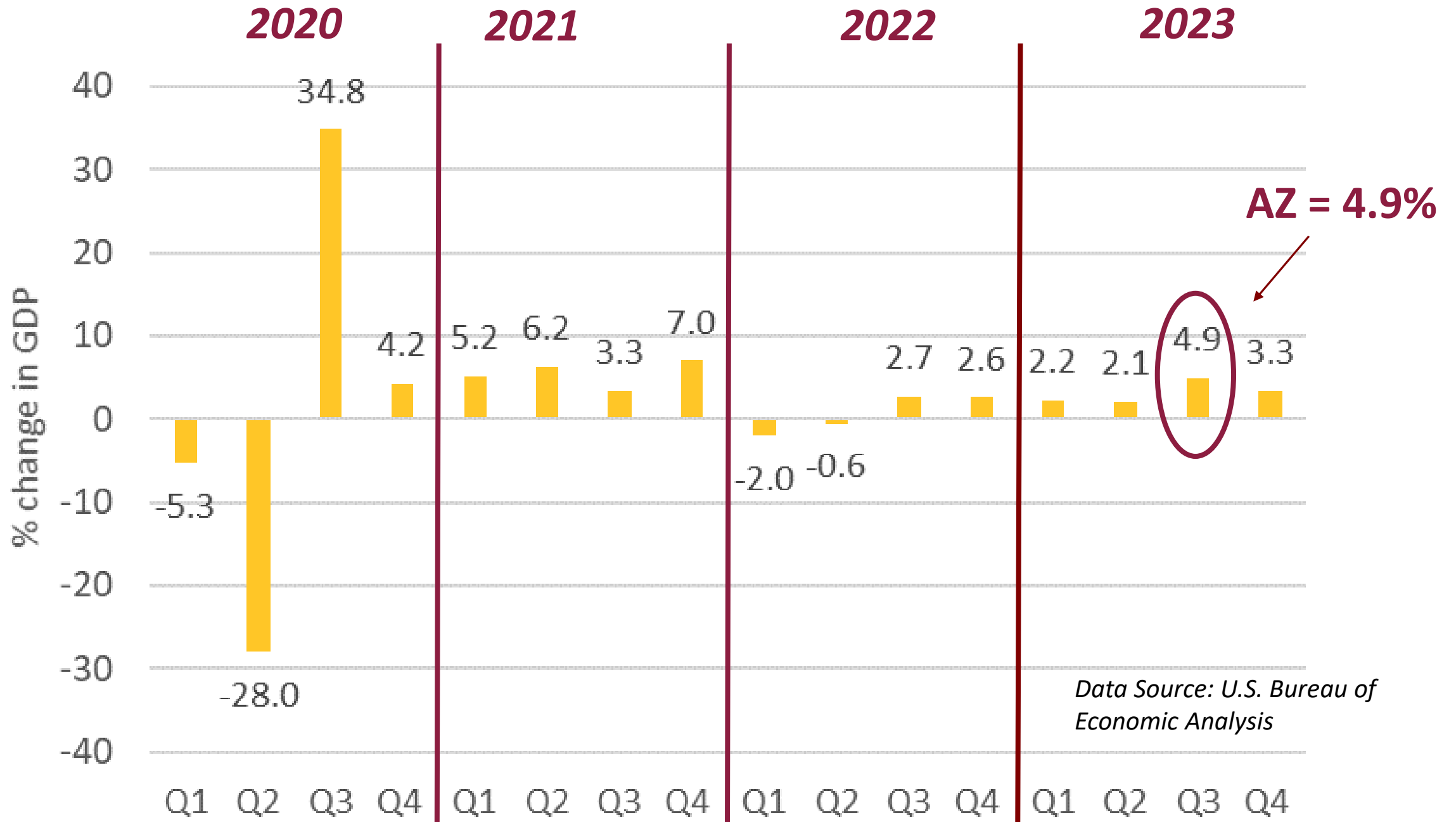
“What do an economist, plumber, and garbage disposal worker have in common? They all handle the gross domestic product!”

Real GDP - % Change from Previous Quarter



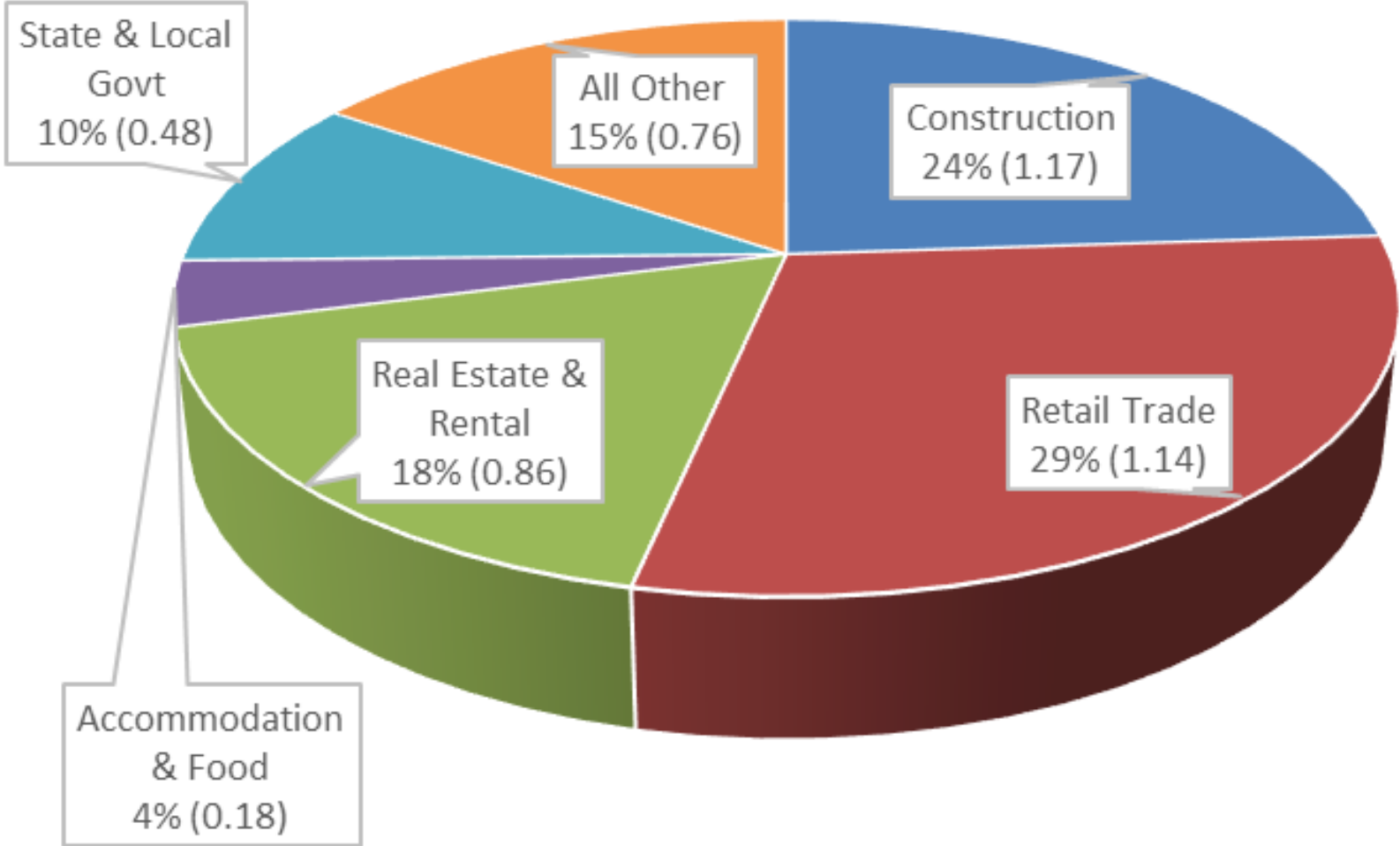
Data Source: U.S. Bureau of Economic Analysis

Real GDP - % Change from Previous Quarter

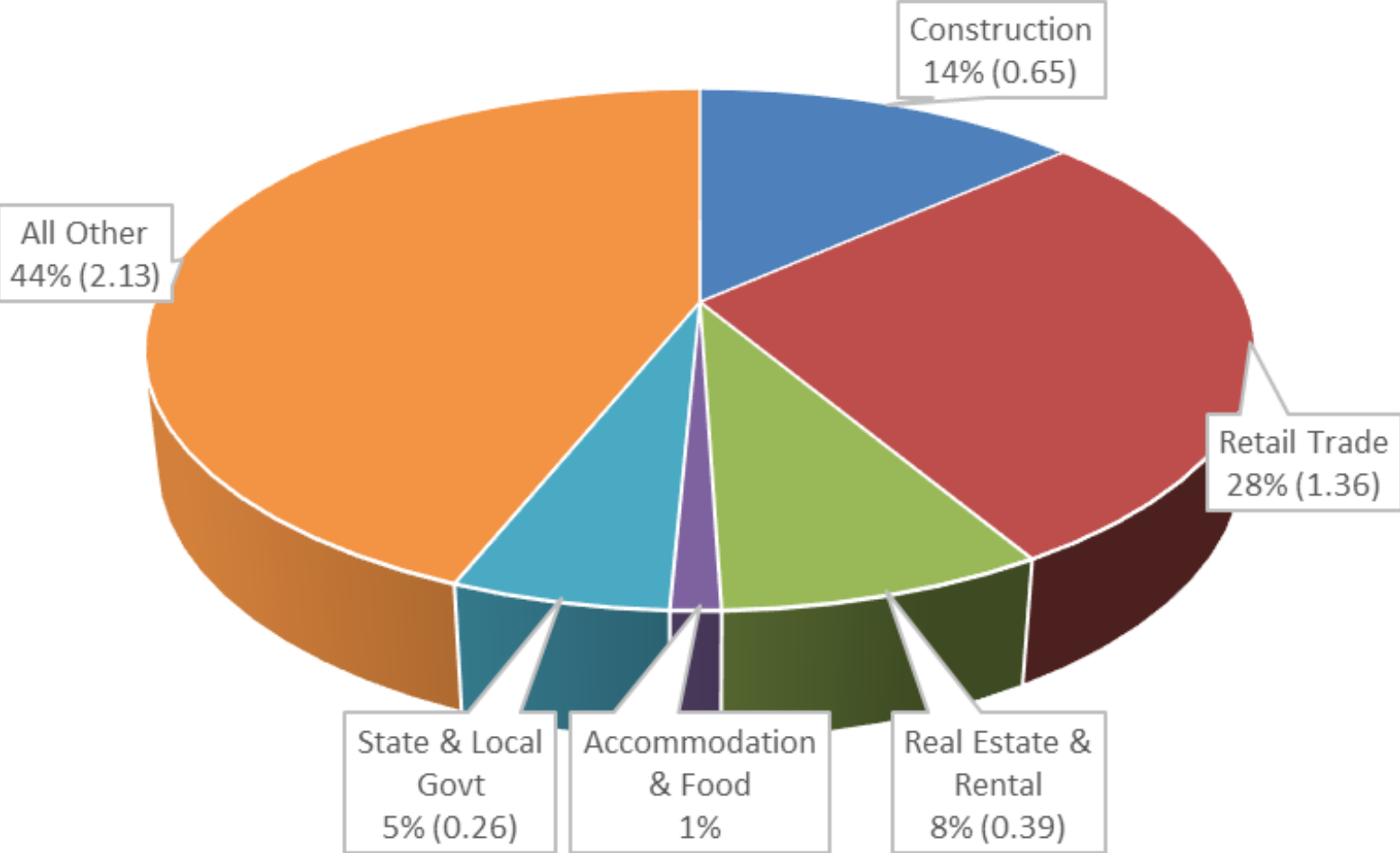


Data Source: U.S. Bureau of Economic Analysis

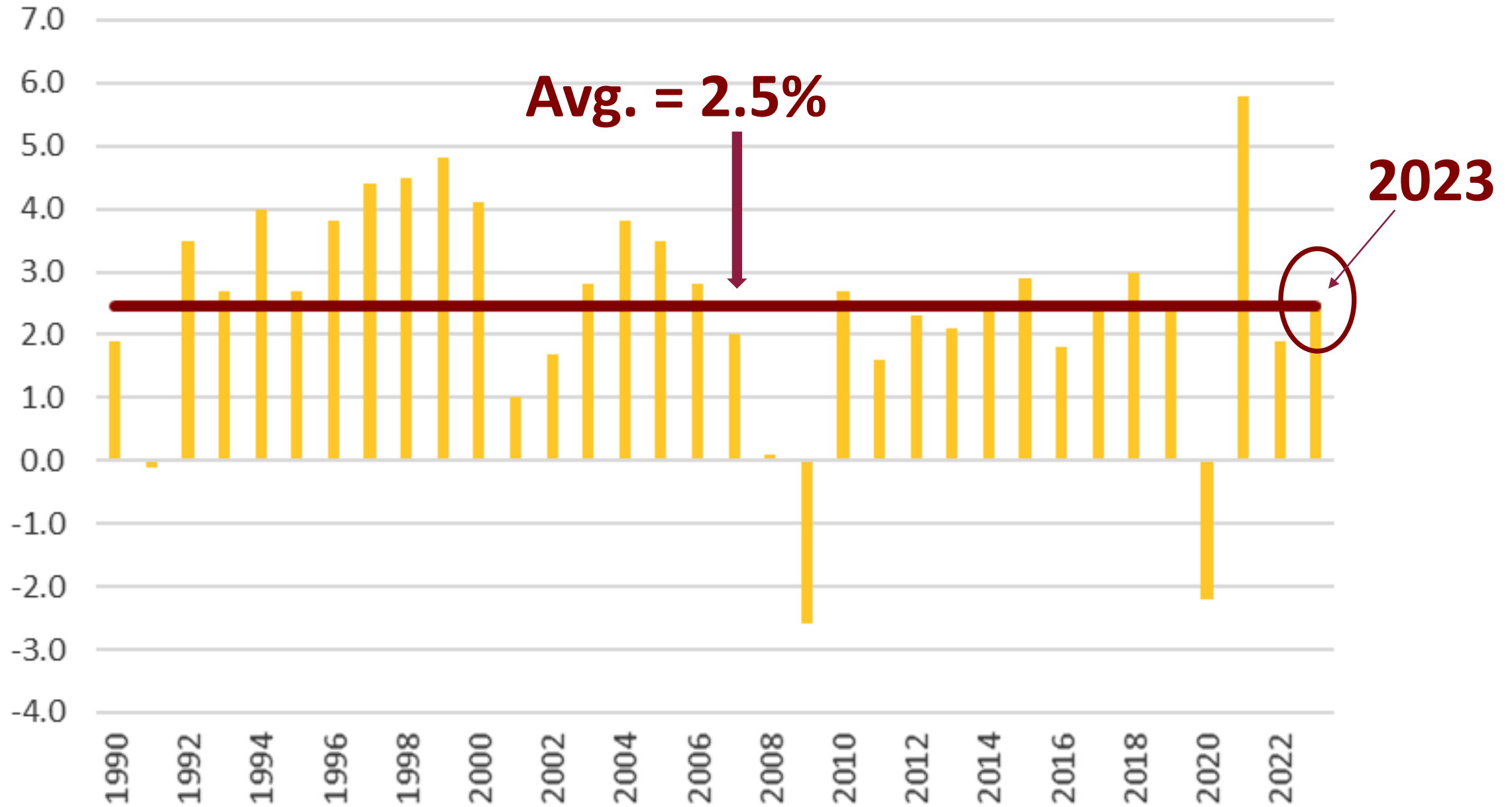
2023 Q3 GDP Growth Contribution - Arizona



2023 Q3 GDP Growth Contribution - United States



Real GDP Growth - Annual % (1990 – 2023)



Annual Real GDP 2023 Forecast & Actual

| Country | 2023 Forecast | 2023 Actual |
|---------|---------------|-------------|
| U.S. | 0.30% | 2.50% |
| Canada | 0.50% | 1.10% |
| Mexico | 1.10% | 3.20% |
| Brazil | 1.00% | 2.90% |
| Russia | -2.60% | 3.00% |
| India | 5.40% | 6.90% |
| China | 5.70% | 5.20% |
| World | 1.90% | 2.50% |

A green arrow with a '+' sign points from the forecast column to the actual column for Mexico, Brazil, and India. A red arrow points down from the actual value for China.

Annual Real GDP 2024 + Forecasts

| Country | 2024 Forecast | Avg. Forecast 2025 to 2027 |
|---------|---------------|----------------------------|
| U.S. | 1.80% | 1.93% |
| Canada | 1.20% | 1.95% |
| Mexico | 2.30% | 2.13% |
| Brazil | 1.70% | 2.10% |
| Russia | 1.90% | 1.25% |
| India | 6.20% | 5.90% |
| China | 4.70% | 3.98% |
| World | 2.30% | 2.68% |

Interesting GDP Data

| Country | 2022 | 2023 | 2024 |
|----------------------|--------|--------|-------|
| Ukraine | -29.1% | 5.0% | 4.1% |
| Guyana | 63.3% | 39.1% | 26.9% |
| Venezuela GDP Growth | 13.3% | -1.0% | 3.2% |
| Venezuela Inflation | 186.7% | 337.2% | 84.7% |

Data Source: Economist Intelligence Unit (EIU) Database

thoughts on economic growth

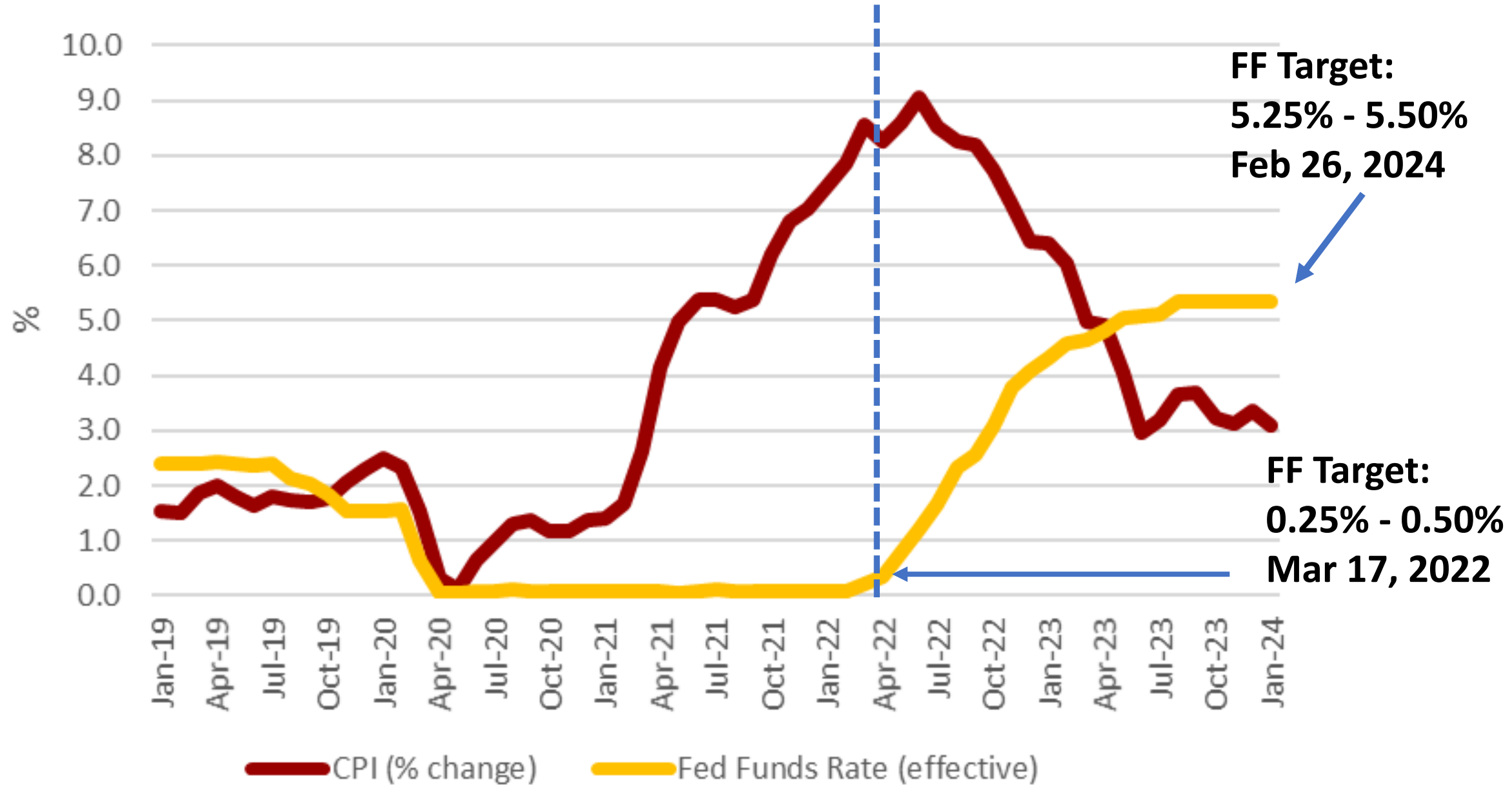
- Soft landing? Back to “normal”?
- China’s growth slowing with longer-term growth prospects shifting to India
- Geopolitical risks remain

Interest rates & inflation

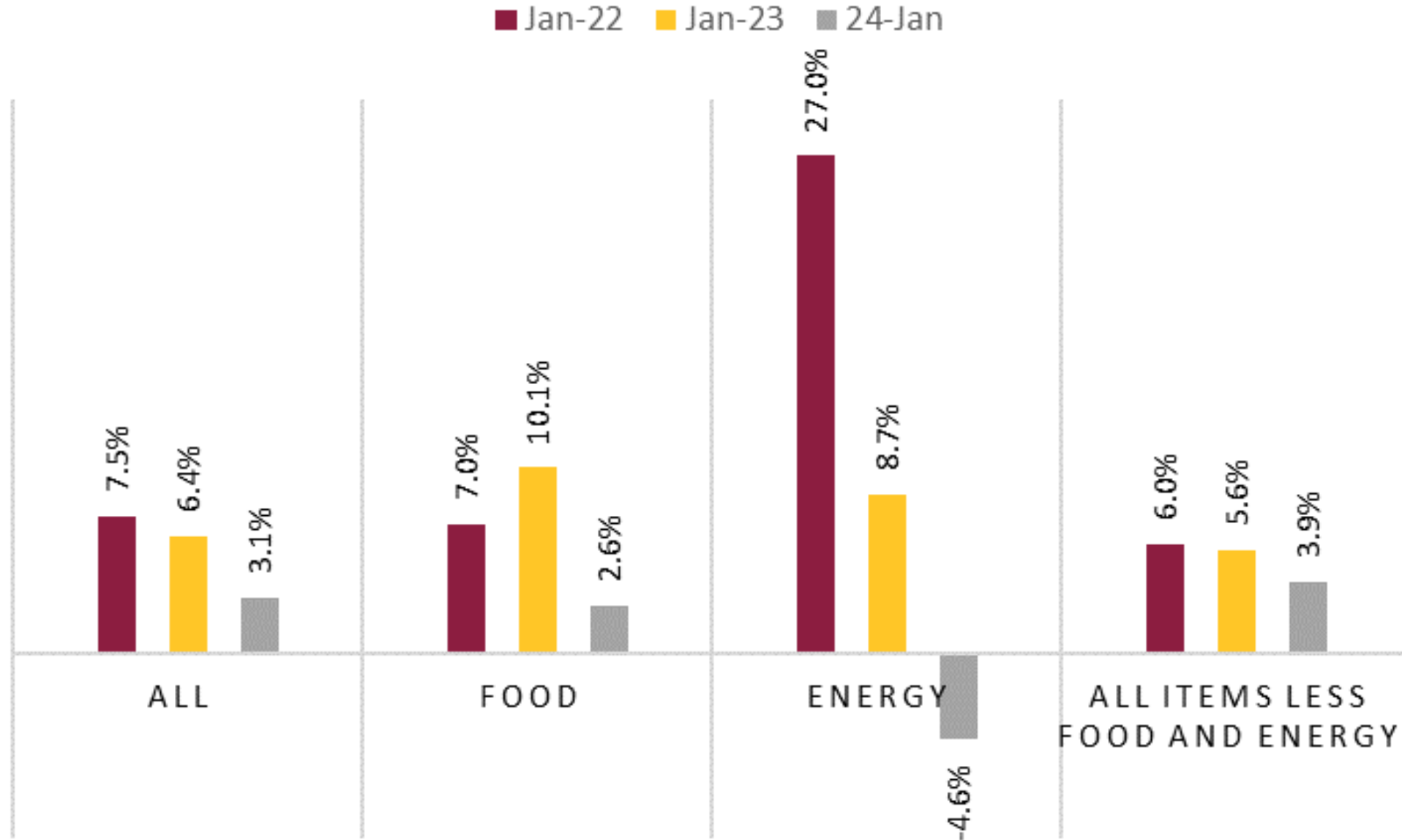
*“A nickel ain’t worth a dime
anymore...”*

Yogi Berra

CPI % Change vs. Effective Federal Funds Rate



12 month % change in CPI (Jan. to Jan.)



Data Source: U.S. Bureau of Labor Statistics

Food Price Inflation (Jan 2020 to Jan 2024)



Data Source: FRED Database

— All Food (% Annual)

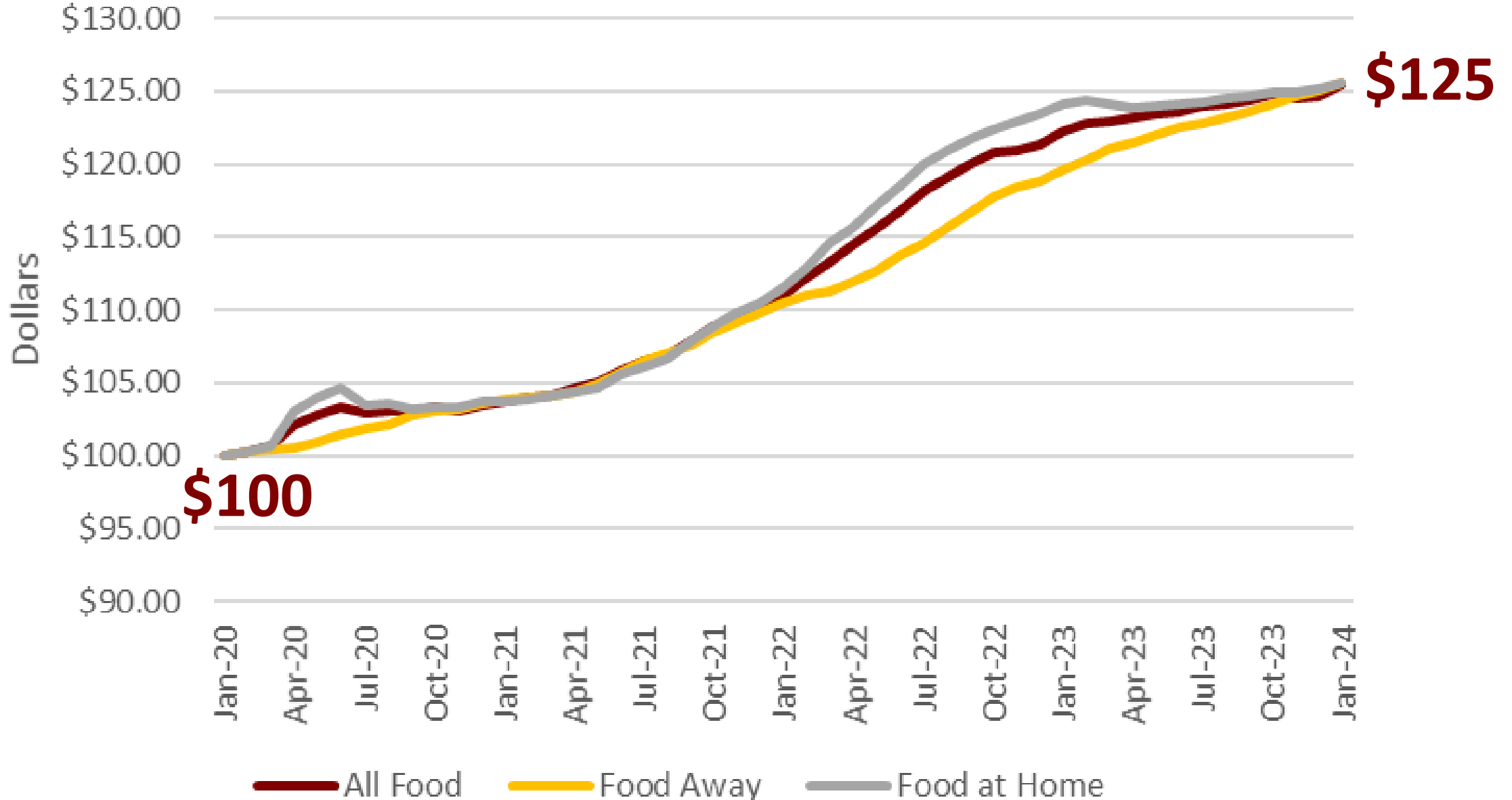
Food Price Inflation (Jan 2020 to Jan 2024)



Data Source: FRED Database

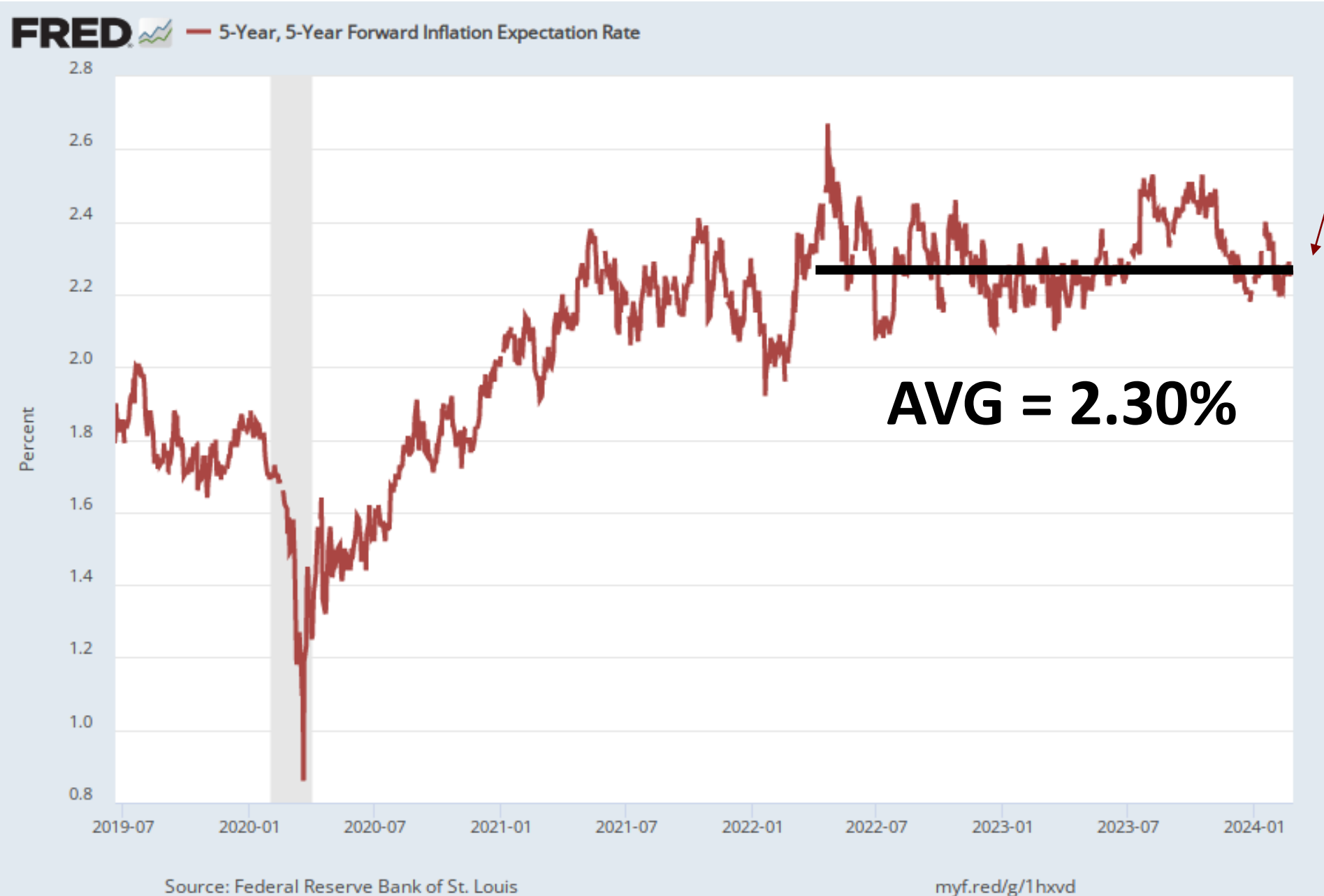
— All Food (% Annual) — All Food (% monthly)

Food Price Inflation (Jan 2020 to Jan 2024) of \$100



Data Source: FRED database

5-Year, 5-Year Forward Inflation Expected Rate



AVG = 2.30%

2.26%

CME Fed Watch: a market-based forecast

CME FedWatch Tool

Stay up-to-date with the latest probabilities of FOMC rate moves with the CME FedWatch Tool.

<https://www.cmegroup.com/trading/interest-rates/countdown-to-fomc.html>

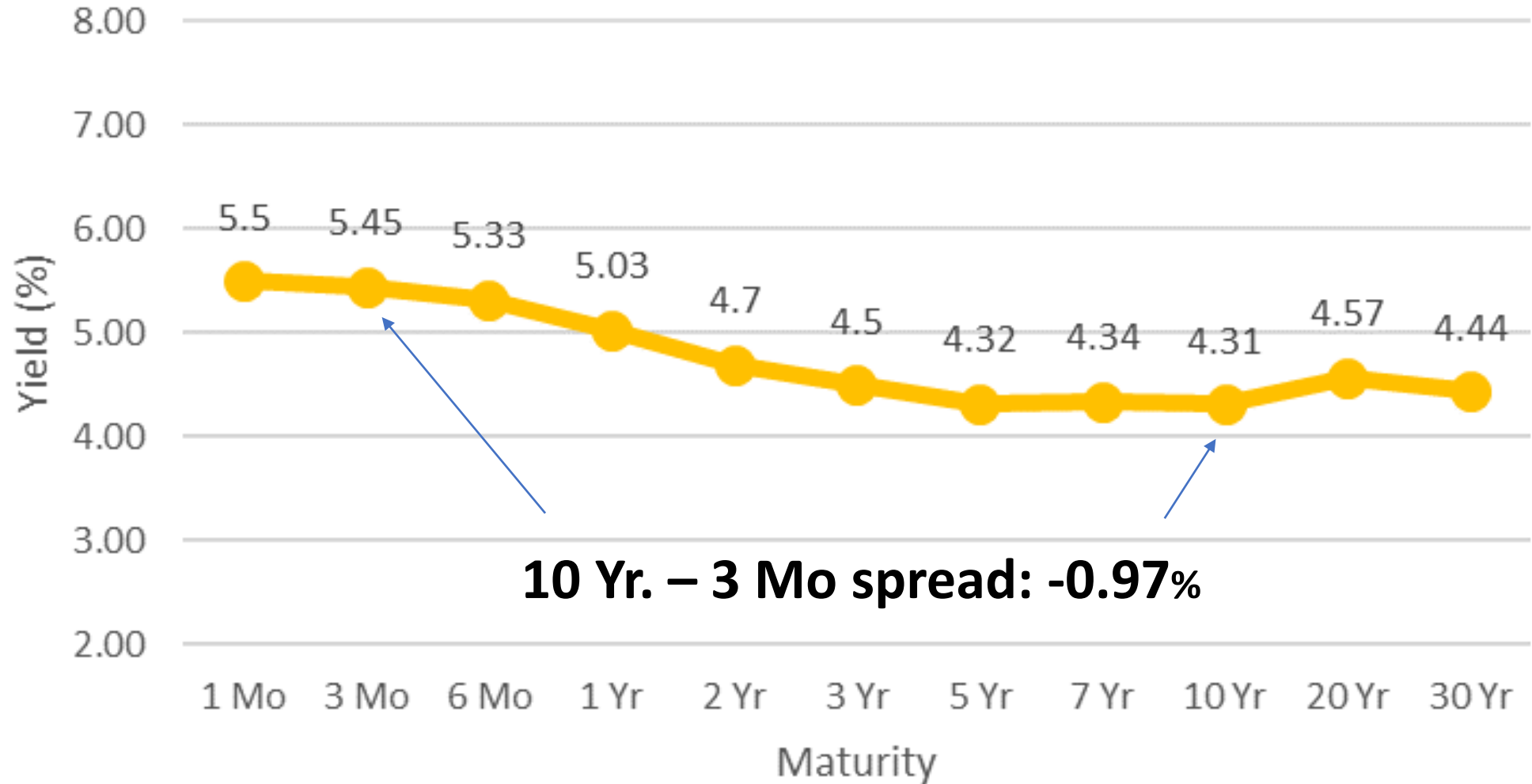
CME FedWatch (Feb. 28, 2024)

| MEETING DATE | Target | Prob | Prob > | Prob < |
|-------------------------|---------------|-------------|------------------|------------------|
| 3/20/2024 | 525-550 | 99.5% | 0.0% | 0.5% |
| 5/1/2024 | 525-550 | 80.8% | 0.0% | 19.2% |
| 6/12/2024 | 500-525 | 51.5% | 38.4% | 10.1% |
| 7/31/2024 | 500-525 | 44.3% | 17.4% | 38.2% |
| 9/18/2024 | 475-500 | 40.7% | 31.1% | 28.1% |
| 11/7/2024 | 475-500 | 33.1% | 17.9% | 49.0% |
| 12/18/2024 | 450-475 | 33.0% | 28.3% | 38.6% |

CME FedWatch (accessed 2/27/2023):

<https://www.cmegroup.com/trading/interest-rates/countdown-to-fomc.html>

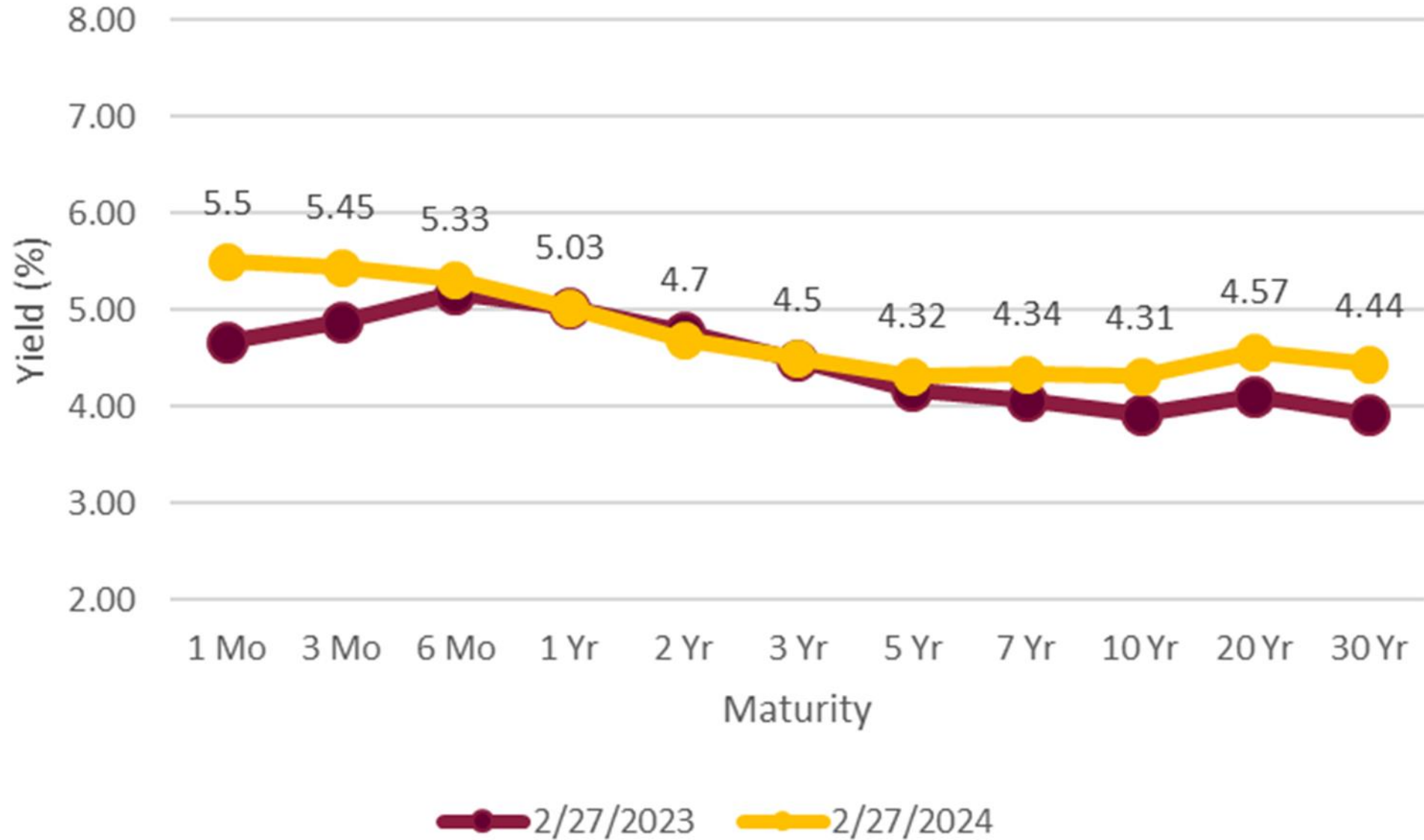
Treasury Yield Curve



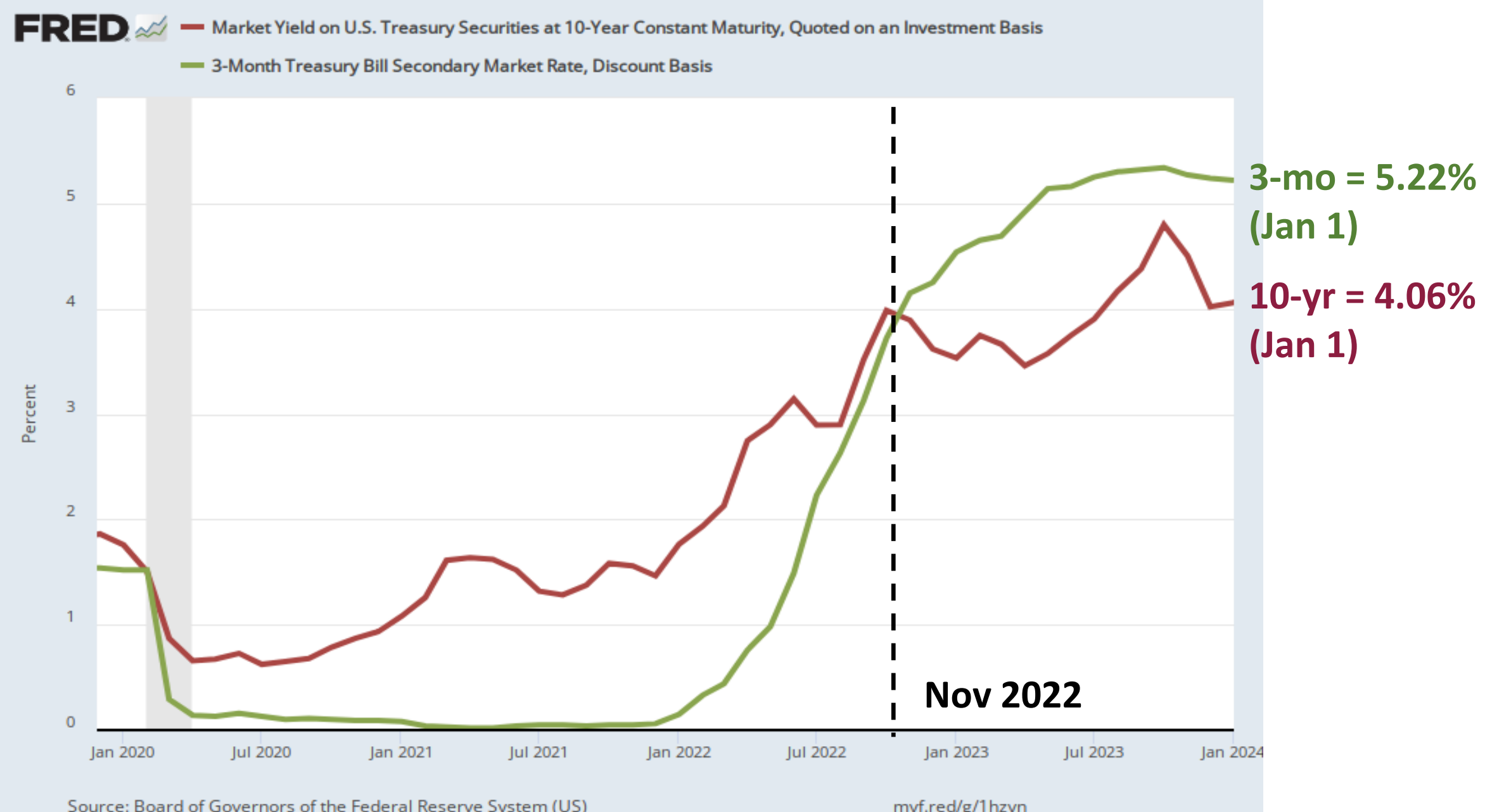
10 Yr. - 3 Mo spread: -0.97%

2/27/2024

Treasury Yield Curve



10-yr vs. 3-mo Treasury Yield (Monthly)



thoughts on inflation & interest rates

- Fed will keep steady (or raise) FFR to get to target inflation to 2%... Market suggests “maybe” a 0.25% decrease by summer
- Inflation rate slowed but prices sticky relative to pre-Covid reference point
- Yield curve still inverted but no recession? Still a signal?

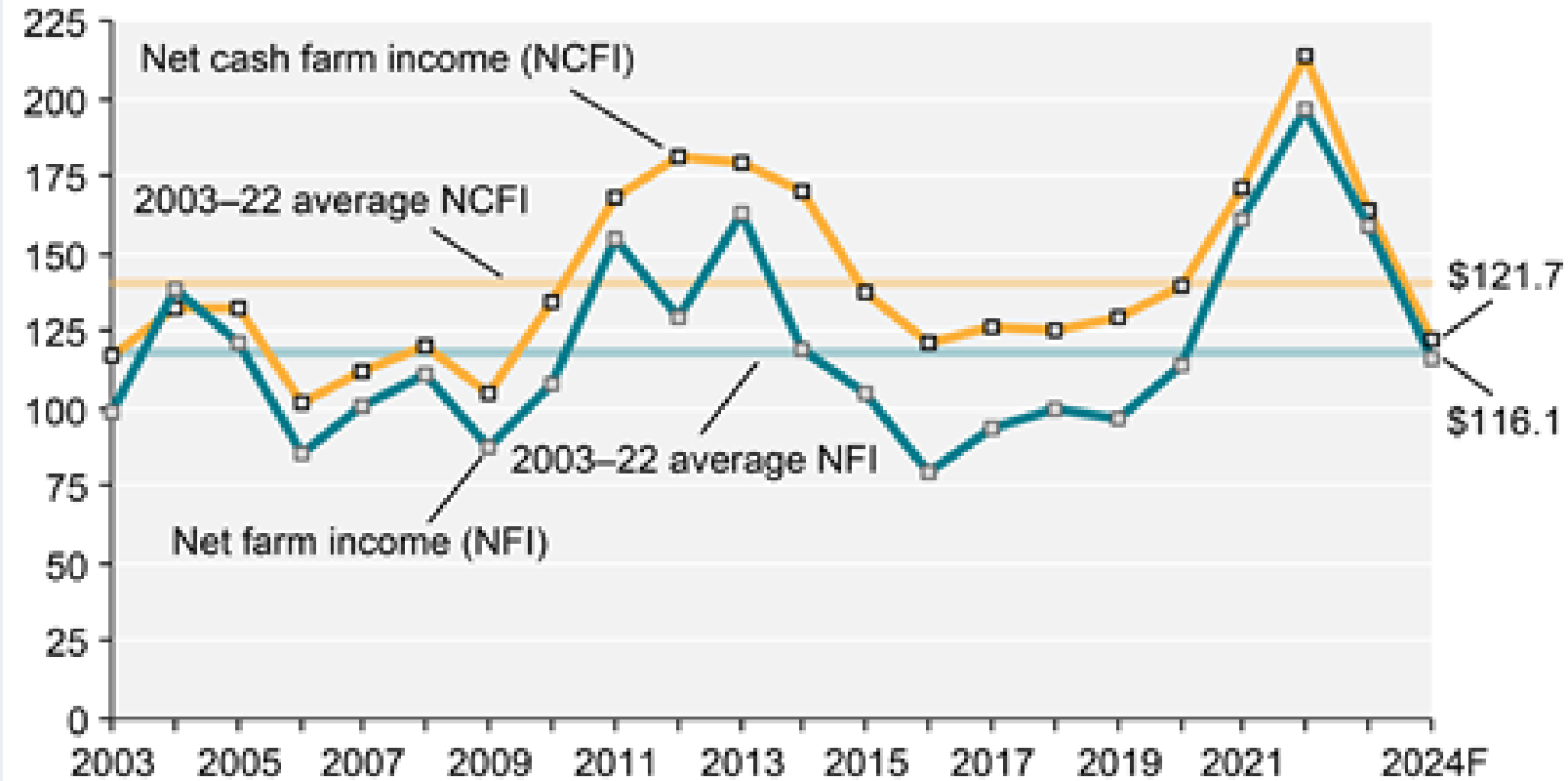
Farm income & commodity price outlook

“I don’t let people do projections for me because I don’t like throwing up on the desk.”

Charlie Munger

U.S. net farm income and net cash farm income, inflation adjusted, 2003–24F

Billion 2024 dollars

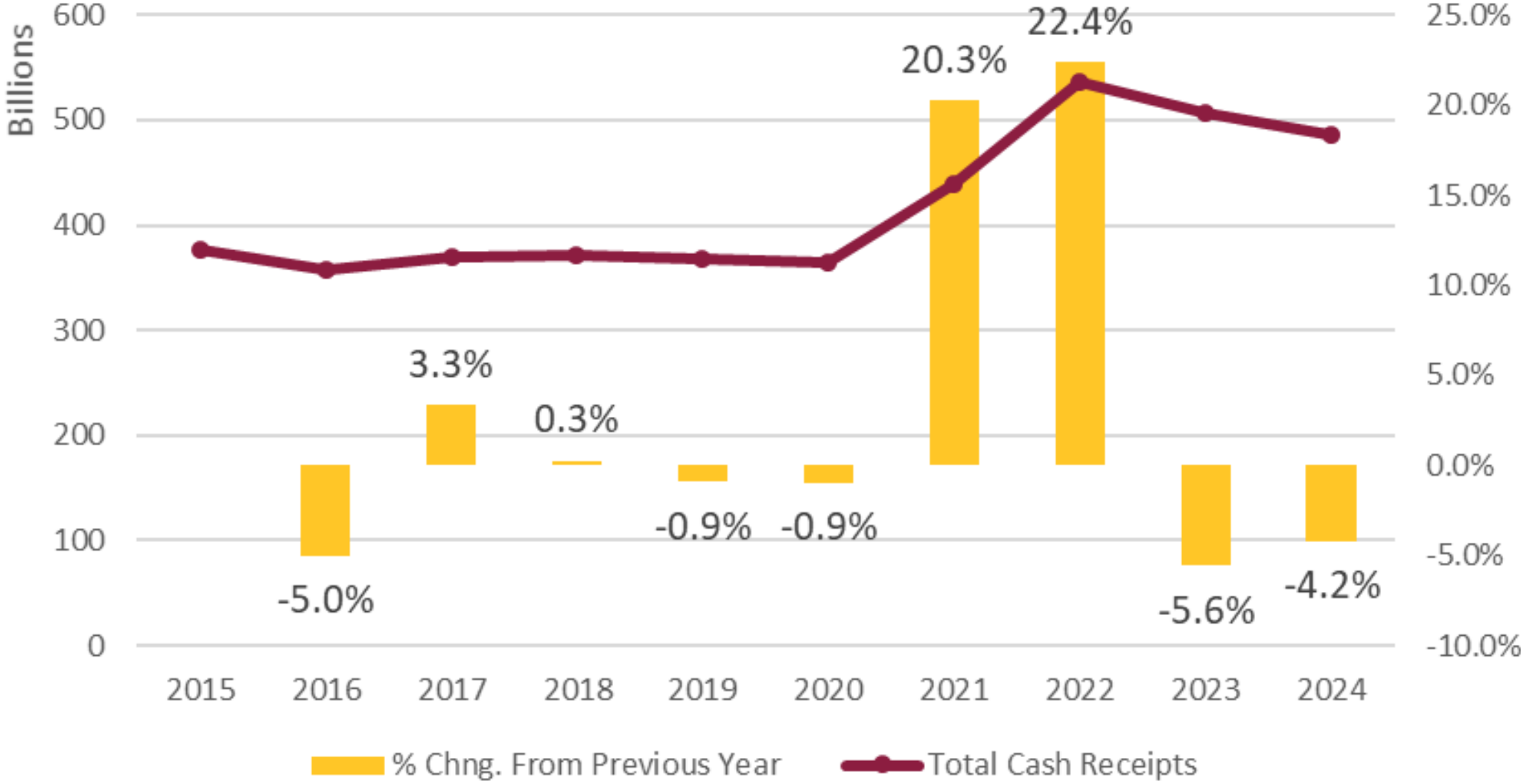


Note: F = forecast; data for 2023 and 2024 are forecasts. Values are adjusted for inflation using the U.S. Department of Commerce, Bureau of Economic Analysis, Gross Domestic Product Price Index (BEA API series code: A191RG) rebased to 2024 by USDA, Economic Research Service.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.

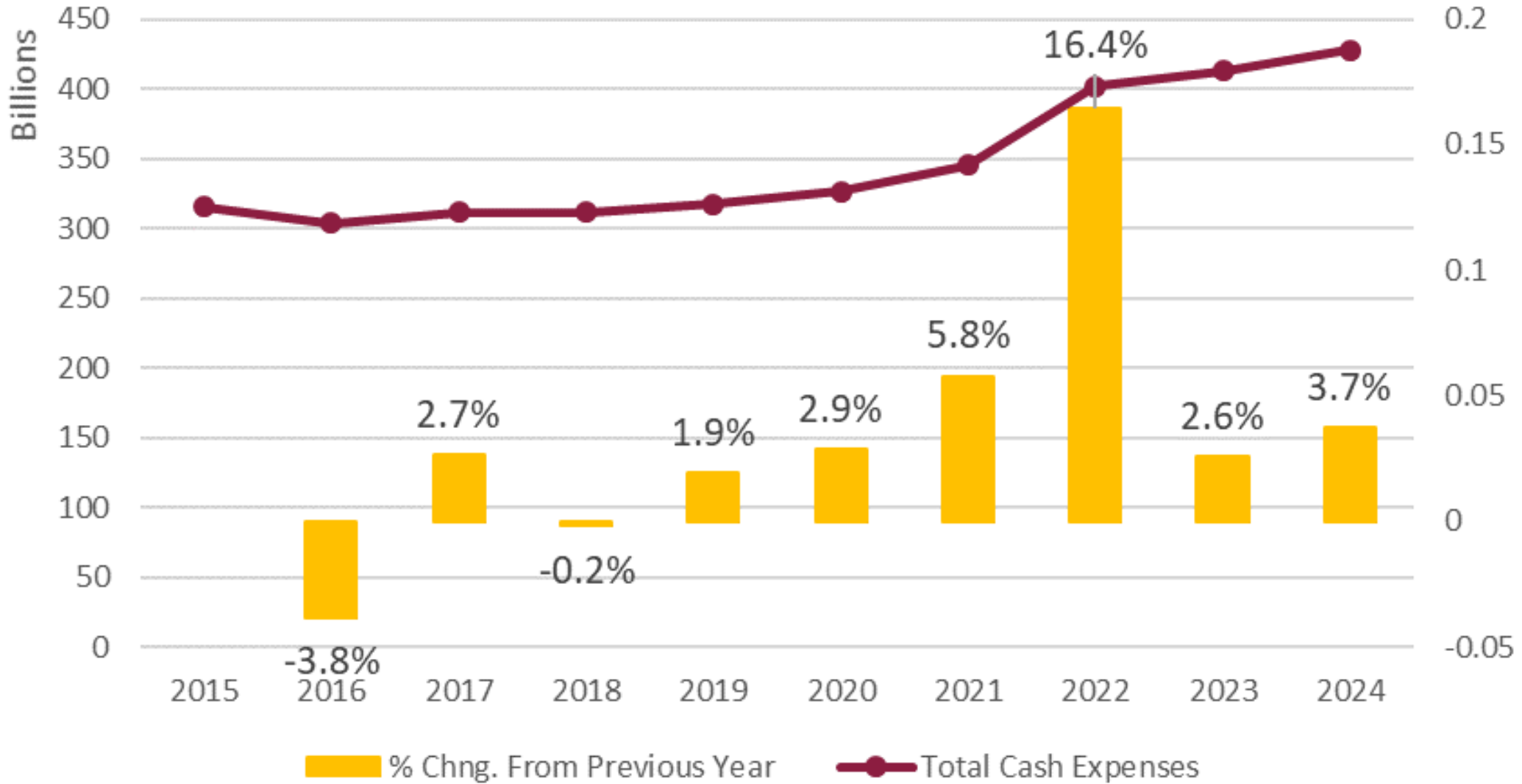
Data as of February 7, 2024.

NCFI: Total Cash Receipts

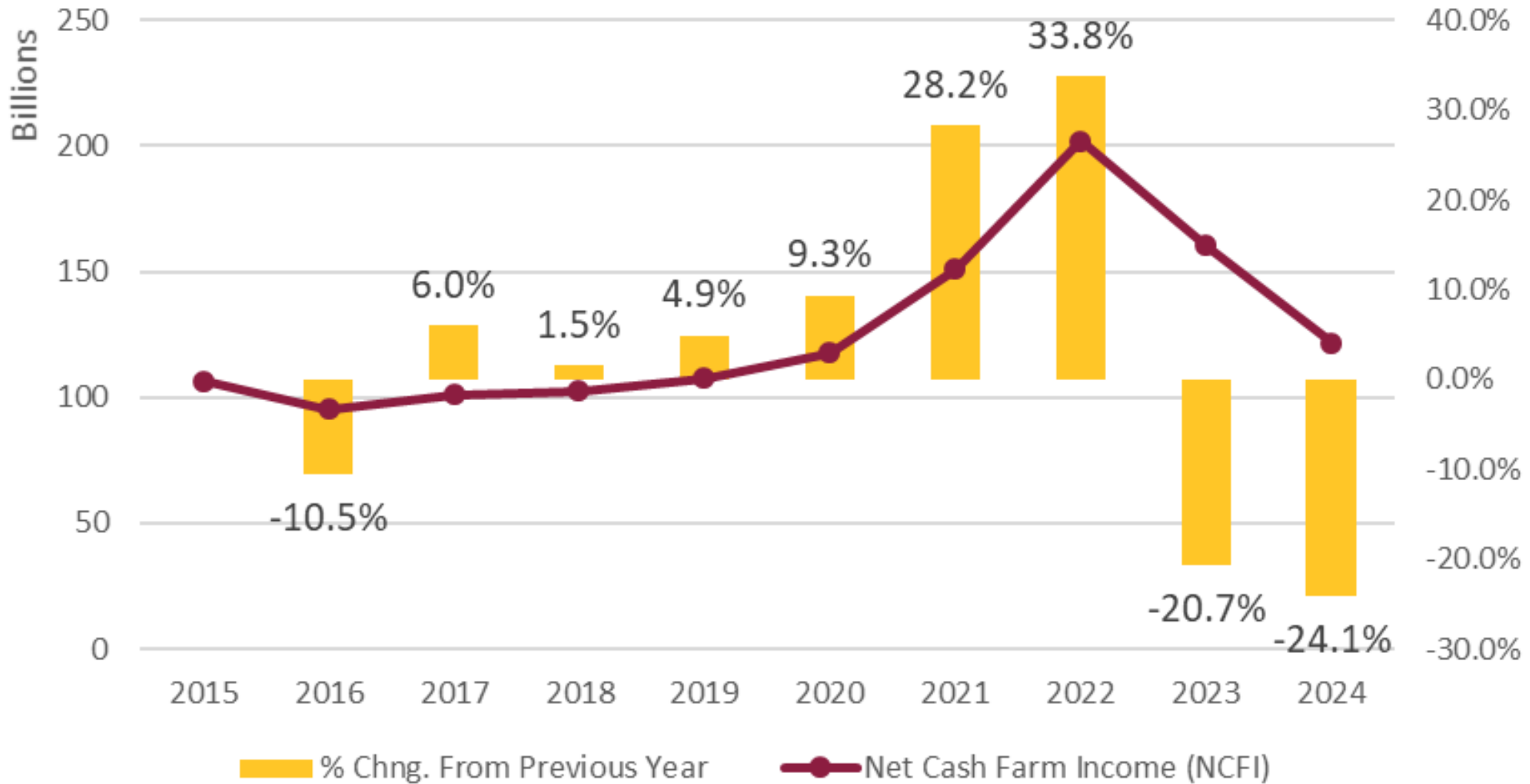


Data Source: USDA-ERS

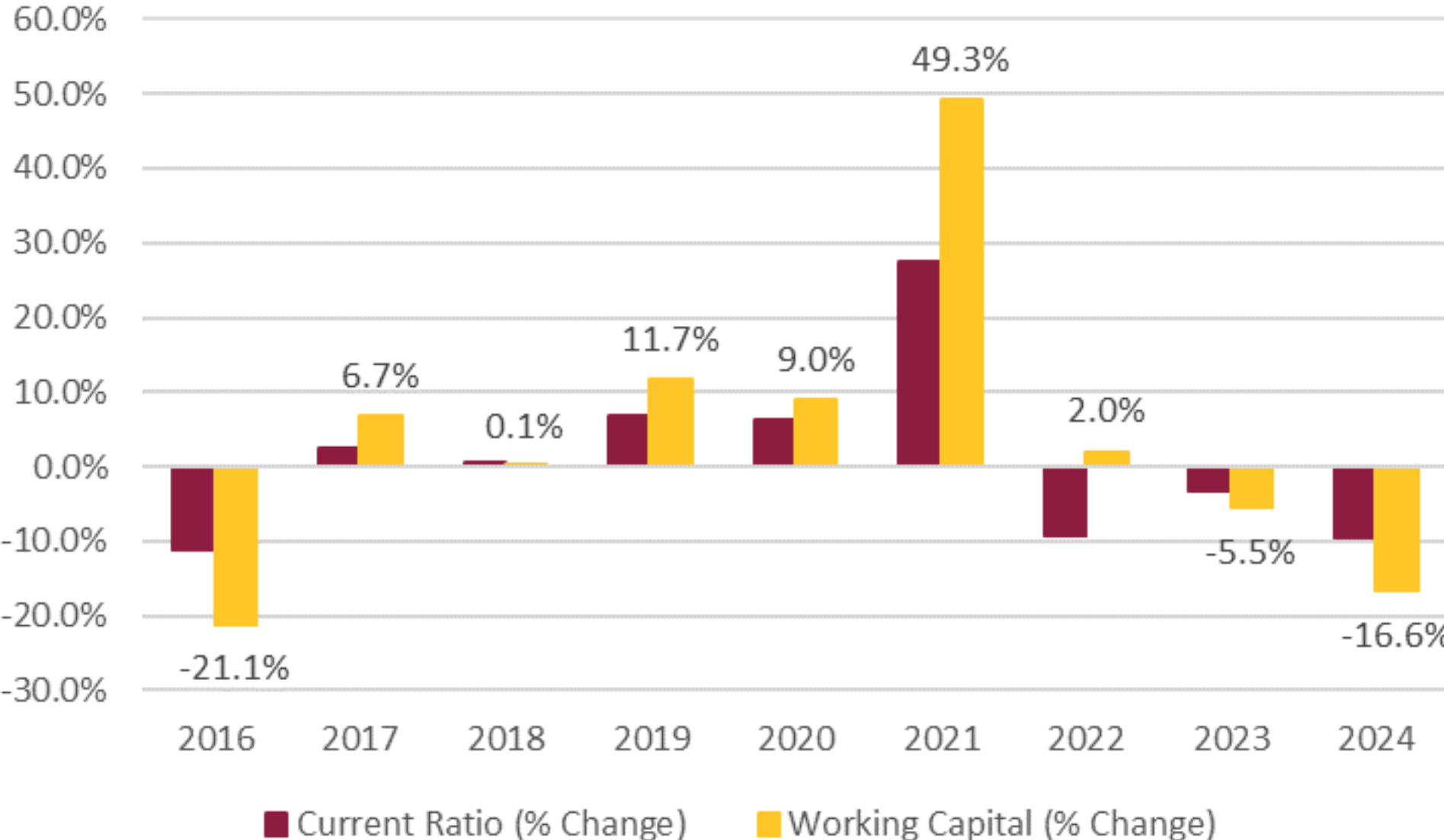
NCFI: Total Cash Expenses (Excluding Dwellings)



NCFI: Net Cash Farm Income













Current Ratio and Working Capital (% Change)

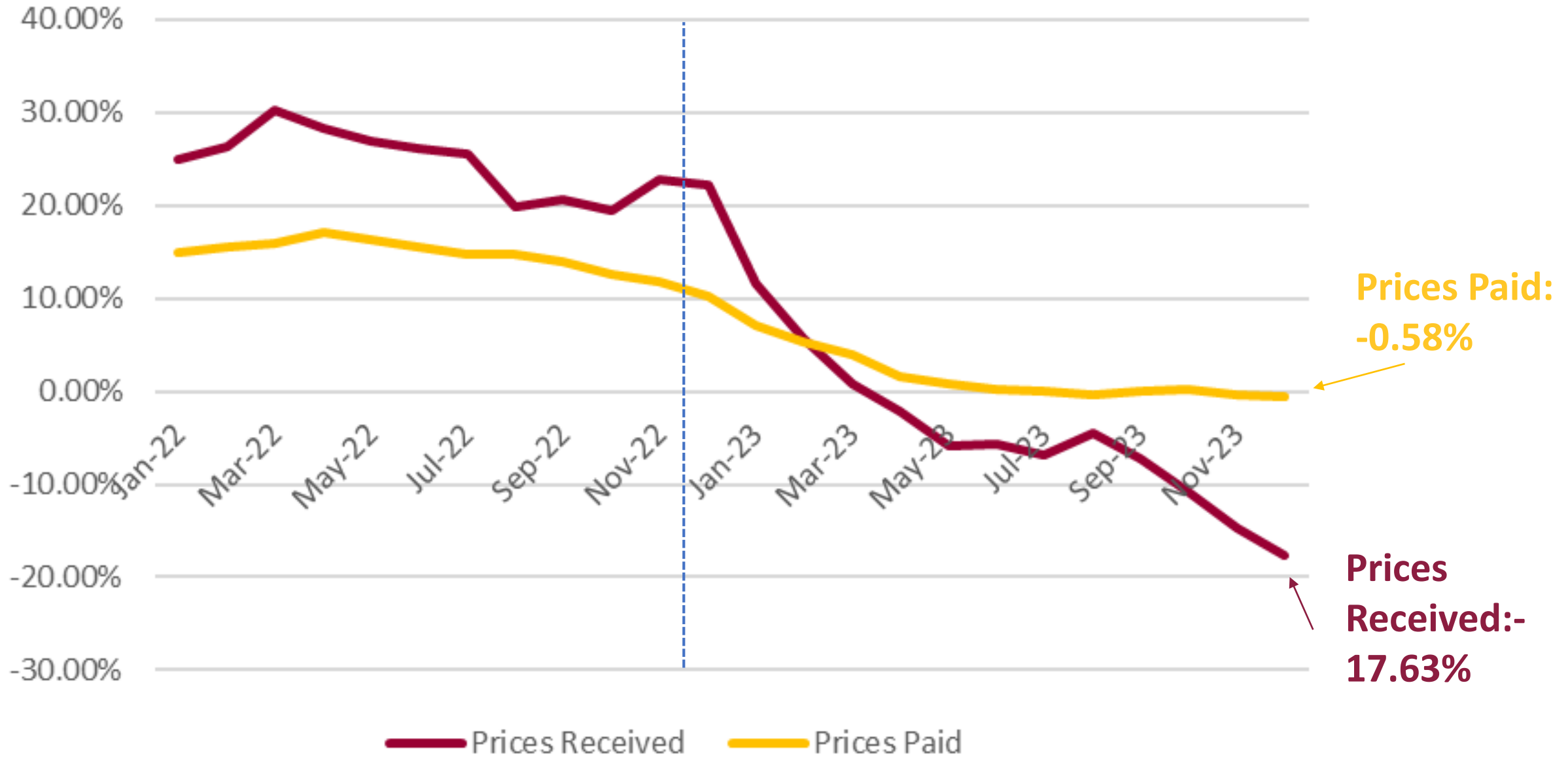


2024 Farm Sector Income Forecast USDA – ERS (as of Feb 7, 2024)

% Change from 2023F to 2024F

| | | |
|--------------------|---|---------|
| Farm Cash Receipts |  | - 4.2% |
| Crop Receipts |  | - 6.3% |
| Animal Receipts |  | - 1.9% |
| Govt. Payments |  | - 15.9% |
| Cash Expenses |  | + 3.7% |
| Feed |  | + 0.9% |
| Fertilizer |  | + 4.3% |
| Interest expense |  | + 0.7% |
| Labor |  | + 7.4% |
| Fuel & Oil |  | - 7.4% |

12 Month % Change in Prices Received and Paid by Farmers Index



S&P GSCI (FKA - Goldman Sachs Commodity Index)

S&P GSCI (GDY00) 557.14 -0.6 — O:557.74 H:557.74 L:556.47 C:557.14

02/29/2024 S&P GSCI (GDY00) [CME] 557.17

+ 67%
Apr 21 to Apr 22

- 32%
Jun 22 to Feb 24



Generated on cmdtyView, February 28th 2024, 8:44:04 pm

Source: cmdtyView

| Commodity | WASDE Annual Price Forecast (as of 2/7/24) | % Change from 2023 WASDE Estimate |
|------------------|---|--|
| Corn | \$4.80 / bu. | - 26.6% |
| Wheat (All) | \$7.20 / bu. | - 18.5% |
| Soybean Meal | \$380.00 / st. | - 15.9% |
| Steers | \$180 / cwt. | + 2.6% |
| Milk (All) | \$20.95 / cwt. | - 2.3% |
| Cotton (Upland) | \$0.77 / lb. | - 9.2% |

Source: USDA World Agricultural Supply and Demand Estimates (WASDE)

thoughts on farm income and commodity price outlook

- Period of low crop prices after two years of highs ... or more “normal” pre-pandemic
- Continued margin squeeze
- Declines in liquidity... problematic?

Takeaways for 2024

- Stable economic growth
- Inflation “rate” generally under control
- “Mostly” lower output prices and higher input prices with declining aggregate farm income

Thank you!



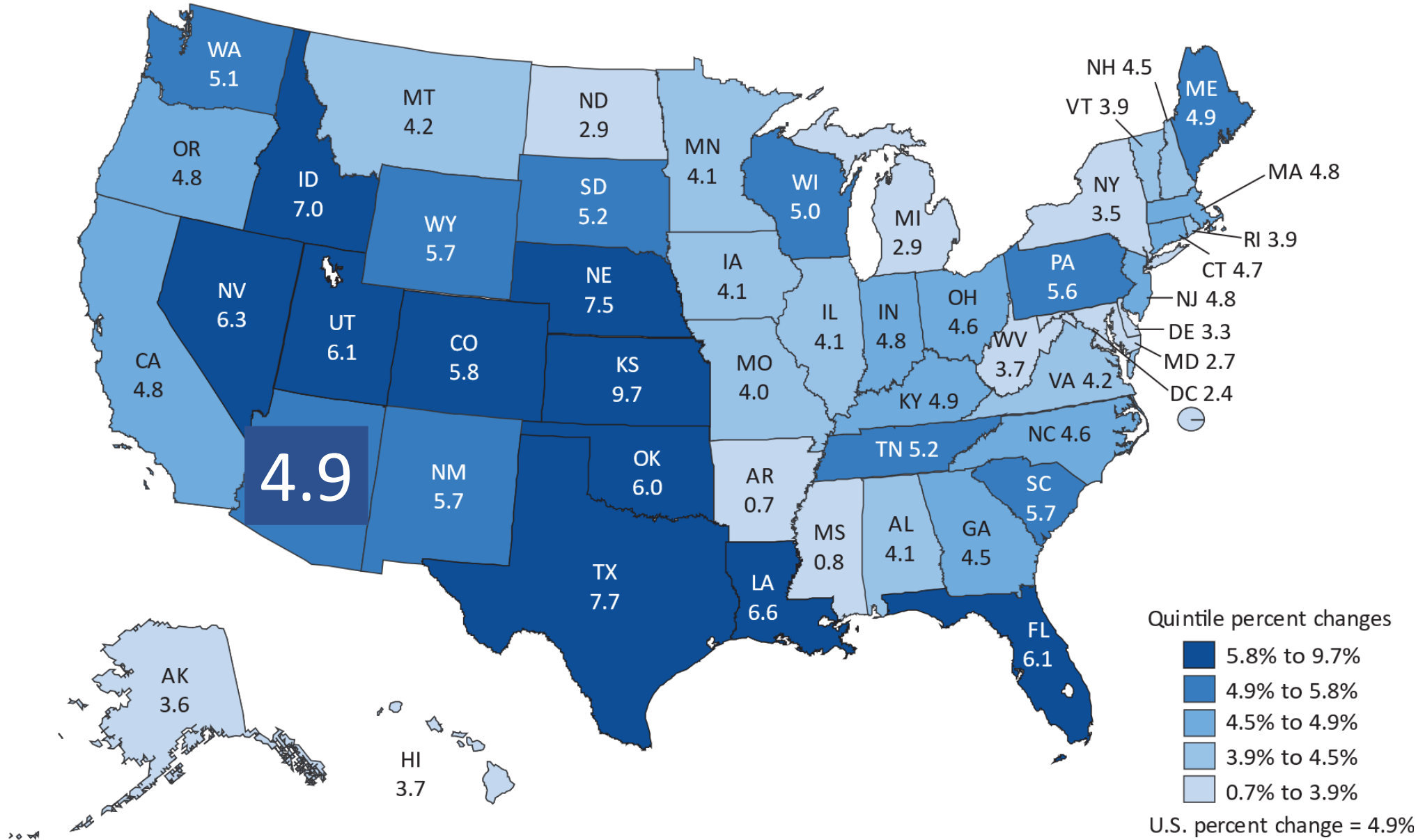
Morrison School of Agribusiness

Mark Manfredo, Ph.D.

Professor

manfredo@asu.edu

Real GDP Percent Change at Annual Rate, 2023:Q2–2023:Q3



Real Investment vs. 10-yr. Treasury Rate

