

Agriculture, Inflation, and Interest Rates: Drivers and Our Path Forward

University of Missouri Agricultural Lender Seminar
October 4, 2023

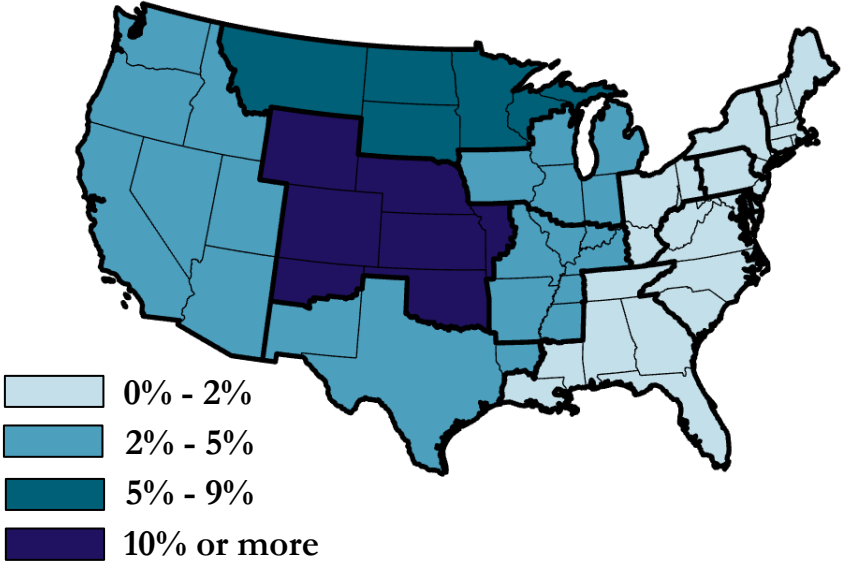
The views expressed here are those of the speaker and do not necessarily reflect the opinions of the Federal Reserve Bank of Kansas City or the Federal Reserve System.

Cortney Cowley
Senior Economist

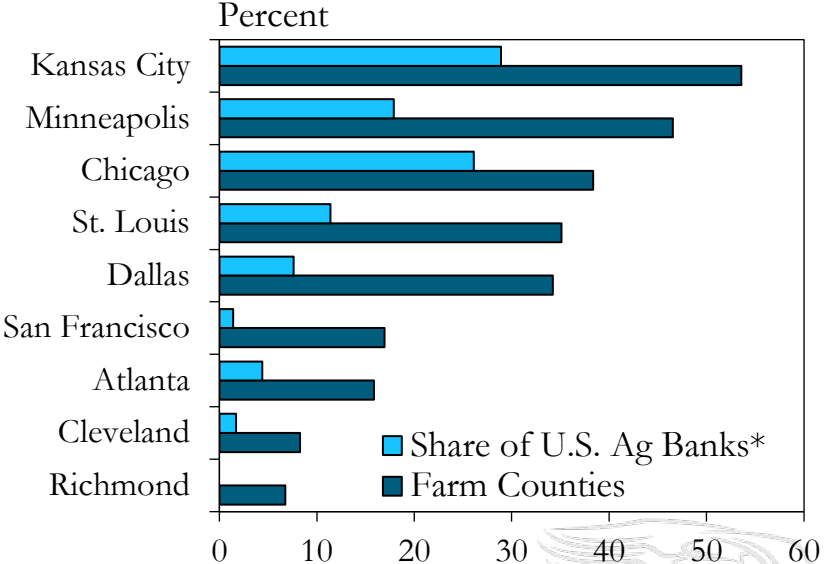


The Federal Reserve regularly incorporates ag perspectives in its policy deliberations.

Farm Income as a Share of Total Personal Income (2010-2020)



Agricultural Banks and Farm Dependent Counties



Note: Farm income is shown as a share of total personal income, averaged across all counties in each respective Fed District.
 Sources: BEA, USDA, Federal Reserve Bank of Kansas City and staff calculations



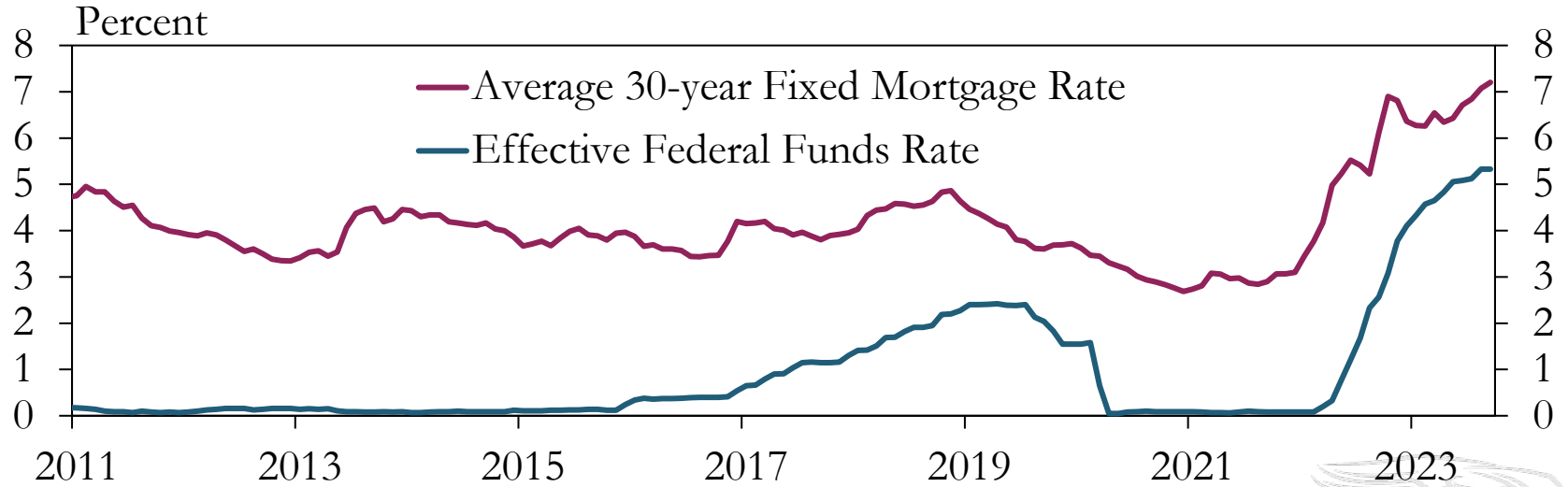
Outlook Themes

- Following sharp gains in 2021 and early 2022, economic growth has slowed alongside increases in interest rates and ongoing inflationary pressure.
- Farm income increased dramatically in the wake of the pandemic, with growth softening in recent months.
- Profit margins are likely to be thinner in the year ahead, but strength of recent years will support farm finances.



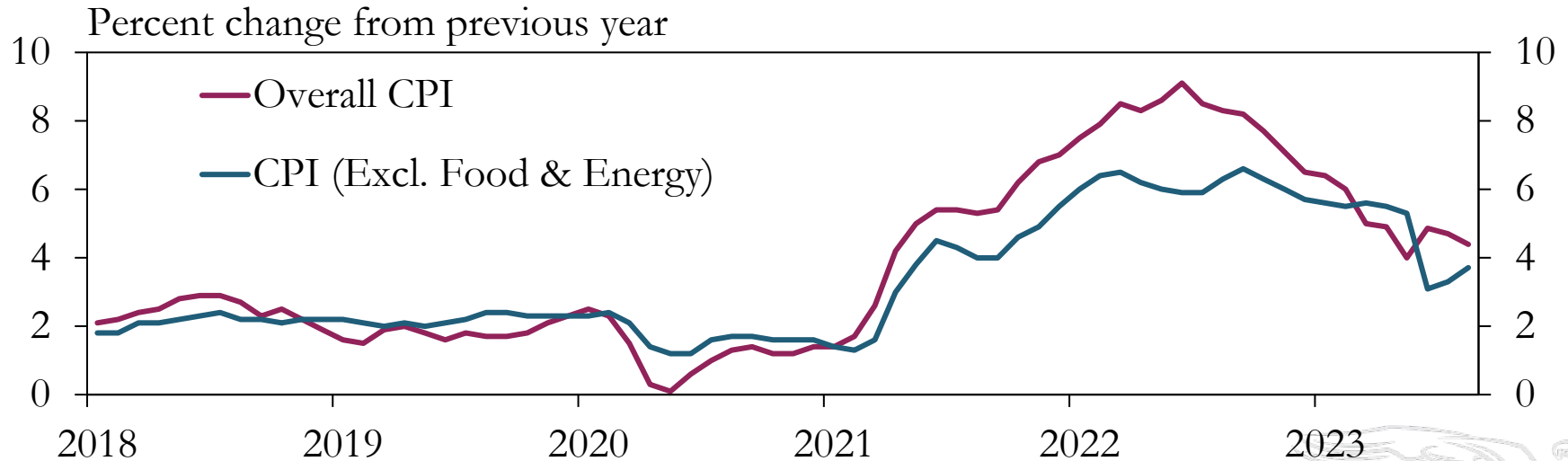
Interest rates have increased sharply over the past year and a half.

Interest Rates



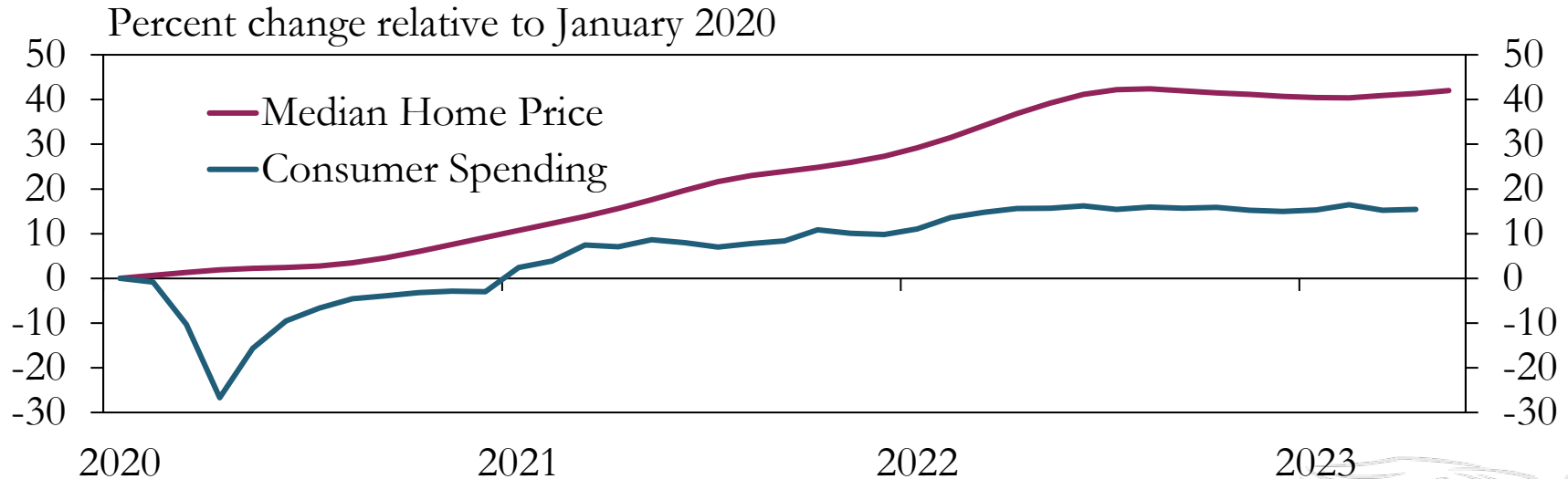
The primary goal of higher interest rates has been to reduce inflationary pressure that began to intensify last year.

Consumer Price Index



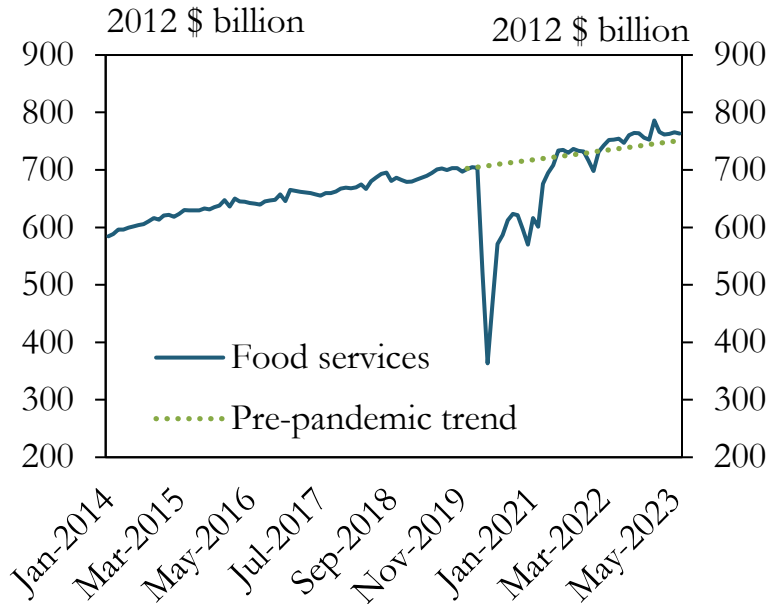
Consumer spending and household wealth has remained high, but the pace of growth has softened considerably.

Consumer Spending & Home Prices

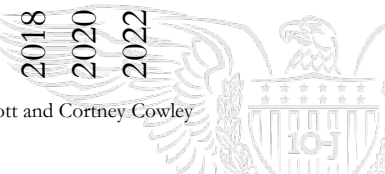
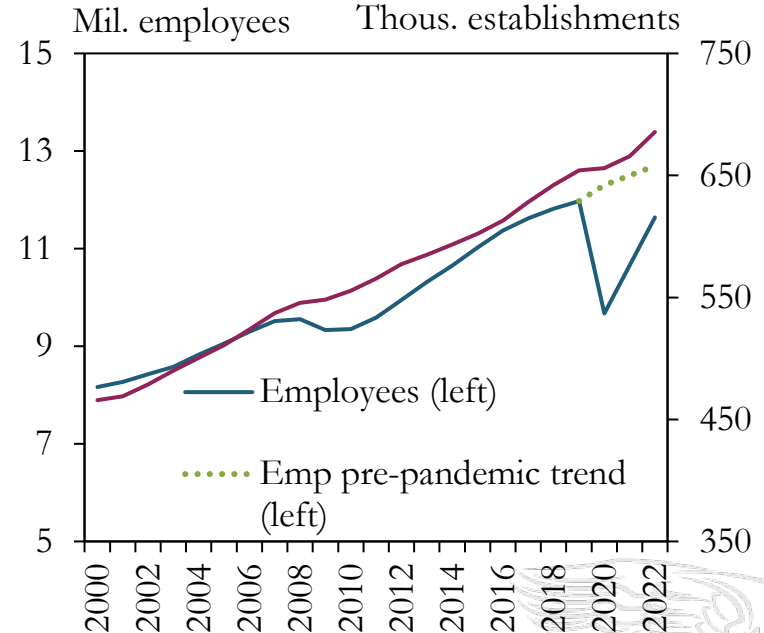


It has been difficult to bring prices for core services, like dining at restaurants, down due to strong demand and constrained supply.

U.S. Expenditures on Food Away from Home

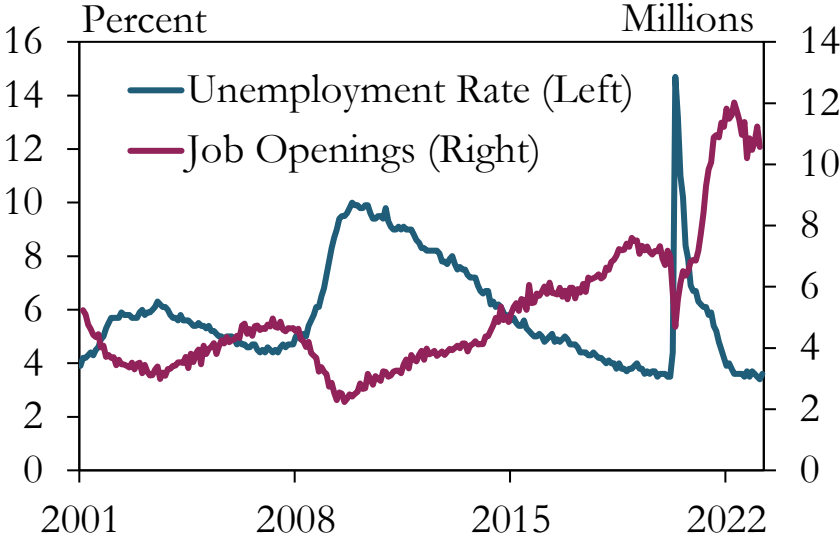


U.S. Restaurant Establishments and Employment

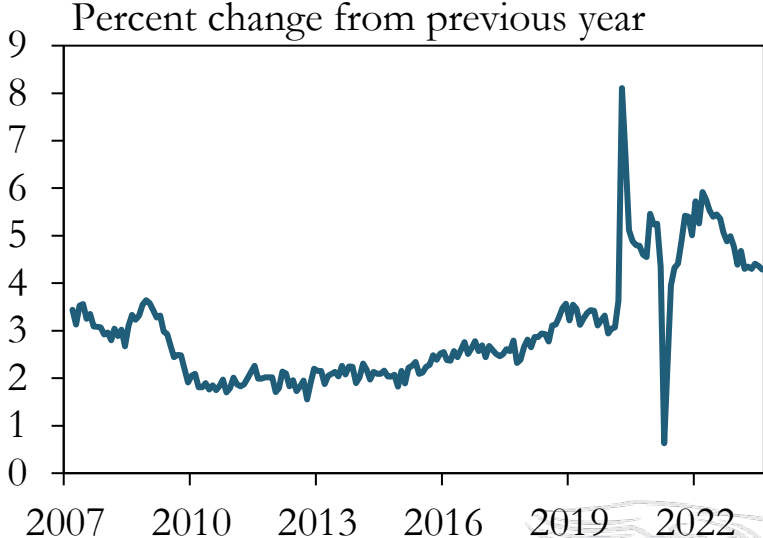


Strength in the labor market has supported consumer spending, and wage gains have remained elevated.

Unemployment Rate & Job Openings



Average Hourly Earnings

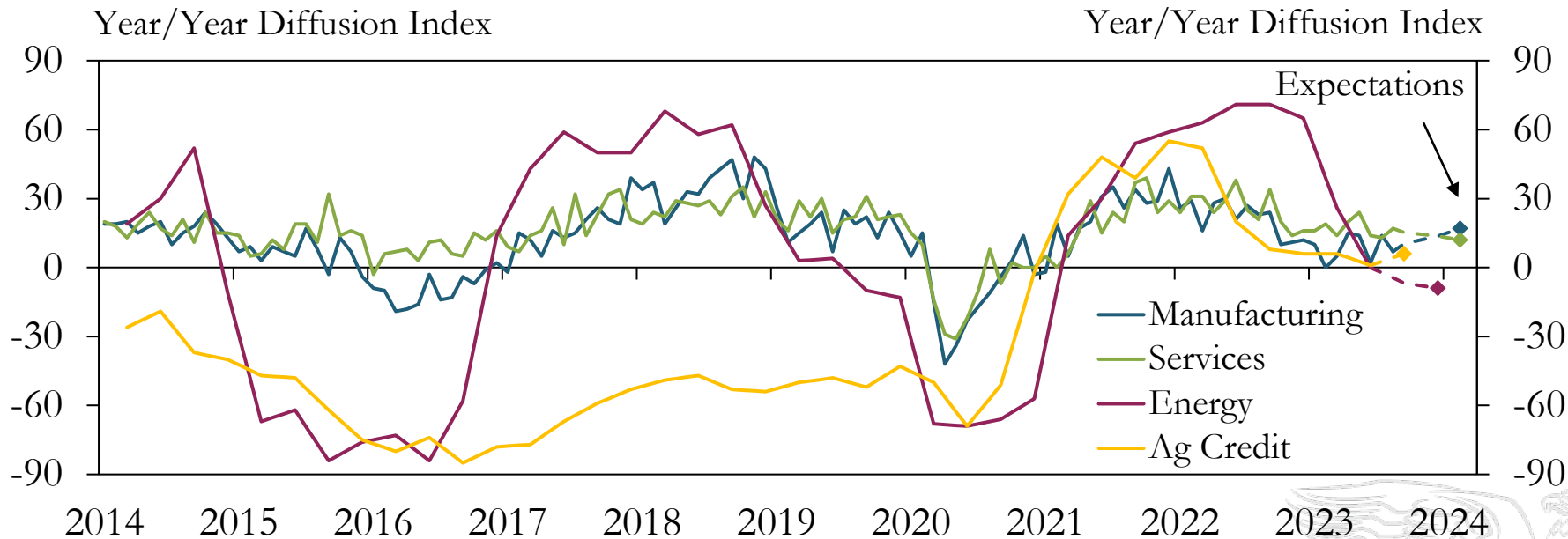


Sources: BLS, Haver Analytics.



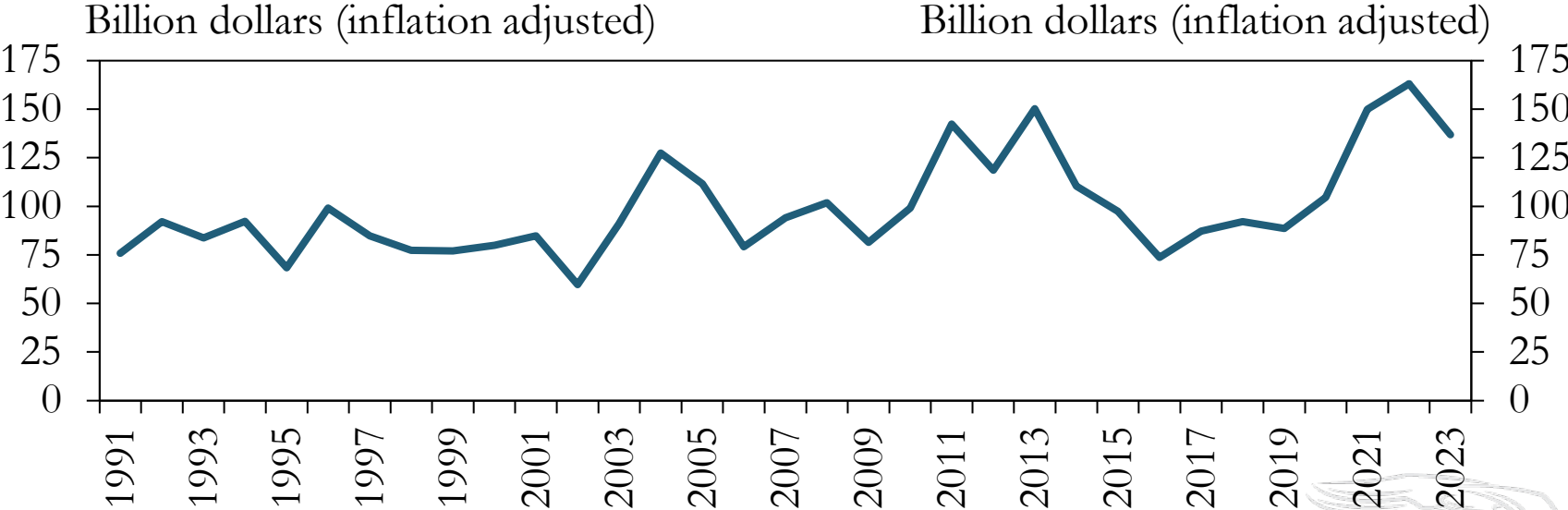
Firms have held capital expenditures steady, but the pace of cap ex has slowed from last year.

KC Fed Capital Expenditures Indexes



Farm income accelerated sharply in the wake of the pandemic.

U.S. Net Farm Income

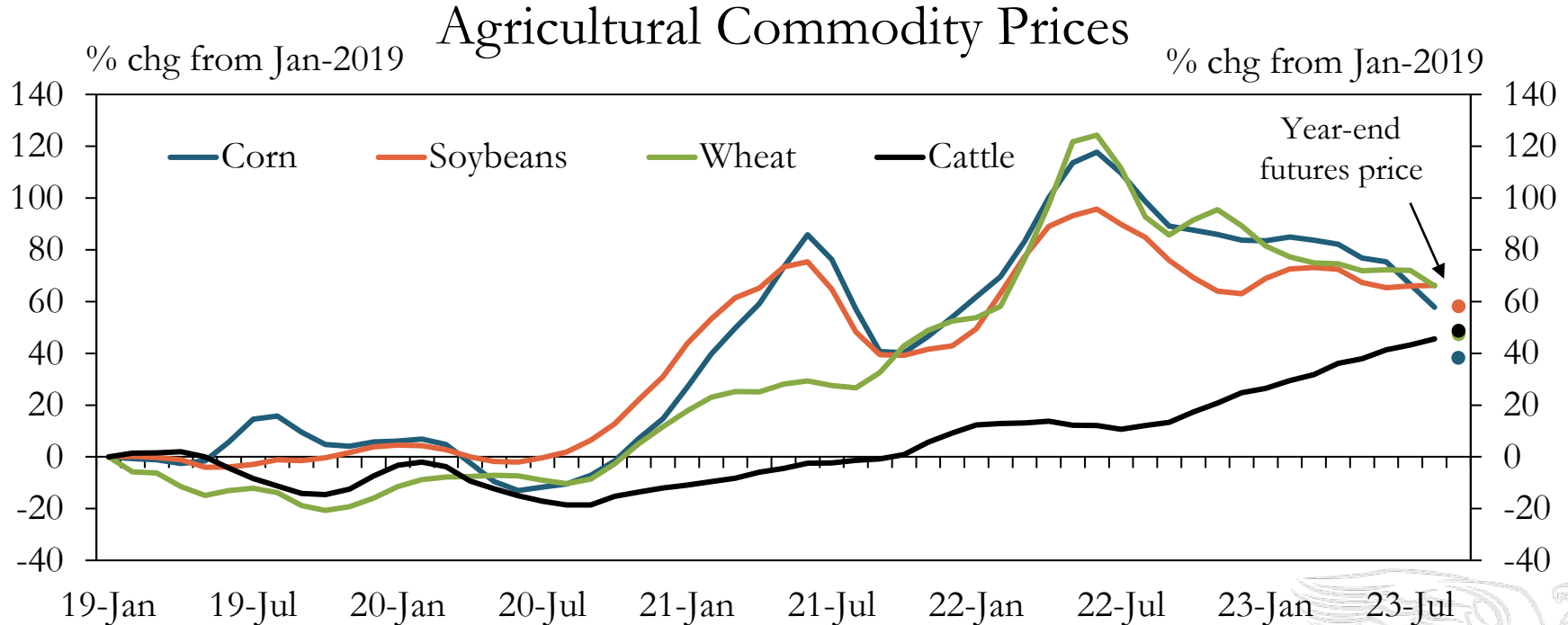


*U.S. Forecast as February 7, 2023.

Source: USDA



The rebound in ag economic conditions has been supported by large increases in commodity prices.



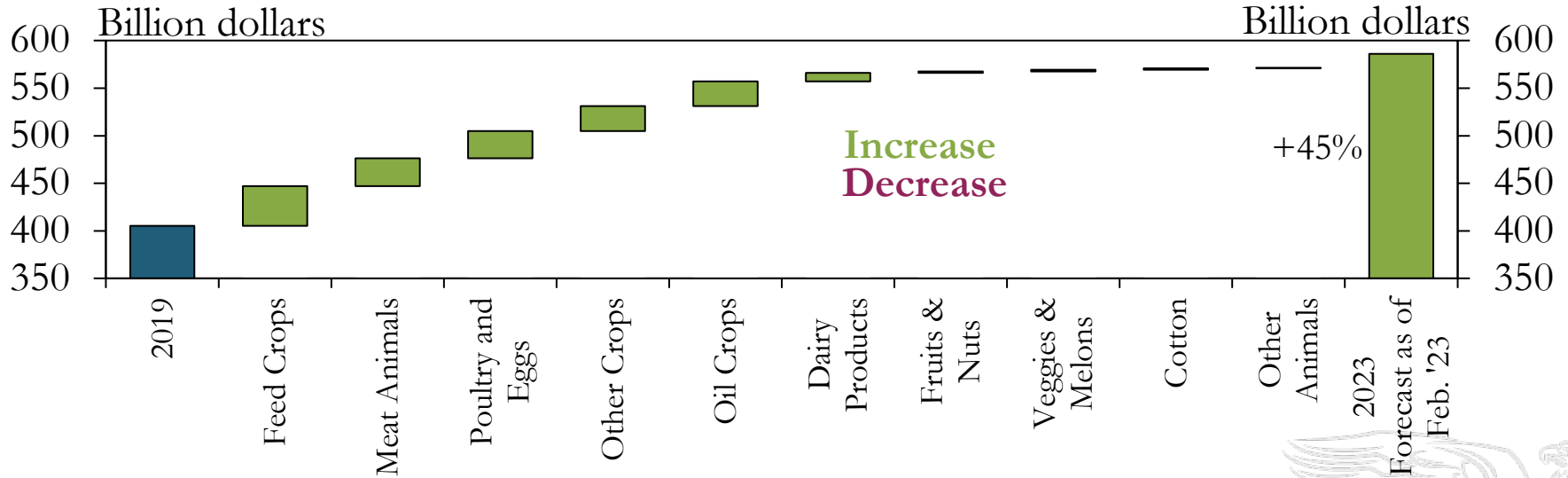
Source: The Wall Street Journal/Haver



Economic conditions have strengthened in numerous industries, especially in major row crops.

Changes in the Value of U.S. Ag Production

Change from 2019 to 2023 (forecasted)



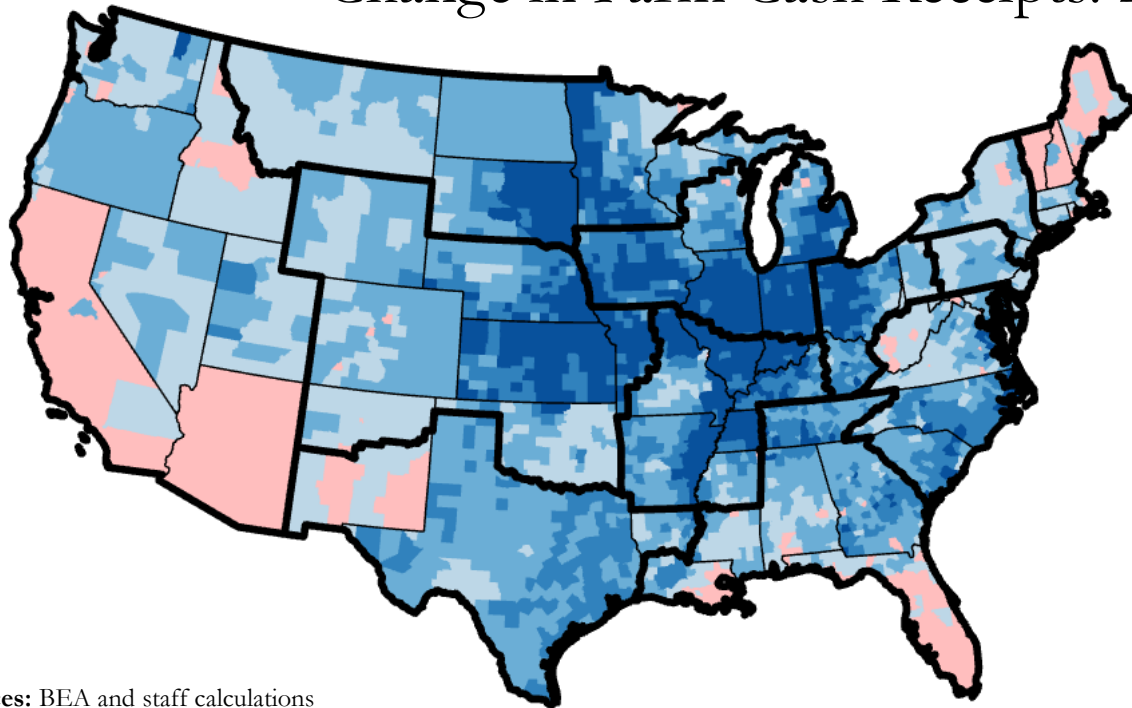
Note: Other individual items not shown on the chart account for approximately 10% of total revenues and include rents, machine hire, custom work, insurance indemnities, and other miscellaneous income.

Source: USDA



Increases in revenue were most pronounced in the Midwest.

Change in Farm Cash Receipts: 2021



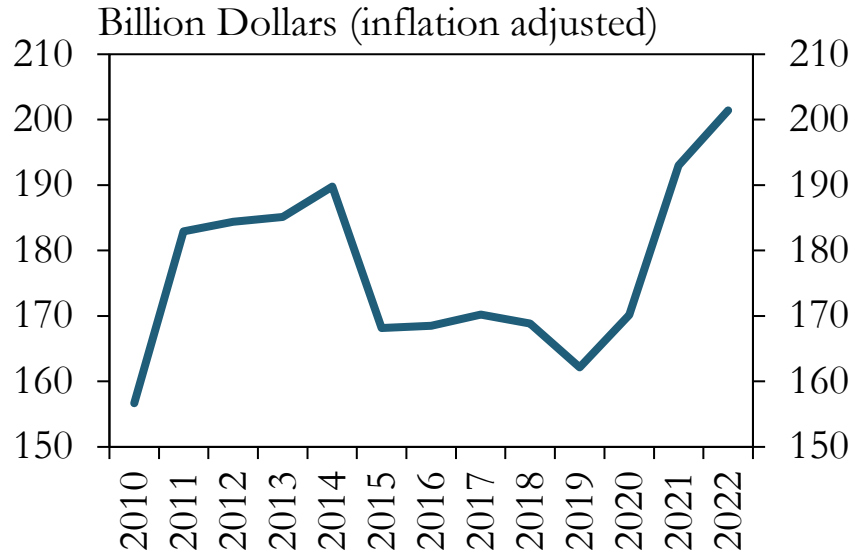
Percent change from 2019

- Decrease
- 1-10% Increase
- 10-20% Increase
- 20-30% Increase
- More than 30% Increase

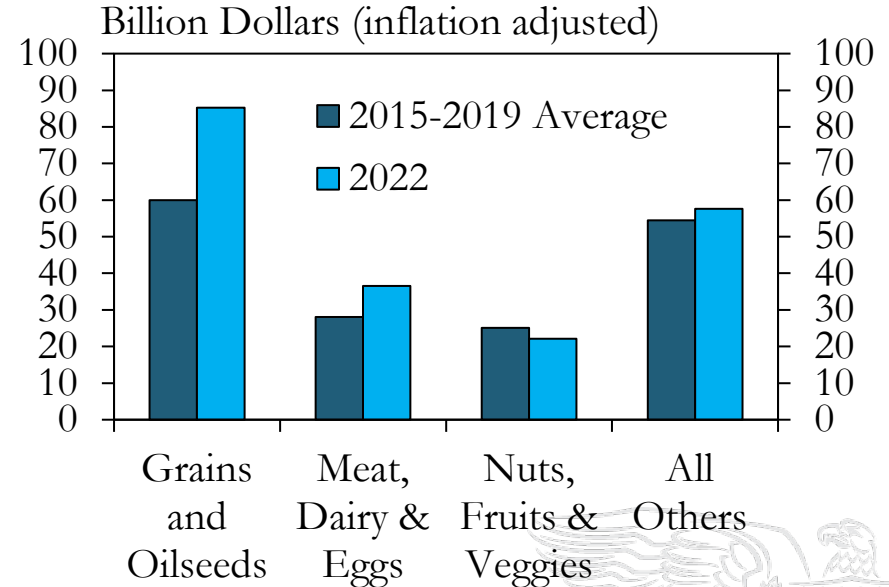


Export activity rebounded quickly and continued to strengthen through 2022.

U.S. Ag Exports

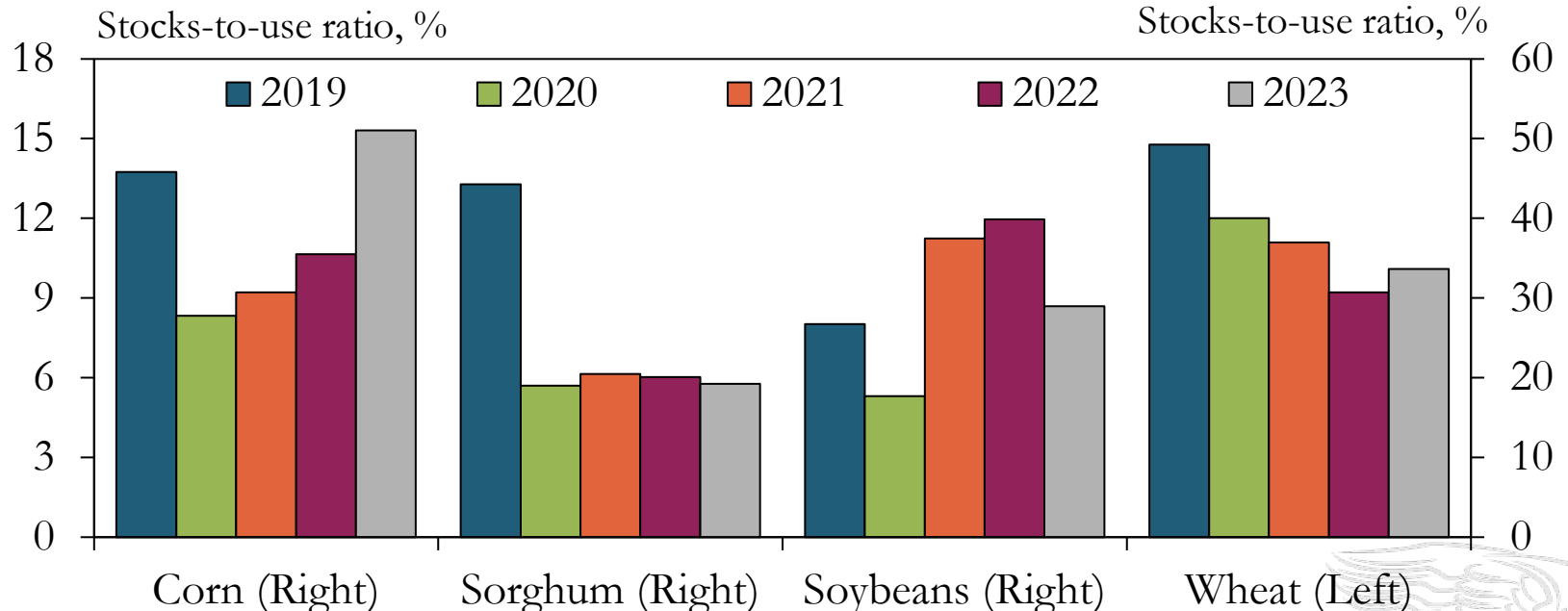


U.S. Ag Exports by Product



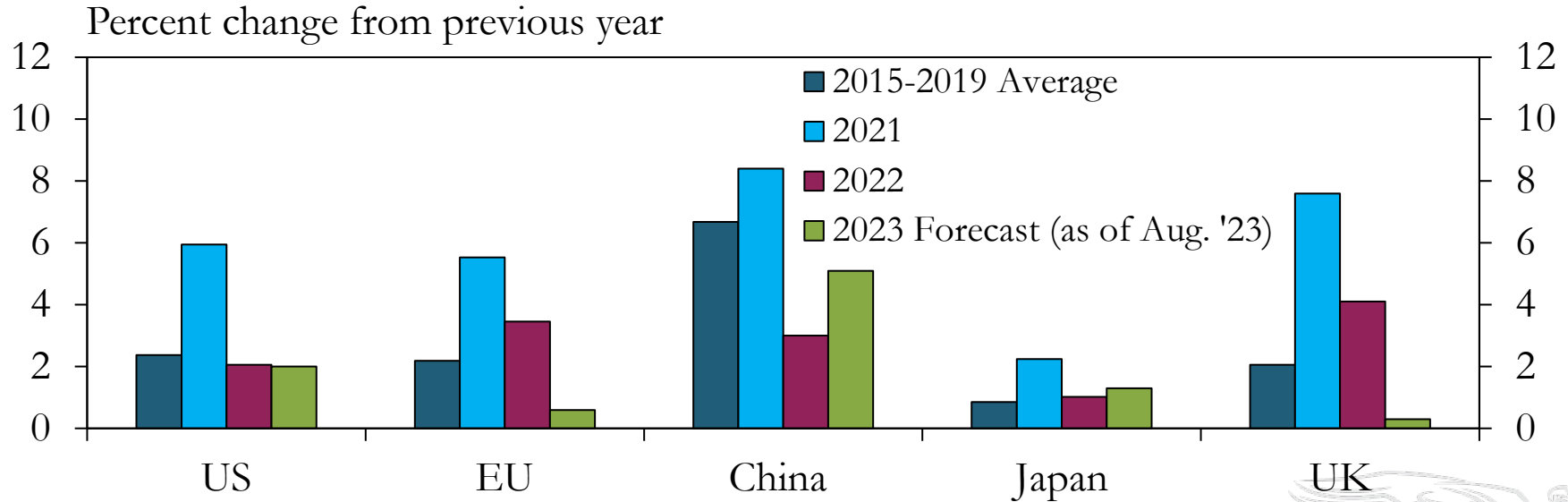
More recently, however, supply and demand factors are weighing on crop prices.

Crop Inventories



Prospects for global economic growth have softened as central banks look to contain inflationary pressures.

Real GDP Growth

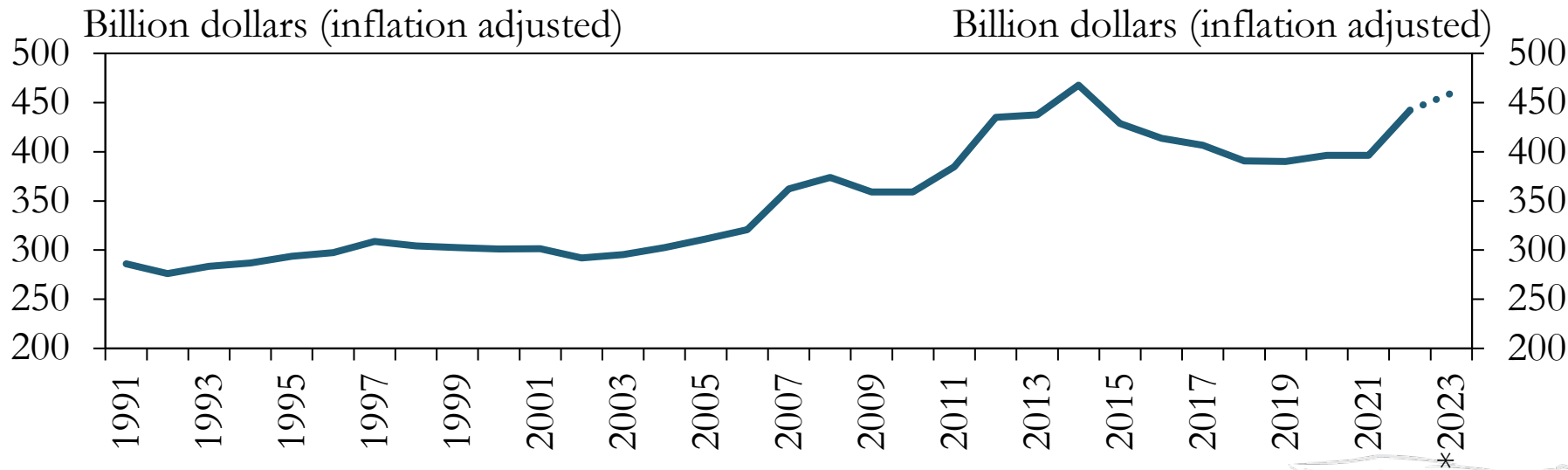


Sources: Bureau of Labor Statistics, BEA, Wolters Kluwer, Statistical Office of the European Communities, Cabinet Office of Japan, Office of National Statistics, China National Bureau of Statistics, and Haver Analytics



Revenue has surged the past few years, but expenses also increased sharply and may not decline quickly.

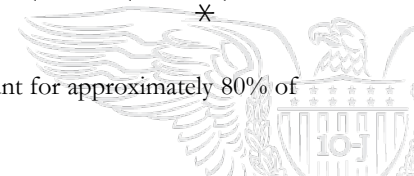
U.S. Ag Production Expenses



*U.S. Forecast as February 7, 2023.

Note: Livestock & poultry purchases, Fertilizer, pesticides, fuels and oils, feed, rents, seed and property taxes, and capital consumption account for approximately 80% of Nebraska production expenses.

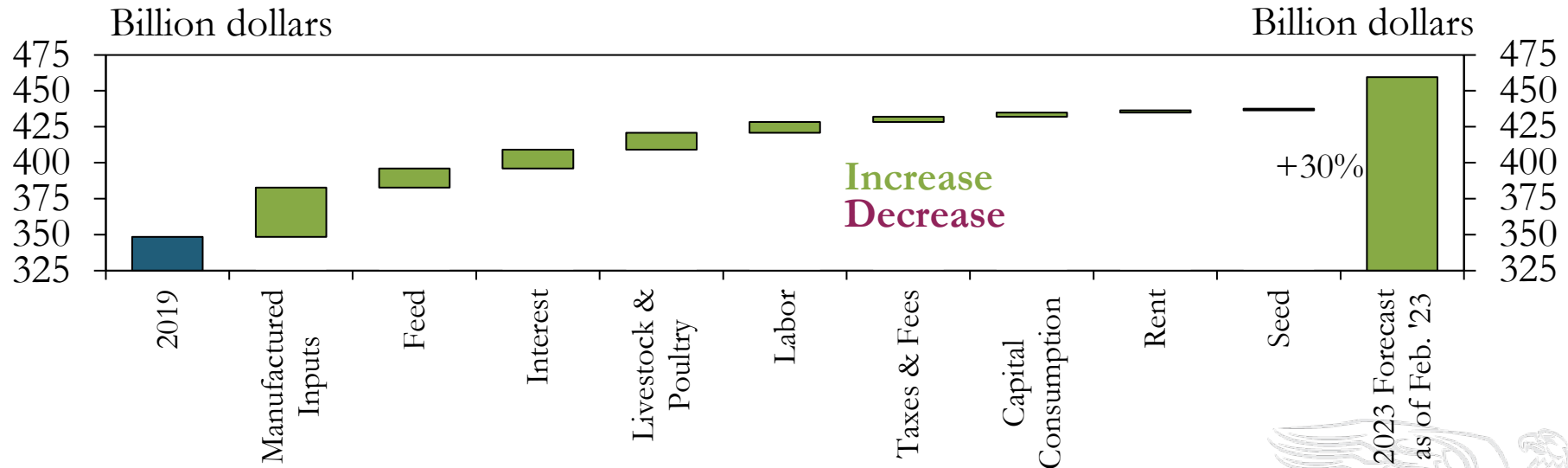
Source: USDA



Manufactured inputs have contributed most significantly to increased expenses since 2019.

Changes in the U.S. Ag Production Expenses

Change from 2019 to 2023 (forecasted)

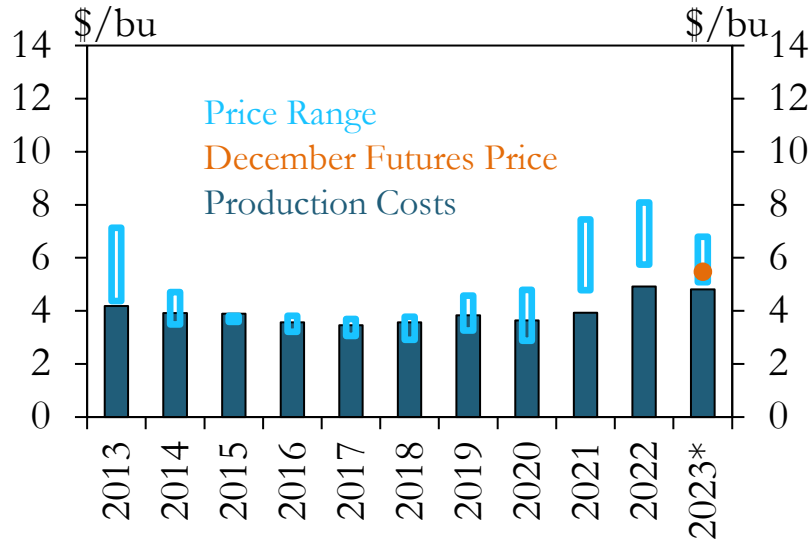


Note: Other individual expense items not shown on the chart account for approximately 20% of total expenses and include marketing, storage, transportation, repairs, maintenance, machine hire, custom work, insurance premiums, and other miscellaneous costs

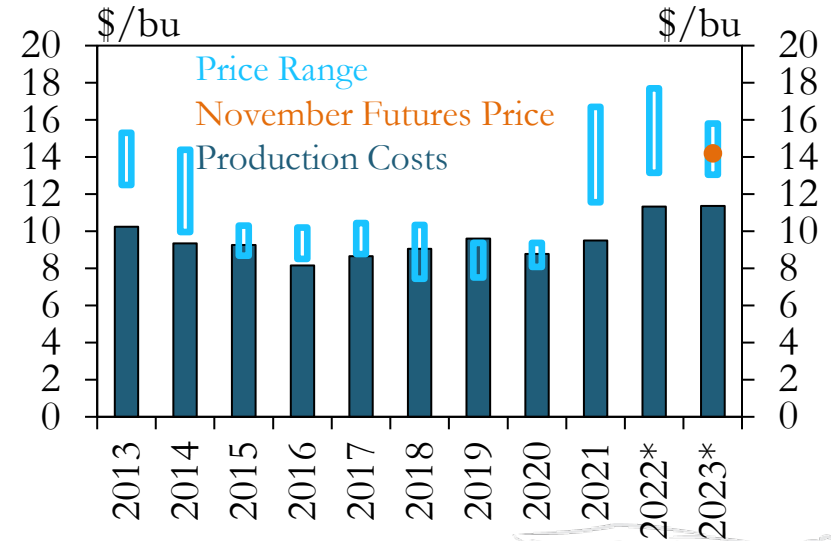
Source: USDA

Despite elevated costs, profit opportunities have remained solid for corn and soybean producers.

Corn Profit Margins



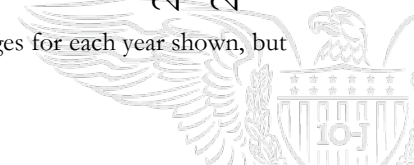
Soybean Profit Margins



Note: Production costs are calculated from USDA's Economic Research Service (Commodity Costs and Returns) and national yield averages for each year shown, but exclude the opportunity cost of unpaid labor from the calculation.

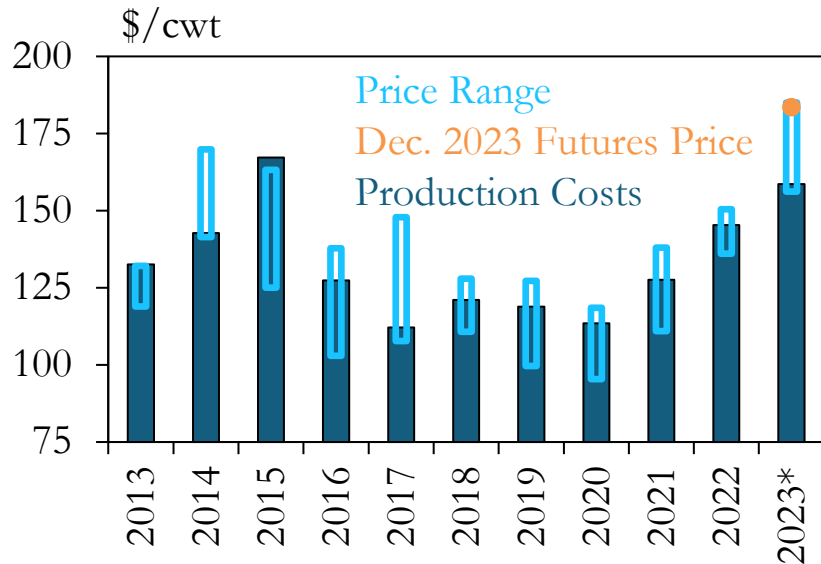
*2023 costs are forecast as of June 22, 2023.

Source: USDA, Haver Analytics and CME.

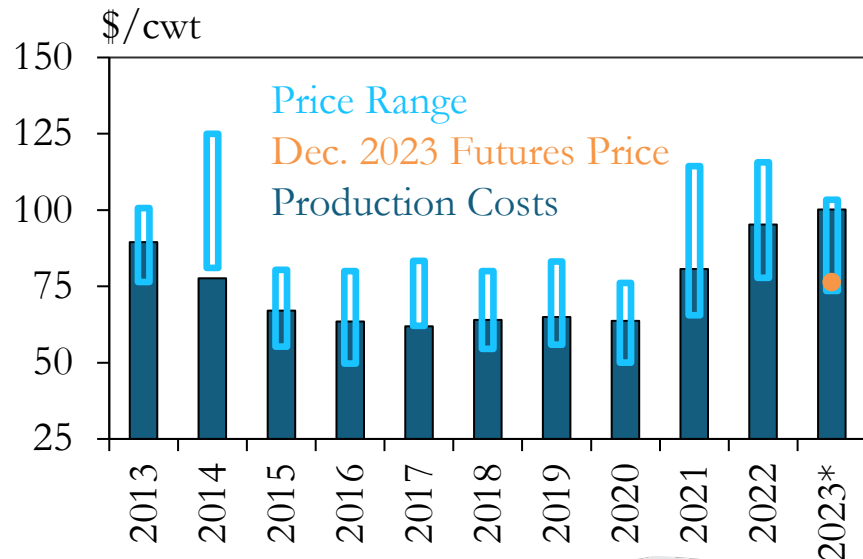


Profits in the cattle industry have also been very strong, with significant weakness in the hog industry.

Cattle Profit Margins



Hog Profit Margins



Note: Cattle production costs and prices ranges based on annual averages reported in USDA High Plains Cattle Feeding Simulator. Hog production costs and price ranges based on annual averages for Farrow-to-Finish reported by Iowa State University Estimated Livestock Returns.

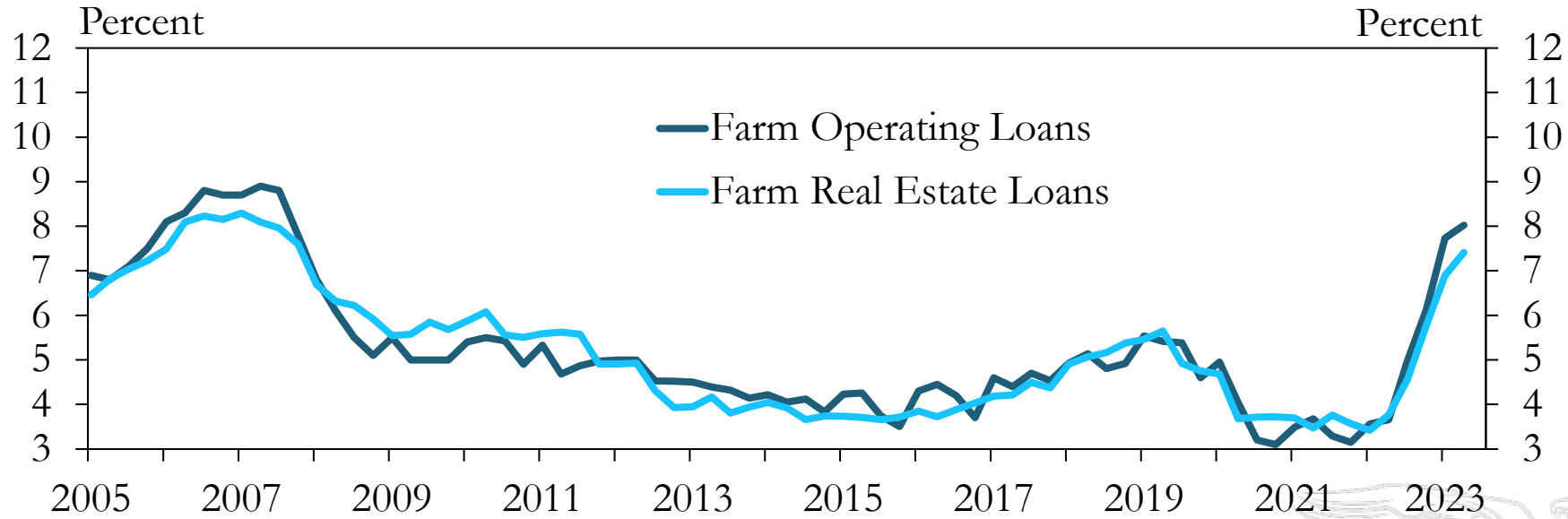
*Average January-June. All other years are annual averages.

Source: USDA, Iowa State University and CME.



Sharp increases in interest rates have been a growing concern, with rates currently comparable to 2007.

Average Interest Rates on Agricultural Loans

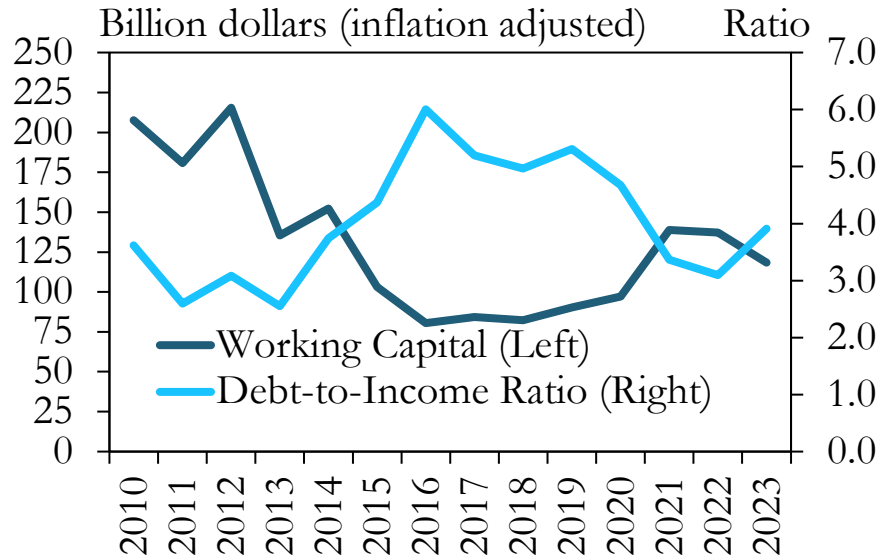


Sources: Federal Reserve Board of Governors and Survey of Terms of Lending to Farmers

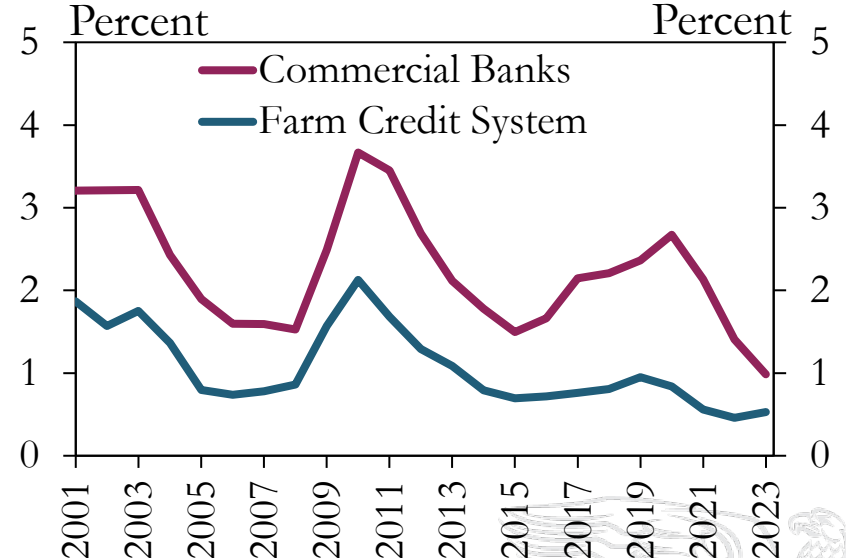


Despite heightened uncertainty, sharp increases in interest rates, and elevated expenses, farm finances remain strong.

U.S. Farm Sector Liquidity and Leverage



Farm Loan Delinquency Rates

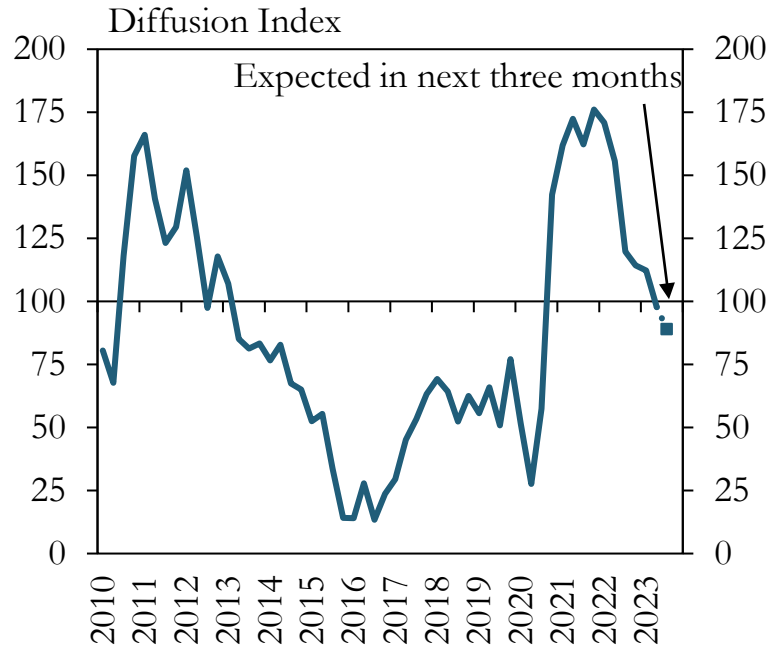


Sources: USDA, Federal Reserve Board of Governors and Farm Credit Administration

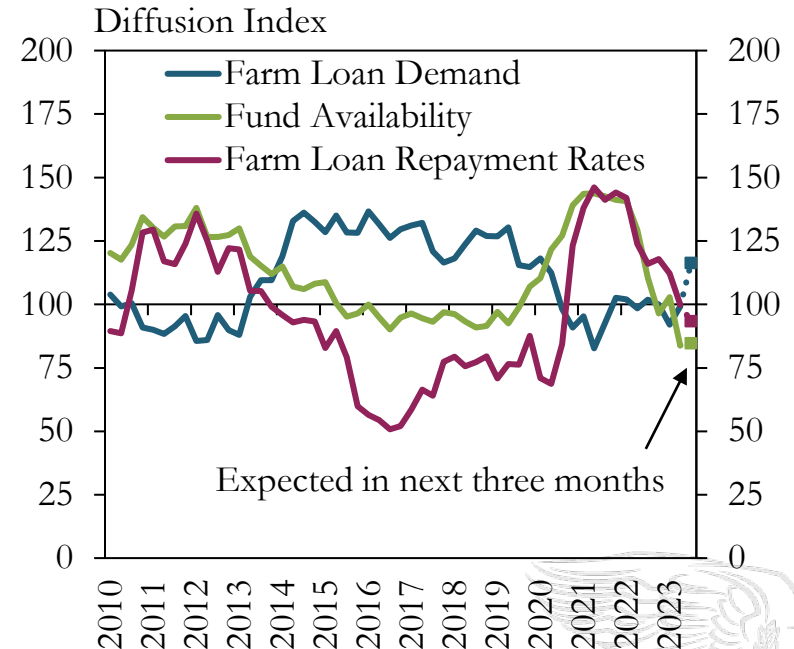


Agricultural credit conditions in the Tenth District have moderated somewhat.

Farm Income

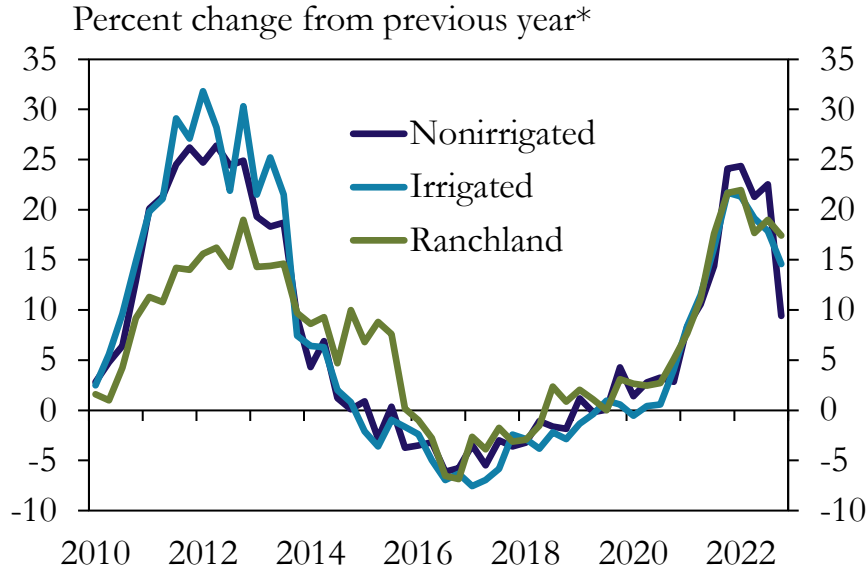


Agricultural Credit Conditions

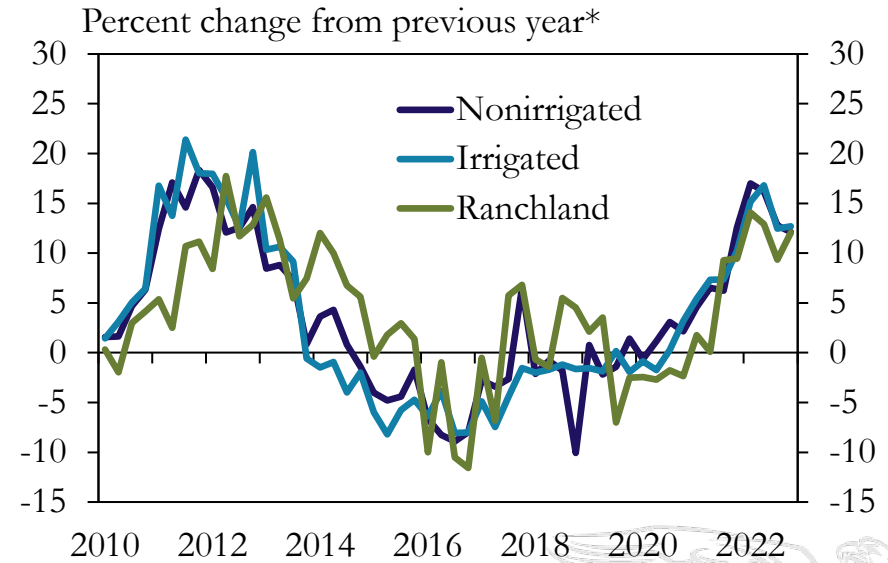


The financial strength of the farm sector continues to support increases in the value of farm real estate.

Farm Real Estate Values



Cash Rents



Notes: U.S. figures are from USDA and figures for Nebraska are derived from Federal Reserve Surveys of Agricultural Credit Conditions.

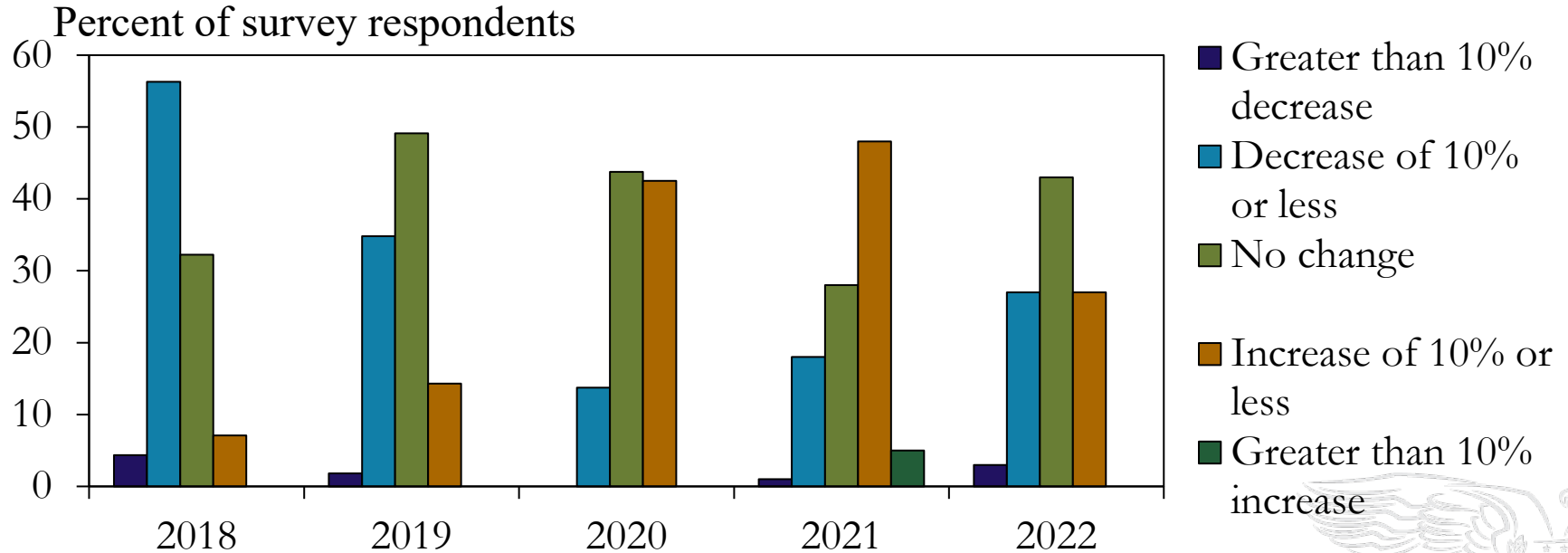
2023 data for U.S. cash rents is not available.

Sources: USDA and Federal Reserve Bank of Kansas City Survey of Agricultural Credit Conditions



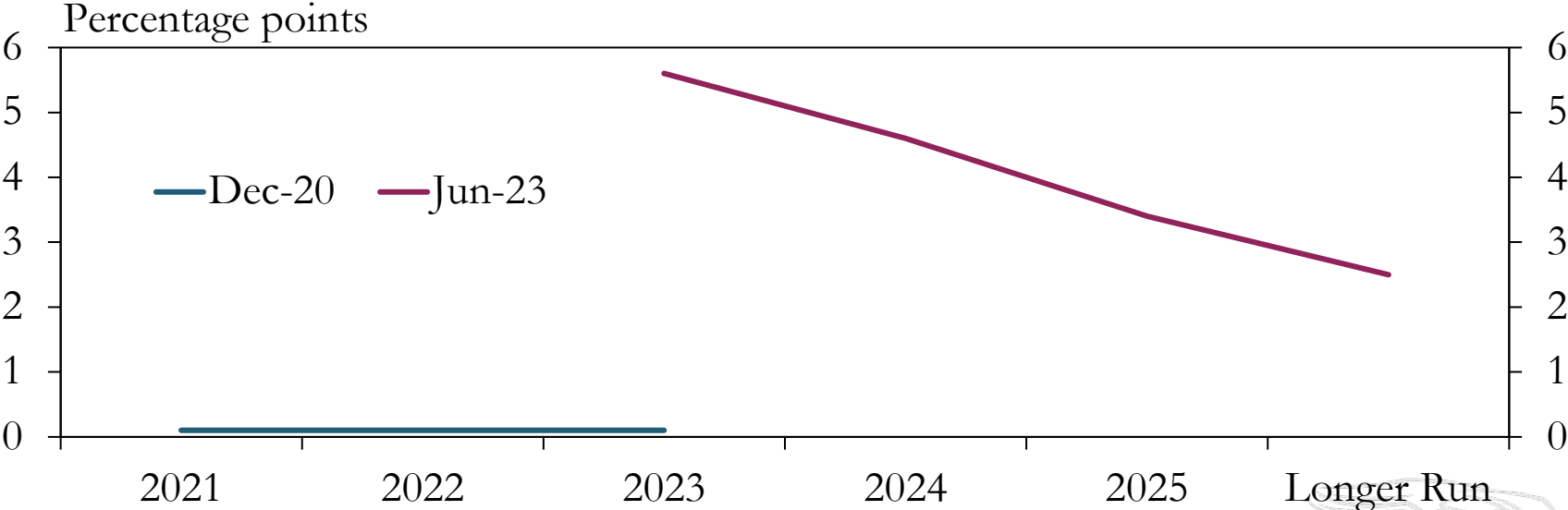
Expectation for farmland values have moderated slightly.

Expected Change in Farmland Values



Looking ahead, the pace of economic activity will be affected by the path of inflation and interest rates.

Federal Funds Rate Projections



Source: Federal Reserve Board of Governors – Median of the Summary of Economic Projections



Concluding Thoughts

- Despite heightened uncertainty, elevated costs and limited growth in profits, financial stress in ag is likely to remain limited.
- The strength of global economic activity, and its implications for ag exports, will be a key risk to monitor in the year ahead.



Contact Information

Please contact me with any questions or if you are interested in participating in the Survey of Agricultural Credit Conditions!

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