

Agricultural Economic Outlook

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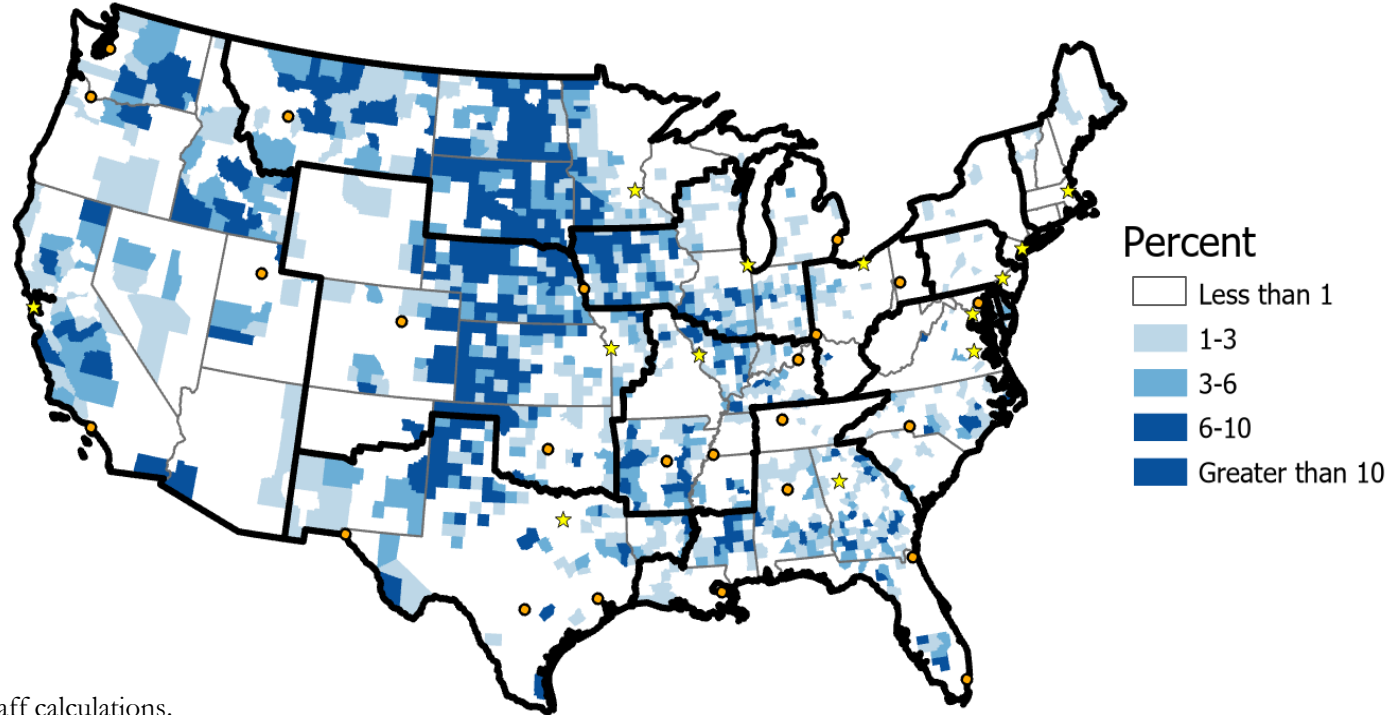
February 24, 2020

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Large parts of the country, particularly in the Midwest are dependent on the farm economy.

Farm Income-to-Total Income

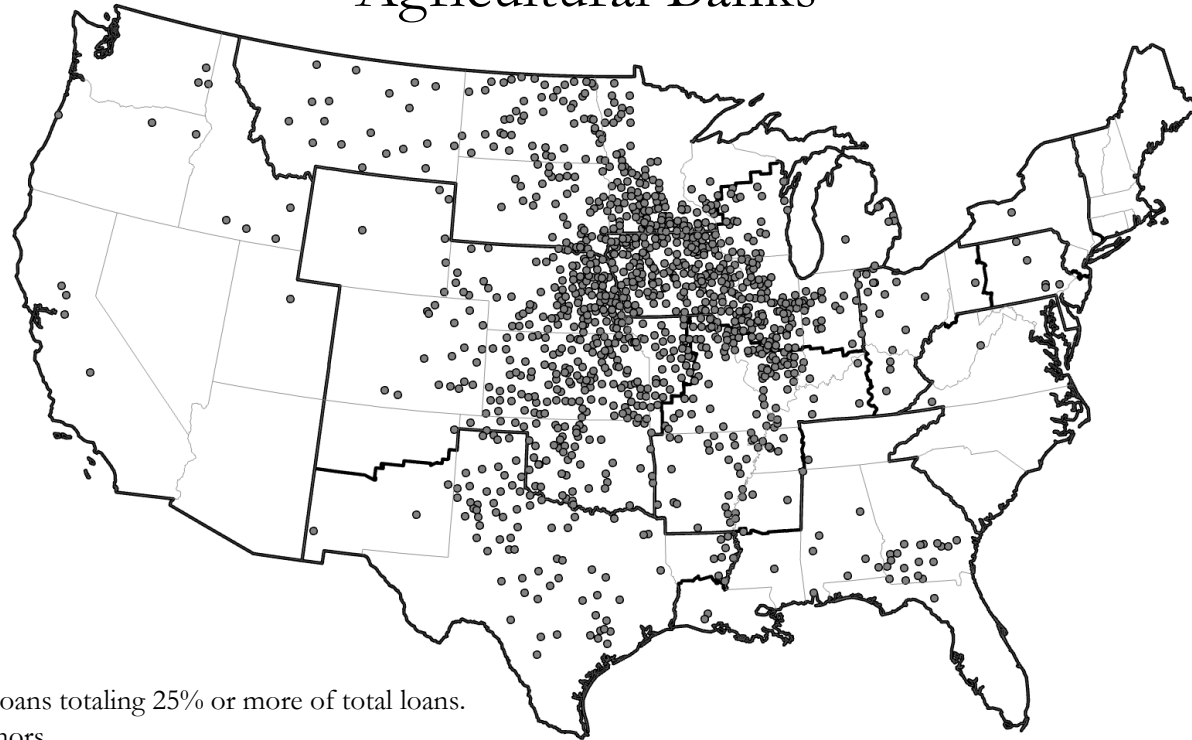


Sources: BEA and staff calculations.



Commercial banks with significant ties to agriculture are also concentrated in the Midwest.

Agricultural Banks*



*Banks with agricultural loans totaling 25% or more of total loans.

Source: Board of Governors



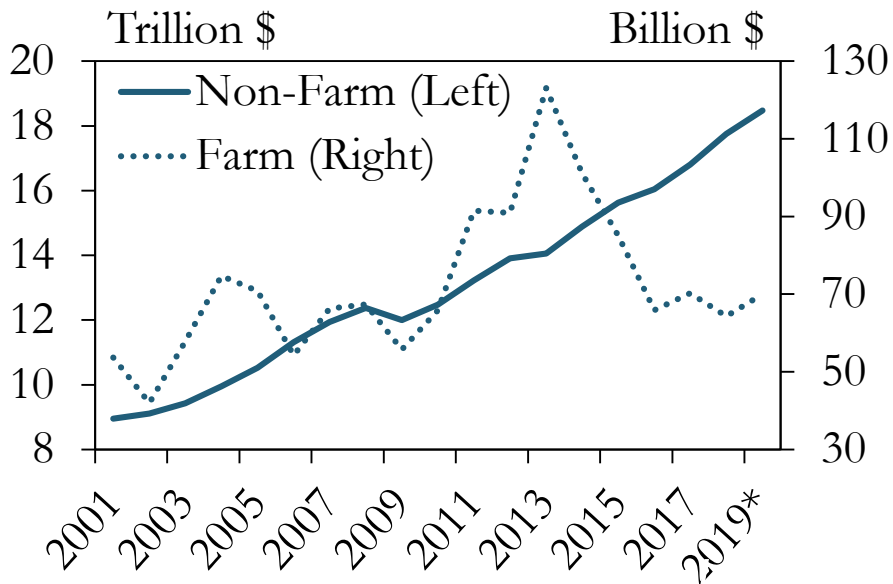
Outlook Themes

- In contrast to the broader economy, U.S. agriculture has been in the midst of a gradual but prolonged downturn.
- Financial stress among agricultural producers continues to rise, albeit modestly.
 - Dairy operations and farms in the Midwest have been most exposed.
- In general, ag prices are likely to remain low in 2020, but depend heavily on the outlook for trade.

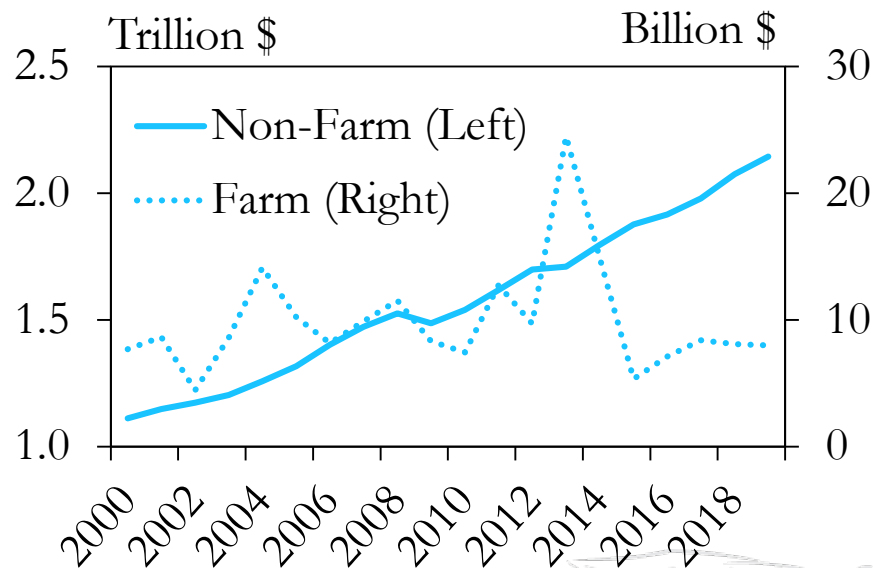


Despite ongoing growth in the U.S. economy, the ag sector has been in a prolonged downturn.

U.S. Personal Income



Personal Income: 8th District



*Annual average through Q3 2019

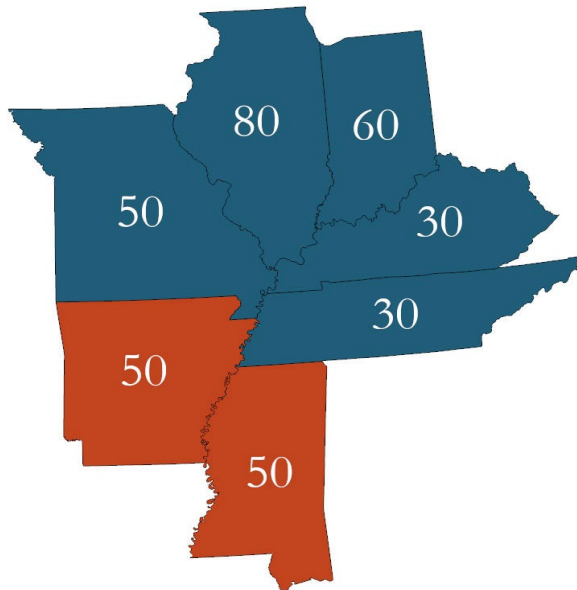
Sources: U.S. Bureau of Labor Statistics and Haver Analytics.



The 8th District is particularly concentrated in corn, soybeans, and poultry.

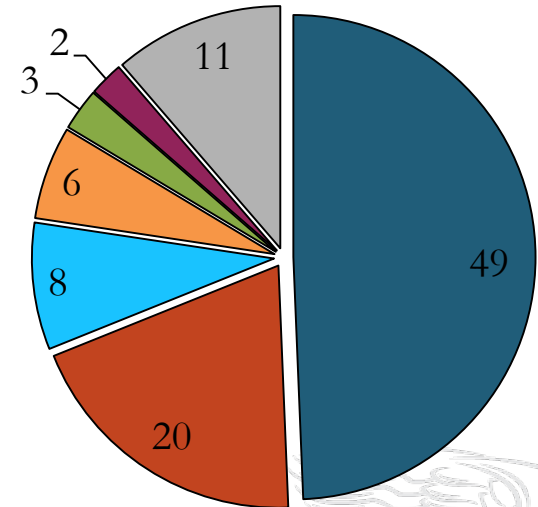
Eighth District: Ag Commodity Concentrations (2018)

Top Commodity (% of Sales)



- Corn and Soybeans
- Poultry and Eggs
- Cattle
- Hogs
- Dairy
- Upland Cotton
- All Others

Commodity Concentrations (% of Sales)

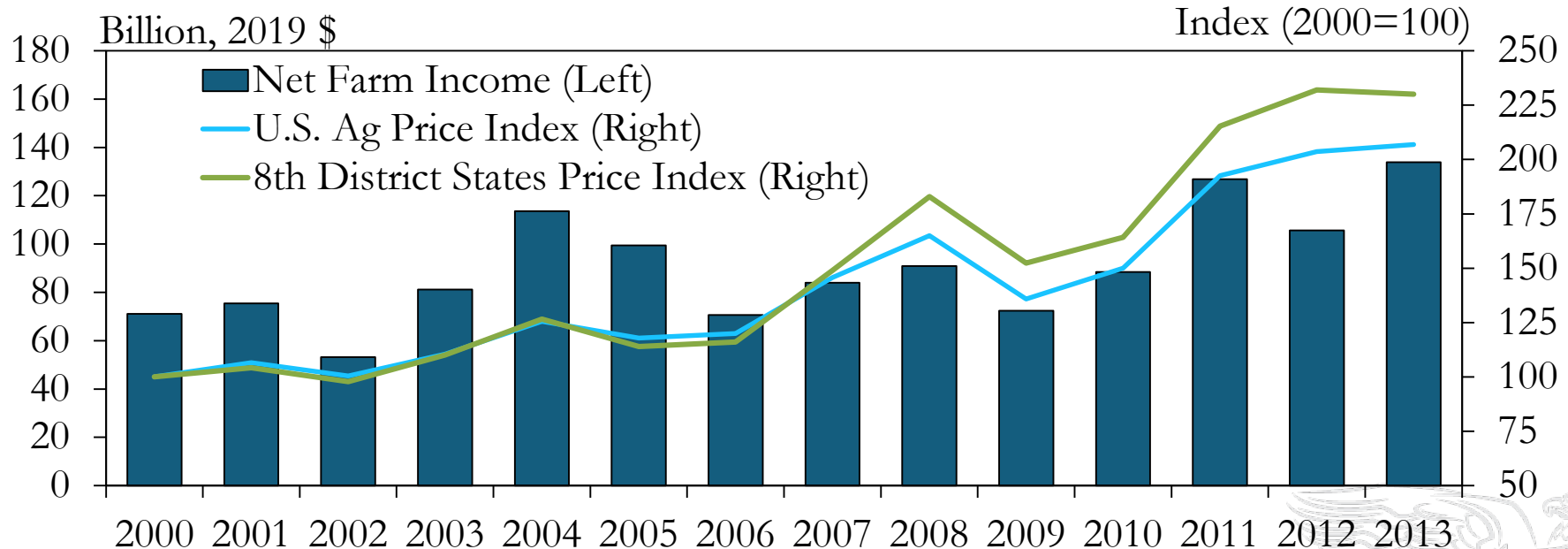


Sources: USDA and staff calculations.



Farm income began to rise sharply in the early 2000s, alongside gains in commodity prices.

U.S. Net Farm Income and Agricultural Prices

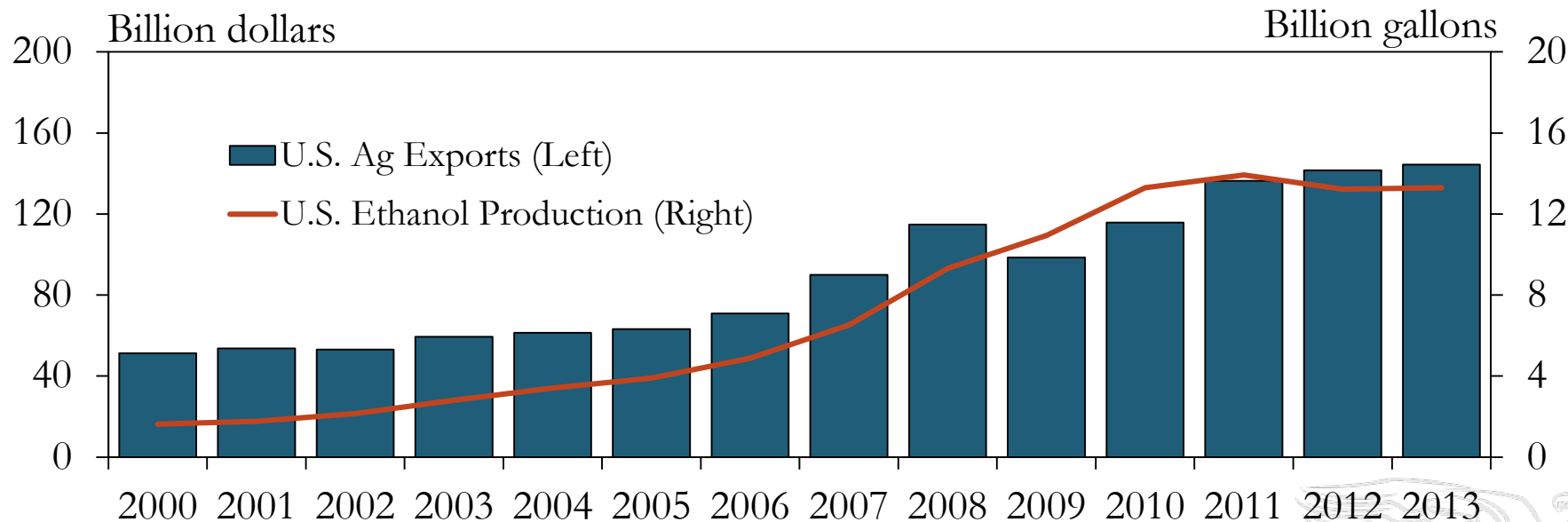


Source: USDA and staff calculations.



Significant increases in key sources of demand supported agricultural commodity prices.

U.S. Agricultural Exports and Ethanol Production

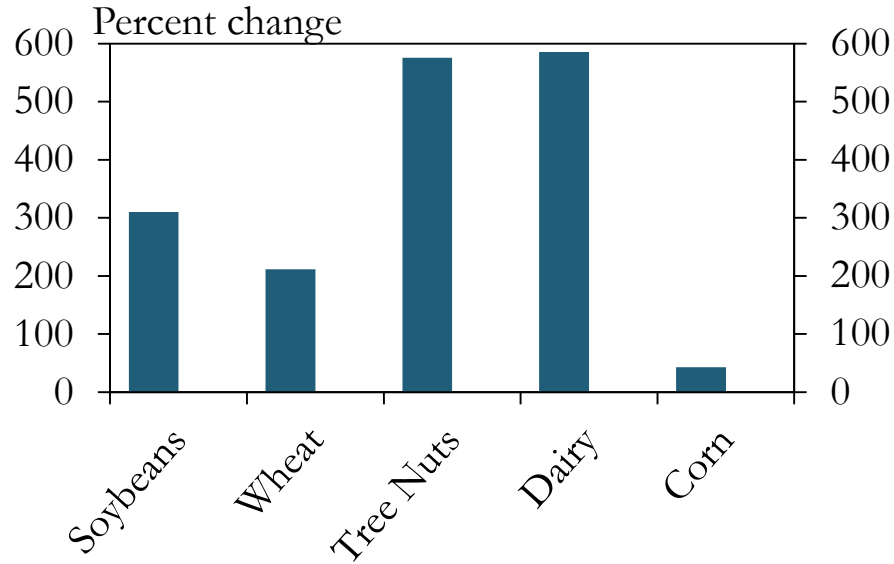


Sources: USDA and U.S. Energy Information Administration.

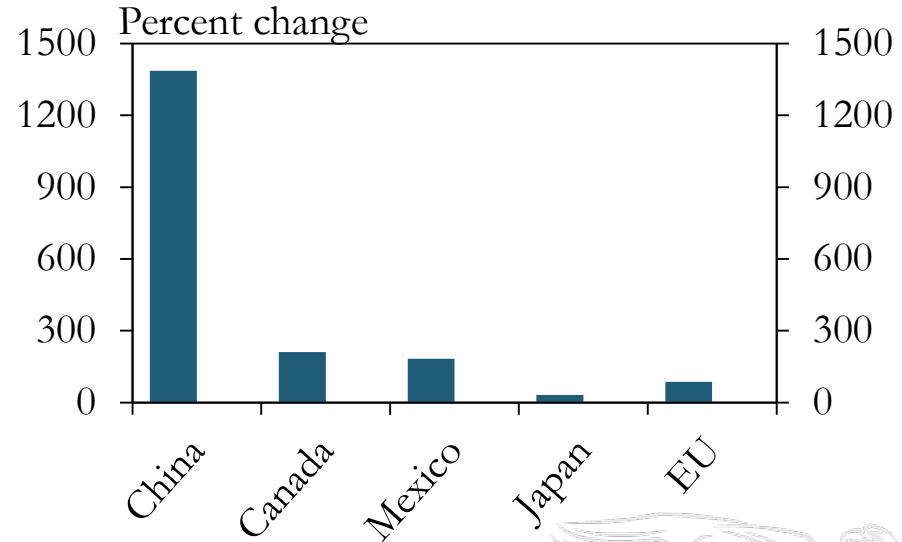


Exports of major ag commodities increased sharply, supported by growth in China.

Change in U.S. Ag Exports
2000 - 2013



Change in U.S. Ag Exports
2000 - 2013



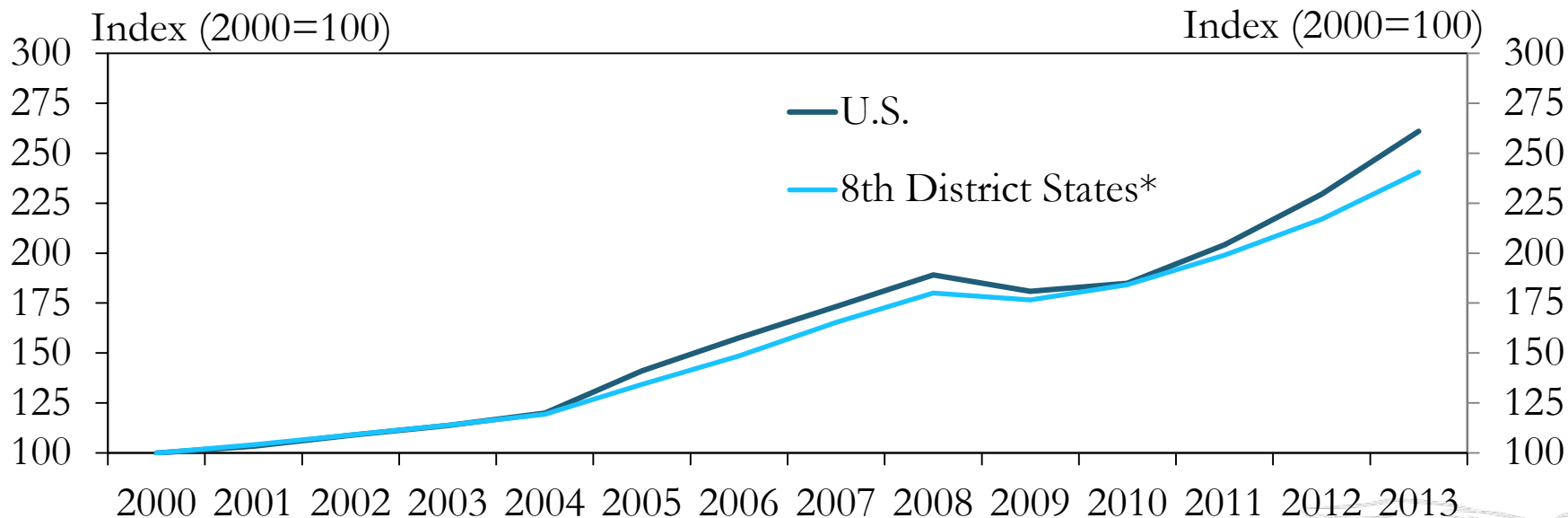
Note: Based on top commodities and destinations in 2013

Source: USDA.



Farm real estate values also increased significantly.

Farm Real Estate Values



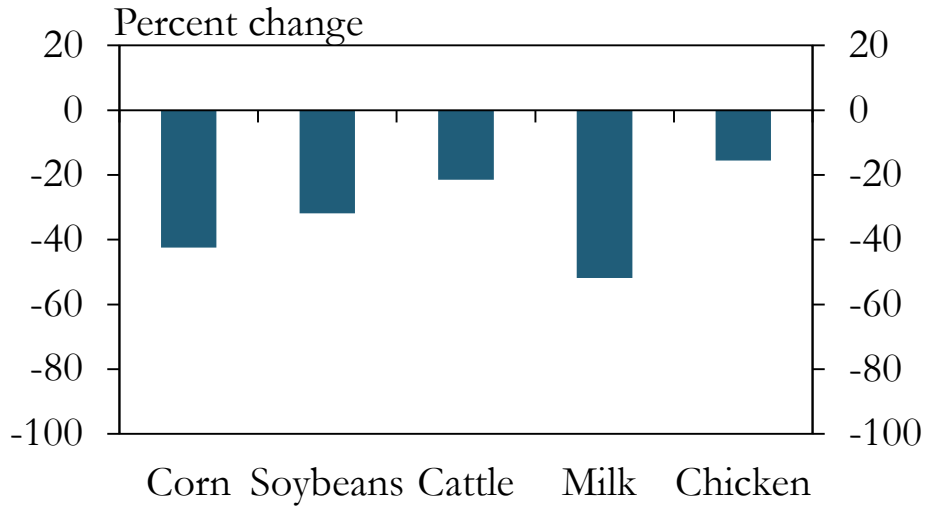
*Average of indices for each individual state

Sources: USDA and staff calculations.

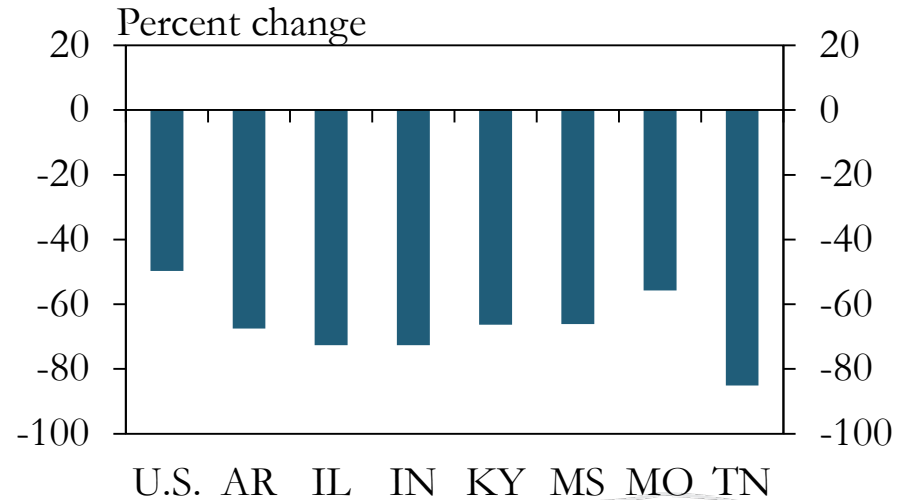


Beginning in 2013, however, ag commodity prices and farm incomes began to drop.

Change in Commodity Prices
2013 to 2016



Change in Farm Income
2013 to 2016

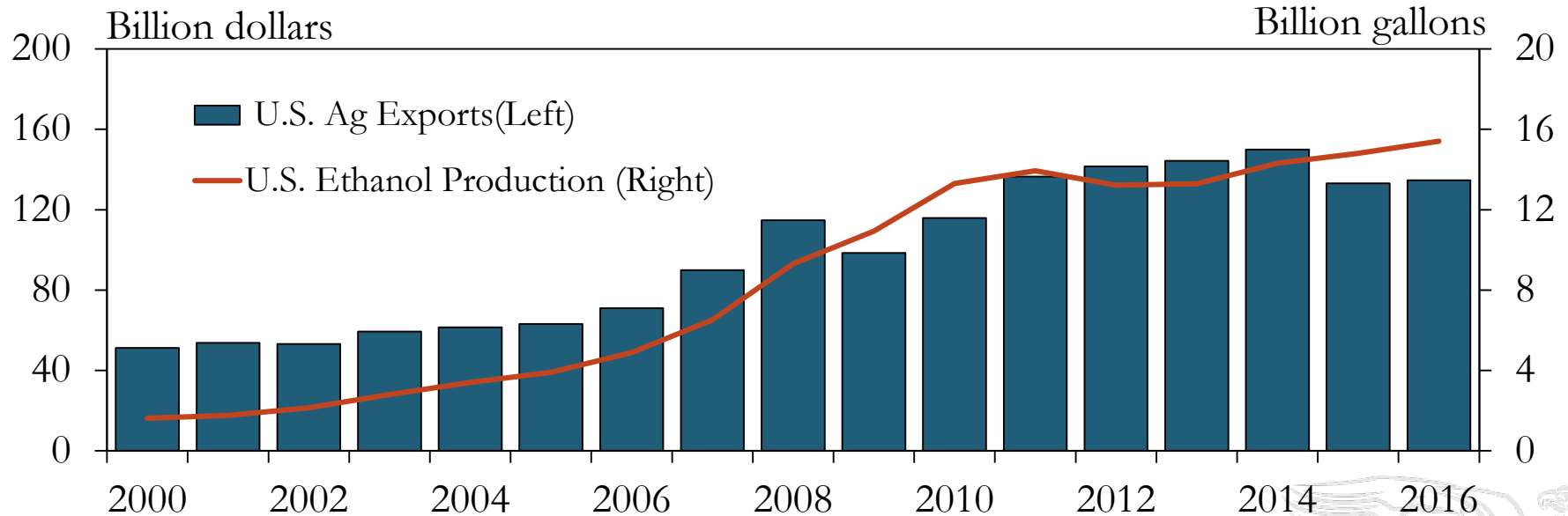


Source: USDA.



While demand for ag products remained high, the pace of growth had begun to slow.

U.S. Agricultural Exports and Ethanol Production

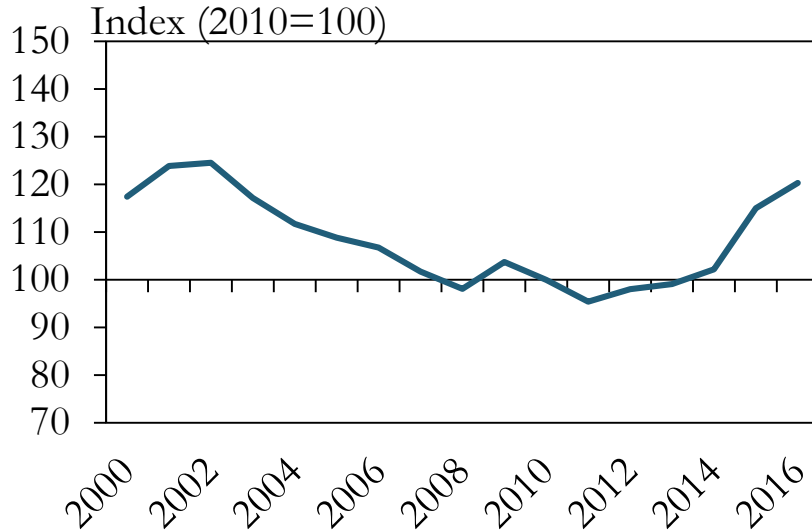


Sources: USDA and U.S. Energy Information Administration.

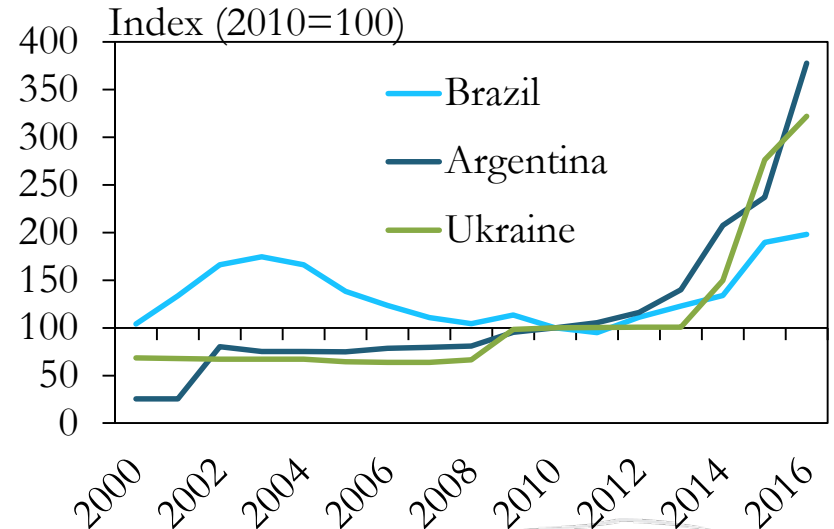


A stronger U.S. dollar presented a notable headwind to ag exports beginning in 2014.

Value of U.S. Dollar*



U.S. Dollar Exchange Rates



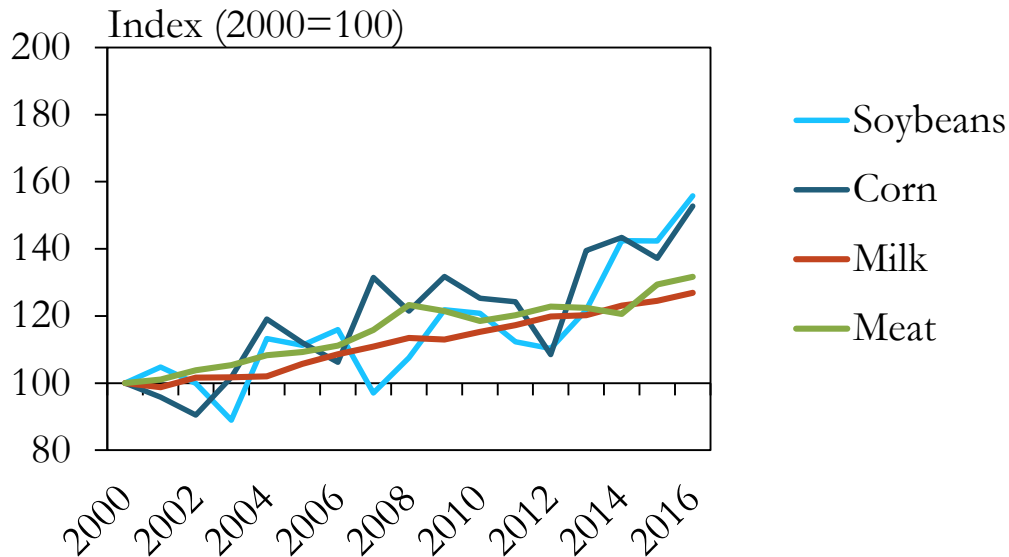
*Nominal, broad, trade-weighted exchange value of the U.S. Dollar

Sources: Federal Reserve Board, WSJ, World Bank and Haver Analytics.

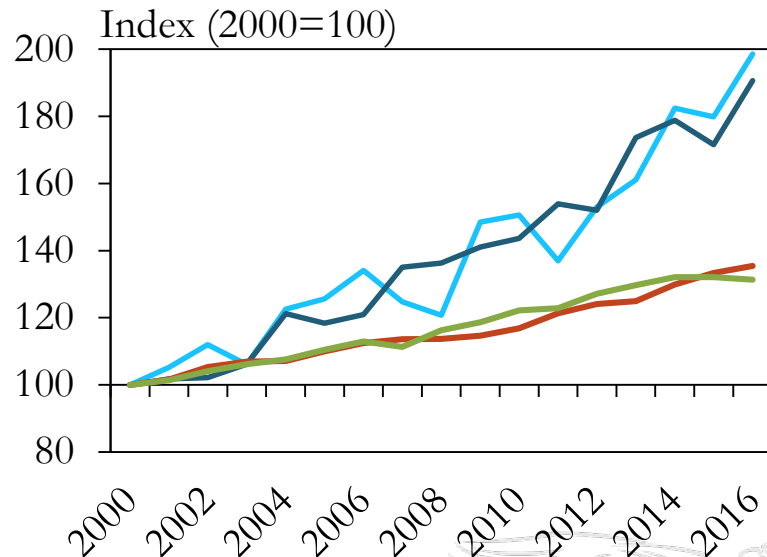


Alongside demand headwinds, agricultural production continued to trend higher.

U.S. Agricultural Production



World Agricultural Production

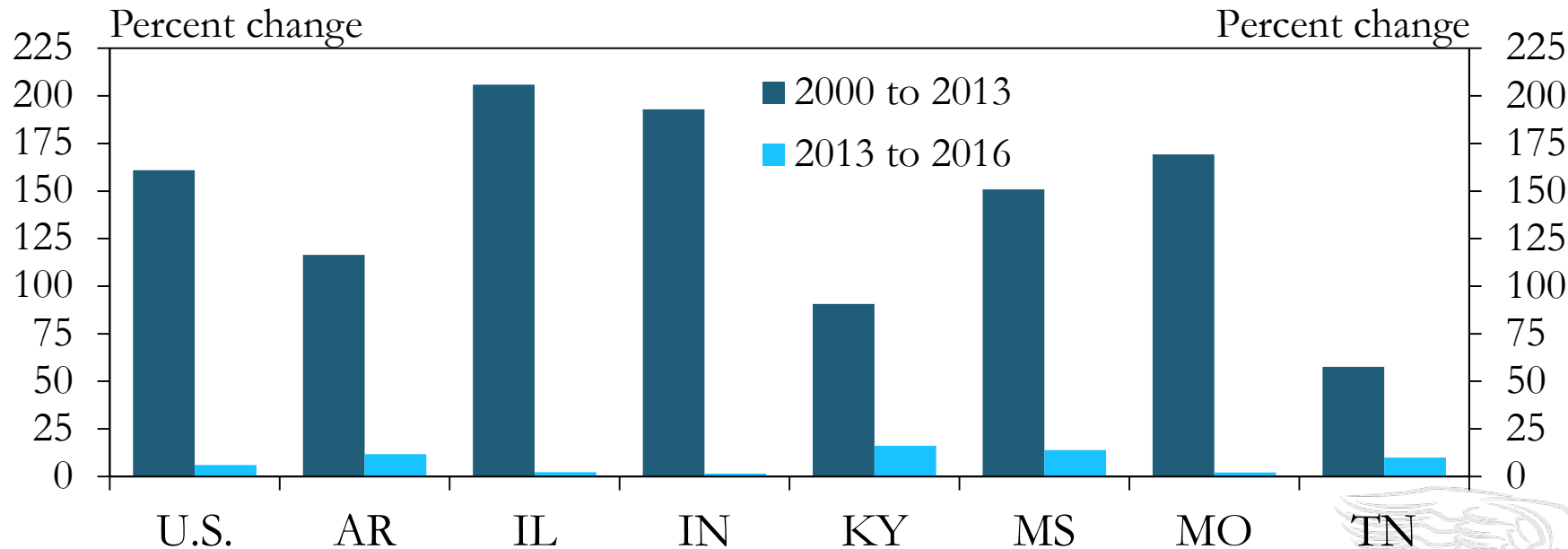


Sources: USDA and staff calculations.



The growth of farm real estate values also slowed noticeably, with declines in some areas.

Change in Farm Real Estate Values: 2013 to 2016

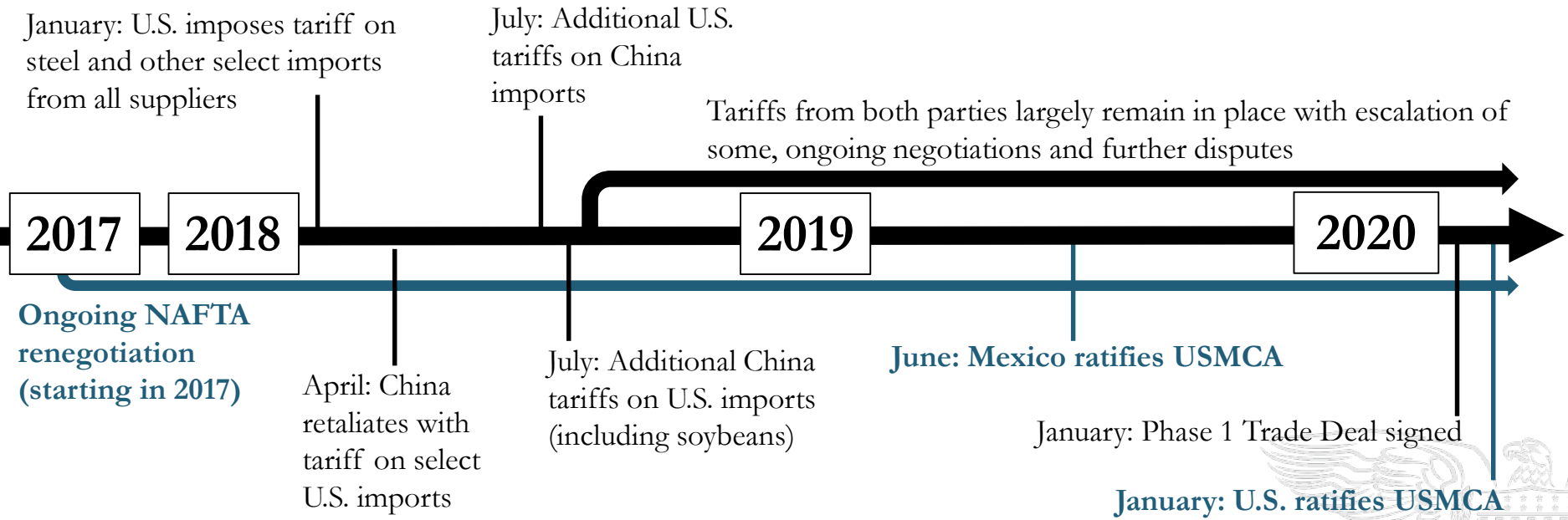


Sources: USDA and staff calculations.



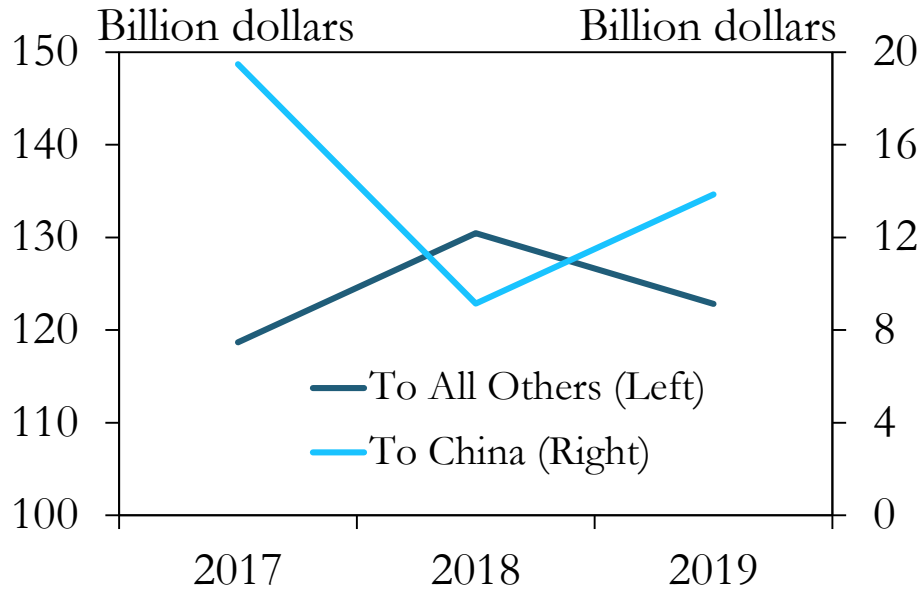
Since 2018, trade disputes have weighed on demand and industry sentiment.

Timeline of U.S. Trade Disputes

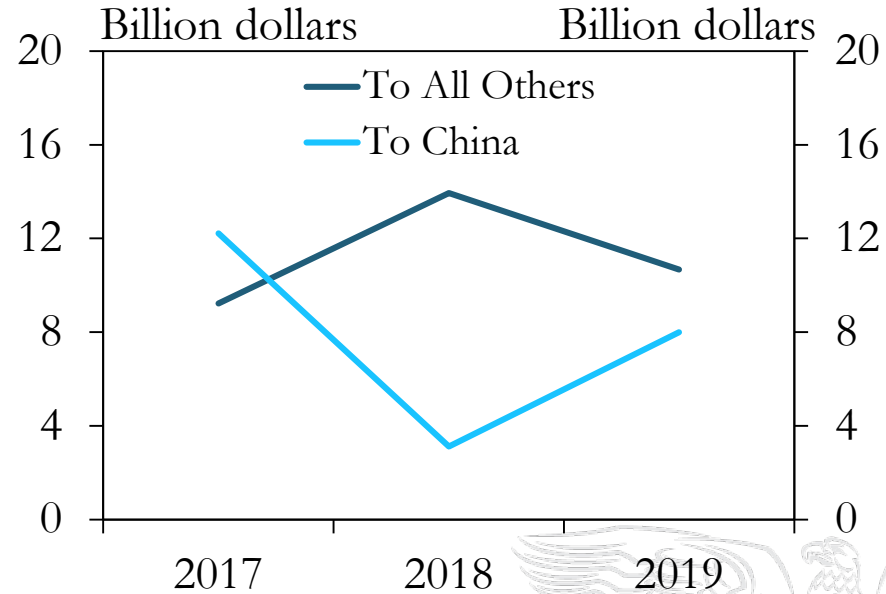


Ag exports, particularly to China, dropped in 2018 and remained subdued through 2019.

U.S. Food and Agricultural Exports



U.S. Soybean Exports

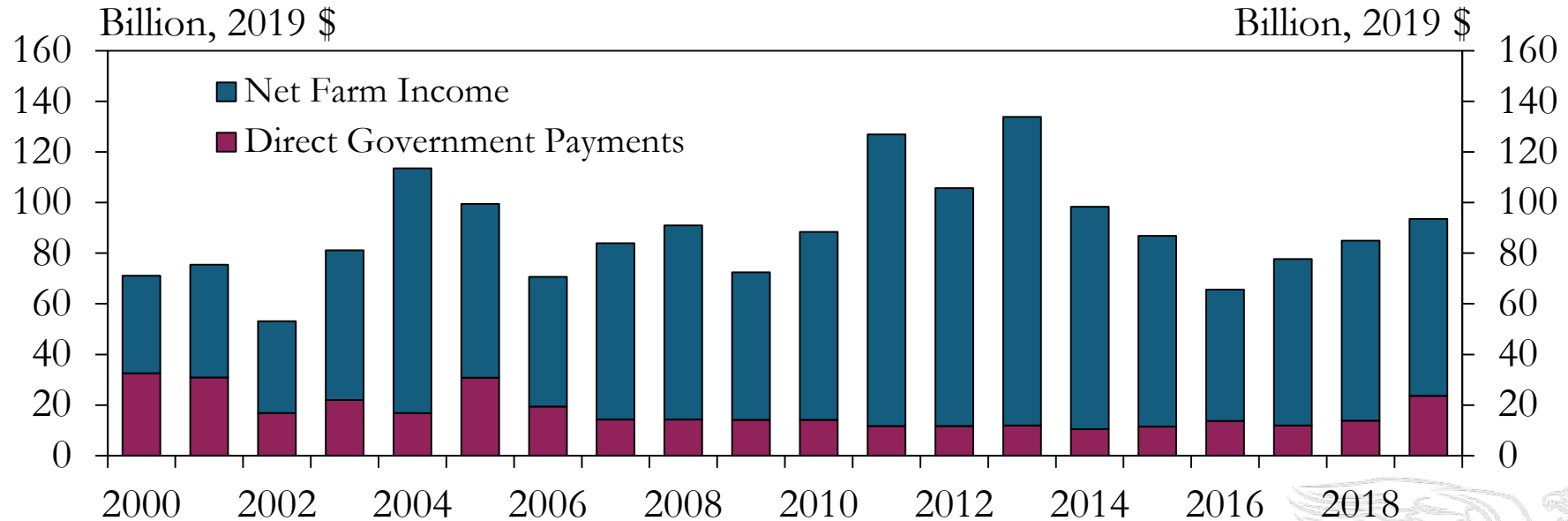


Source: USDA.



Recently, farm income has increased slightly, but with support from government payments.

U.S. Net Farm Income



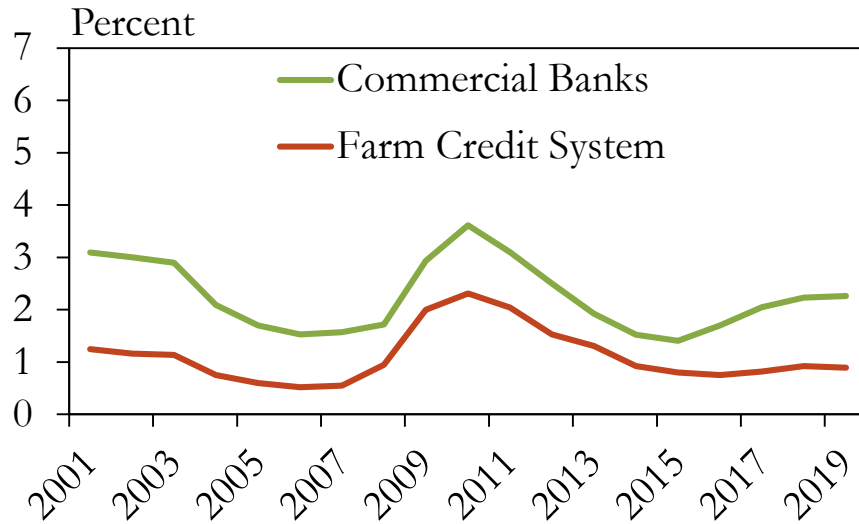
Note: 2019 Forecast

Source: USDA.



Farm loan delinquency rates and bankruptcies have trended higher, but at a modest pace.

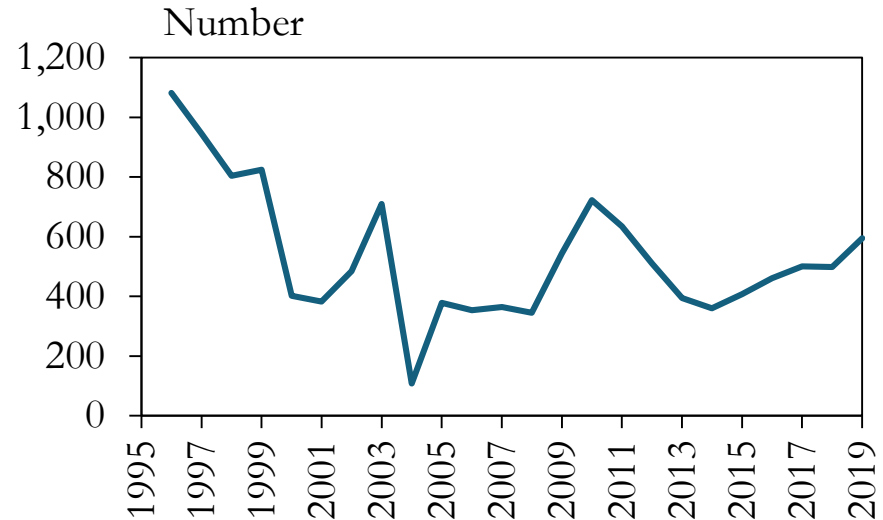
Farm Loan Delinquency Rates



Note: Commercial Banks as of Q4 2019, Farm Credit as of Q3 2019, all others as of Q2 2019.

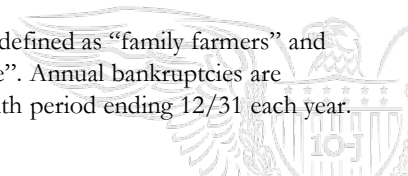
Sources: Board of Governors and FCA.

U.S. Farm Bankruptcies



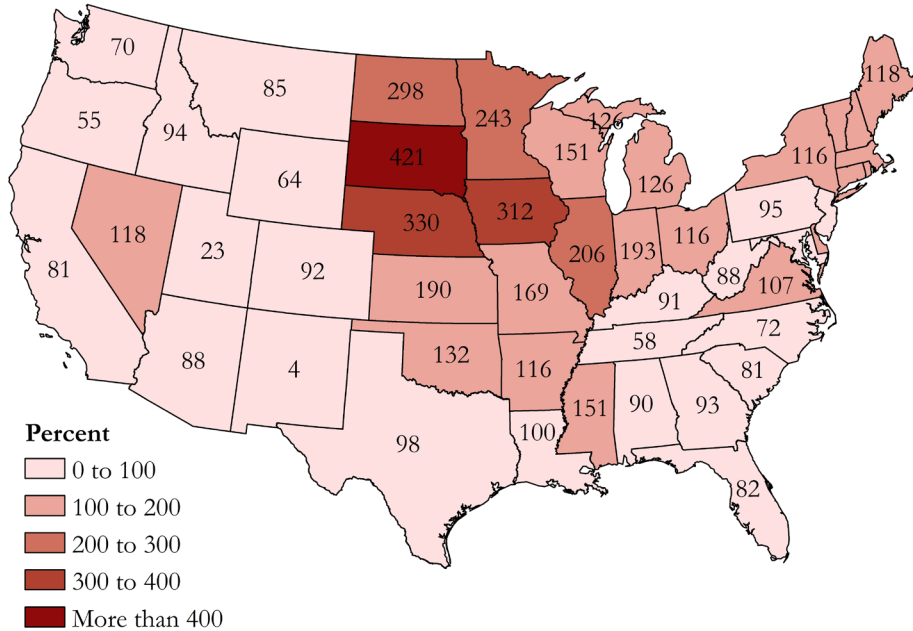
Notes: Includes all chapter 12 filings which are defined as “family farmers” and “family fishermen” with “regular annual income”. Annual bankruptcies are reported as the number of filings in the 12-month period ending 12/31 each year.

Source: United States Courts.

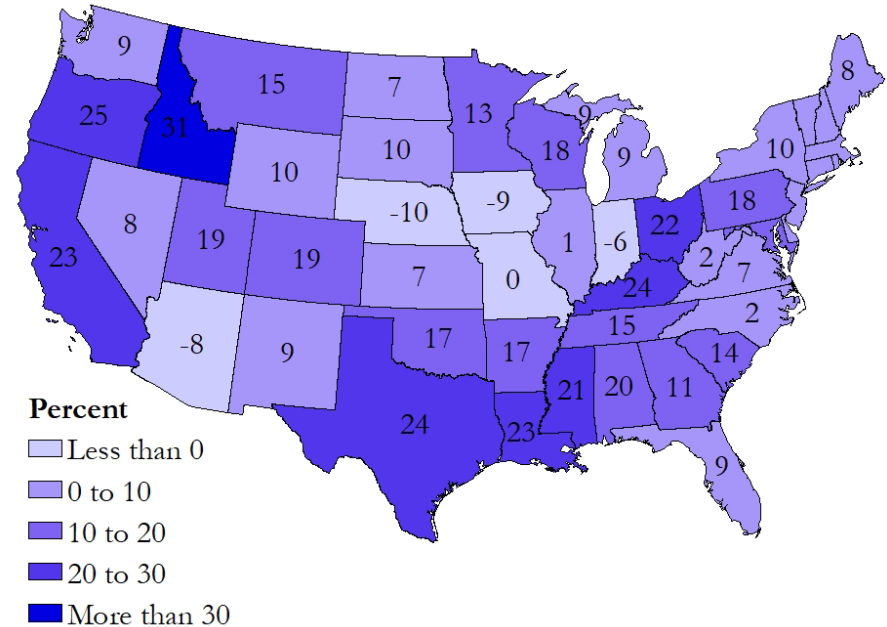


Farmland values have declined in some areas, but have generally remained strong.

U.S. Farmland Values
Change from 2000 to 2013



U.S. Farmland Values
Change from 2013 to 2019

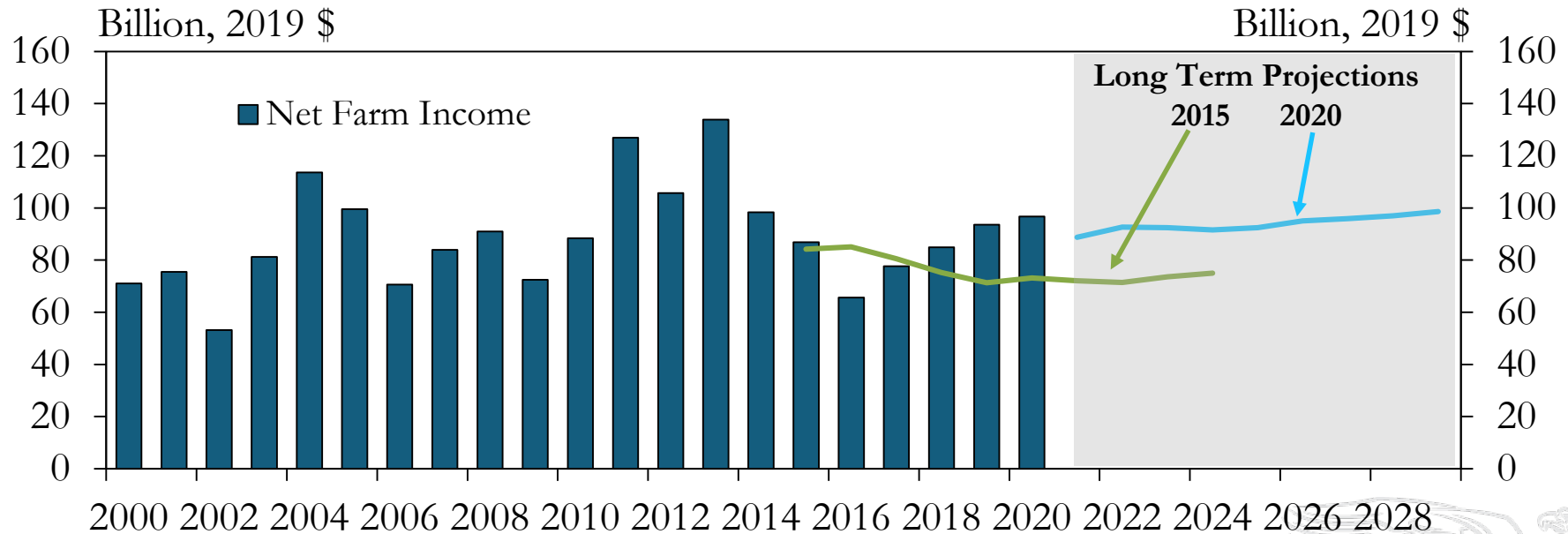


Source: USDA.



Looking ahead, farm income is expected to remain similar to recent years.

U.S. Net Farm Income



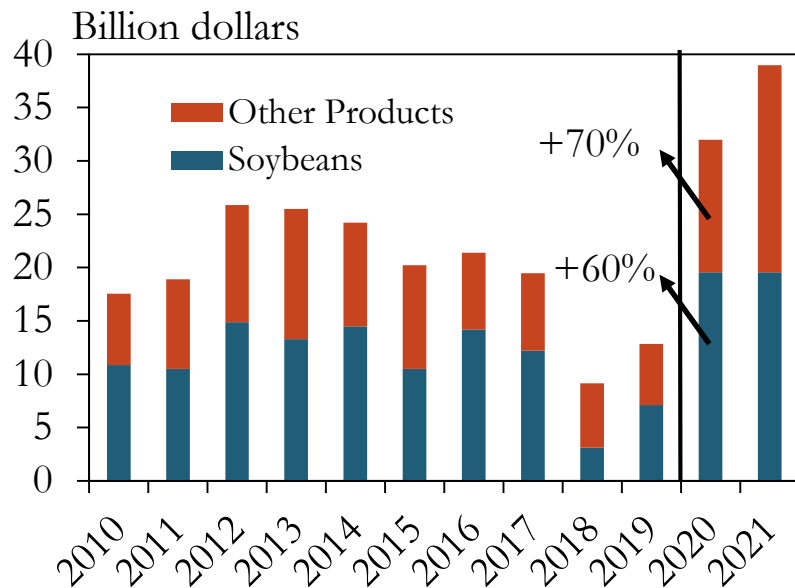
Note: 2019 and 2020 are forecasts

Source: USDA.

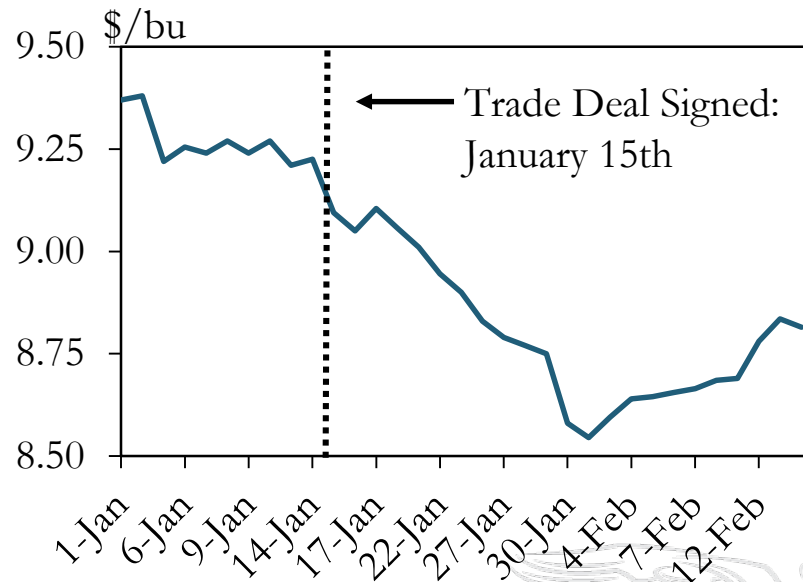


The recent trade deal with China may provide some optimism, but uncertainty remains.

U.S. Farm Exports to China: 'Phase 1' Trade Deal



Daily U.S. Soybean Prices



Note: Projections assume increases from 2017 baseline of \$12.5 billion in 2020 and \$19.5 billion in 2021. % Changes indicated percent increase in exports from 2017.

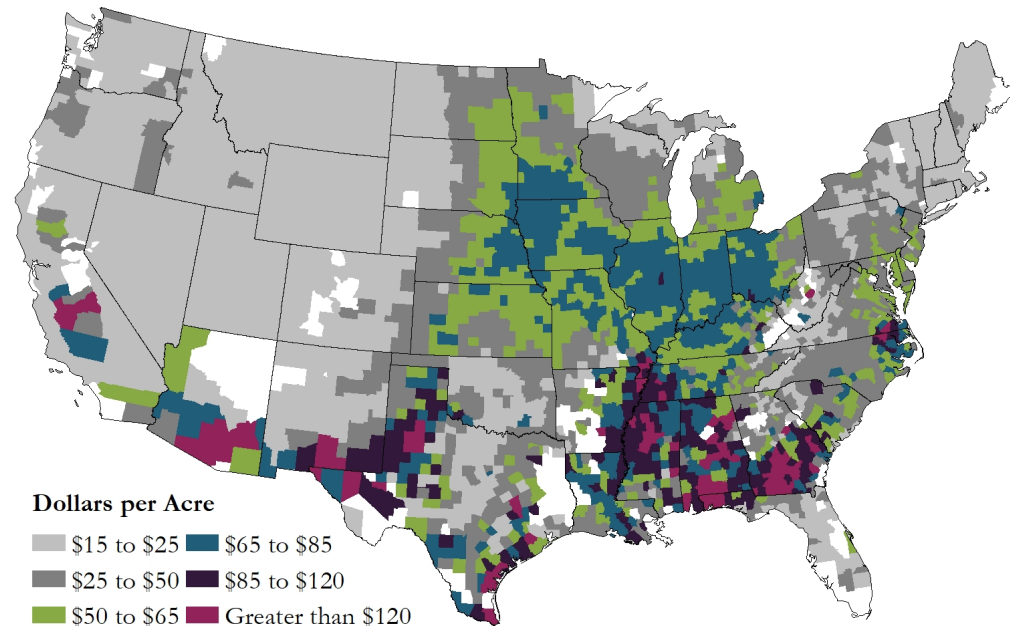
A 60% increase in soybean exports to China would total 90% of all U.S. soybean exports.

Sources: USDA and WSJ.



Government payments provided significant support in 2019, but are questionable for this year.

2019 Market Facilitation Program (MFP) Payment Rates

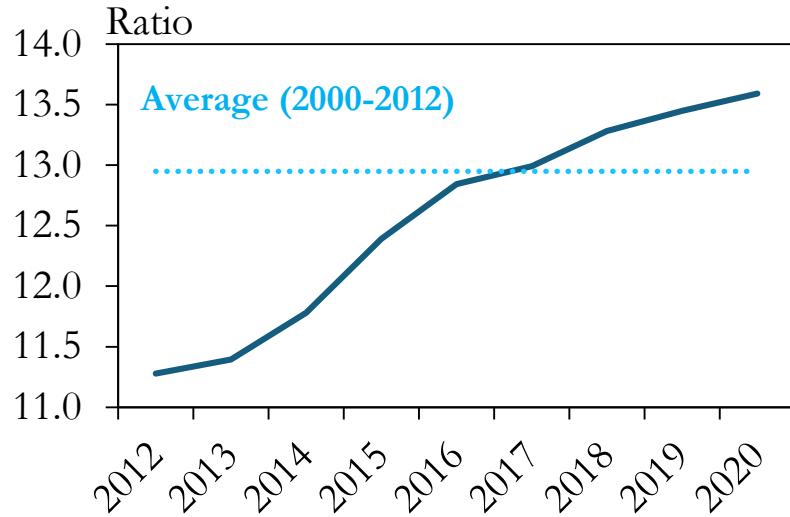


Source: USDA.

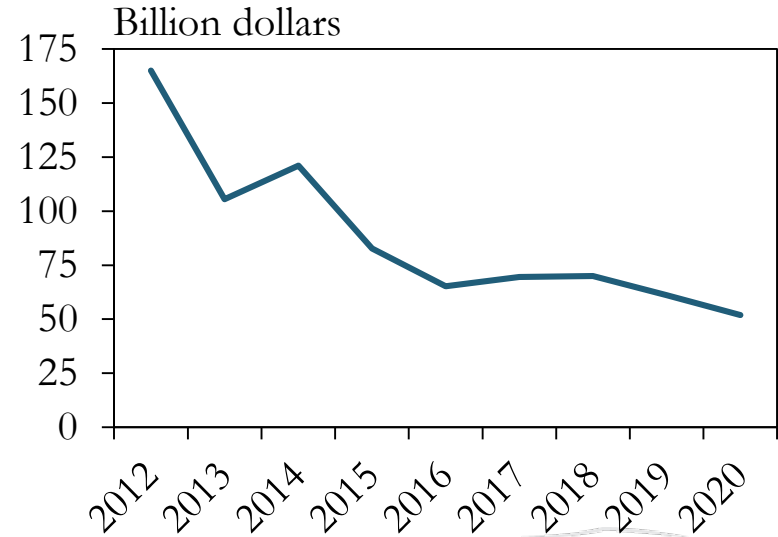


Incomes may be rising, and solvency is relatively strong, but liquidity is (still) a key concern.

Farm Sector Debt-to-Asset Ratio



Farm Sector Working Capital



Note: Forecast for 2019 and 2020

Source: USDA.



Concluding Thoughts

- The U.S. farm economy is likely to remain subdued in 2020 alongside low ag commodity prices.
 - Much focus remains on U.S. trade deal with China, but has been complicated by the coronavirus.
- Some agricultural banks appear likely to experience (slightly) higher rates of loan delinquencies in the coming year.
 - Areas concentrated in dairy, corn, and soybeans.
 - High percentage of borrowers with limited equity.
 - Very rural locations

