

# Agriculture and the U.S. Economy: Opposing Transitions



FEDERAL RESERVE BANK *of* KANSAS CITY

January 18, 2018

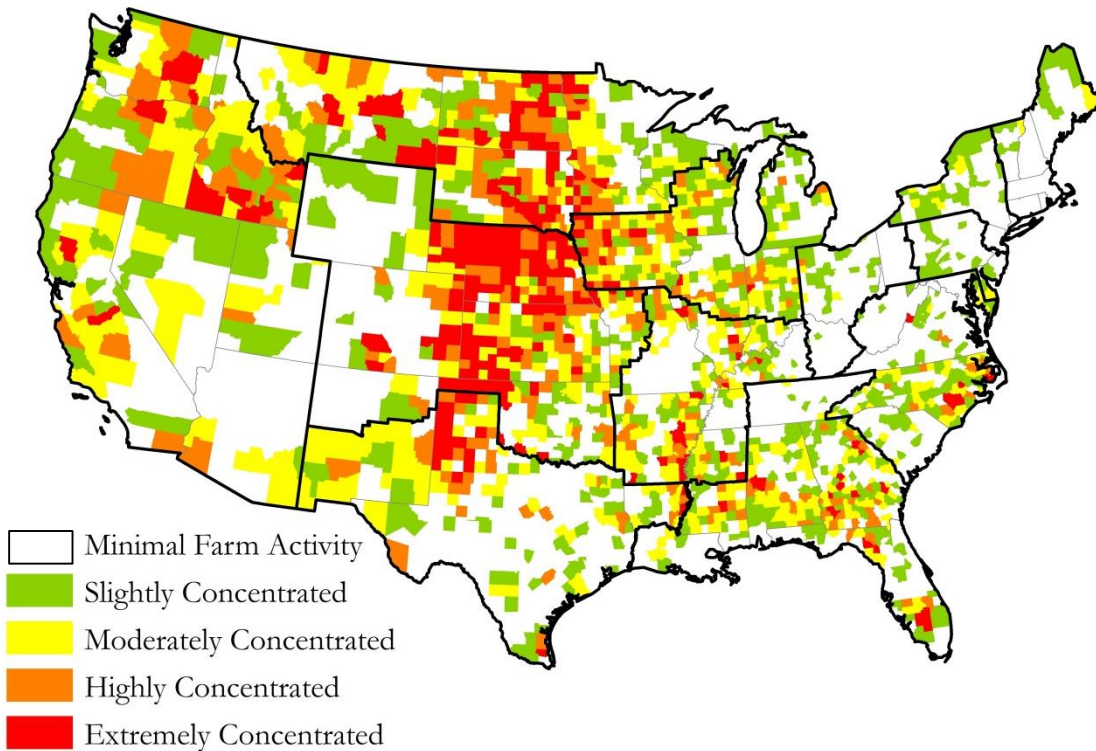
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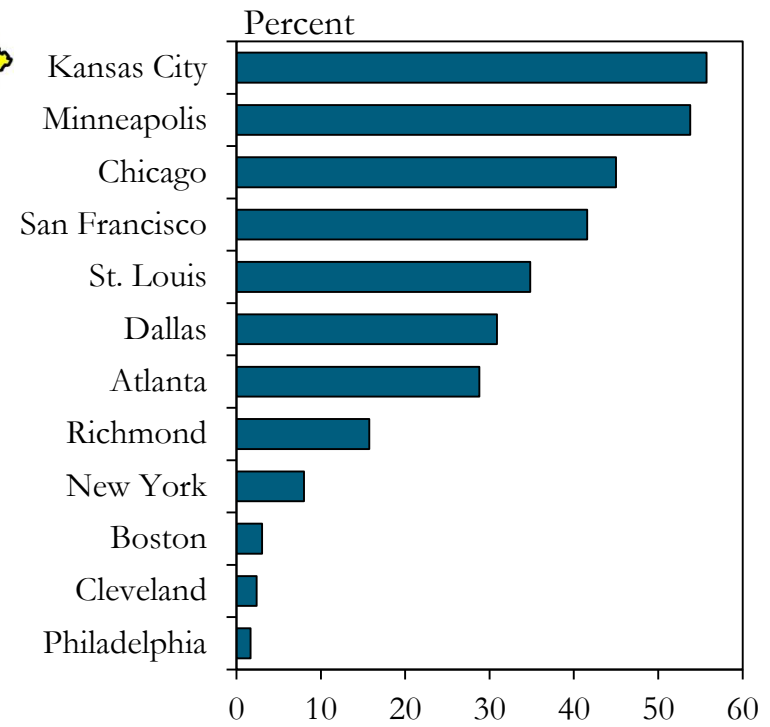


Of the 12 Fed Districts, the KC District is the most concentrated in agriculture by some measures.

### Farm Sector Concentration



### Share of Counties with Moderate Farm Concentration or Higher

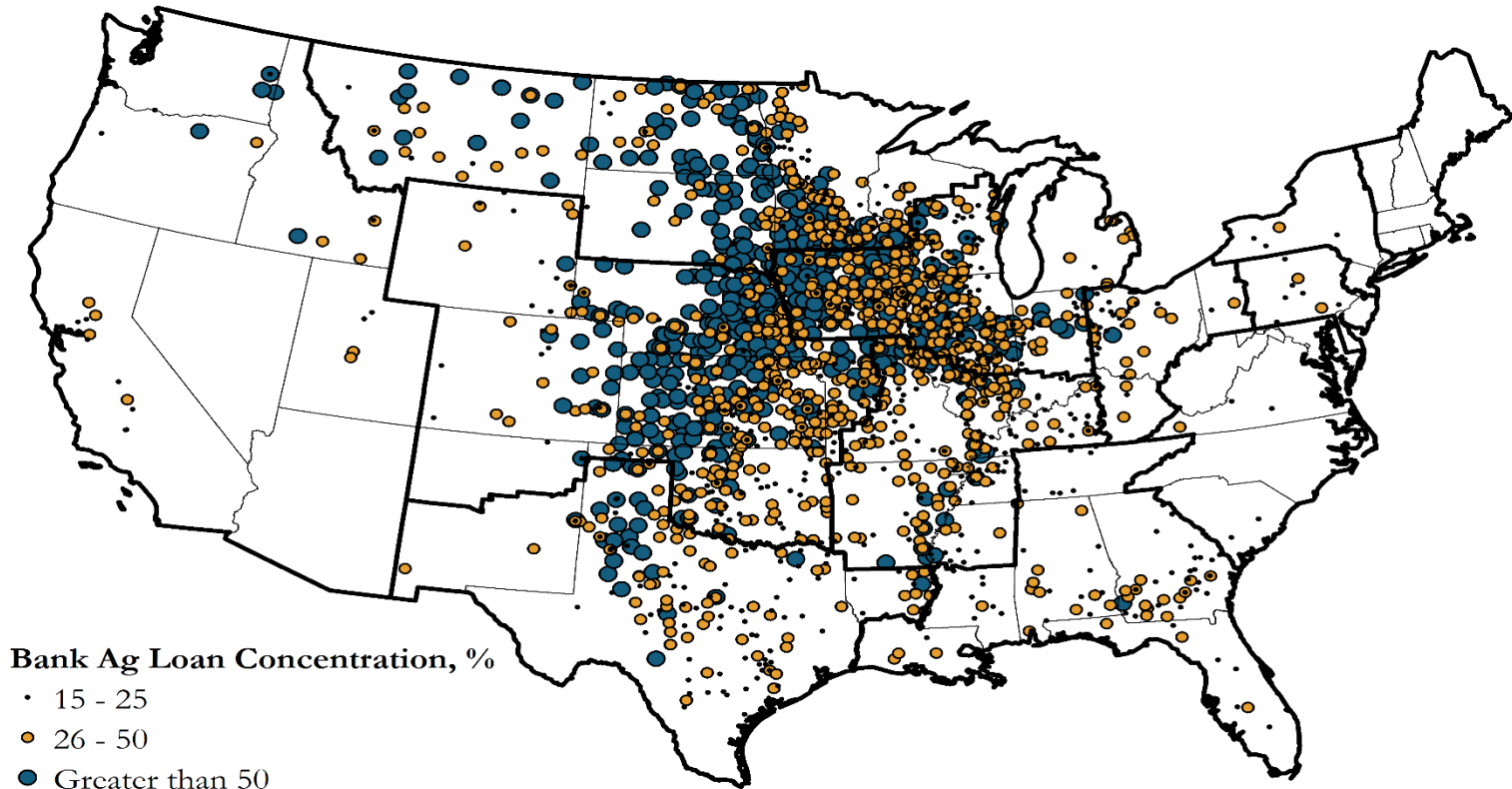


Source: BEA, USDA, and staff calculations

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Commercial banks connected to agriculture are also concentrated in the Midwest.

## Agricultural Banks in the U.S.



Source: Federal Reserve Board of Governors.



# Outlook Themes

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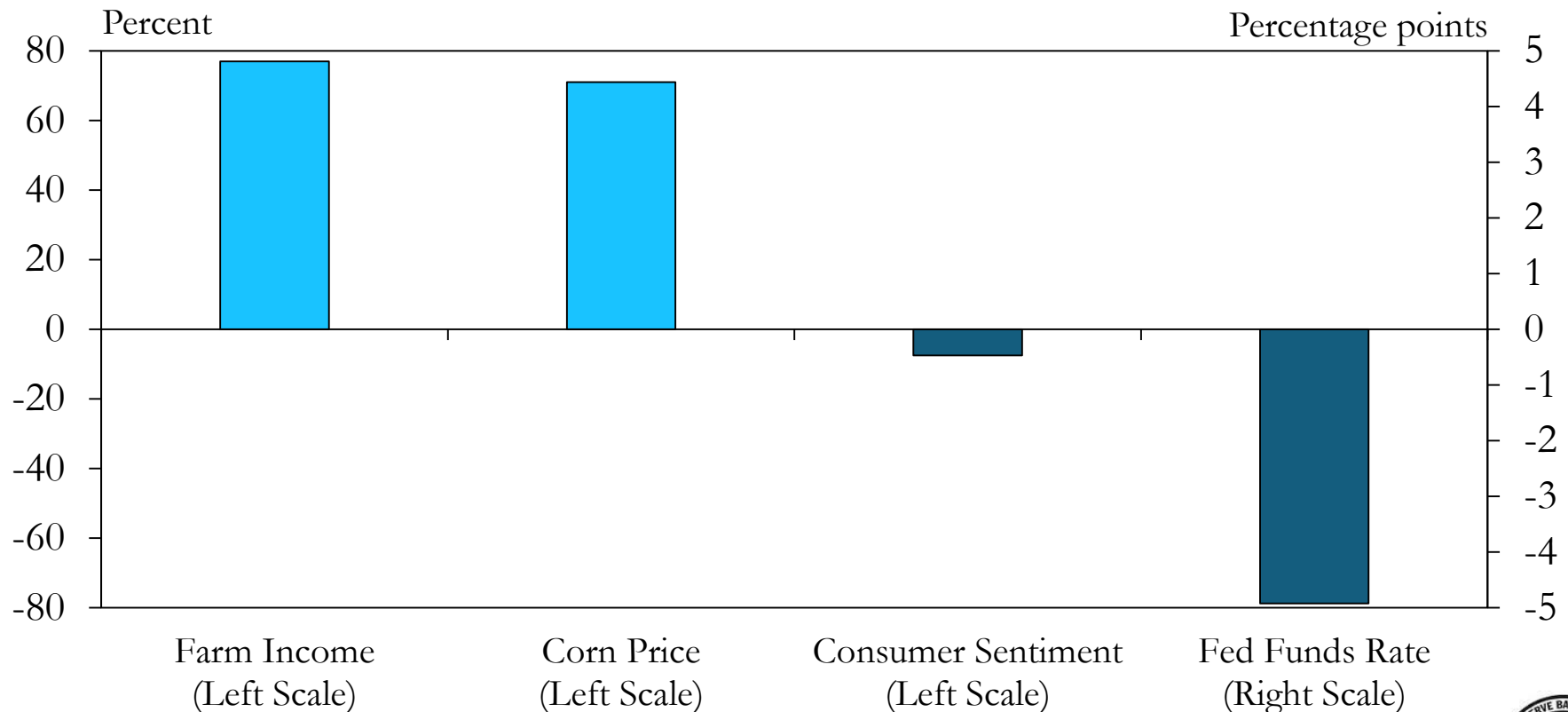
- The outlook for agriculture has traded places with the outlook for the broader economy the past few years.
- The Fed has begun to raise interest rates in recognition of sustained economic growth.
- But the prospects for agriculture will still be determined by supply, demand, and commodity prices.
- A stronger U.S. economy, and strength in farmland markets, have provided support through the downturn in ag.
  - The downturn in ag has been gradual, but persistent. And risks still remain.



# From 2007 to 2013, the ag economy outperformed the rest of the U.S. economy.

## Indicators for Ag Economy and Broader U.S. Economy

Change from 2007 to 2013



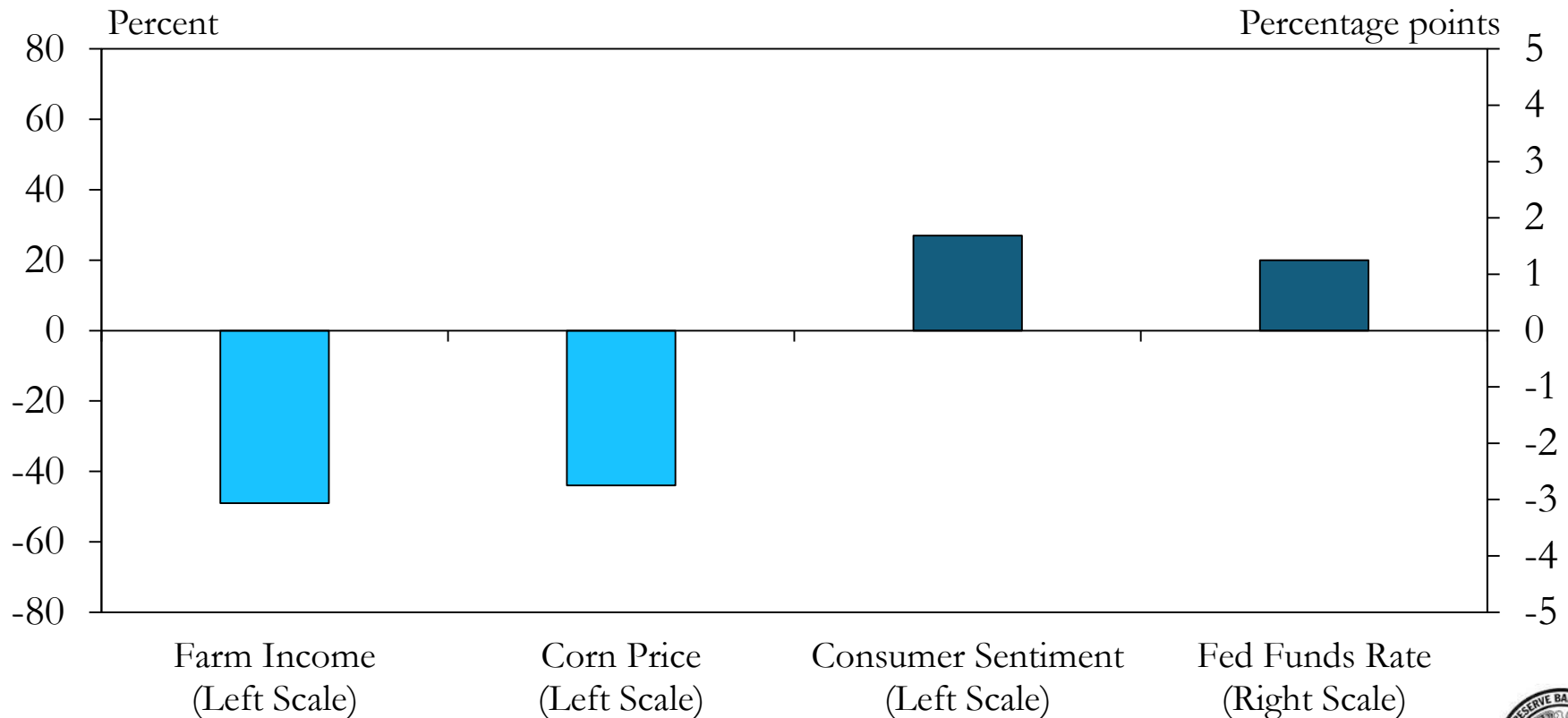
Source: USDA, University of Michigan, Federal Reserve Board, and Haver Analytics.



Since 2013, the outlooks have reversed.

## Indicators for Ag Economy and Broader U.S. Economy

Change from 2013 – 2017

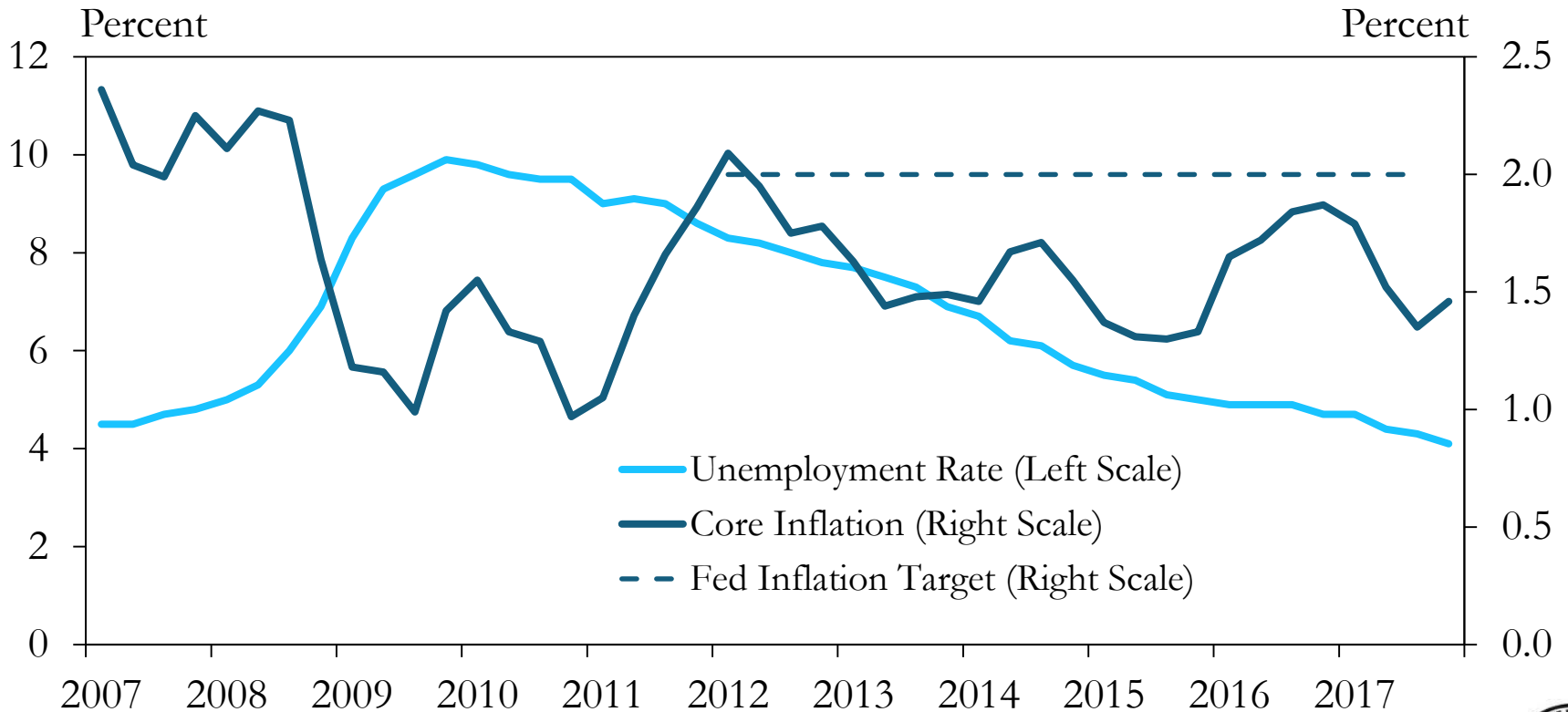


Source: USDA, University of Michigan, Federal Reserve Board, and Haver Analytics.



# Half of the Fed's "Dual Mandate" appears to be well-positioned.

## U.S. Unemployment and Inflation

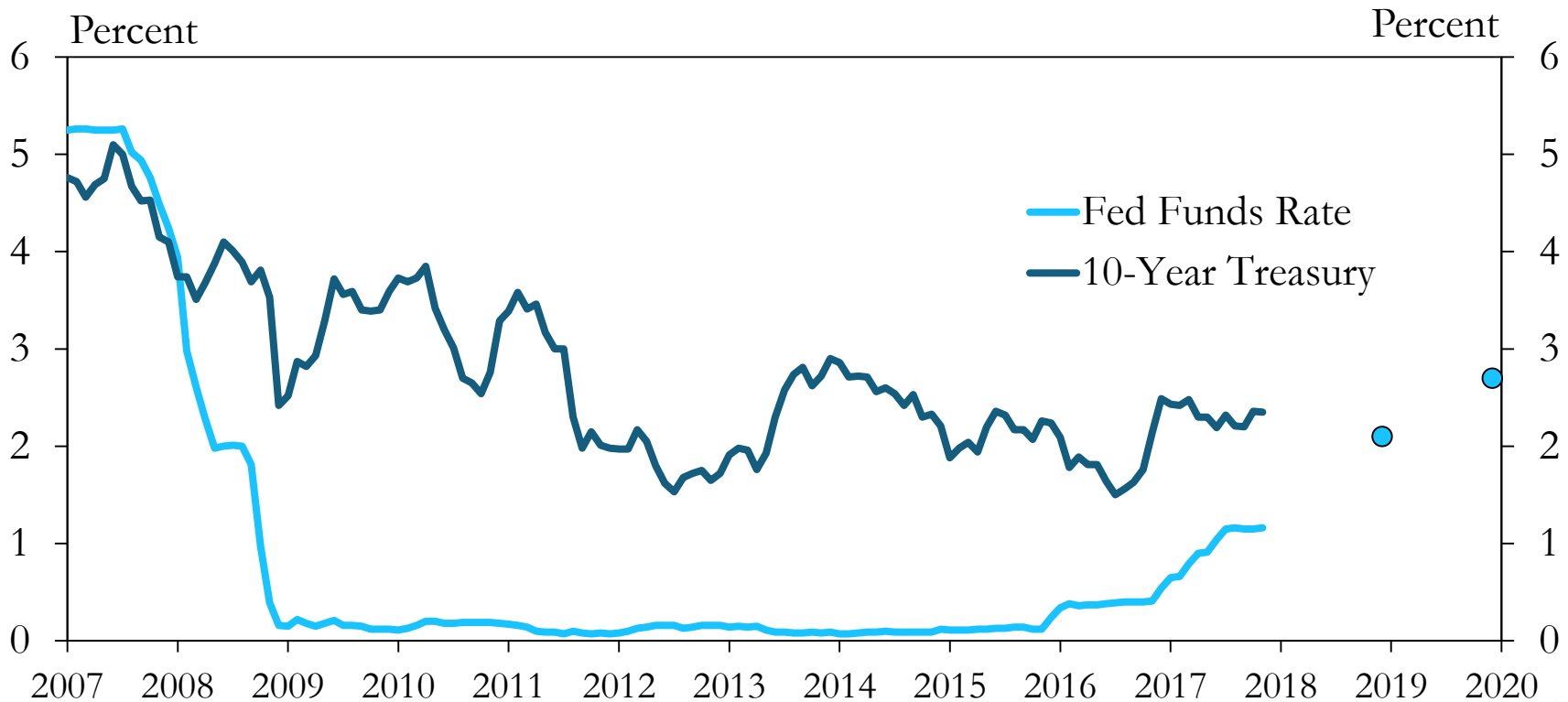


Source: BLS, Federal Reserve Board, and Haver Analytics.



Short-term interest rates have gradually inched higher, even as long-term rates remain low.

## U.S. Interest Rates



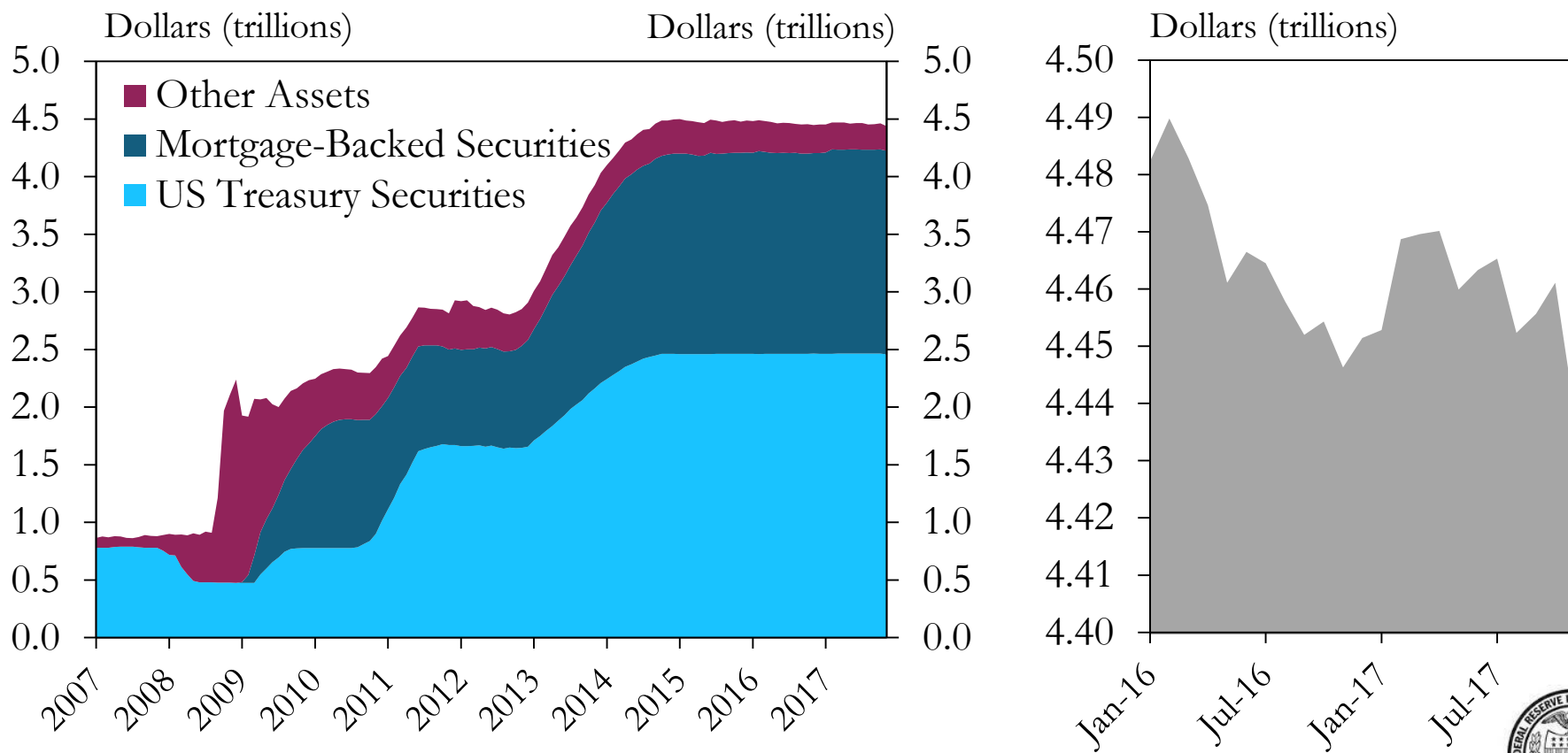
Source: Federal Reserve Board and Haver Analytics.





With momentum in the economy, the Fed has begun to (very gradually) reduce the size of its balance sheet.

## Federal Reserve Balance Sheet

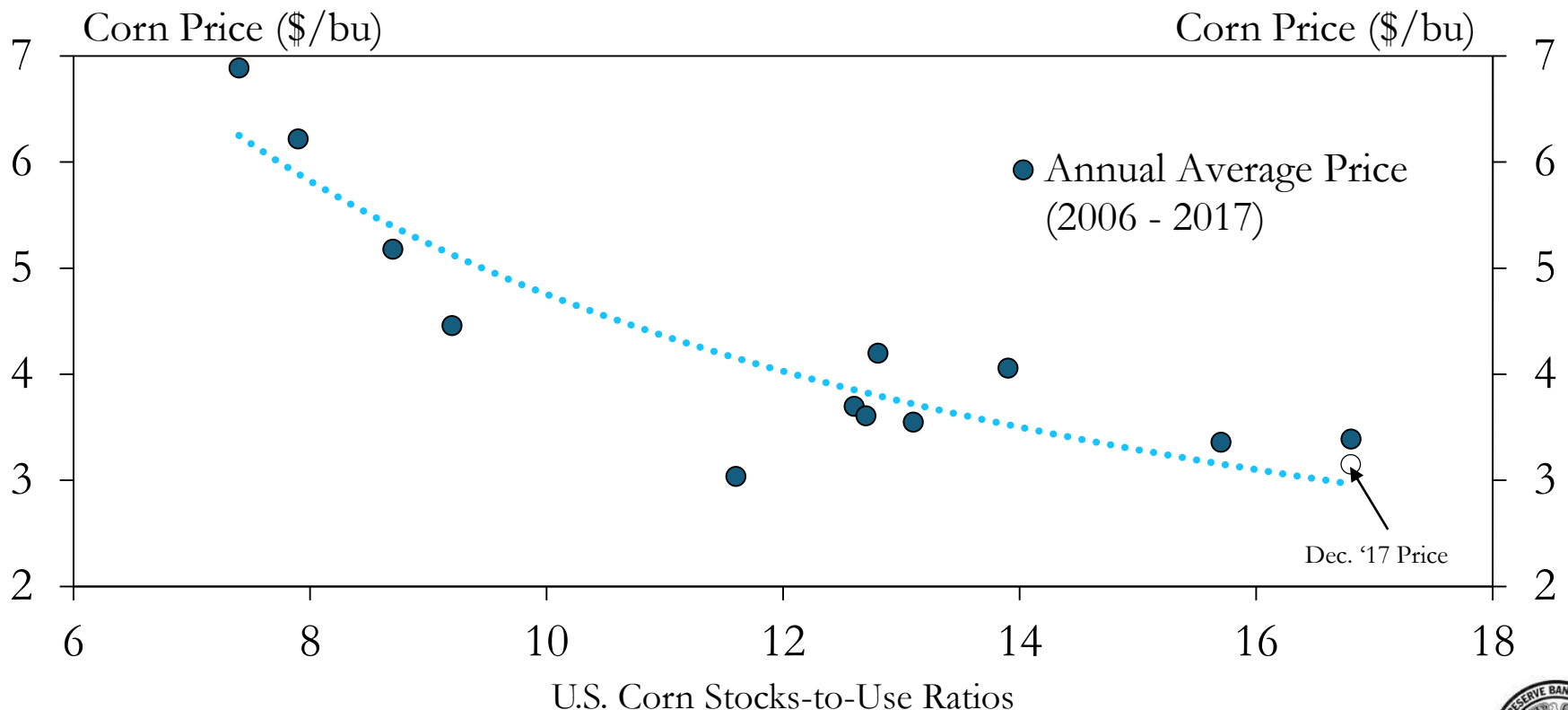


Source: Federal Reserve Board and Haver Analytics.



In agriculture, however, the primary driver of the transition is supply and demand.

## U.S. Corn Price and Stocks-to-Use Ratios

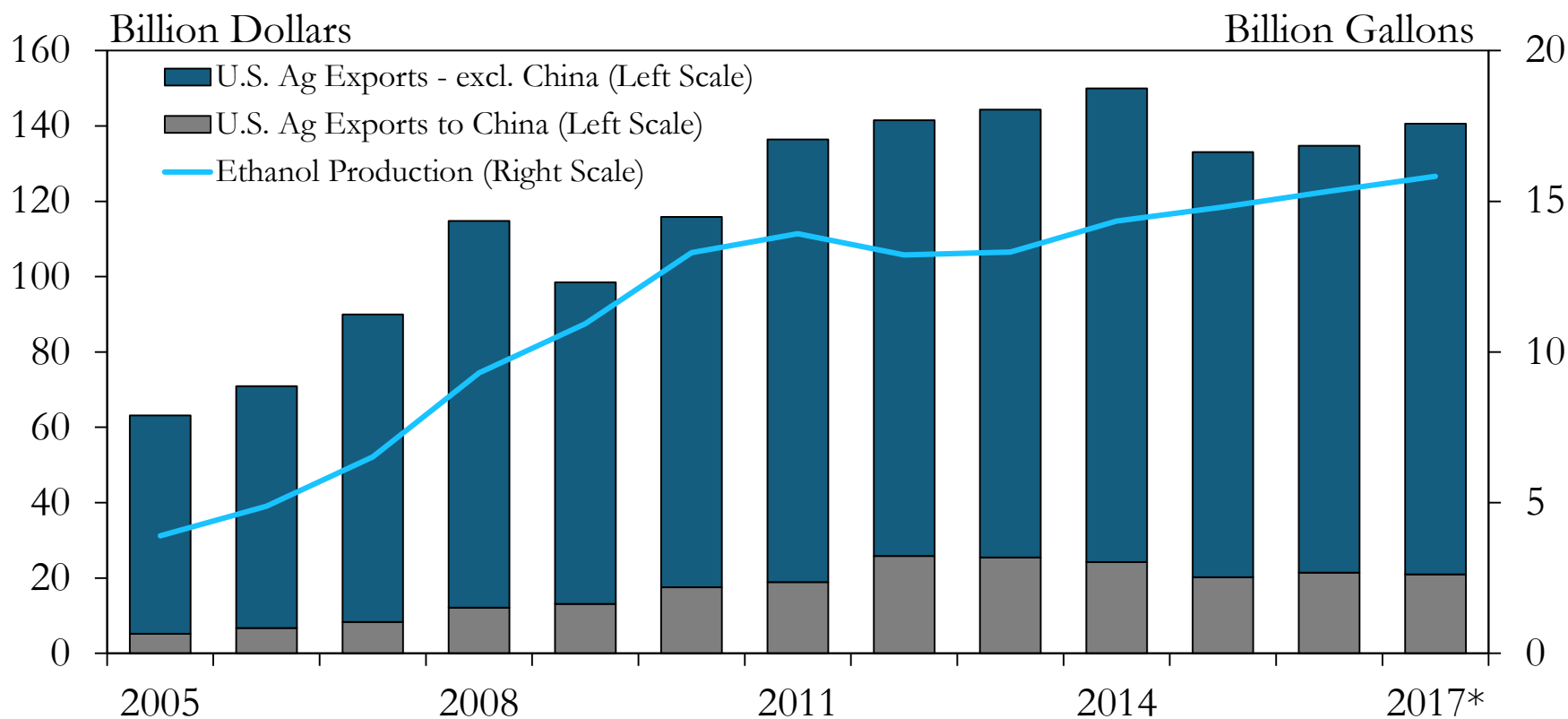


Source: USDA and staff calculations.



Demand for U.S. agricultural products remains high,  
but the growth has slowed considerably.

## U.S. Agricultural Exports and Ethanol Production



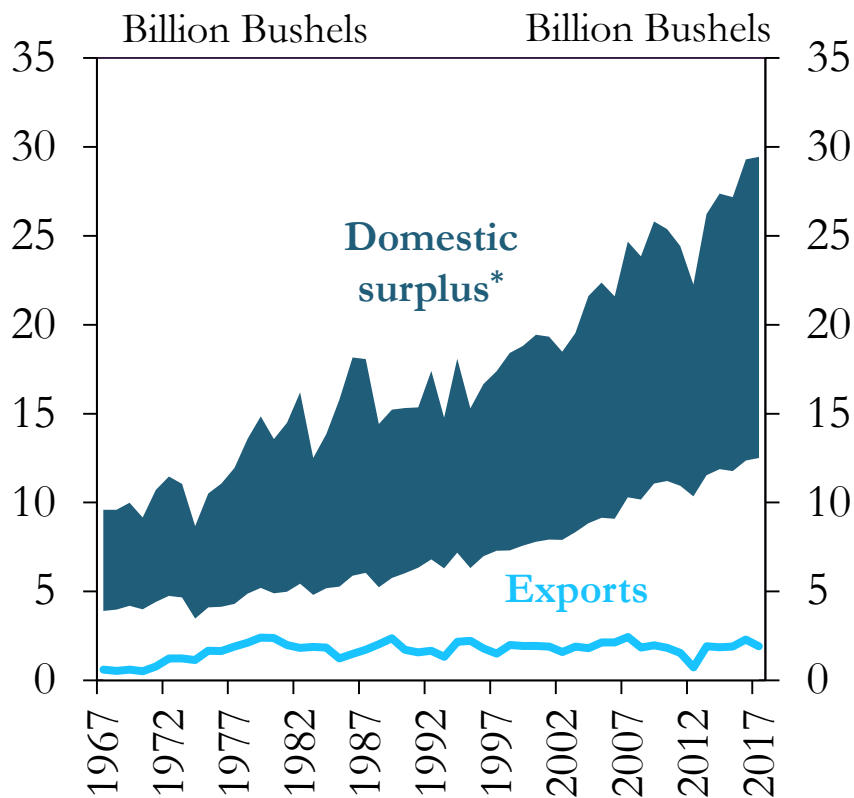
Note: Ag exports to China calculated from data through Oct 2017.

Source: USDA, EIA, and Renewable Fuels Association

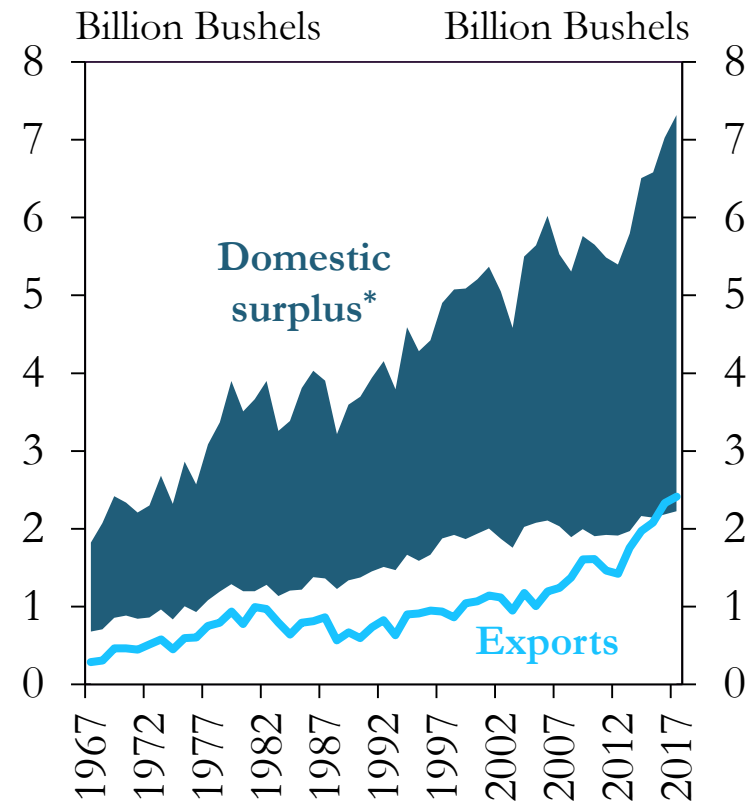


# Large supplies of crops in the U.S. have weighed on prices in recent years.

## U.S. Corn



## U.S. Soybeans



\*Domestic surplus = domestic production + imports + carryover from previous year – domestic use.

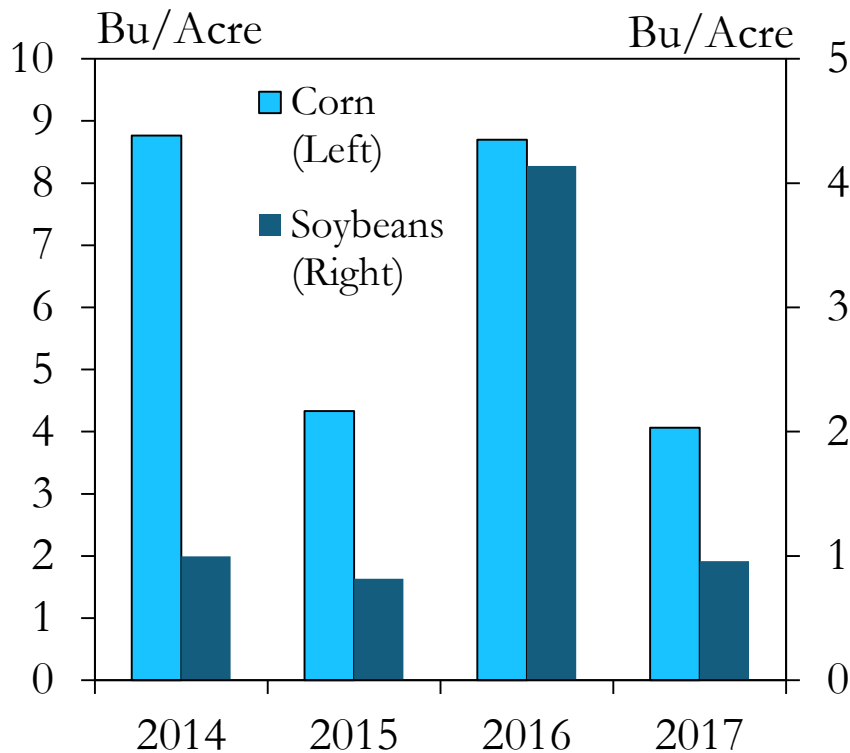
Source: USDA.



Better than expected harvests of key crops, however, have mitigated some effects of low prices.

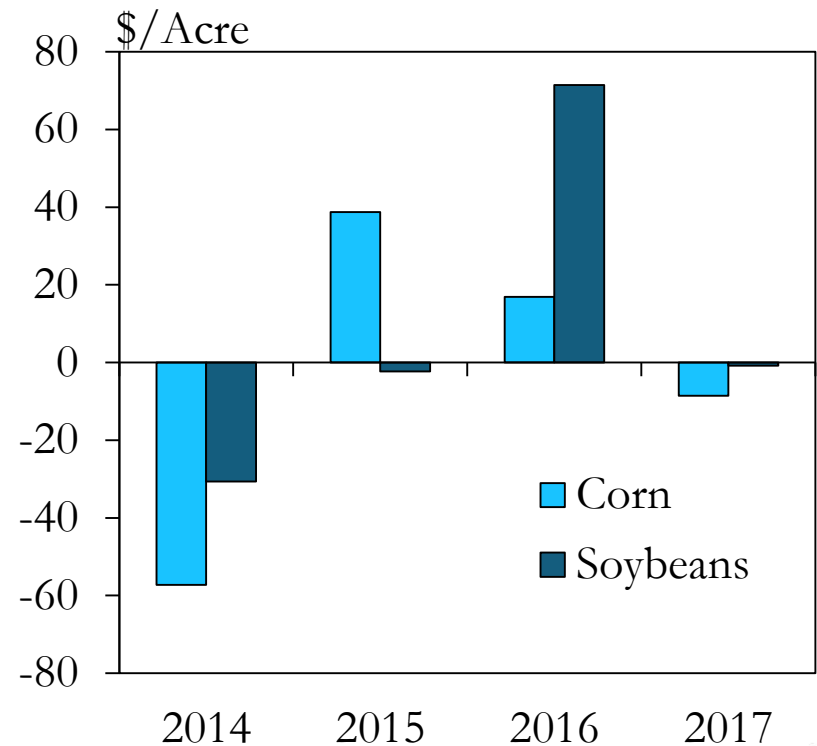
### U.S. Corn and Soybean Yields

Deviation from Trend



### U.S. Corn and Soybean Revenue

Change from May Expectations to Q4 Actual

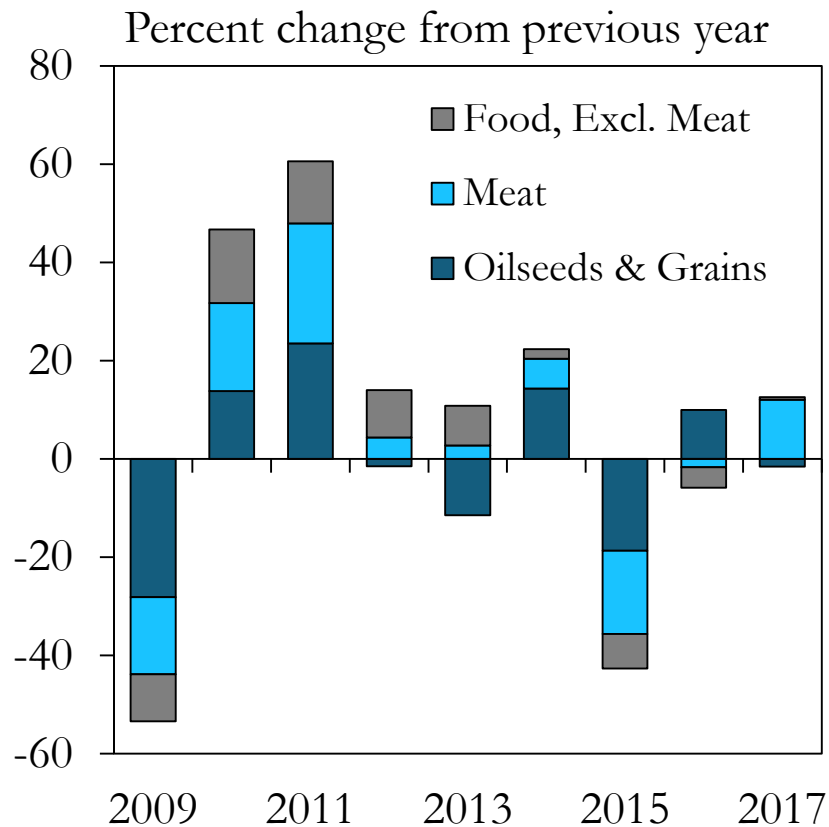


Source: USDA and staff calculations.

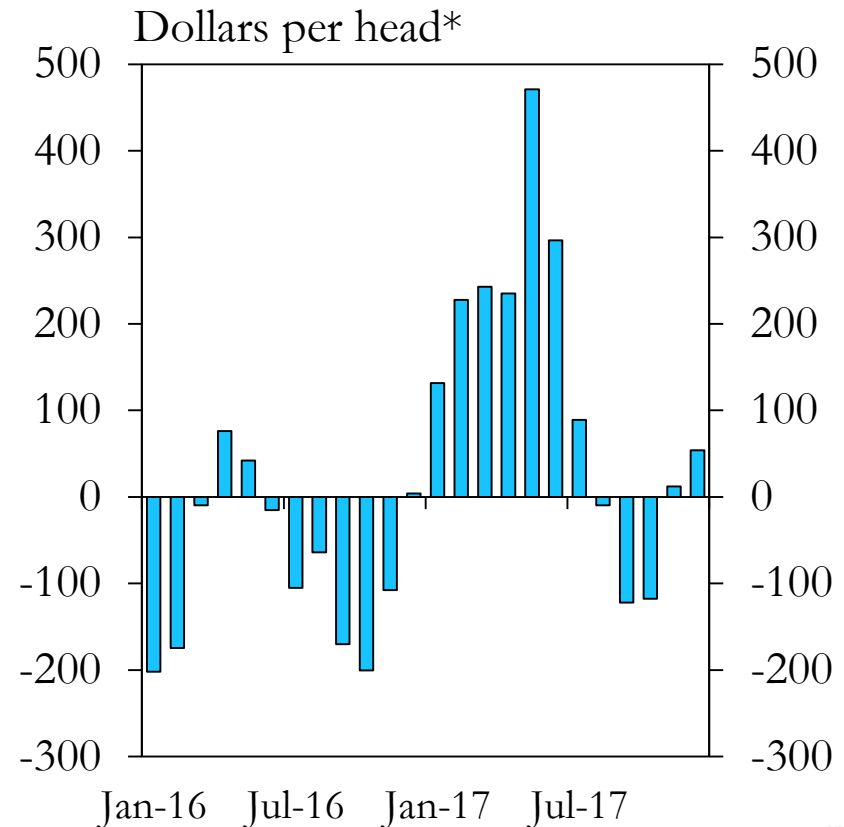


Food and ag exports have also rebounded, and 2017 has been a much more optimistic year for the cattle sector.

## U.S. Exports



## Cattle Sector Profits

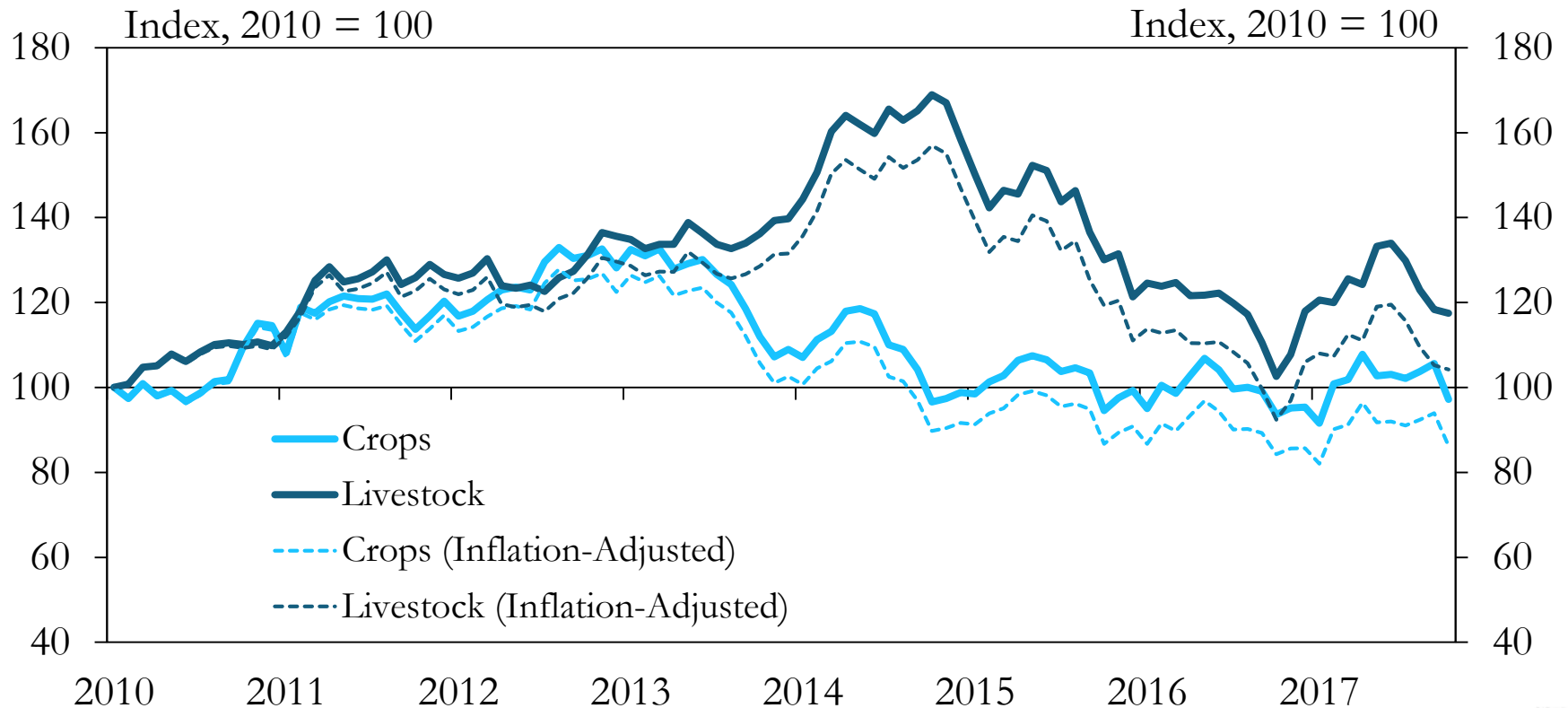


\*Assumes 1200-pound animal.  
Source: WiserTrade and USDA.



Still, agricultural commodity prices generally remain low, and remain a primary concern in the ag economy.

## Agricultural Commodity Prices

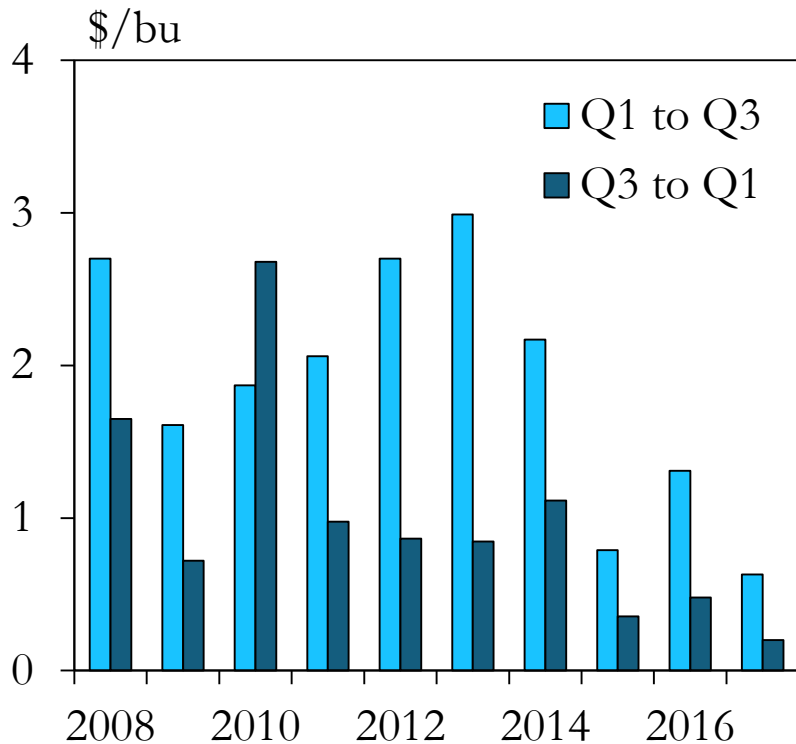


Source: USDA.

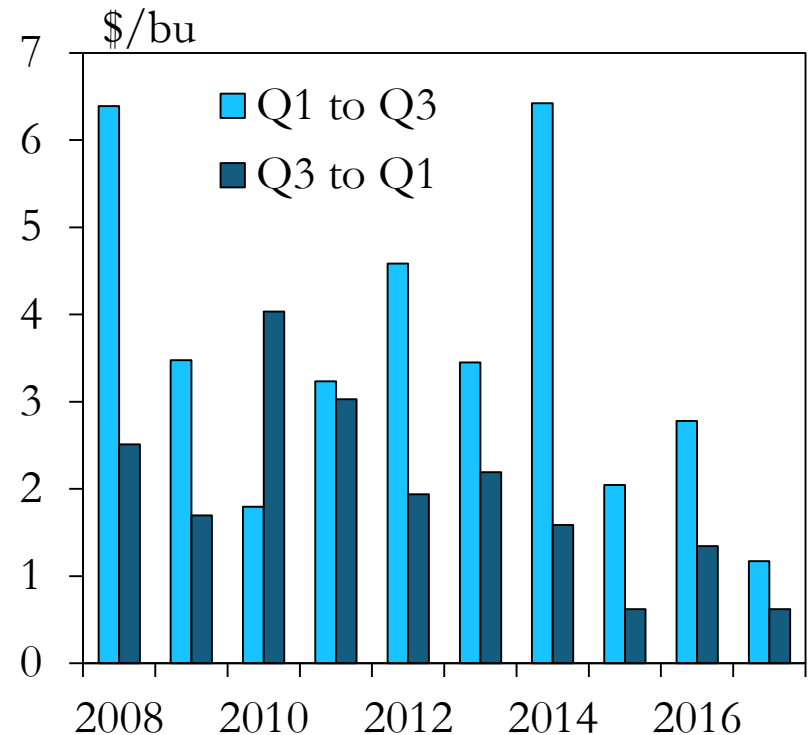


# Crop prices are unlikely to advance significantly between now and spring planting.

## Difference Between Max and Min Prices (Corn)



## Difference Between Max and Min Prices (Soybeans)



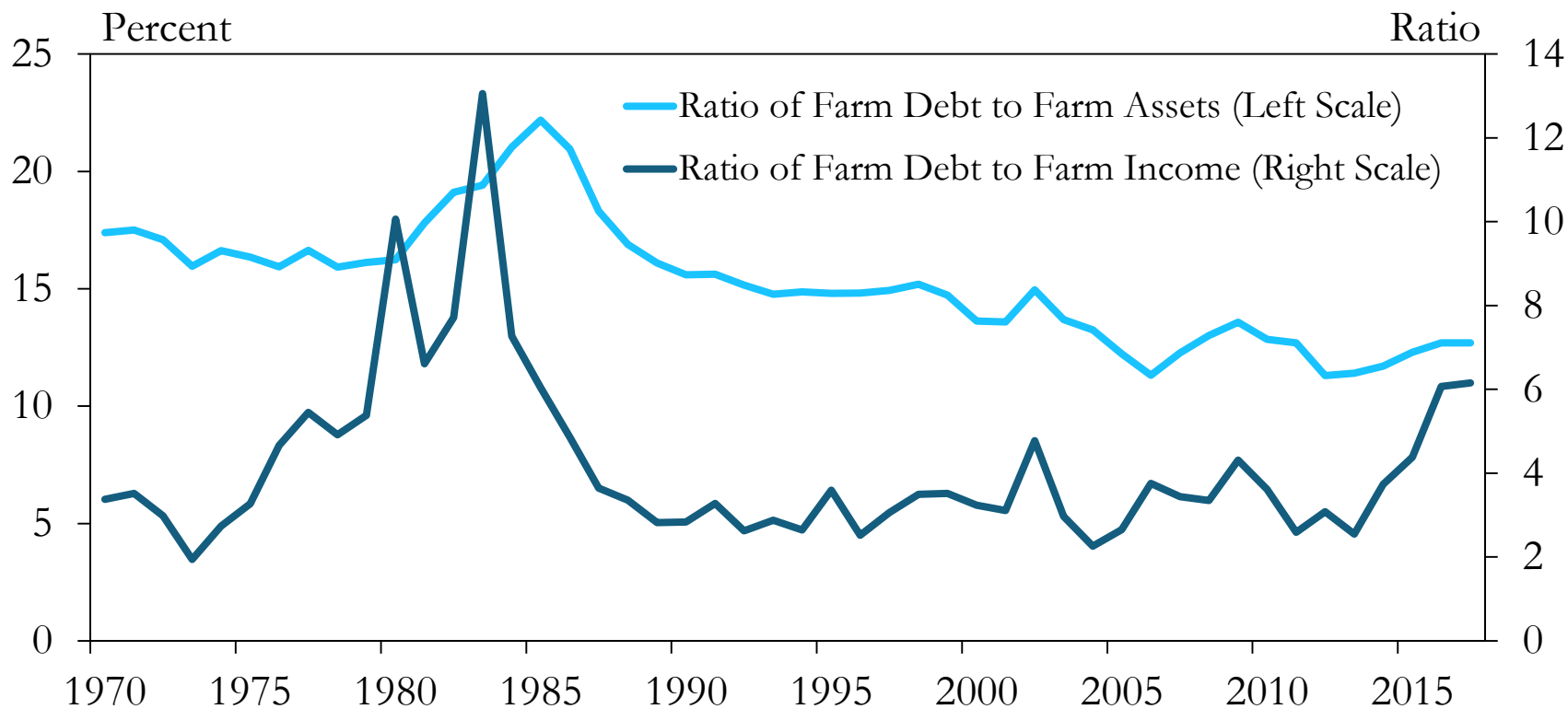
Source: Haver Analytics and *Wall Street Journal*.





The low price environment continues to stress liquidity, even as solvency measures remain stronger.

## U.S. Farm Sector Solvency and Liquidity Metrics

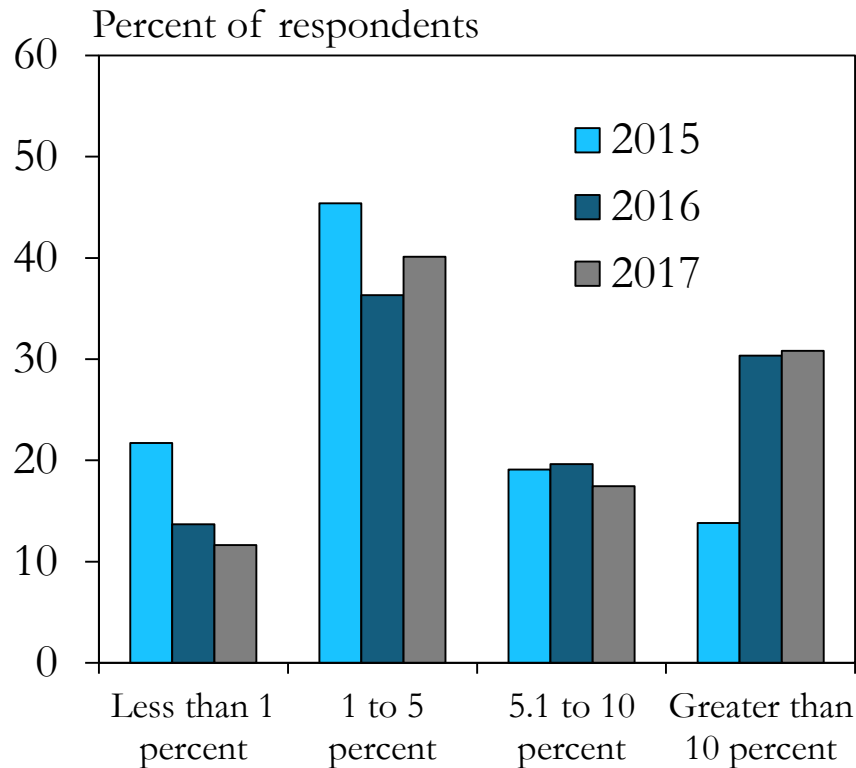


Source: USDA.

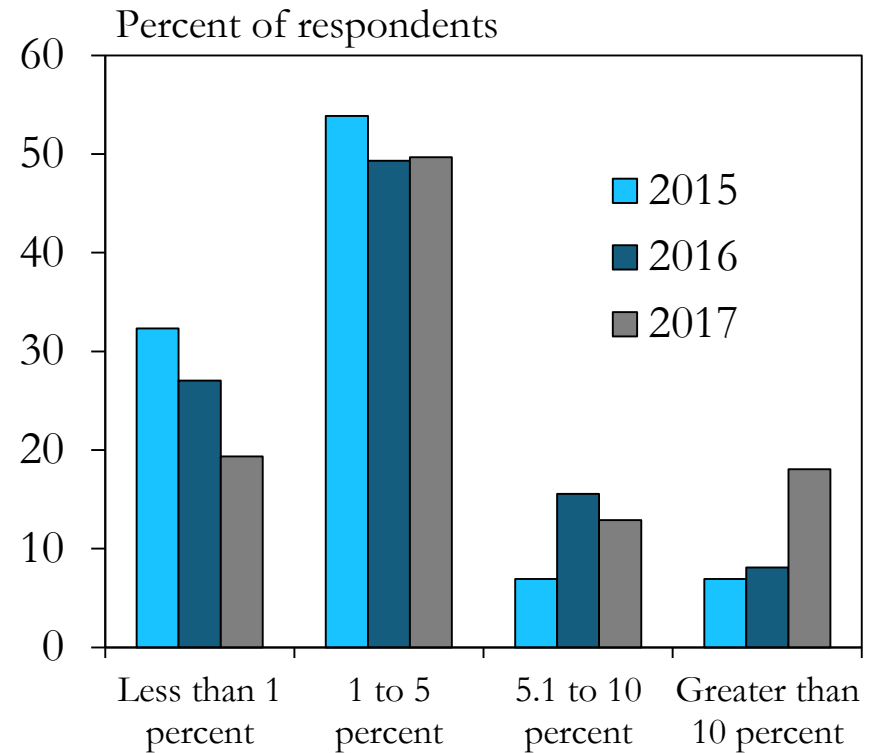


# Lenders have recognized the reduced liquidity as an increase in portfolio risk.

## Watch List



## Classified List

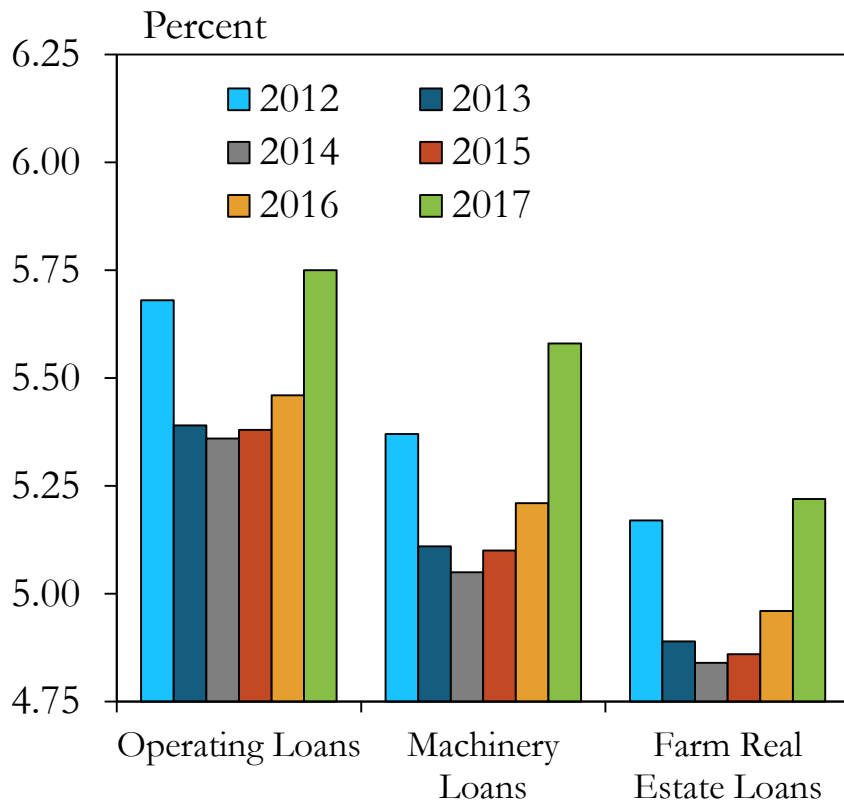


Source: Federal Reserve Bank of Kansas City.

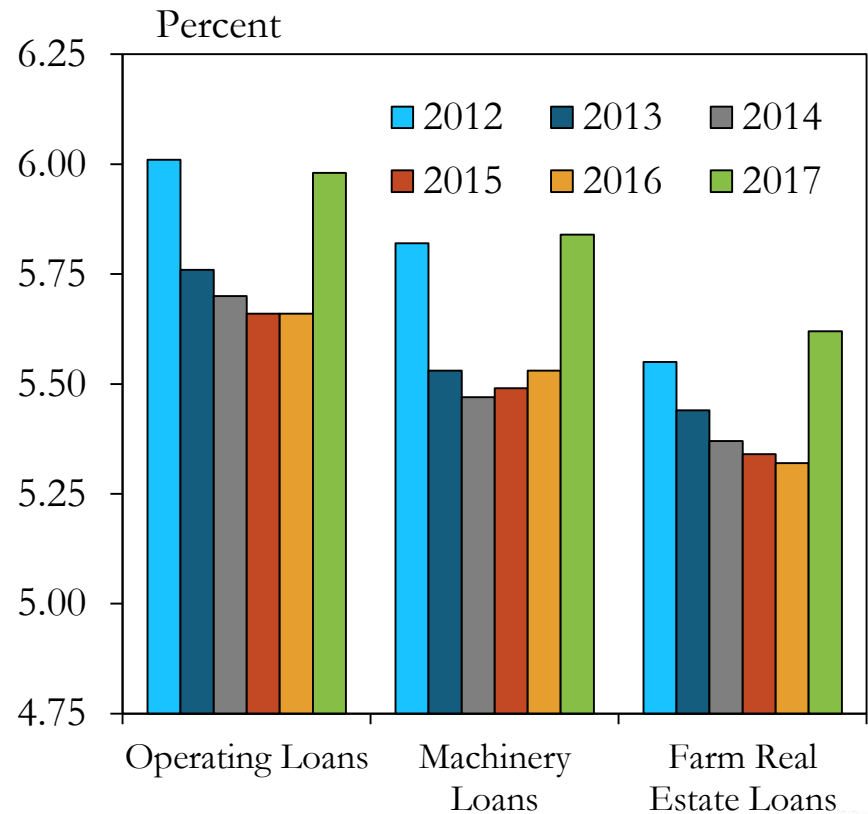


# Interest rates on ag loans have risen alongside higher risk profiles and increases in benchmark rates.

## Variable Interest Rates



## Fixed Interest Rates

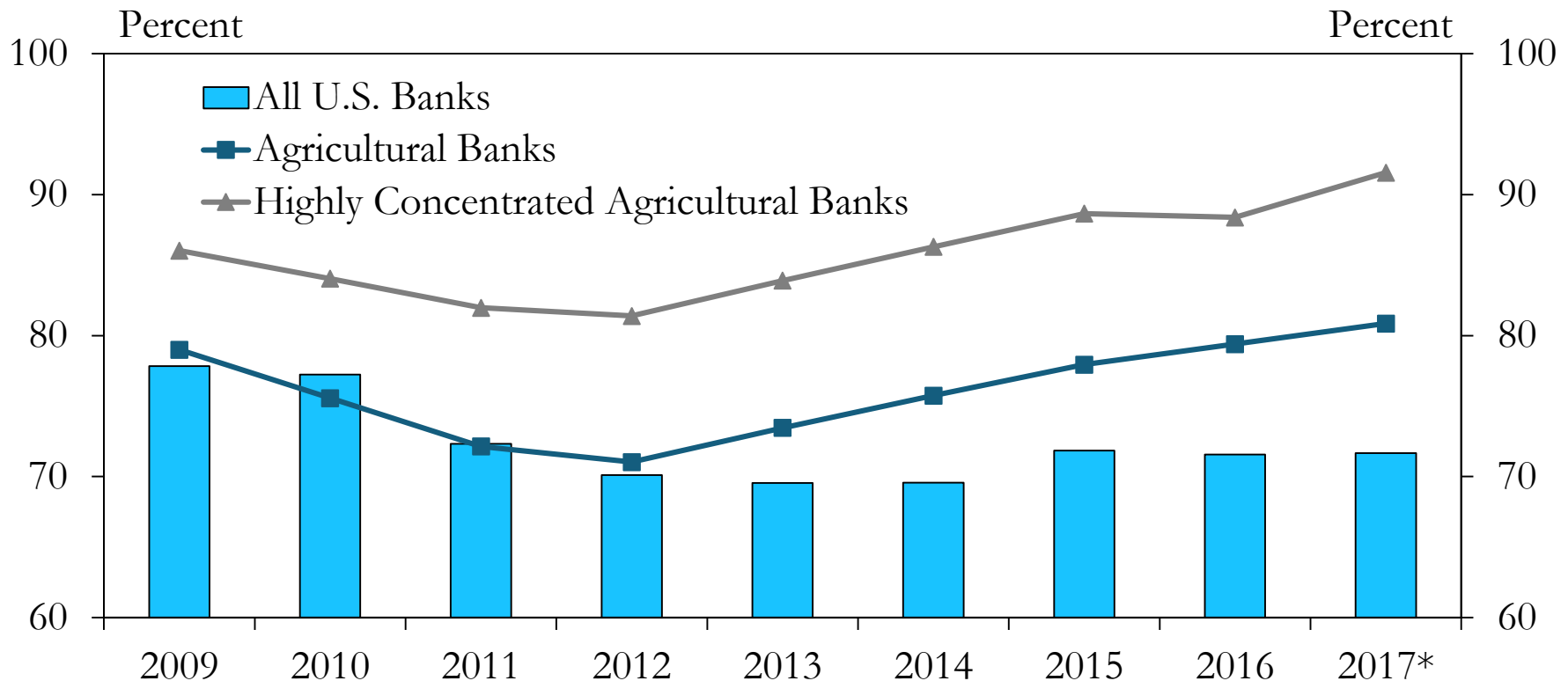


Source: Federal Reserve Bank of Kansas City.



# Liquidity is also a growing concern for commercial banks with an agricultural concentration.

## Commercial Bank Loan-to-Deposit Ratios



\* Through third quarter of 2017.

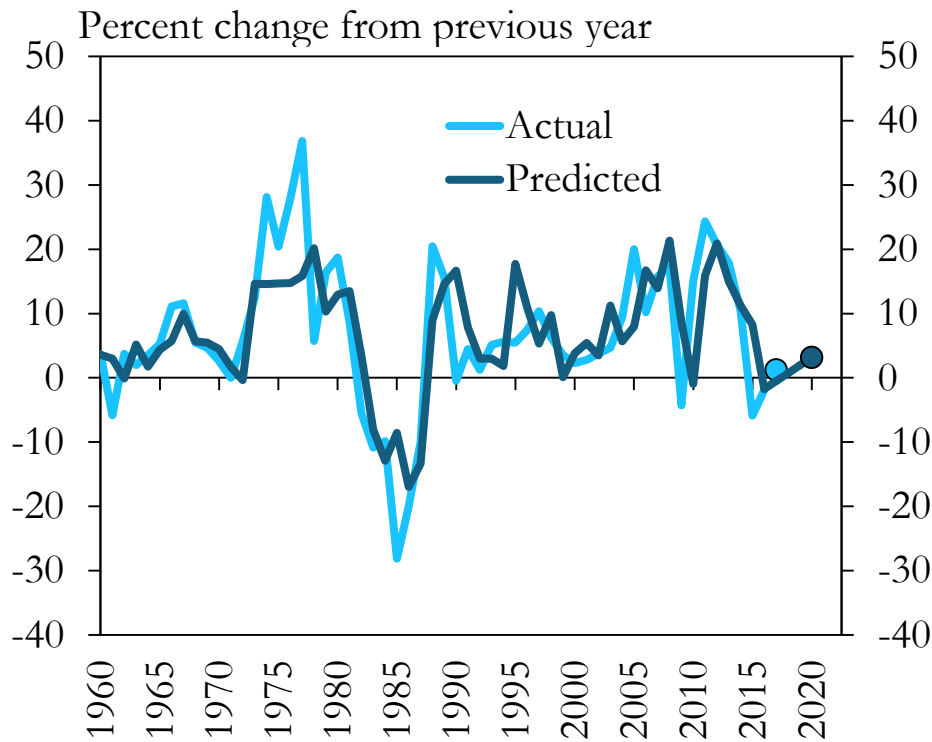
Note: Highly concentrated agricultural banks have an agricultural loan to risk based capital ratio of at least 300%

Source: Agricultural Finance Databook.



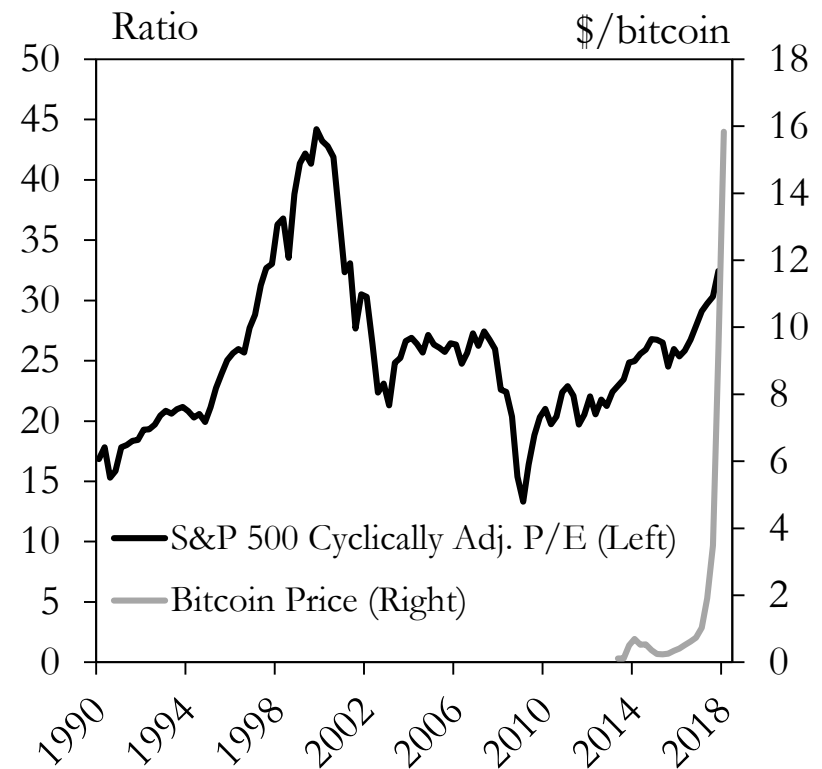
# The strength of farmland values has sustained the ag economy. Will it last?

## Iowa Farmland Values



Sources: USDA, Federal Reserve Board, Blue Chip Financial Forecasts, and speaker calculations.

## Equities and Bitcoin

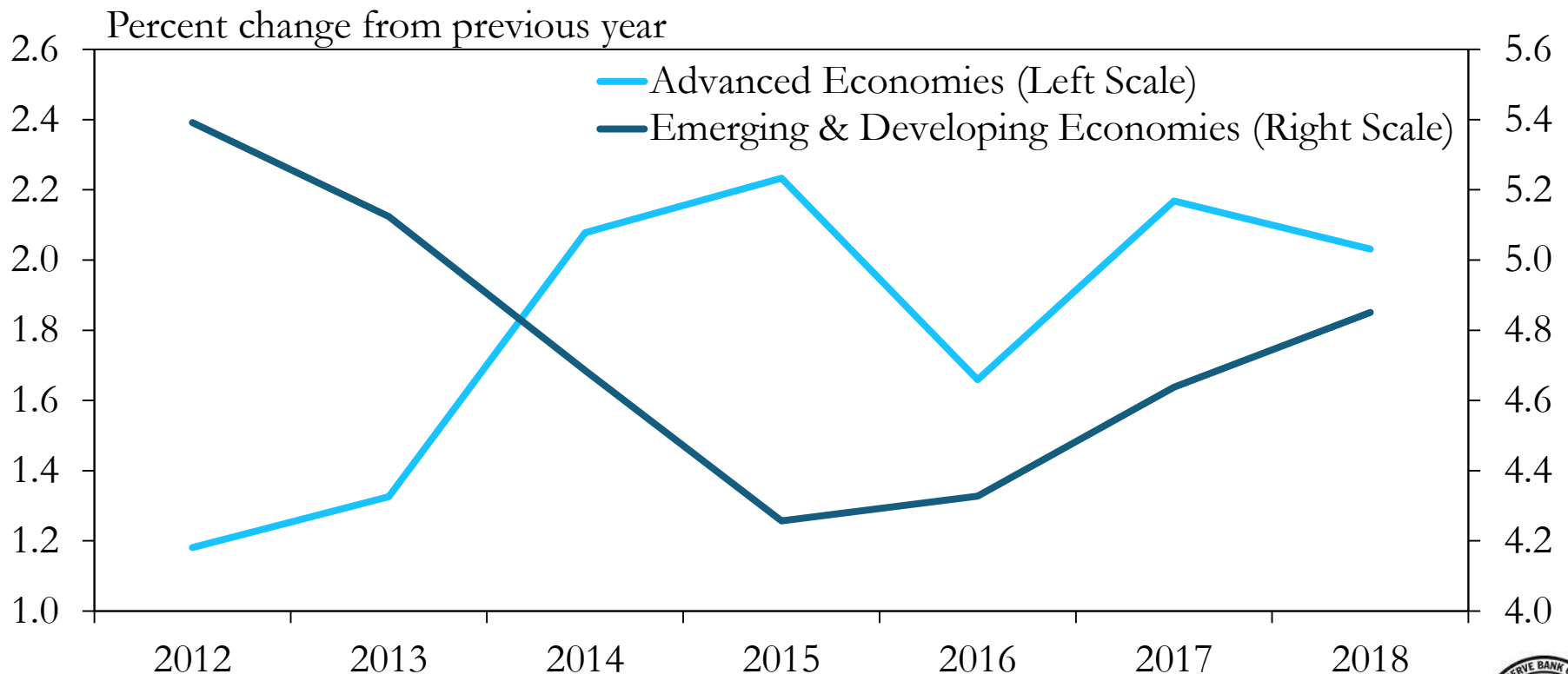


Source: Robert Shiller, Haver Analytics, and Yahoo Finance.



A stronger global economy has been a significant driver to various regions and sectors.

## Real GDP Growth



Source: IMF and Haver Analytics.



# Concluding Thoughts

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- The U.S. farm economy remains in a prolonged downturn and agricultural commodity prices are likely to remain low in the near-term.
- Although the downturn has persisted for 4 years, liquidity is still a growing concern.
- Some producers remain well positioned, but financial stress has continued to build for many others.
- As long as farmland values remain strong, the sector will likely avoid systemic problems similar to the 1980s, but further consolidation is a likely outcome.
- A strong global economy will offer support, but significant areas of concern remain.



# Questions?

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