

Agricultural Economic Outlook

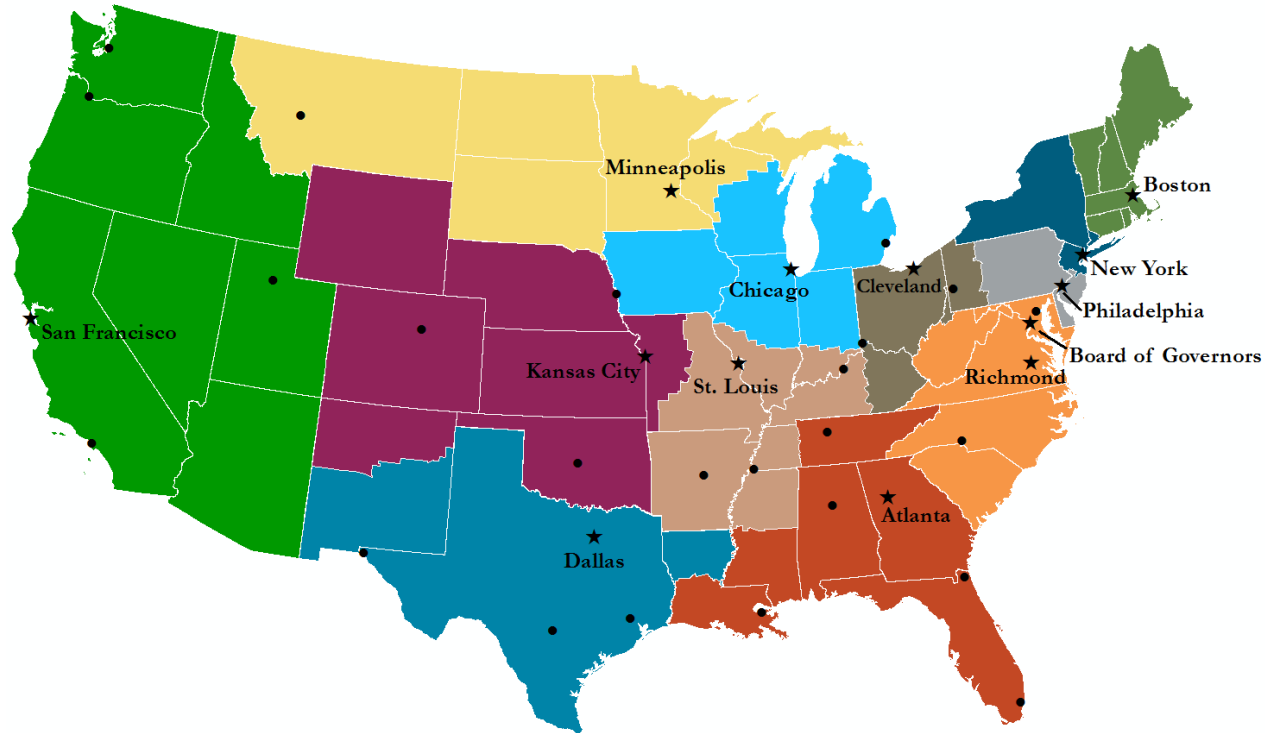
Nate Kauffman, Federal Reserve Bank of Kansas City

October 11, 2019

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.



Regional Federal Reserve Banks are important to the structure of U.S. monetary policy.



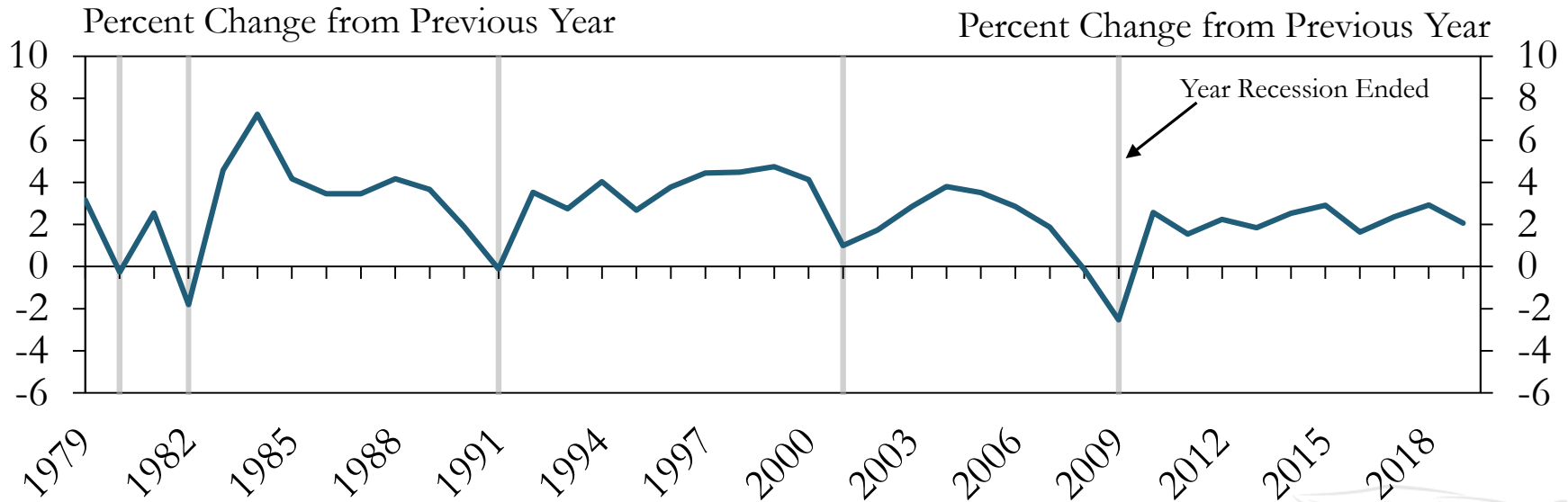
Outlook Themes

- In contrast to the broader U.S. economy, the agricultural sector has been in a prolonged downturn alongside low ag commodity prices.
- Financial stress continues to rise among agricultural borrowers at a gradual pace.
- Although economic conditions in ag are likely to remain relatively weak, a crisis in the near-term does not appear to be looming.



The U.S. economy is in the midst of its longest economic expansion on record...

U.S. Real Gross Domestic Product (GDP) Growth



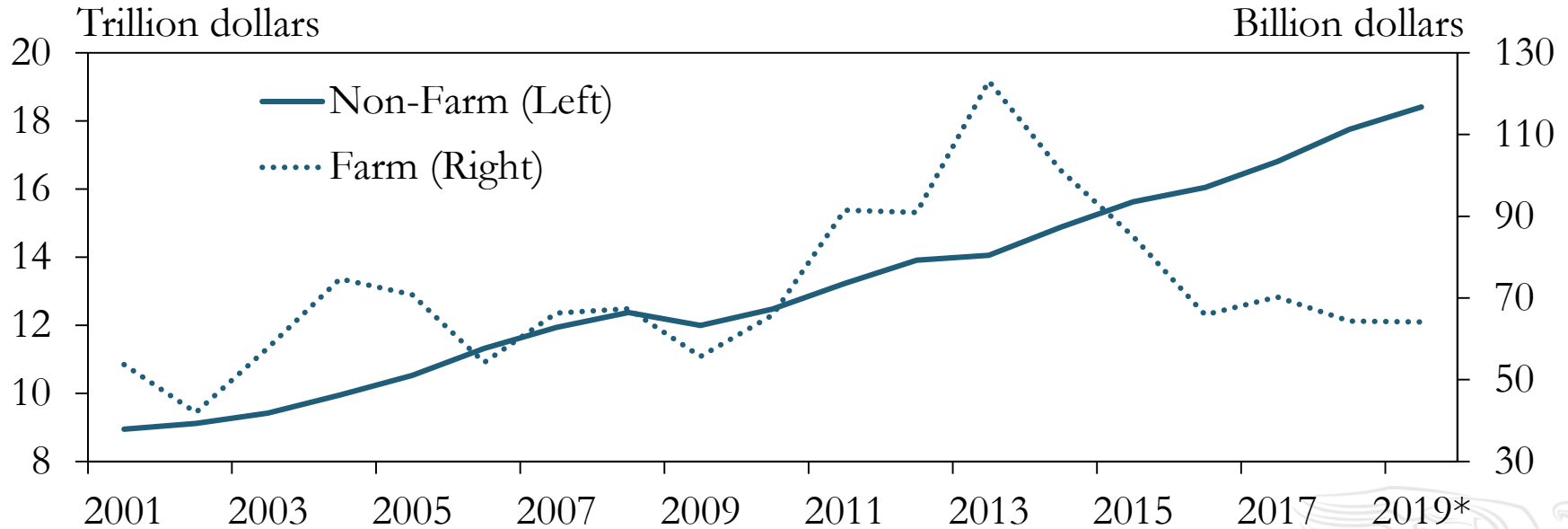
Note: 2019 data through Q2.

Sources: U.S. Bureau of Economic Analysis and Haver Analytics.



.....but the ag economy has been struggling.

U.S. Personal Income



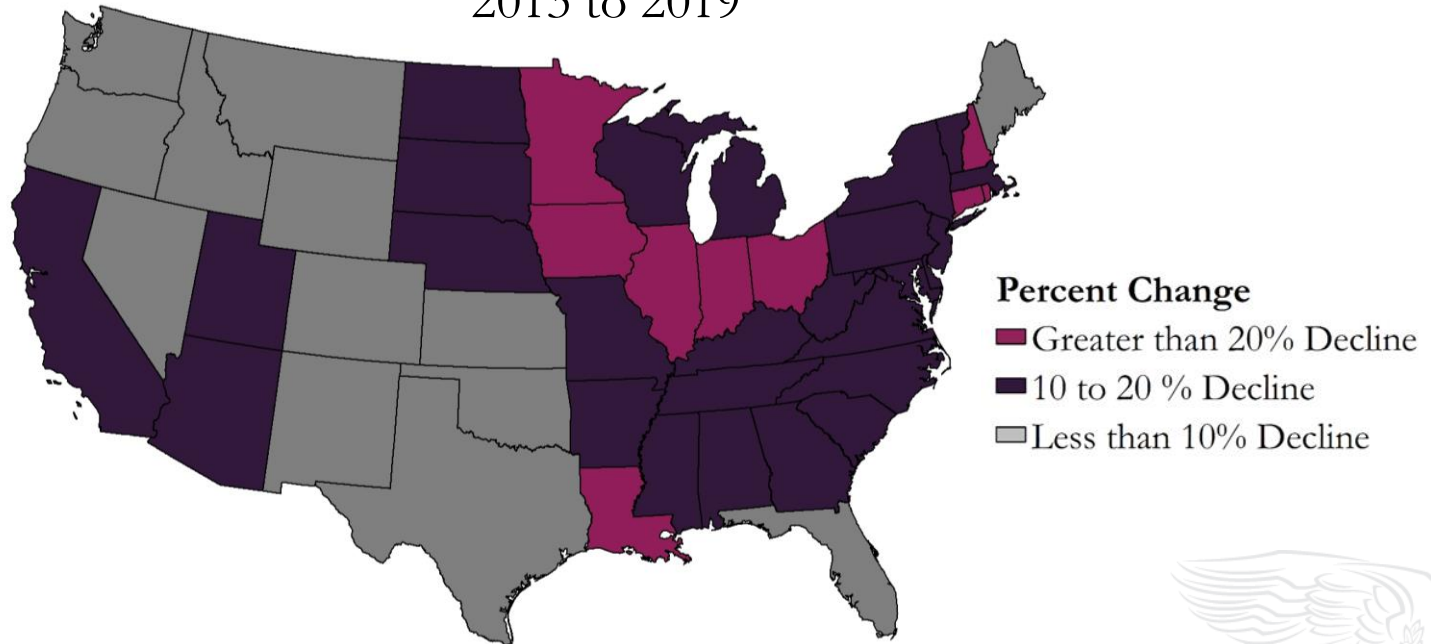
*Average through Q2 2019

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



Agricultural commodity prices have declined since 2013, most significantly in the Midwest.

Change in Agricultural Commodity Prices
2013 to 2019



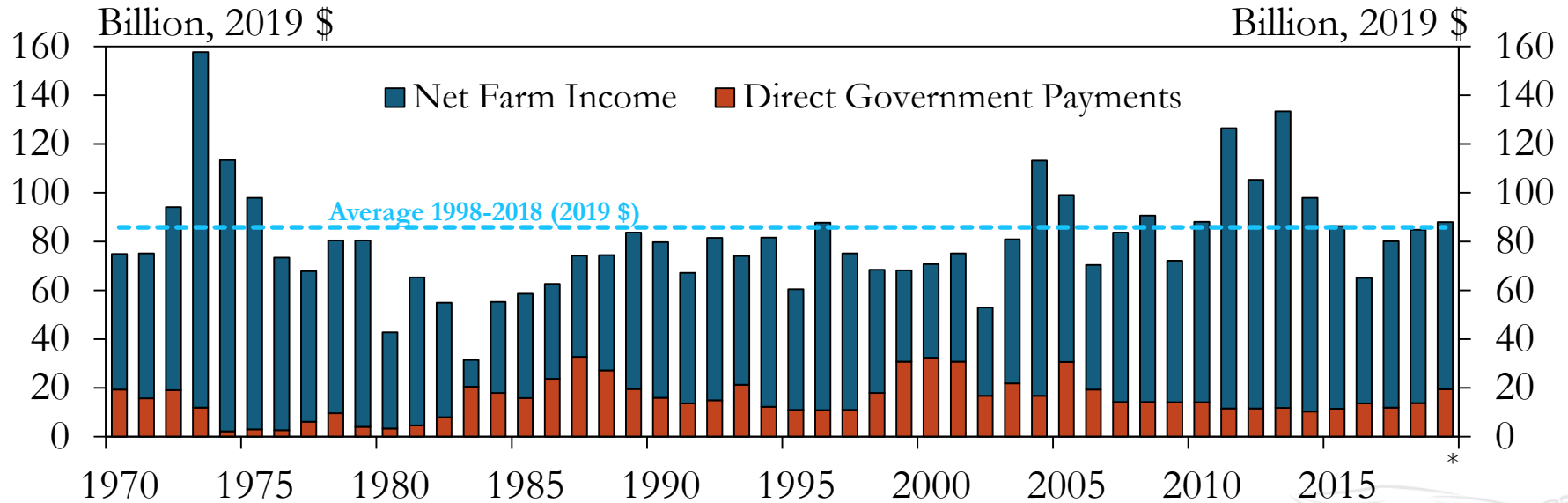
Note: 2013 Average includes January to December and 2019 Average includes January to August.

Sources: USDA and staff calculations.



U.S. farm income is expected to be better than anticipated earlier in the year due, in part, to govt. payments.

U.S. Net Farm Income

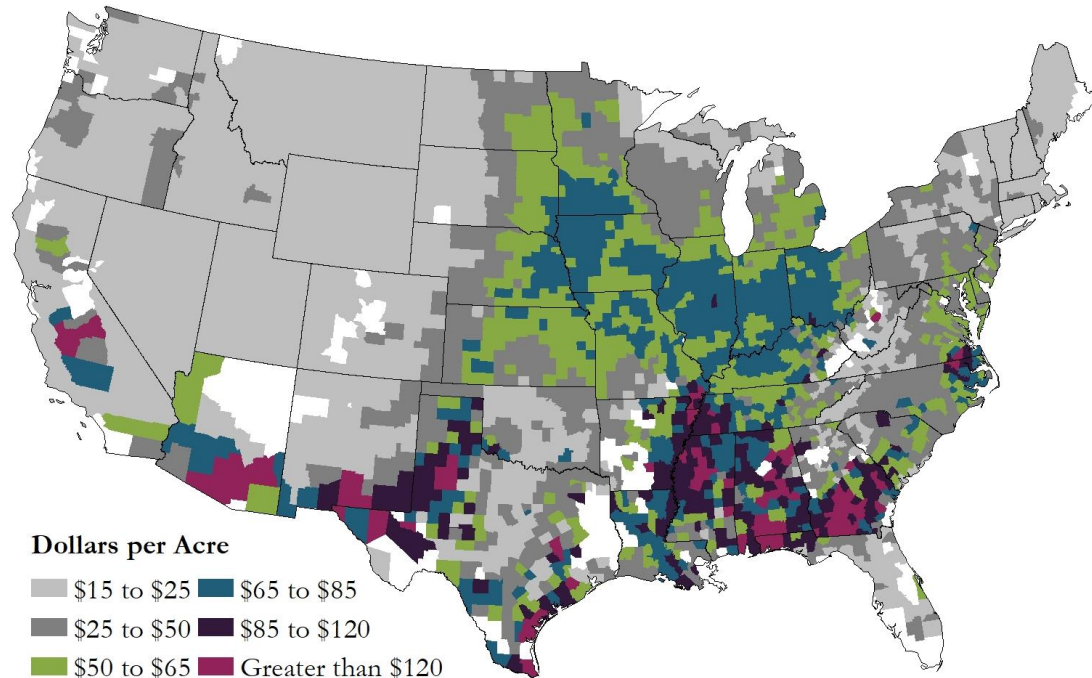


* 2019 Forecast
Source: USDA.



Government payments this year will be most substantial in the Southeast and Midwest.

2019 USDA Market Facilitation Program Rates

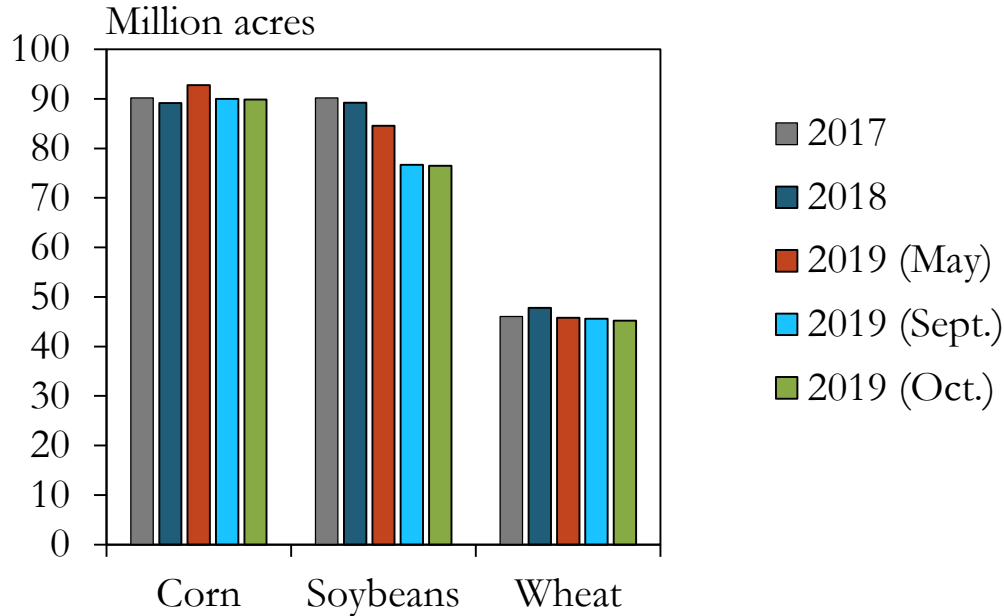


Source: USDA.

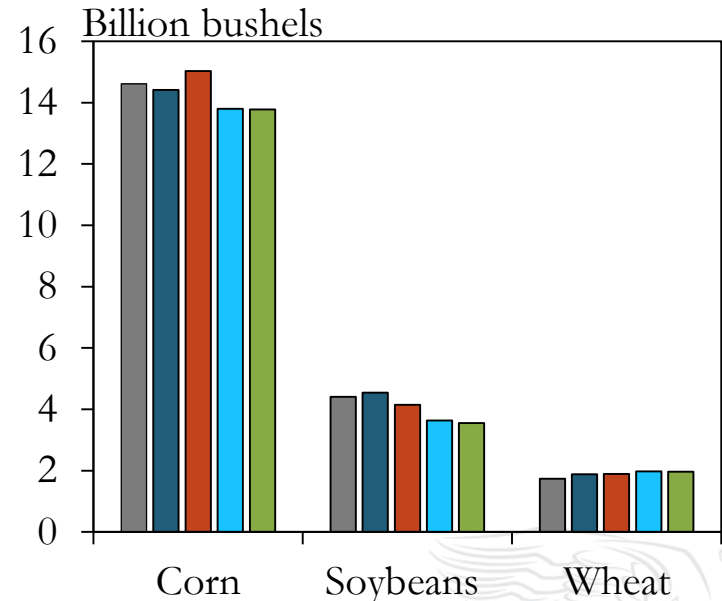


Despite significant planting issues in the spring, production is expected to be only marginally lower.

U.S. Planted Acres



U.S. Production

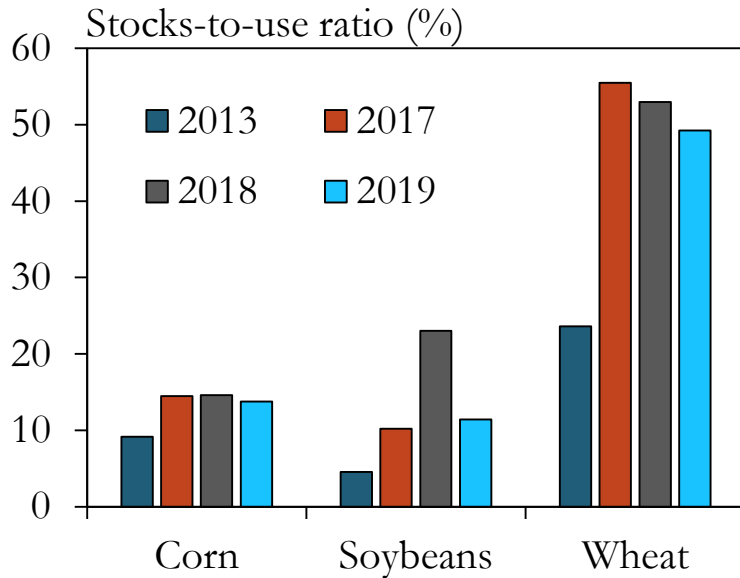


Source: USDA.

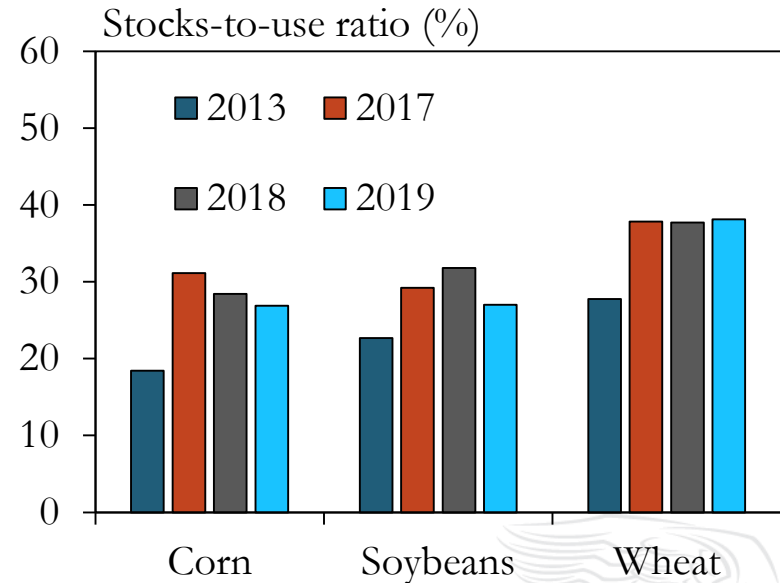


And crop inventories remain elevated.

U.S. Crop Inventories



World Crop Inventories

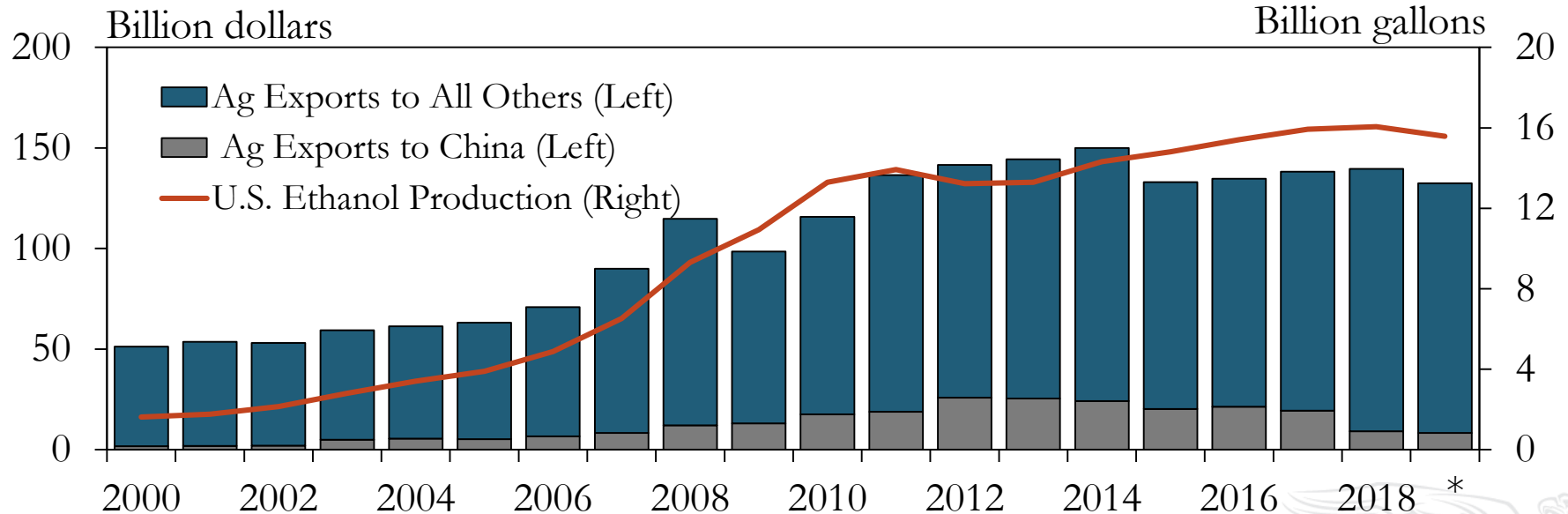


Source: USDA.



A pullback in exports has contributed to the high level of inventories.

U.S. Agricultural Exports and Ethanol Production

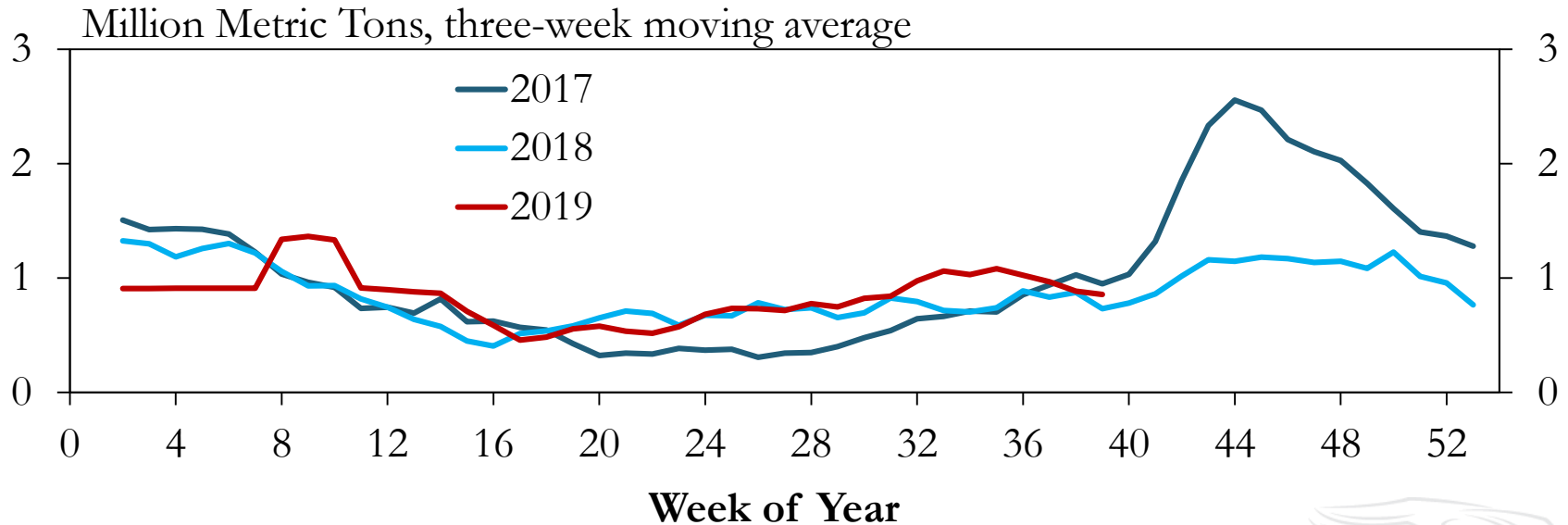


*Annualized based on annual percent change year to date. January – July for exports and January – September for ethanol production.

Sources: USDA, U.S. Census Bureau, U.S. Energy Information Administration and staff calculations.

Soybean exports have recovered somewhat, but the fourth quarter will be crucial.

Weekly U.S. Soybean Exports



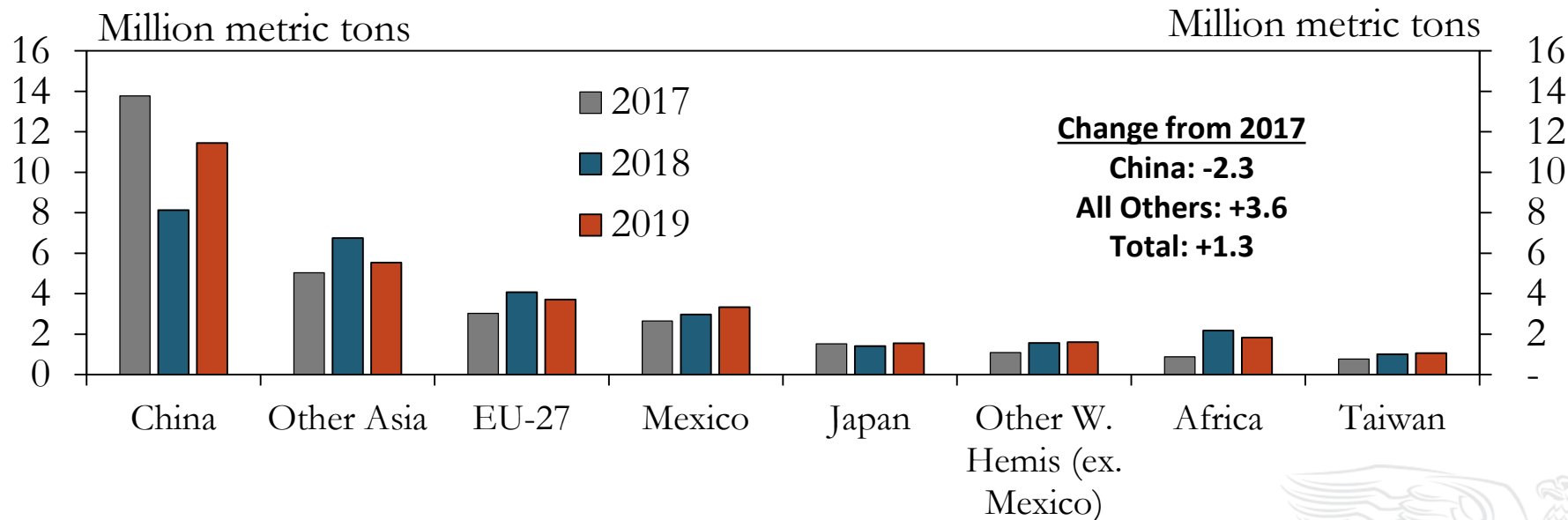
Note: Due to the lapse in federal funding, the weekly U.S. Export Sales Report was not published for weekend dates Jan 10 - Feb 7. The reporting ending Feb. 14 included data for weeks ending January 10, 17, 24, 31, 2019, and February 7, 14, 2019.

Source: USDA



Through September, soybean exports to China are higher than a year ago, and similar to 2017.

U.S. Soybean Exports by Destination: January to September

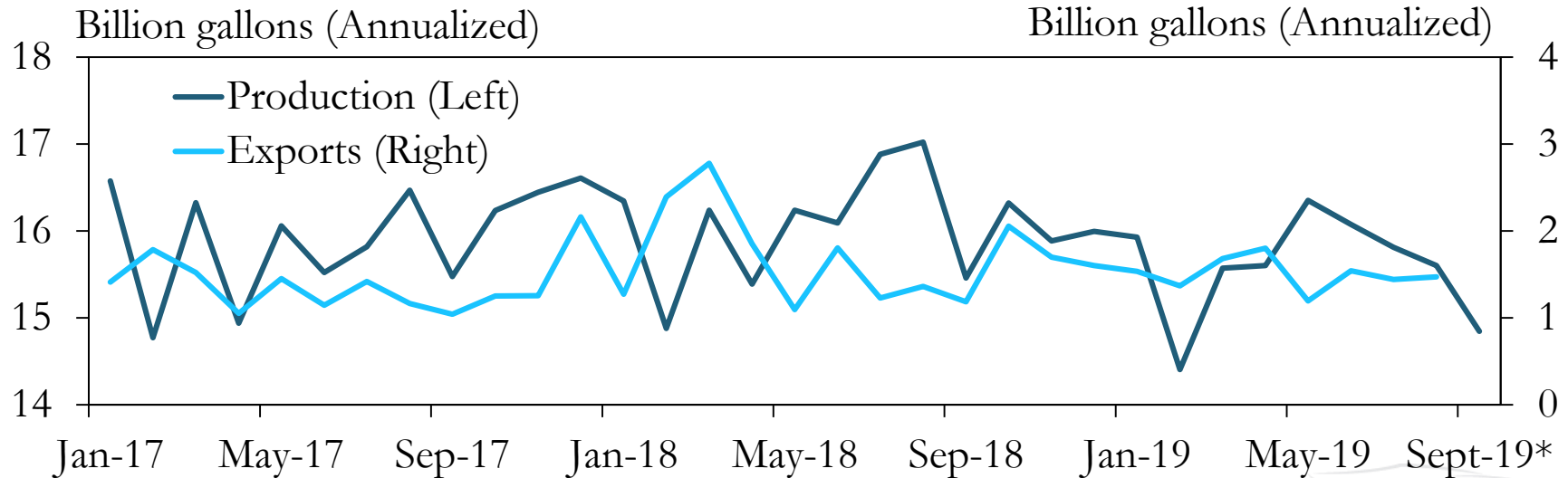


Source: USDA



Ethanol production has weakened in recent months.

Monthly U.S. Ethanol Production and Exports



*Estimated based on average weekly production in September. September exports, not yet available.

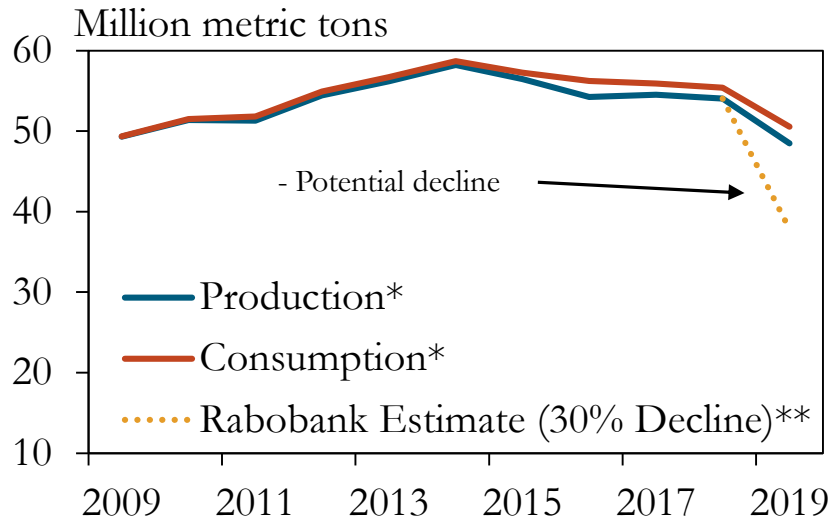
Notes: Annualized figures are monthly production and exports multiplied by 12.

Sources: U.S. Energy Information Administration.

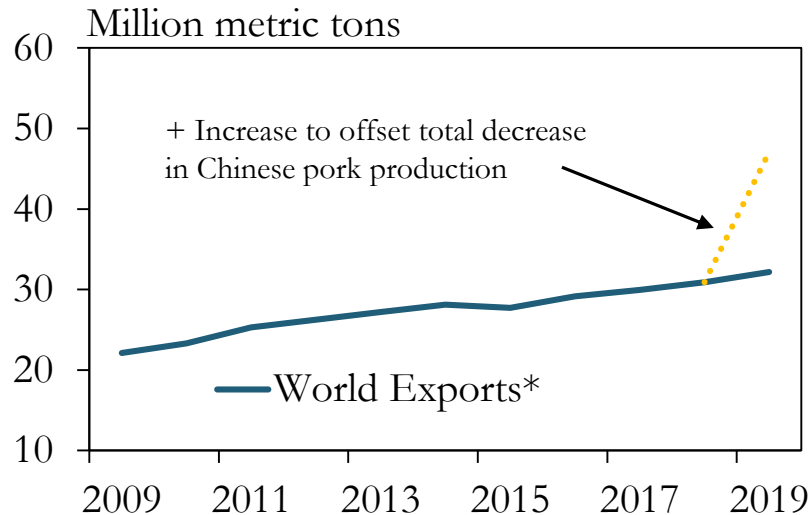


African swine fever has also had a significant impact on demand for ag products and global trade flows.

China: Pork Consumption and Production



World: Pork, Beef and Poultry Exports



*USDA Estimate

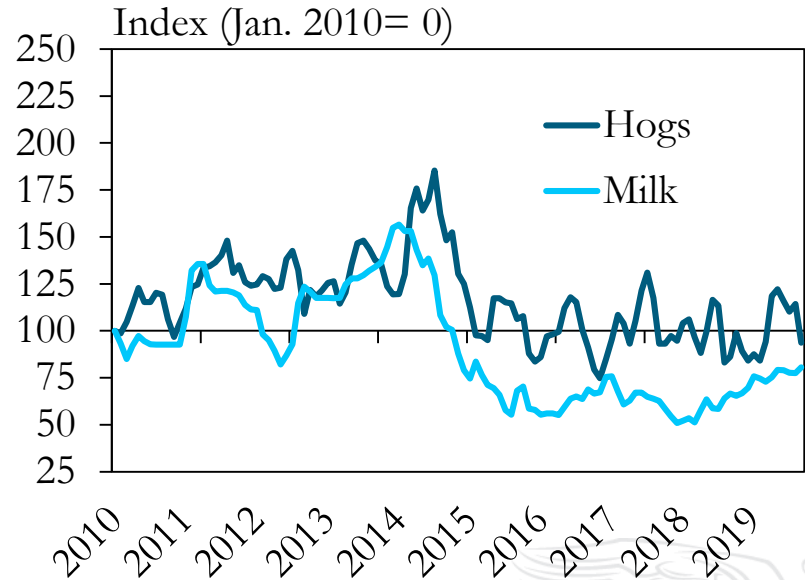
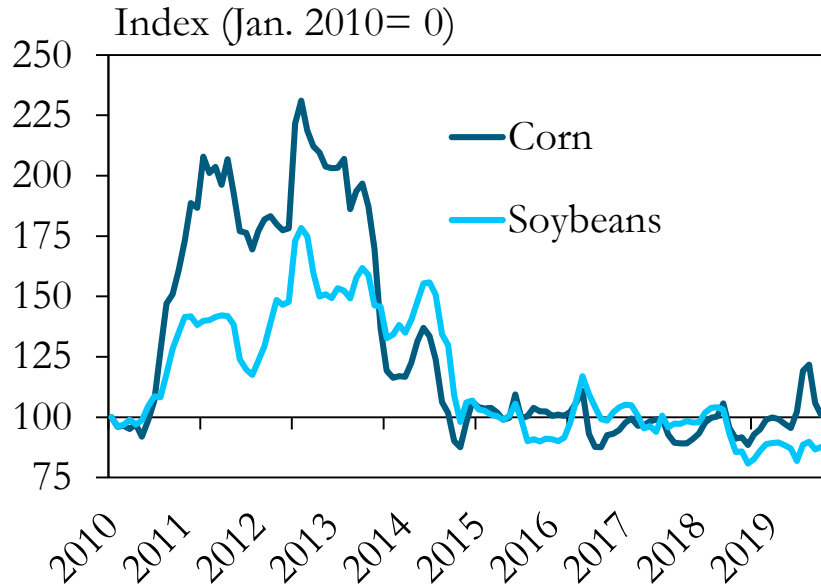
**Estimated 25% to 35% decline in Chinese pork production

Sources: USDA, Rabobank – RaboResearch: Food and Agribusiness and staff calculations



Agricultural commodity prices have remained low in 2019, and profit opportunities limited.

Monthly Agricultural Commodity Prices

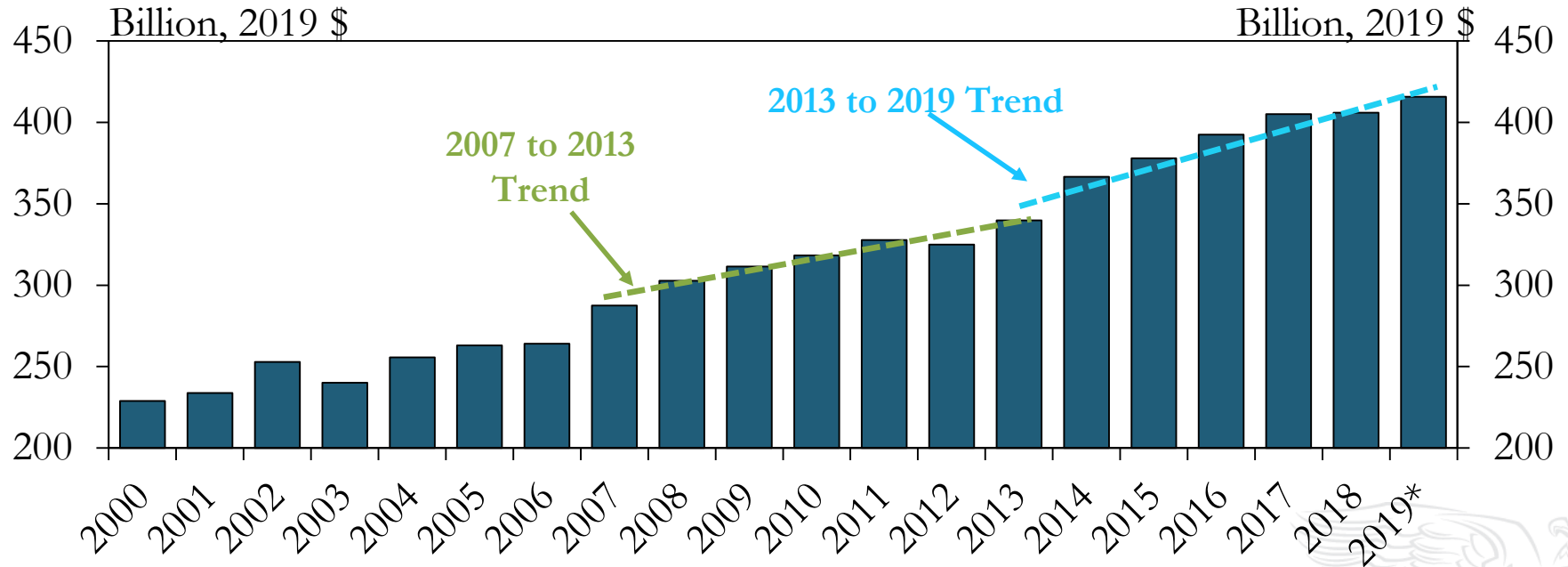


Sources: WSJ and staff calculations.



With profits still low, farm financing needs have continued to rise.

Total U.S. Farm Sector Debt



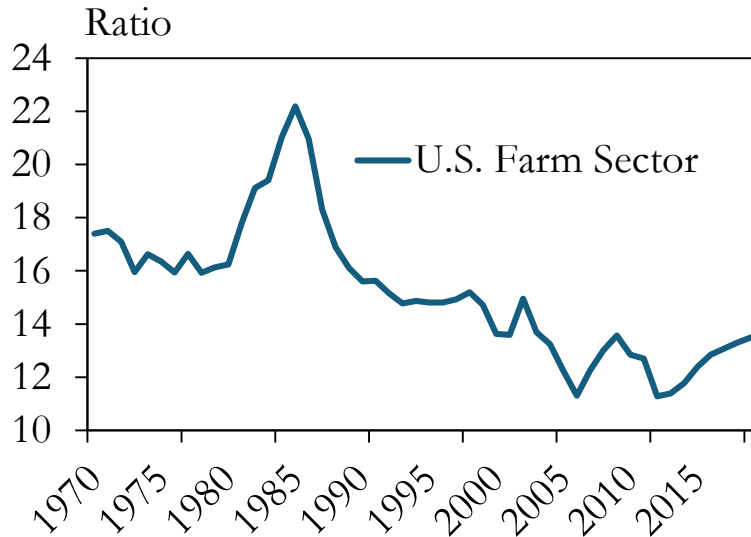
* Forecast

Source: USDA.

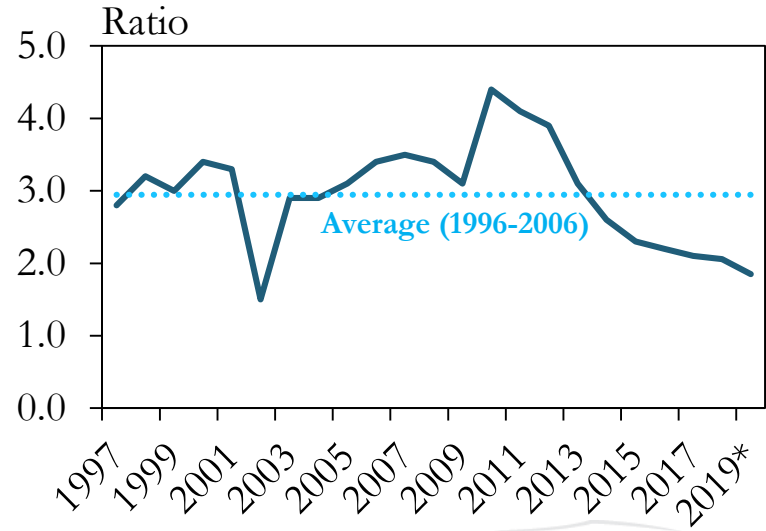


Leverage has trended higher, but at a modest pace. Liquidity has been a more significant concern.

Farm Sector Debt-to-Asset Ratio



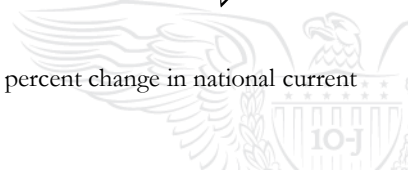
Current Ratio for U.S. Farms



*Forecast for 2019

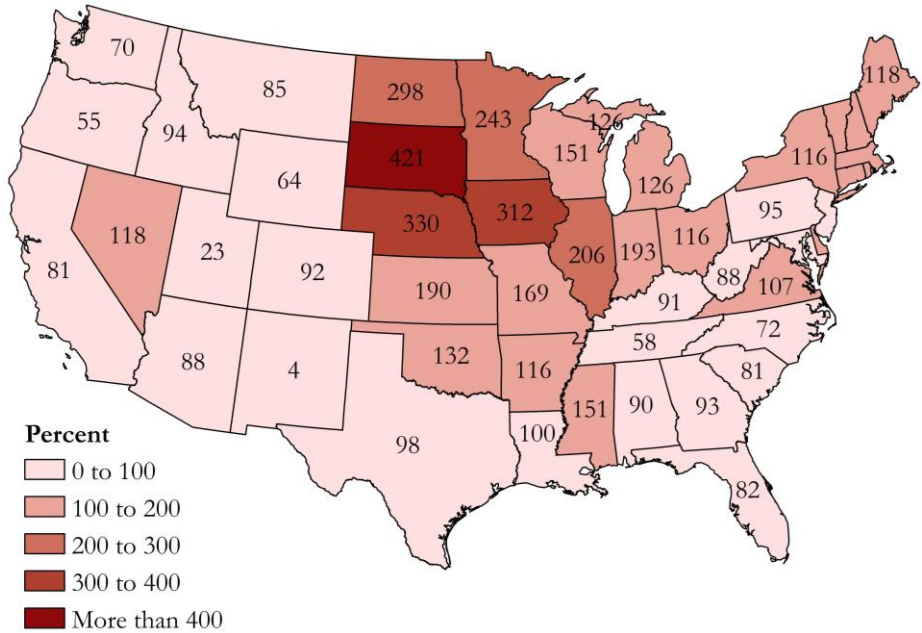
** 1996-2017 based on Agricultural Resource Management Survey as reported by USDA ERS. 2018 and 2019 estimated based on annual percent change in national current ratio estimates and forecasts as of August 30, 2019.

Source: USDA.

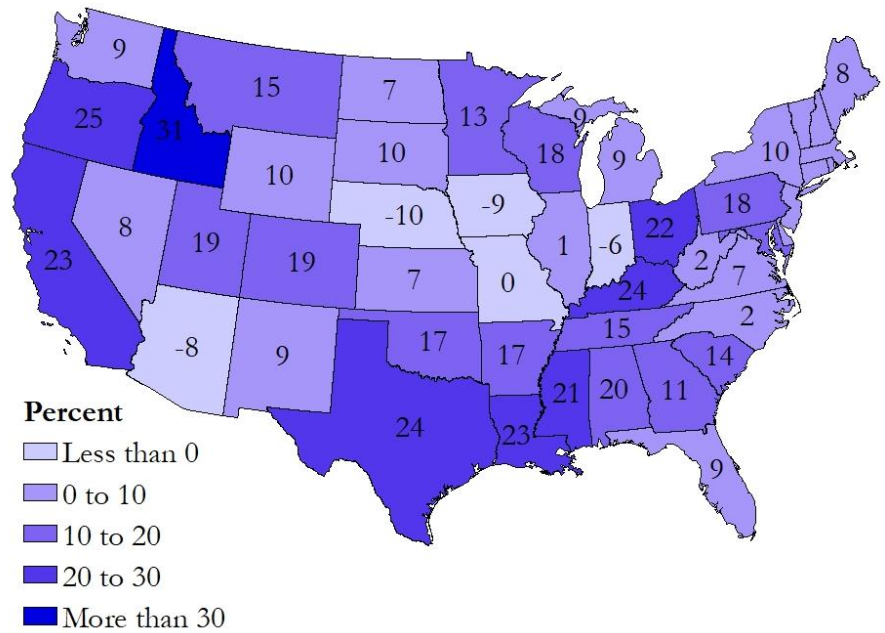


Although farmland values have declined in some states, the decreases have been quite modest.

U.S. Farmland Values
Change from 2000 to 2013



U.S. Farmland Values
Change from 2013 to 2019

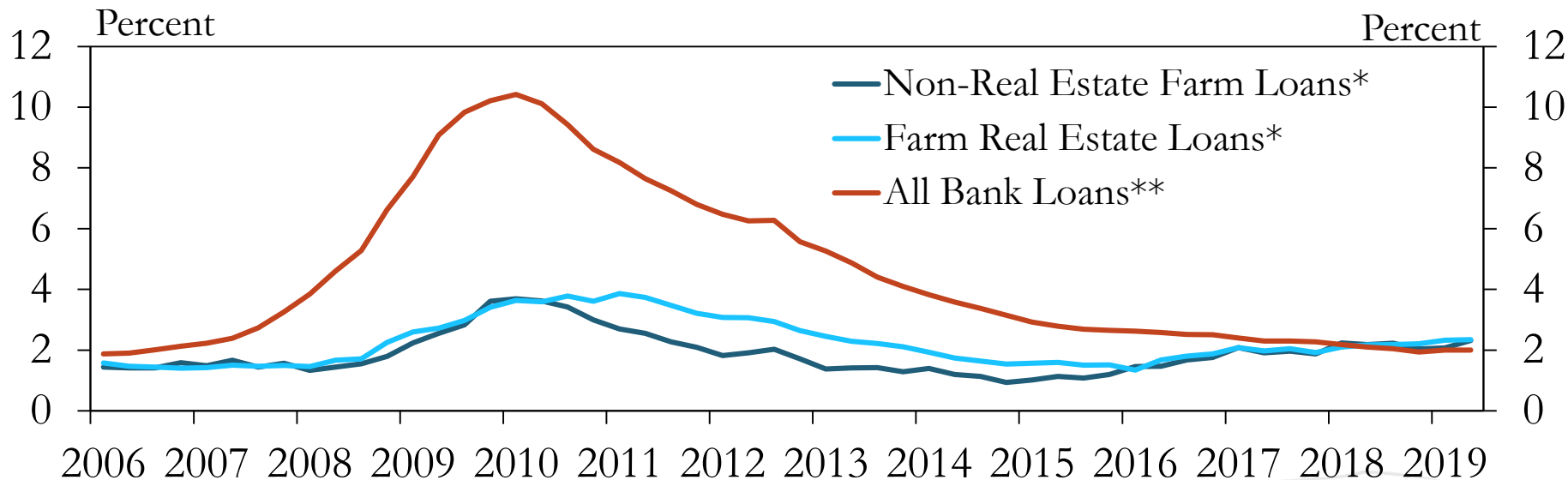


Source: USDA.



And although repayment challenges have increased over the past few years, delinquencies remain low.

Delinquency Rates at Commercial Banks



* Includes the share of all past due, nonaccruing and net charge-off loans

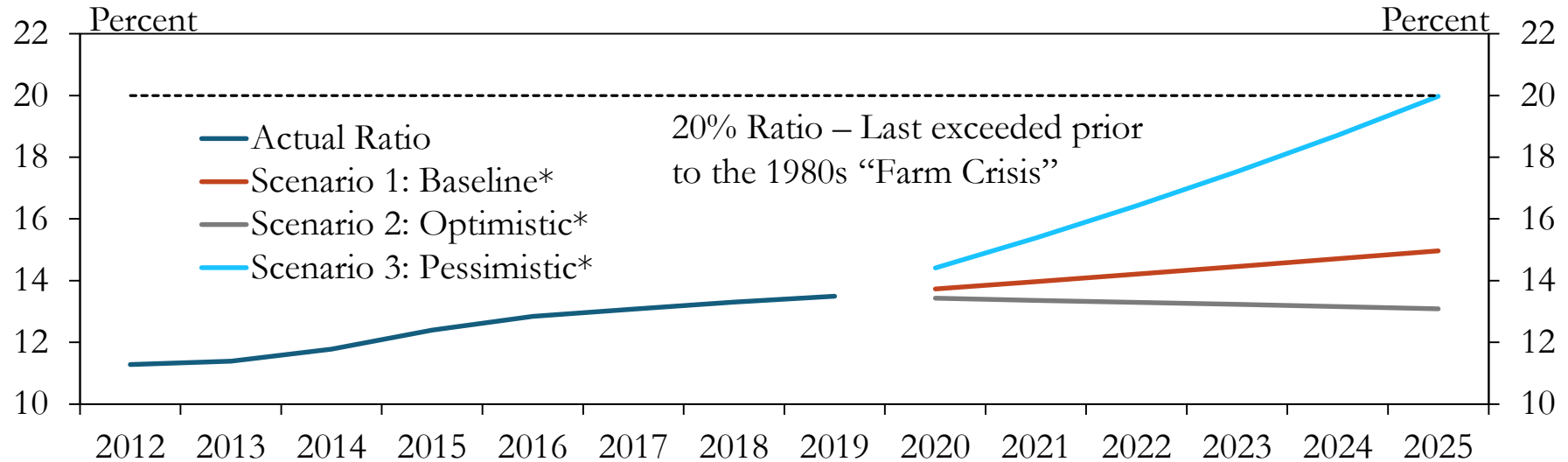
** All bank loans include all loans made at commercial banks. Q2 not yet available/reported as Q1 figure.

Source: Federal Reserve Board of Governors.



Solvency in the U.S. farm sector has generally remained solid, but may worsen in coming years.

U.S. Farm Sector Debt-to-Asset Ratios

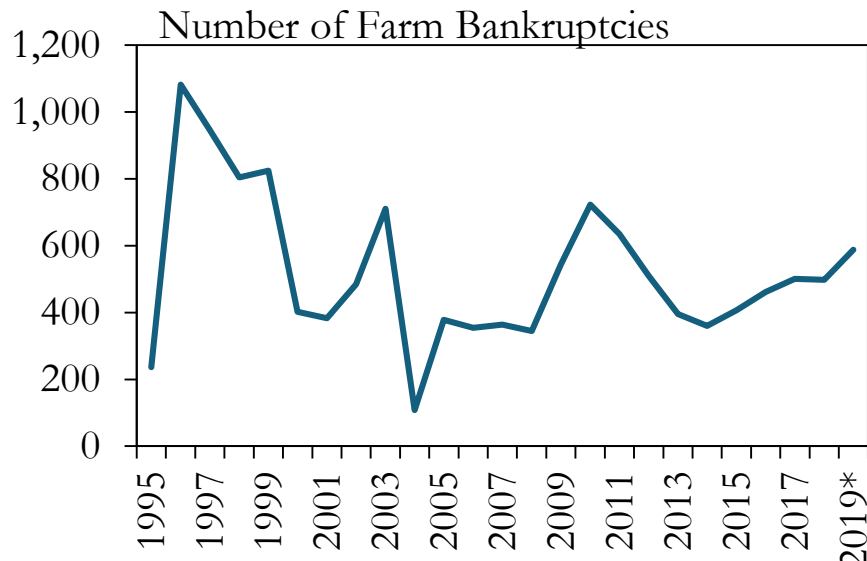


Note: Scenario 1 assumes the average pace of debt accumulation (3.6%) and real estate growth (2.2%) of the past 3 years. Scenario 2 assumes a slight reduction in the pace of debt accumulation (2.0%) and slight increase in real estate growth (3.0%). Scenario 3 assumes the pace of debt is the average of the past 30 years (5.0%) and slight decrease in real estate values (-2.0%). Source: USDA and staff calculations.

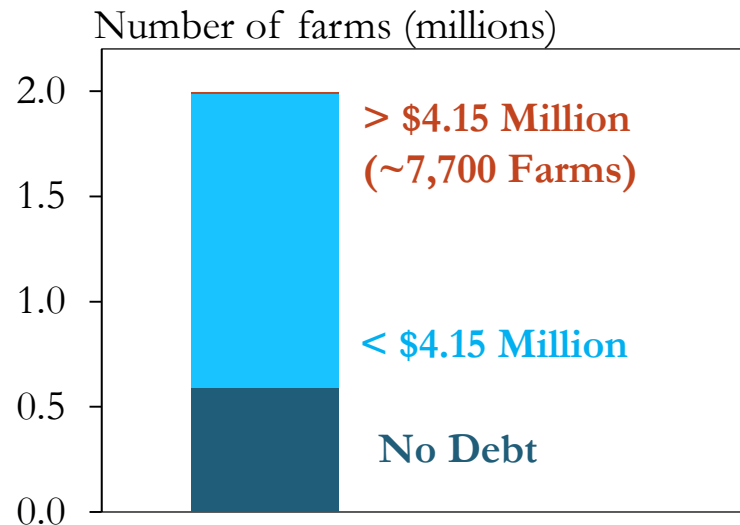


Farm bankruptcies have trended higher, but also at a modest pace.

Annual U.S. Farm Bankruptcies



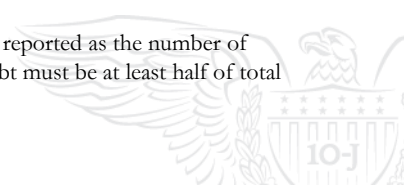
U.S. Family Farms



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 December 31st of each year. In addition to the limits on farm debt to be eligible for Chapter 12 bankruptcy, farm debt must be at least half of total debt, and farm income must be at least half of gross income.

*Annualized based on Q1 and Q2 2019

Sources: United States Courts and USDA Economic Research Service

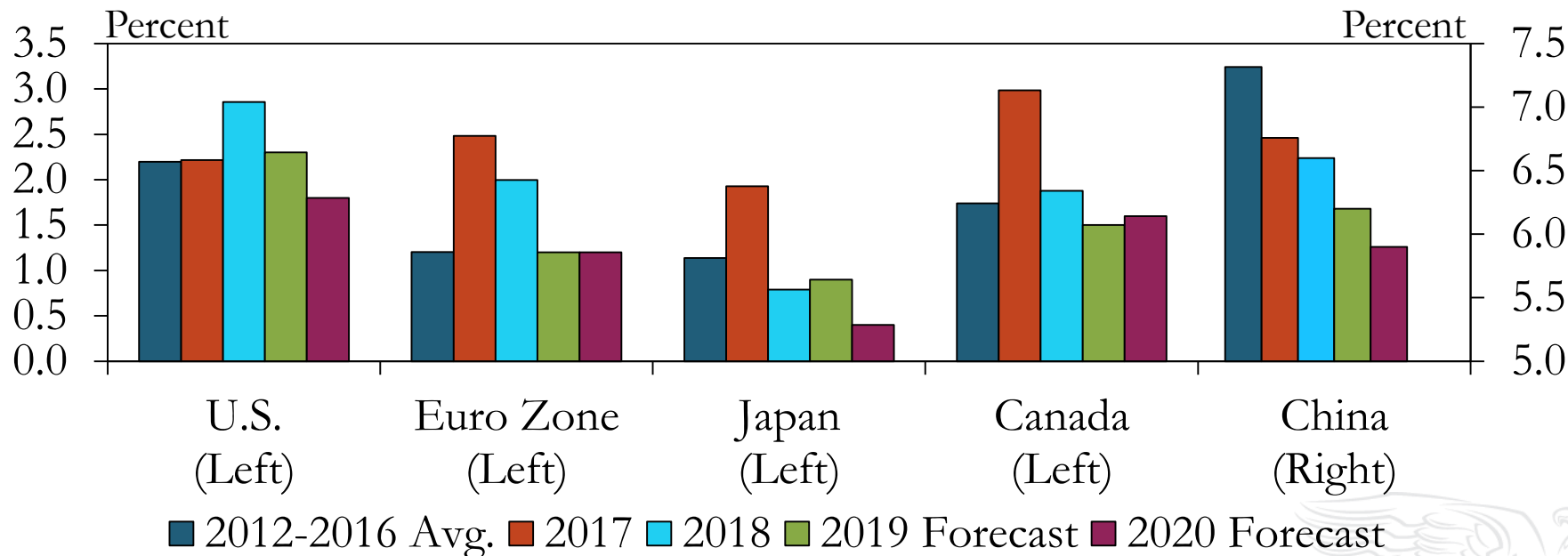


Macroeconomic Developments and Risks



After relatively solid growth in 2017 and early 2018, economic output appears to be slowing.

Real GDP Growth

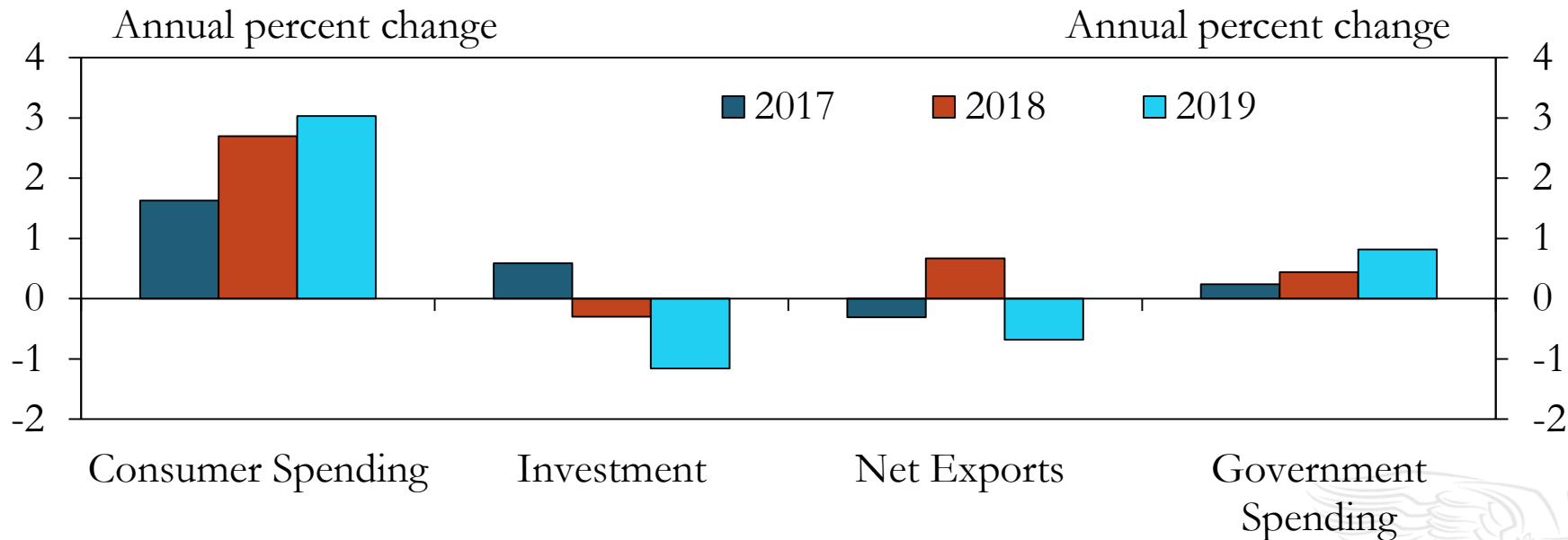


Sources: The World Bank, Wolters Kluwer (Blue Chip Forecasts) and Haver Analytics.



In the U.S., consumer spending has supported economic growth.

Contributions to U.S. Real GDP Growth

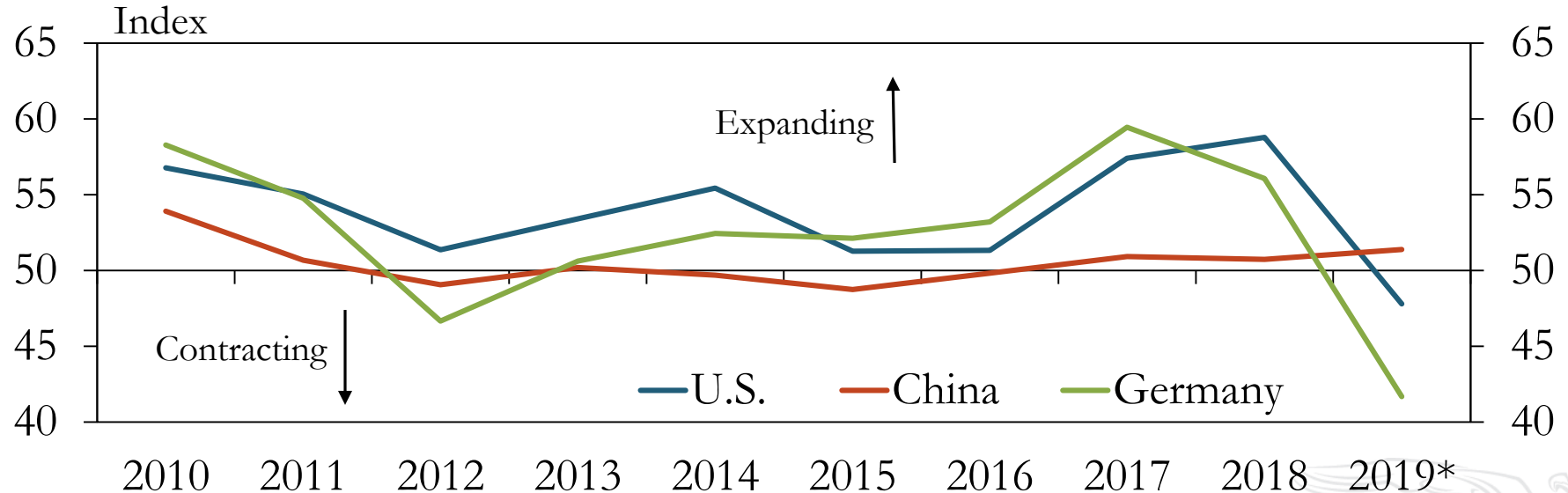


Sources: The World Bank, Wolters Kluwer (Blue Chip Forecasts) and Haver Analytics.



Manufacturing activity has shown signs of weakness, raising questions about spillovers.

Manufacturing Activity



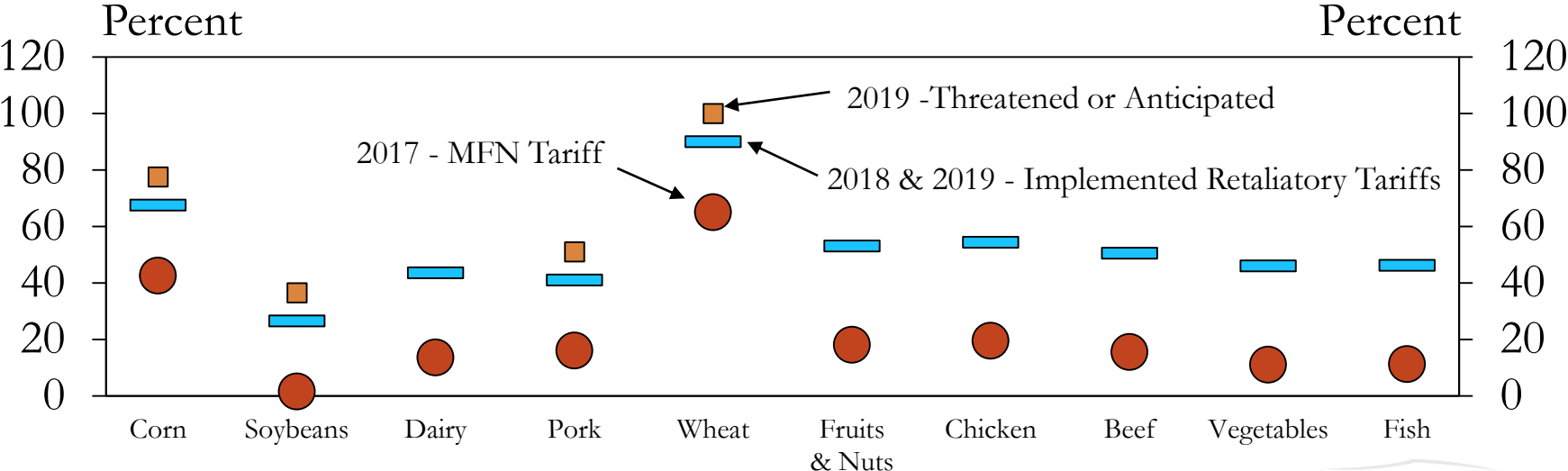
*As of September 2019. All others are annual averages.

Source: Caixin, HIS Markit and Haver Analytics.



Uncertainty surrounding trade policy has remained a notable risk.

Most-Favored Nation Tariff Rates: China

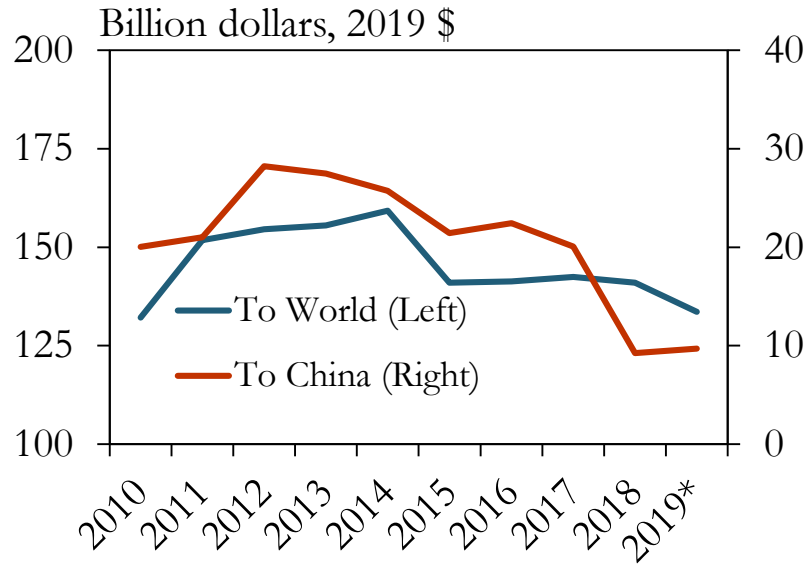


Sources: World Trade Organization and USDA.

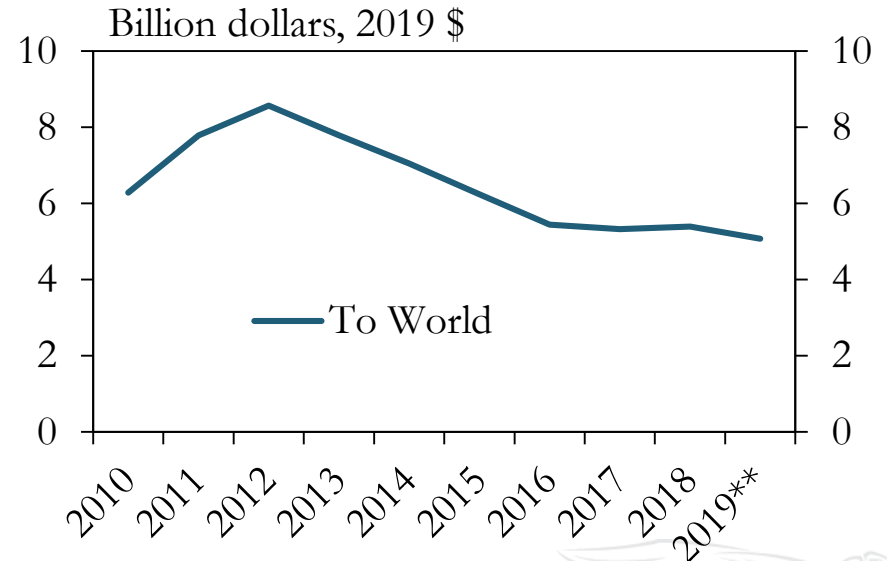


Food and ag exports to China dropped sharply in 2018.

U.S. Food and Ag Exports



U.S. Ag Machinery Exports



*Exports from January 2019 to August 2019 annualized based on percent change from same period in 2018.

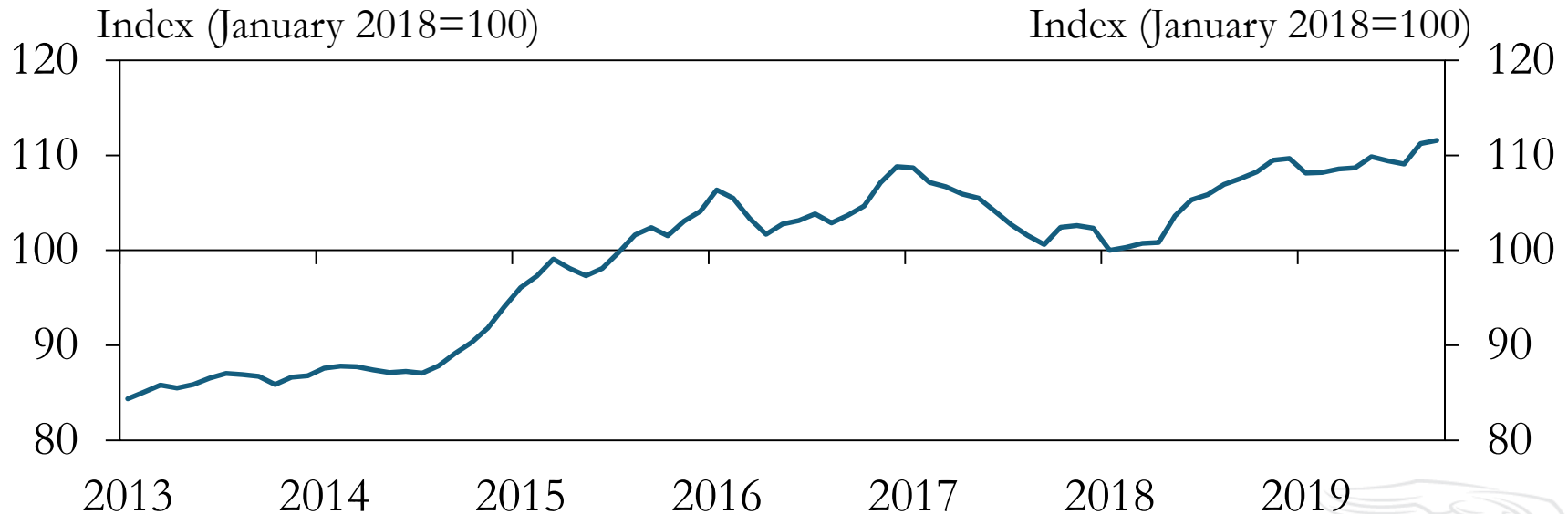
**Exports from January 2019 to July 2019 annualized based on percent change from same period in 2018.

Source: USDA.



An increase in the value of the dollar has also been an additional headwind for exports.

Exchange Value of U.S. Dollar



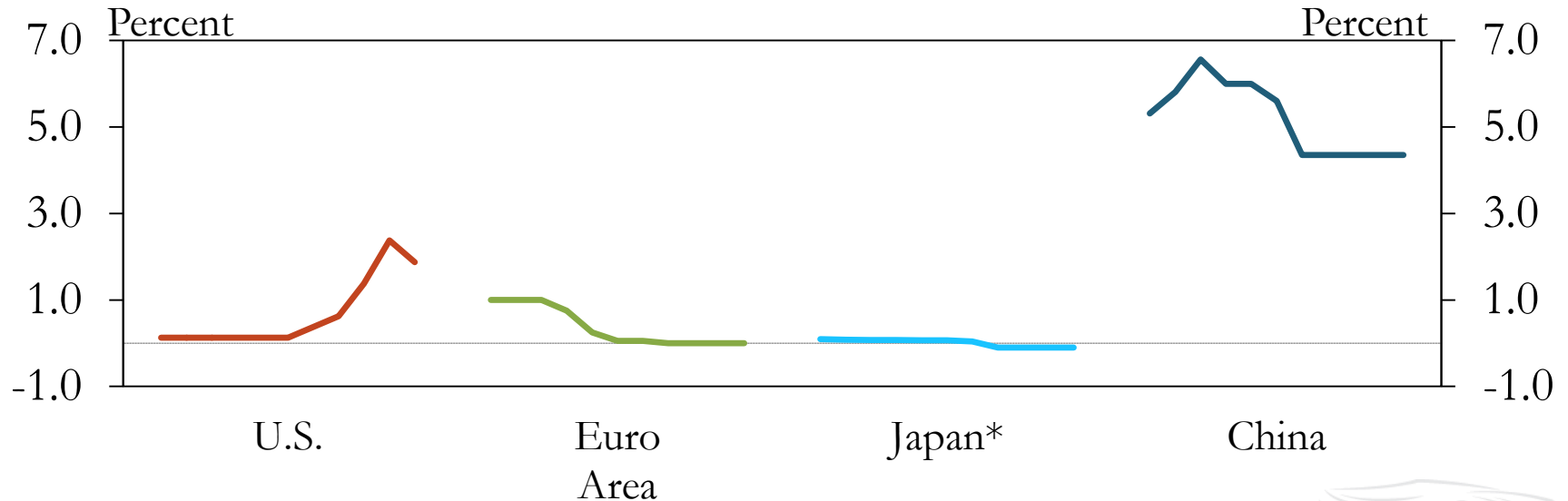
Note: Nominal, broad, trade-weighted exchange value of the U.S. Dollar

Source: Federal Reserve Board and Haver Analytics.



Central banks have kept interest rates low in attempts to stimulate economic growth.

Official Central Bank Policy Interest Rates: 2009 to 2019



*Uncollateralized Overnight Rate: 2009 to 2015/ Policy-rate Balance Rate: 2016 to Present

Note: 2019 data as of September 2019.

Source: Federal Reserve Board, European Central Bank, Bank of Japan, China Statistical Information Center and Haver Analytics

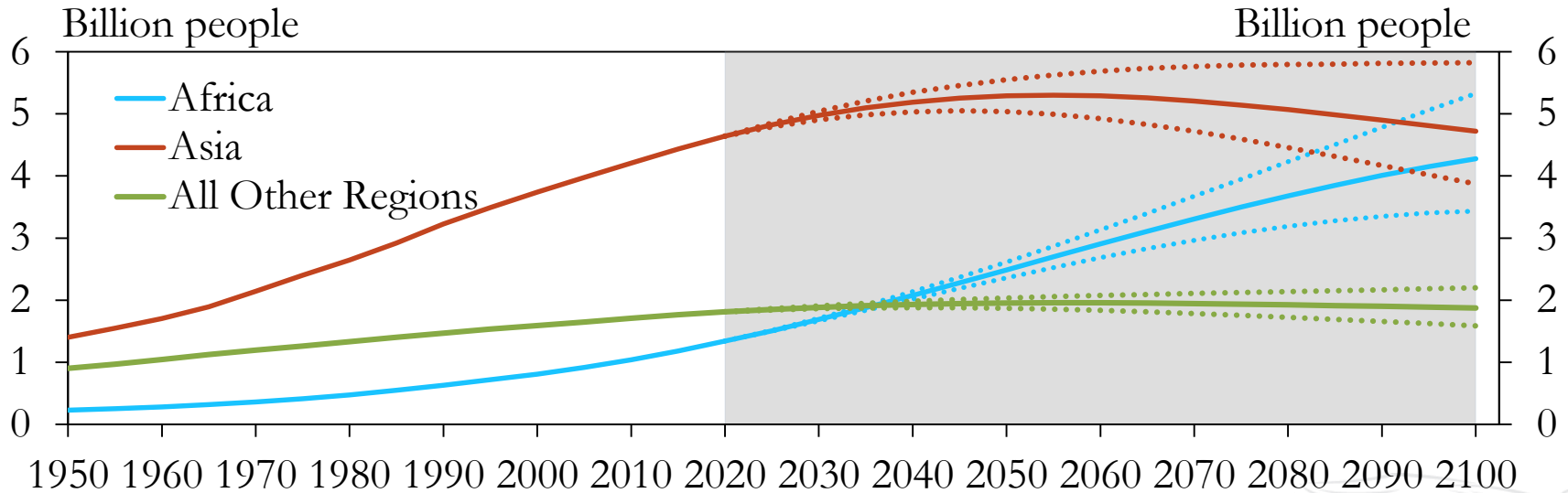


Longer-term Developments and Risk



Broad changes in demographic will have a significant effect on global demand trends.

Projections of World Population



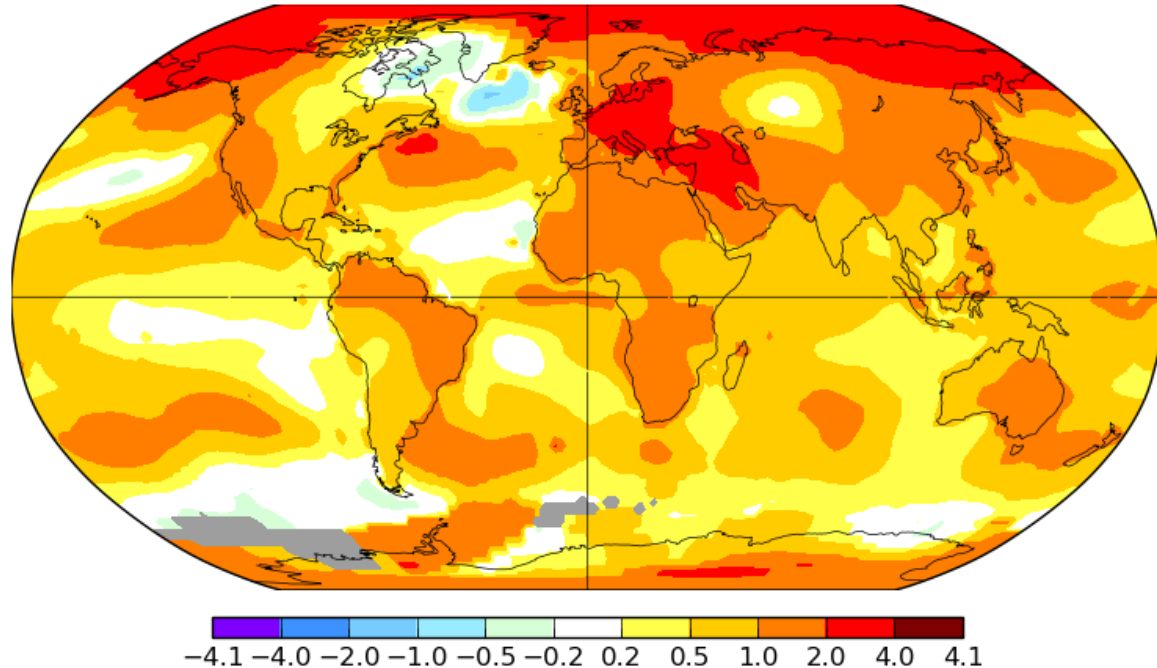
Note: Dotted lines represent the lower and upper 95 percent prediction intervals. Projections are calculated in five year intervals.

Source: United Nations – Population Division.



Climate change poses one of the most significant long-term risks for agriculture.

2018 Global Temperatures: Degree Celsius Deviation from 1951-80 Average

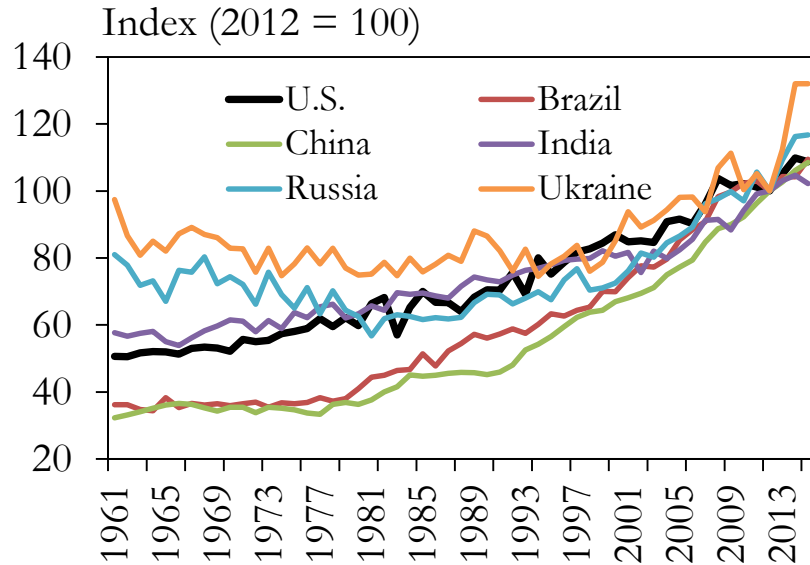


Source: NASA.



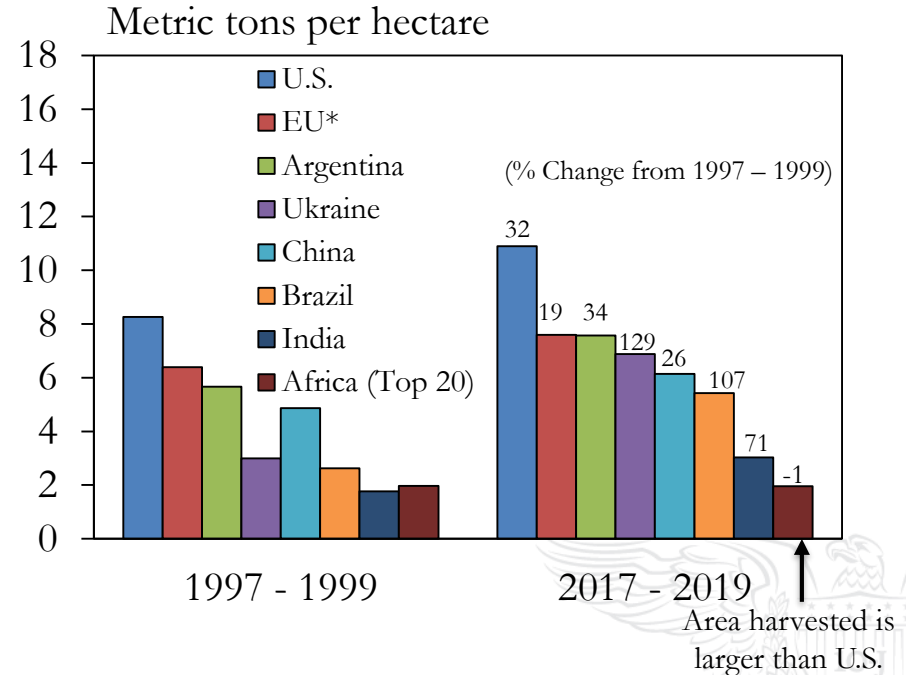
Agricultural productivity, however, has been very strong. Will it continue?

Agricultural Multifactor Productivity



* 1999 only
Source: USDA

Average Corn Yields



Concluding Remarks

- Economic conditions in agriculture are unlikely to change significantly heading into 2020, with risks still to the downside.
- Though a crisis in the farm economy does not appear to be imminent, financial stress still appears to be rising.
- Long-term risks will present significant challenges (or opportunities) for many regions:
 - Demographics (and consumer preferences)
 - Climate change and water availability
 - Ag productivity and linking production with sources of demand.

