



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

2020 Agricultural Outlook

**USDA's Office of the Chief Economist
February 20, 2020**

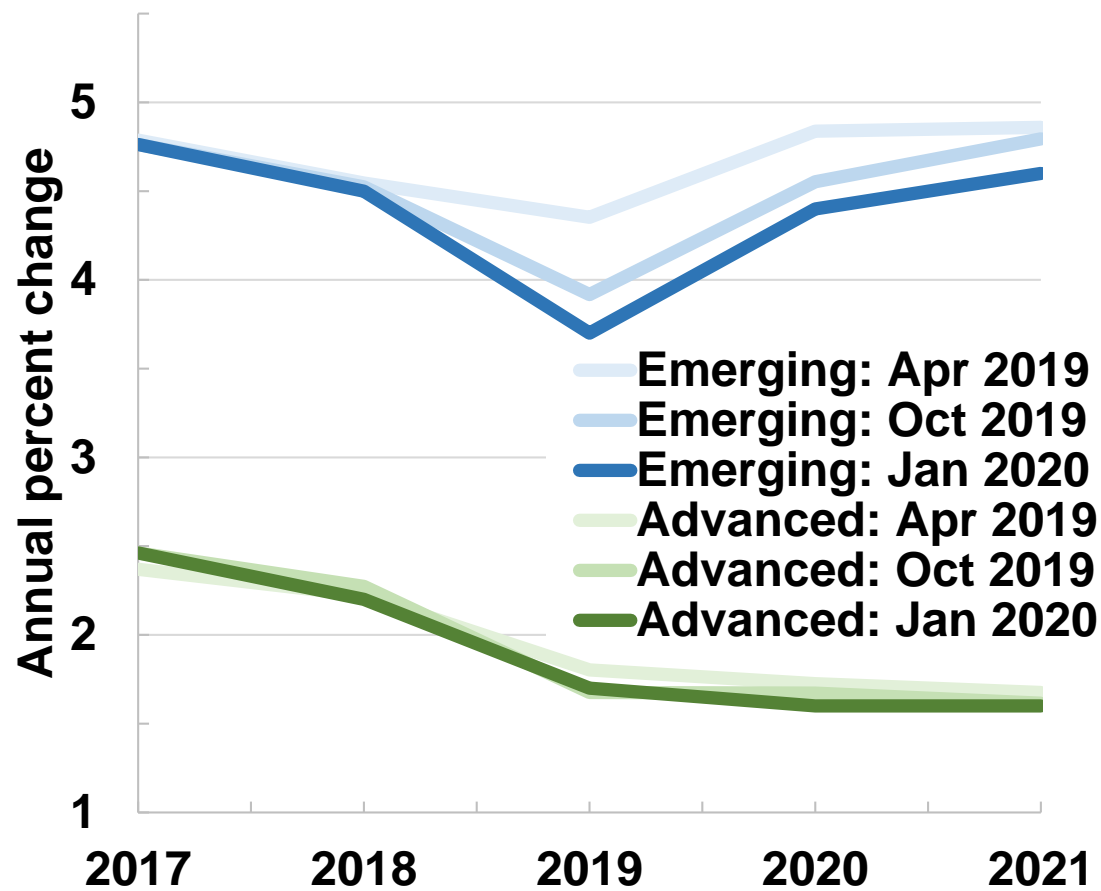
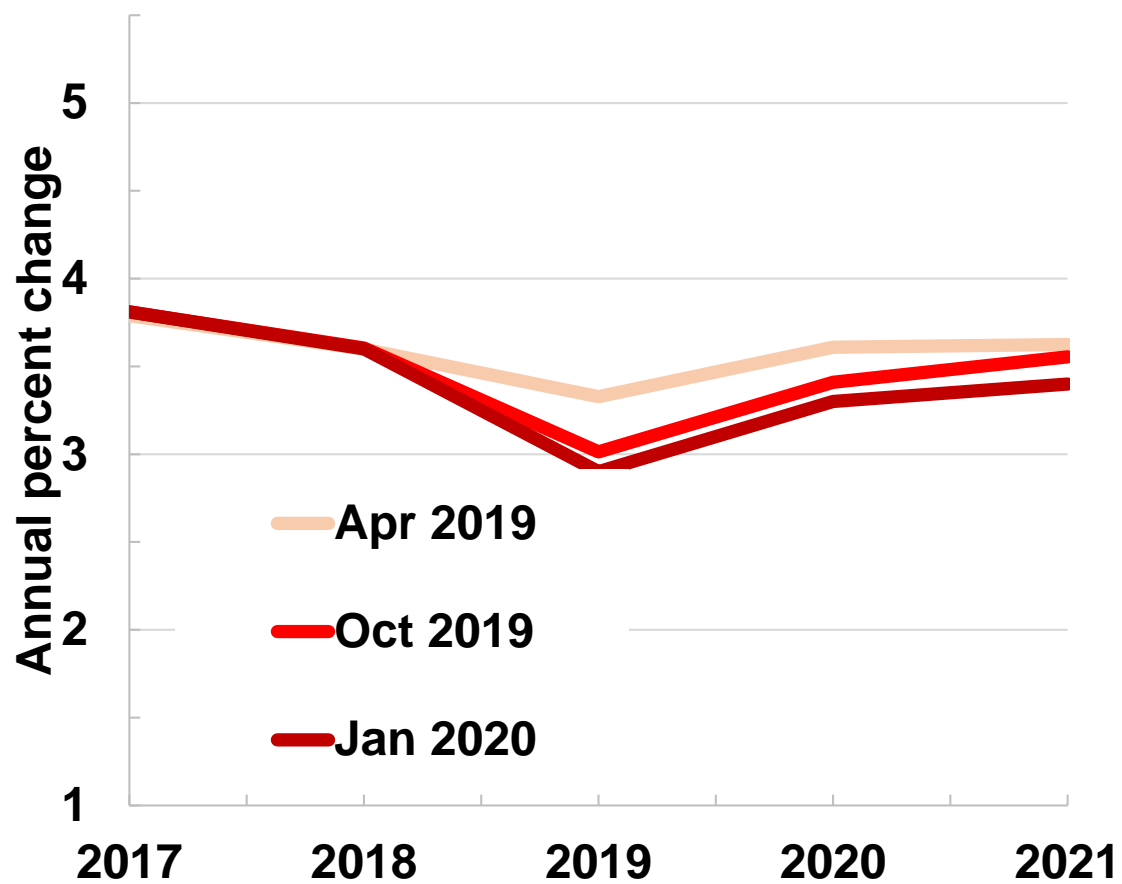
<https://www.thedickinsonpress.com/business/agriculture/4730104-Snow-increases-harvest-worries-as-North-Dakota-considers-disaster-declarations>

Outline

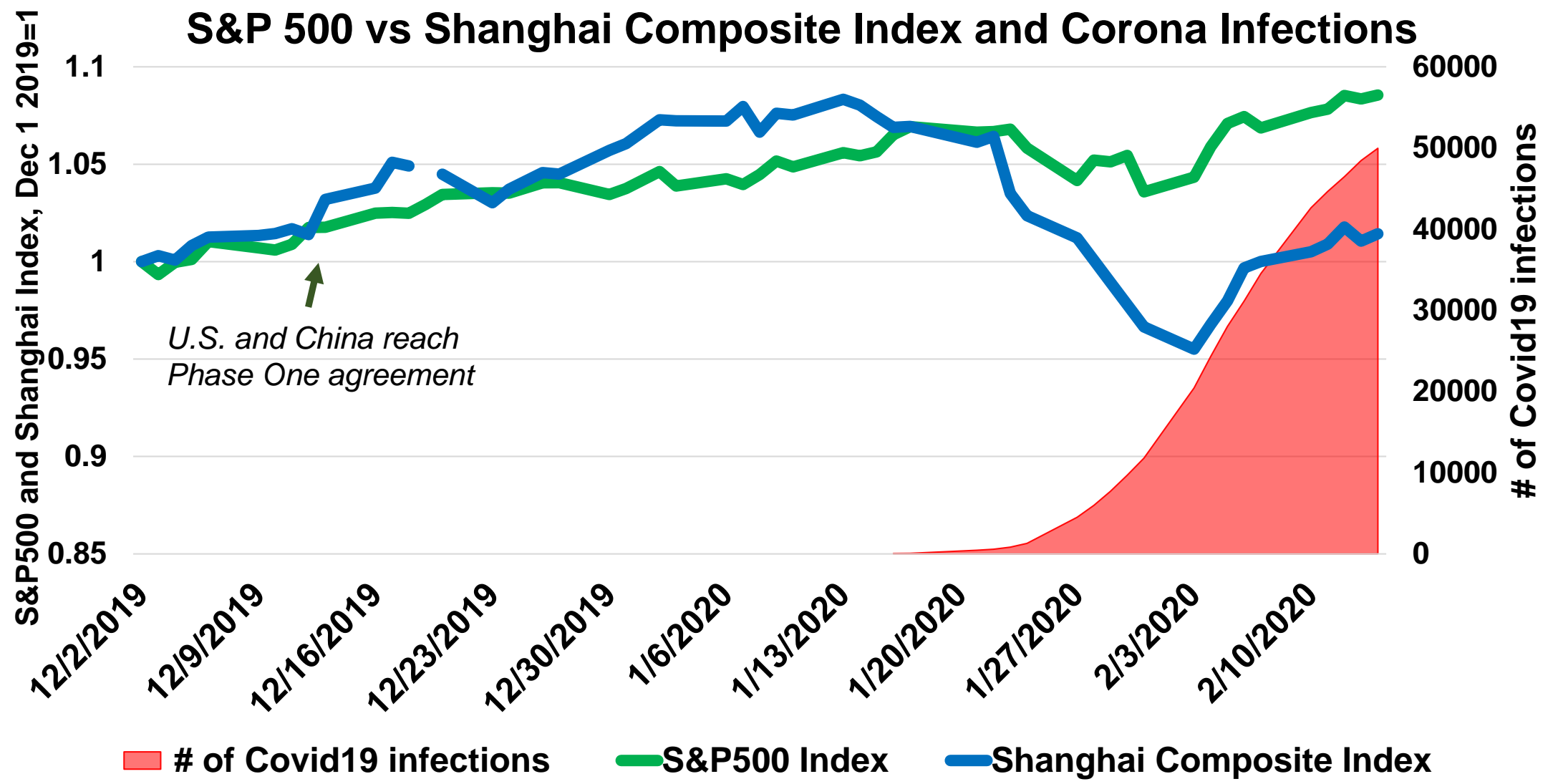
1. Trade
2. Crops & Livestock
3. Farm Economy



World growth forecast down, led by weakening of emerging markets and developing countries (not including coronavirus)



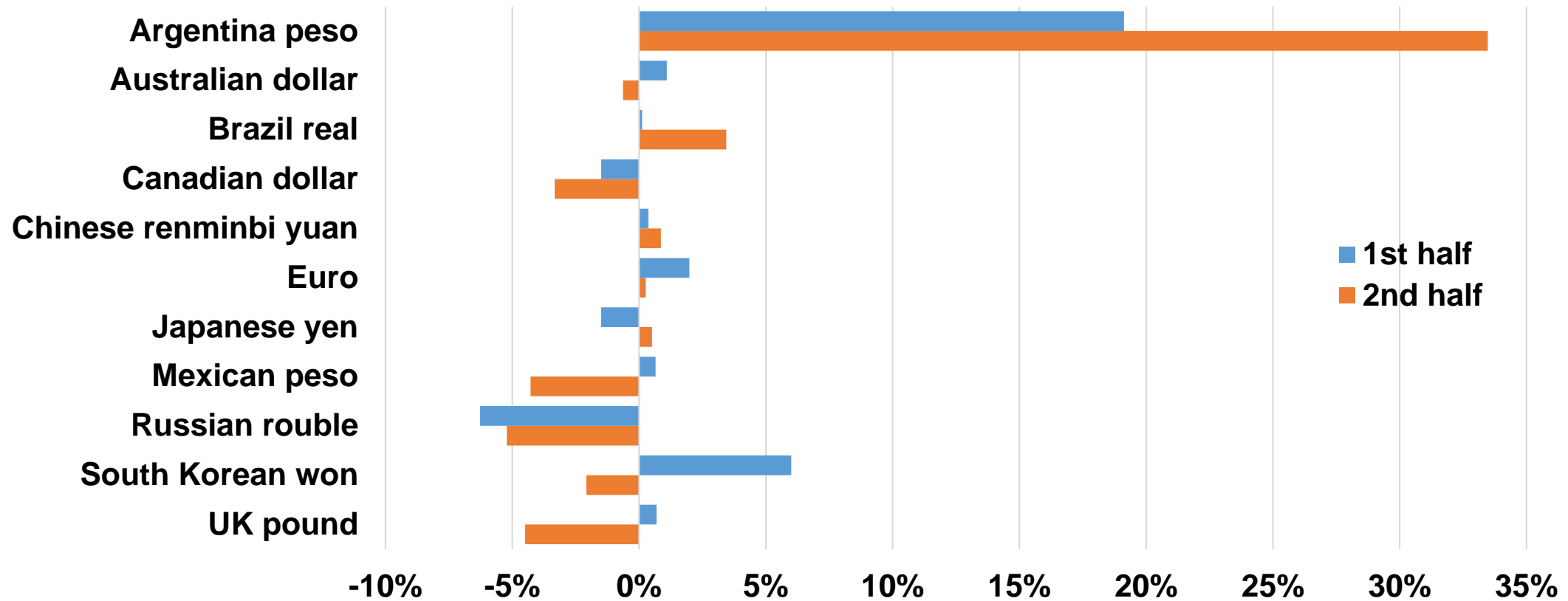
Coronavirus tops macro global economy concerns; markets expecting recovery



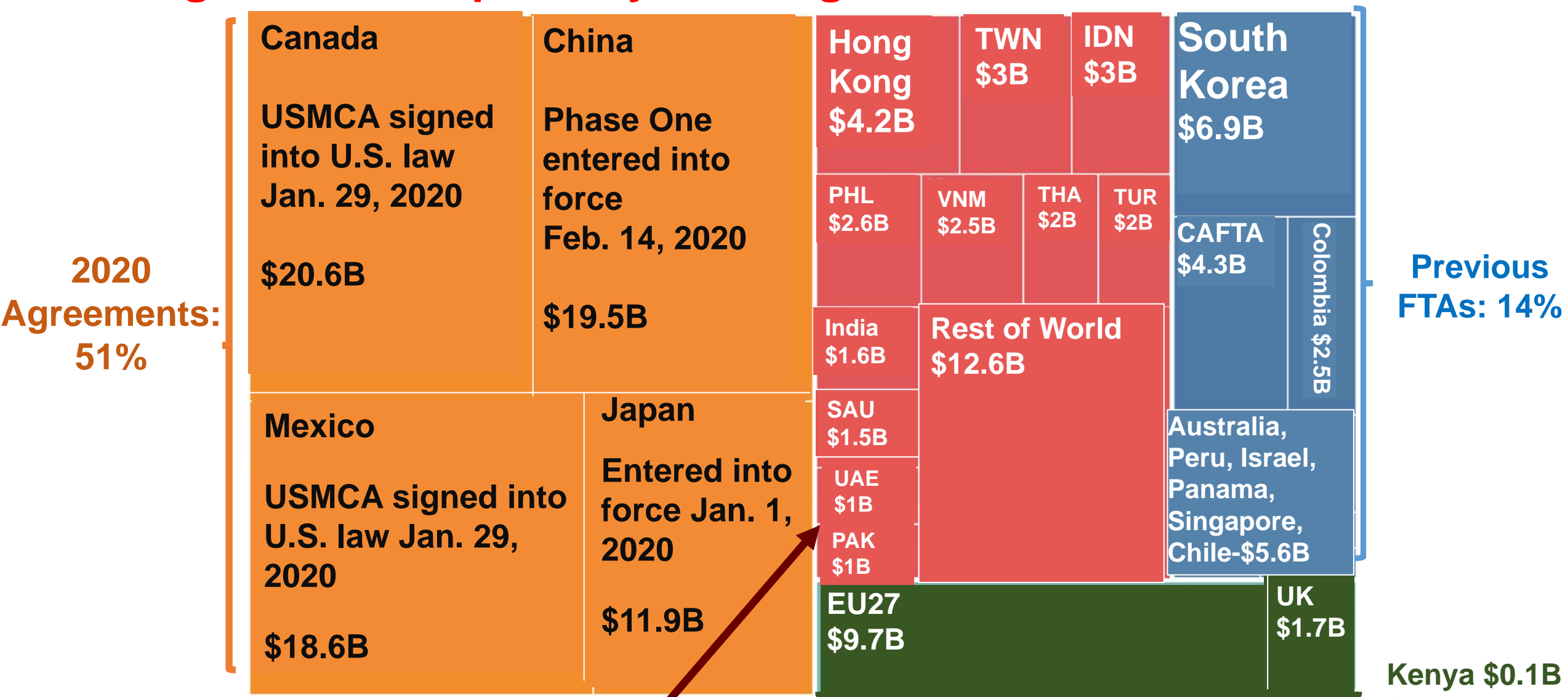
Data: Refinitiv and China's National Health Commission

U.S. dollar appreciated early in the year before declining across many currencies

US \$ appreciation in 1st and 2nd half of 2019

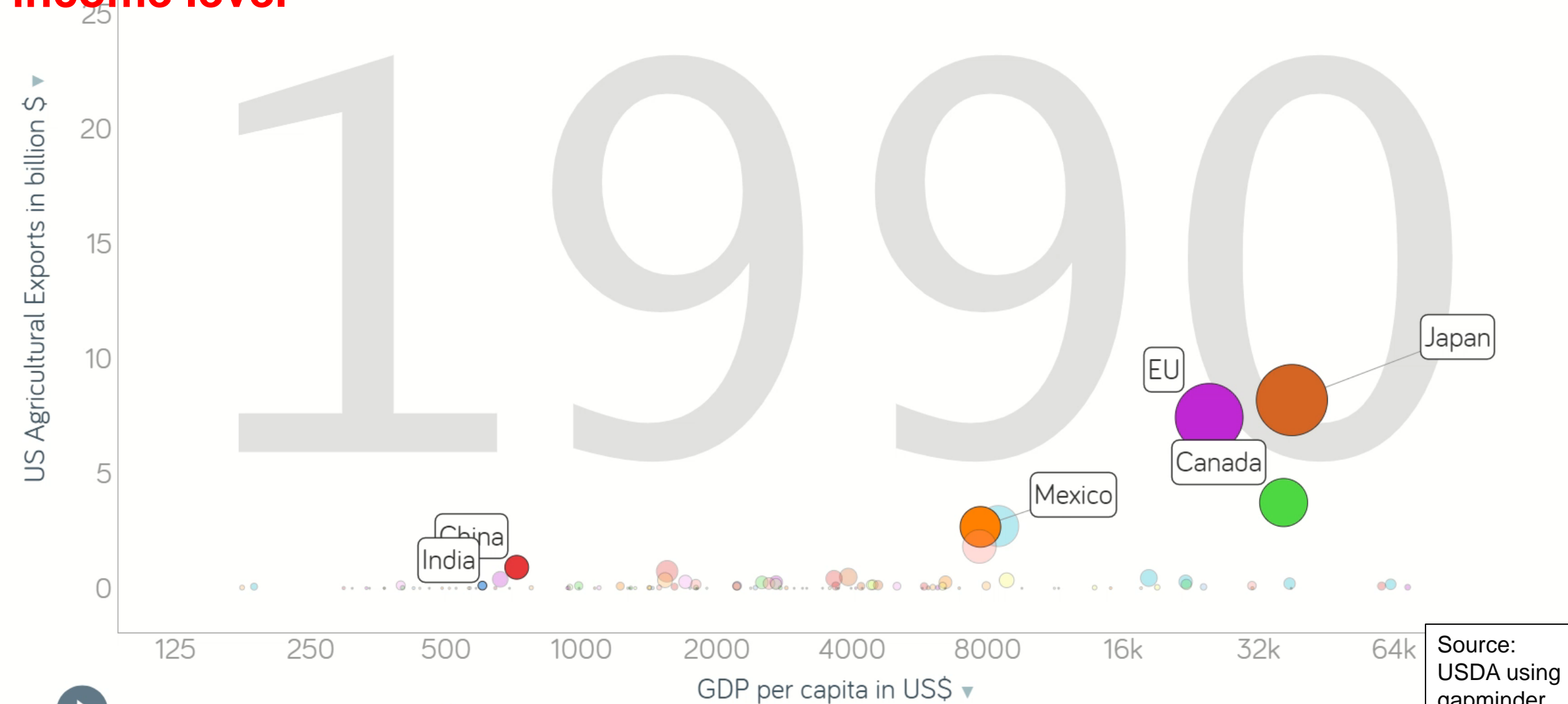


U.S. agricultural exports by trade agreement status, size of trade



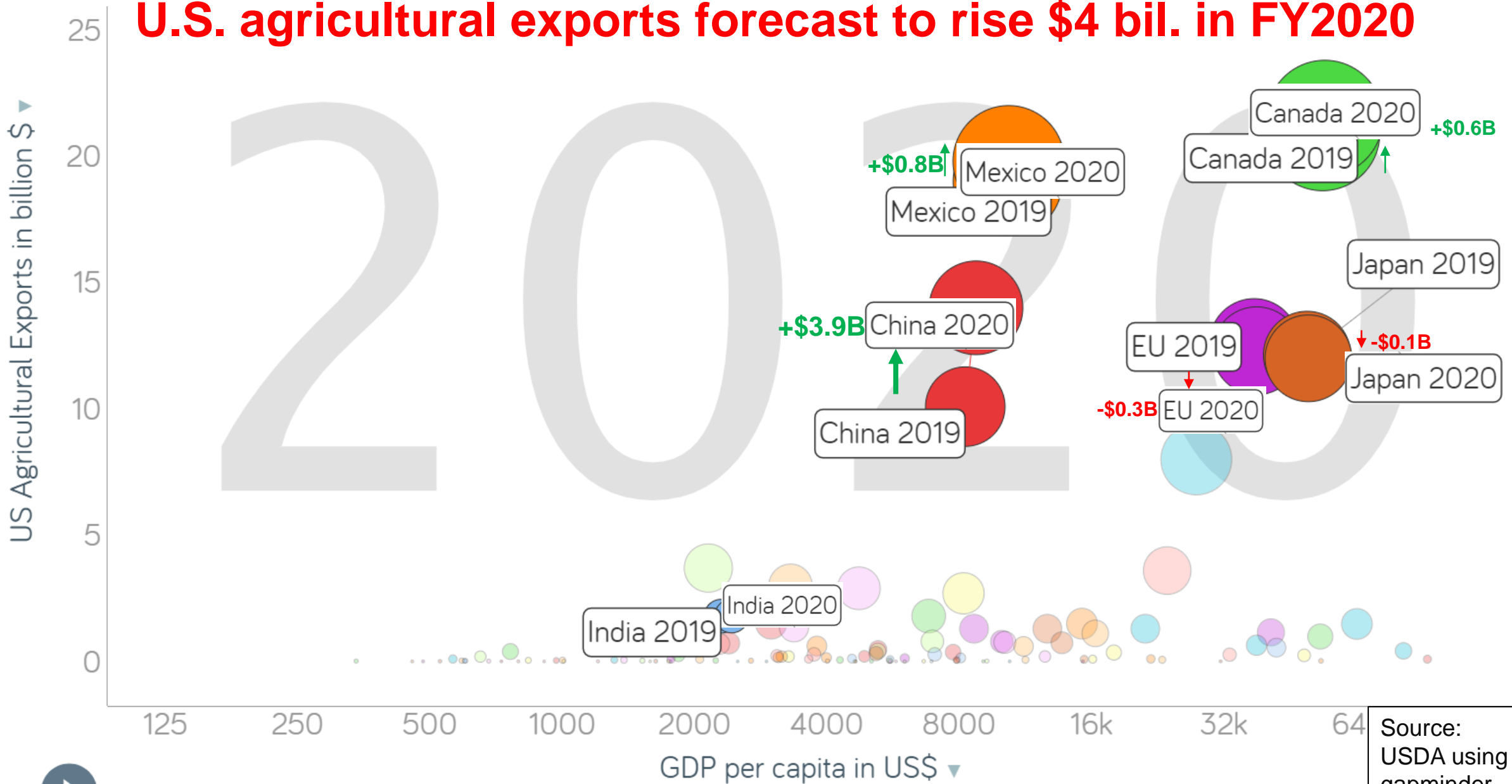
Source: USDA, 2017 data

U.S. agricultural exports in billion \$ from 1990 to 2019 (FY) by income level



Source: USDA using gapminder

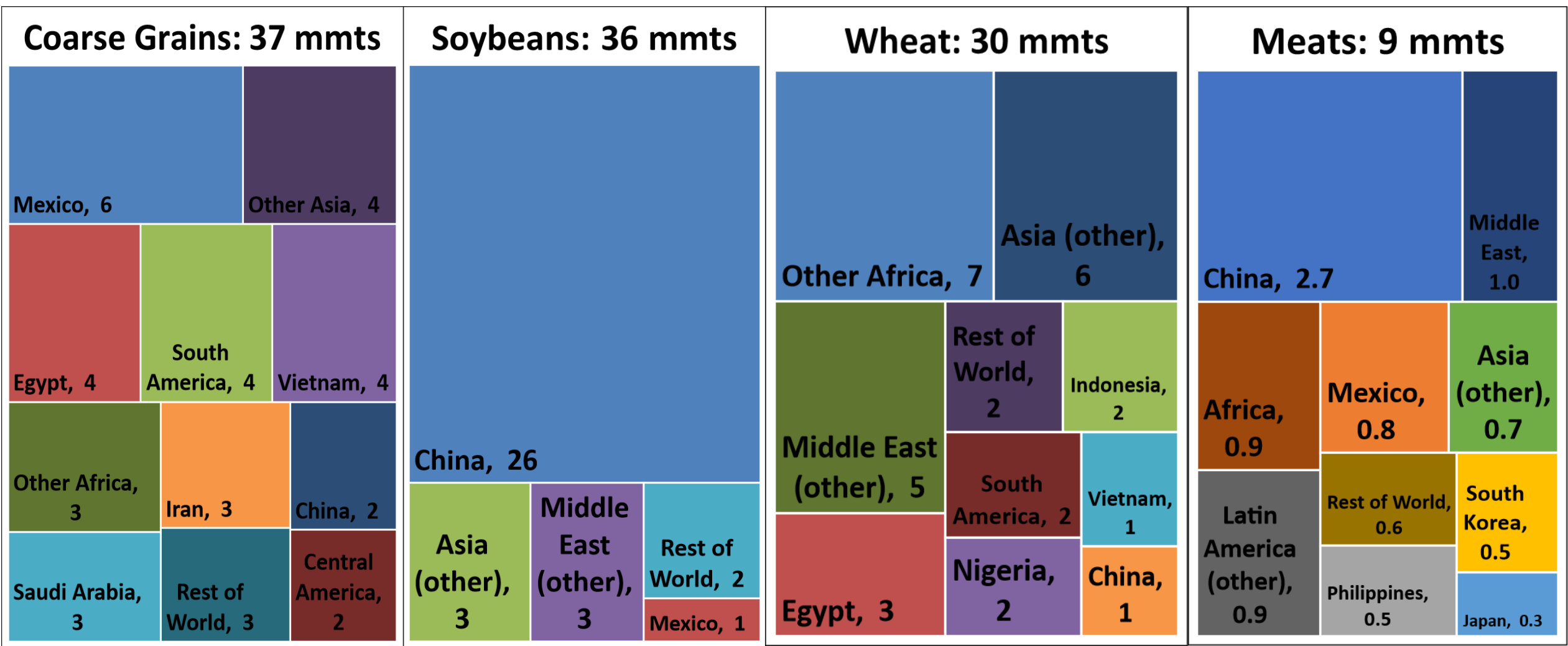
U.S. agricultural exports forecast to rise \$4 bil. in FY2020



Source:
USDA using
gapminder

And where do we expect the largest growth in import demand?

Projected growth in global imports over the next ten years (2020-2029)



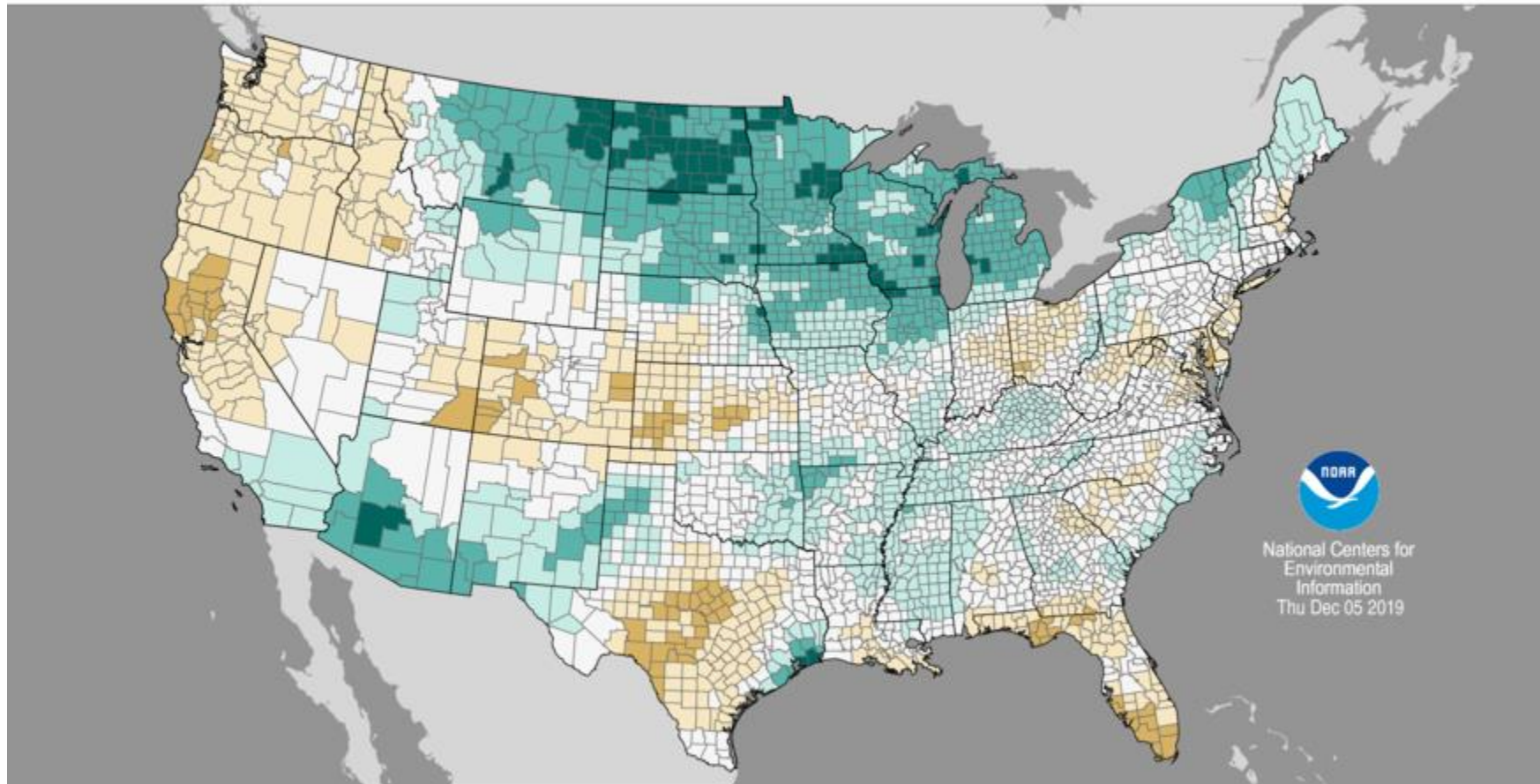
Source: USDA



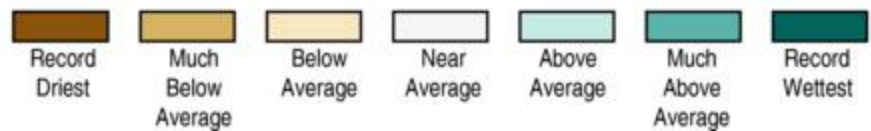
**U.S. Crop and Livestock sectors
forecast to improve in 2020**

A wet autumn further delayed an already slow U.S. harvest.

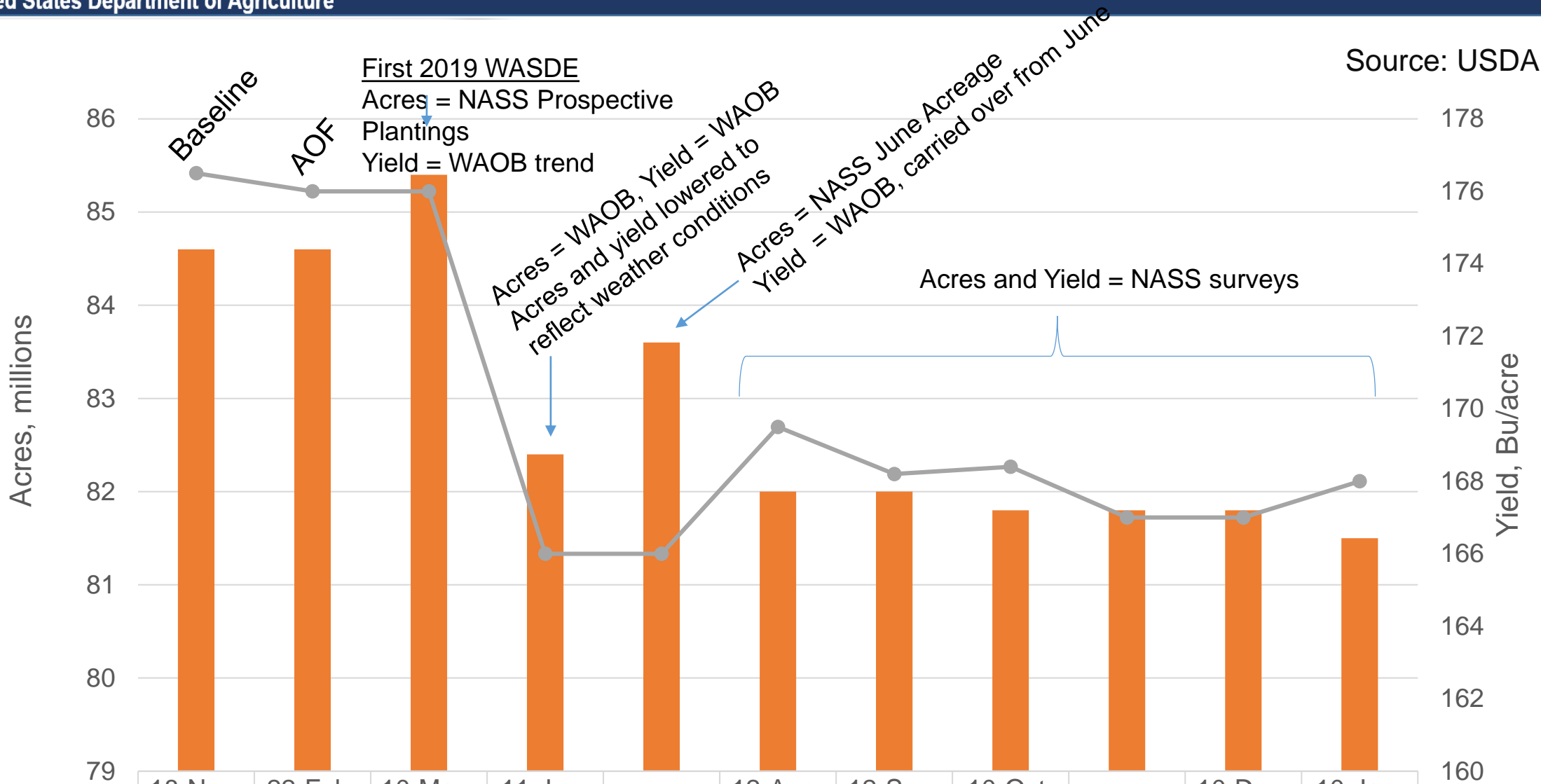
County Precipitation Ranks
September–November 2019
Period: 1895–2019



NORR
National Centers for
Environmental
Information
Thu Dec 05 2019



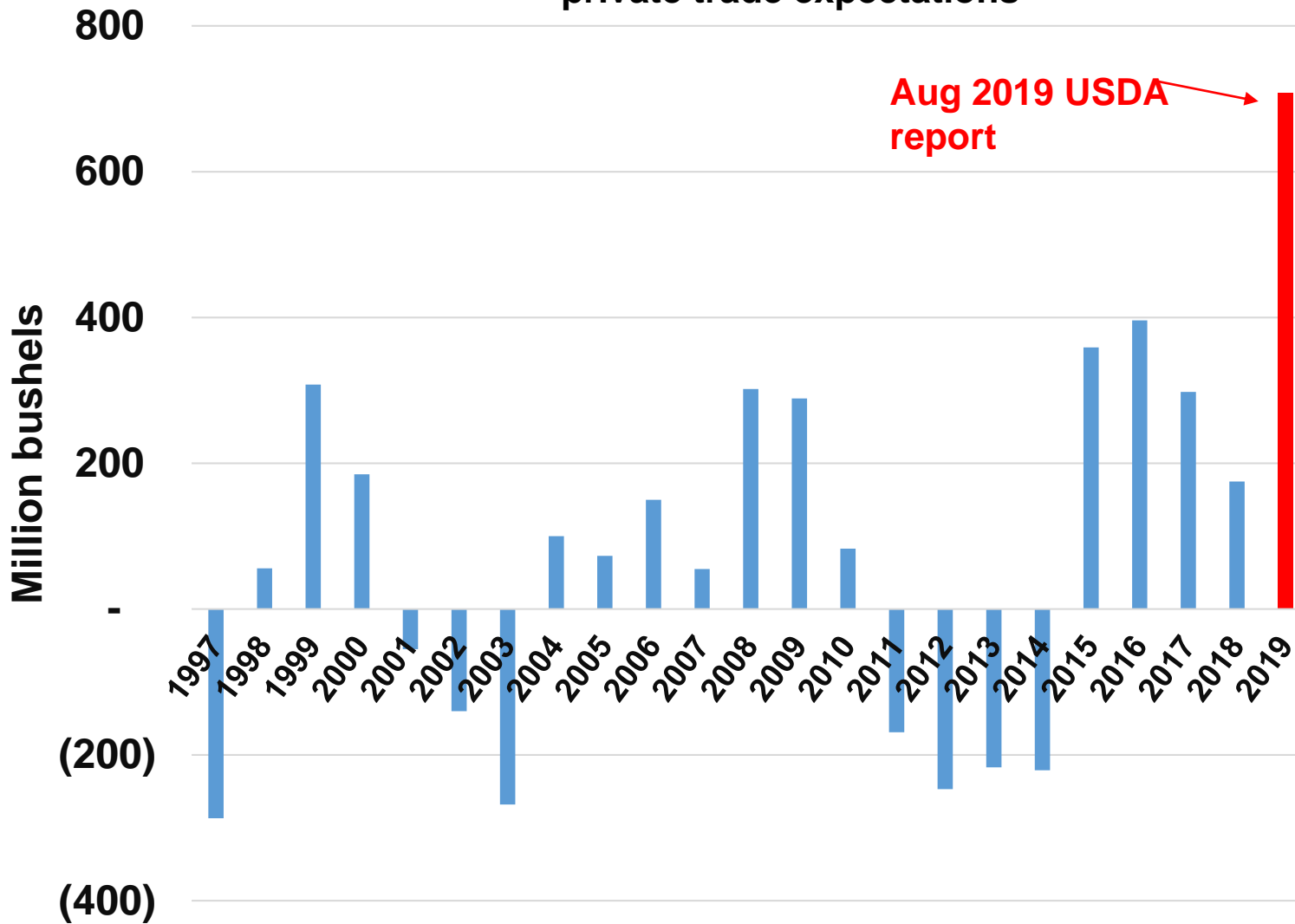
Source: USDA.



	18-Nov-18	22-Feb-19	10-May-20	11-Jun-19	11-Jul-19	12-Aug-19	12-Sep-19	10-Oct-19	8-Nov-19	10-Dec-19	10-Jan-20
acres harvested	84.6	84.6	85.4	82.4	83.6	82	82	81.8	81.8	81.8	81.5
Yield	176.5	176	176	166	166	169.5	168.2	168.4	167	167	168

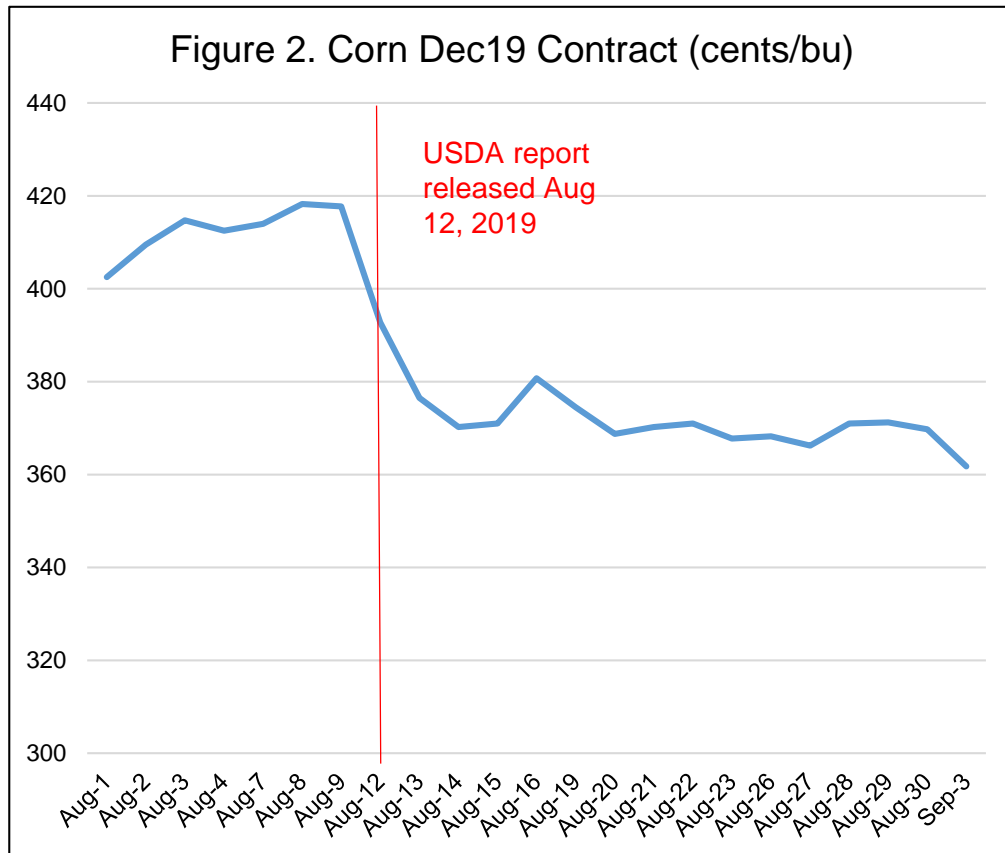
**USDA August
corn
production
forecast
minus
average
private trade
expectations**

Figure 1. USDA Aug. corn production forecast minus average private trade expectations

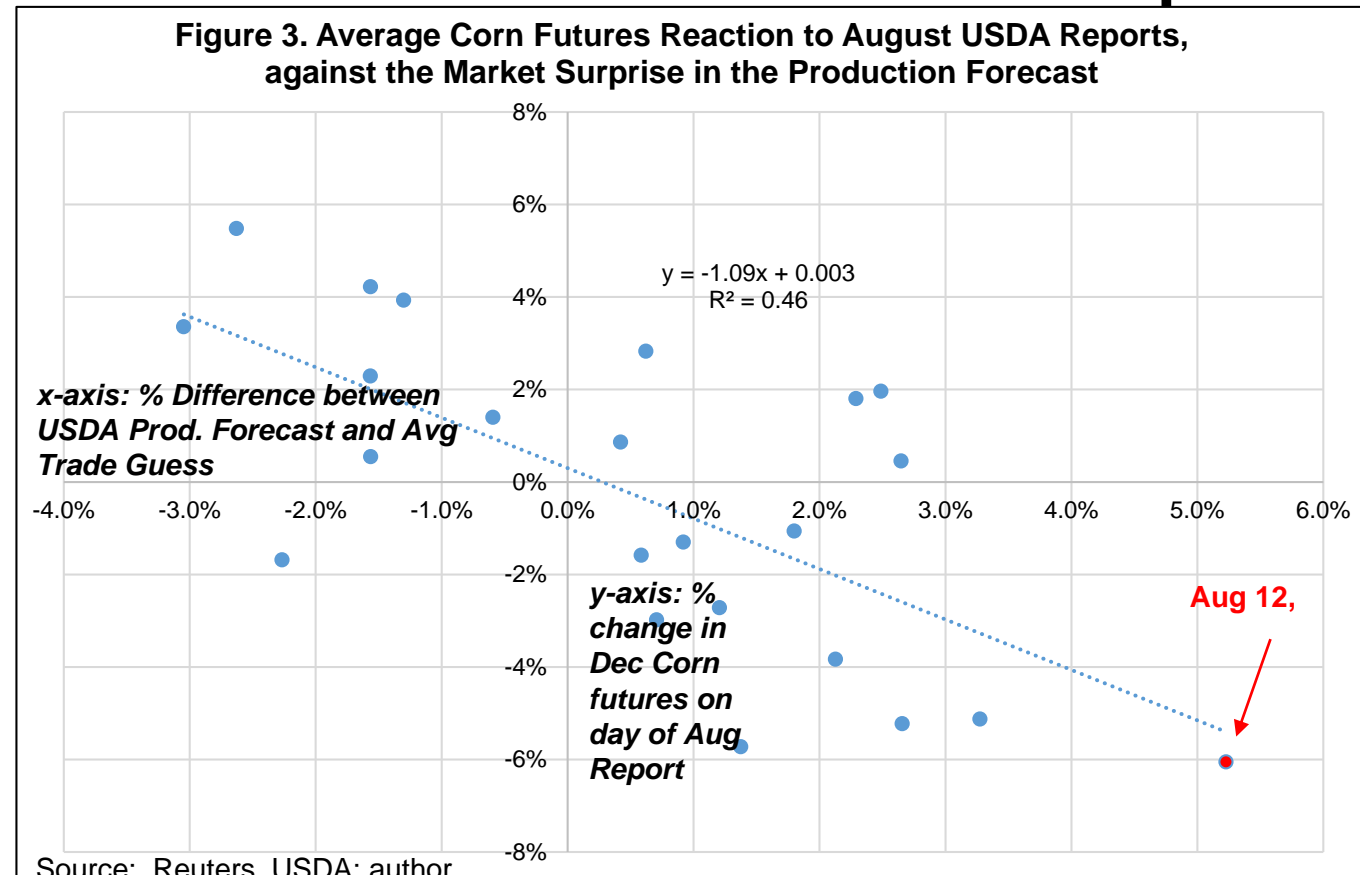


When USDA and the trade are on opposite pages, a price correction is usually coming

50 cent drop in futures price

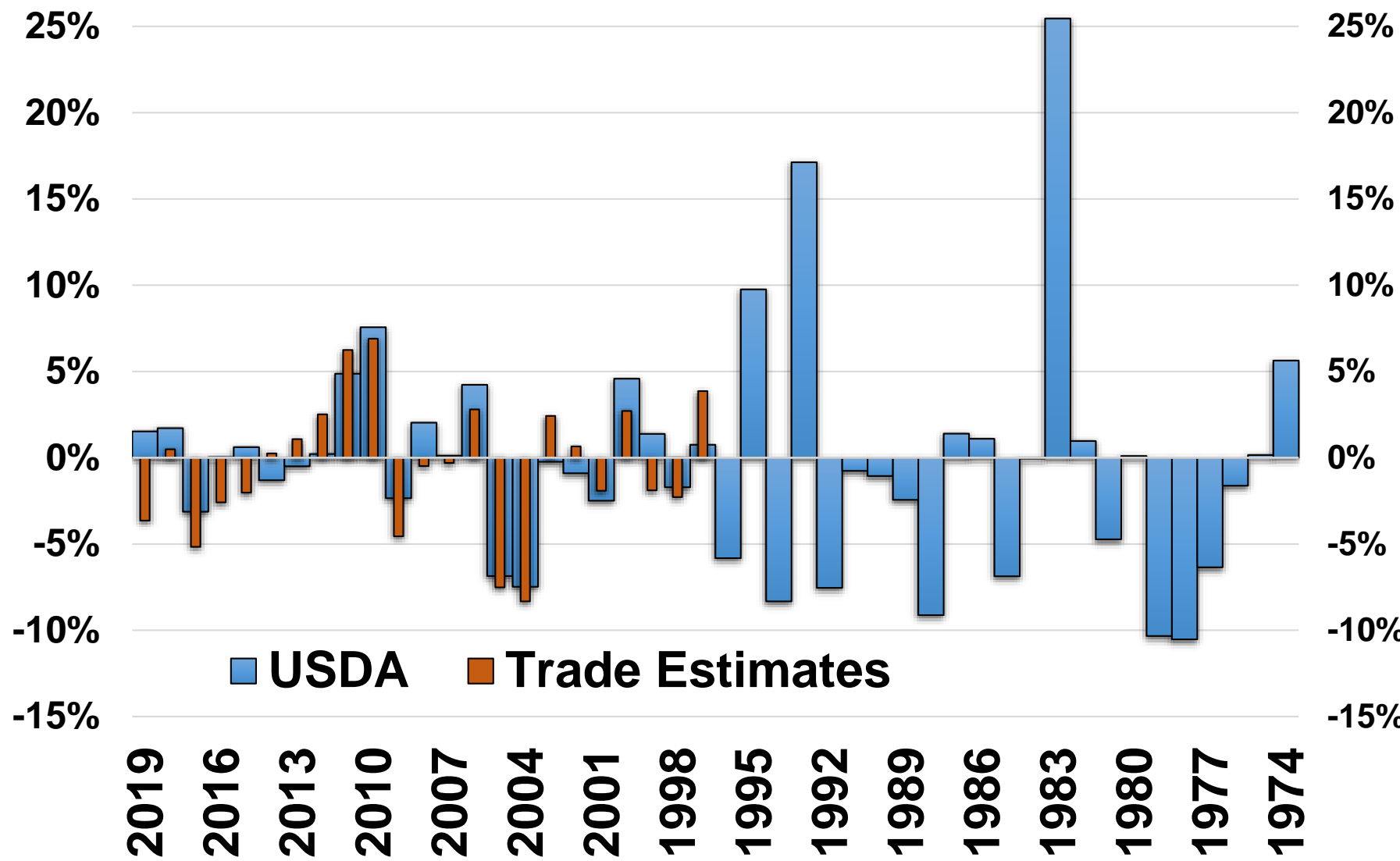


Reaction inline with relationship



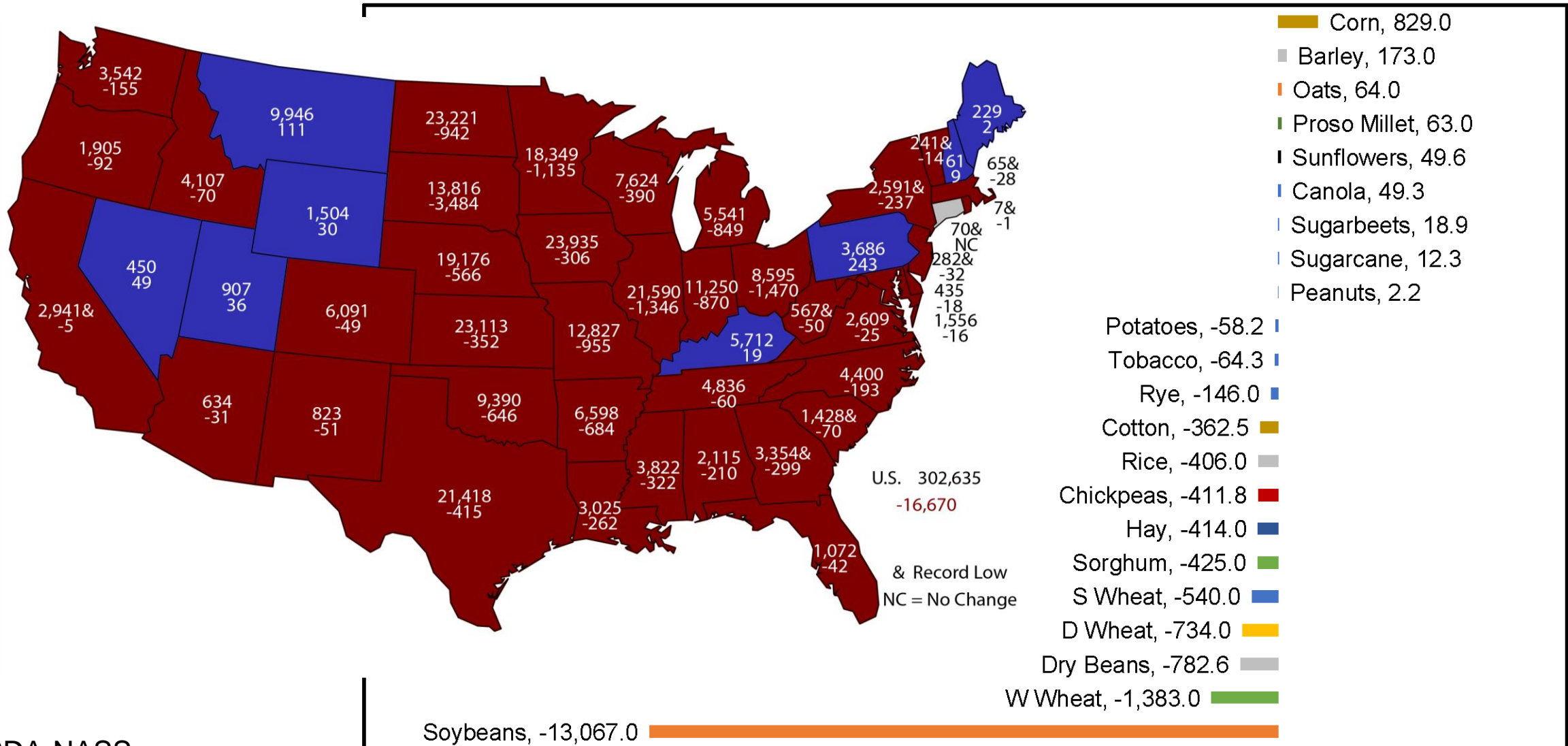
Forecasts of final corn production have been getting more accurate

Since 2010, August corn production estimates have been < 5% from final



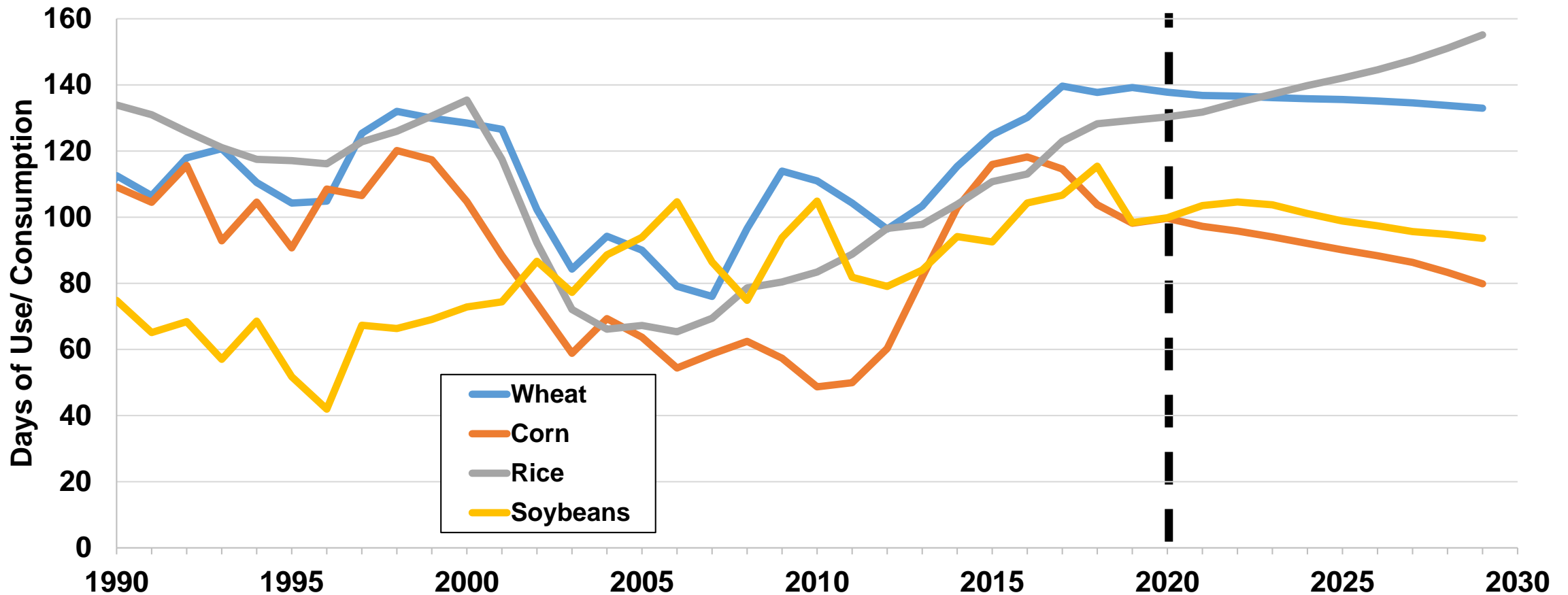
Data: USDA, Refinitiv

16 million acre decline in 2019 --- where do they end up?

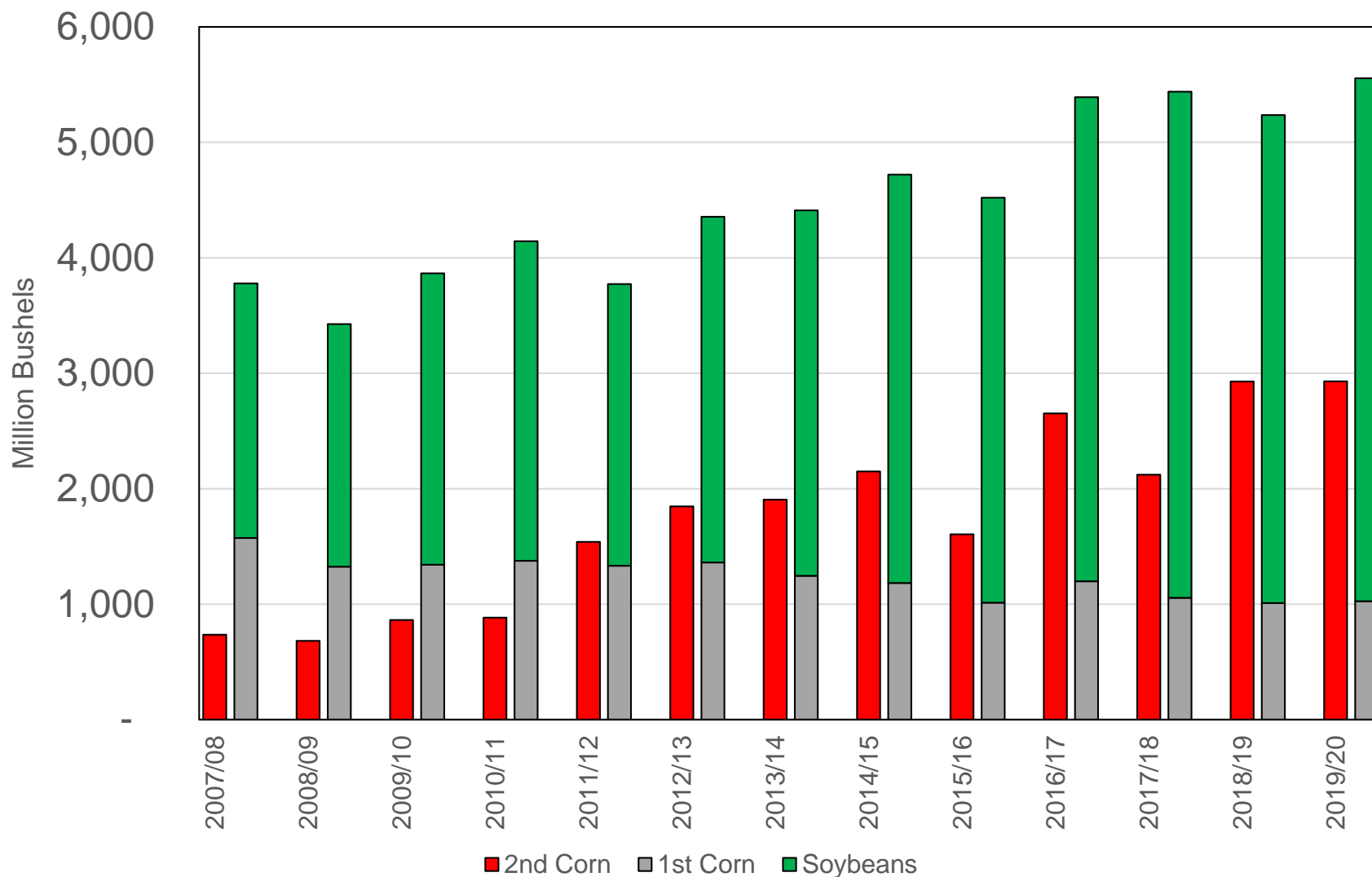


Source: USDA-NASS.

Global stocks in days of use: stocks are relatively high but expected to decline over the next few years (except rice)

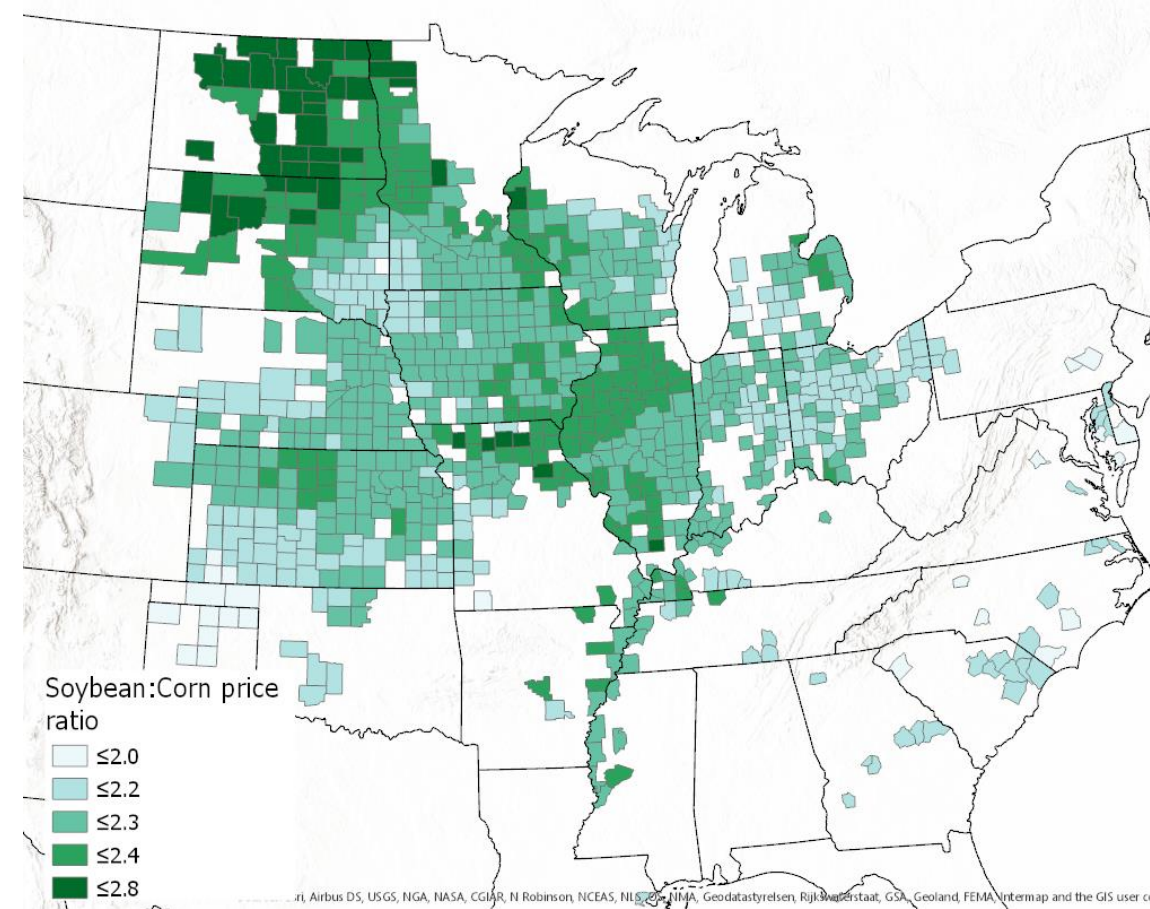
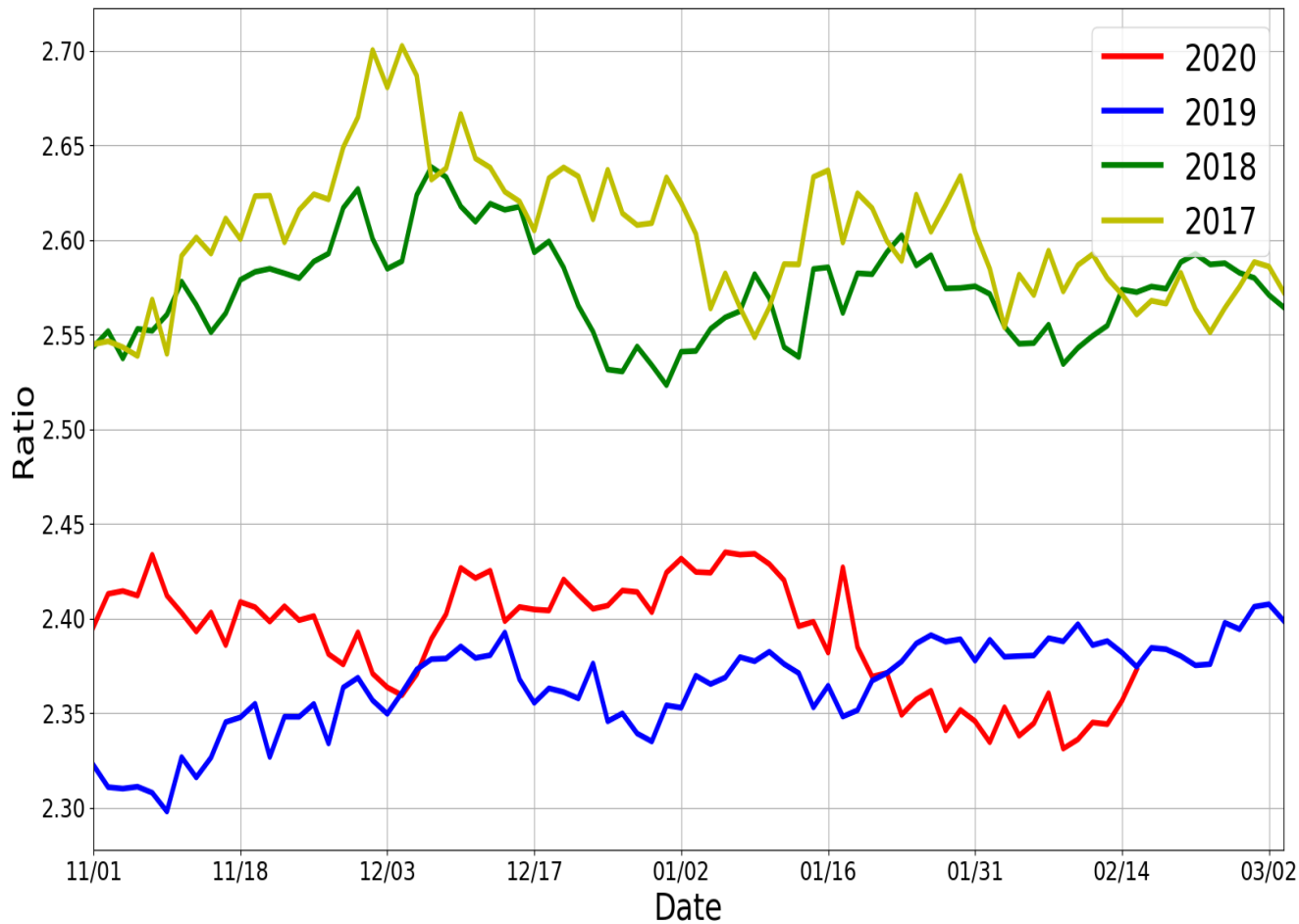


Continued expansion expected in Brazil's soybean and corn production



Source: CONAB. 2nd Corn assumed to be all corn minus 1st crop.

New crop futures soybean:corn price ratio for 2020 points to a large corn crop, with some basis effects



Corn and rice prices expected to edge down in 2020/21

Crop	2016	2017	2018	2019	2020F	%Δ
Wheat (\$/bu)	3.89	4.72	5.16	4.55	4.90	8%
Corn (\$/bu)	3.36	3.36	3.61	3.85	3.60	-6%
Soybeans (\$/bu)	9.47	9.33	8.48	8.75	8.80	1%
Cotton (cents/lb)	70.5	68.6	70.3	63.0	64.0	2%
All Rice (\$/cwt)	10.4	12.9	12.6	13.0	12.0	-8%

Cropland area mostly up from last year

Crop (mil. acres)	2016	2017	2018	2019	2020F	%Δ
Corn	94.0	90.2	88.9	89.7	94.0	5%
Soybeans	83.5	90.2	89.2	76.1	85.0	12%
Wheat	50.1	46.1	47.8	45.2	45.0	0%
Cotton	10.1	12.7	14.1	13.7	12.5	-9%
Other feedgrains	12.6	10.7	11.0	10.8	11.1	3%
Rice	3.2	2.5	2.9	2.5	3.1	21%
Total 8 crops	253.4	252.3	253.9	238.0	250.7	5%
CRP	23.9	23.4	22.6	22.6	22.7	0%
8 crops + CRP	277.3	275.7	276.5	260.6	272.7	5%

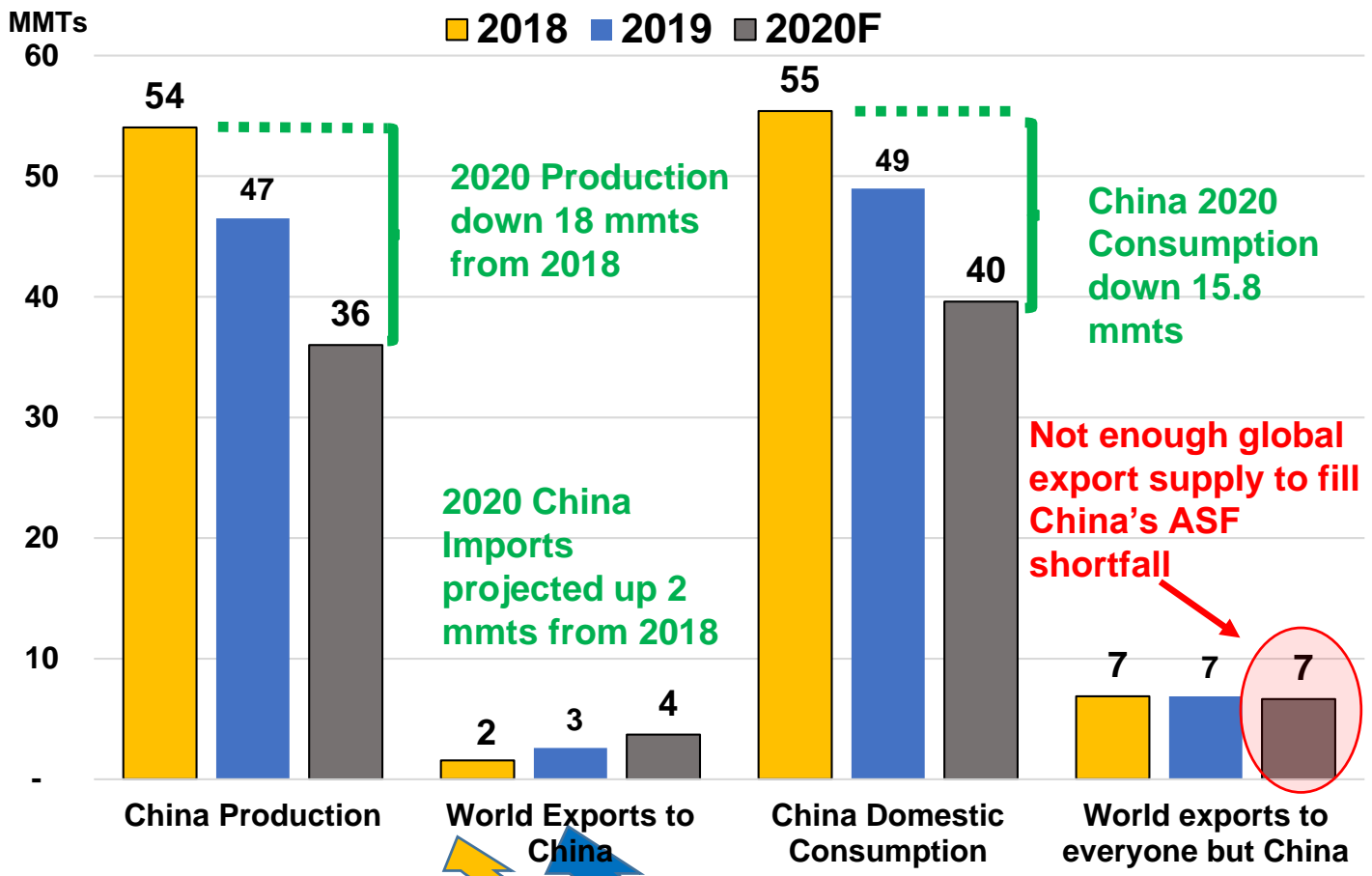
Record production projected in 2020

Item	2010	Exports as a % of prod.	2019	Exports as a % of prod.	2020F	Exports as a % of prod.
Billion pounds						
Beef	26.3	8.7%	27.2	11.1%	27.5	12.0%
Pork	22.4	18.8%	27.6	22.9%	28.9	25.5%
Broilers	36.9	18.3%	43.9	16.2%	45.8	16.2%
Total ¹	92.1	15.2%	105.2	16.3%	108.8	17.3%
Billion pounds						
Milk ²	192.9	15.8%	218.3	19.0%	222.0	19.6%

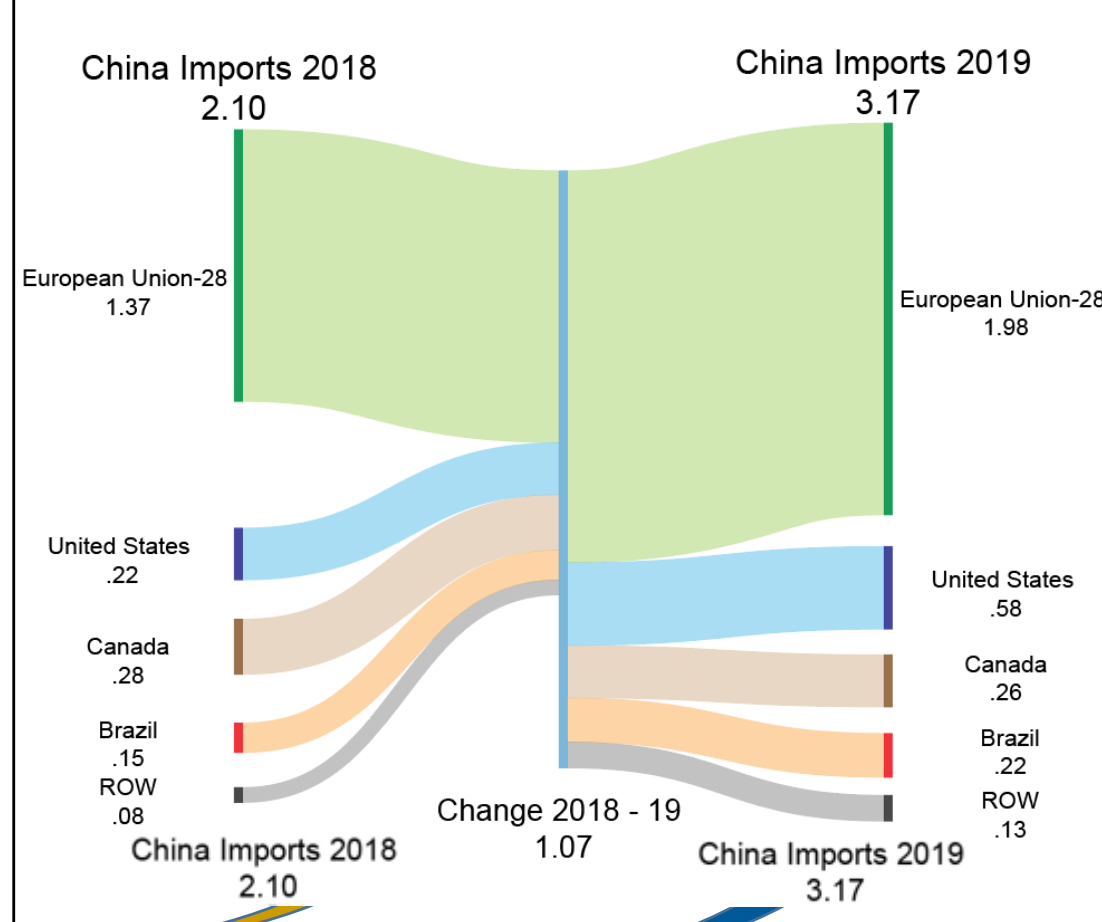
Data in red denote record levels. ¹ Total red meat and poultry. ²Skim-solids basis exports as a percent of total milk production

African Swine Fever shocks China and global pork supply

China pork production, supply and demand



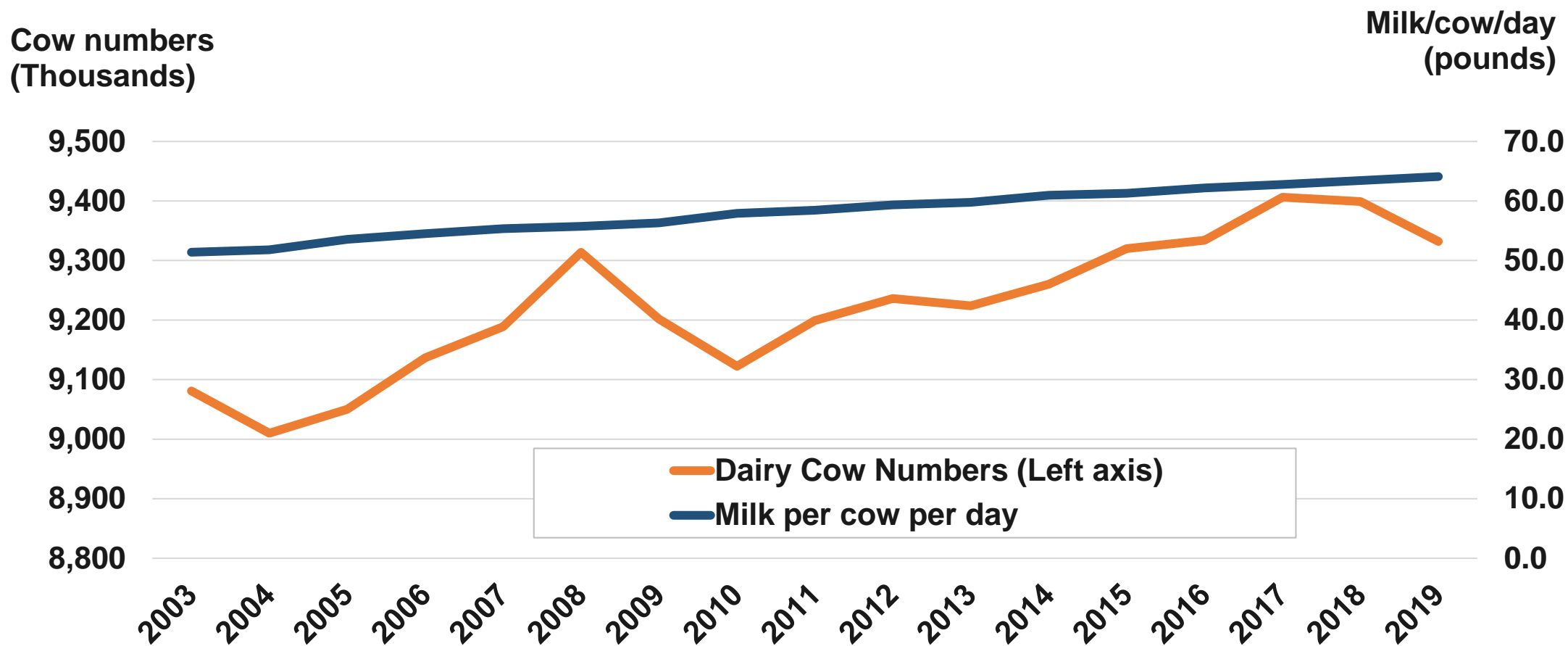
China 2018 vs 2019 imports (mmts)



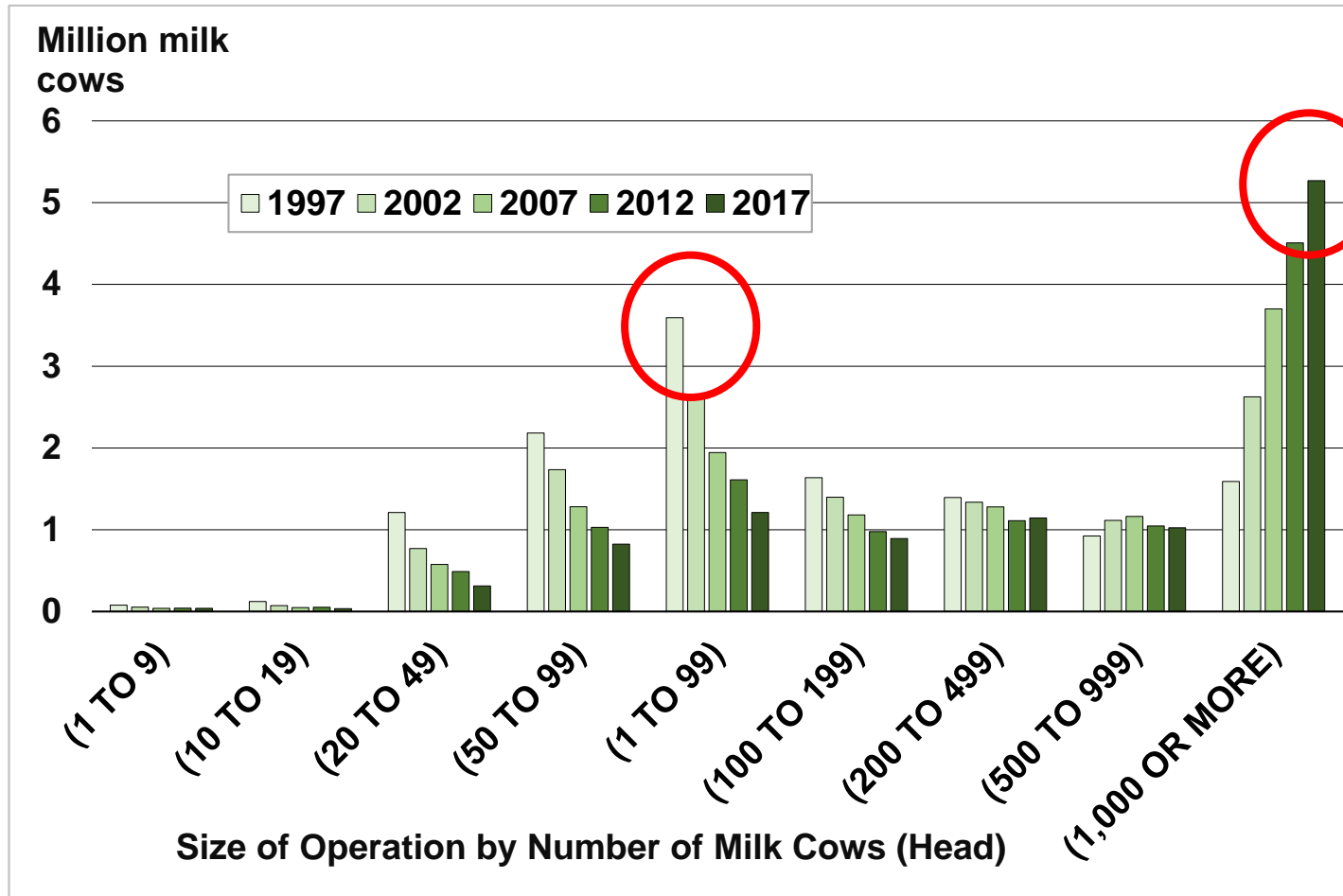
Prices: hogs, milk up, broilers down; steers largely unchanged

Item	2016	2017	2018	2019	2020F	%Δ
	Dollars per cwt					
Steers	120.86	121.52	117.12	116.78	117.00	0.2%
Hogs	46.16	50.48	45.93	47.95	49.00	2.2%
Broilers	84.3	93.5	97.8	88.6	87.0	-1.8%
Milk	16.30	17.65	16.27	18.60	18.85	1.3%

Recent milk production increases driven by cow numbers and milk per cow gains



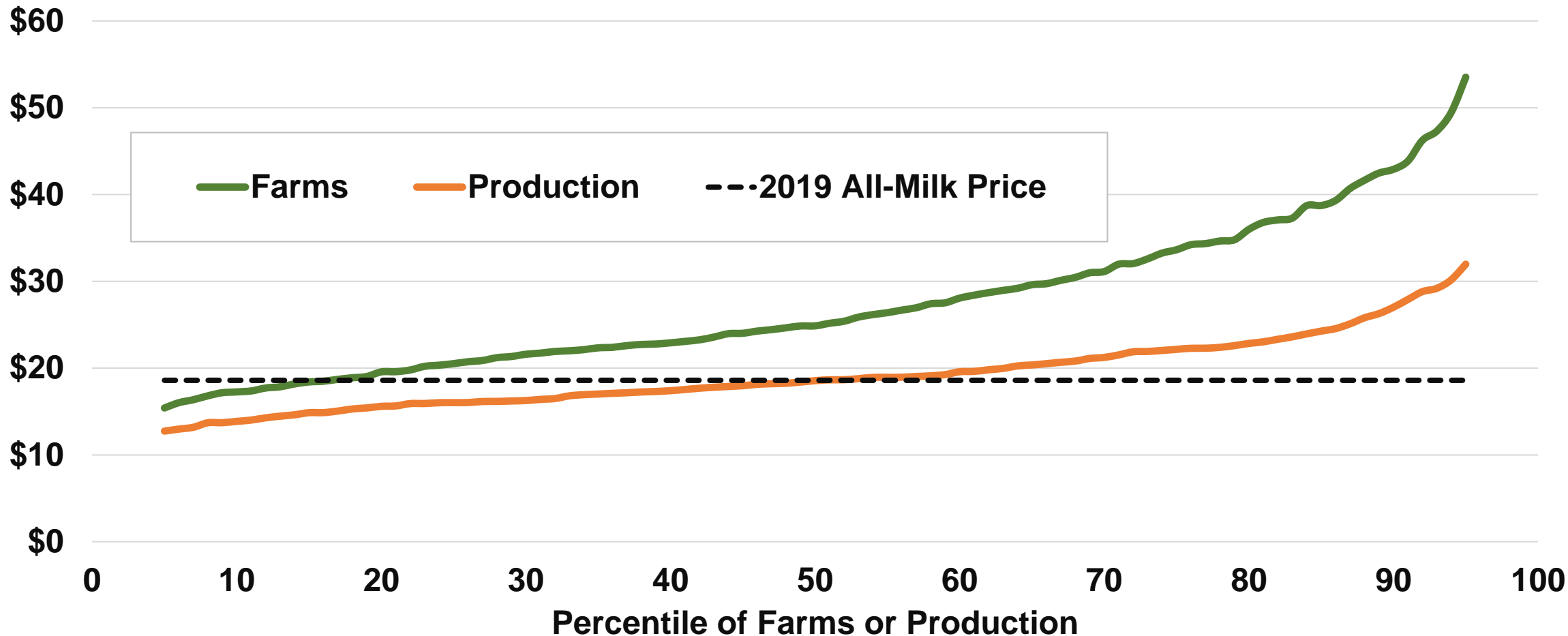
U.S. Dairy Herd by Size of Operation



Year	Milk Cow Inventory (millions)	Operations with Inventory (thousands)
1997	9.1	125.0
2002	9.1	92.0
2007	9.3	69.9
2012	9.3	64.1
2017	9.5	54.6

Distribution of Milk Production Cost by Farm and Production

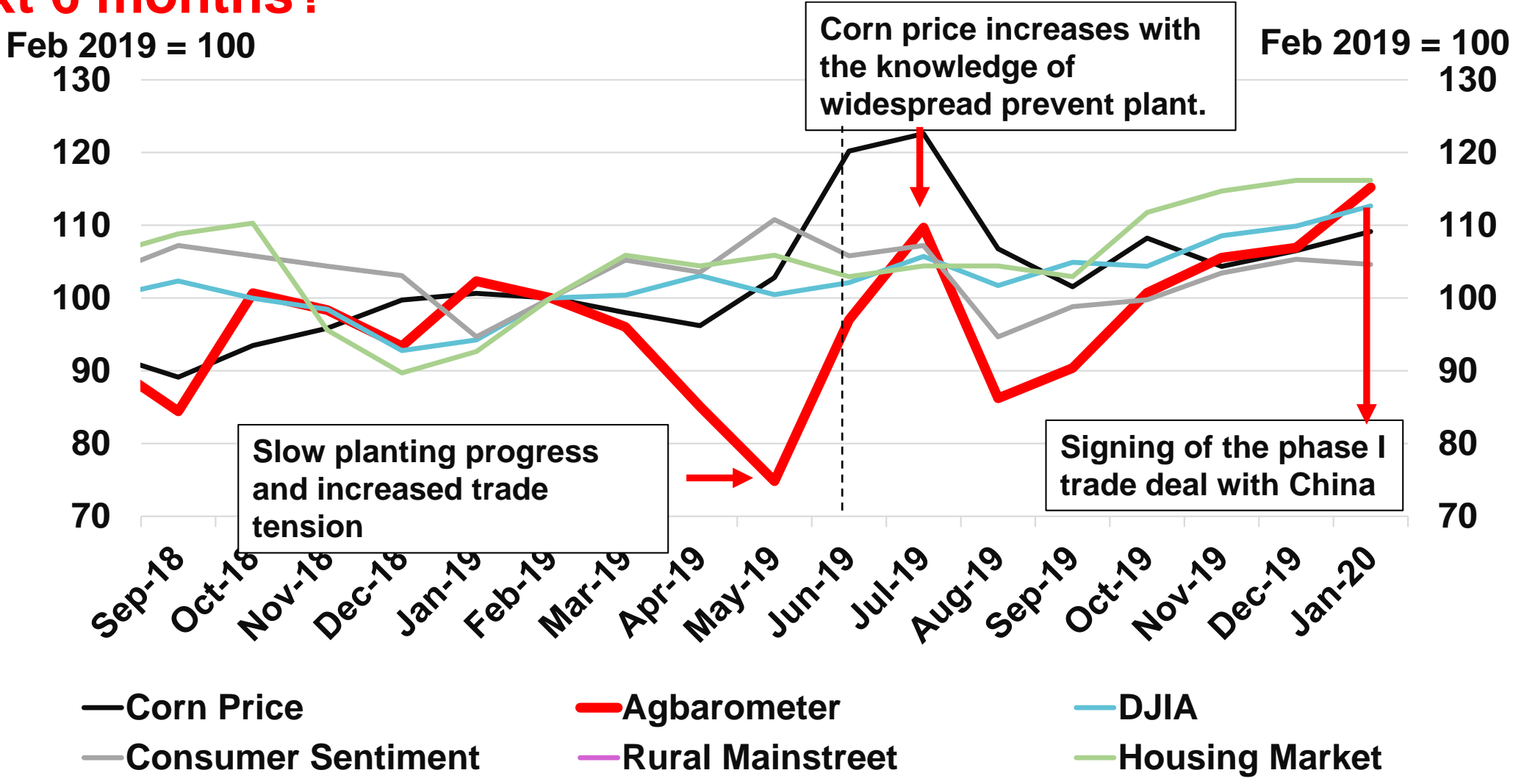
\$/hundredweight





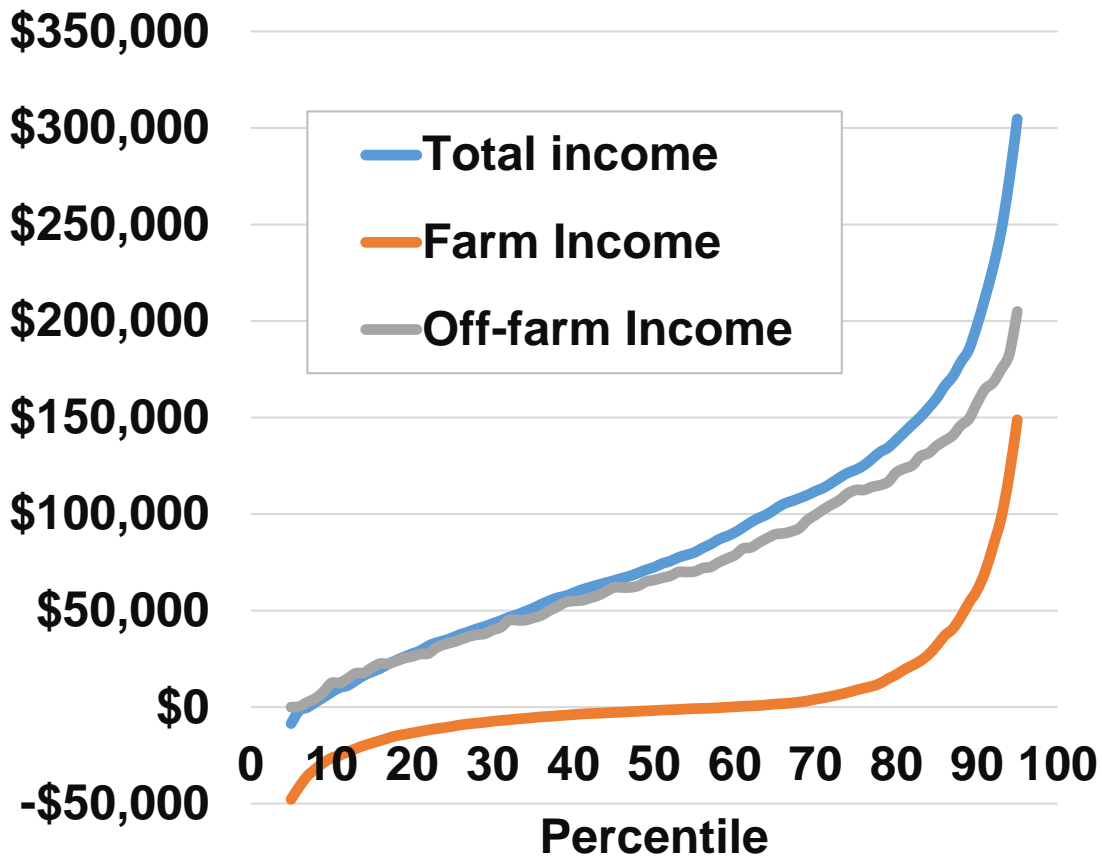
Farm Economy and Policies

How optimistic are you about economic prospects over the next 6 months?



Data: Refinitiv, USDA, University of Michigan, NAHB, Creighton, NAHB, Purdue/CME

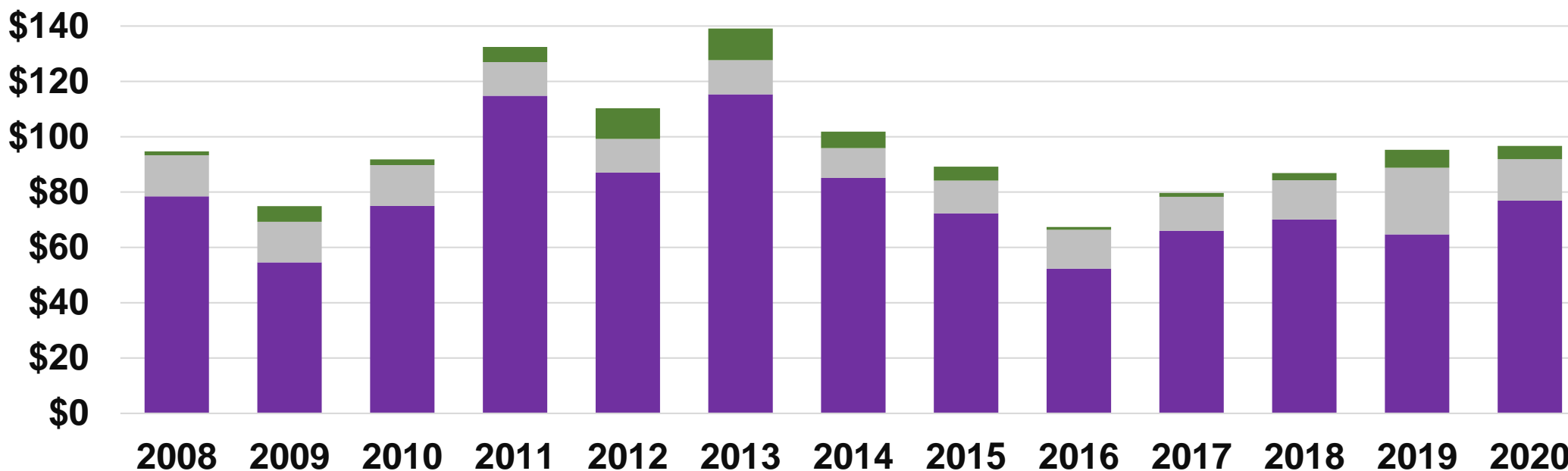
Distribution of farm household income shows half of all farms earn negative farm income



Percentile	Farm Income	Off-farm Income	Total Income
5	-\$47,714	\$0	-\$8,526
25	-\$9,950	\$33,577	\$35,978
50	-\$1,735	\$65,841	\$72,481
75	\$8,783	\$112,500	\$122,991
95	\$148,850	\$205,000	\$304,715

Net returns are expected up, with lower expected government payments and crop insurance indemnities

Billion dollars
(2020\$)

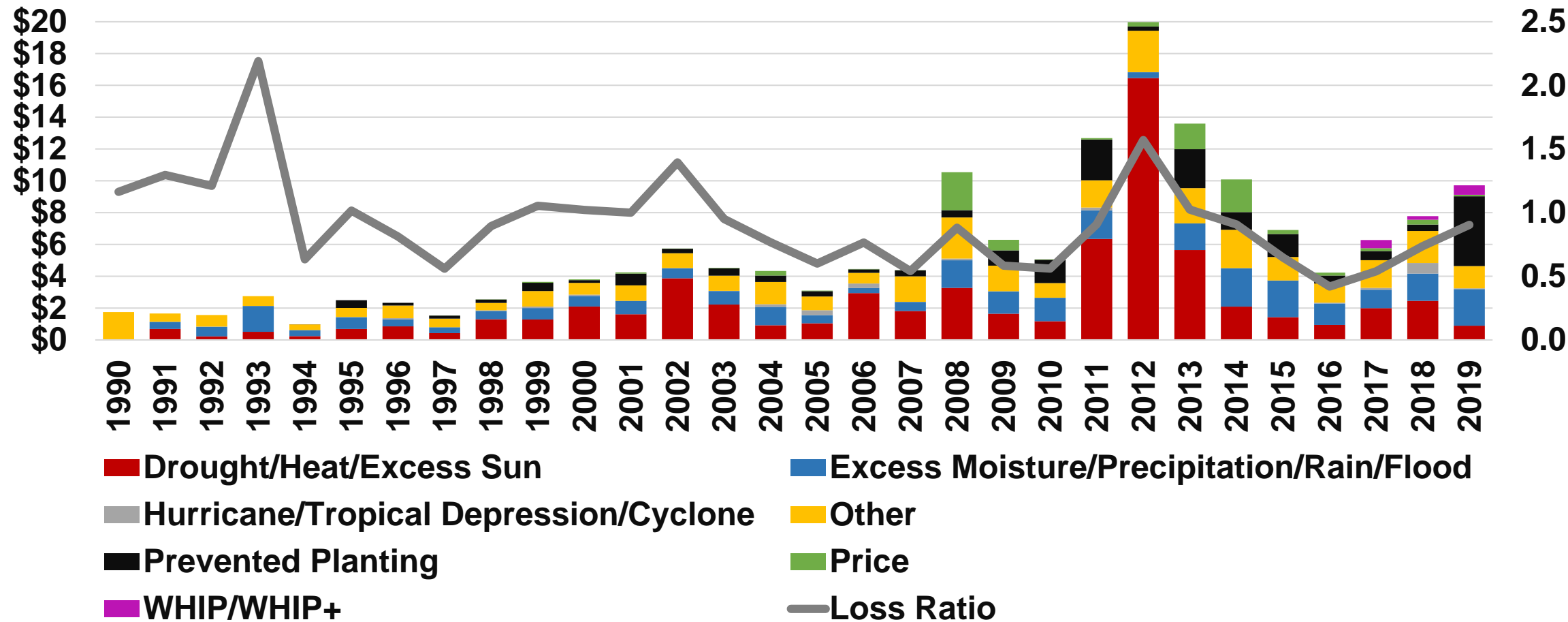


- Federal crop insurance indemnities minus premium
- Direct government payments
- Net farm income minus government payments and net federal indemnities

Prevent plant boosted insurance indemnities in 2019 by > \$4 billion

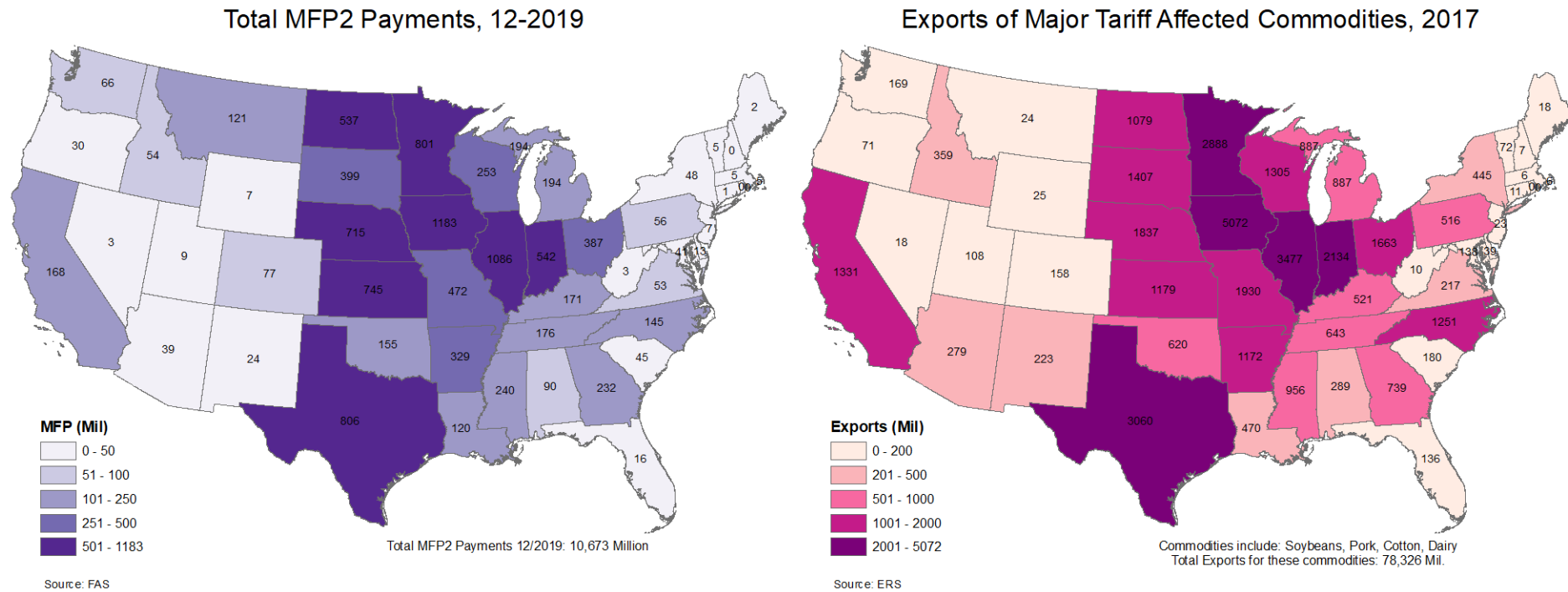
Billion dollars
(2020\$)

Loss Ratio



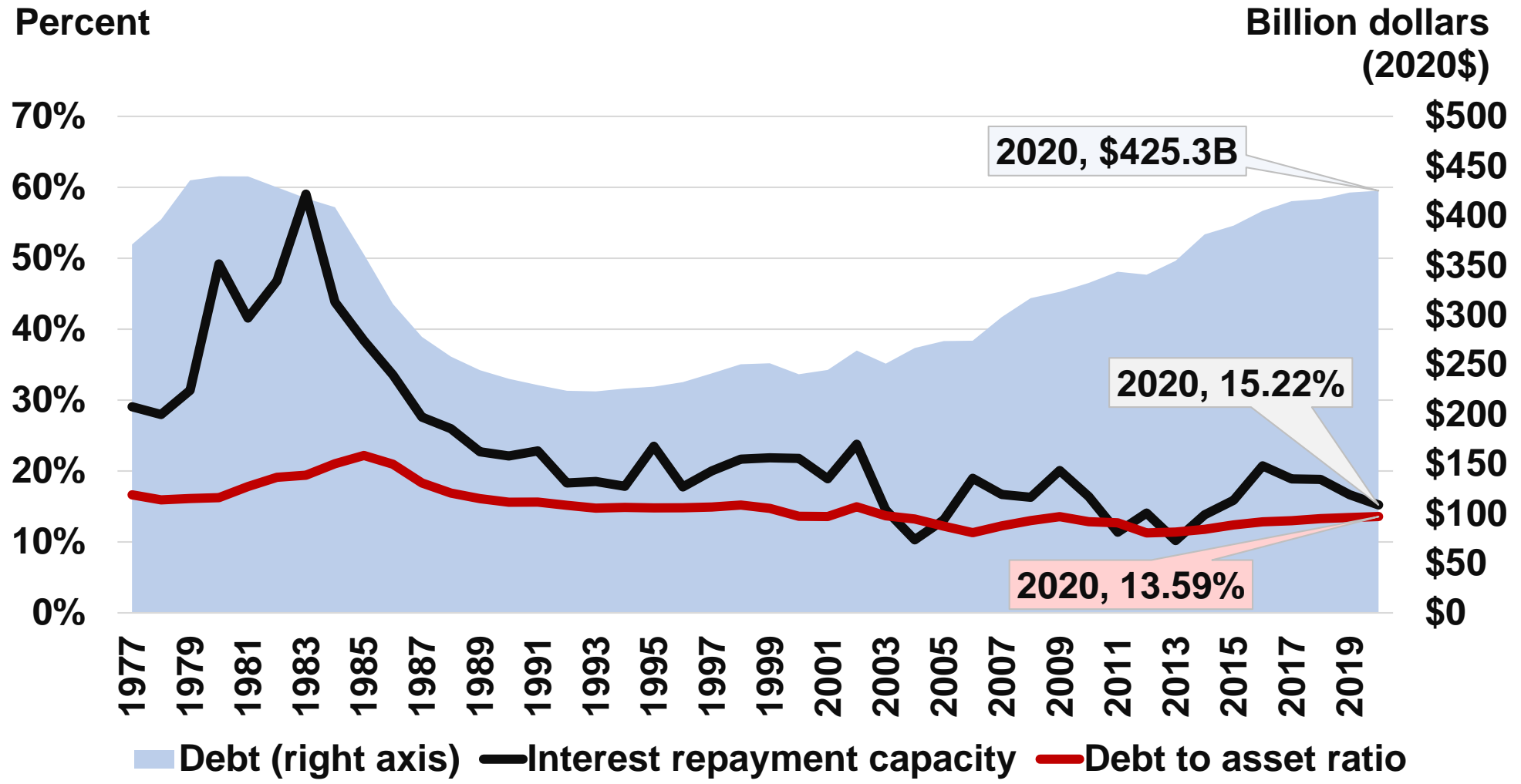
* 2019 data collection is still ongoing.

MFP payments overlap areas where estimated damages are the highest

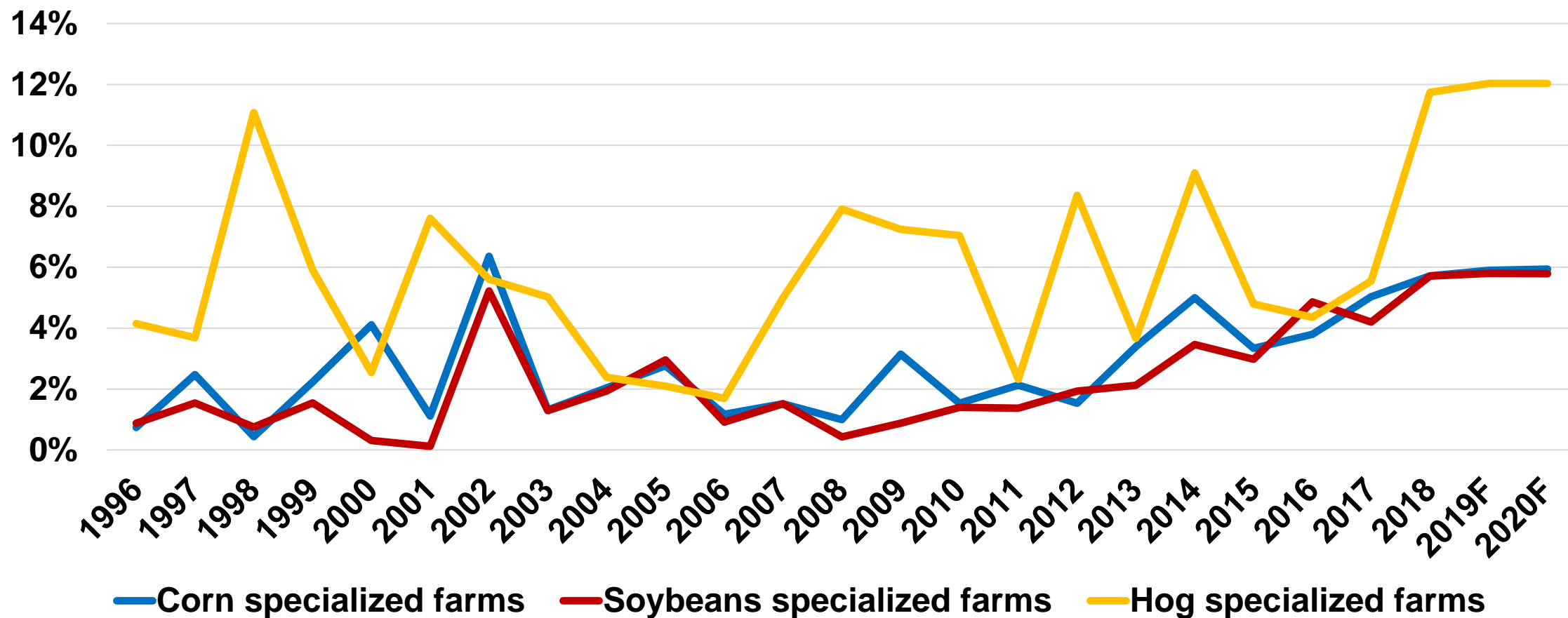


Debt-to-assets ratio remain low --- 13.59%, and debt financing cost falling despite total debt at historic levels

“Interest repayment capacity” = Interest Expenses divided by (NFI before interest and taxes)

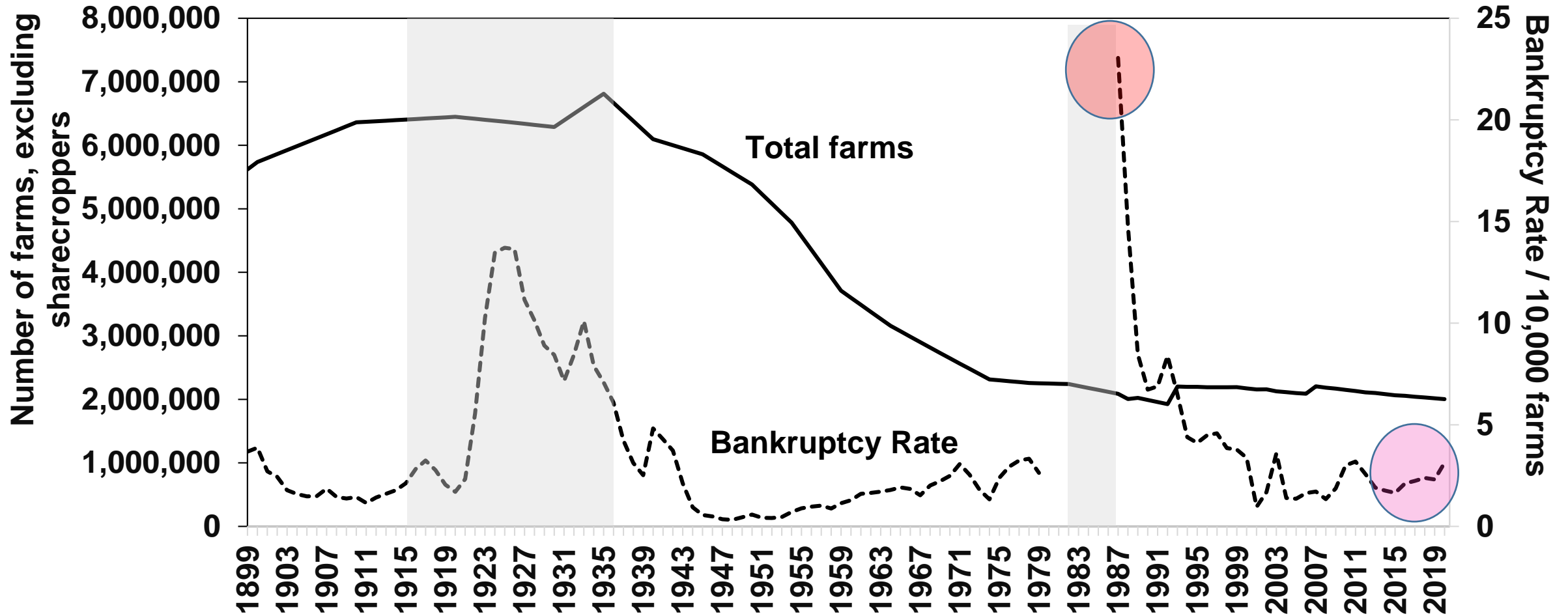


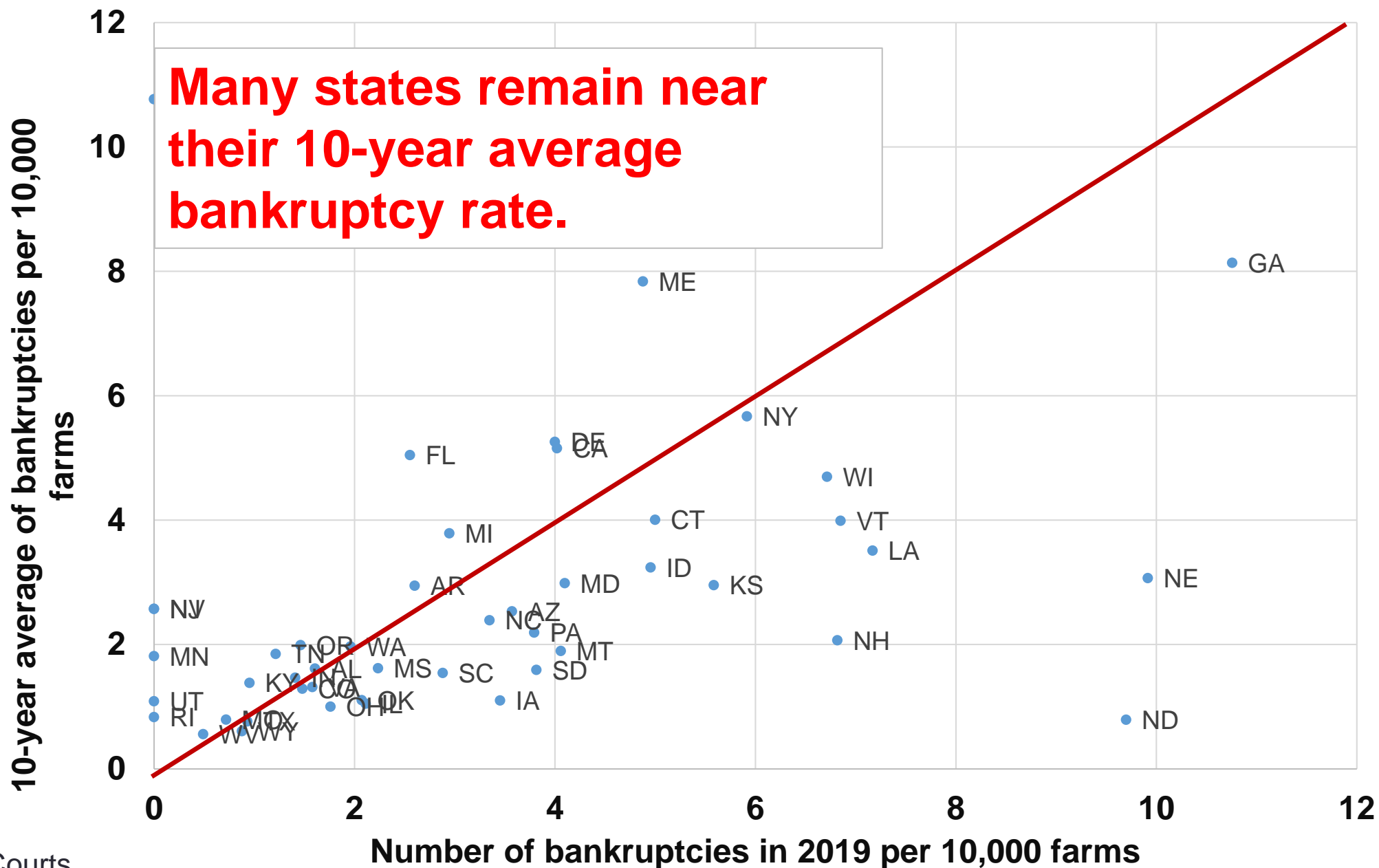
The percentage of corn, soybean, and hog farm businesses that are very highly leveraged has been trending upward



Data: USDA-ERS. Note: very highly leveraged farms have debt to asset ratios of >70%.

Farm bankruptcy rates remain historically low





Negative returns for some heading into 2020

--- not including government payments

	AR, conventional, furrow irrigation	Central IL, high prod, after soy	Central IL, high prod, after corn	South Central KS, continuous
2020F	Cotton	Corn	Soybeans	Wheat
Market returns:				
Total costs (dollars/acre)	\$952	\$864	\$617	\$271
Value of production (dollars/acre) (includes cottonseed value for cotton)	\$923	\$835	\$540	\$211
Market returns per acre using total costs	(\$28)	(\$29)	(\$77)	(\$60)

Data: Illinois, Arkansas, Kansas extension farm management budgets; MFP for 2019 tranche 3 only.

Concluding Remarks

- 1. Current conditions point towards an improved outlook for 2020**
 - Trade deals will improve our access and trading opportunities
 - A return to more normal trade will lower friction
- 2. Economic fundamentals are stable**
 - Interest rates remain low and keep borrowing costs down
 - Equity remains high relative to debt
 - Stable land values
- 3. Weather conditions will likely be better**
 - Corn and soybean area likely to be up from 2019

Concluding Remarks (con't.)

4. Livestock sector poised for continued growth

- **Modest growth in beef production, stronger growth in pork and poultry**
- **Growing opportunities for meat exports reflecting the Phase One deal, U.S.-Japan agreement, and global income growth**

5. International competition in crop and livestock production is intense

- **Corn and soybean expansion continues in Brazil**

6. U.S. productivity remains remarkably strong

- **Continued investment in technology and innovation key to maintaining markets and profitably, and feeding a growing global population**

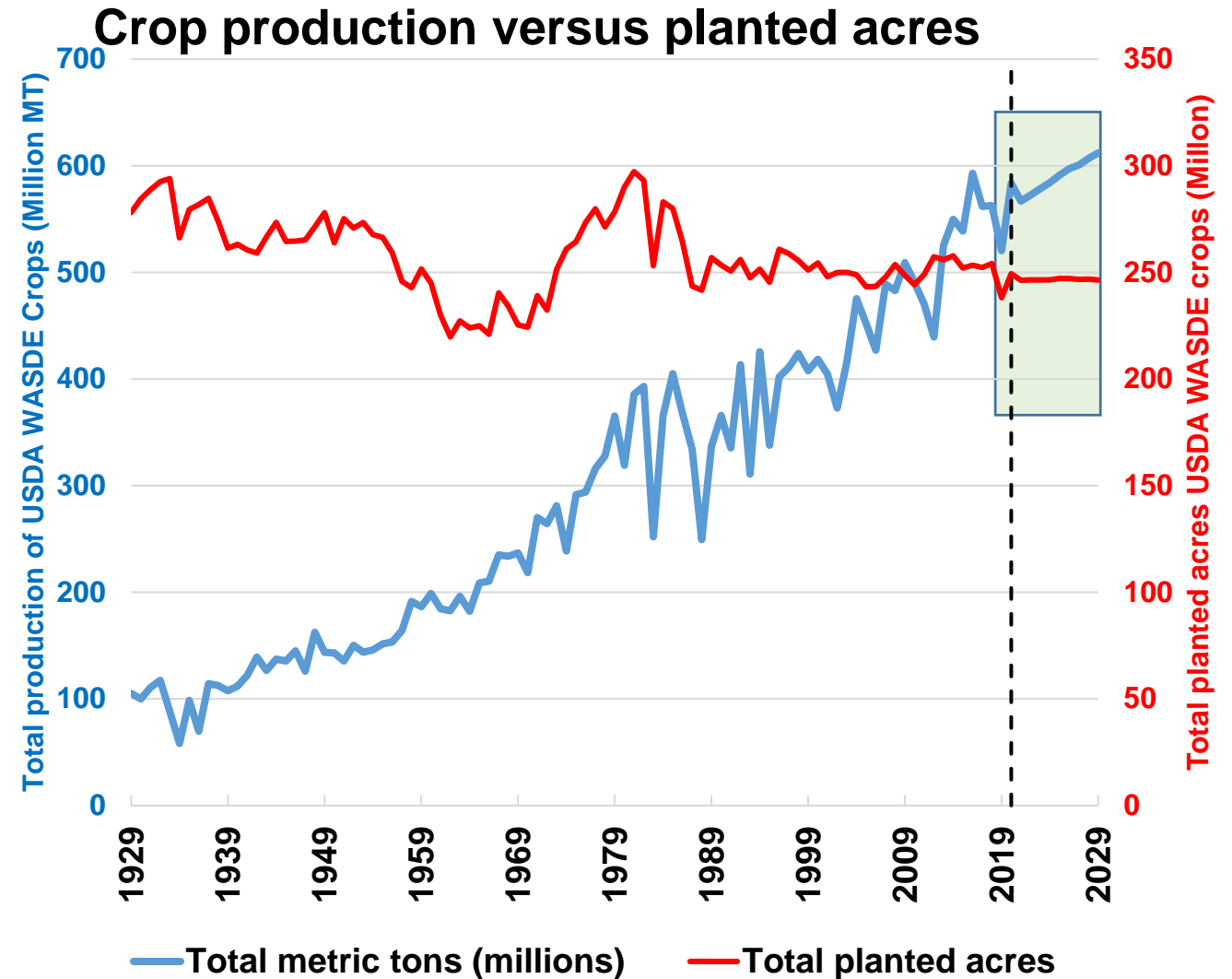
Expectations for 2029/30?

Productivity of staple commodities continues to grow, fueled by technology

In 1929, approximately 6.3 million farms produced 105 million metric tons of crop and fiber, feeding and clothing 121 million Americans.

In 2017, 2.0 million farms produced 561 million metric tons of crops --- an increase of more than 400% on 9% fewer acres, feeding and clothing 330 million Americans and exporting food and fiber to help feed and clothe billions globally.

And over the next 10 years, we would expect an additional 90 million tons of production.



Data: USDA-NASS; USDA Baseline.

Note: USDA WASDE crops included in the chart are wheat, corn, sorghum, barley, oats, rice, soybeans, and cotton.

The number of undernourished people in the world still number more than 800 million, and is heading in the wrong direction

	Number of undernourished (millions)					
	2005	2010	2015	2016	2017	2018 ^a
WORLD	947.2	822.3	785.4	796.5	811.7	821.6
AFRICA	196.0	199.8	217.9	234.6	248.6	256.1
Northern Africa	9.7	8.5	15.5	16.1	16.5	17.0
Sub-Saharan Africa	176.7	180.6	202.4	218.5	232.1	239.1
Eastern Africa	113.5	118.6	119.3	126.9	129.8	133.1
Middle Africa	36.2	36.5	37.9	41.1	43.2	44.6
Southern Africa	3.6	4.2	5.0	5.5	5.4	5.3
Western Africa	33.0	31.9	40.3	45.0	53.7	56.1
ASIA	688.6	572.1	518.7	512.3	512.4	513.9
Central Asia	6.5	4.6	3.8	3.8	4.0	4.1
Eastern Asia	219.1	178.4	138.1	137.8	138.1	137.0
South-eastern Asia	103.8	75.9	61.9	61.9	61.1	60.6
Southern Asia	339.8	293.1	286.1	278.3	276.4	278.5
Western Asia	19.4	20.1	28.8	30.5	32.7	33.7
Western Asia and Northern Africa	29.1	28.6	44.3	46.6	49.2	50.6
LATIN AMERICA AND THE CARIBBEAN	51.1	40.7	39.1	40.4	41.7	42.5
Caribbean	9.1	8.0	7.7	7.6	7.7	7.8
Latin America	42.1	32.6	31.5	32.9	34.0	34.7
Central America	12.4	11.6	10.9	10.6	10.7	11.0
South America	29.6	21.1	20.6	22.2	23.2	23.7
OCEANIA	1.8	1.9	2.3	2.4	2.5	2.6
NORTHERN AMERICA AND EUROPE	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.