OUTLOOK FOR 2017

Robert Johansson

Chief Economist

US Department of Agriculture

February 2017

Sentiment diverges compared to 2016
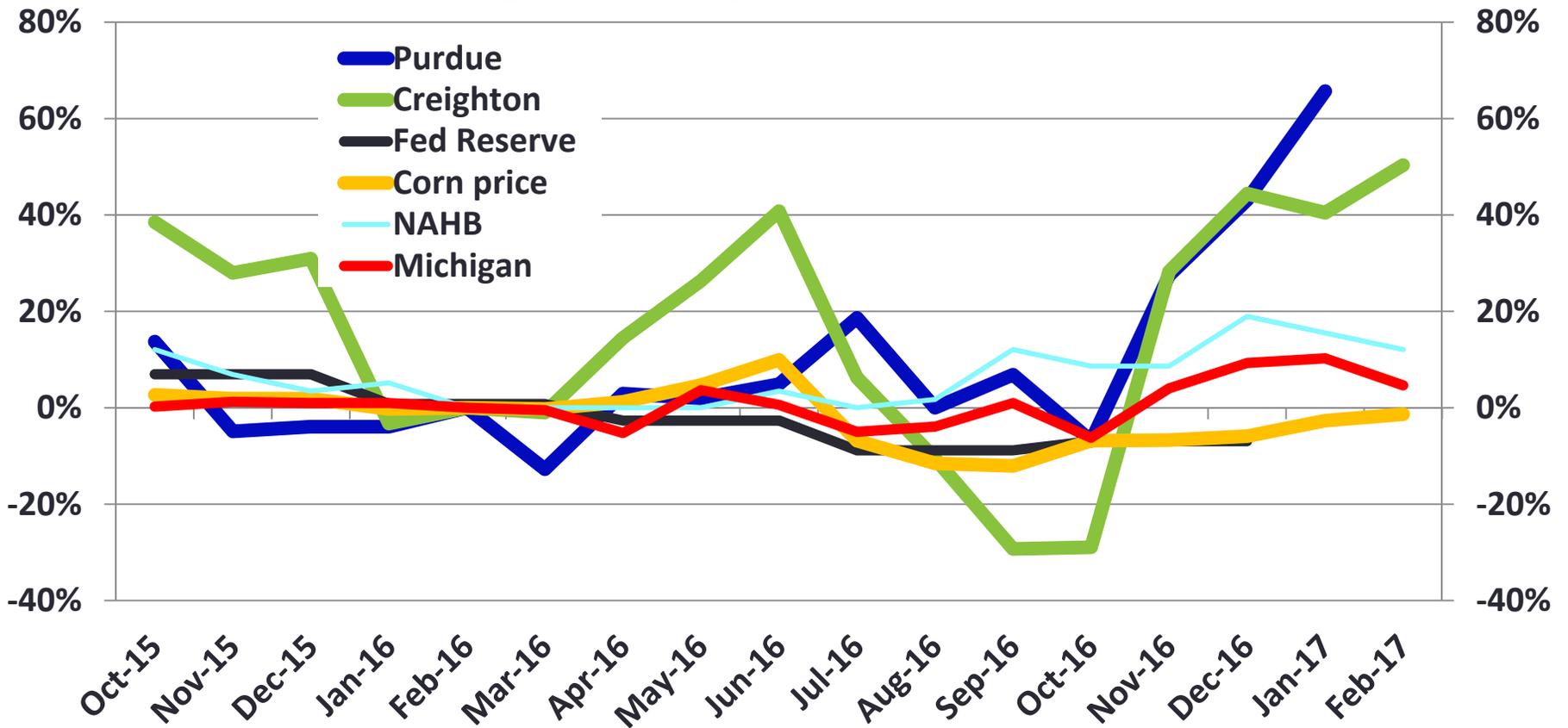
Data: USDA, UofMich, Purdue, Fed Reserve, NAHB, Creighton.

2017 ISSUES

1. **Current situation**
   - Flat farm income, but debt-to-asset remains low
   - Increasingly tight credit situation
   - Land price adjustments
   - Farm programs working with mixed results

2. **Outlook**
   - Prices flat
   - Production up
   - Trade up
   - Food prices down

Real farm income down almost 30% since 2013

4-yr % change in real farm income
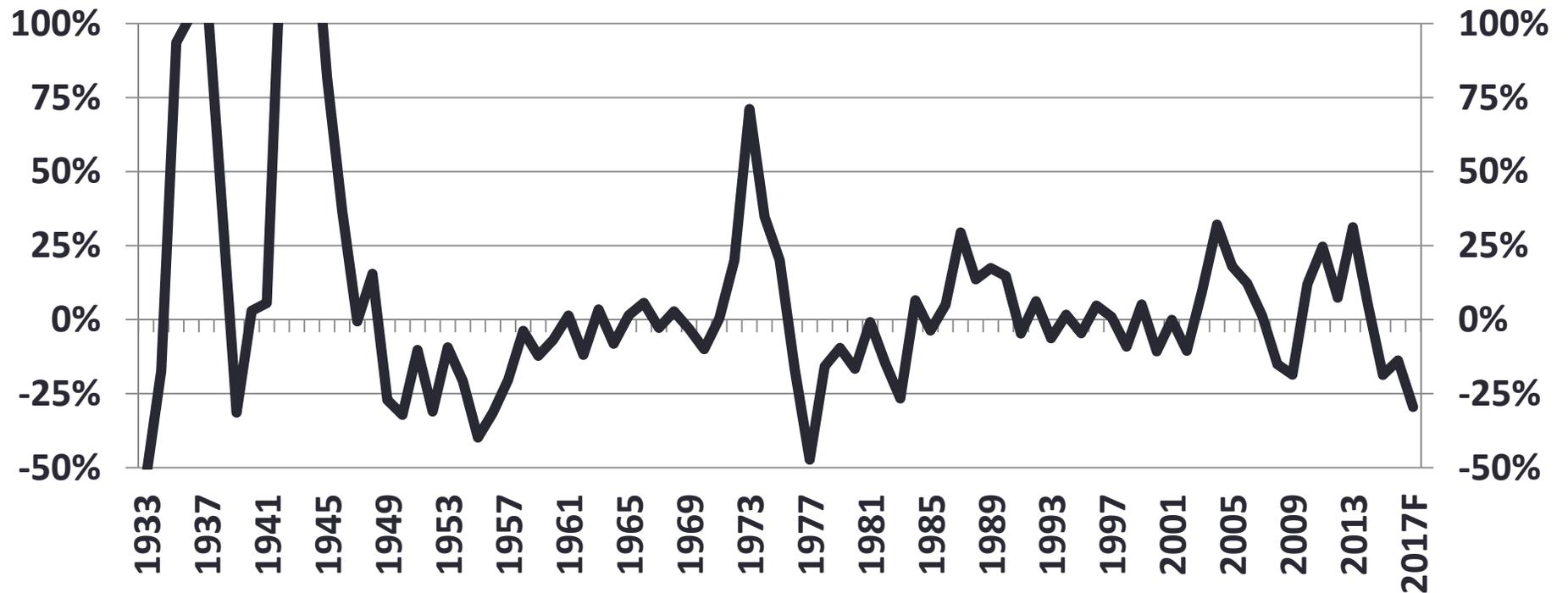

Data: USDA-ERS.

Net farm income expected to remain flat
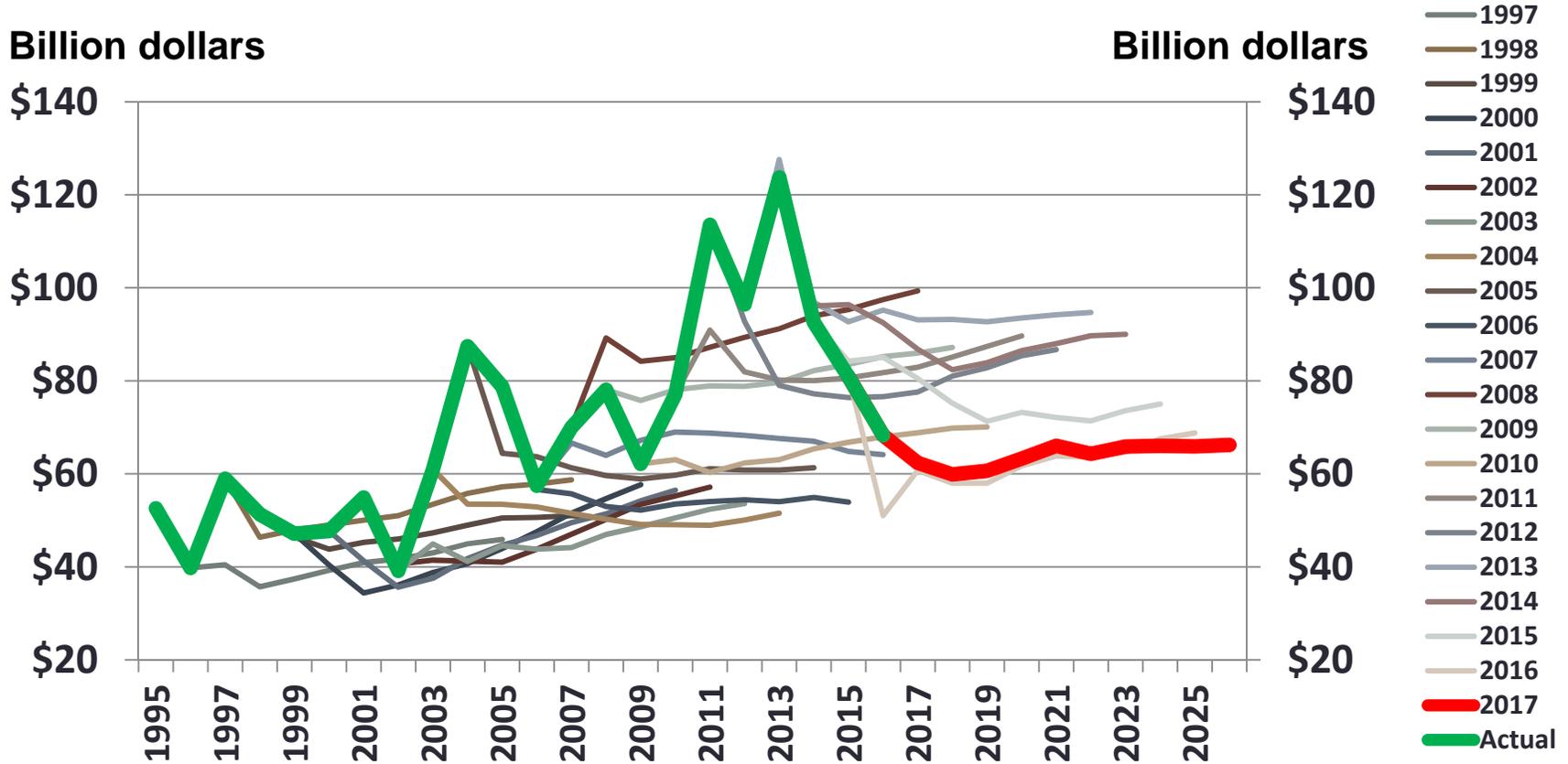
Data: USDA.

# Debt-to-asset ratio remains low vs. 22% in 1985
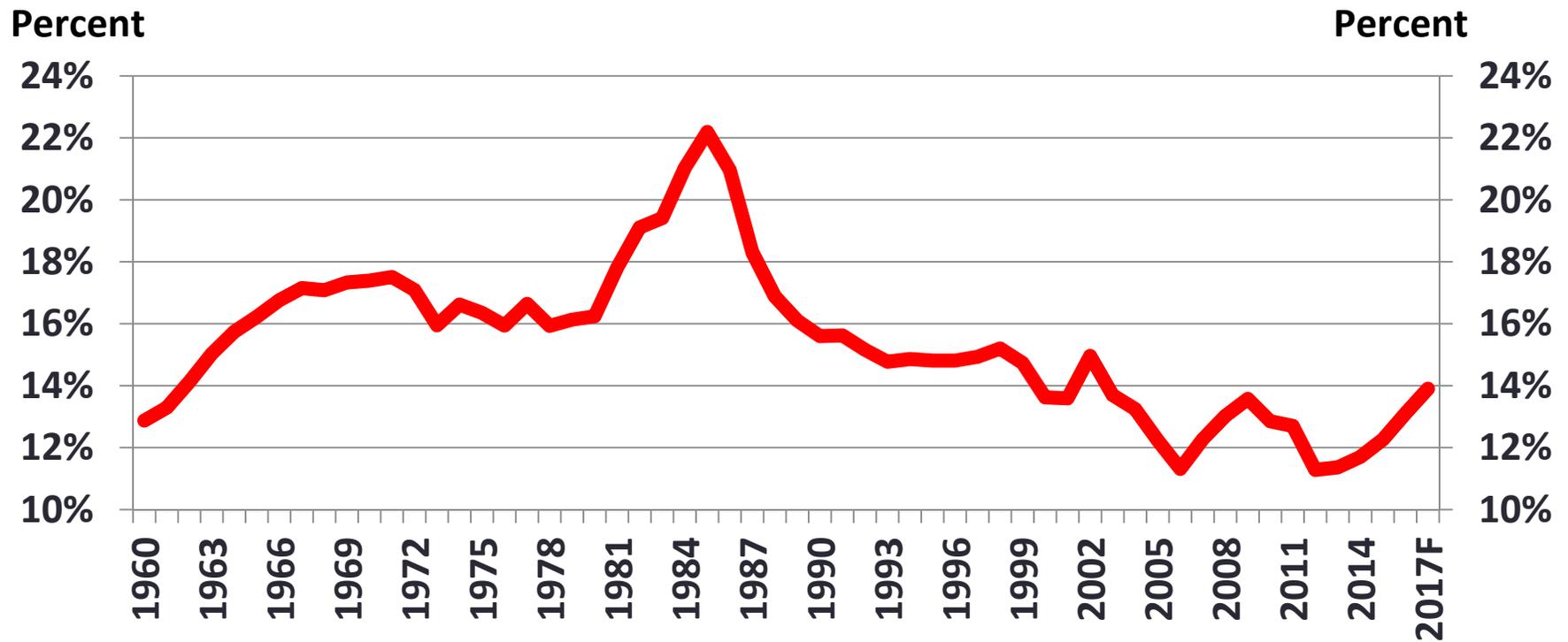
Data: USDA-ERS.

About 1 in 5 wheat, cotton, hog, poultry businesses more vulnerable to low prices

Debt-to-Asset

Very highly leveraged (dta > 0.71)

Highly leveraged (0.41< dta > 0.70)
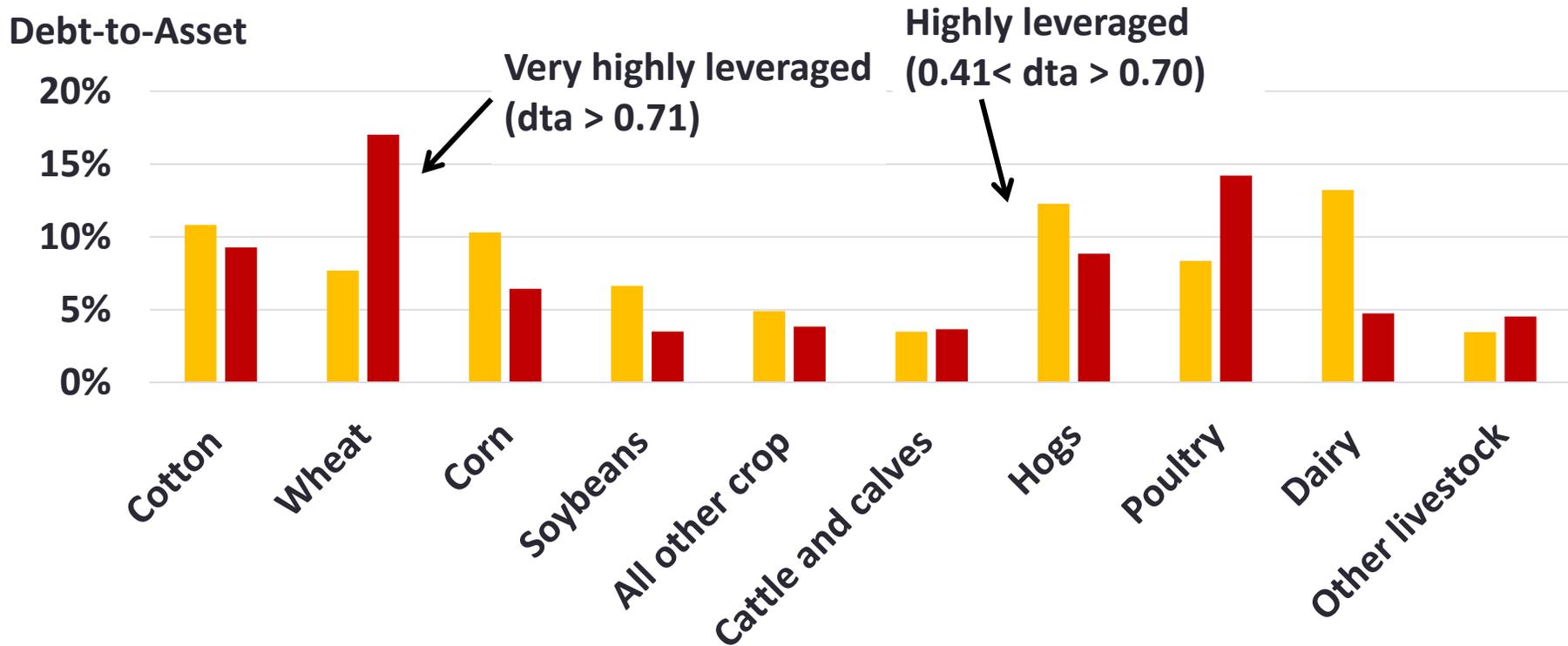
Data: USDA-ERS.

More than one-third of young farmers are highly or very highly leveraged

Debt-to-Asset

Highly leveraged (0.41< dta > 0.70)

Very highly leveraged (dta > 0.71)
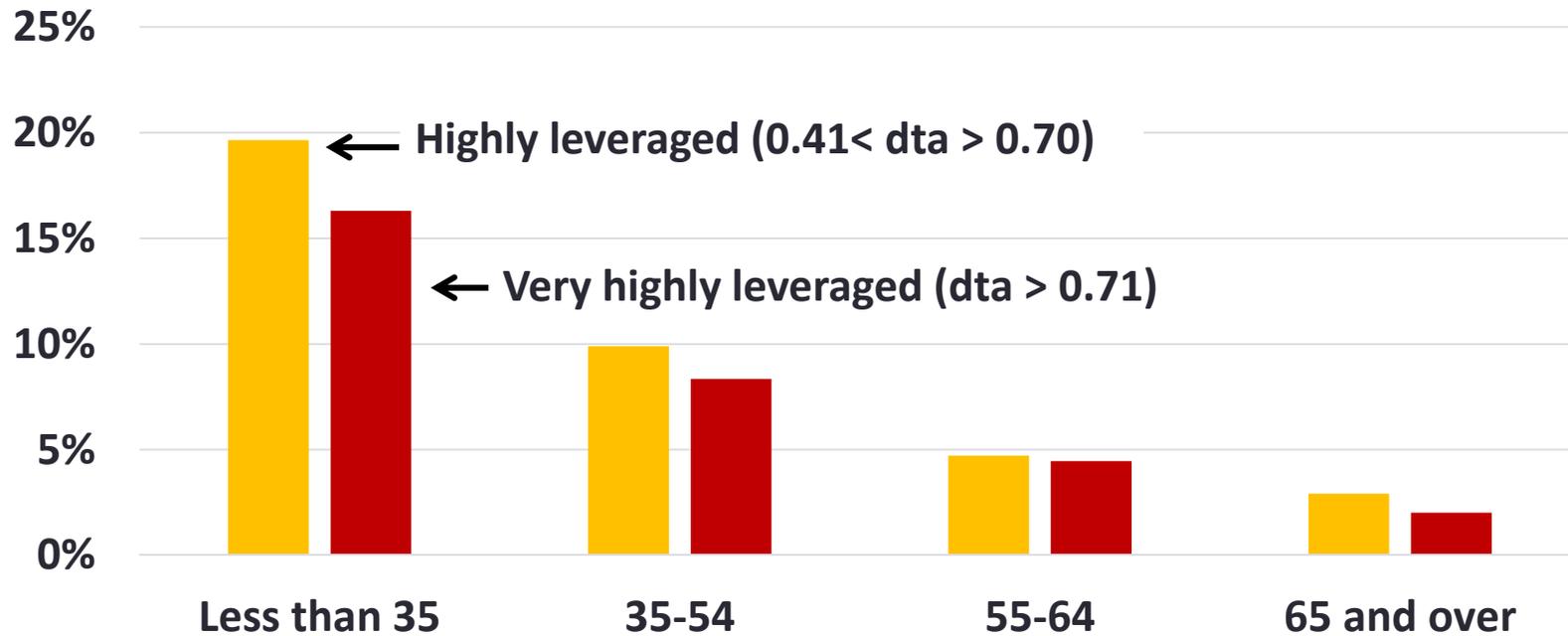
Data: USDA-ERS.

Debt approaching early 80's peak

Billion dollars ($2009)

Billion dollars ($2009)

Total debt

Real estate debt

Non-real estate debt
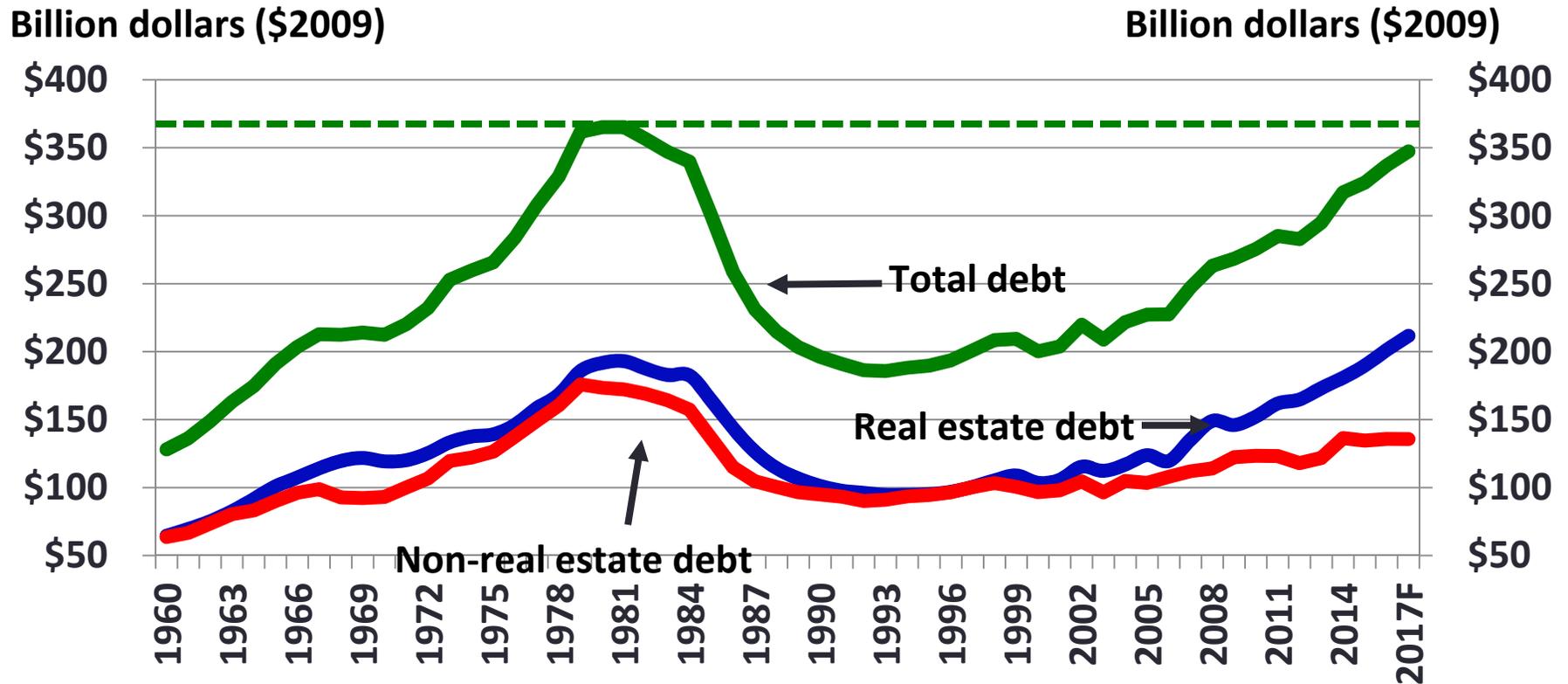
Data: USDA-ERS.

...but interest payments remain low

Int:(NFI+Int)

Int:(NFI+Int)
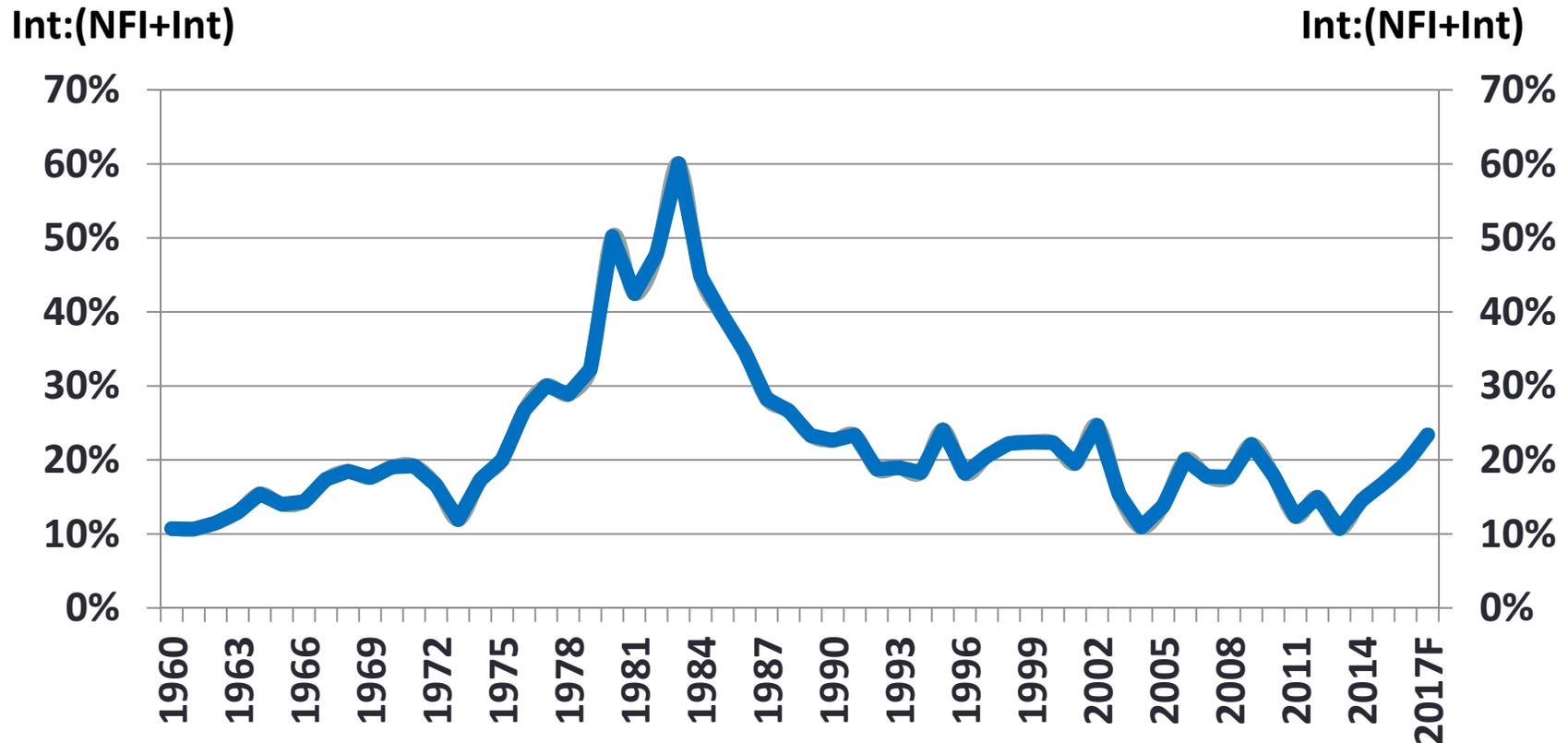
Data: USDA-ERS.

# Loan repayment problems have begun to rise
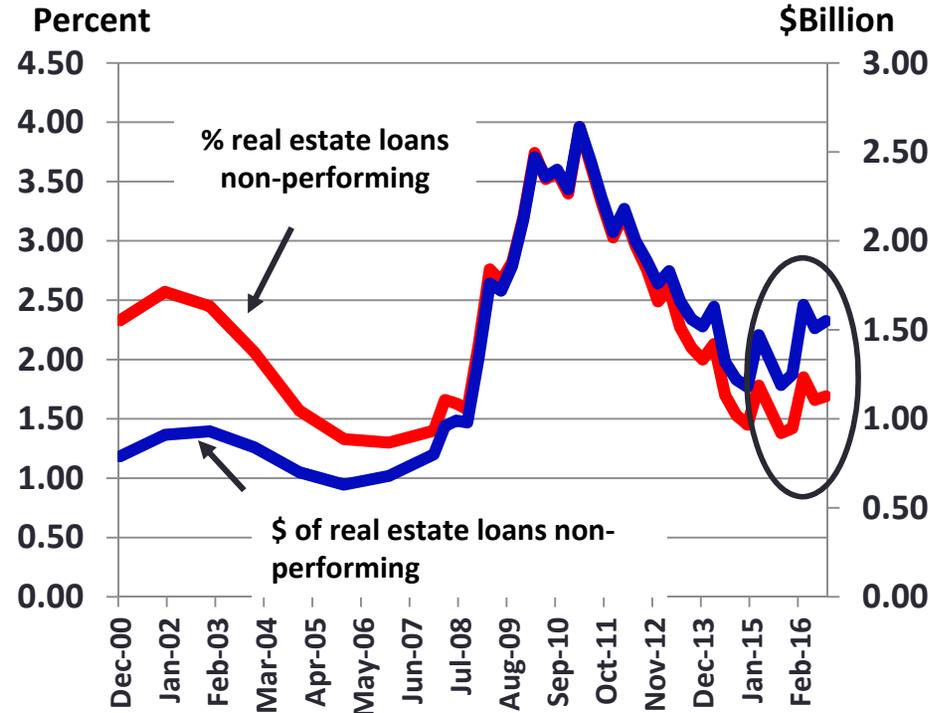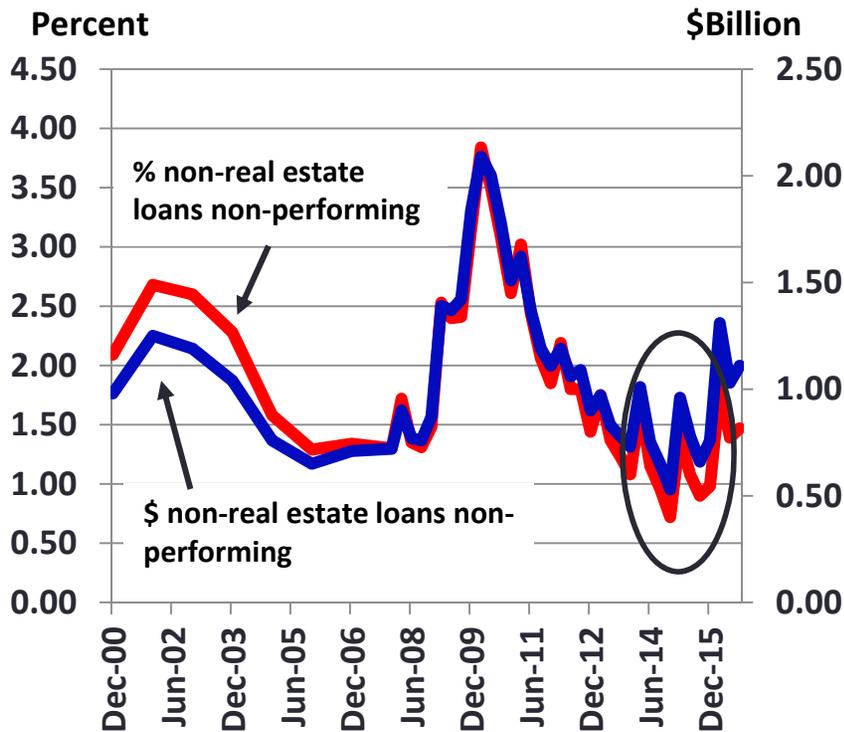
Data: Federal Reserve Board of Governors.

... but farm bankruptcy rates remain very low
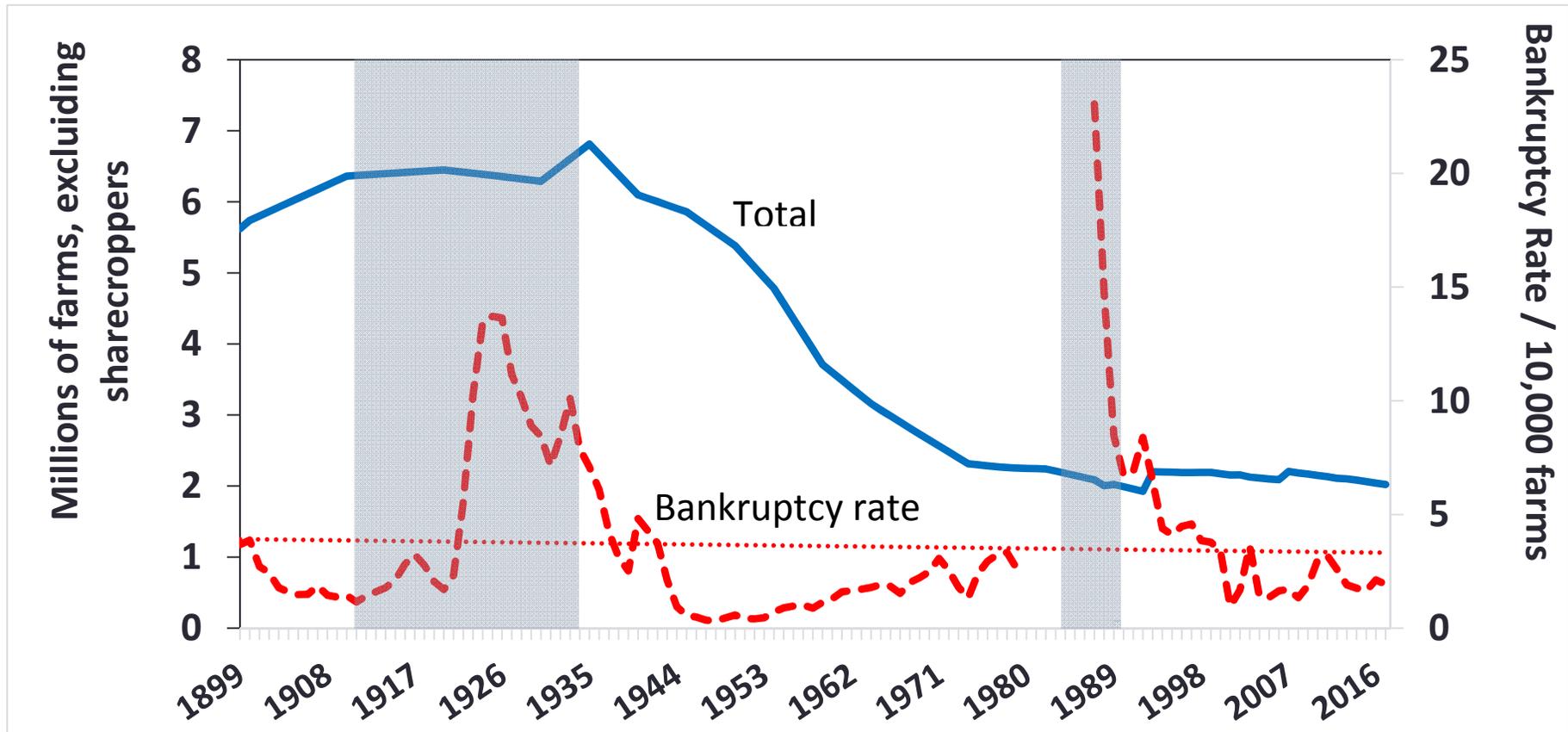
Source: USDA-ERS.

Falling rents ahead of land values

$/acre **Cash Rent**

$/acre **Land Value**
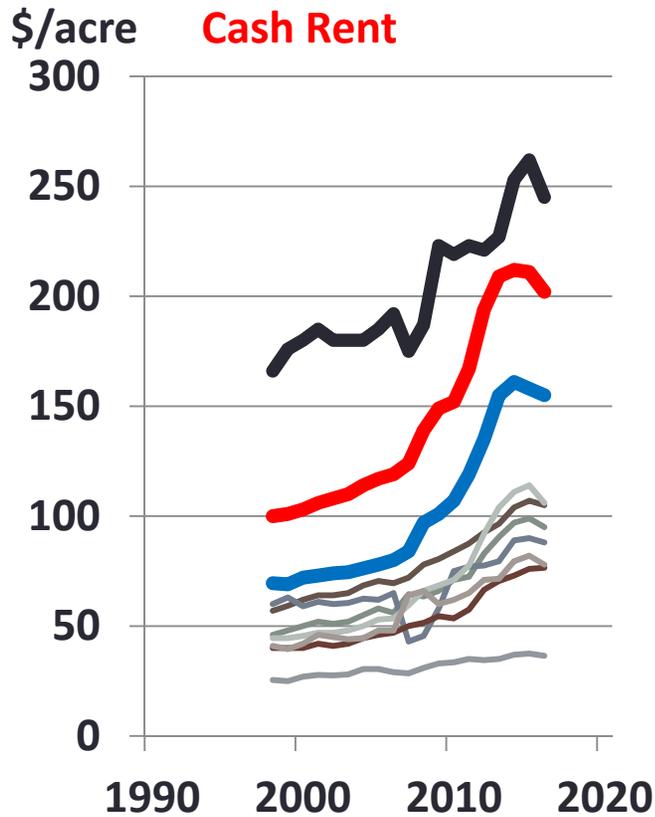
Legend:
- Appalachian
- Corn Belt
- Delta States
- Lake States
- Mountain
- Northeast
- Northern Plains
- Pacific
- Southeast
- Southern Plains
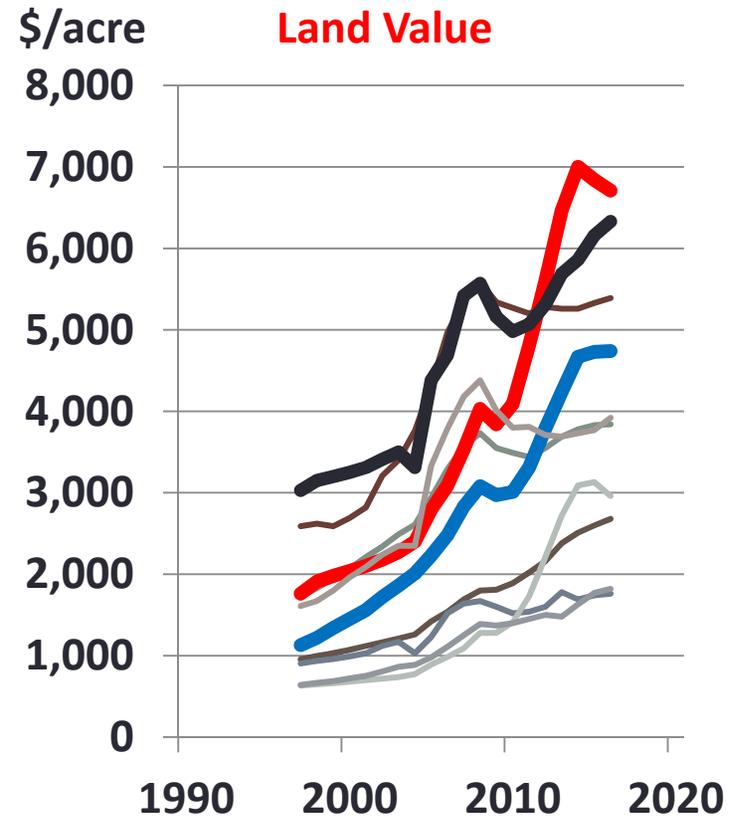
Data: USDA-NASS.

Capitalized cash rent value < land value in 1980

$/acre

Land Value (7th District)

Capitalized value (IL, IA)
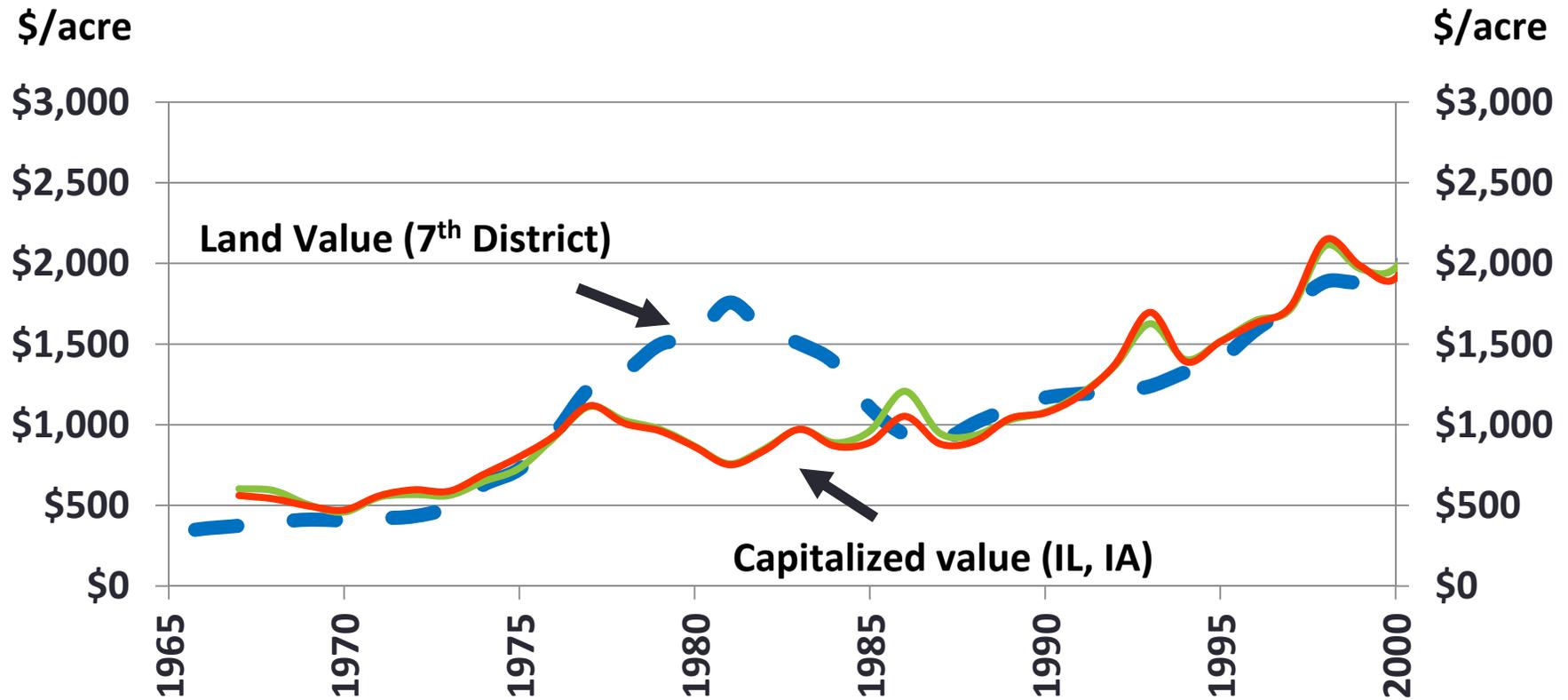
Data: USDA-NASS, Federal Reserve Board of Governors.

Today, capitalized values > observed land values

$/acre

Capitalized value (Iowa)

Land value (Iowa)

2017 Assume
Rent falls by 5%
Values fall by 5%
10-yr rate = 2.5%
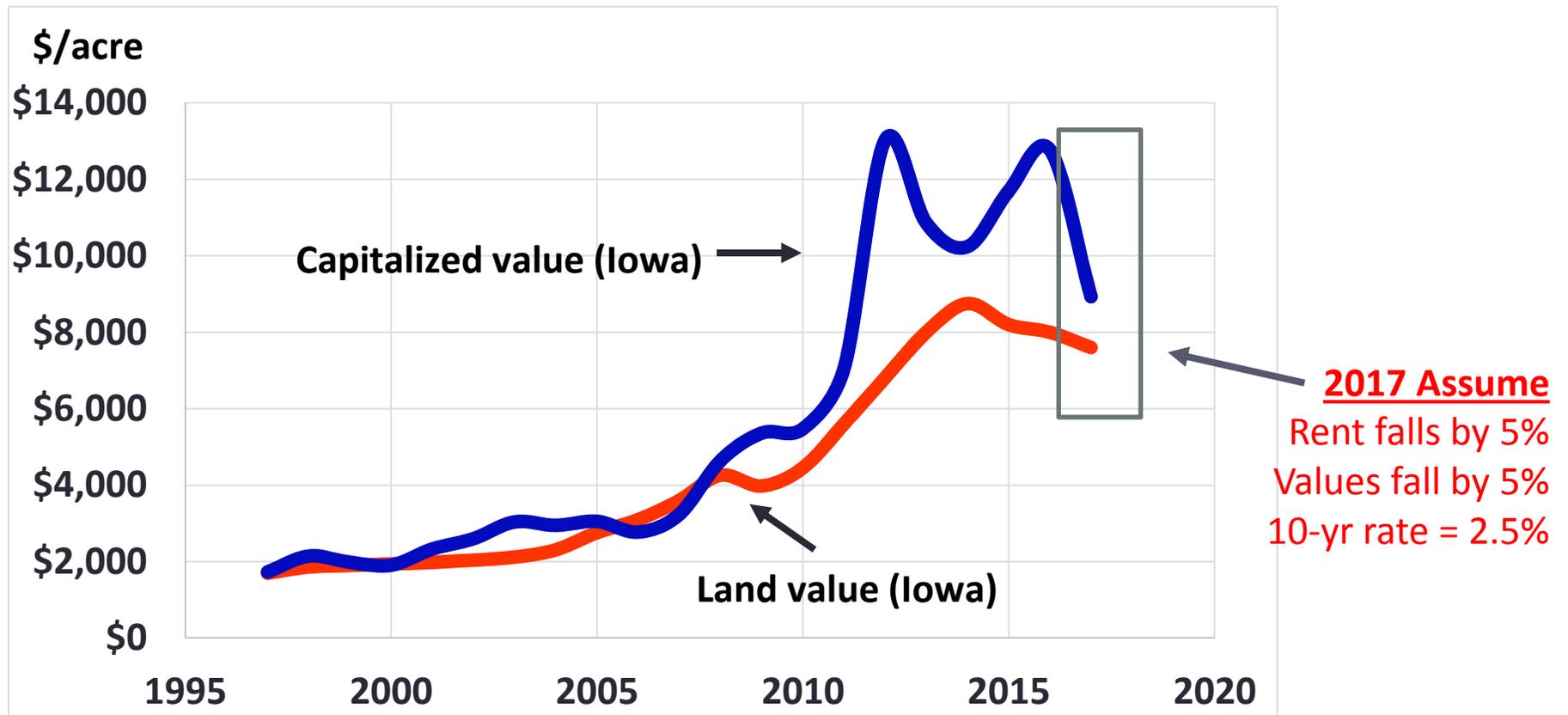
Data: USDA-NASS.

Farm Bill programs are working with mixed results

Revenue insurance now > 70% of liabilities

Million Acres Insured
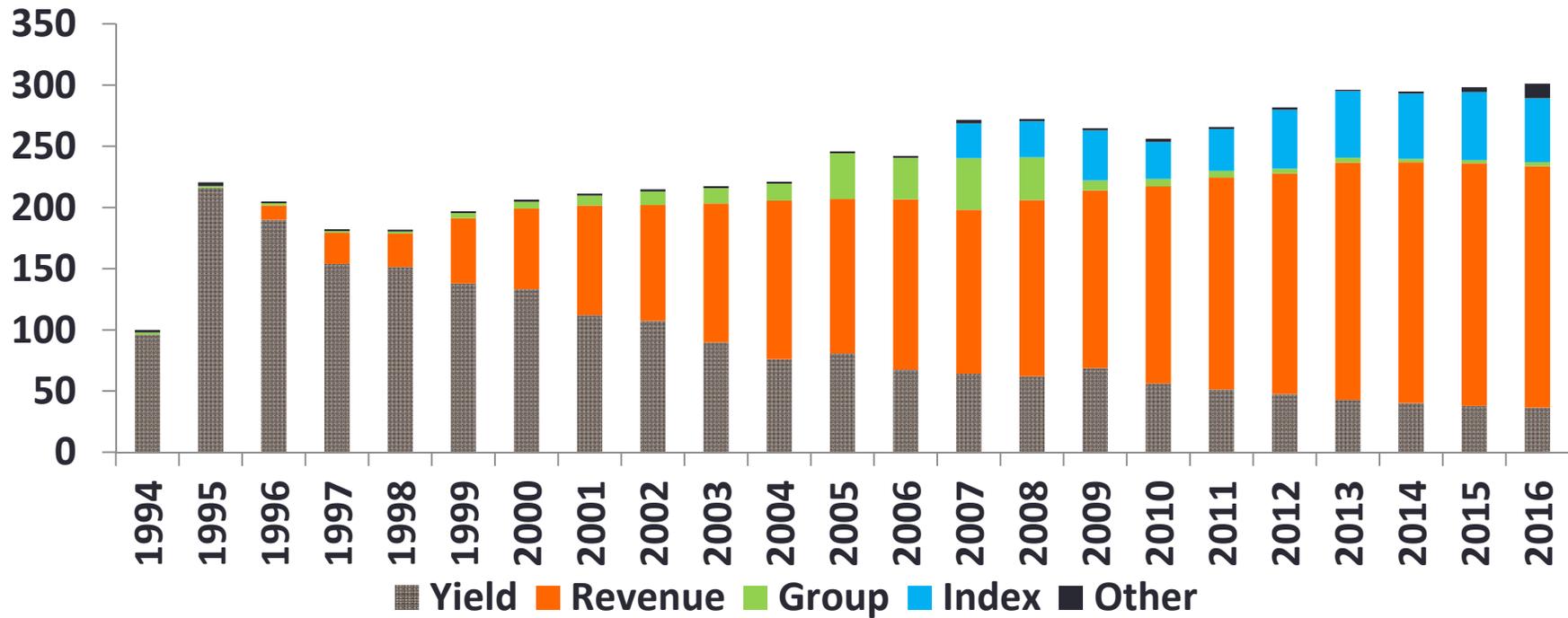
Source: USDA-ERS using RMA data.

2015 -Crop Corn Revenue without ARC-CO Safety Net
(Actual Revenue as Percent of ARC-CO Revenue Guarantee)

2015 -Crop Corn Revenue with ARC-CO Safety Net
(Actual Revenue as Percent of ARC-CO Revenue Guarantee)

USDA
Farm Service Agency
Production, Emergency, Compliance Division
Washington, DC
October 3, 2016

Less than 70%
70% - 80%
80% - 90%
90% - 100%
Revenue Below Historic Average

100%
100% - 125%
Over 125%
No Data
Revenue at or Above Historic Average

Map includes all and non-irrigated yields. Map is intended for Farm Service Agency (FSA) business purposes only. Map depicted serves only as a general reference map.

2015 example: Central Illinois farmer with corn base enrolled in ARC

	Rev guarantee	Yield bu/acre	Price $/bu	Actual rev $/acre	Payment $/acre
Piatt	$769	221	$3.61	$798	$0
McLean	$787	199	$3.61	$718	$69

Data: USDA-FSA.

Premiums for the dairy margin program > payments

$US/cwt

estim. $878 mill in payments

estim. $577 mill in payments

$11 mill in payments
($20 mill in premiums)
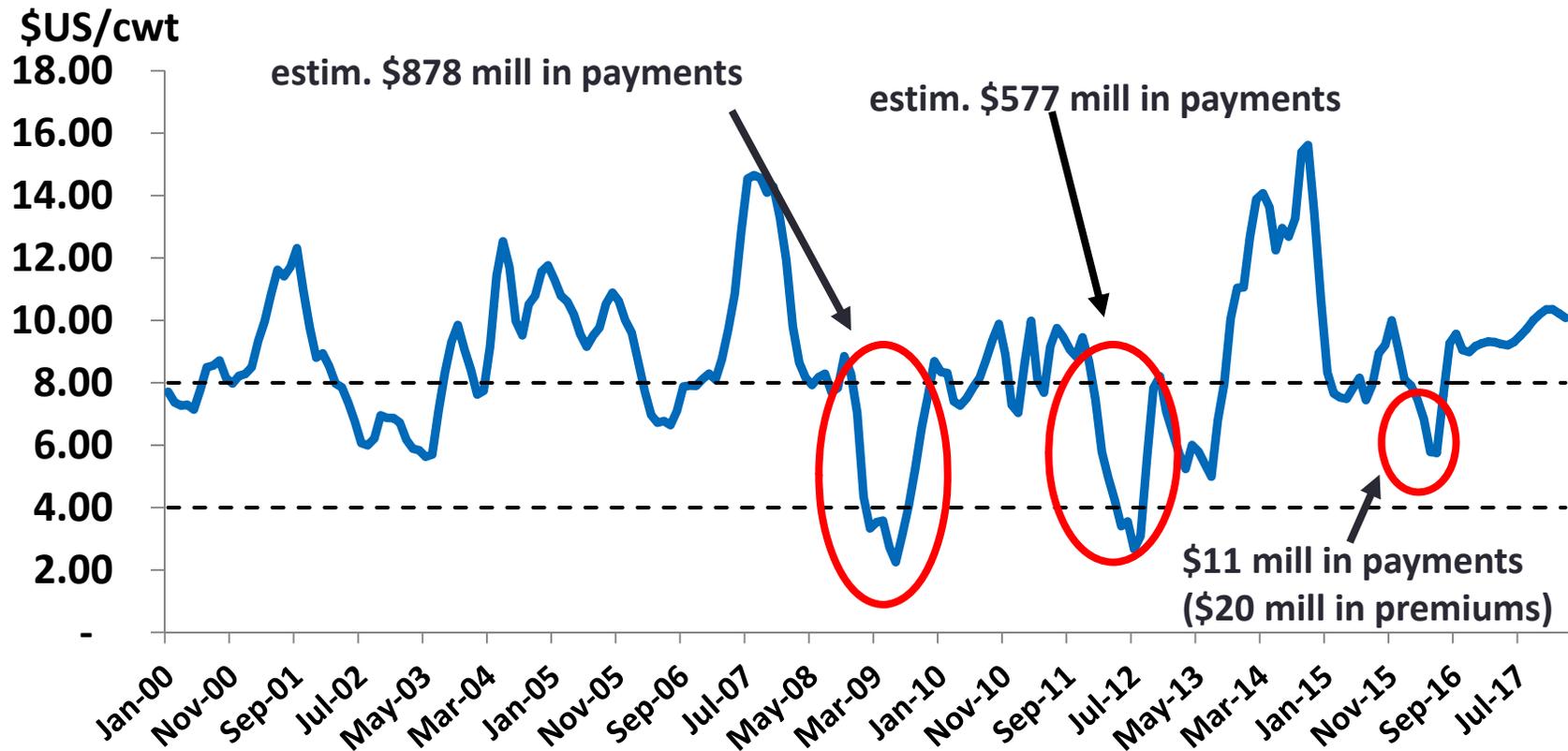
Data: USDA.

Outlook for Crops

Global 2016/17 production and consumption at record highs
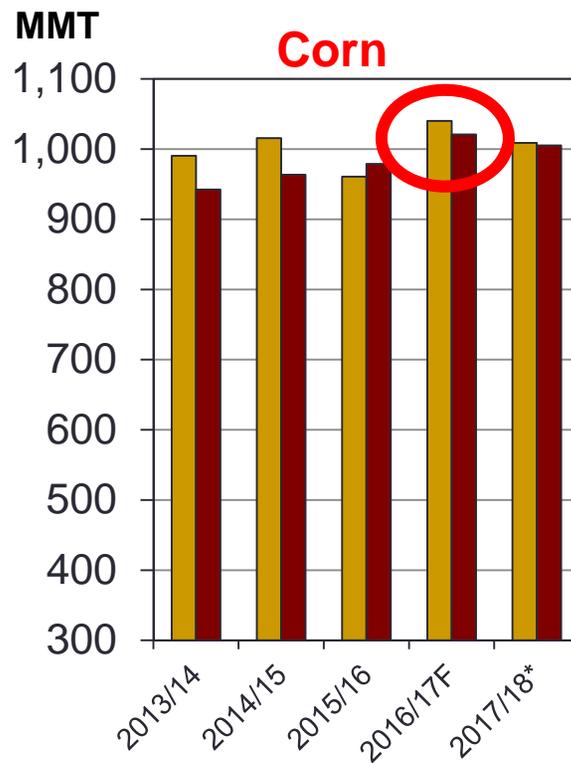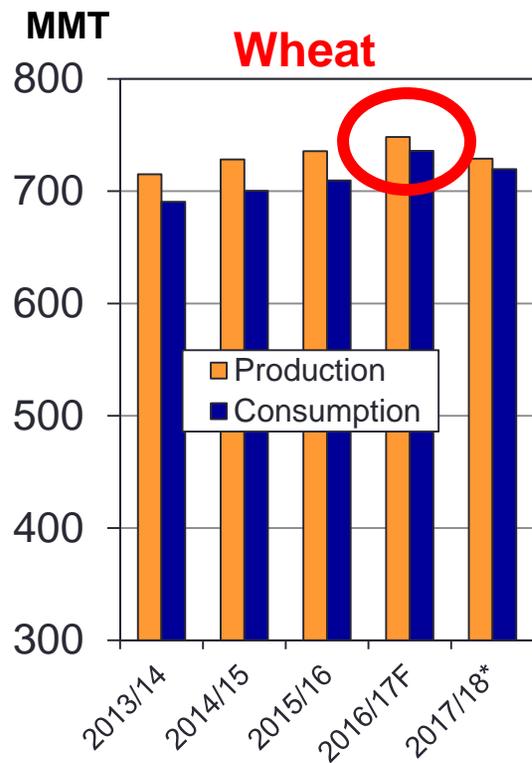
Data: USDA-OCE, USDA-FAS, *FAPRI data used for 2017/18 global consumption.

Global ending stocks remain above 2002/03, moderating price volatility

Days of use
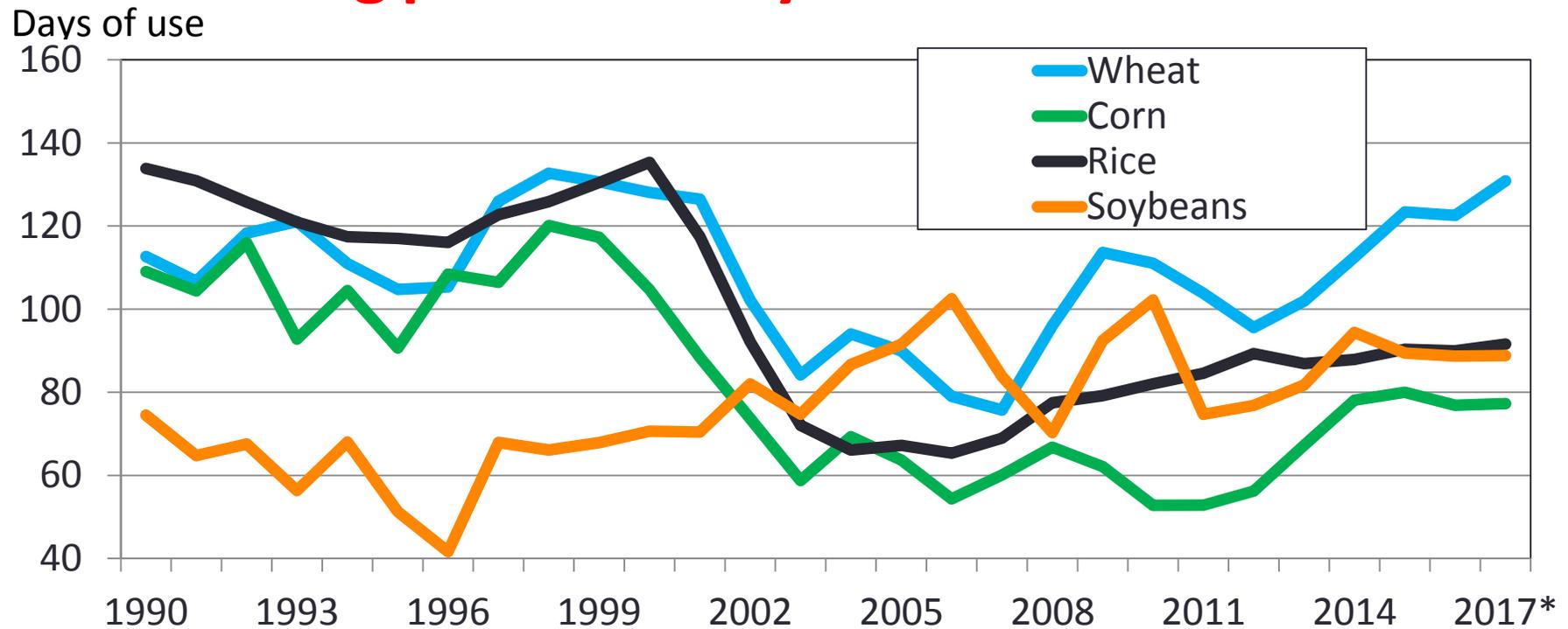
Data: USDA-OCE, USDA-FAS, *FAPRI data used for 2017/18 global consumption.

Prices expected to edge up into 2017/18

Crop	2012	2013	2014	2015	2016	2017F	%Δ
Wheat ($/bu)	**7.77**	6.87	5.99	4.89	3.85	4.30	11.7
Corn ($/bu)	**6.89**	4.46	3.70	3.61	3.40	3.50	2.9
Soybeans ($/bu)	**14.40**	13.00	10.10	8.95	9.50	9.60	1.1
Cotton (cents/lb)	72.50	77.90	61.30	61.20	69.00	65.00	-5.8
All Rice ($/cwt)	15.10	16.30	13.40	12.20	10.50	10.70	1.9

Data: USDA-OCE.
Red denotes record high.

USDA Office of the Chief Economist
United States Department of Agriculture

8-Crop Planting and Lagged Prices

Data: USDA-OCE.

Lagged Real Price Index , 2004 = 100 (left axis)
Million acres Planted (right axis)

Lagged Prices

February AOF

Baseline

8-Crop Area
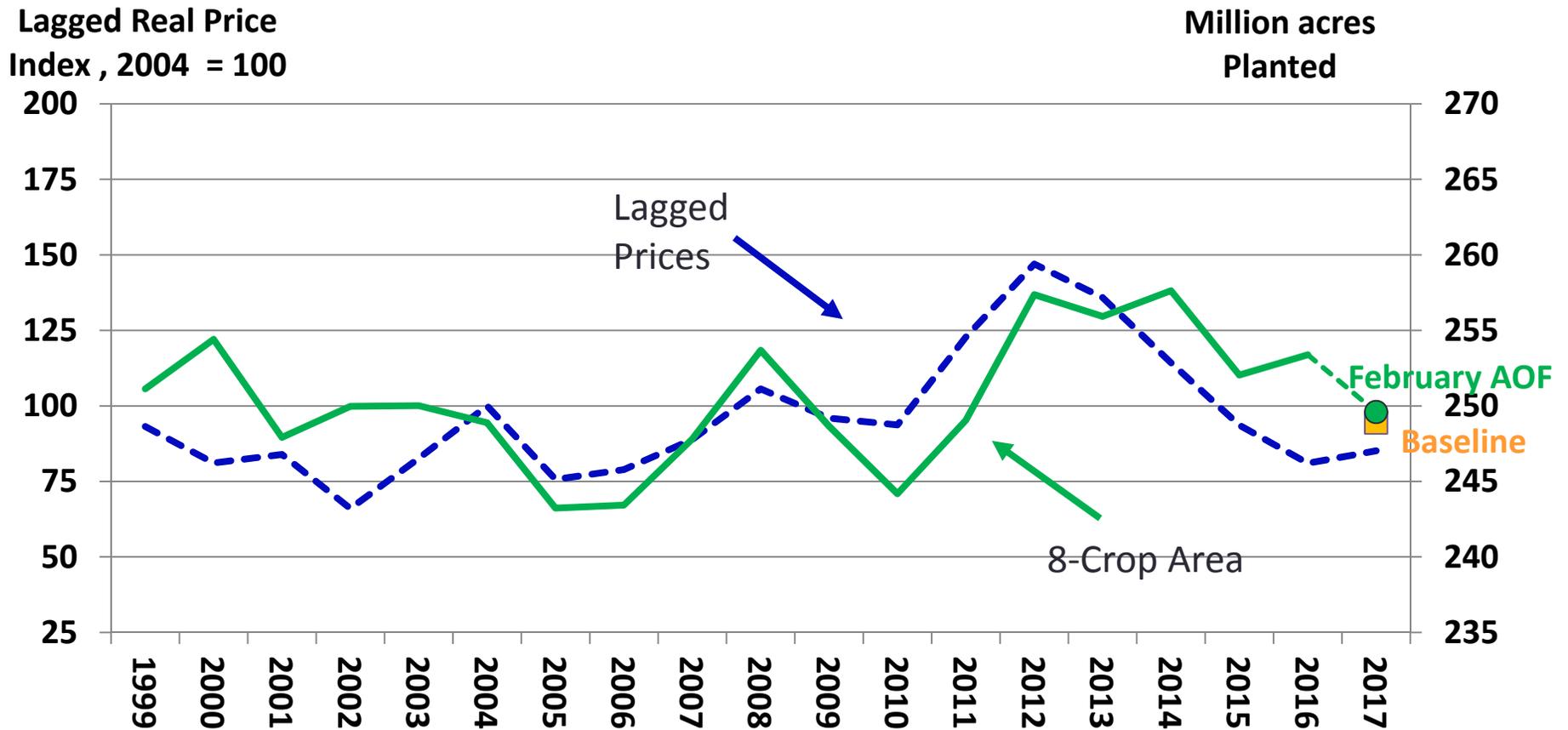
New Crop Soybean-to-Corn Ratio During February
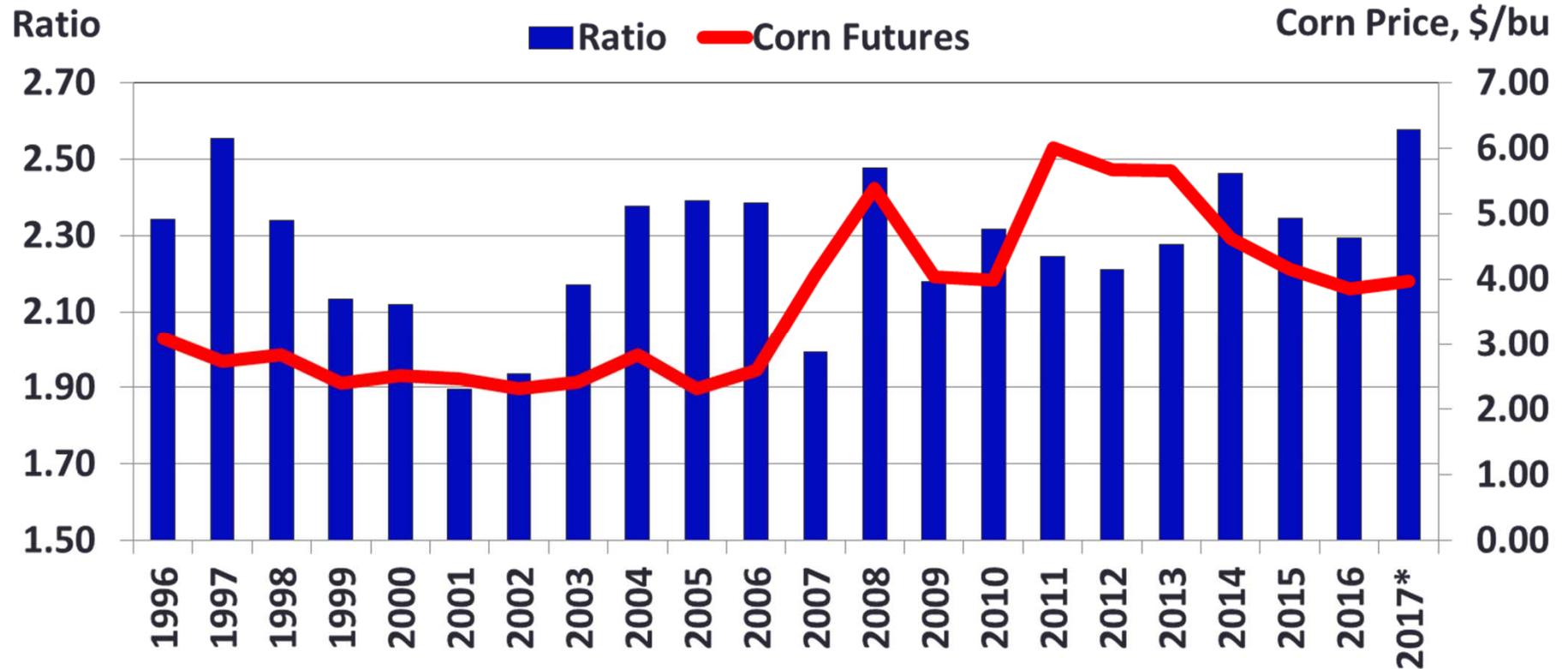
Data: USDA-OCE.

Cropland area down again from last year

Crop (mil. acres)	2012	2013	2014	2015	2016	2017F	%Δ
Corn	97.3	95.4	90.6	88.0	94.0	90.0	-4.3%
Soybeans	77.2	76.8	83.3	82.7	83.4	88.0	5.5%
Wheat	55.3	56.2	56.8	55.0	50.2	46.0	-8.3%
All cotton	12.3	10.4	11.0	8.6	10.1	11.5	14.2%
Other feedgrains	12.6	14.6	12.9	15.2	12.6	11.7	-7.1%
Rice	2.7	2.5	3.0	2.6	3.2	2.6	-17.4%
Total 8 crops	257.4	255.9	257.6	252.1	253.4	249.8	-1.4%
CRP	29.5	26.8	25.5	24.2	23.8	23.5	-1.3%
8 crops + CRP	286.9	282.7	283.1	276.3	277.2	273.3	-1.7%

Source: USDA-OCE. All cotton, includes both upland and ELS cotton.

Outlook for Livestock and Dairy

Beef, pork, poultry, and milk production higher in 2016 and 2017

Item	2012	2013	2014	2015	2016	2017F	%Δ
Billion pounds							
Beef	25.9	25.7	24.3	23.7	25.2	26.0	3.1
Pork	23.3	23.2	22.8	24.5	24.9	26.2	4.9
Broilers	37.0	37.8	38.6	40.0	40.7	41.5	2.1
Total[1]	93.0	93.3	92.2	94.6	97.6	100.6	3.1
Billion pounds							
Milk	200.6	201.2	206.1	208.6	212.5	217.4	2.3

Data in red denote record levels.
[1] Total red meat and poultry

Source: USDA-OCE.

Cattle and hog prices to come down in 2016 and 2017, but broilers and dairy turn up in 2017

| Item	2012	2013	2014	2015	2016	2017F	%Δ
Dollars per cwt							
Steers	122.86	125.89	154.56	148.12	120.86	112.00	-7.3
Hogs	60.88	64.05	76.03	50.23	46.16	43.50	-5.8
Broilers	86.6	99.7	104.9	90.5	84.3	84.8	0.5
Milk	18.52	20.05	23.97	17.12	16.24	18.05	11.1

Prices in red denote record levels.

Source: USDA-OCE.
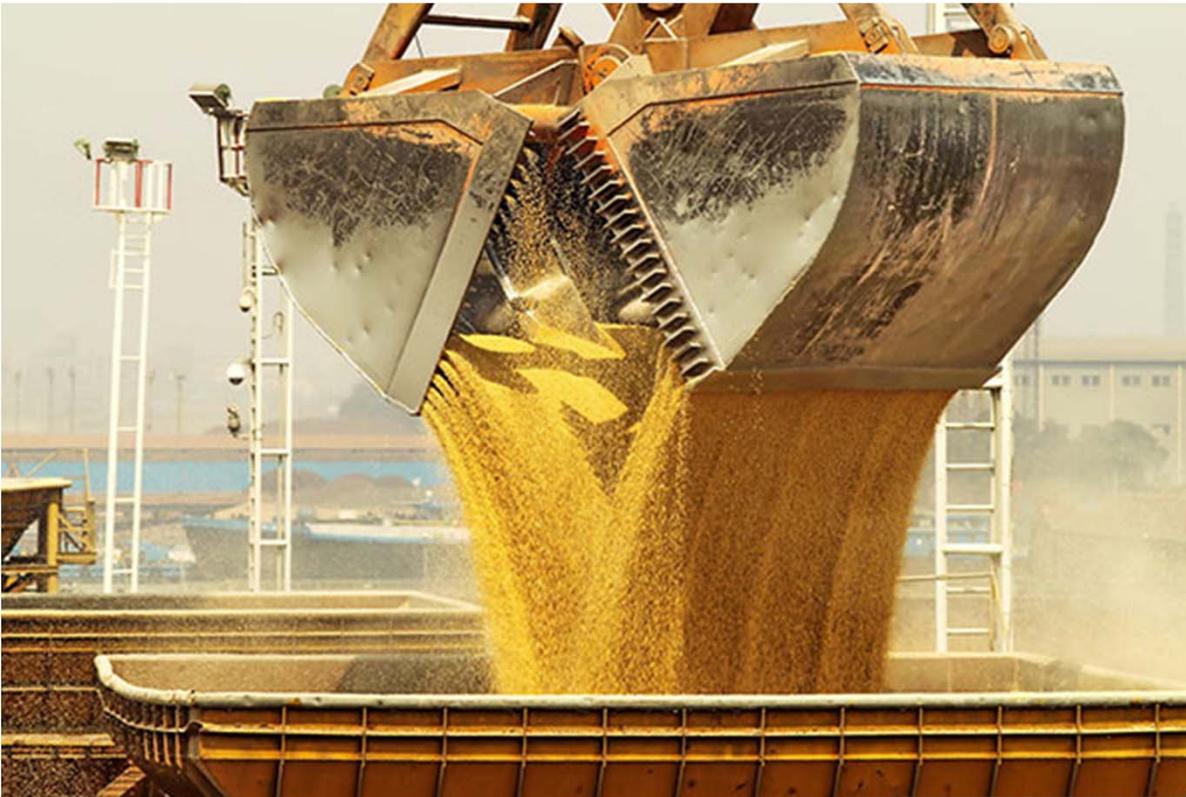
http://www.chinadaily.com.cn/business/2015-09/26/content_21987498.htm

Marketing

U.S. Agricultural exports dominated by top three

Billion dollars
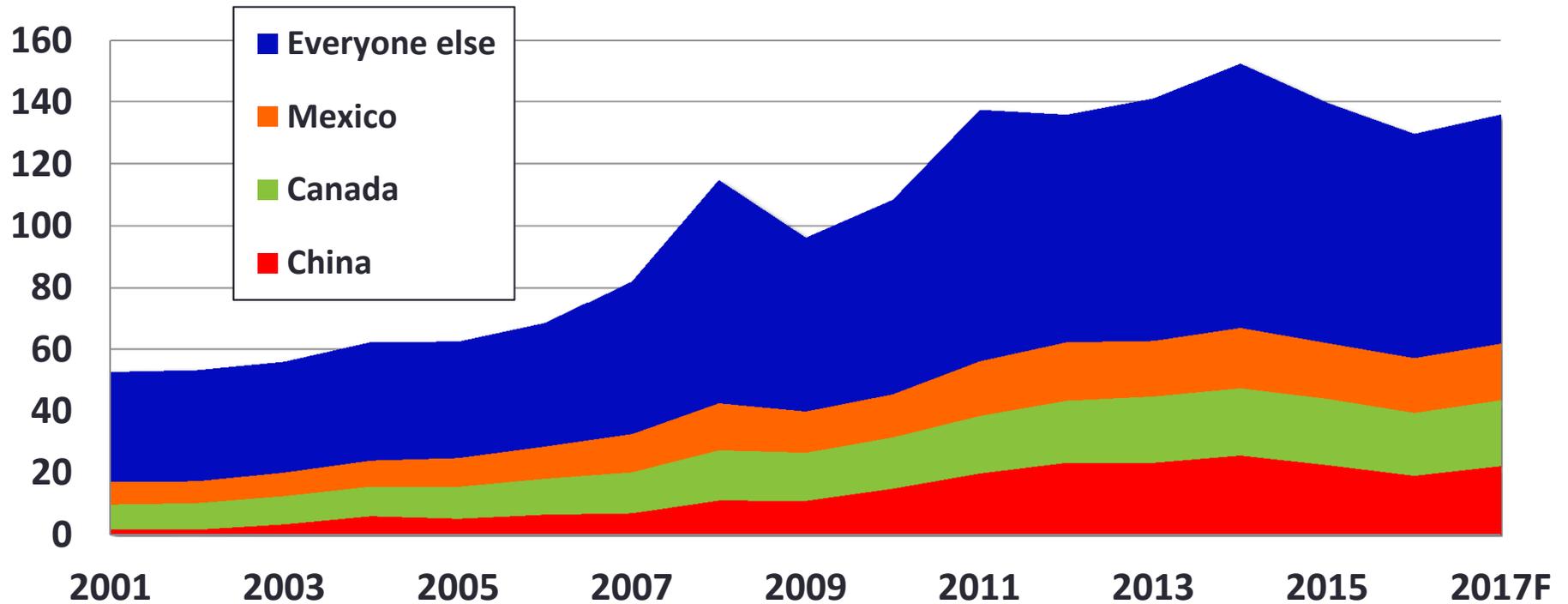
Data: USDA.

China imports to rise boosted by soybeans

Million metric tons

2017 projection

2016 projection

2015 projection

Combined imports of grains, soybeans, and cotton.
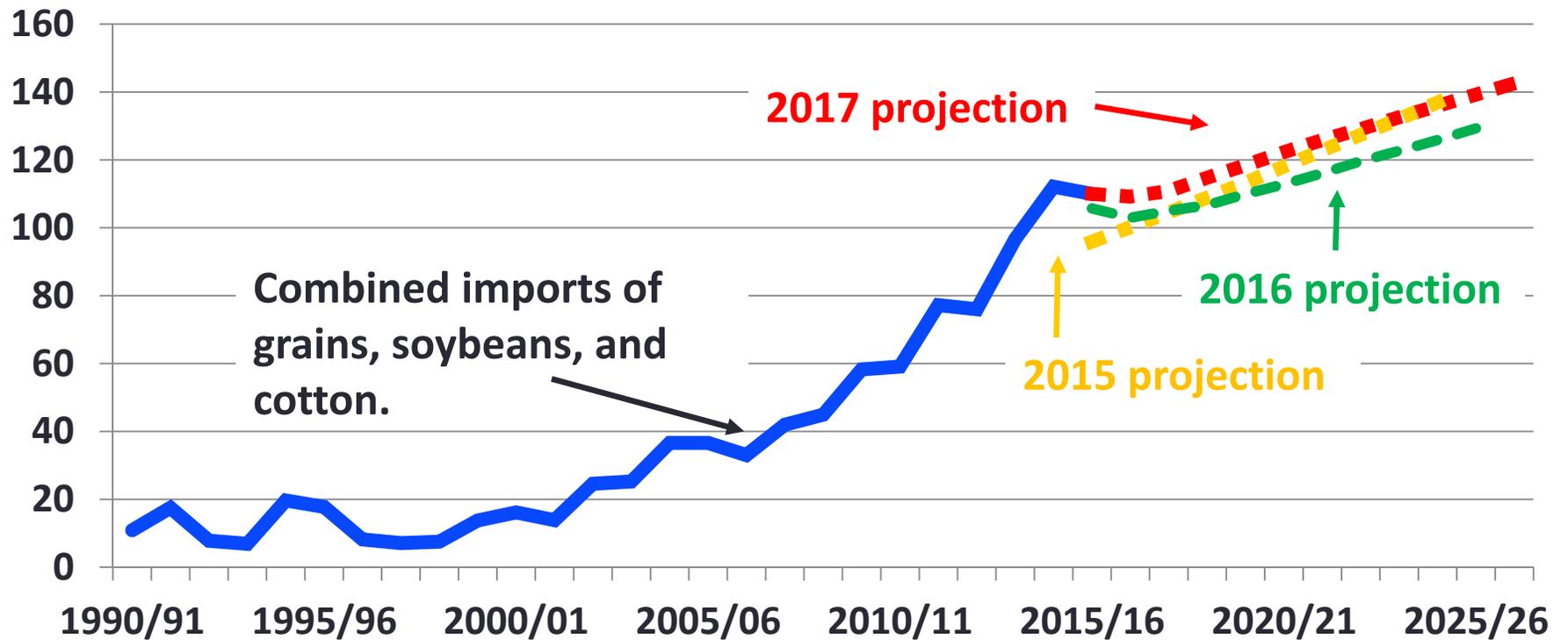
Data: USDA-OCE.

Continued growth in China soybean imports expected

Global Soybean Imports
Million Metric Tons
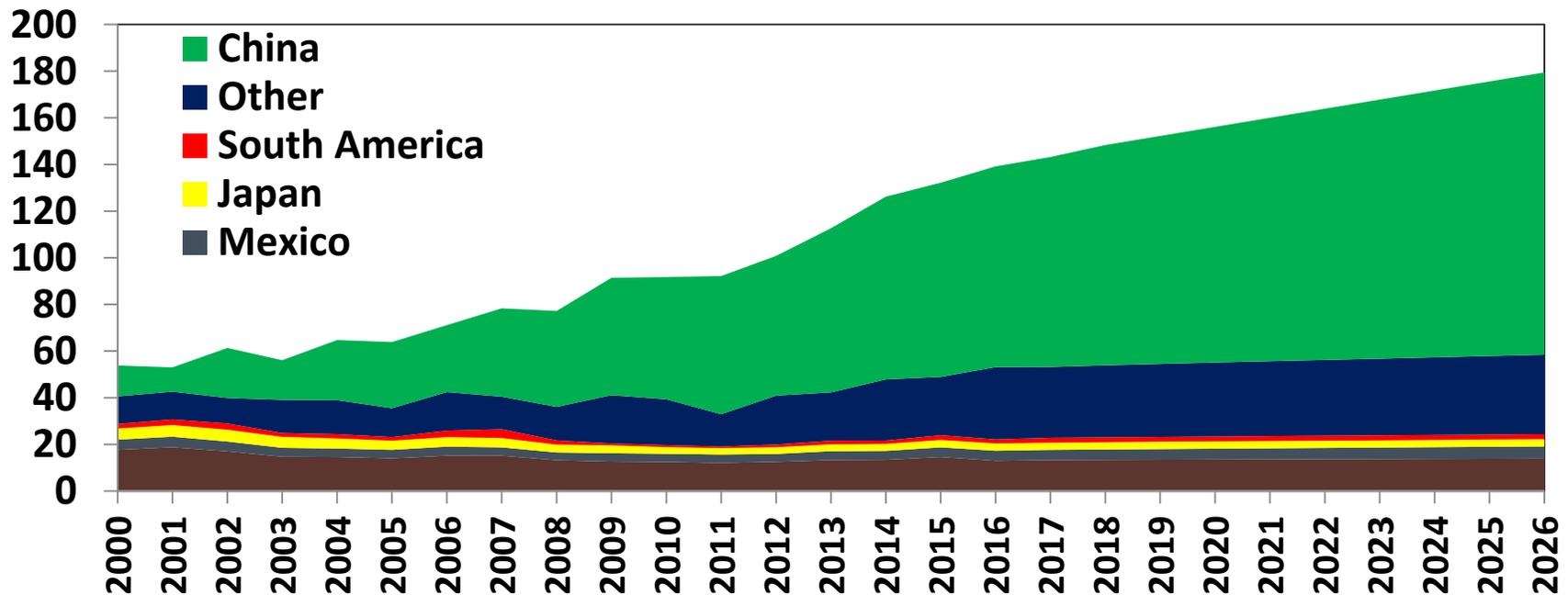

Data: USDA.

"Middle Class" grows 119% From 2014 Levels

**Million Households w/ Real PPP incomes > than $20,000**
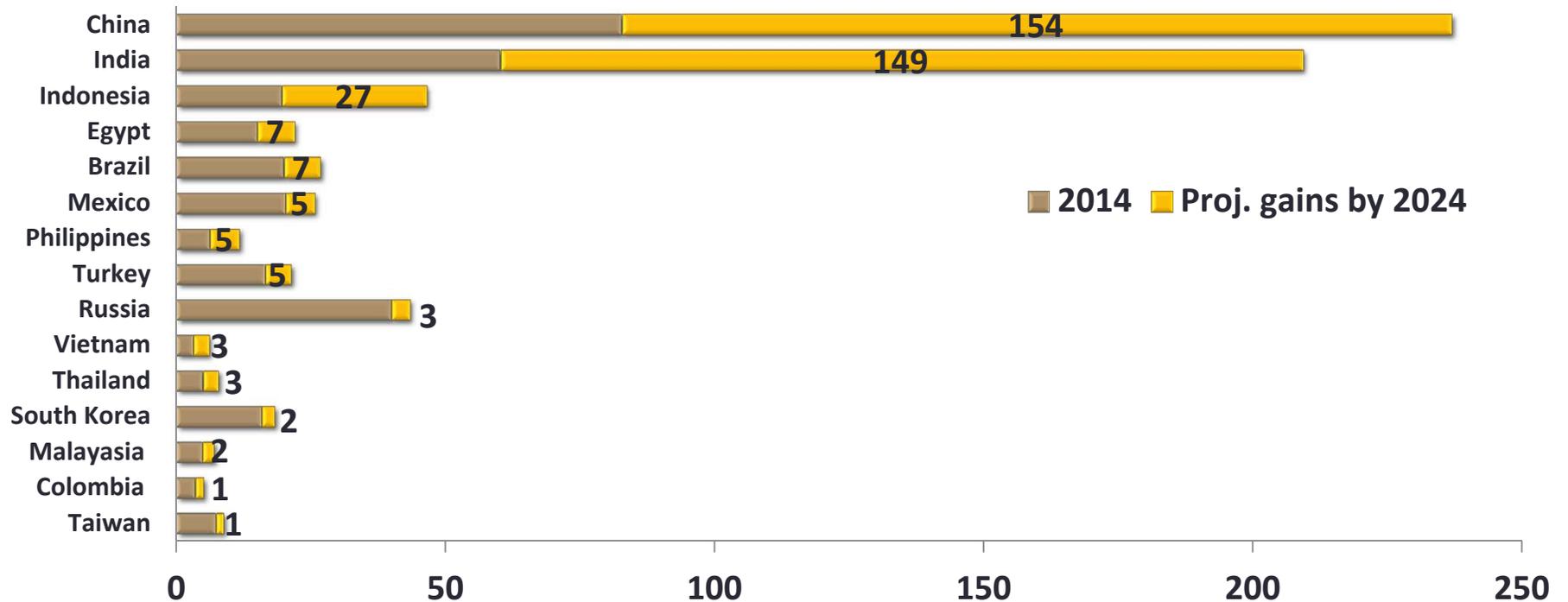
Source: Global Insight's Global Consumer Markets data as analyzed by USDA-FAS.

U.S. Ag Exports to China and India

Billion dollars
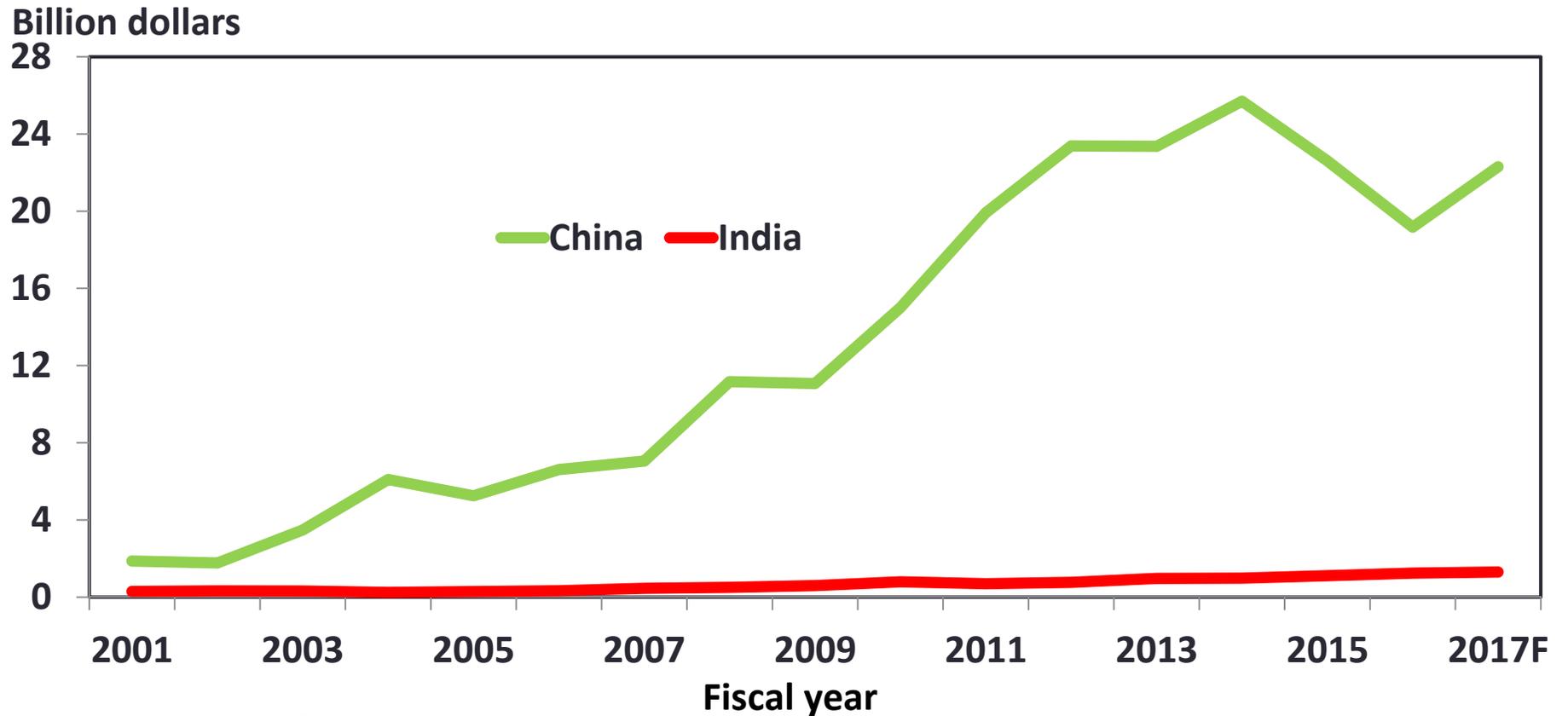
Source: USDA-FAS.

Corn trade driven by growth in North Africa, Middle East and Southeast Asia

Global Corn Imports
Million Metric Tons
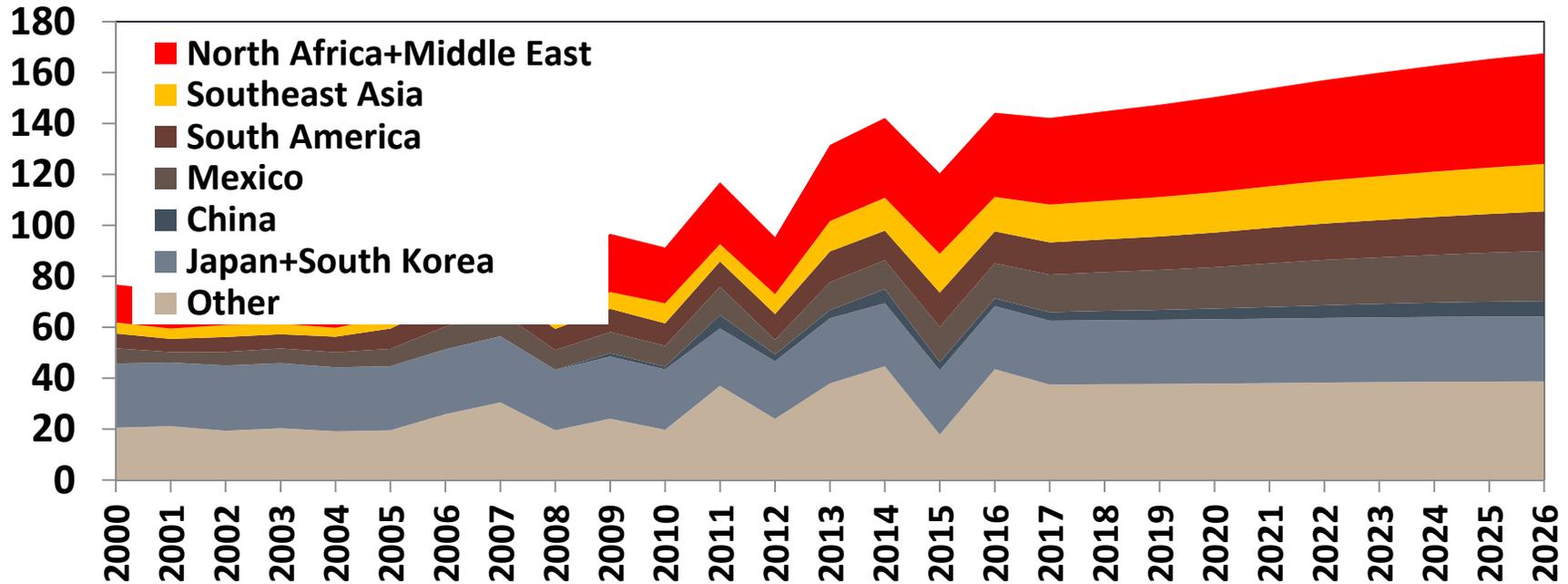
Data: USDA.

U.S. remains #1 corn exporter

Global Corn Exports
Million Metric Tons

Data: USDA.

2008

- Total Red Meat and Poulty: 14.5% of supply
- Dairy, Fat-Basis: 4.3% of supply
- Dairy, Skim Solids-Basis: 12.2% of supply

2026

- Total Red Meat and Poulty: 15.9% of supply
- Dairy, Fat-Basis: 4.6% of supply
- Dairy, Skim Solids-Basis: 19.5% of supply

2017

- Total Red Meat and Poulty: 14.8% of supply
- Dairy, Fat-Basis: 3.5% of supply
- Dairy, Skim Solids-Basis: 16.9% of supply

Legend: ■ Domestic Use ■ Exports
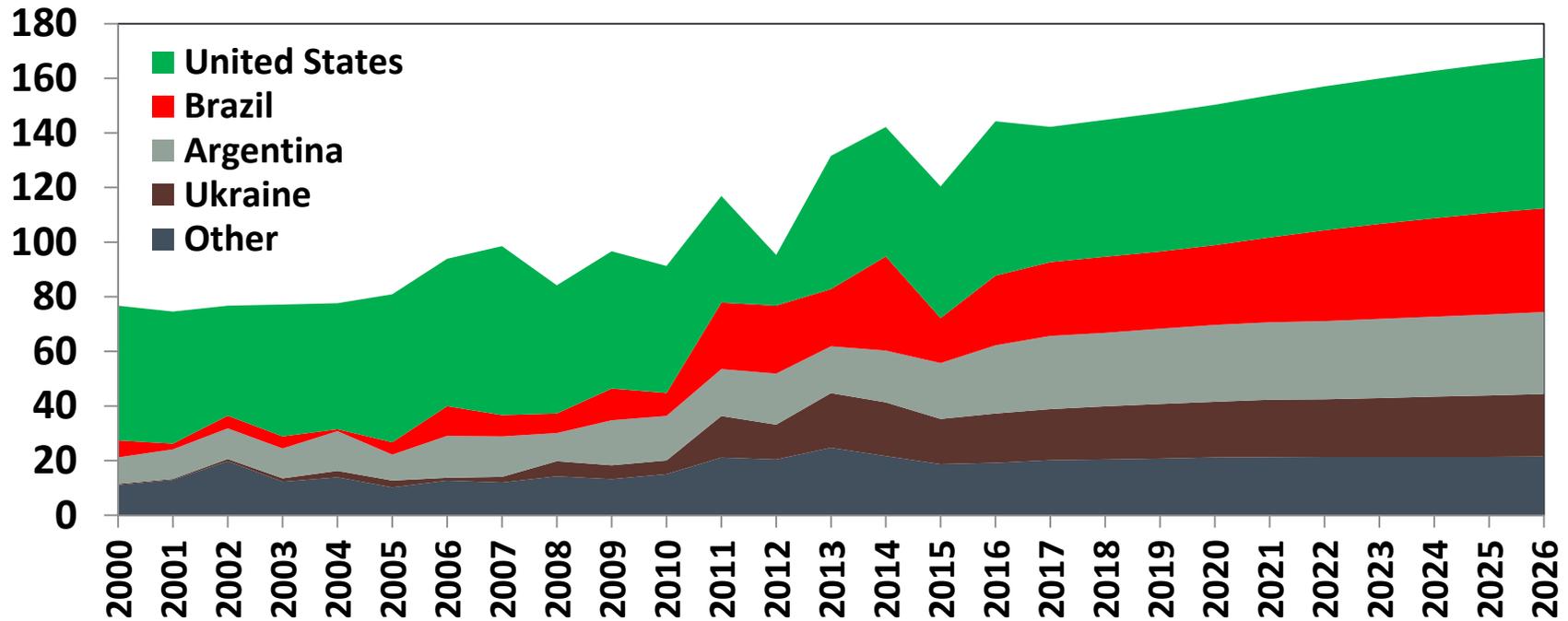
Exports share of use grows over time
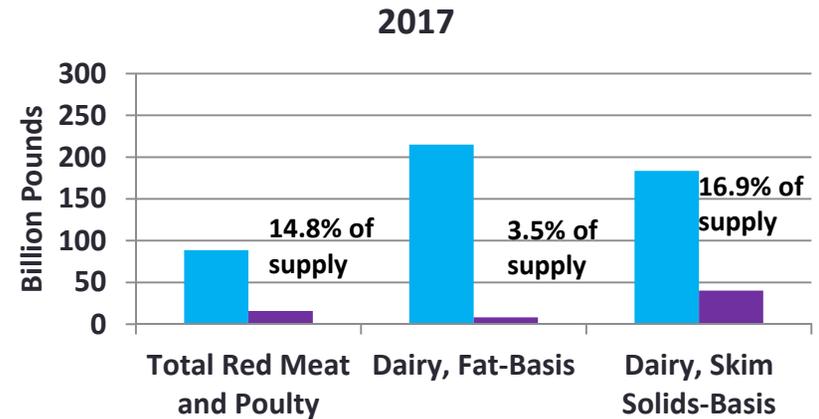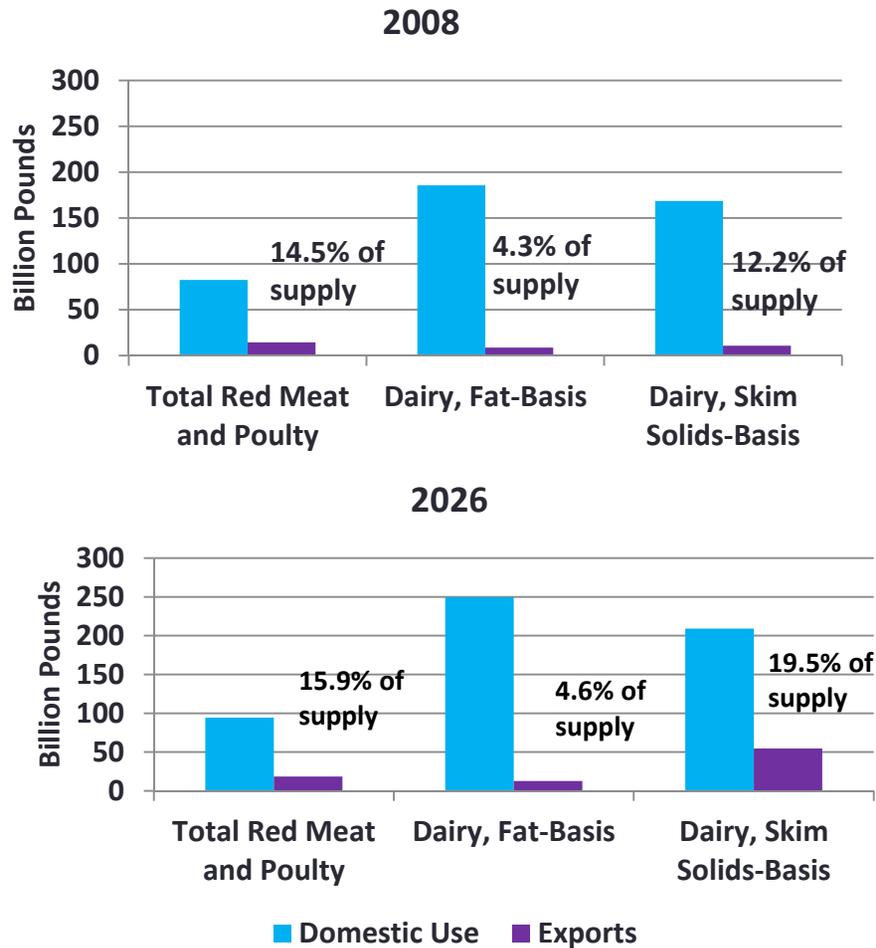
Outlook for Food Prices

Longest sustained fall in food prices in 60 years

CPI (1982-84 = 100)

**Percent Change (Y-O-Y)**
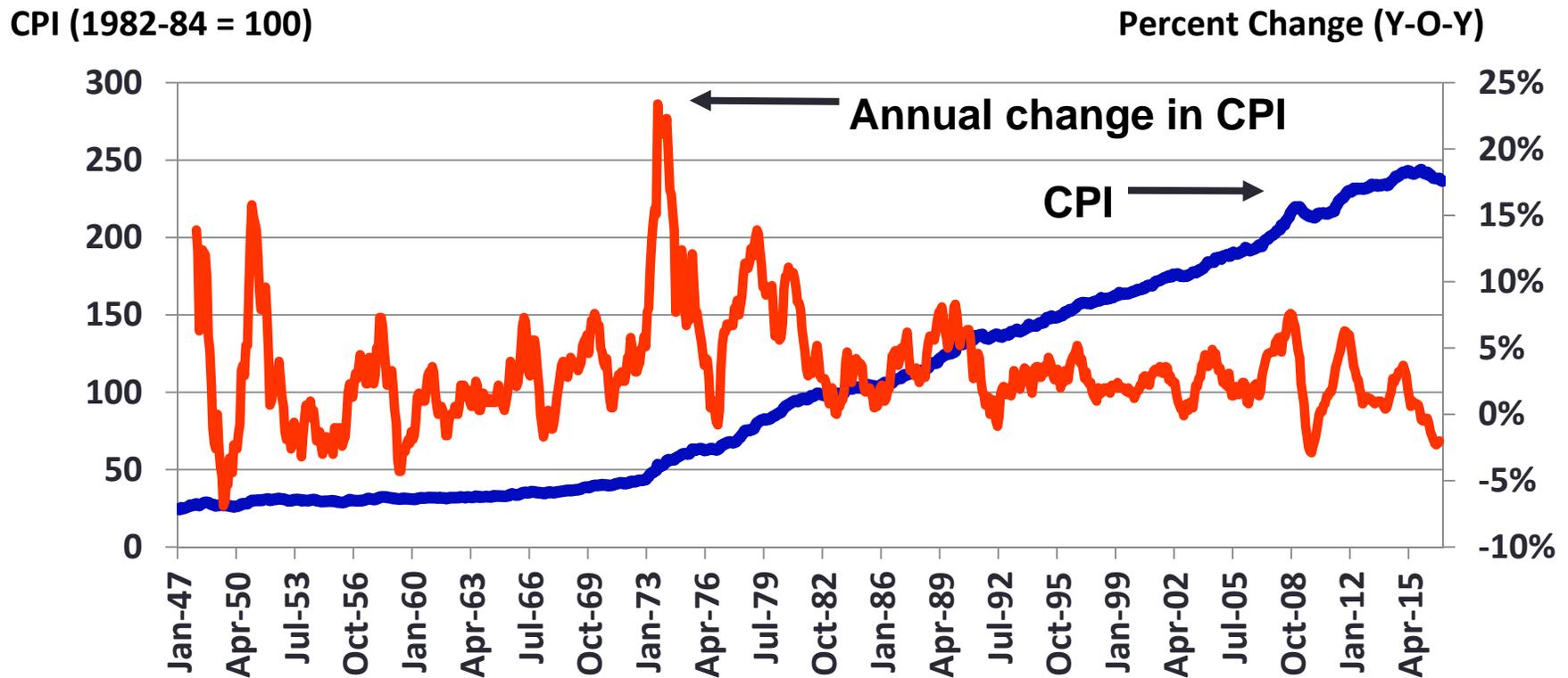
Data: BLS.

Low income household spending 35% on food

Billion dollars ($2014)

Percent of household income spent on food

Lowest 20% of household incomes

Median household incomes

Real disposable personal income

Highest 20% of household incomes
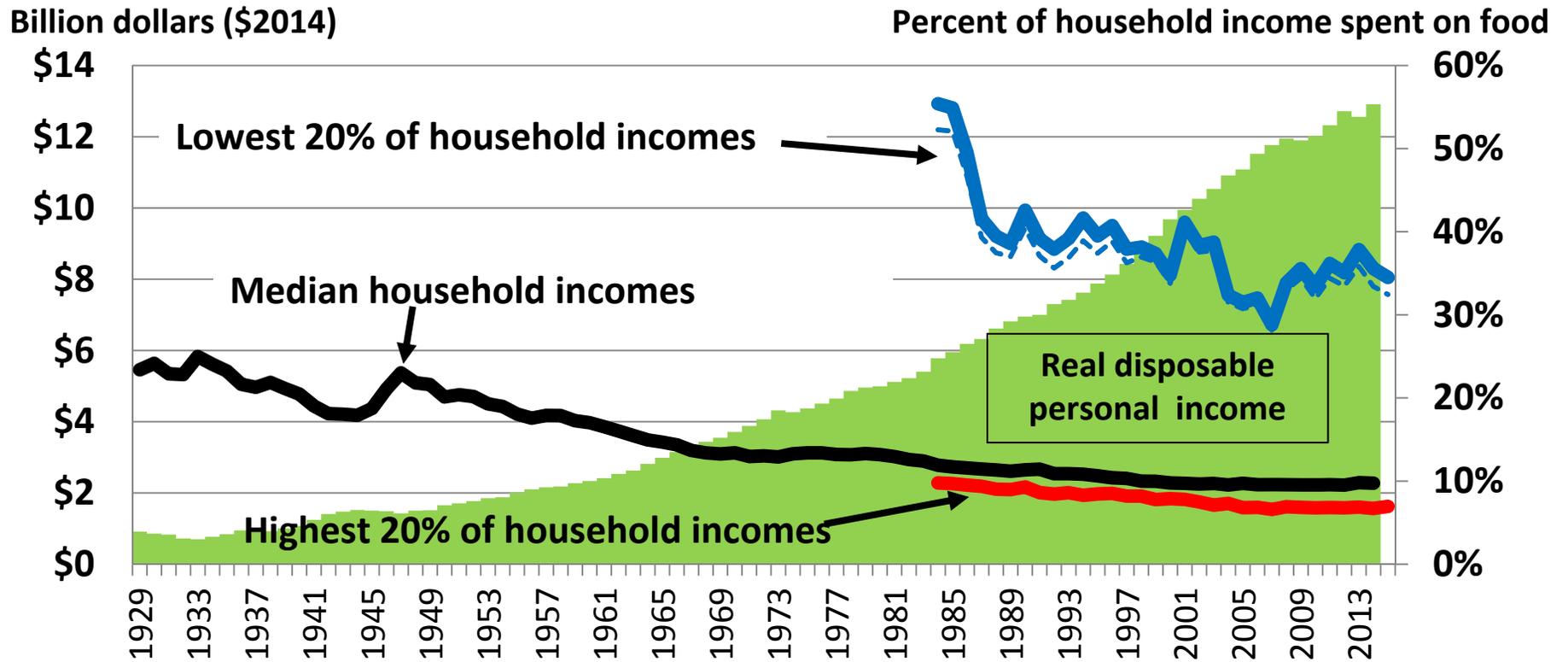
Data: USDA-ERS, BLS.

Top 40 percent of households purchase nearly 60 % of food sold

Million dollars
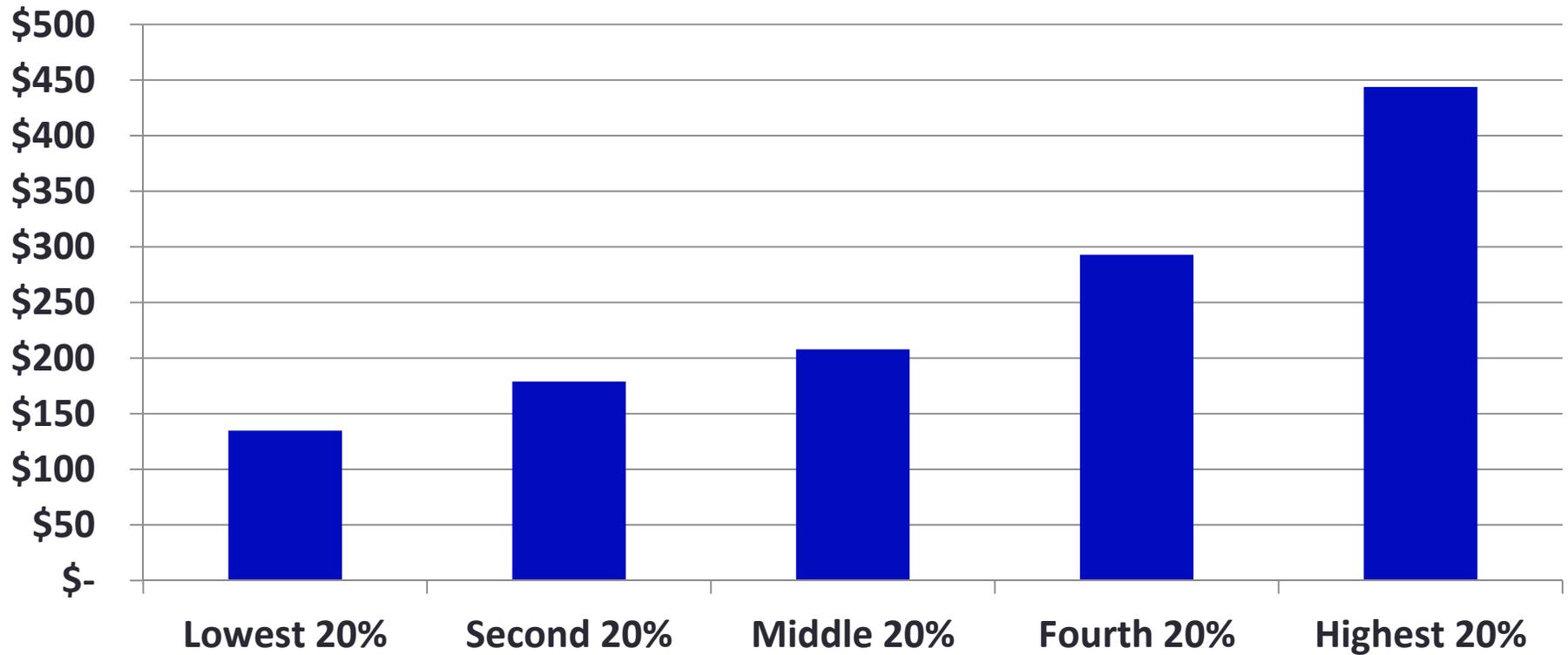
Data: BLS.

Conclusion

1. Net farm income is flat and likely to remain flat until stocks-to-use starts to fall.

2. Premium of cash rents to land values likely to close with lower rents and values.

3. The soybean:corn ratio suggests more acres of soybeans and fewer to corn. Overall planted area is likely down by 3.6 million acres.

4. Record meat, poultry and dairy production will look to export markets.

5. China demand grows, while opportunities in other developing countries beckon.

6. Food inflation likely to be very low in aggregate:
   - continued marketing opportunities available to higher income households.
   - Low food prices remain important for millions of households.