

# Farm bill economics: Commodity markets, farm income

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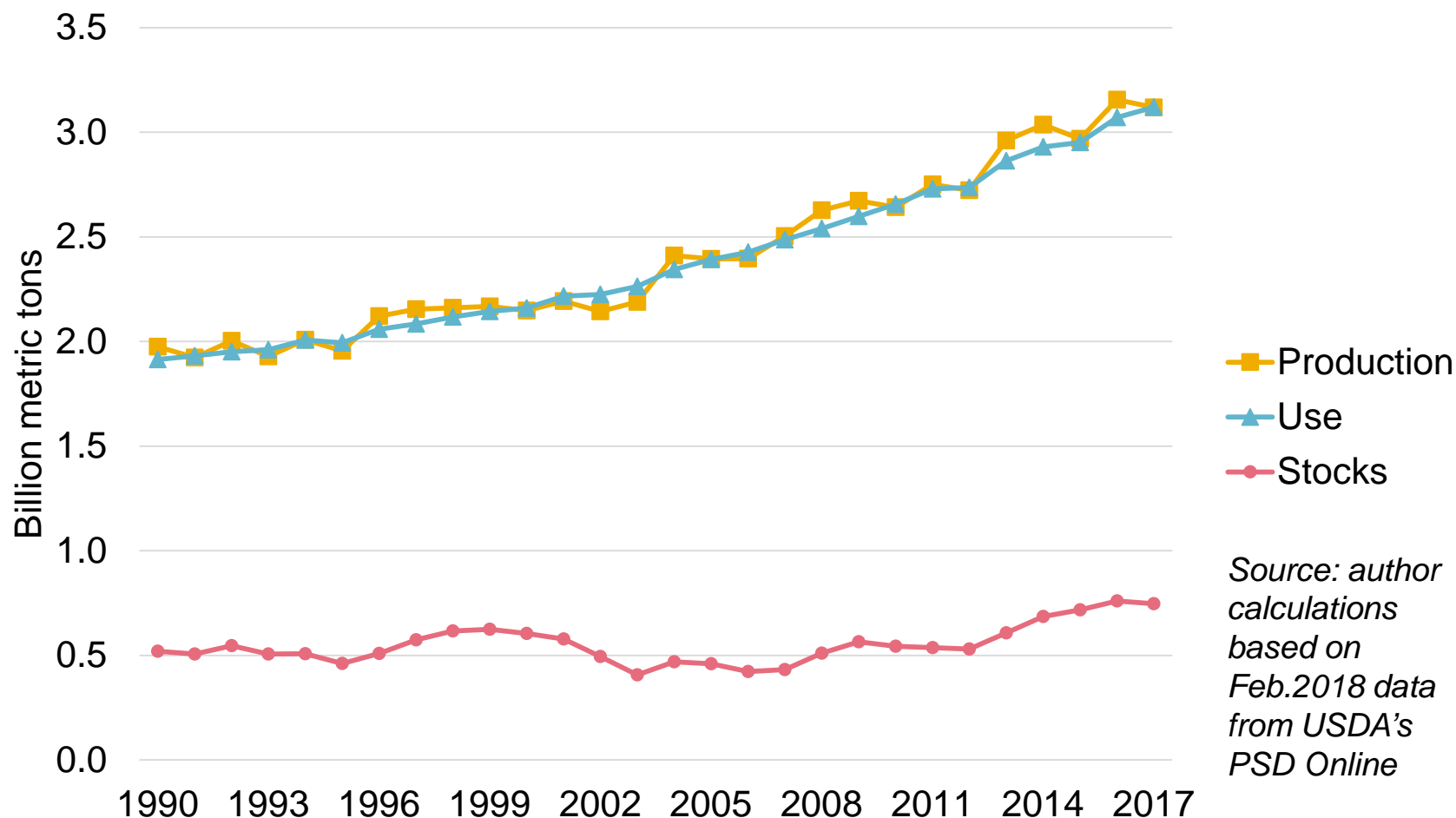
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# Agenda

- Global grain and oilseed markets
- Outlook for particular commodities
- Farm income outlook

# Global grain and oilseeds

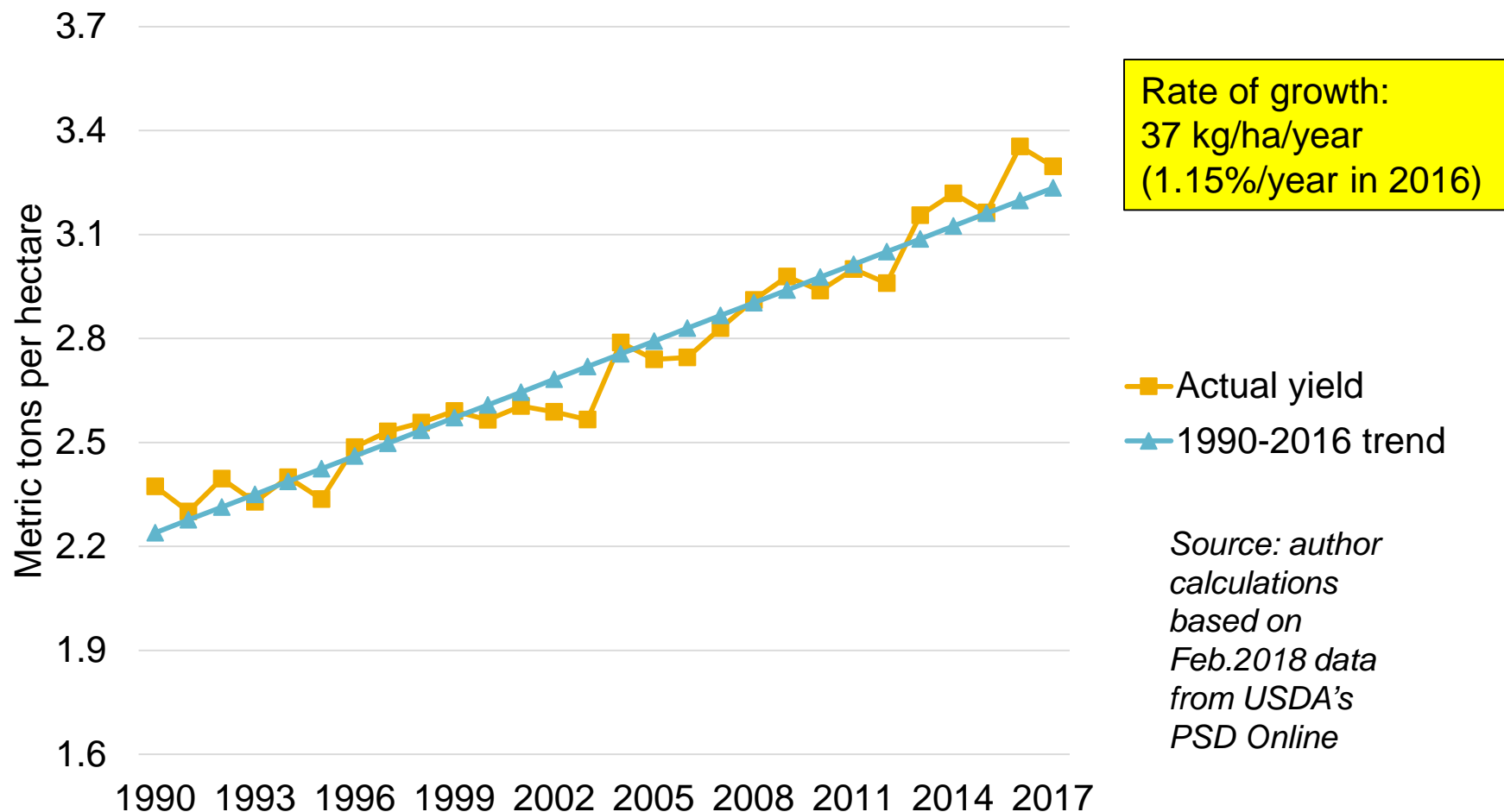
## Production, use and stocks



Yields per hectare for an aggregate of 9 grains (corn, wheat, rice, sorghum, barley, oats, rye, millet and mixed grains) and 5 oilseeds (soybeans, rapeseed, sunflower seed, peanuts and cottonseed).

# Global grain and oilseeds

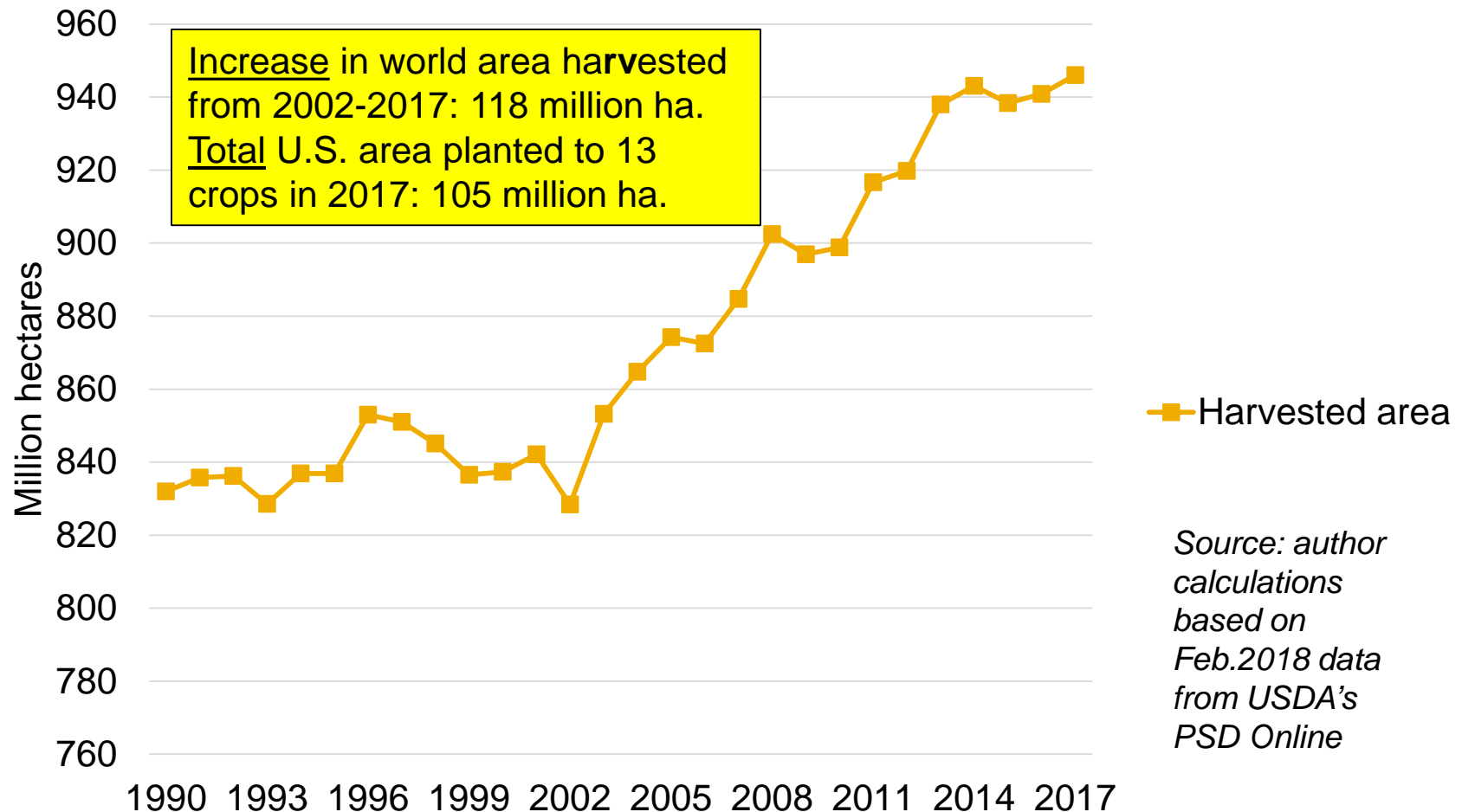
## Yields per hectare



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# Global grain and oilseeds

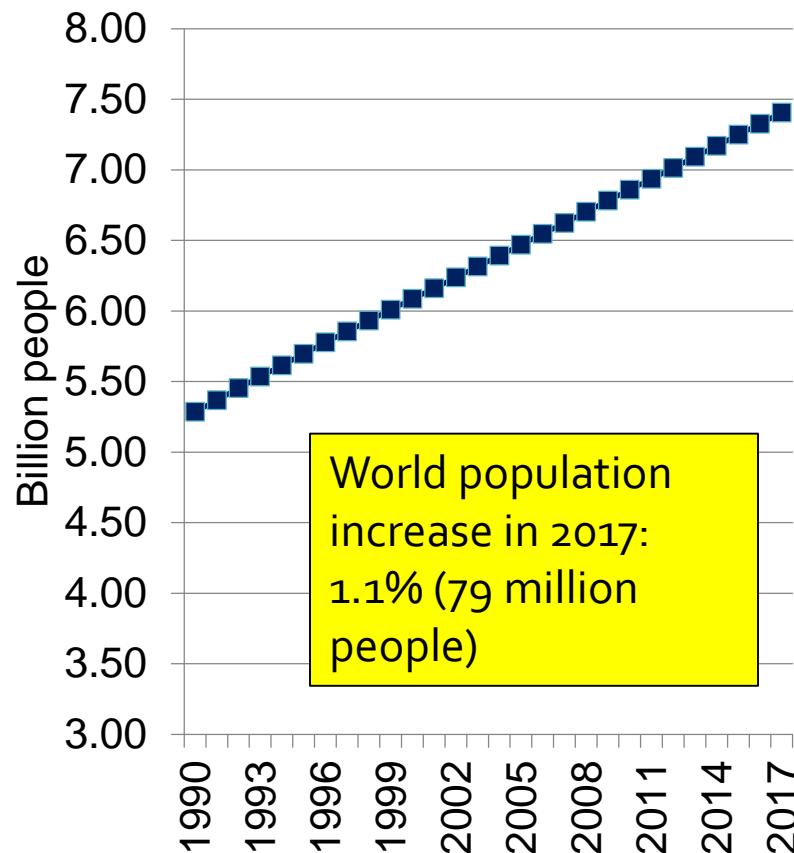
## Area harvested



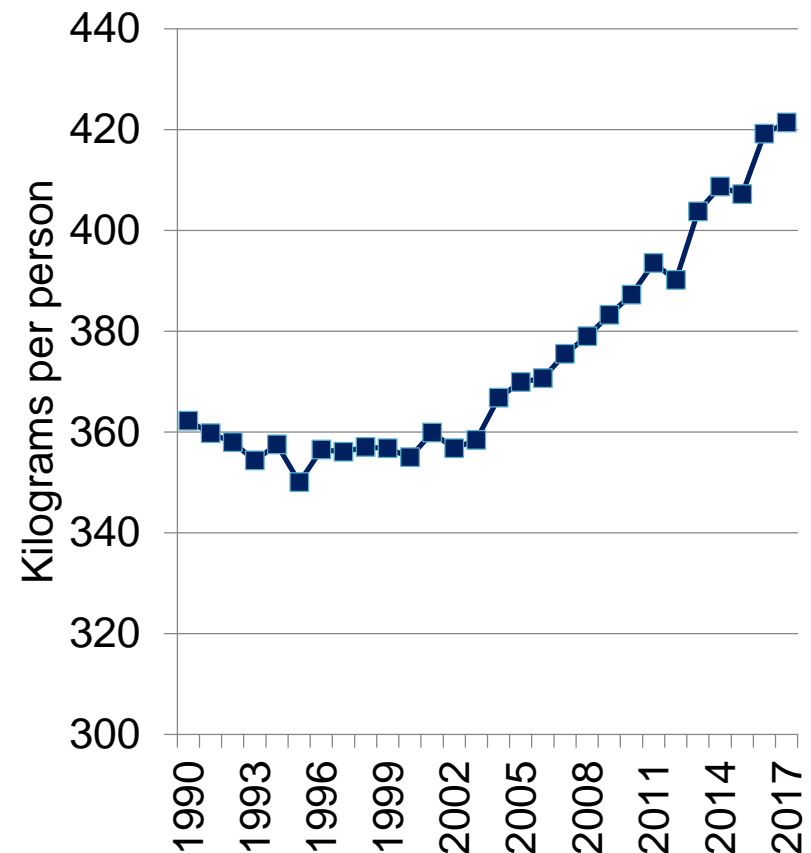
World area harvested of 9 grains (corn, wheat, rice, sorghum, barley, oats, rye, millet and mixed grains) and 5 oilseeds (soybeans, rapeseed, sunflower seed, peanuts and cottonseed).

# World population and use of grains and oilseeds

## World population



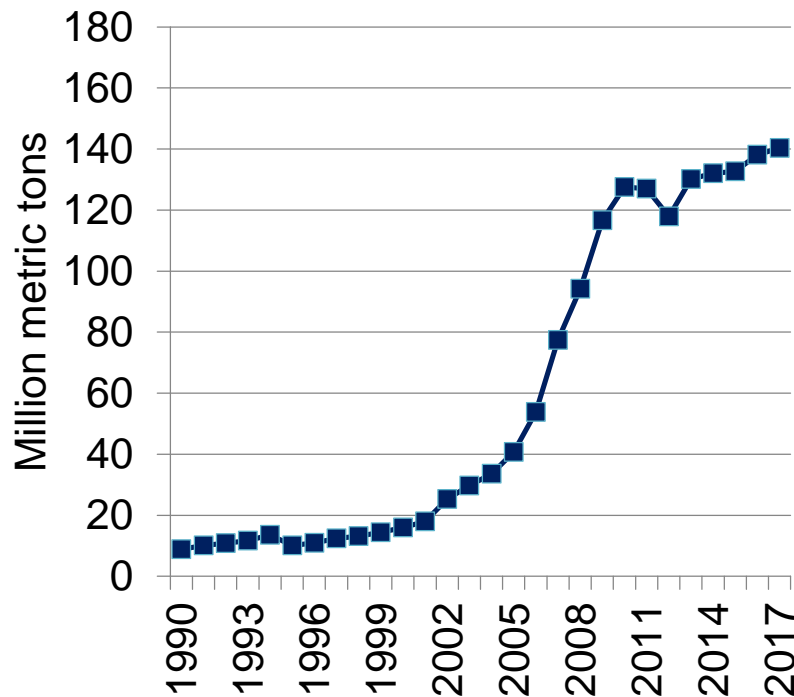
## Grain, oilseed use/cap.



Source: Author calculations based on Feb. 2018 USDA PSD Online data for 9 grains and 5 oilseeds and U.S. Census Bureau population estimates

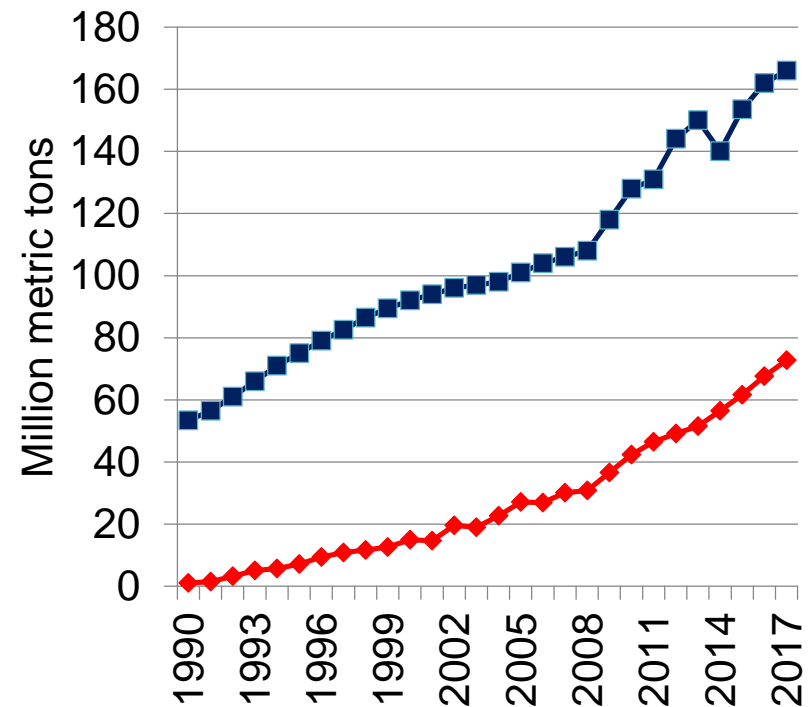
# Two major sources of grain and oilseed demand increases

## U.S. corn used in ethanol plants



■ Corn for ethanol and coproducts

## China's use of corn and soybean meal for feed

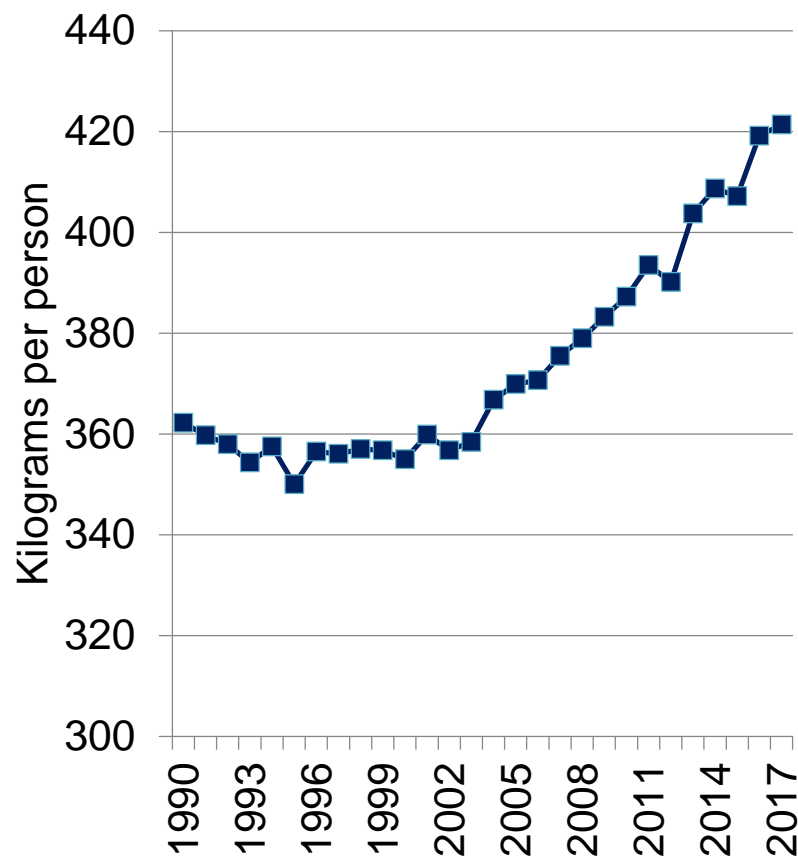


■ Corn ◆ Soybean meal

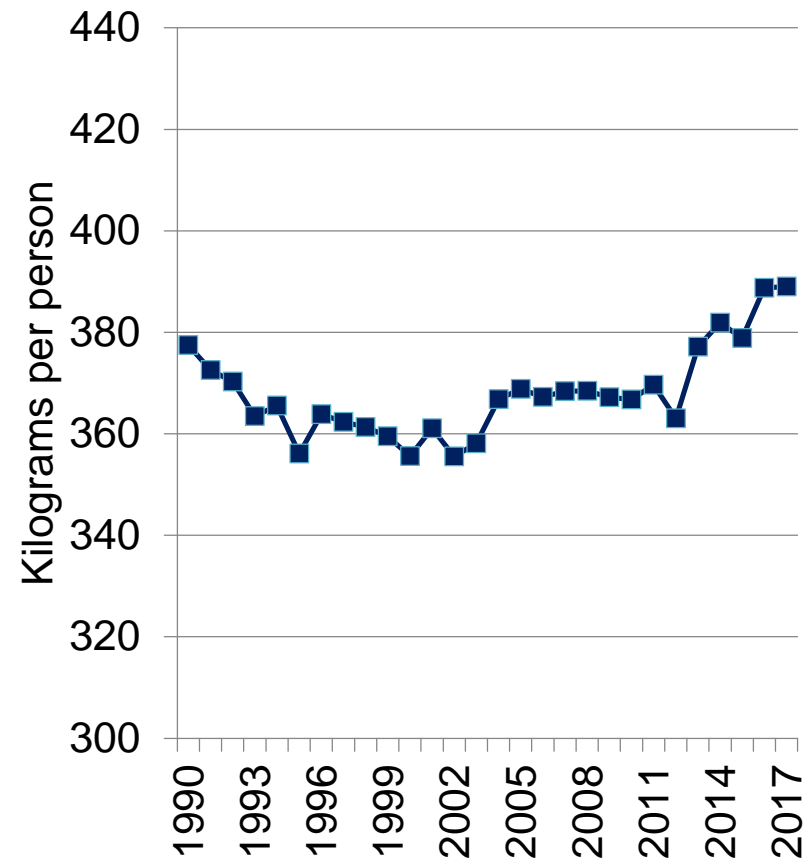
Source: USDA World Agricultural Supply and Demand Estimates, various issues, and USDA PSD Online, February 2018

# Per-capita use of grains and oilseeds

## World



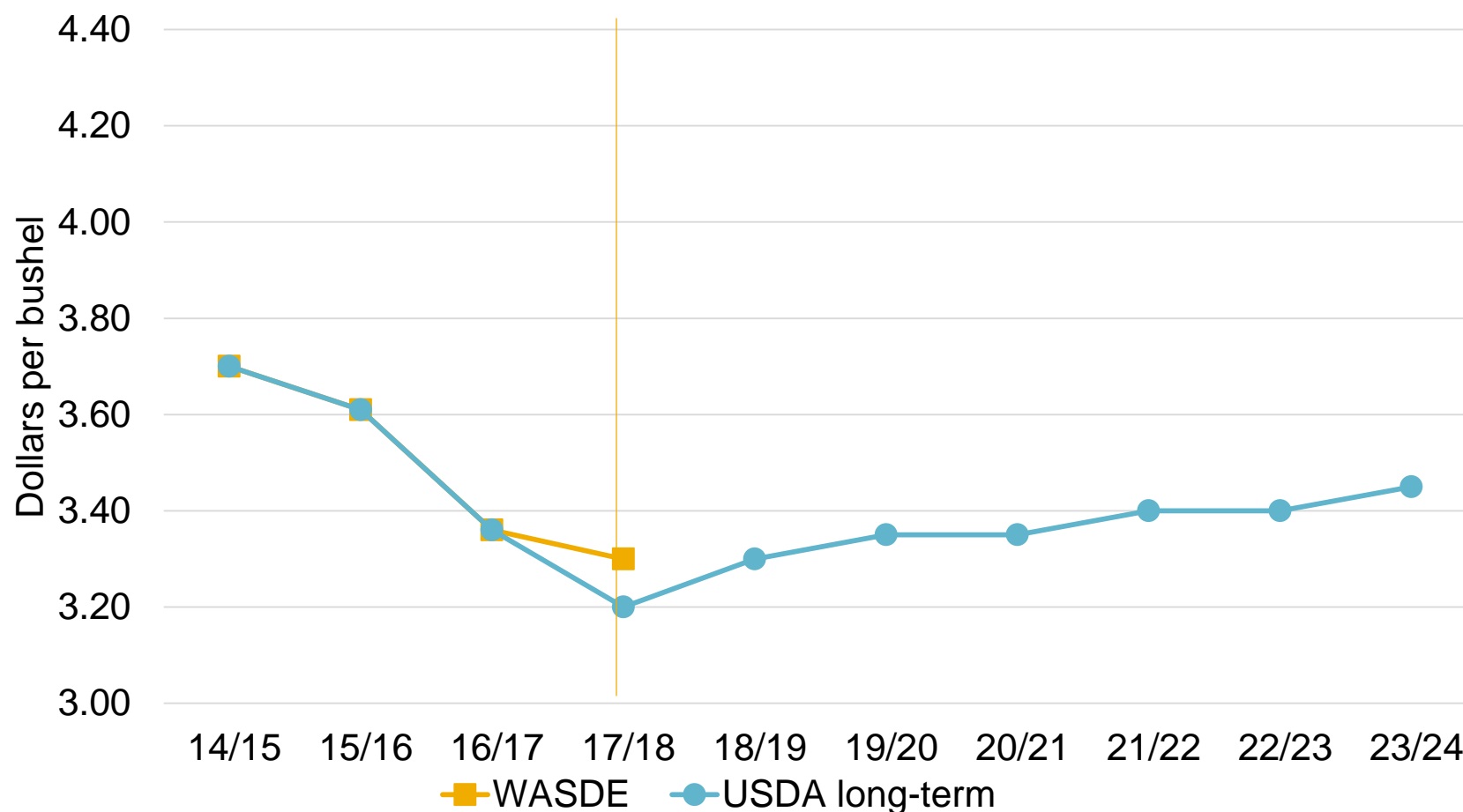
## World less China, ethanol



Source: Author calculations based on Feb. 2018 USDA PSD Online data for 9 grains and 5 oilseeds and U.S. Census Bureau population estimates

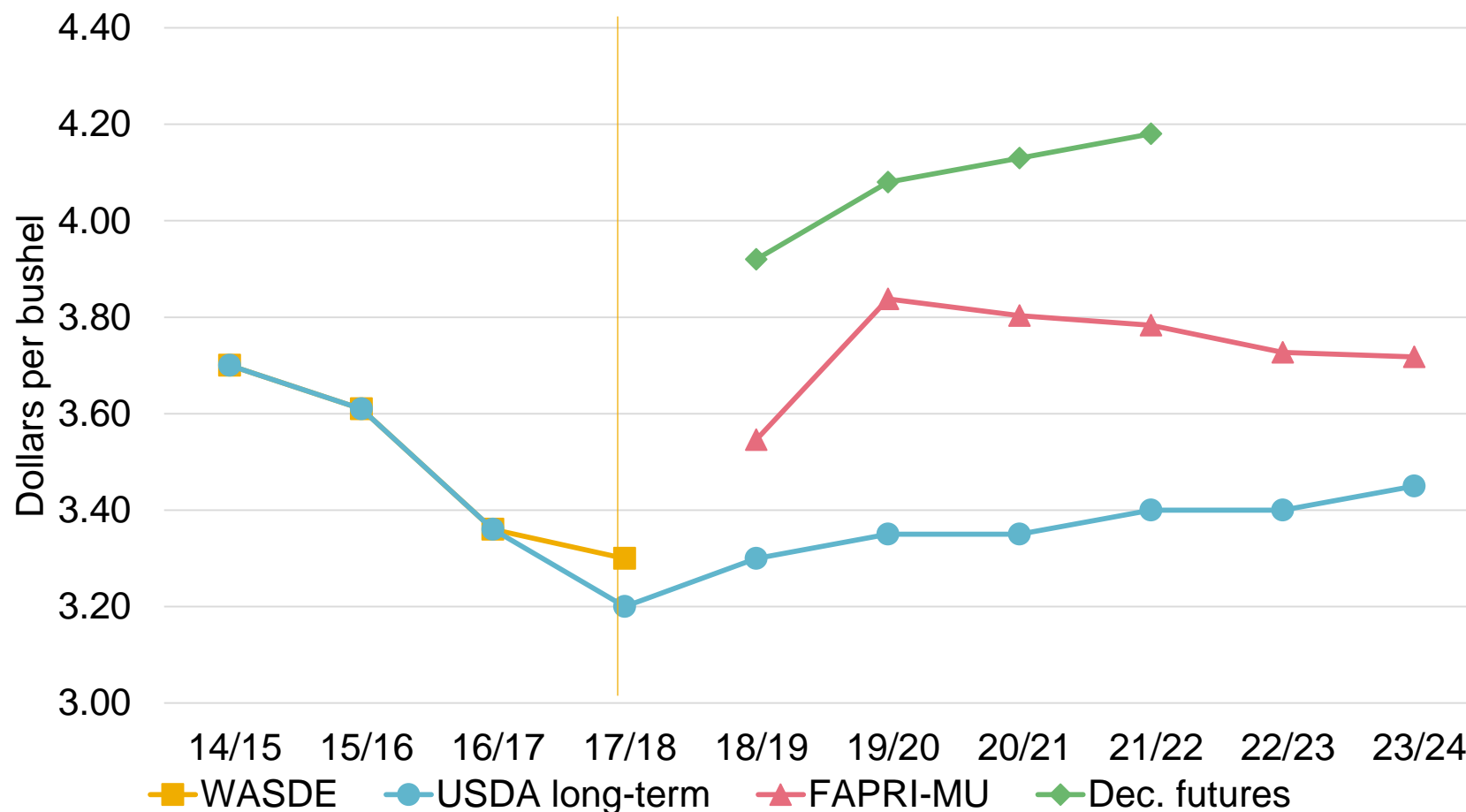


# Corn: USDA farm price projections



Sources: USDA WASDE, Feb. 2018; USDA long-term baseline, Nov. 2017

# Corn: farm and futures prices



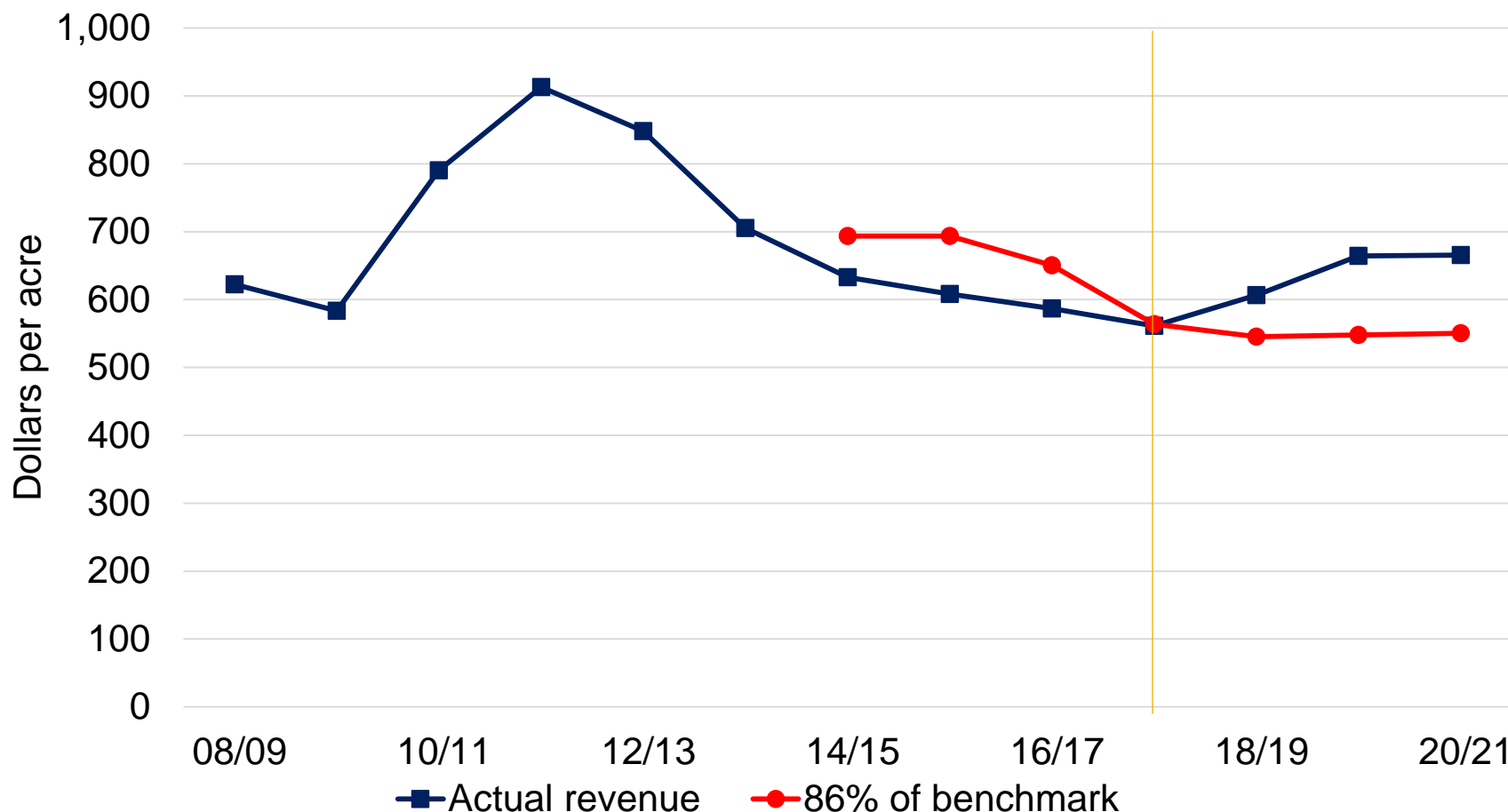
Sources: USDA WASDE, Feb. 2018; USDA long-term baseline, Nov. 2017; FAPRI-MU, Nov. 2017; Dec. CME futures contracts, Feb. 9, 2018. The current reference price is \$3.70/bu.

# Why corn price projections matter: PLC outlays if 70% of base in PLC

| Marketing year average corn price (\$/bu.) | PLC outlays if 70% elect PLC in 2019 |
|--|--------------------------------------|
| \$3.80                                     | \$0                                  |
| \$3.70                                     | \$0                                  |
| \$3.60                                     | \$0.77 billion                       |
| \$3.50                                     | \$1.53 billion                       |
| \$3.40                                     | \$2.30 billion                       |
| \$3.30                                     | \$3.06 billion                       |
| \$3.20                                     | \$3.83 billion                       |
| \$3.10                                     | \$4.59 billion                       |
| \$3.00                                     | \$5.36 billion                       |

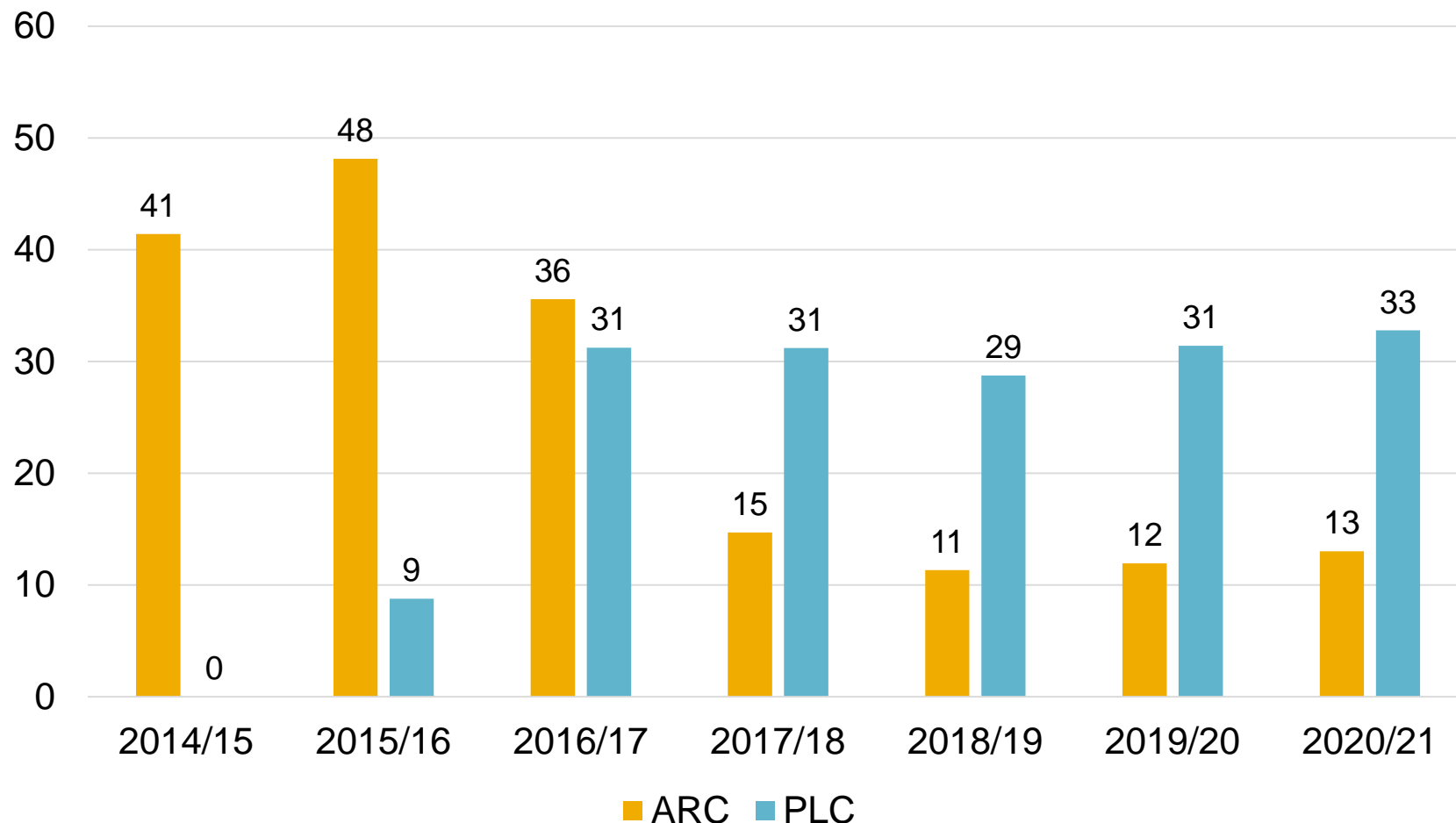
Assumes a \$3.70/bushel reference price, 97.5 million base acres of corn, a program yield of 131.8 bushels/acre, and no sequestration.  
In FAPRI-MU March 2017 stochastic baseline, median 2019/20 corn price was \$3.69/bu., but given distribution of prices, mean PLC outlays were \$2.2 billion.

# Corn ARC-CO calculations for a county with U.S. average yields



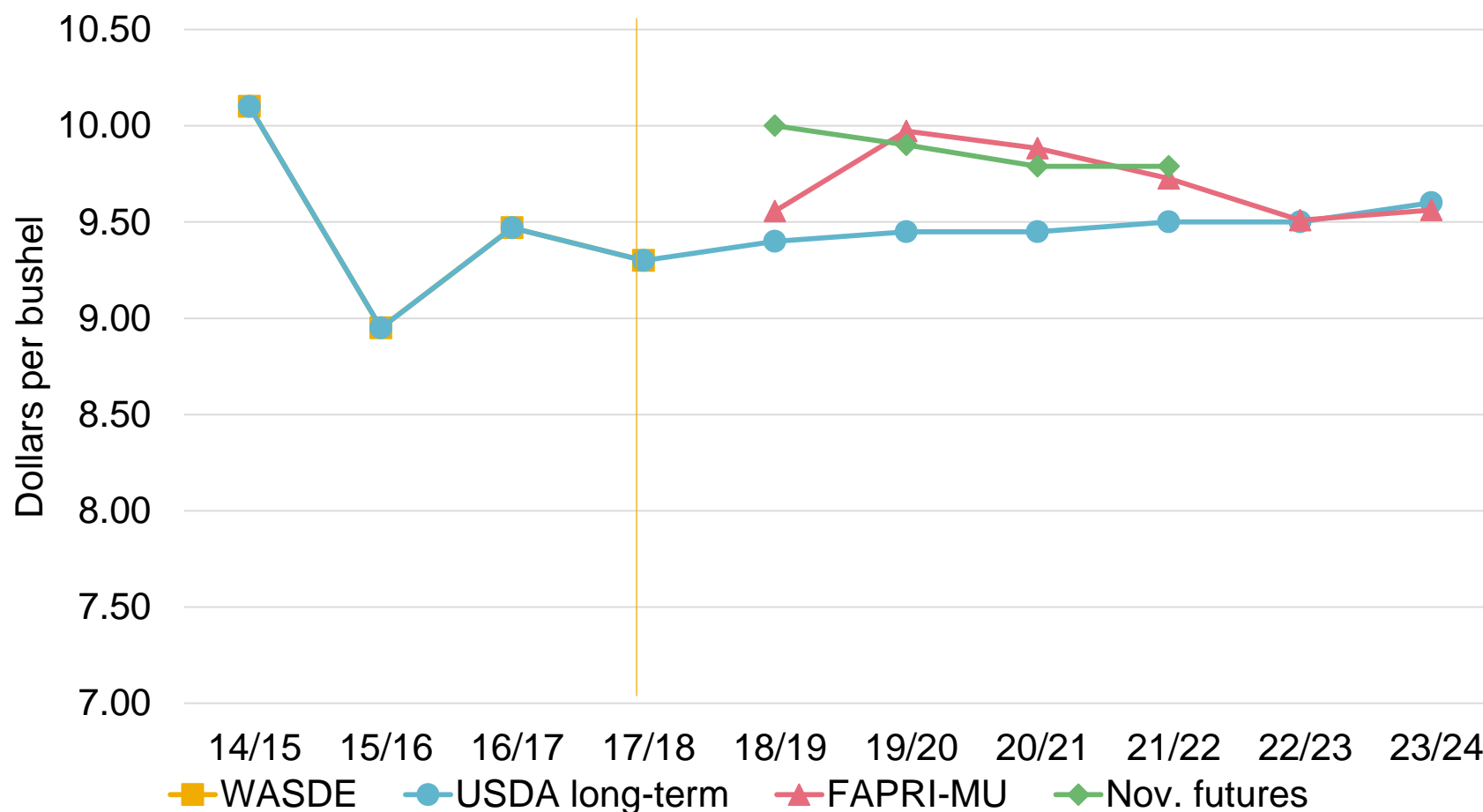
Source: Author calculations using Nov. 2017 actual and projected prices and yields per harvested acre. In reality, these calculations would be different in every county.

# U.S. avg. corn ARC and PLC payments (Dollars per base acre for participating producers)



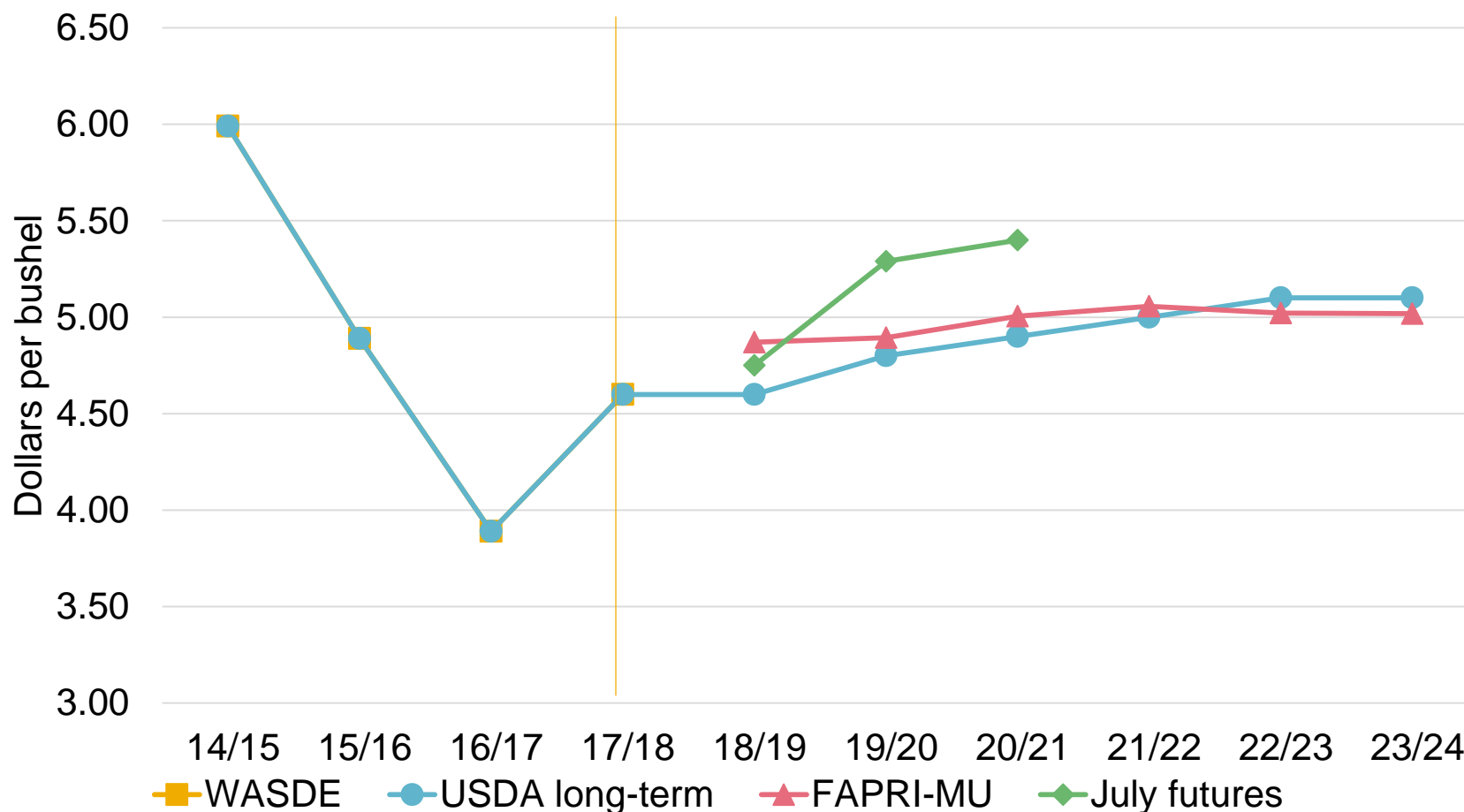
Source: FAPRI-MU March 2017 stochastic baseline (average of 500 outcomes)

# Soybeans: farm and futures prices



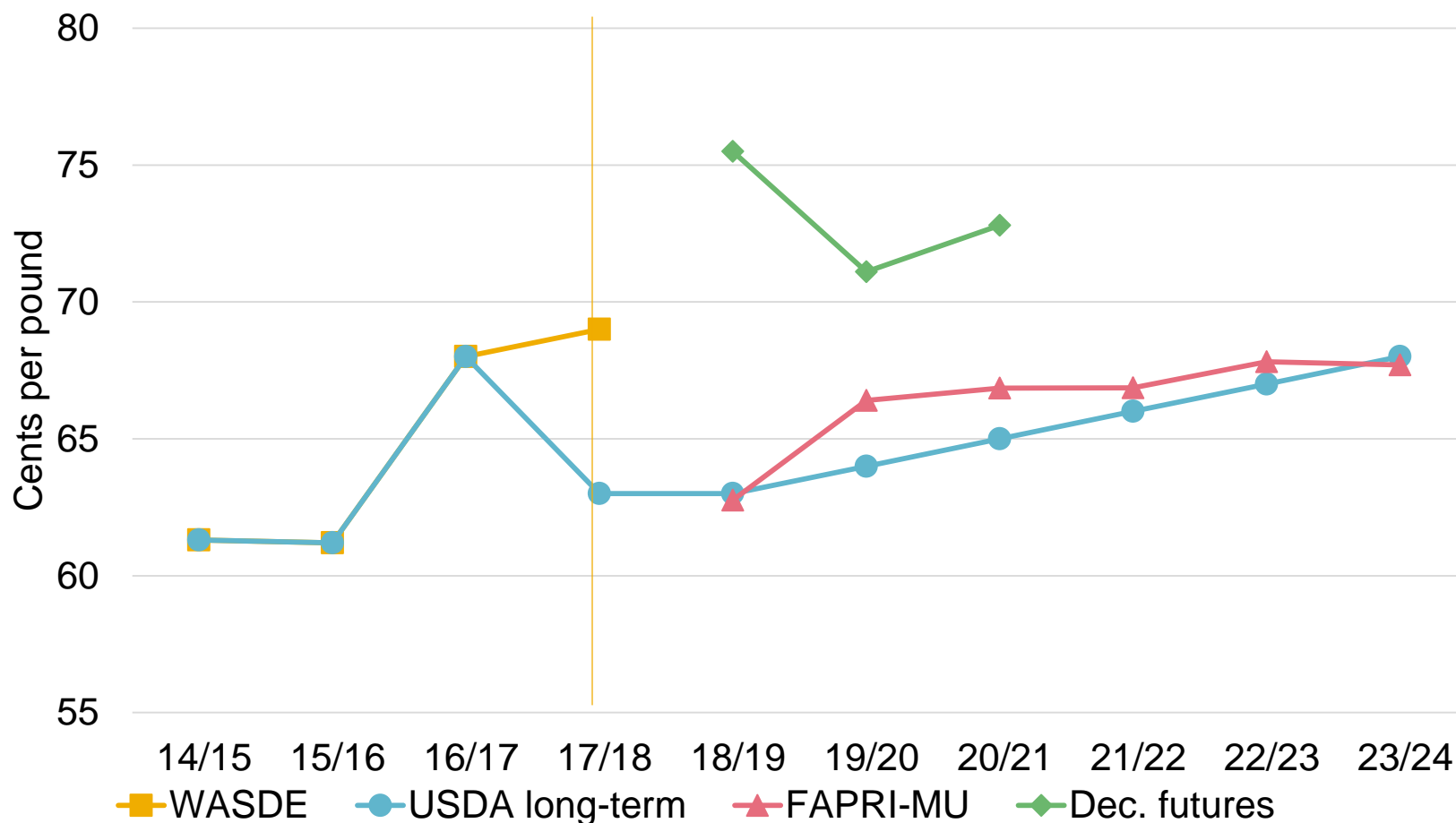
Sources: USDA WASDE, Feb. 2018; USDA long-term baseline, Nov. 2017; FAPRI-MU, Nov. 2017; Nov. CME futures contracts, Feb. 9, 2018. The current reference price is \$8.40/bu.

# Wheat: farm and futures prices



Sources: USDA WASDE, Feb. 2018; USDA long-term baseline, Nov. 2017; FAPRI-MU, Nov. 2017; July CME futures contracts, Feb. 9, 2018. The current reference price is \$5.50/bu.

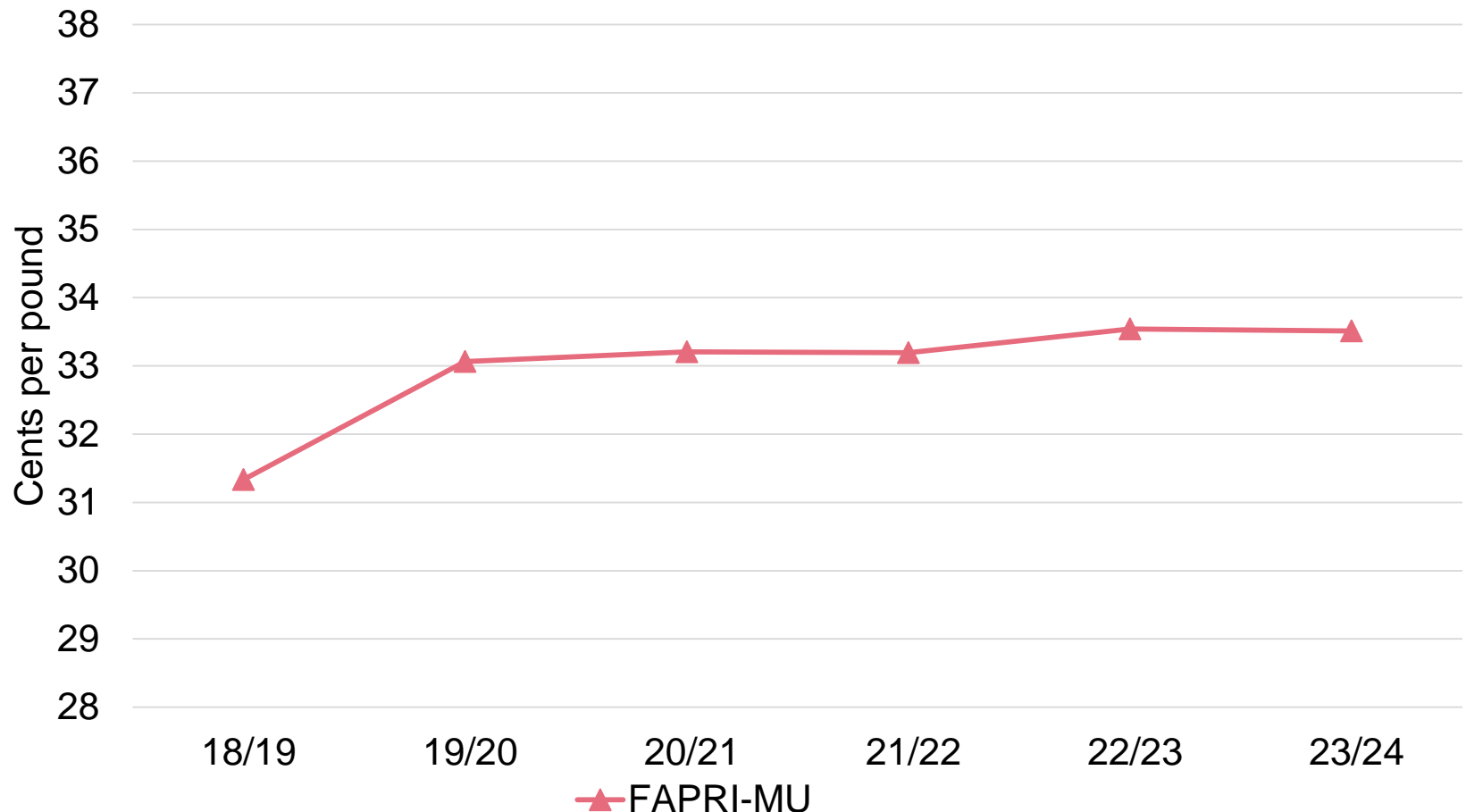
# Cotton: farm and futures prices



Sources: USDA WASDE, Feb. 2018; USDA long-term baseline, Nov. 2017; FAPRI-MU, Nov. 2017; Dec. #2 futures contracts, Feb. 9, 2018.

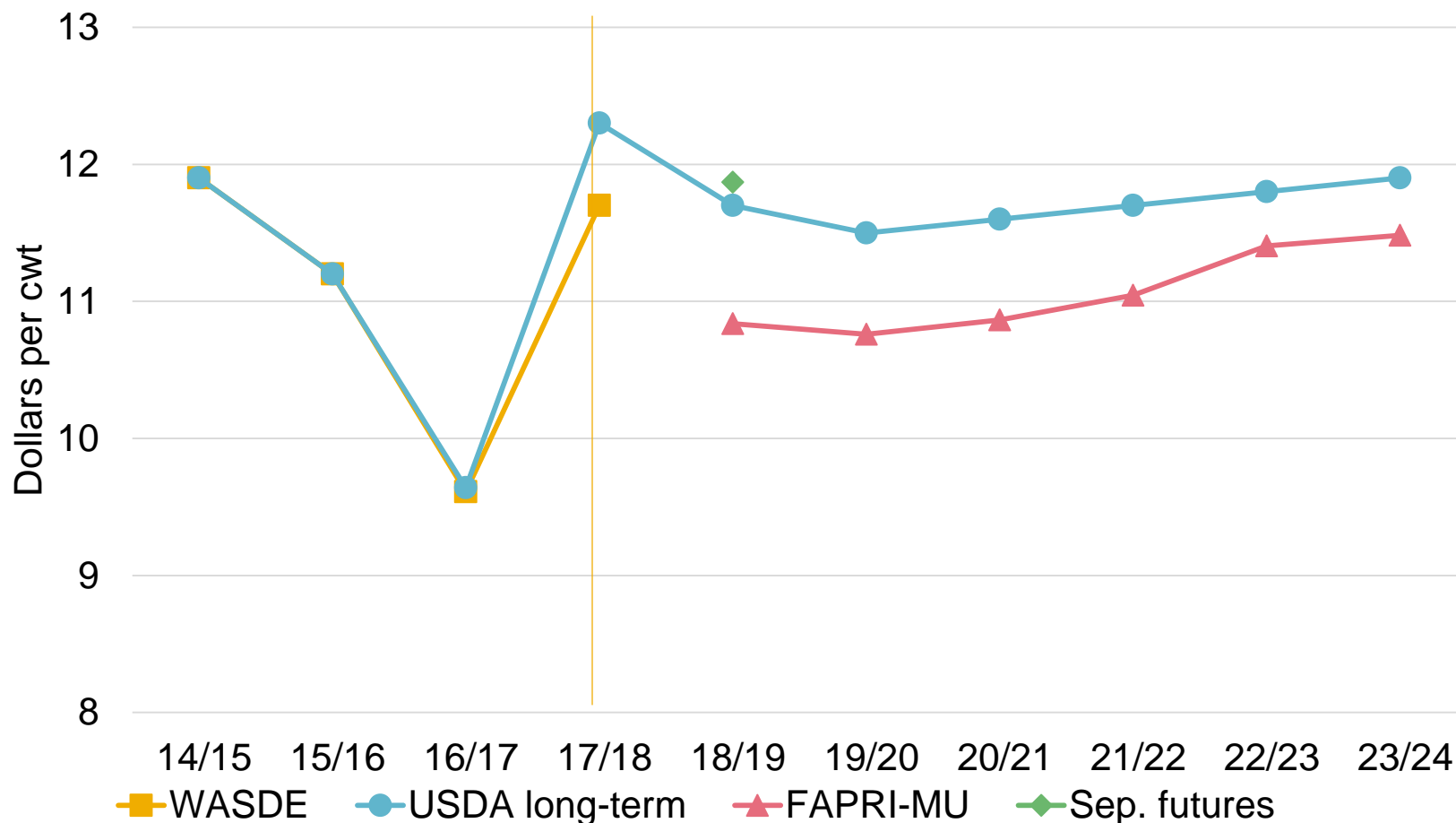


# Seed cotton: calculated prices given FAPRI-MU November baseline



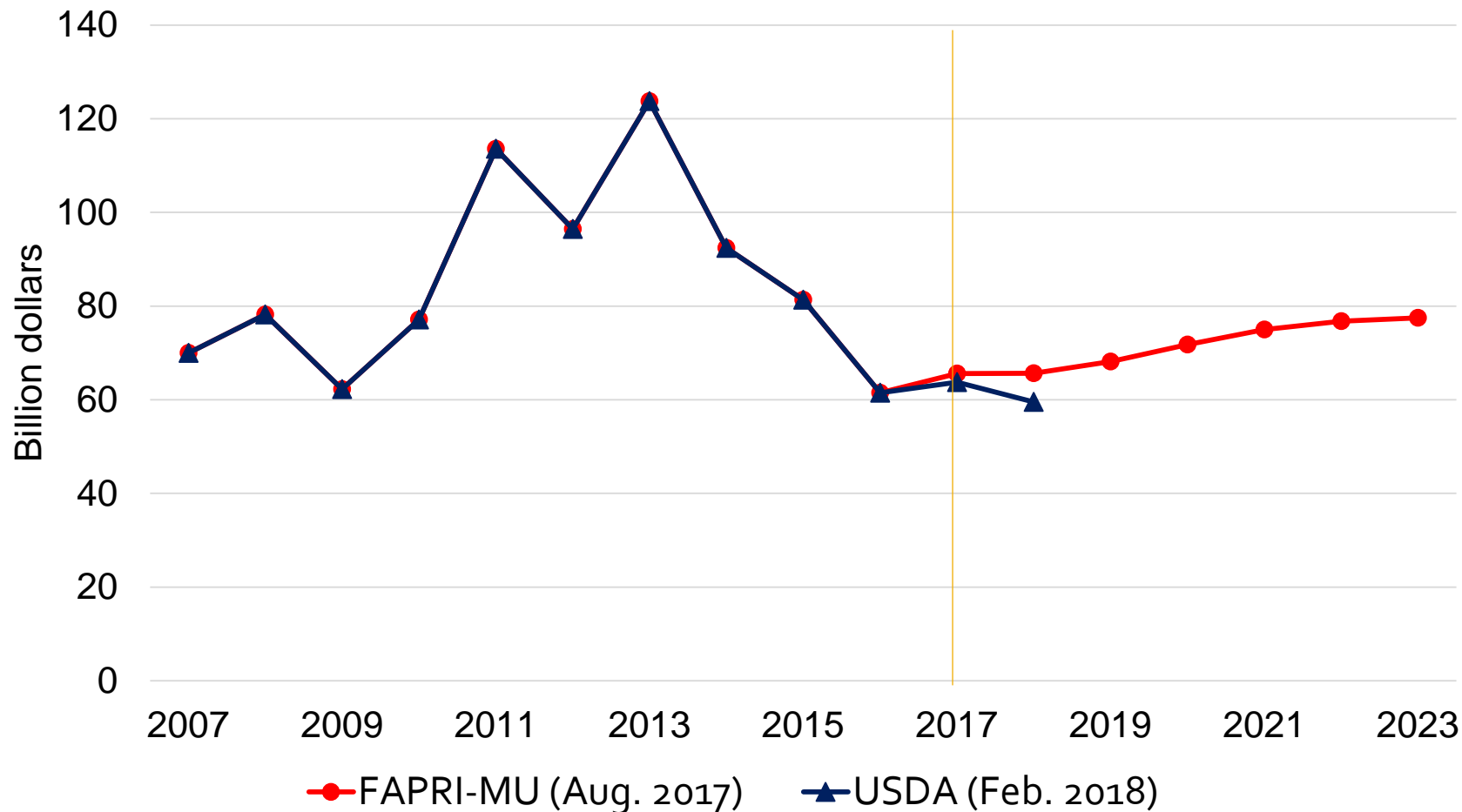
Sources: Calculations based on FAPRI-MU projected prices for cotton fiber and cottonseed, November 2017. The reference price for seed cotton is 36.7 cents/lb. for 2018.

# Long grain rice: farm and futures prices



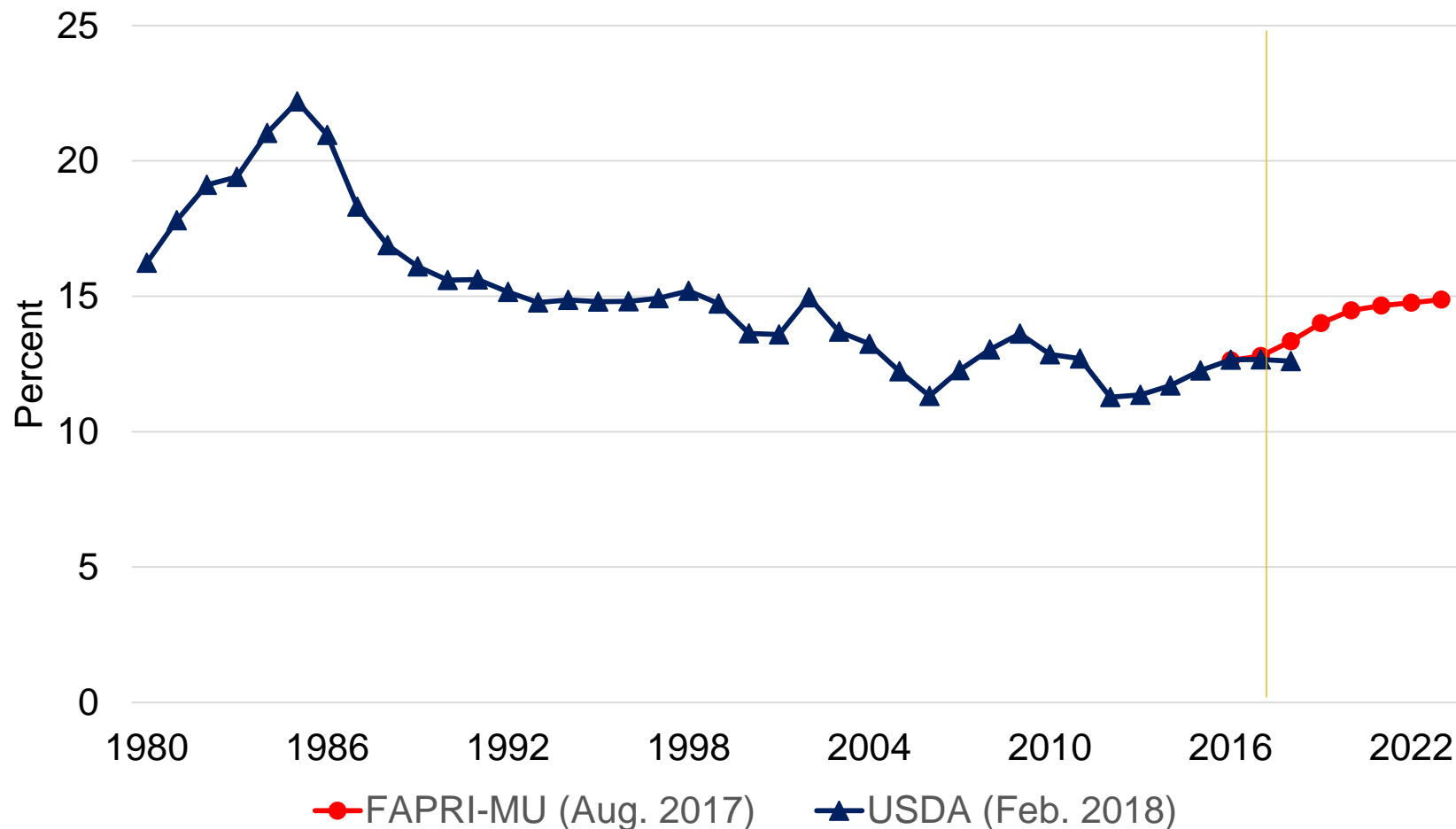
Sources: USDA WASDE, Feb. 2018; USDA long-term baseline, Nov. 2017; FAPRI-MU, Nov. 2017; Sep. rough rice futures contracts, Feb. 9, 2018. The reference price is \$14/cwt.

# U.S. net farm income



Sources: USDA ERS, Feb. 2018; FAPRI-MU baseline update, Aug. 2017.

# Farm debt-asset ratio



Sources: USDA ERS, Feb. 2018; FAPRI-MU baseline update, Aug. 2017.

# Summary points

- 5 straight years of above-trend world yields have resulted in large stocks, low prices
- Under “normal” conditions, projected crop prices remain far below 2010-2012 peaks
- Projected farm program costs are very sensitive to price projections
- Farm income may stop declining, but not increase much in the years ahead

# Thanks!

- FAPRI-MU website:  
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