

2023 Illinois Farm Economics Summit

Enterprise Budgets and Farm Income Outlook



Gary Schnitkey and Nick Paulson



Topics

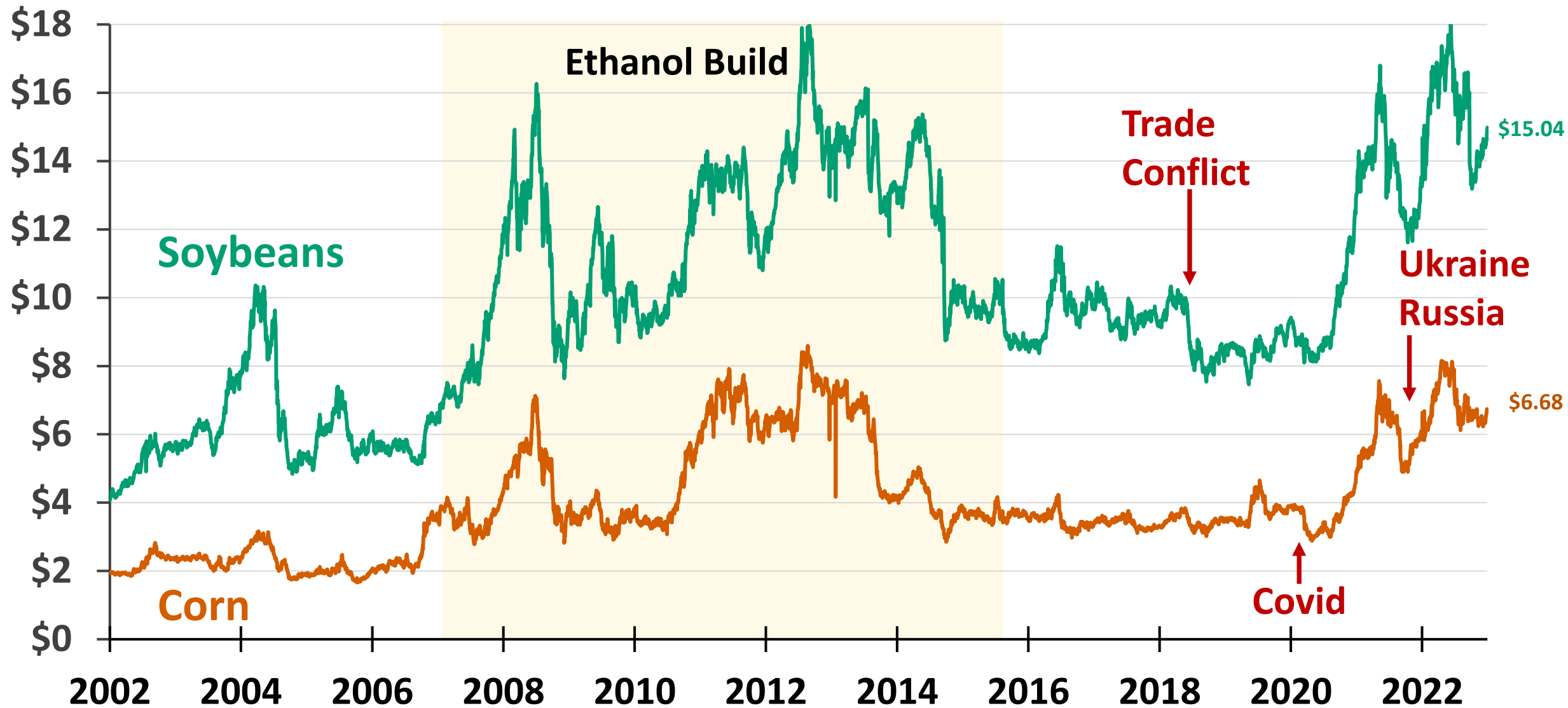
- Corn and Soybean Prices
- Costs and Returns
- Fertilizer
- Farm Income
- Questions



Corn and Soybean Prices



Corn and Soybean Cash Prices, Central Illinois



U.S. Prices by Marketing Year

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Corn	3.36	3.61	3.56	4.53	5.95	6.70	5.80
Soybeans	9.33	8.47	8.57	10.80	13.60	14.00	13.20
Wheat	4.72	5.16	4.58	5.05	7.63	9.10	8.50
							PROJECTED

National Market Year Average (MYA) price by year

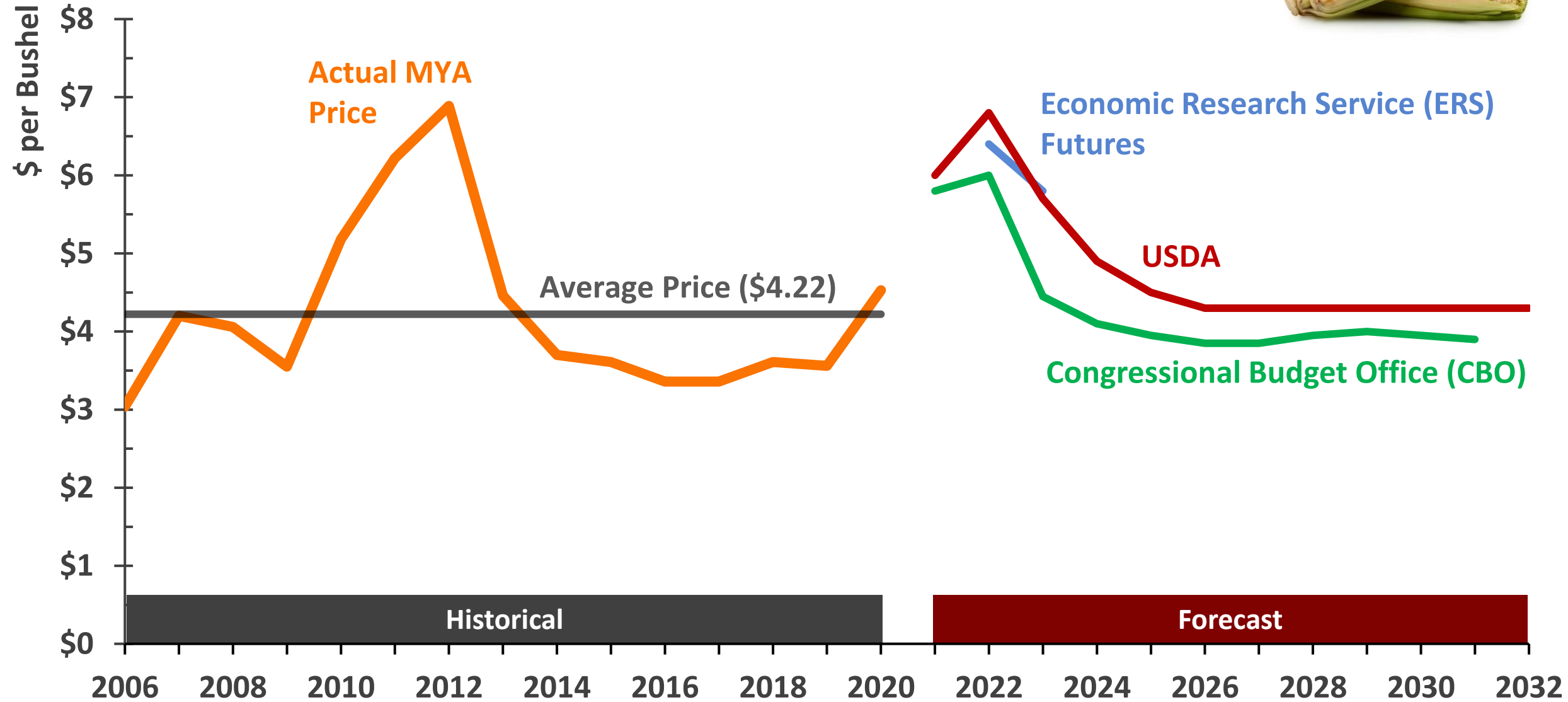
- September to August for corn and soybeans
- June to May for wheat

Calculated by NASS

- 2022-23 (P) is projection in WASDE report
- 2023-24 is our projection

Corn, Market Year Average (MYA) Prices

Historical to 2020, and Projections from 2021 to 2031

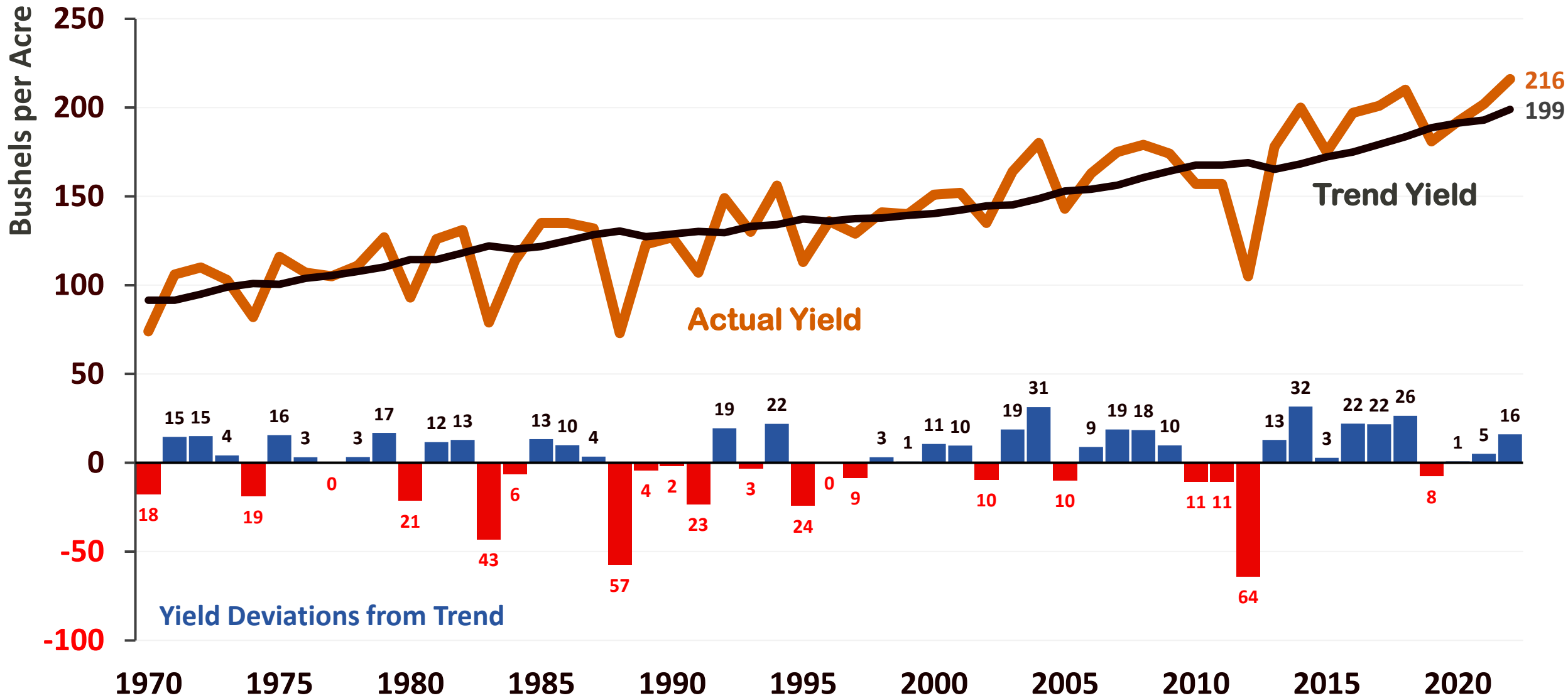


Historic prices from NASS. See farmdoc Daily, May 31, 2022 for more detail on sources for forecasts.

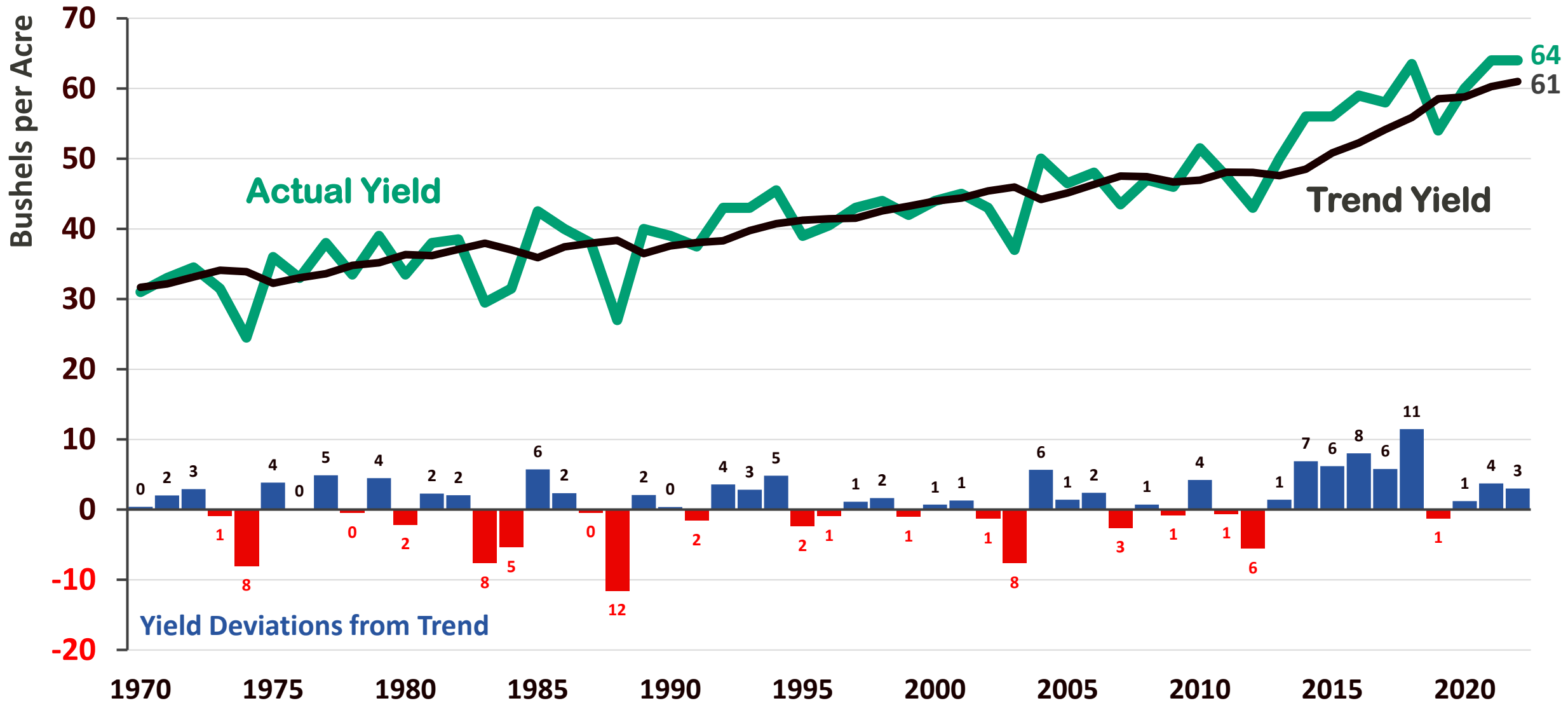
Yields, Costs, and Returns



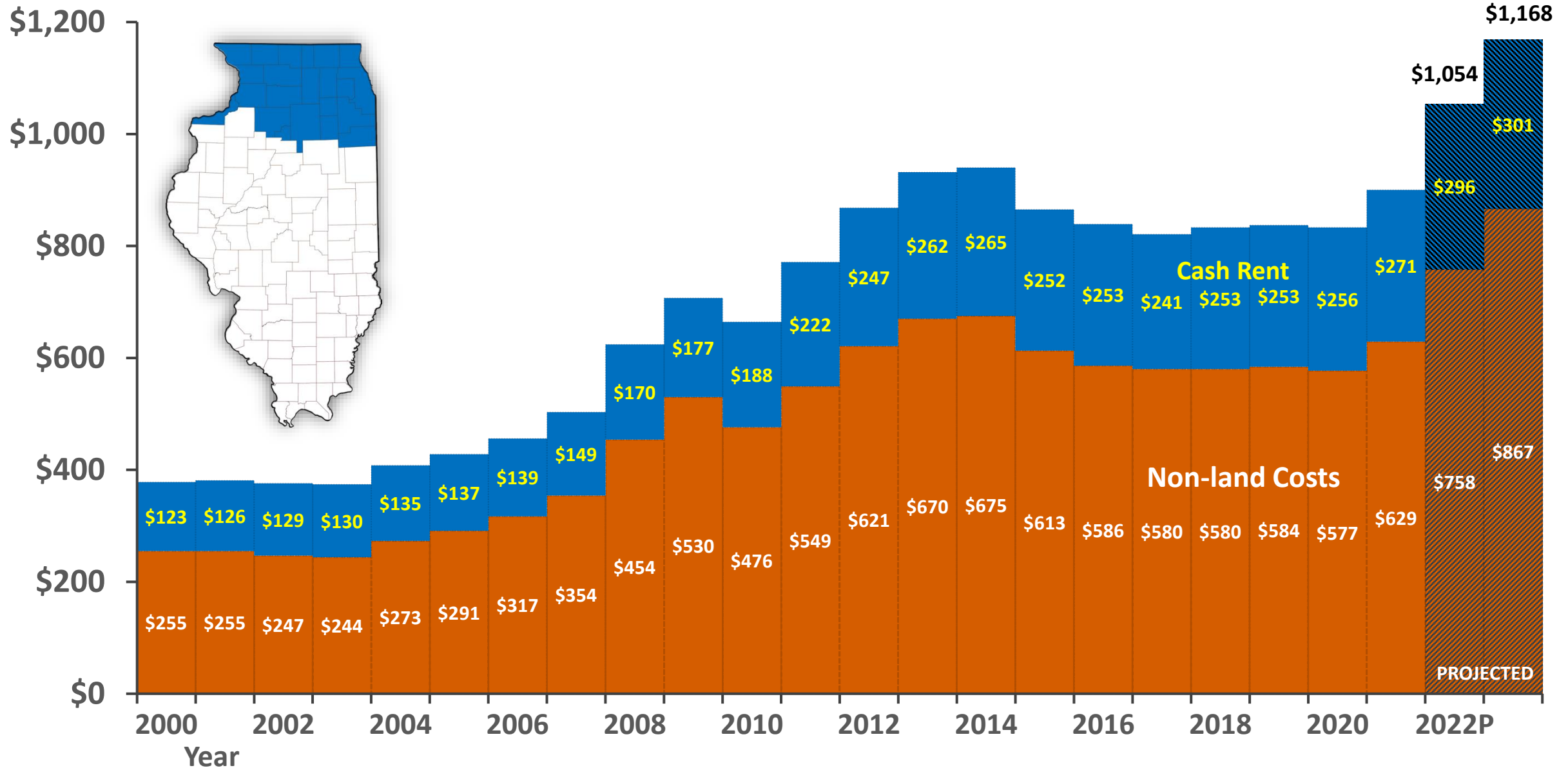
Illinois Corn Yields, 1970 to 2022P



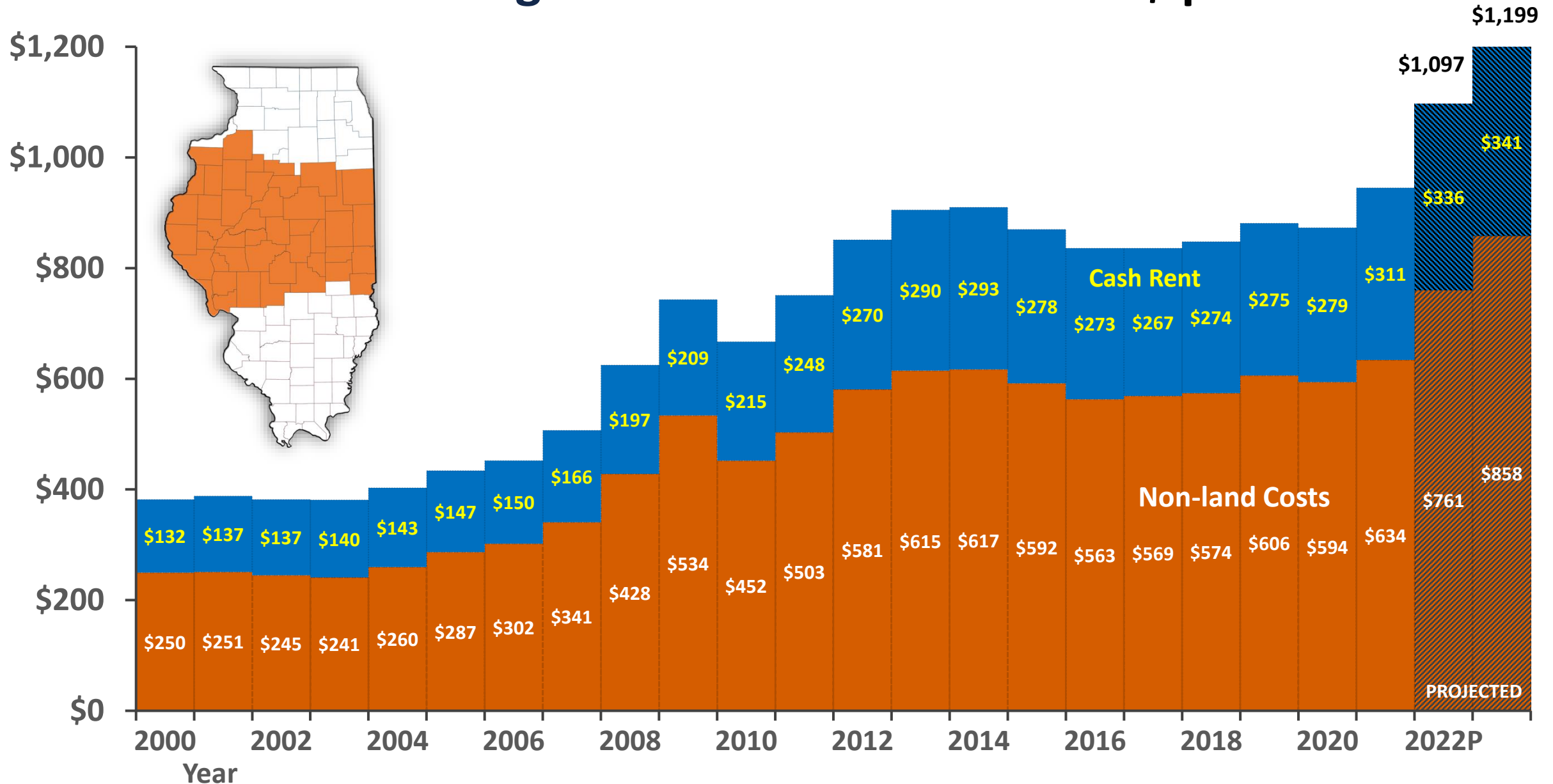
Illinois Soybean Yields, 1970 to 2022P



Total Costs of Producing Corn for Northern Illinois in \$ per acre

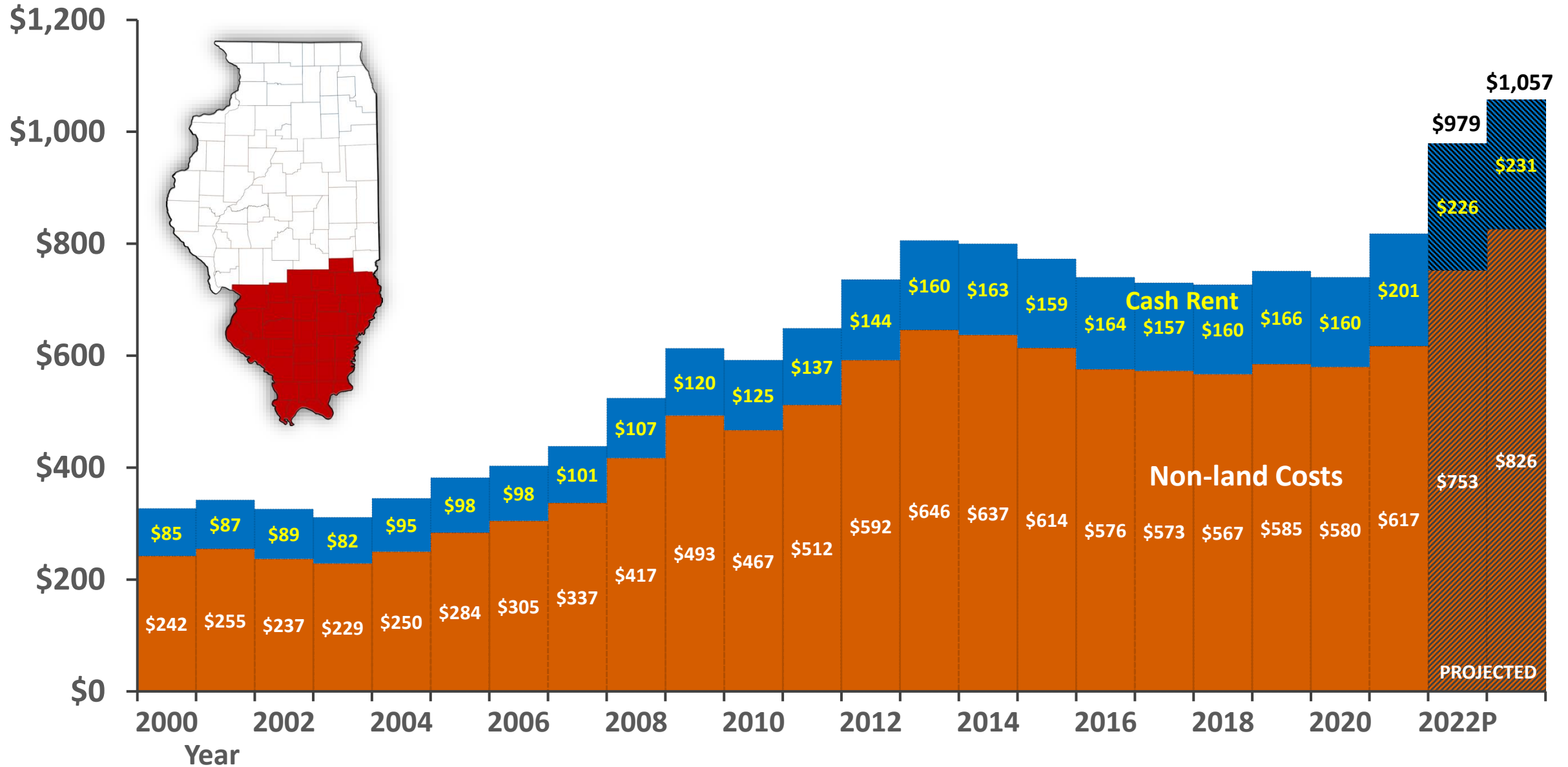


Total Costs of Producing Corn for Central Illinois in \$ per acre



Source: Illinois Farm Business Farm Management

Total Costs of Producing Corn for **Southern Illinois** in \$ per acre

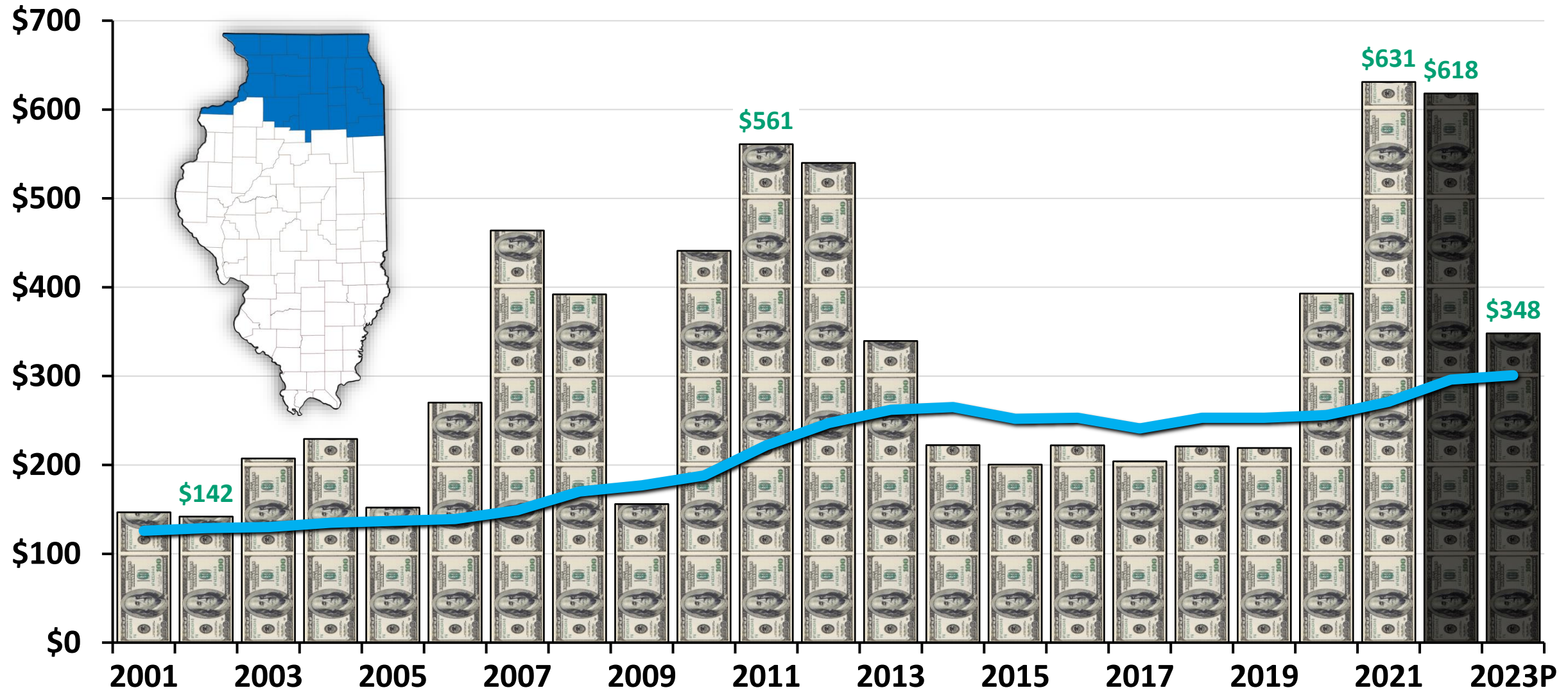


Corn and Soybean Returns

Central Illinois with High-Productivity Farmland

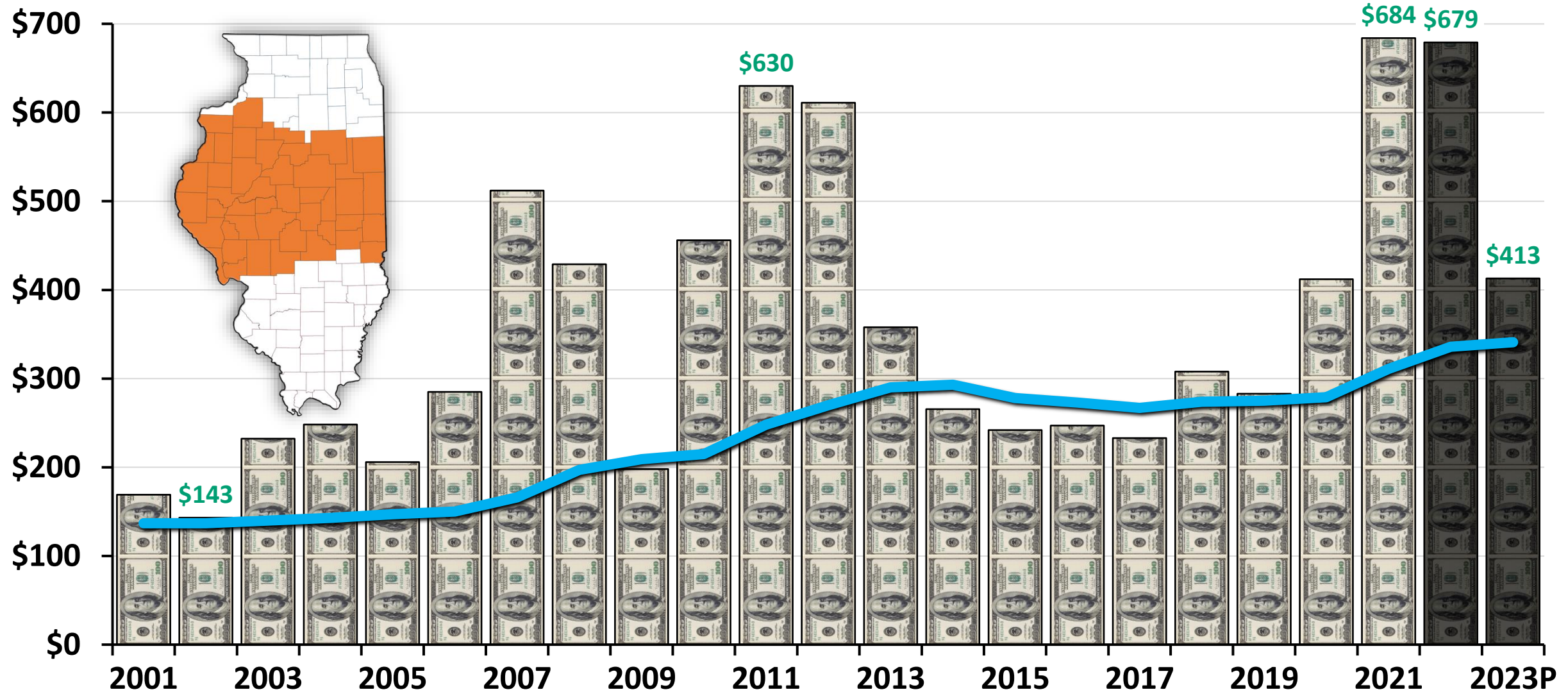
	Corn			Soybeans		
	2021	2022P	2023P	2021	2022P	2023P
Yield per acre	221	225	227	72	71	72
Price per bu	\$5.90	\$6.40	\$5.50	\$13.40	\$14.00	\$13.00
Crop revenue	\$1,304	\$1,440	\$1,249	\$965	\$994	\$936
Total direct costs	\$415	\$514	\$582	\$192	\$264	\$288
Total power costs	\$143	\$168	\$179	\$124	\$147	\$157
Total overhead costs	\$76	\$79	\$93	\$69	\$72	\$85
Total non-land costs	\$634	\$761	\$854	\$385	\$483	\$530
Operator and land return	\$684	\$679	\$395	\$585	\$511	\$406
Land costs (cash rent)	311	336	341	311	336	341
Farmer return	\$373	\$343	\$54	\$274	\$175	\$65

Operator and Land Return and Cash Rent in \$ per acre Northern Illinois



Operator and Land Return and Cash Rent in \$ per acre

Central Illinois



\$684 \$679

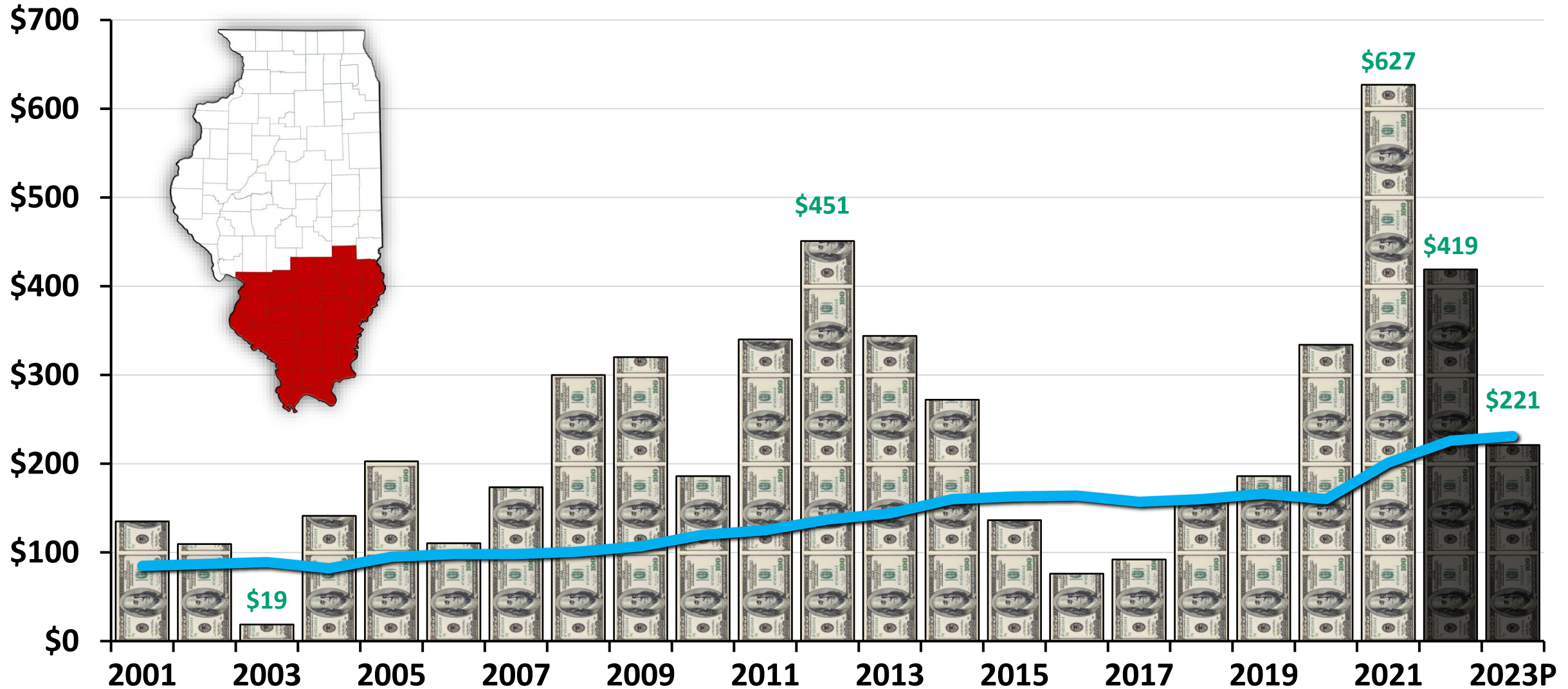
\$630

\$413

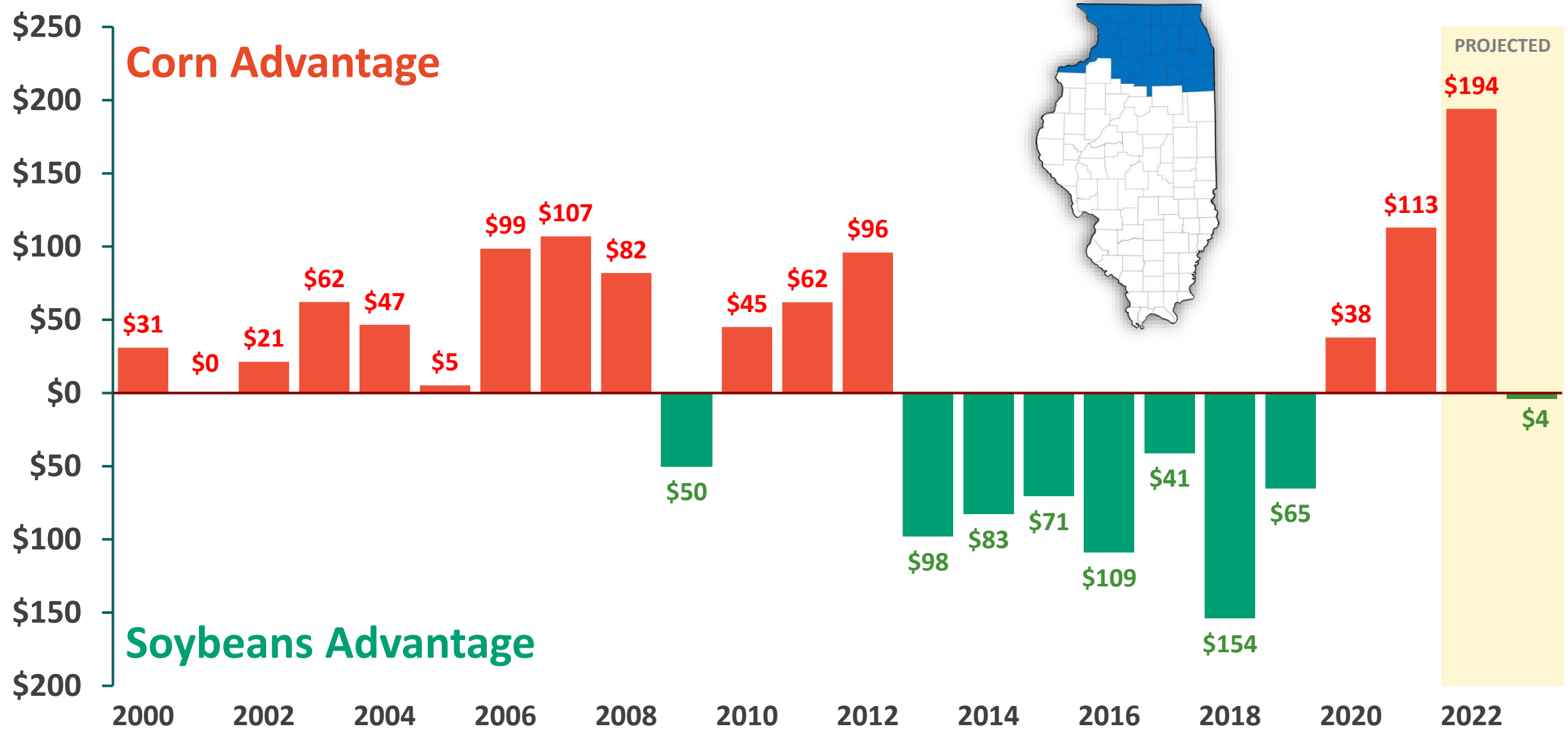
\$143

Operator and Land Return and Cash Rent in \$ per acre

Southern Illinois

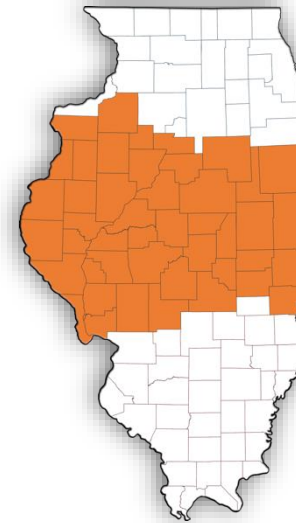
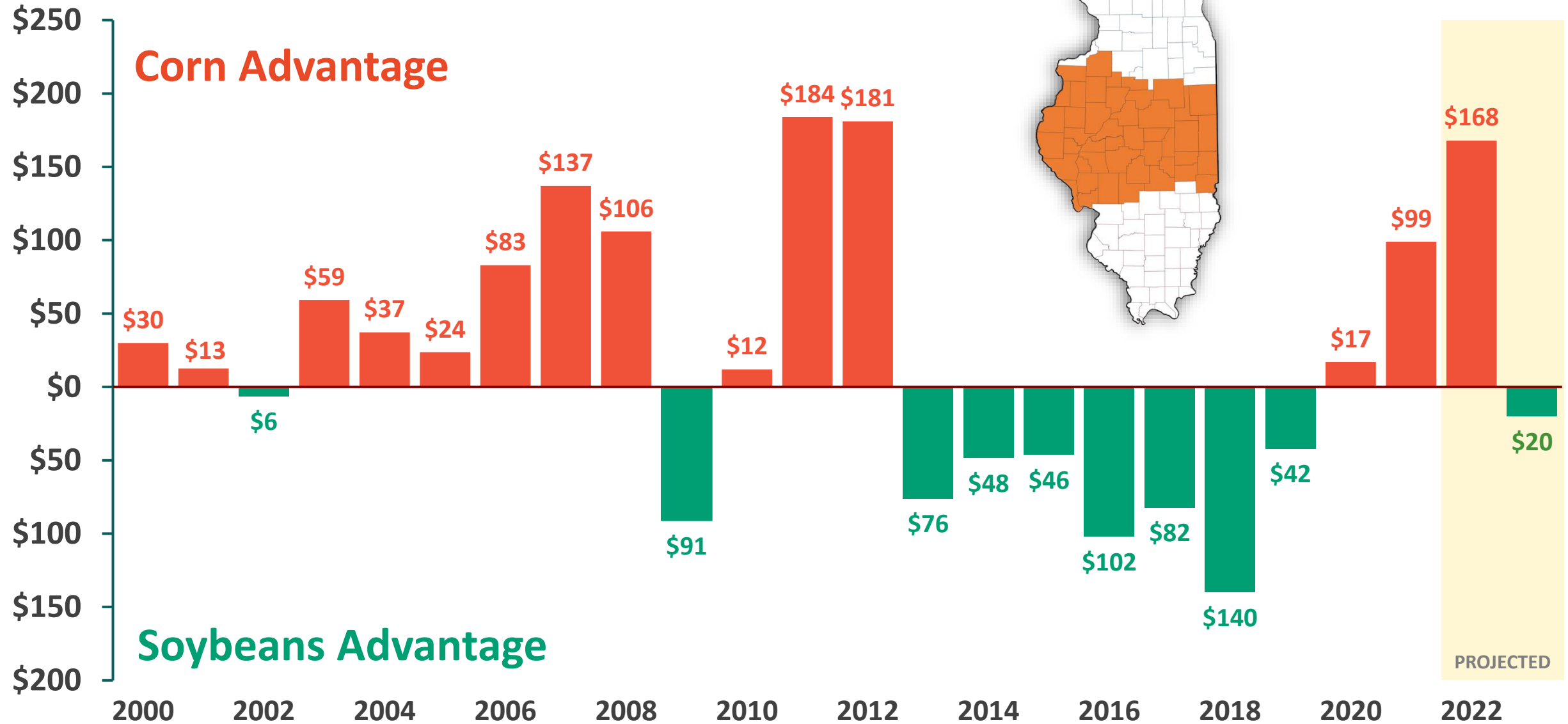


Corn Advantage Over Soybeans, Northern Illinois

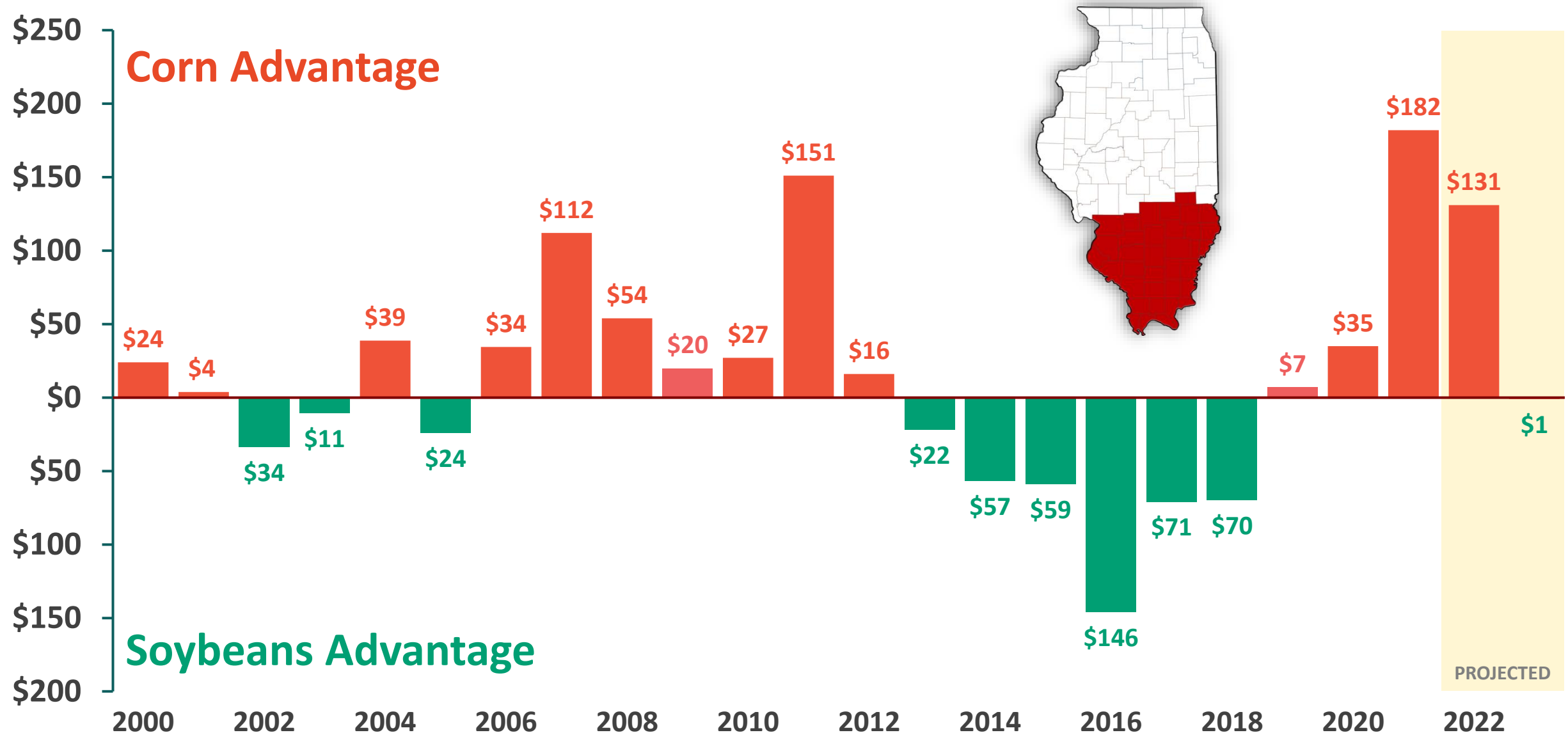


PROJECTED

Corn Advantage Over Soybeans, Central Illinois



Corn Advantage Over Soybeans, Southern Illinois



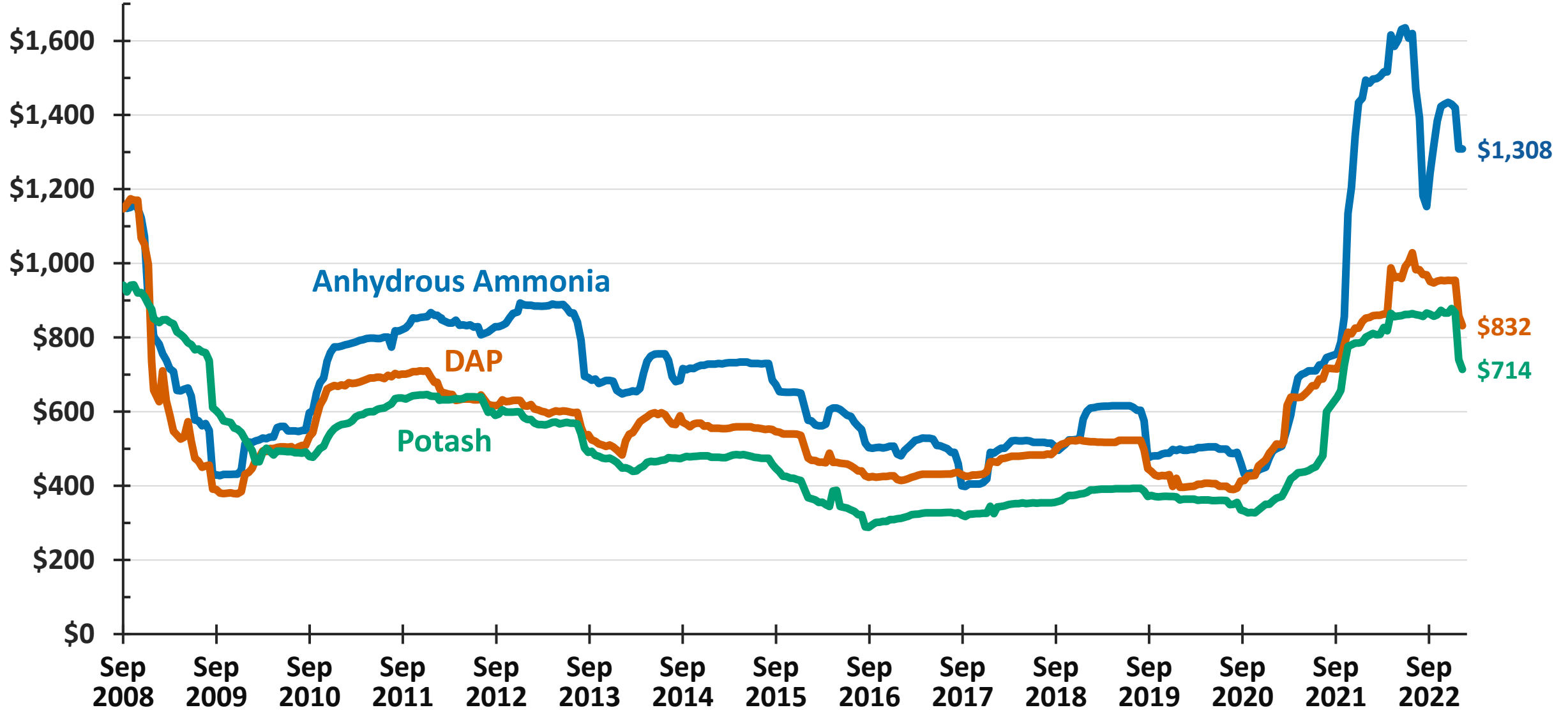
PROJECTED

Fertilizer



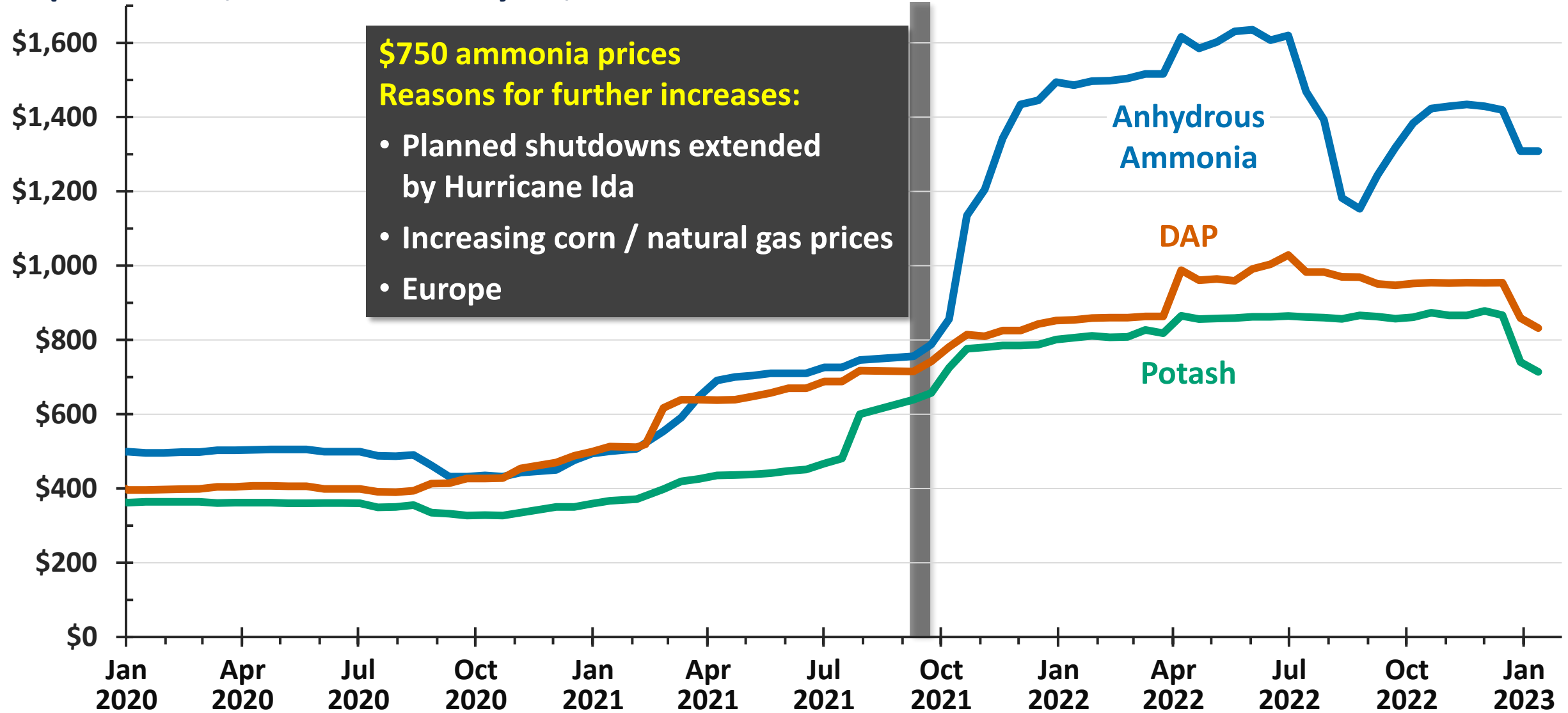
Fertilizer Prices per Ton in Illinois

September 4, 2008 to January 12, 2023



Fertilizer Prices per Ton in Illinois

September 4, 2008 to January 12, 2023



\$750 ammonia prices
Reasons for further increases:

- Planned shutdowns extended by Hurricane Ida
- Increasing corn / natural gas prices
- Europe

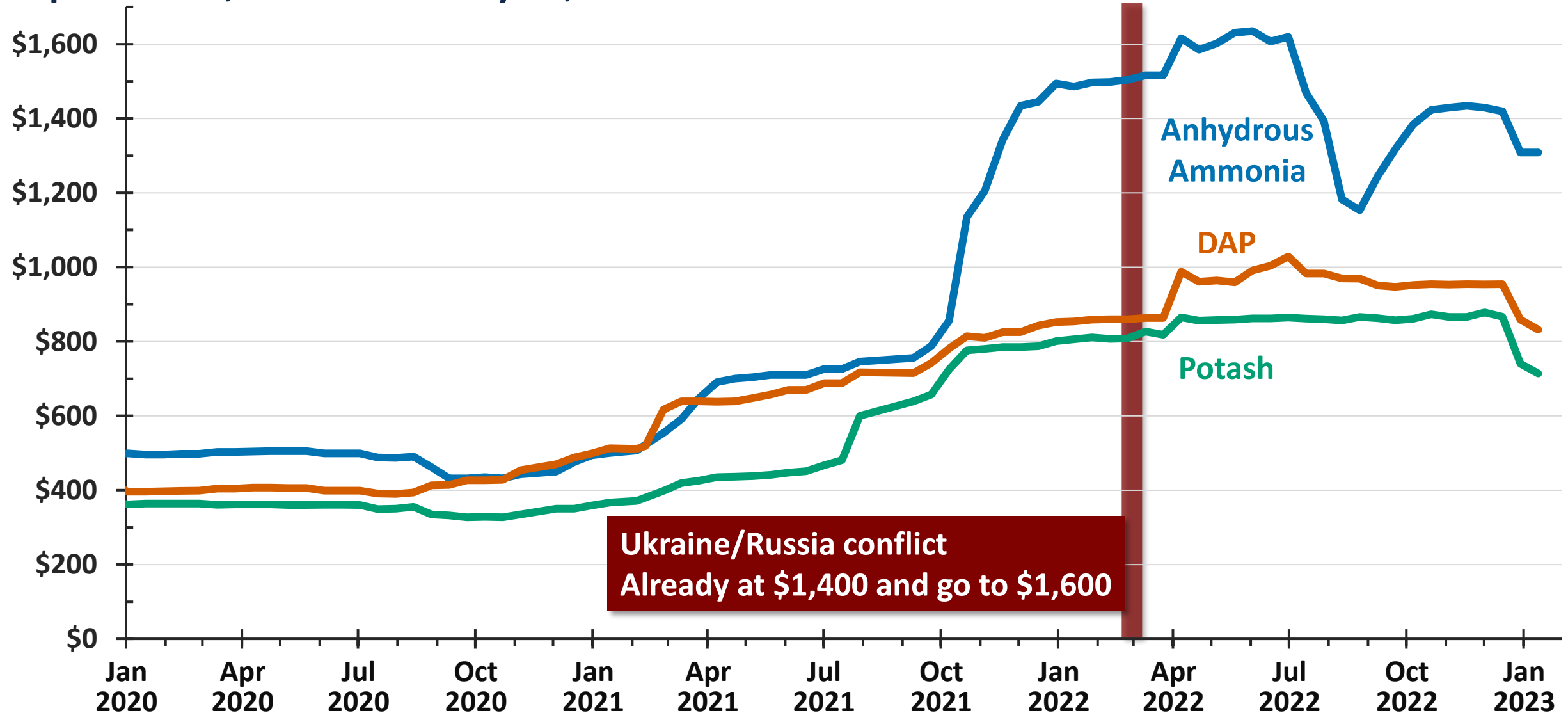
Anhydrous Ammonia

DAP

Potash

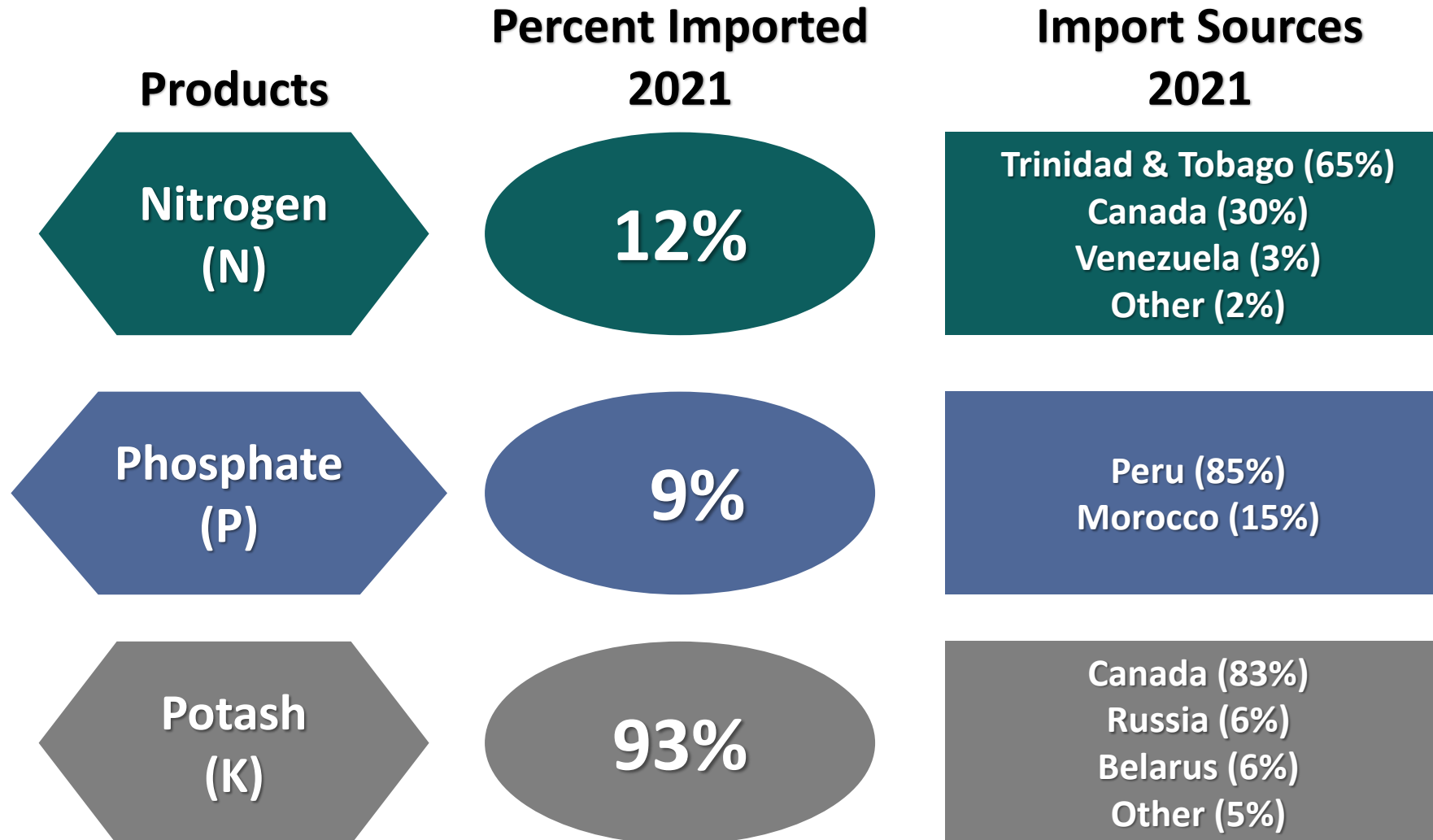
Fertilizer Prices per Ton in Illinois

September 4, 2008 to January 12, 2023



Ukraine/Russia conflict
Already at \$1,400 and go to \$1,600

Dependence on Imported Fertilizers



In 2020
the US produced:

- 87% Nitrogen use
- 90% Phosphate use
- 6% Potash use

Potash is most
vulnerable to
“import” supply
problems

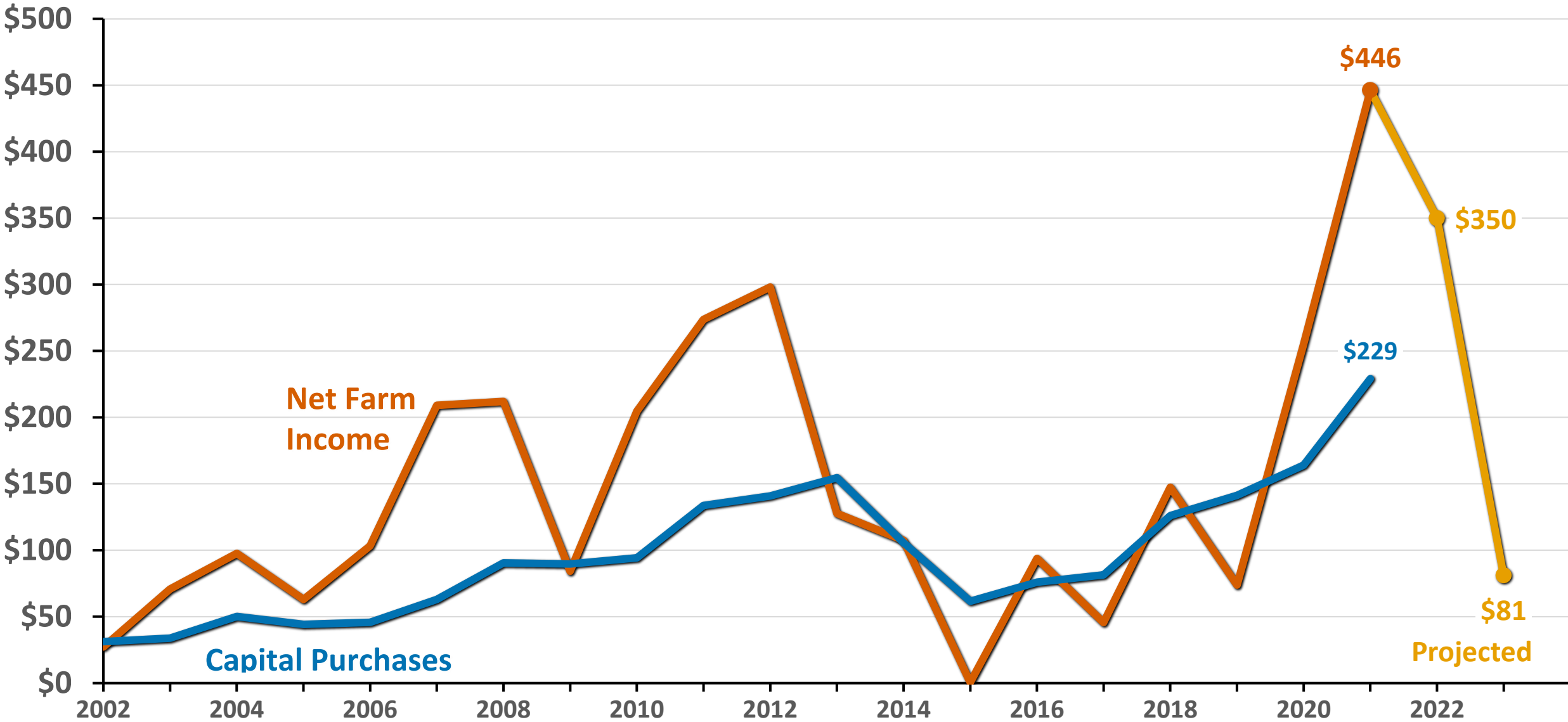
War and trade issues
with some import
sources

Farm Incomes

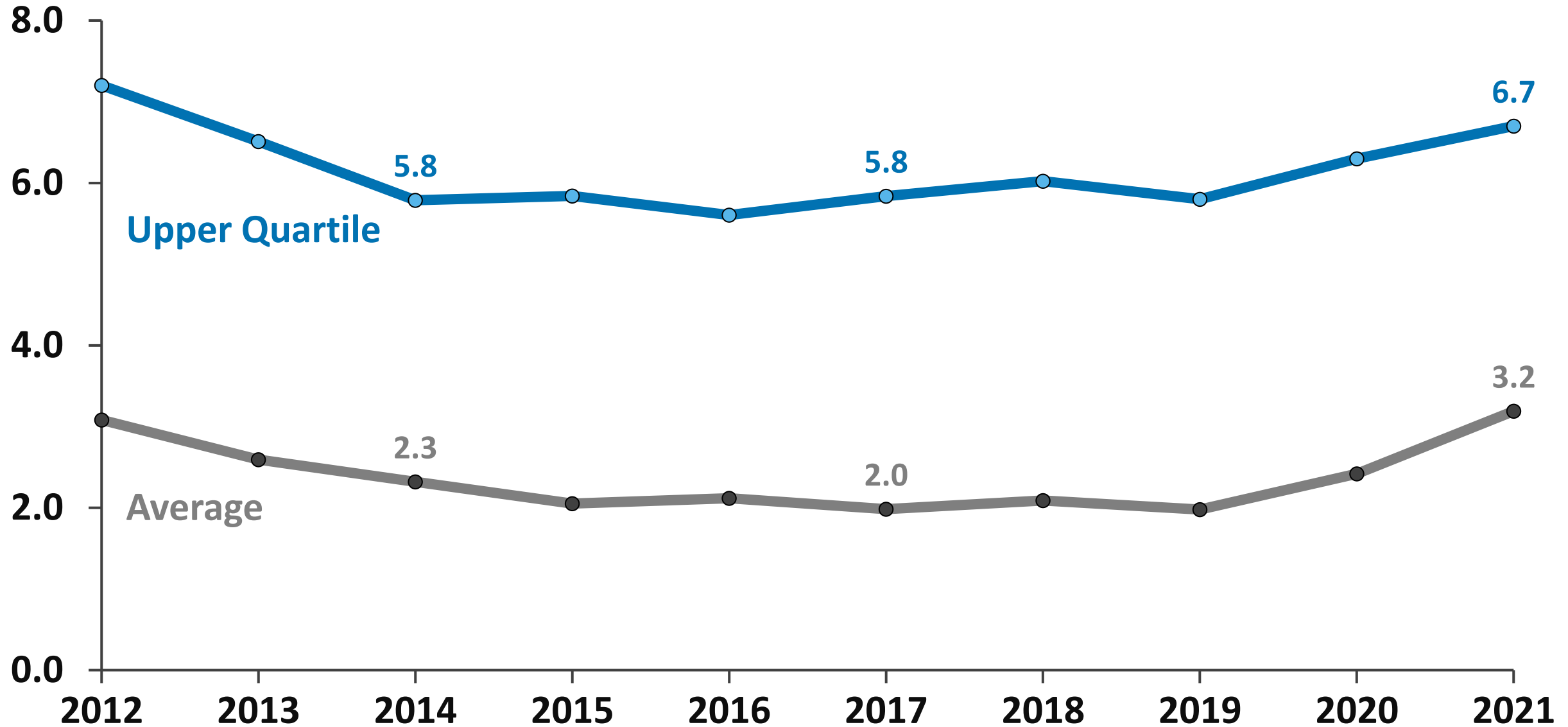


Net Farm Income and Capital Purchases on Grain Farms in \$1,000

Enrolled in Illinois Farm Business Farm Management

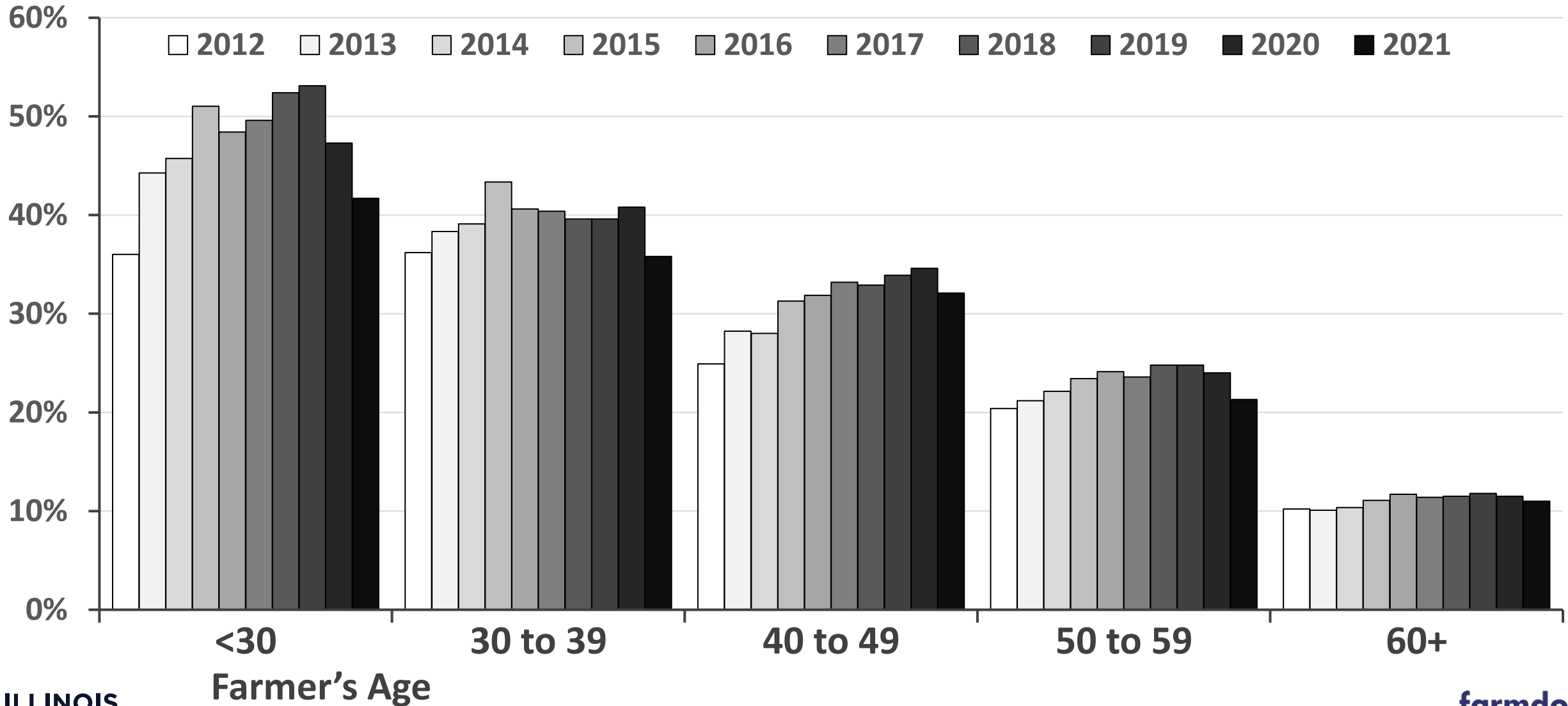


FBFM Records Summary Current Ratio



FBFM Records Summary

Debt to Asset Ratio by Age



Questions for the future



Questions

What are long run prices?

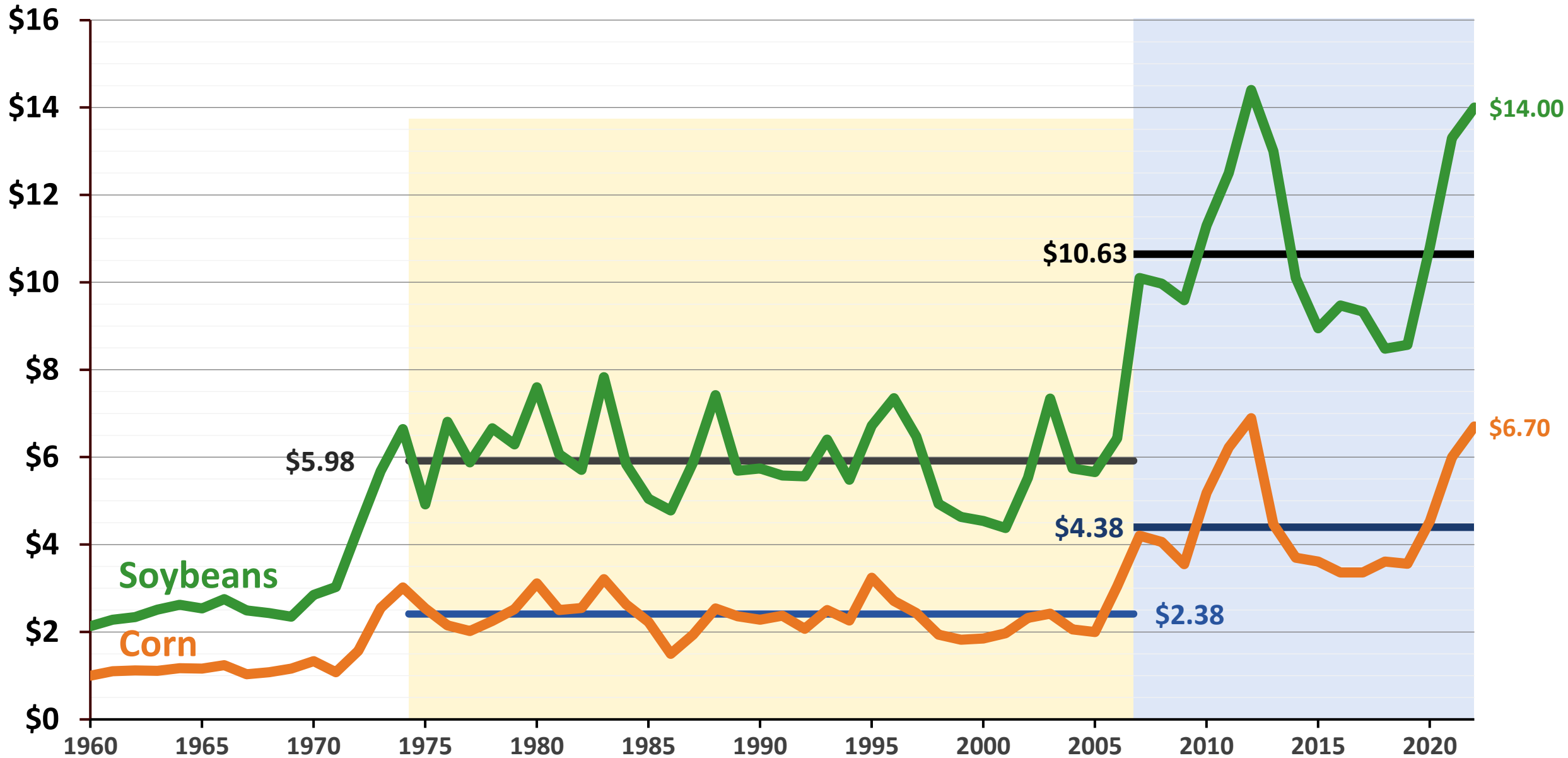


What will corn prices be in five-years?

- \$4.00
- \$4.50
- \$5.00
- \$5.50
- \$6.00



U.S. Market Year Average Prices for Corn and Soybeans from 1960 to 2022P



Questions

What are long run prices?

High - \$4 for corn, \$12.50 for soybeans

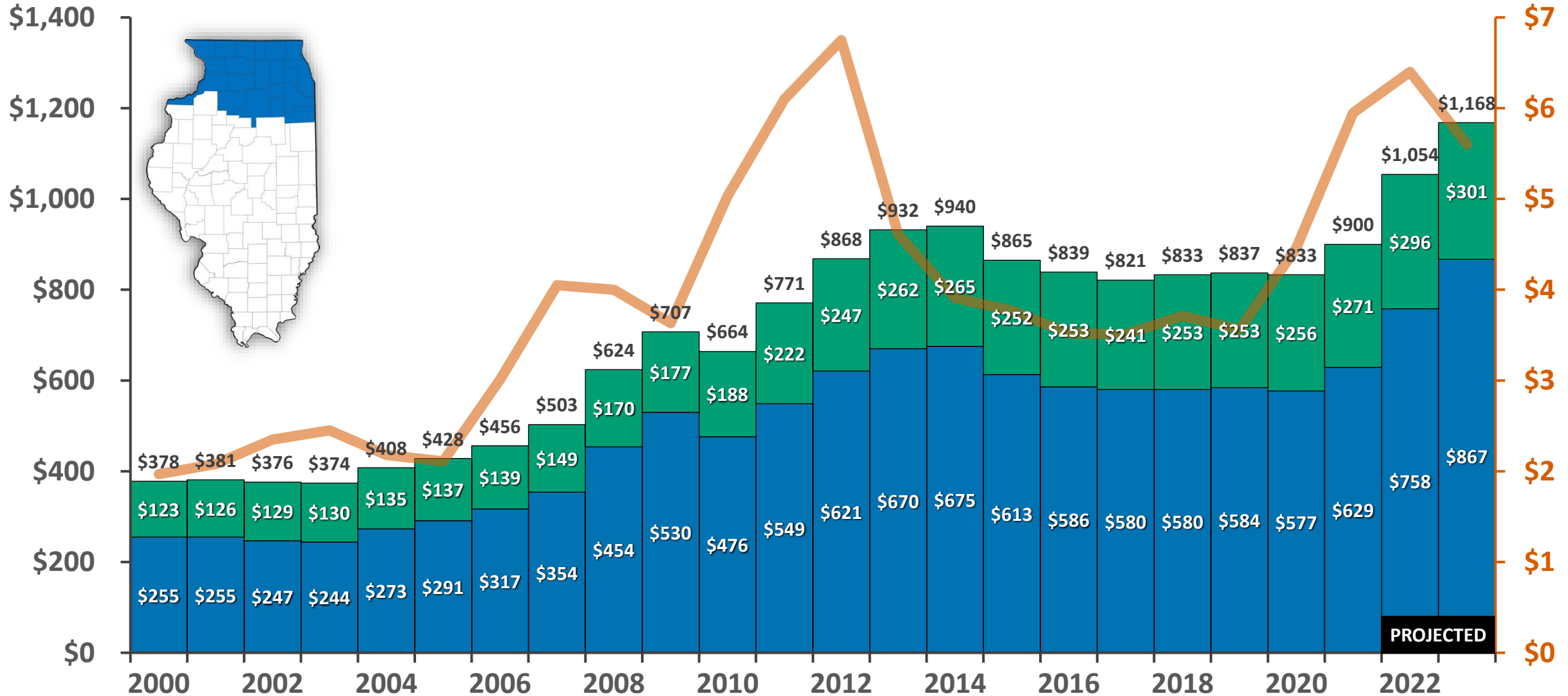
What happens when prices do come down?



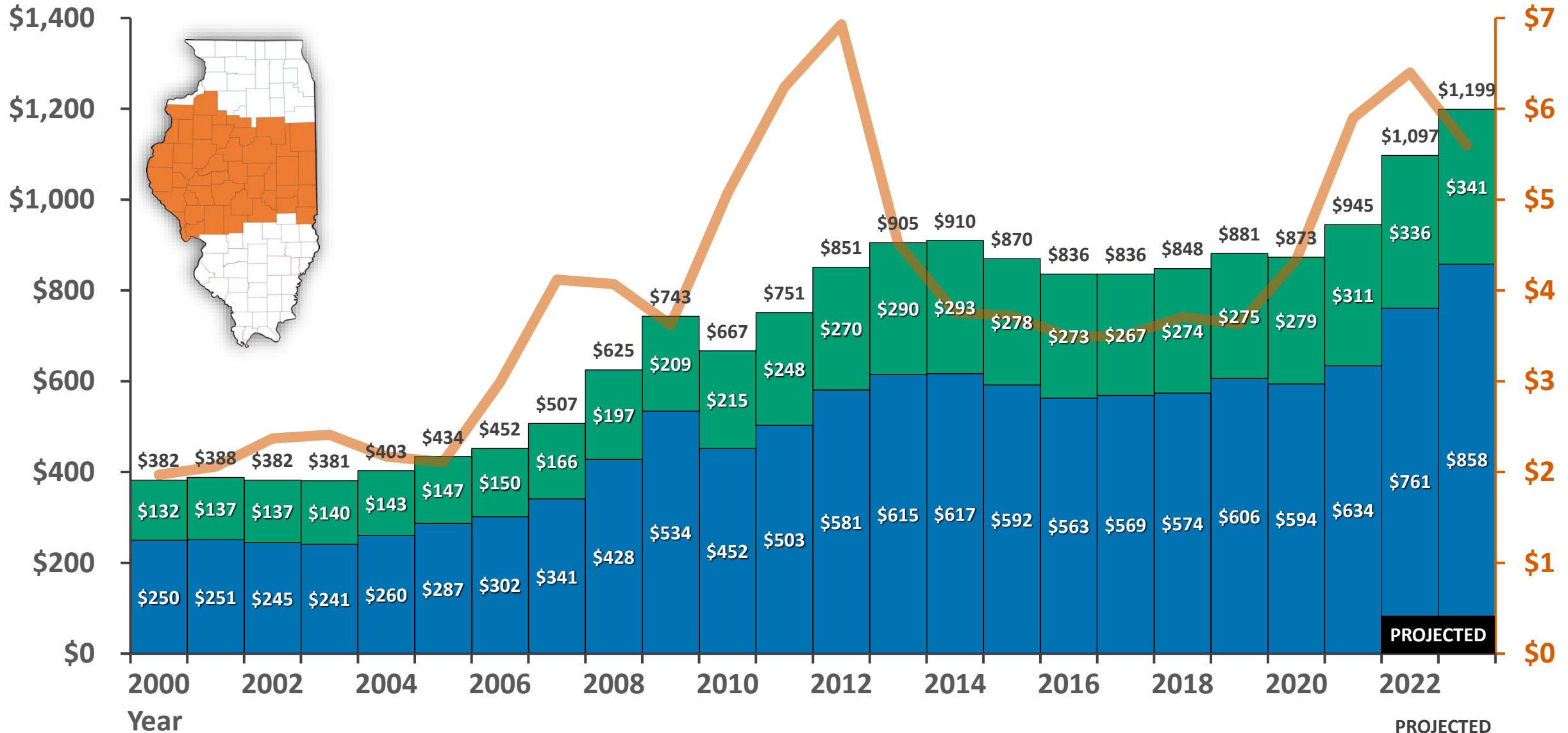
What happens to costs when price decline?

- Decrease substantially
- Decrease
- Stay the same
- Increase
- Increase Increase

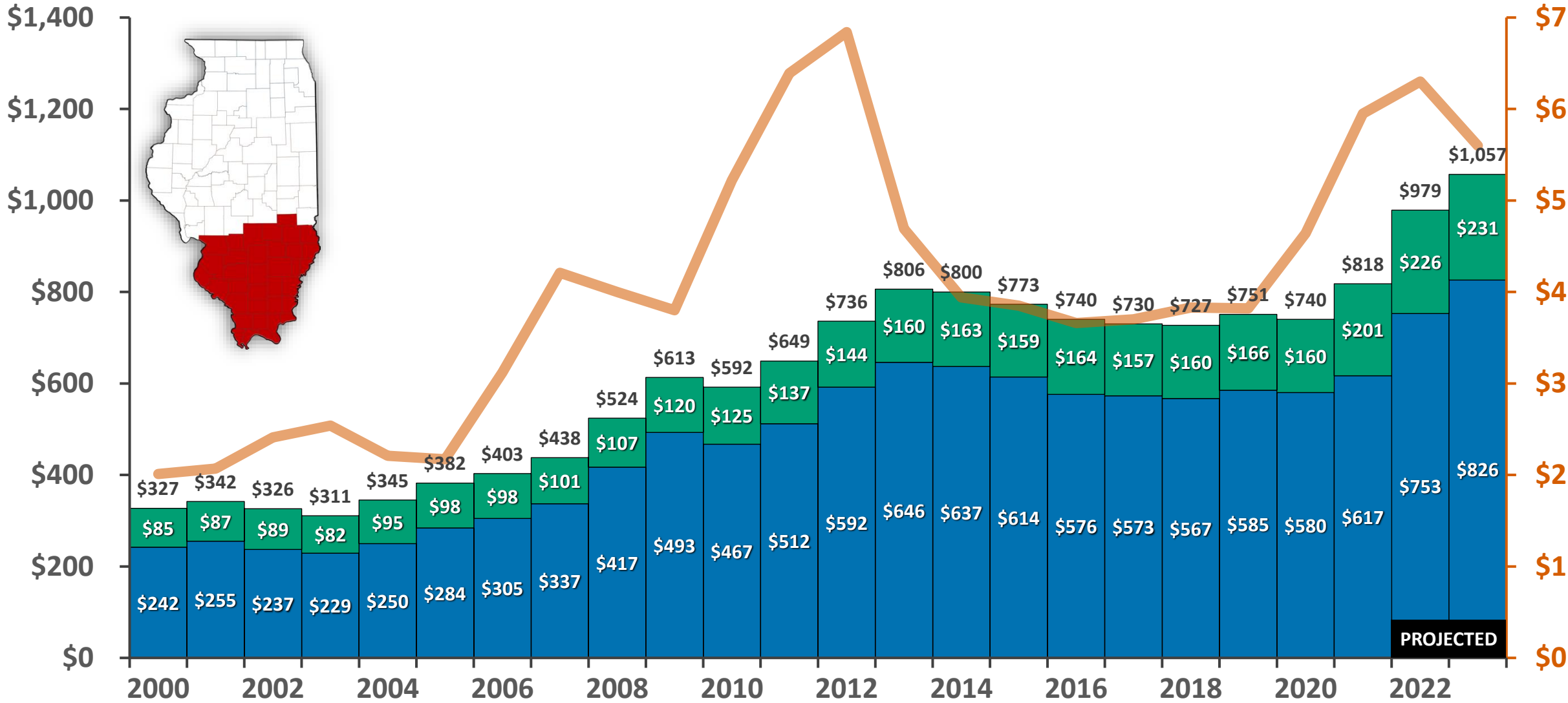
Non-land Costs and Cash Rents in \$/acre and Corn Prices in \$/bushel on High-Productivity Farmland in Northern Illinois, Corn



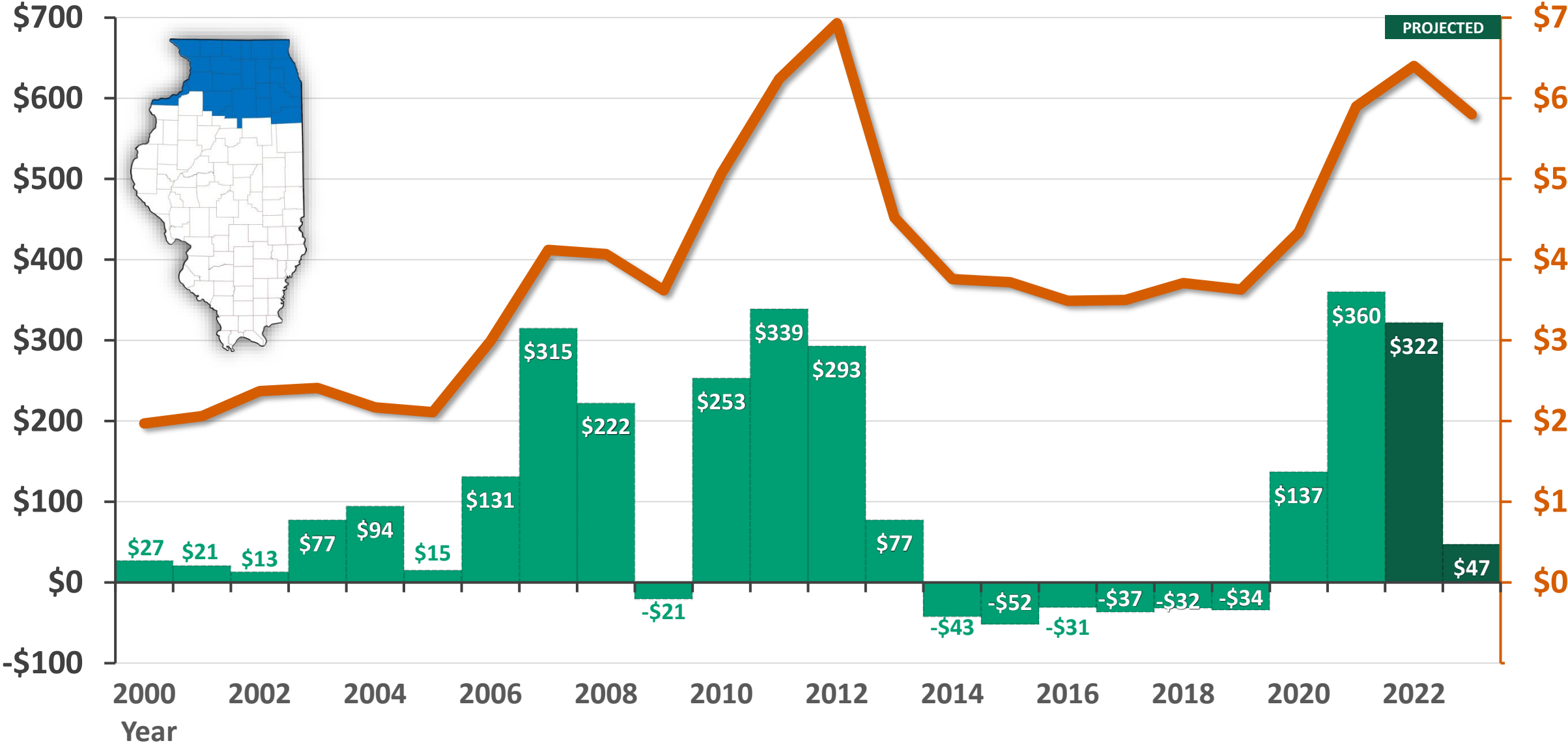
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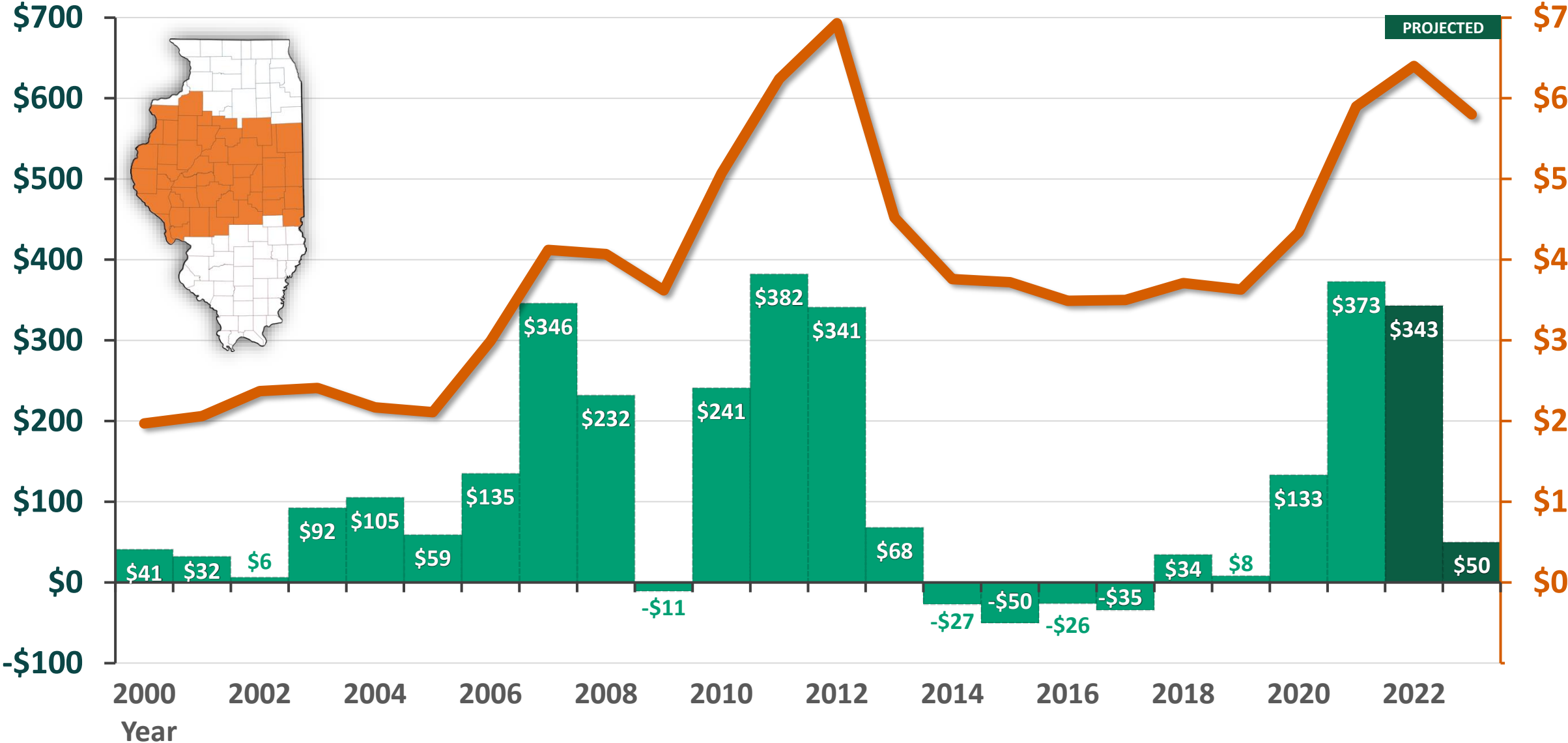
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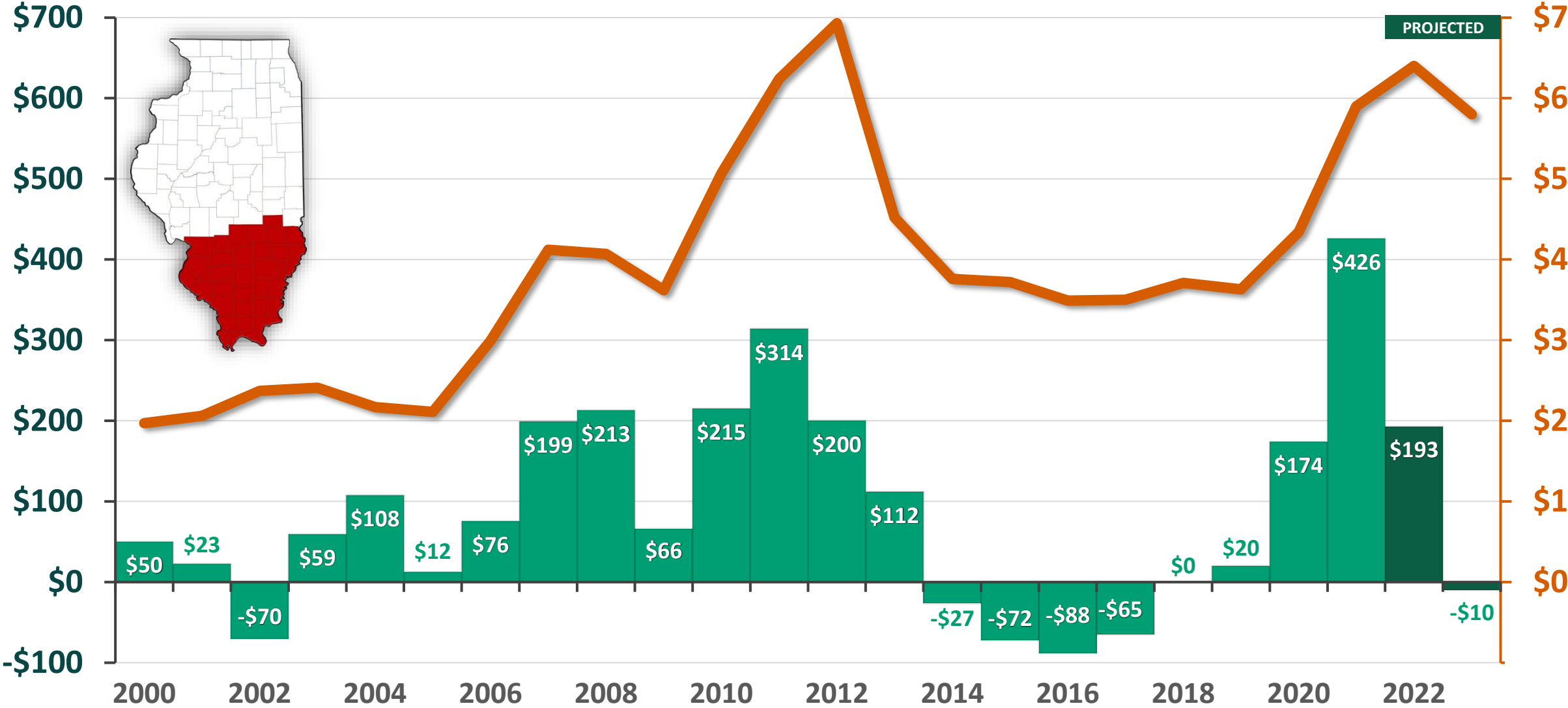
Corn Prices in \$ per bushel and Farmer Returns in \$ per acre on High Productivity Farmland in Northern Illinois, Corn



Corn Prices in \$ per bushel and Farmer Returns in \$ per acre on High Productivity Farmland in Central Illinois, Corn

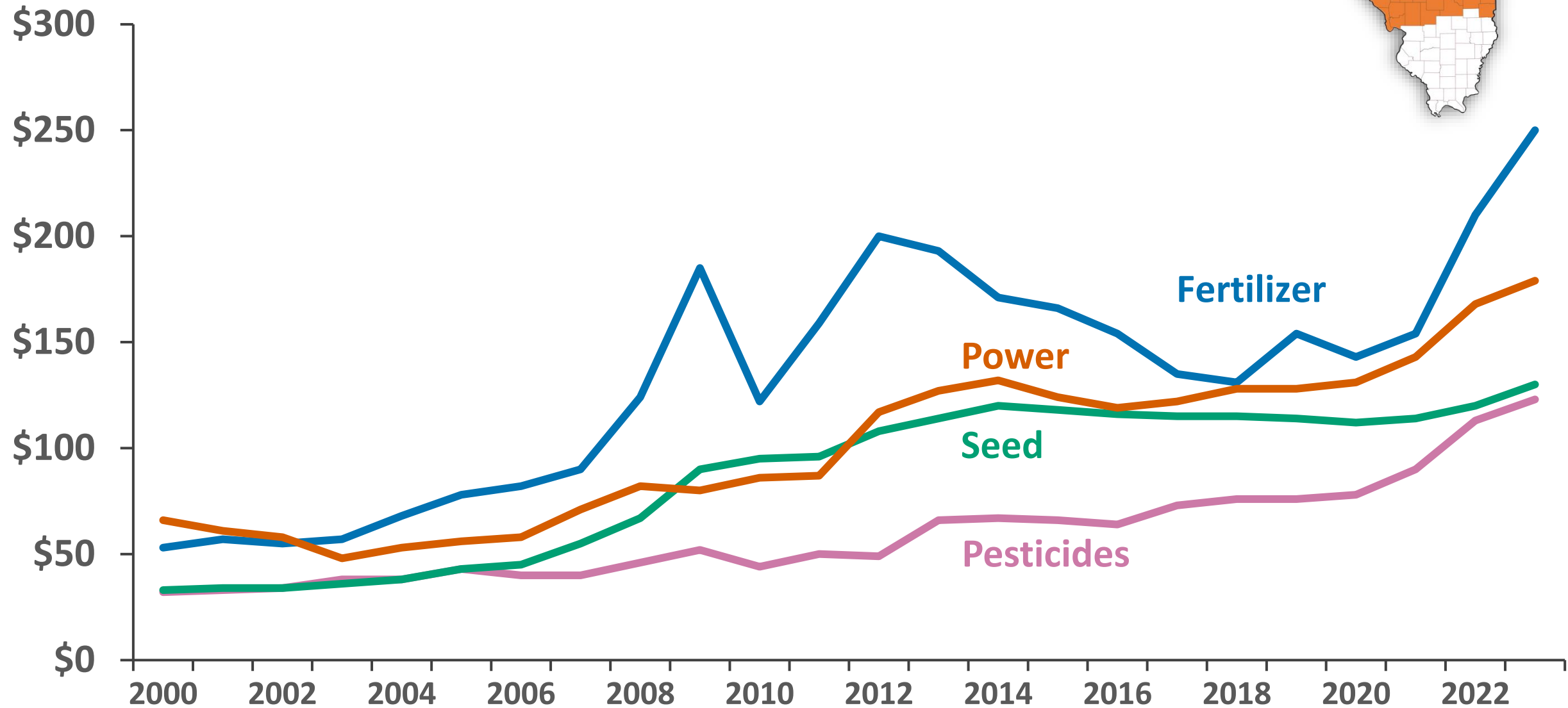
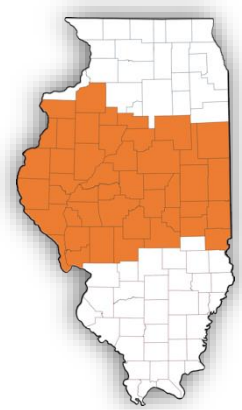


Corn Prices in \$ per bushel and Farmer Returns in \$ per acre on High Productivity Farmland in Southern Illinois, Corn



Year

Cost of Select Items, Central Illinois, \$ per acre



Questions

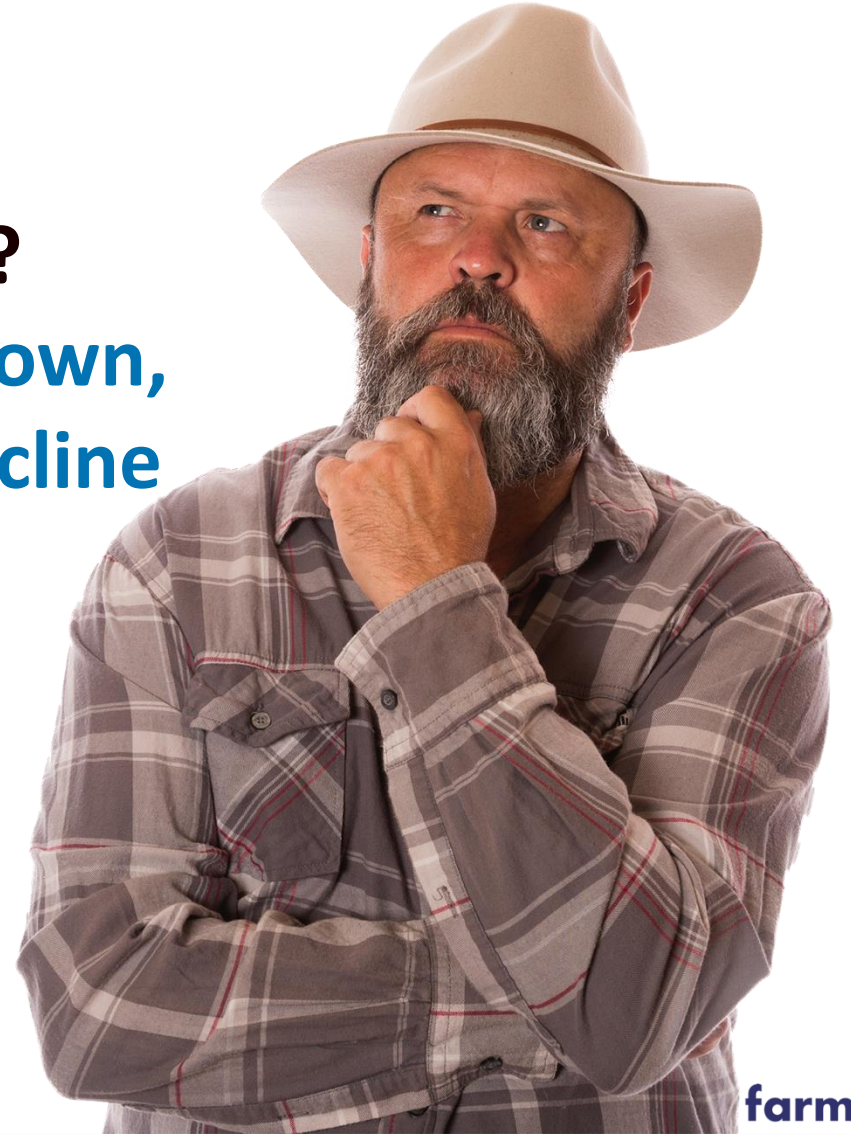
What are long run prices?

High - \$4 for corn, \$12.50 for soybeans

What happens when prices do come down?

**Production costs lag before they come down,
then usually not as much as the price decline**

What will happen to interest rates?

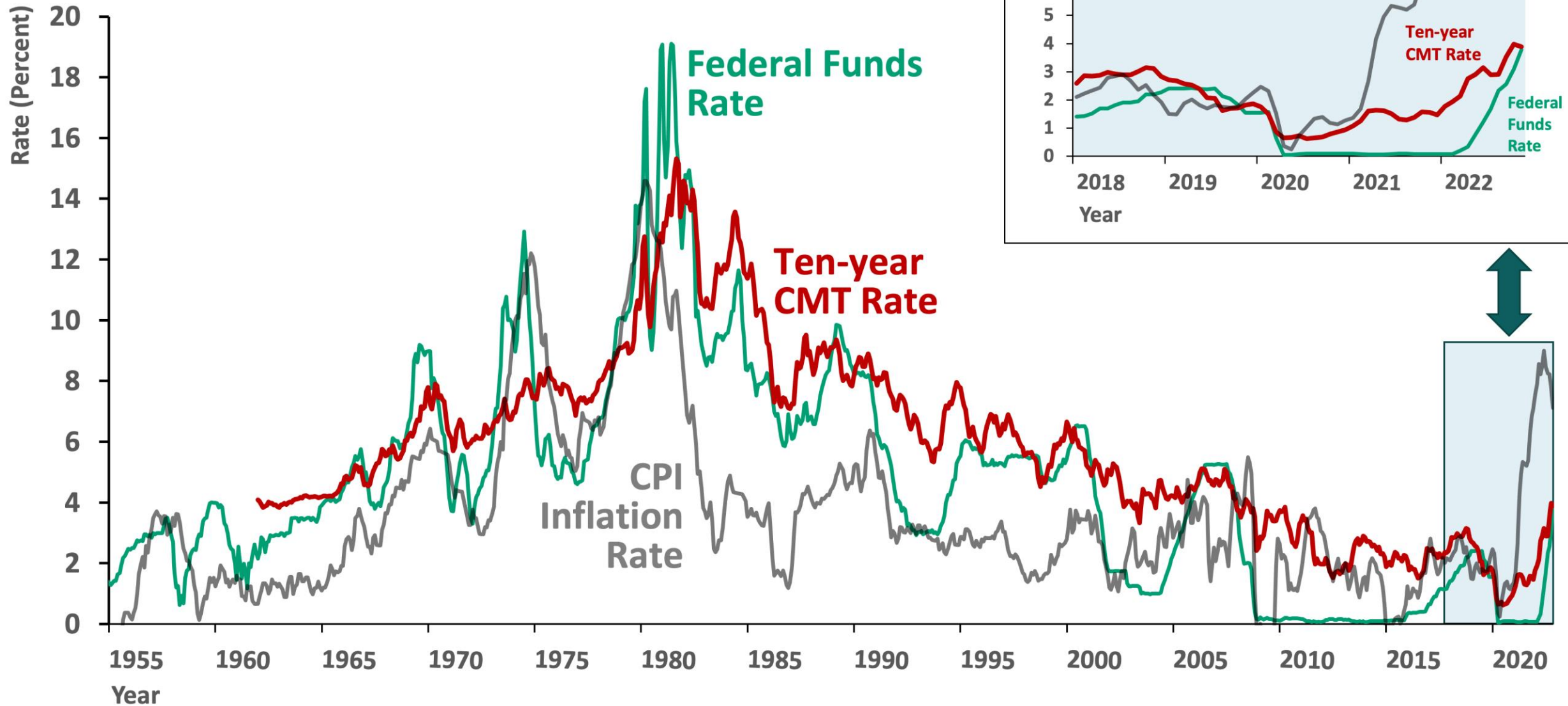


What will interest rates on ag loans be at the end of 2023?

- 4%
- 6%
- 8%
- 10%
- >10%



Ten-year Constant Maturity Treasury (CMT) Rate, Federal Fund Rate, and Consumer Price Index (CPI) Inflation Rate



Questions

What are long run prices

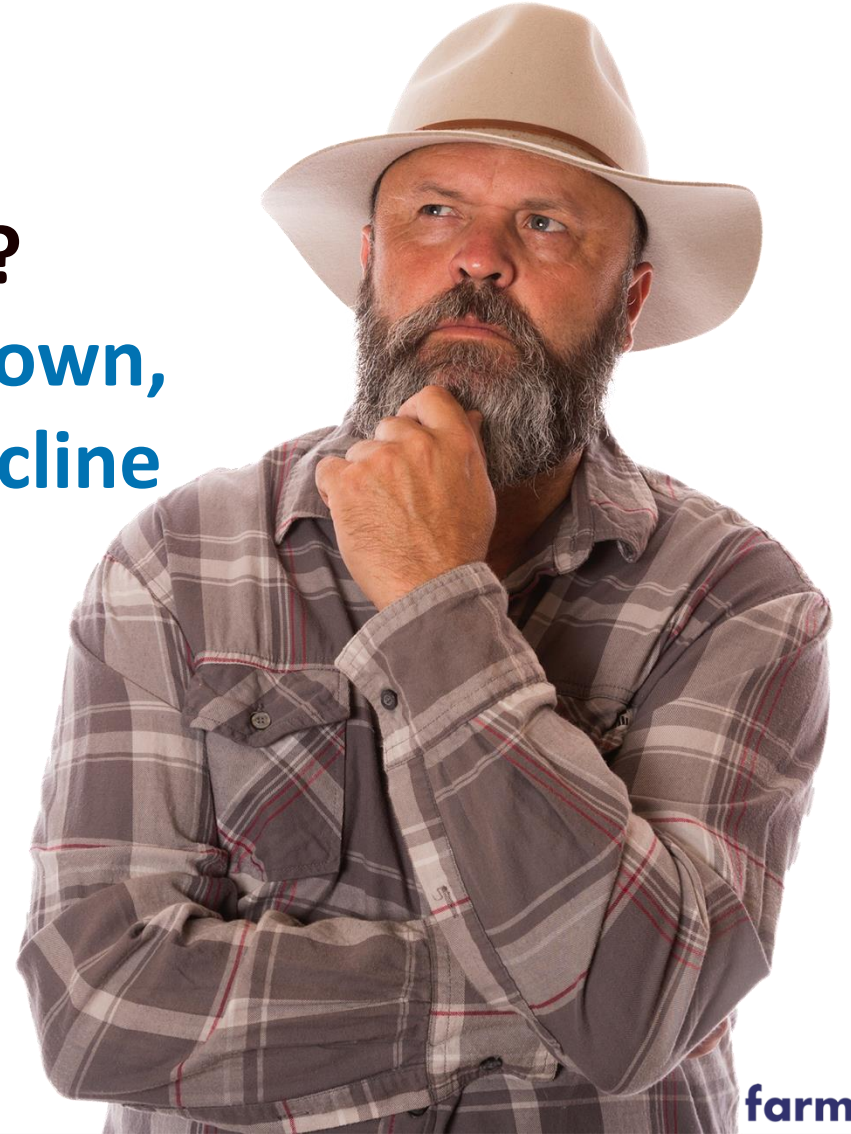
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Production costs lag before they come down, then usually not as much as the price decline

What will happen to interest rates?

Higher than from 2018 to 2021, leading to higher cost of capital, higher break-evens for investments, and downward pressure on cash rents



Summary

- Farm incomes have been above average, and 2023 could continue to be a profitable year, likely less so than in 2021 and 2022
- When prices decline, there will be adjustments, may not be this year, but could be in the future

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2023 Illinois Farm Economics Summit

Thursday, February 2, 2023

South America: Expectations for Agricultural Production, Markets, and Trade

by Joana Colussi

Thursday, February 9, 2023

2024 Farm Bill Update

Wednesday, February 15, 2023

Farmland Price and Interest Rate Outlook

by Bruce Sherrick

Thursday, February 23, 2023

Wrap up with the farmdoc team

2023 Illinois Farm Economics Summit

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