

Despite Economic and
Political Headwinds,
Farmland Continues to
Generate Strong Returns



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Implications of Economic and Political Headwinds on Farmland as an Asset Class

Global Ag Investment Conference

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University of Illinois



Advancing Farmland Markets through Research and Information

farmdocDAILY

TIAA

Center for
Farmland Research

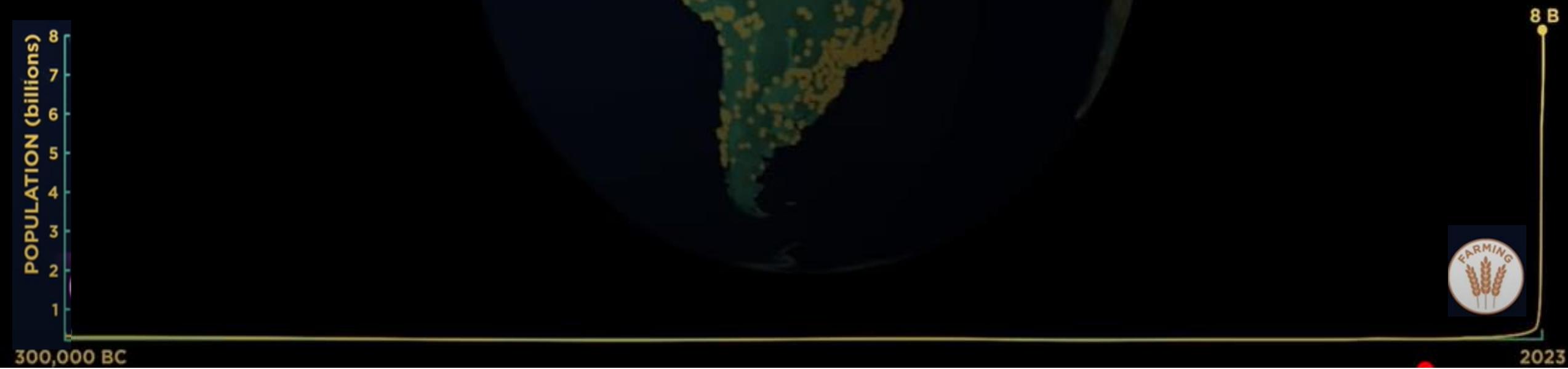


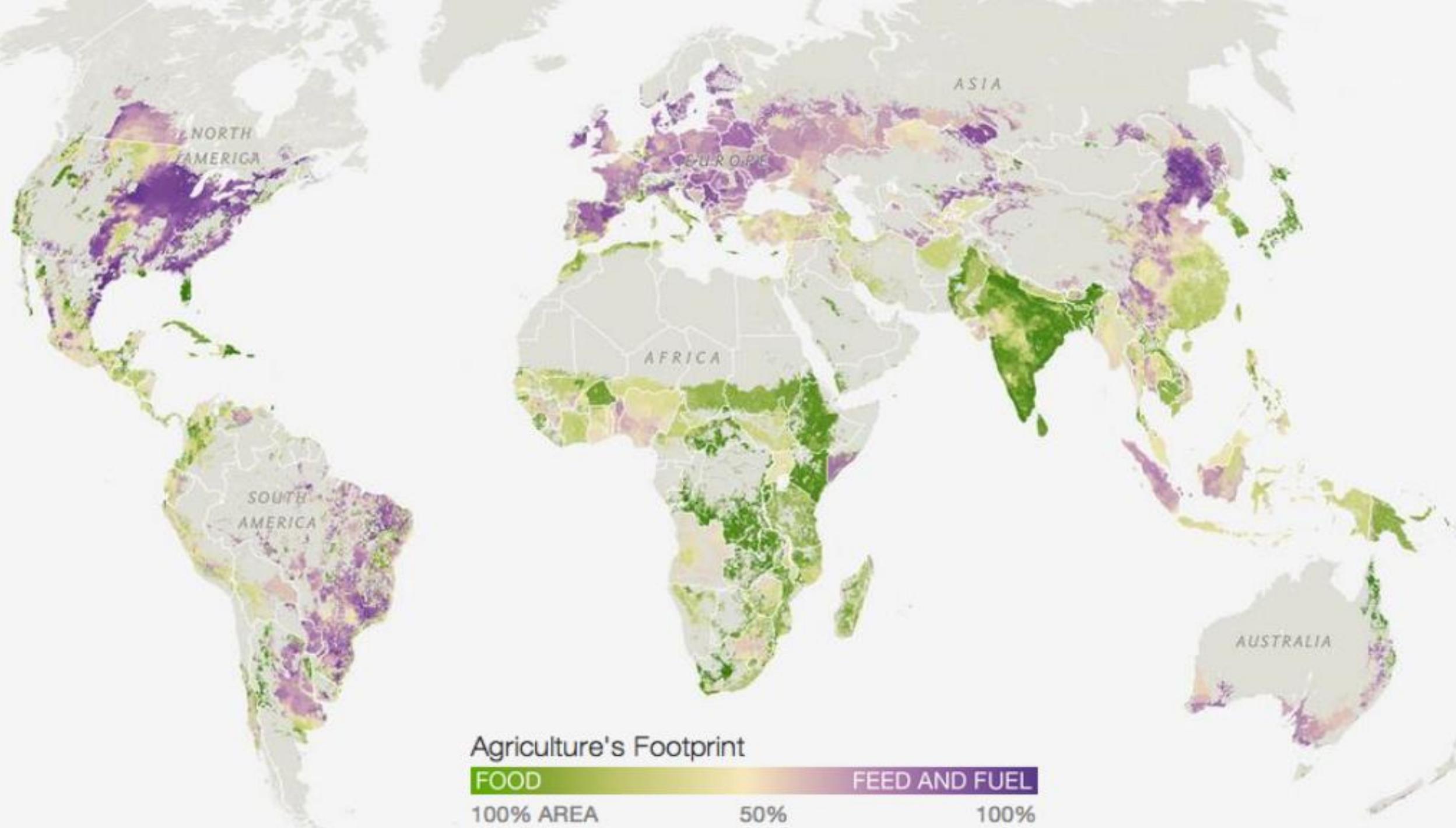
ILLINOIS



It took most of human history for our population to reach 1 billion.

And just over 200 years to reach 8 billion.





Agriculture's Footprint



Farmland Markets – a Brief Recap of History

- ‘80s Farm “Crisis” cited as start of financialization – *mostly true*
 - Lenders acquired farmland and became farm managers
 - Pooled capital models launched (coordinated with managers)
- Industry organization around tracking/reporting – necessary precursor
 - NCREIF – first (now best) index of capital **performance** in ag
 - USDA Branch reorganizations (actual big deal)
 - Academics tracking “**asset class**” rather than farm-level economics
 - Dedicated acquisition/management businesses developed (e.g.,TIAA)
 - Growth in farm scale, declining tenure, required new capital
 - Attracted specific capital stack allocators (*A Star is Born moment*)

Farmland Markets – Contextualizing....

- Thesis for farmland investments remains, but gets conflated with “events”:
 - Long term caloric demand growth – immutable, quality, quantity, and use
 - Low correlation with equities - *mostly*
 - High correlation with inflation – for most basic types, new sources untested
 - High alpha, low beta, high transactions costs – *this is key to solve*
- Most recent decade (plus the Housing Crisis hangover)
 - Monetary inflation had predicted (+) effects, wage inflation sticky
 - Permanent vs. row crop performance split (and livestock)
 - Expansion of agriculture into “Natural Capital” and Ecoservices arenas as solutions rather than problems (original solar collector is still a plant), both combining and expanding investment space, but must make sense on an unsubsidized basis to become part of the “real” asset class

Farmland Markets – Even More *Recent* Time

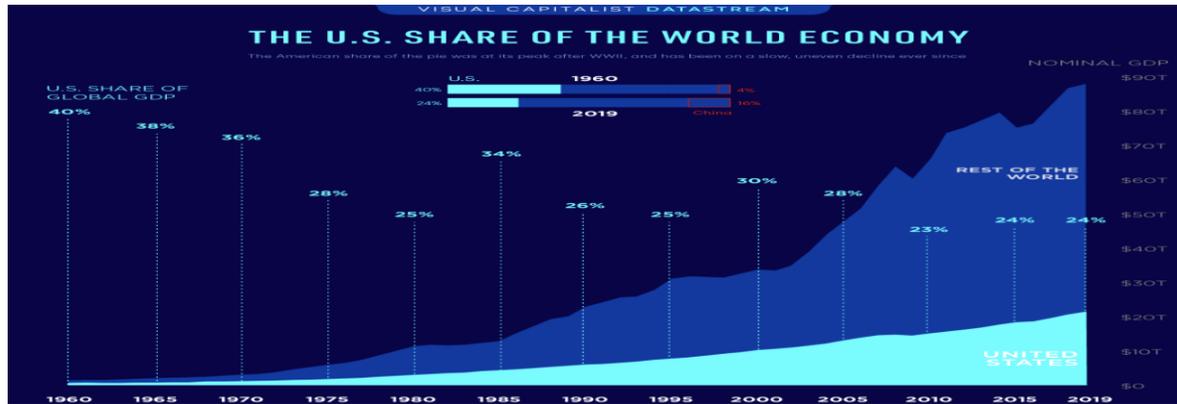
- Massive realignment of federal support structures
 - *Ad Hoc* is the new Standing program
 - Crop Insurance subsidy as transfer system
 - favors poorer production regions
 - Commodity, **C**onservation, and **C**redit titles
 - favors things related to production
- Trade sensitivity increasingly critical – strength of dollar and international strategies intertwined.
 - favors no one – markets just work.
 - trade deficits/surpluses are consequences of markets working correctly, not causes of distortions

Farmland Markets – *but what about today's chaos?*

- Tariffs – empirical results in history are difficult to ignore
 - Smoot-Hawley to GATT to WTO to...? (*wait, WTO still exists?*)
 - Post-Bretton Woods (1944-1971-*ish*) – *not all currencies float, still*
 - Proposed tariff structure and “formula” unrelated to anything measurable – trade deficits and tariffs are not generally related, and certainly not causal
- **Trilemma** holds well – exchange rates, trade (inc. capital), and monetary aggregates are interconnected. Strong empirical and theoretical convergence
- Standard of living, trade, share of GDP from manufacturing – conflated and confused in political arguments – what to give up with more manufacturing
- Farm Bill transitions to *ad hoc* subsidy transfer, and stability of future coalitions – has tended to be incredibly supportive of asset prices

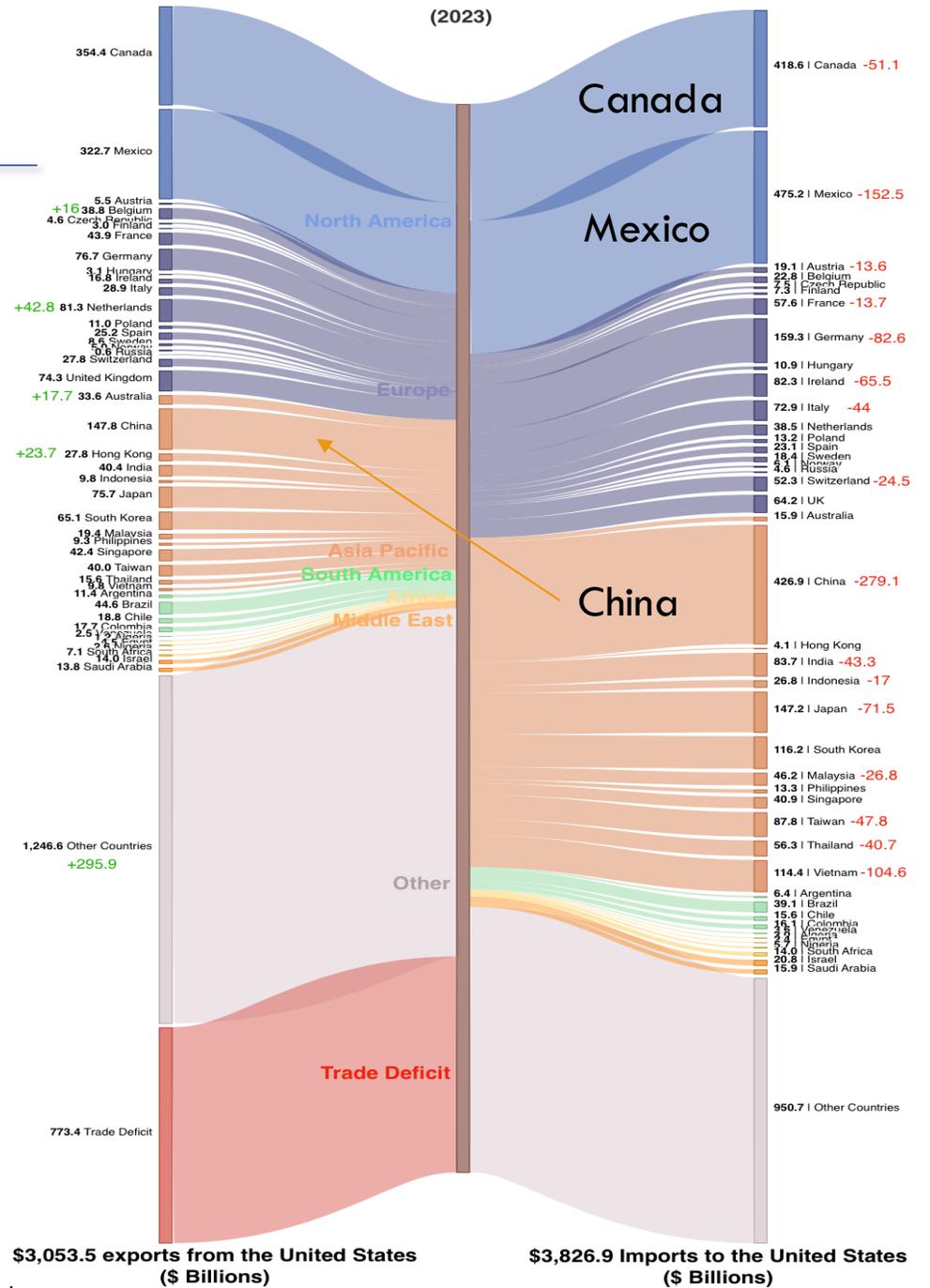
Orders of Magnitude issues...

- Import about 11-13% of GDP, Export about 9%-11% of GDP – varies by time period but increasing in both cases
- Canada, Mexico, China, EU, then mostly specific industry determined
- Trade Deficits increase SOL. So do Surpluses. So does growth. So does specialization. So does comparative advantage....
- Settlement currency often \$ - works well if everything floats relative to \$ as numeraire
- US about 4.25% of population and 26.5% of GDP



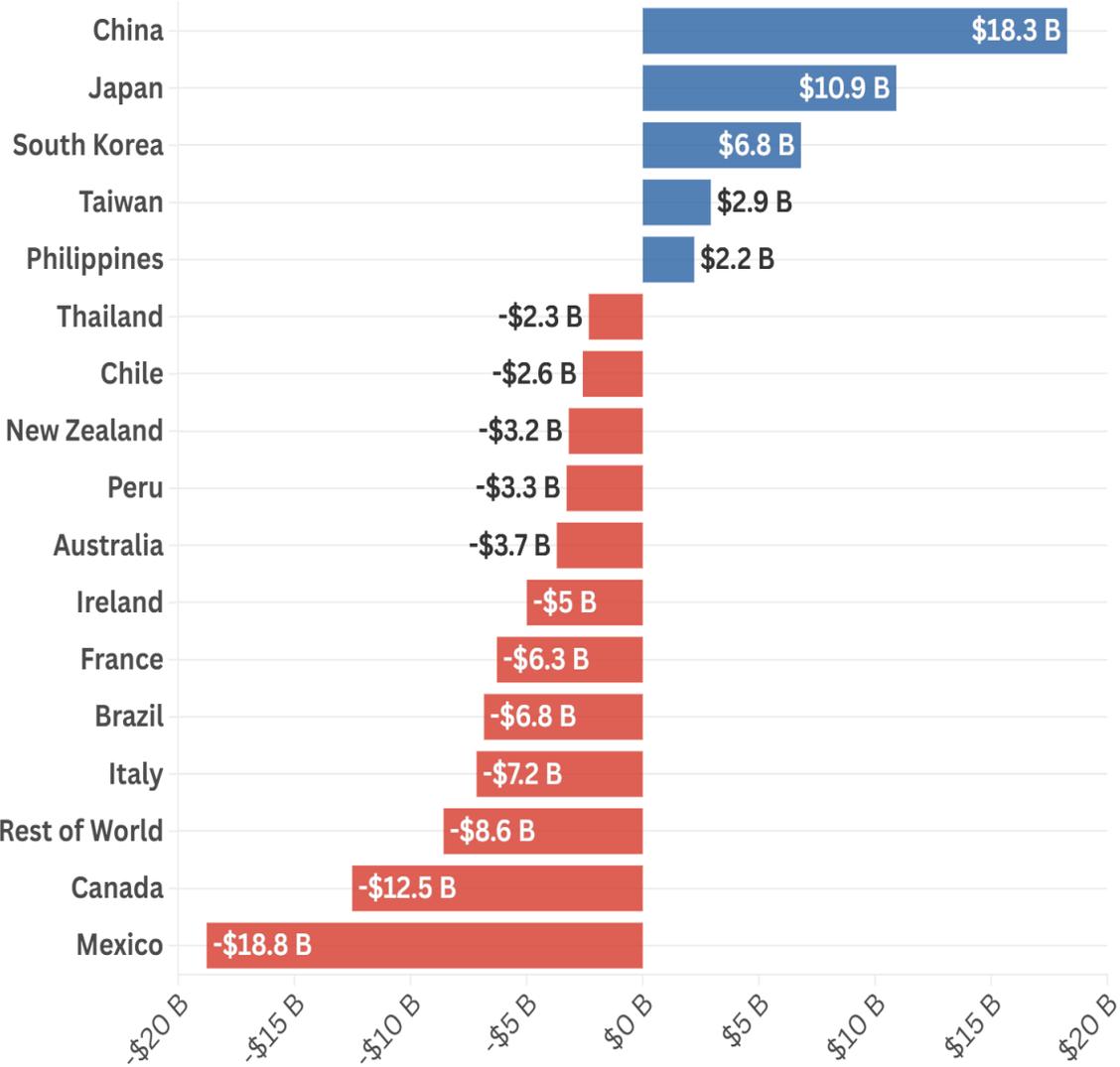
https://commons.wikimedia.org/wiki/File:Balance_of_trade_with_the_United_States_by_country.webp

Balance of Trade with the United States (2023)



Largest Agricultural Trade Deficit with Mexico & Canada

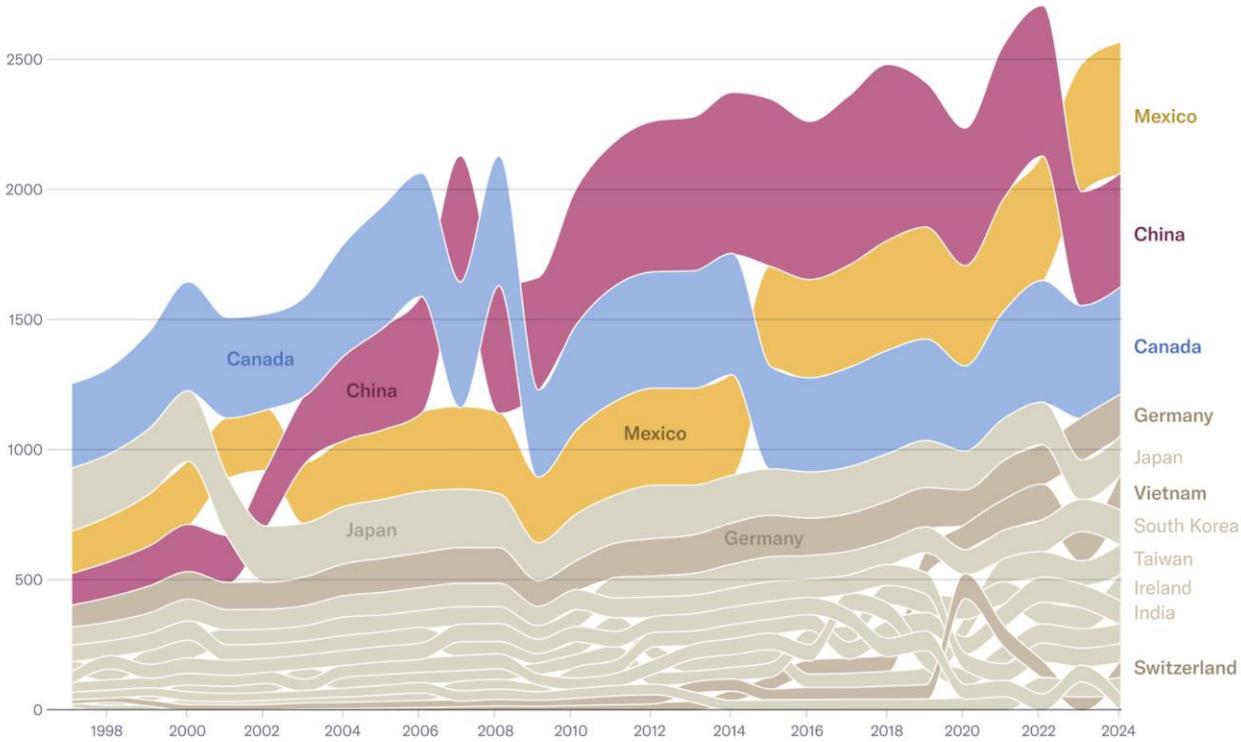
2024* Agricultural Trade Balance by Country



Total Trade and Agricultural Trade concentrated with Canada, Mexico, and China, but ag portion very different from total.

The U.S. imports the most goods from Mexico, China and Canada

Top countries of origin for U.S. imports, 2024, in billions of \$



BLS, US Census, NZZ, 2024

Source: U.S. Department of Agriculture
 *Annualized Using 2024 though November Data

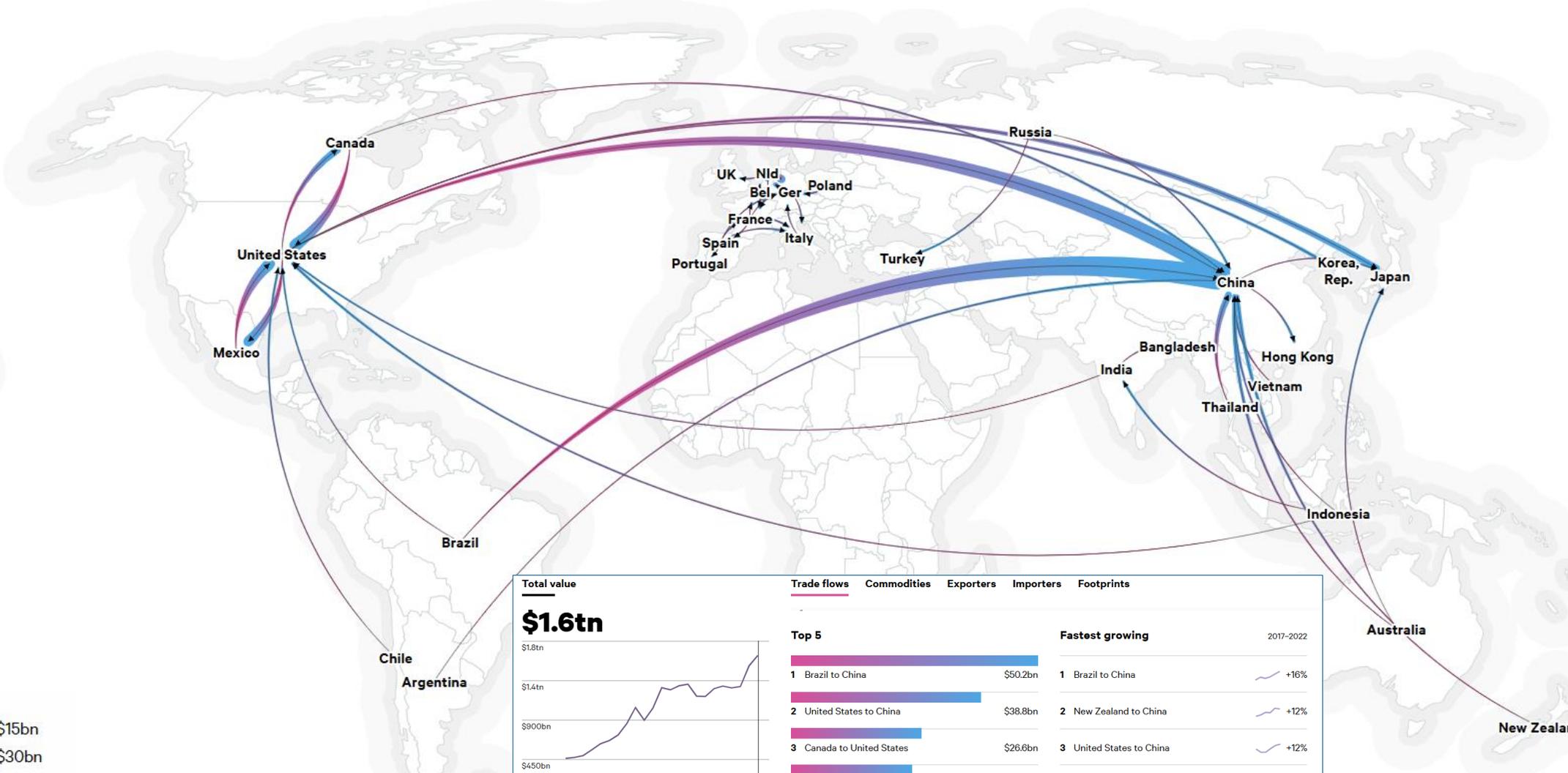
Ag is unique in trade – tends to have strong political weight

Exporter: All countries | Importer: All countries | Commodity: Agricultural products | Year: 2022 | Auto zoom to region

Measure
● Value
○ Weight

18%
Share of all commodities trade

Scale
\$15bn
\$30bn
\$60bn
Exporter | Importer



Total value
\$1.6tn

Trade flows | Commodities | Exporters | Importers | Footprints

Rank	Trade Flow	Value (\$bn)	Year-over-Year Change (%)
1	Brazil to China	\$50.2bn	+16%
2	United States to China	\$38.8bn	+12%
3	Canada to United States	\$26.6bn	+12%
4	Mexico to United States	\$24.4bn	+9.9%
5	United States to Mexico	\$22.3bn	+9.1%

Fastest growing (2017-2022)

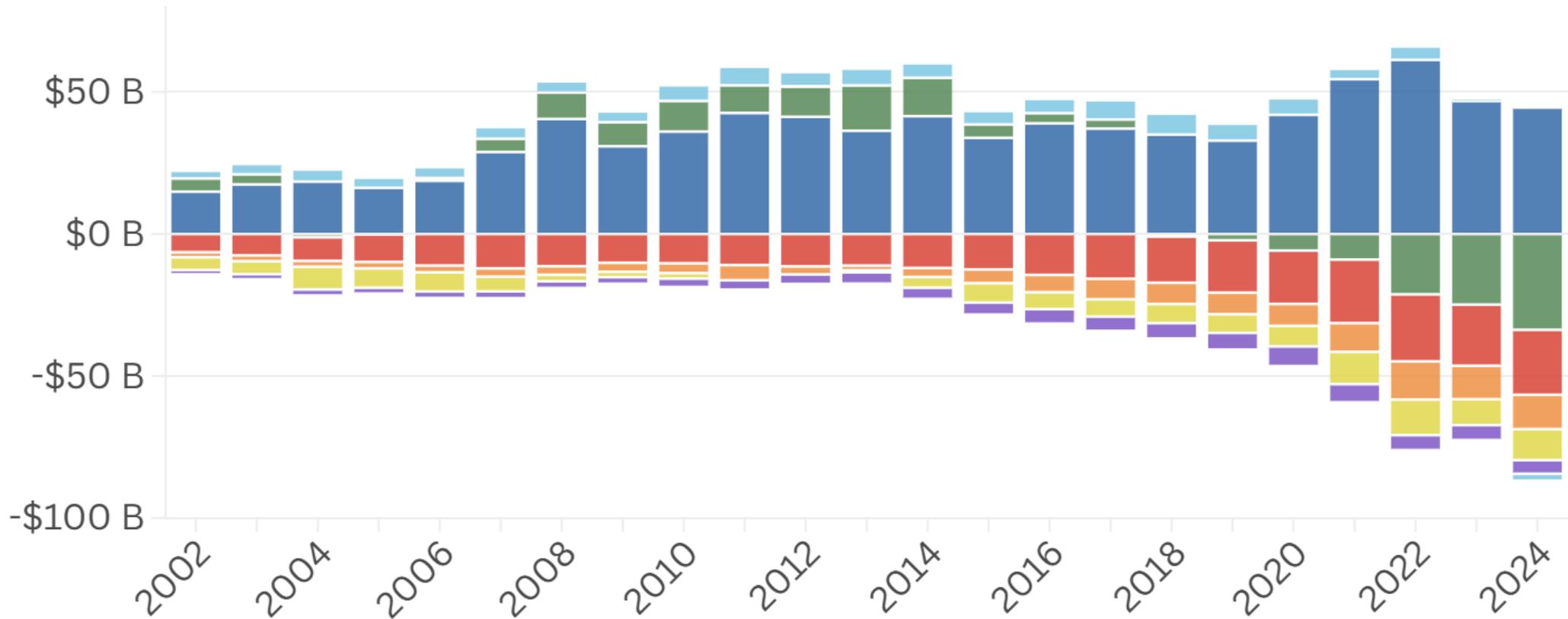
Rank	Trade Flow	Year-over-Year Change (%)
1	Brazil to China	+16%
2	New Zealand to China	+12%
3	United States to China	+12%
4	Thailand to China	+9.9%
5	Canada to United States	+9.1%



U.S. Only Has Agricultural Trade Surplus in Grains & Oilseeds

- Grains & Oilseeds
- Food Products
- Beverages & Tobacco Products
- Fruits & Tree Nuts
- Meat & Seafood
- Vegetables & Melons
- Other Agricultural Products

Trade Balance

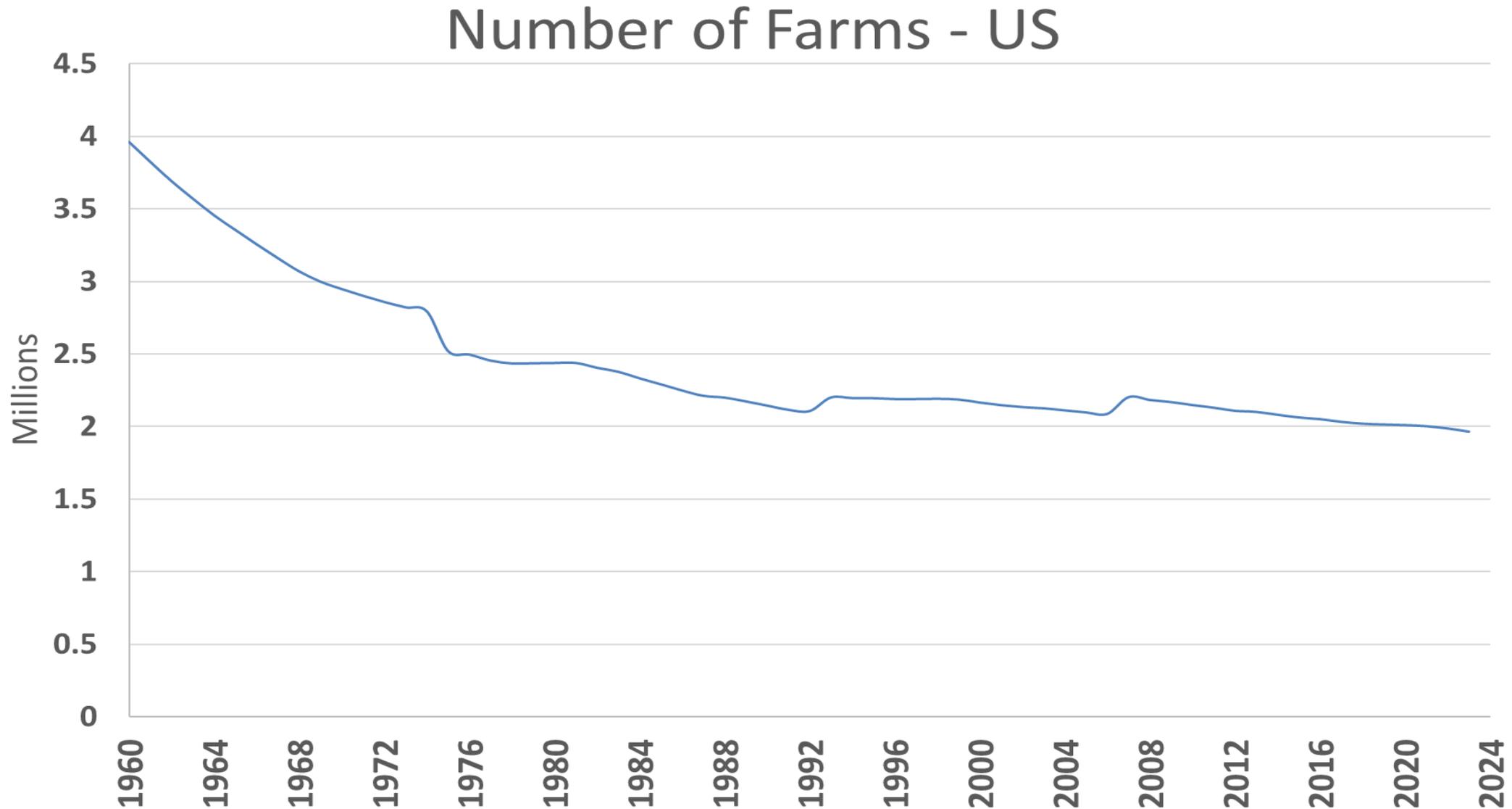


Balance Sheet of US Ag Sector – just the data

Table 1. Selected Balance Sheet Characteristics of US Agricultural Sector

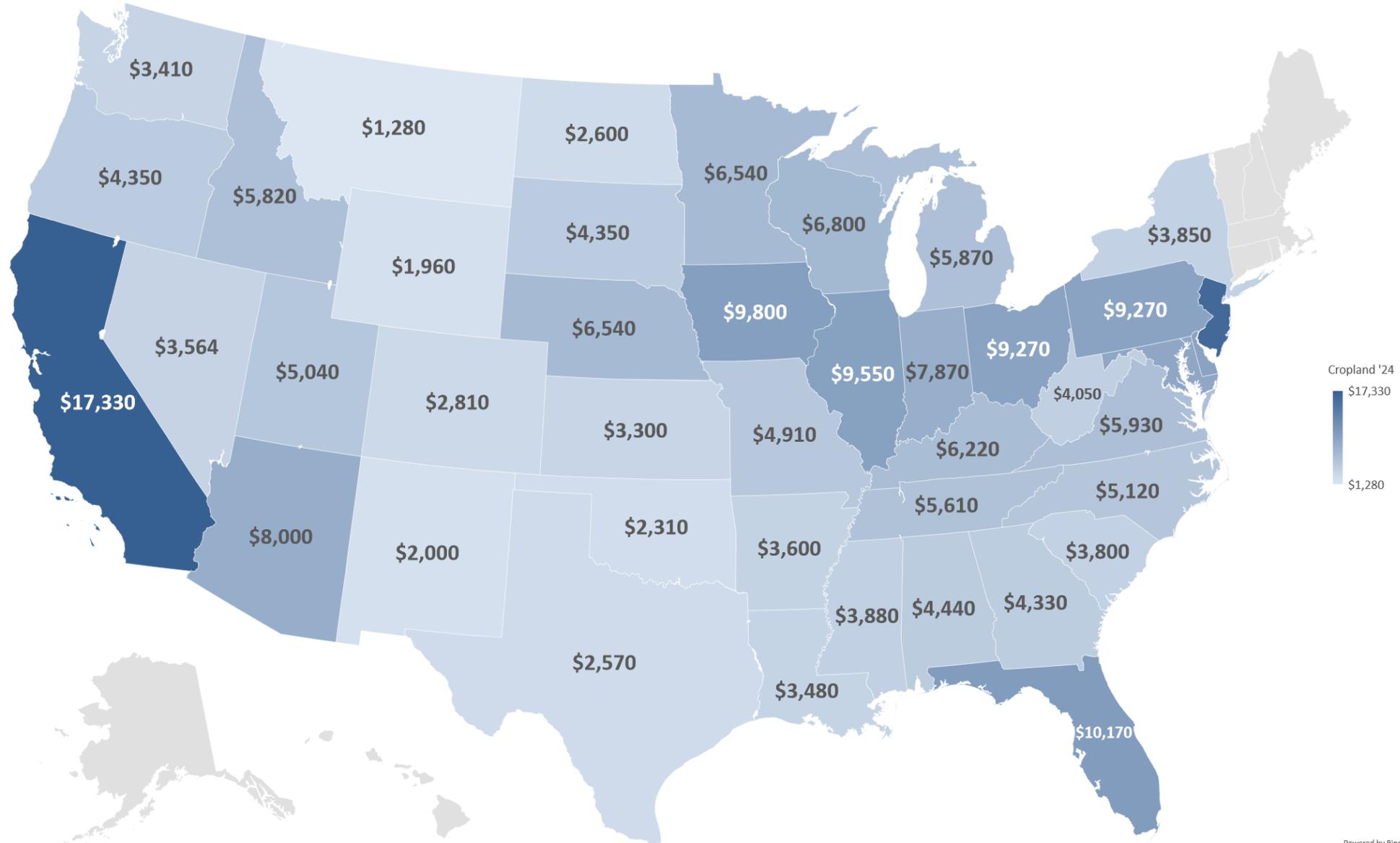
	1970	1980	1990	2000	2010	2015	2017	2019	2021	2023	2025(p)
	(\$ millions, except ratios - source ERS-USDA)										
Farm Assets	278,823	1,000,422	840,609	1,203,215	2,170,832	2,880,015	3,005,945	3,049,082	3,424,131	4,014,343	4,396,810
Real Estate	202,418	782,820	619,149	946,428	1,660,114	2,365,717	2,472,844	2,519,925	2,822,499	3,338,849	3,674,805
Non Real Estate	76,405	217,602	221,459	256,787	510,718	514,297	533,101	529,156	601,632	675,493	722,006
Farm Debt	48,501	162,432	131,116	163,930	278,931	356,738	390,425	420,495	474,306	518,951	561,824
Real Estate	27,238	85,272	67,633	84,724	154,065	208,769	236,243	267,944	324,448	344,556	374,228
Non Real Estate	21,263	77,160	63,483	79,206	124,865	147,969	154,182	152,551	149,858	174,394	187,595
Equity	230,322	837,990	709,493	1,039,285	1,891,902	2,523,277	2,615,520	2,628,587	2,949,825	3,495,392	3,834,987
Selected Indicators											
Debt/Equity	21.1%	19.4%	18.5%	15.8%	14.7%	14.1%	14.9%	16.0%	16.1%	14.8%	14.6%
Debt/Assets	17.4%	16.2%	15.6%	13.6%	12.8%	12.4%	13.0%	13.8%	13.9%	12.9%	12.8%
Real Estate/Equity	87.9%	93.4%	87.3%	91.1%	87.7%	93.8%	94.5%	95.9%	95.7%	95.5%	95.8%
Real Estate/Assets	72.6%	78.2%	73.7%	78.7%	76.5%	82.1%	82.3%	82.6%	82.4%	83.2%	83.6%
Real Estate D/Total D	56.2%	52.5%	51.6%	51.7%	55.2%	58.5%	60.5%	63.7%	68.4%	66.4%	66.6%
Farms (millions)	2.949	2.440	2.146	2.167	2.150	2.064	2.042	2.008	1.960	1.895	1.872p

Consolidation will continue... *about half "real"*



FARMLAND VALUES

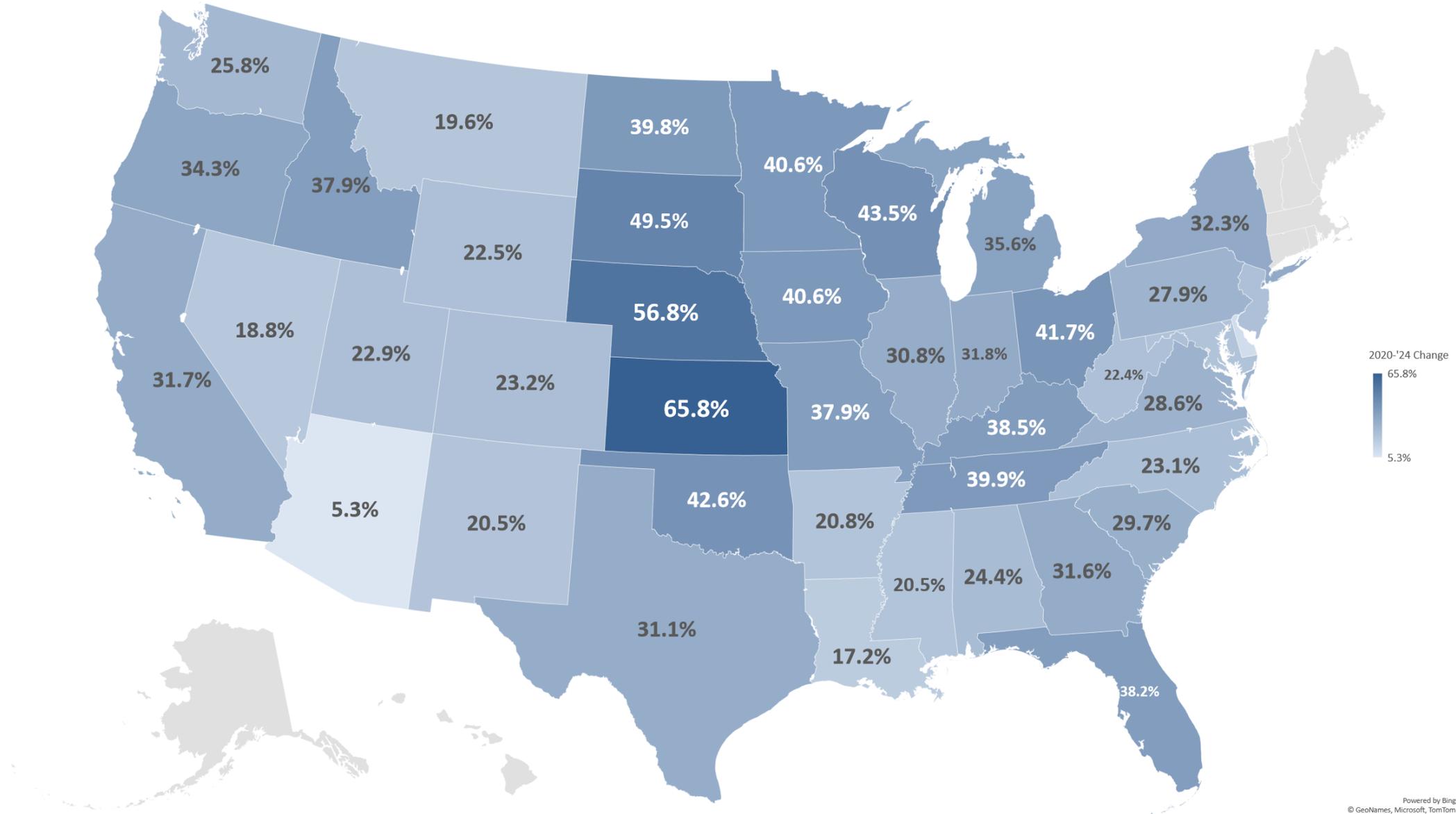
Cropland Values \$/Acre 2024 (USDA and TIAA Center for Farmland Research)



Cropland '24
\$17,330
\$1,280

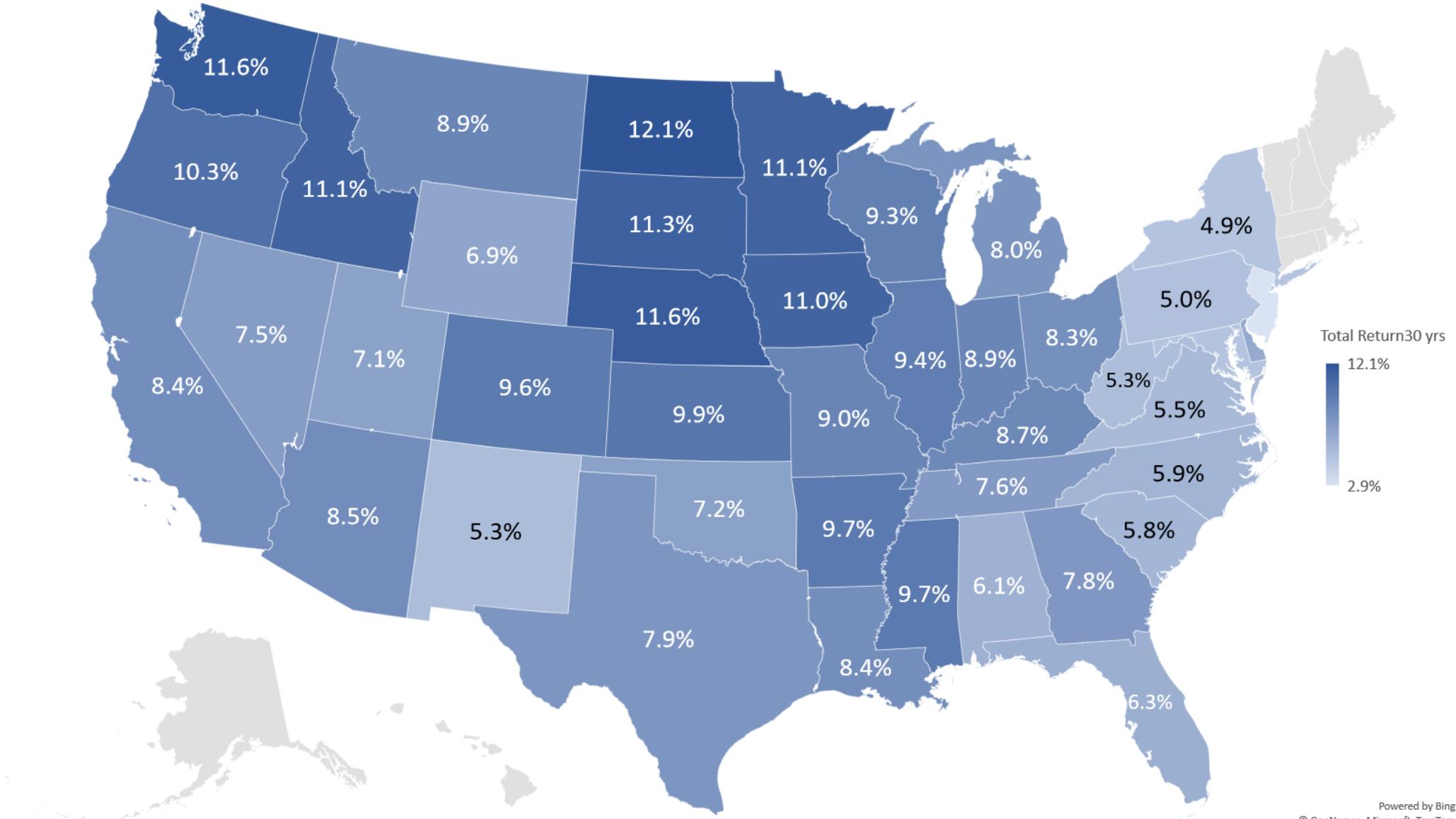
FARMLAND VALUES

Cropland % Price Change 2020-24

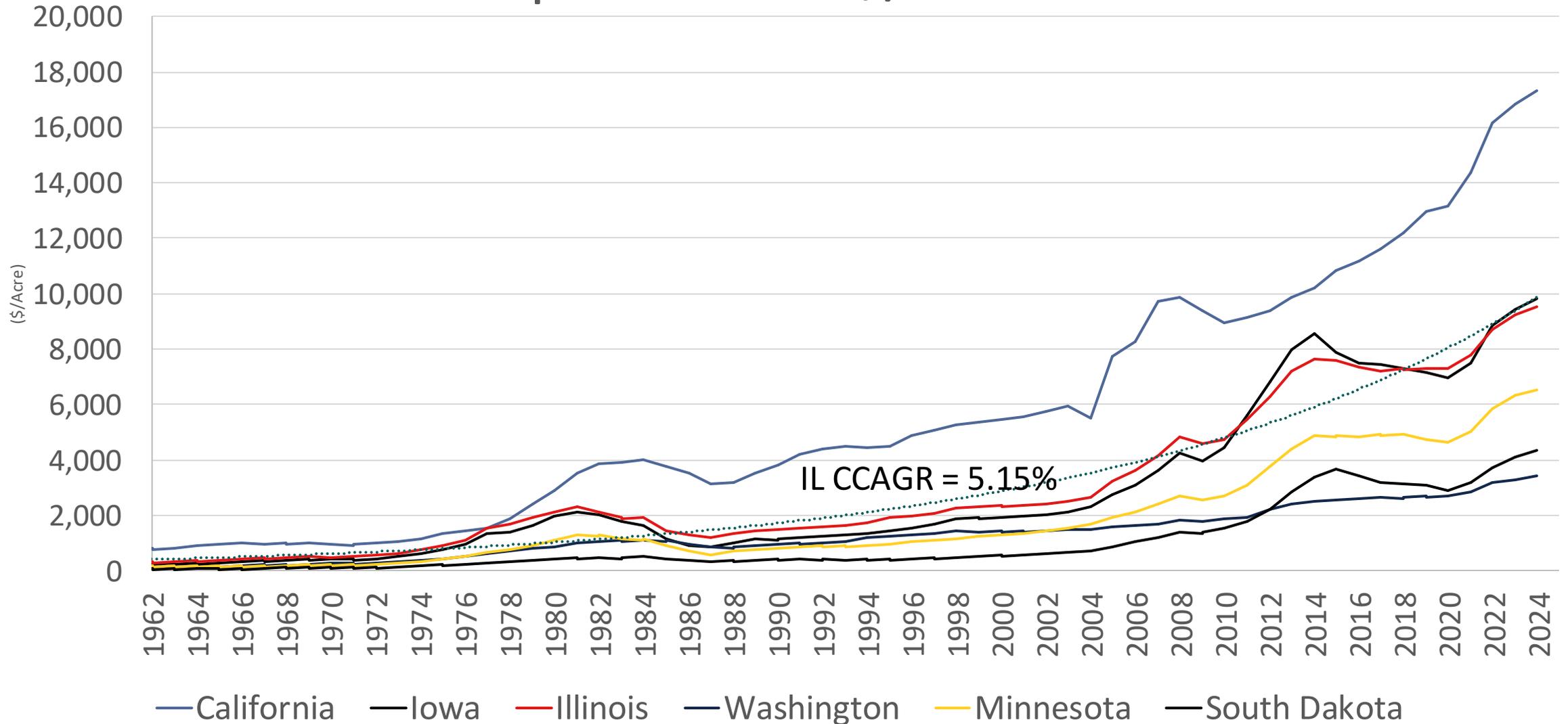


FARMLAND VALUES

Average Annual Cropland Return - 30 years to Present



Cropland Value \$/acre



Relative Performance through time

Table 1. Asset Return Characteristics

Asset/Index	Annual Ave. Return	Standard Deviation	Coefficient of Variation	US Ag 32 States Correlation	Minimum Return	Maximum Return
	----- 1991 - 2024-----					
US Ag 32 States	8.9%	4.1%	0.45	1.00	-1.0%	20.7%
Dow Jones	8.1%	14.1%	1.75	-0.11	-41.3%	28.9%
NASDAQ	11.2%	26.7%	2.38	-0.14	-52.0%	61.8%
NYSE	6.5%	16.3%	2.50	-0.12	-56.3%	29.7%
MSCIUSA	8.2%	17.7%	2.17	-0.10	-48.7%	29.8%
AAA	5.5%	1.7%	0.30	0.18	2.5%	8.8%
BAA	6.5%	1.6%	0.25	0.11	3.4%	9.8%
TCM10Y	4.1%	1.8%	0.44	0.24	0.9%	7.9%
Mort30F	5.9%	1.7%	0.29	0.25	3.0%	9.2%
Illinois	9.6%	6.1%	0.64	0.86	-0.3%	28.8%
NCREIF Total Farmland	10.6%	6.4%	0.60	0.73	2.0%	33.9%
CompositeREITS	9.7%	18.6%	1.92	-0.12	-47.5%	33.7%
Gold	5.1%	13.7%	2.68	-0.04	-32.2%	33.0%
PPI	2.6%	4.8%	1.89	0.16	-7.1%	18.5%
CPI	2.5%	1.4%	0.54	0.25	0.0%	6.9%

Factors Influencing Land Values

- **Interest rates:**

- Cost of operating capital is higher and more uncertain
- Very low asset leverage in farmland, leveraged buyers are sidelined
- “Fight” between Fed as *MonPol* facilitator vs. active manager of economy

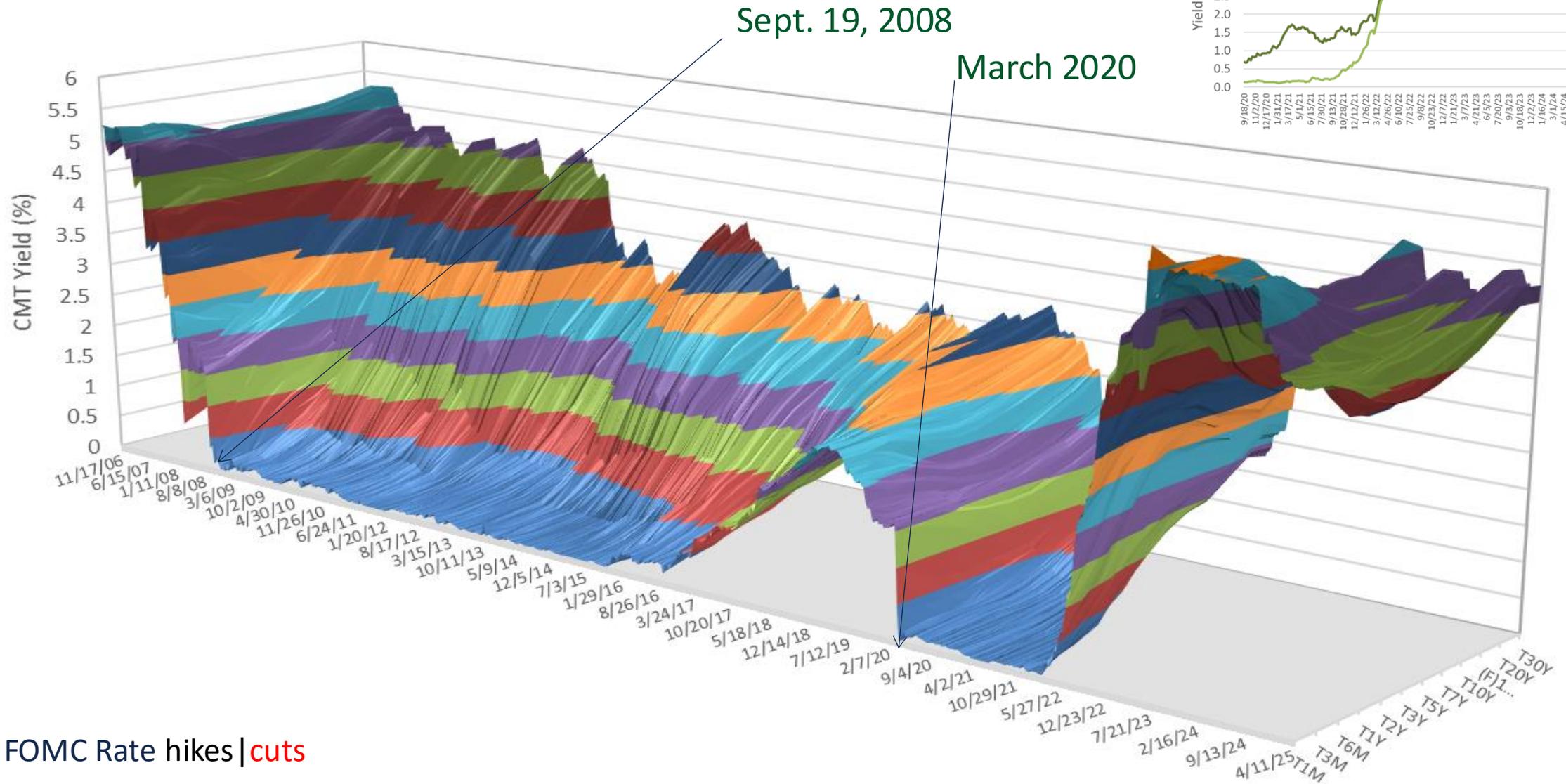
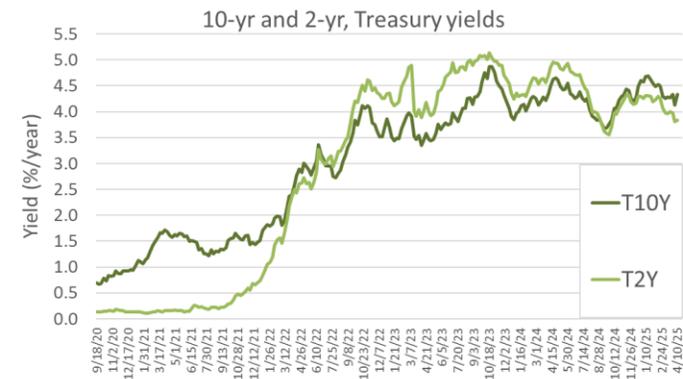
- **Inflation:**

- High historic correlation, new sources of inflation untested
- Farmland is beneficiary of monetary expansion
- Tariff inflation has negative demand effects, loss of market shares

- **Income:**

- Changing sources, impact of political uncertainty on Farm Bill
- Long term thesis for caloric demand remains but tougher to capture
- Level vs. Distribution - very different effects by region, type of ag
- Increased reliance on “bailouts” is not healthy in long run

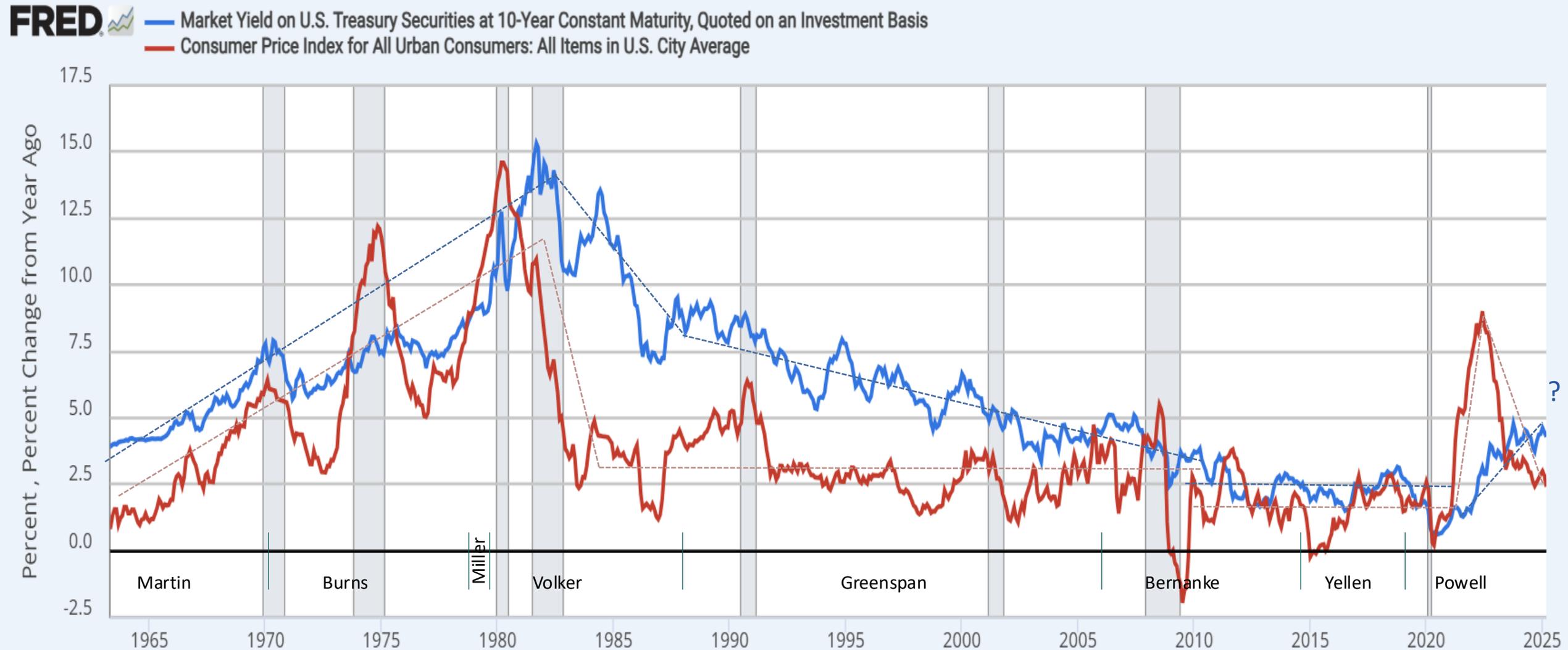
Yield Curve through 1/3/2025 (weekly)



Recent FOMC Rate hikes | cuts

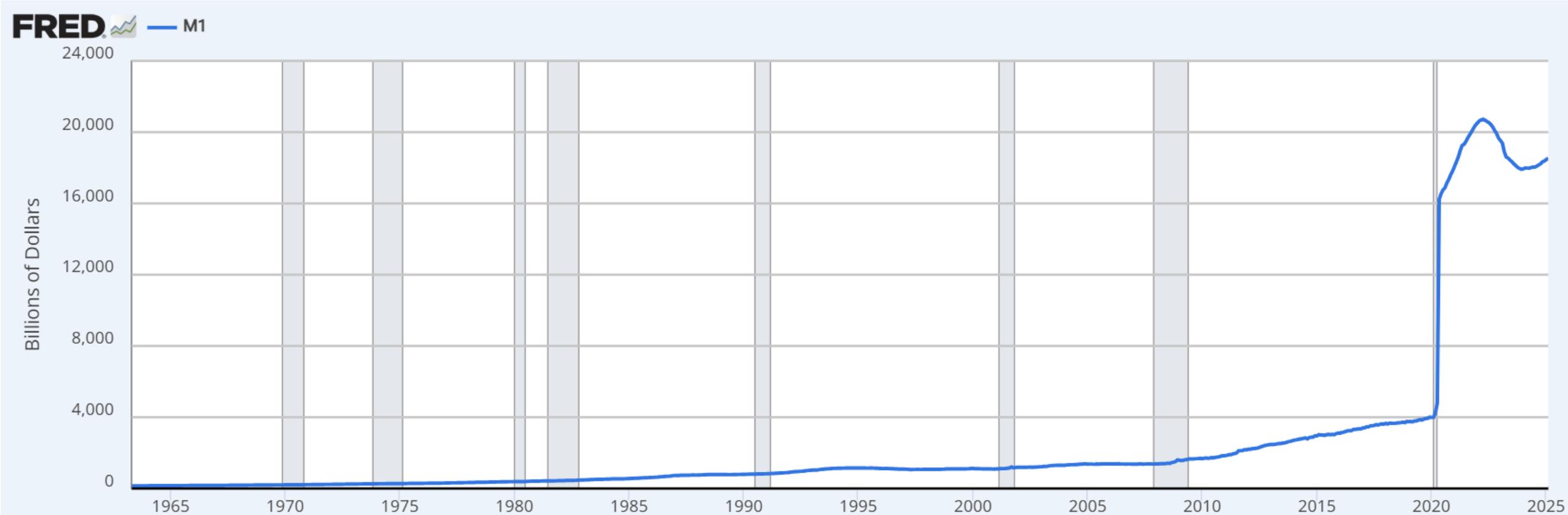
(12/15, 12/16, 3/17, 6/17, 12/17, 3/18, 6/18, 9/18, 12/18, 7/19, 9/19, 10/19, 3/20, 3/20, 3/20, 3/22, 4/22, 6/22, 7/22, 9/22, 11/22, 12/22, 2/23, 3/23, 5/23, 6/23, 7/23, 9/24, 12/24)

Brief History of Inflation and Interest Rates (- 3/1/25)



Sources: Board of Governors of the Federal Reserve System (US); U.S. Bureau of Labor Statistics via FRED®

Brief History of Monetary Aggregates (- 2/1/25)

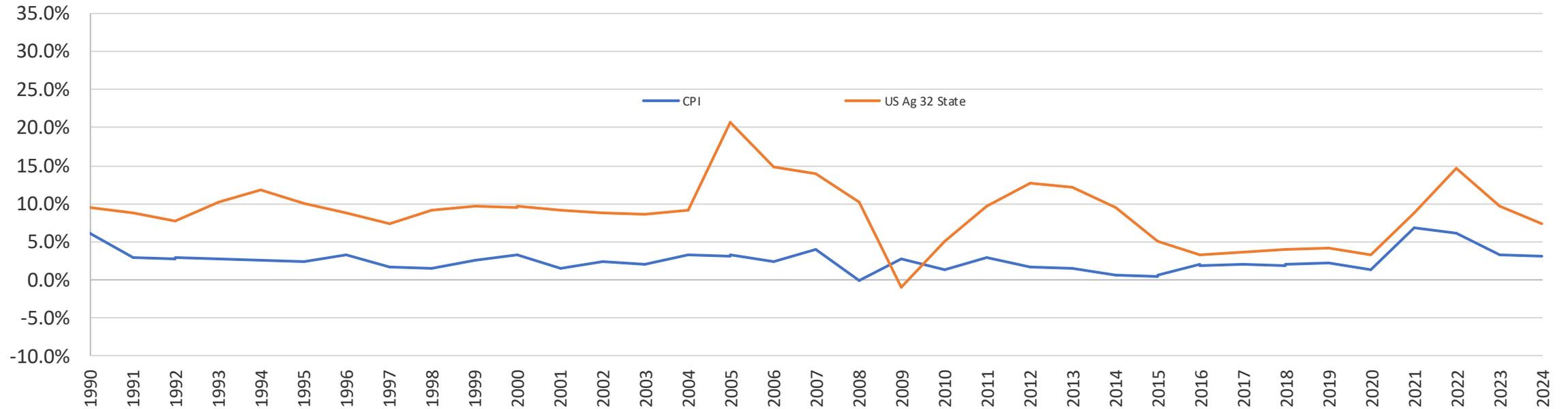


Source: Board of Governors of the Federal Reserve System (US) via FRED®

Shaded areas indicate U.S. recessions.

fred.stlouisfed.org

Farmland Returns and Inflation

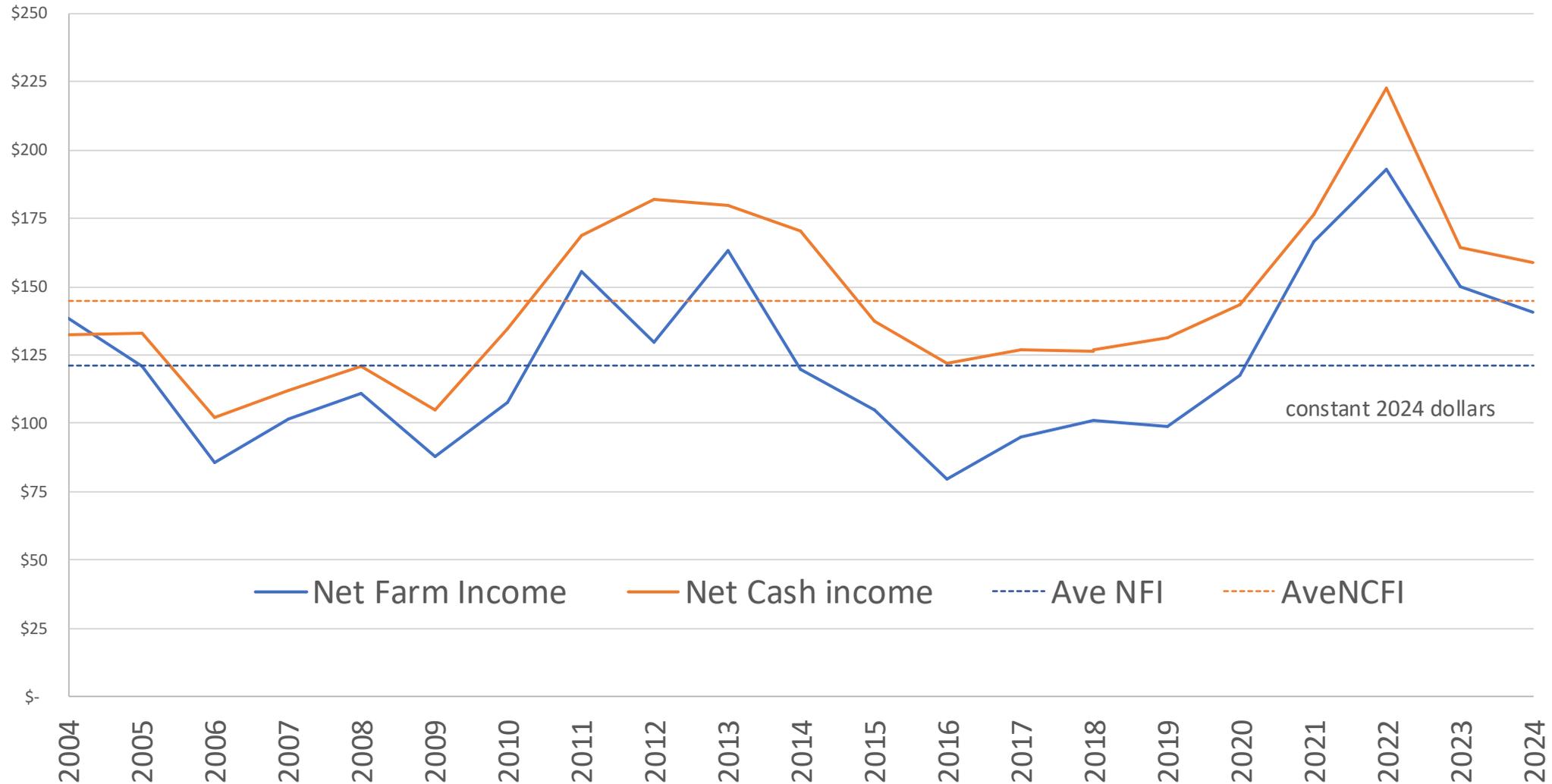


Inflation and Farmland returns

Decade	Farmland to CPI Spread
1970 to 1979	12.2%
1980 to 1989	2.1%
1990 to 1999	6.4%
2000 to 2009	7.9%
2010 to 2019	5.2%
2015 to 2024	3.4%
1970 to 2024	6.6%

- Farmland returns stable with positive alpha
- Positive Inflation effect has been strong
- *New sources of inflation remain untested*

NET FARM INCOME – NET CASH INCOME



VALUE OF AG PRODUCTION

\$Billions - Total Ag Production - 2023 (source: USDA - 2024)

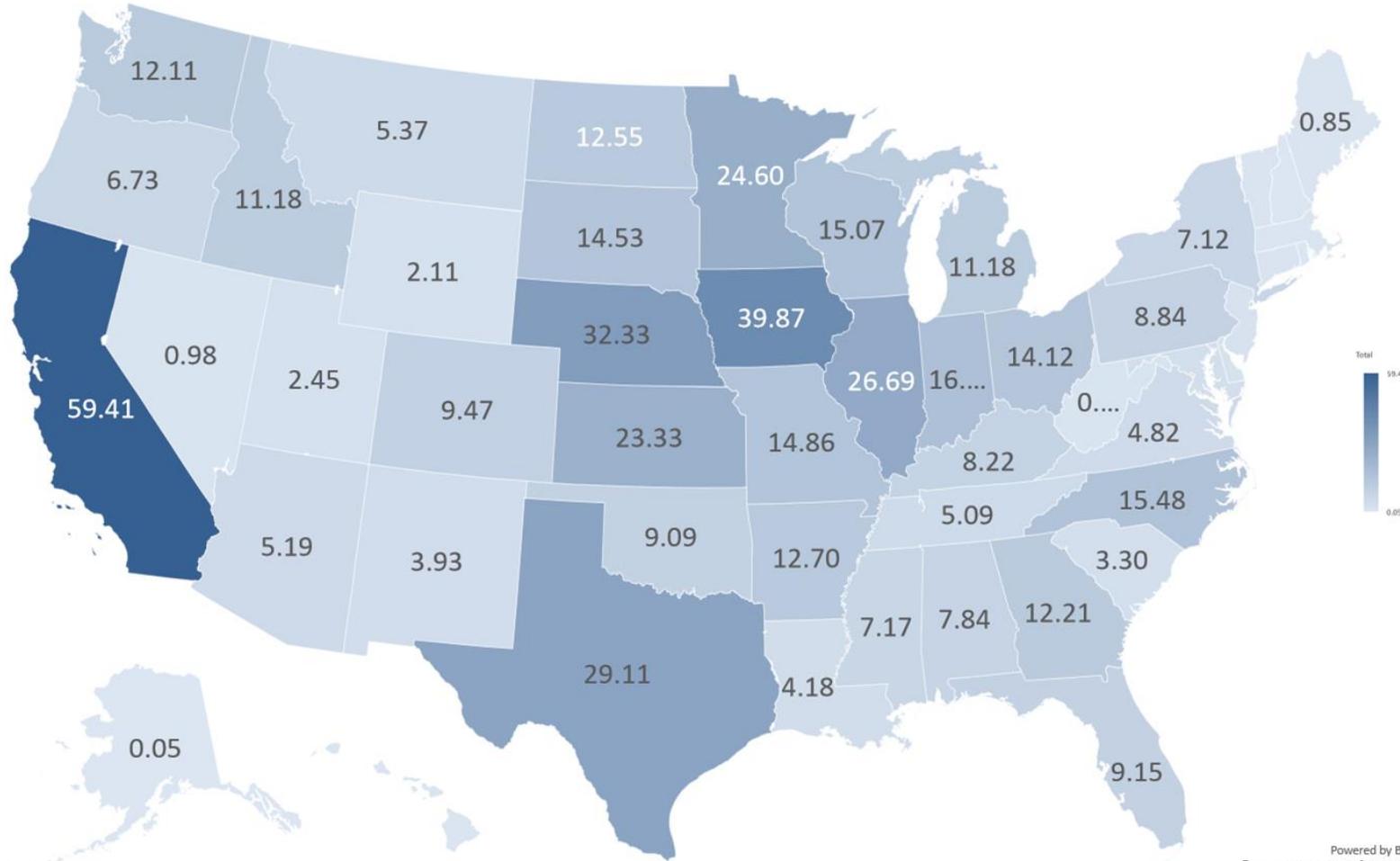


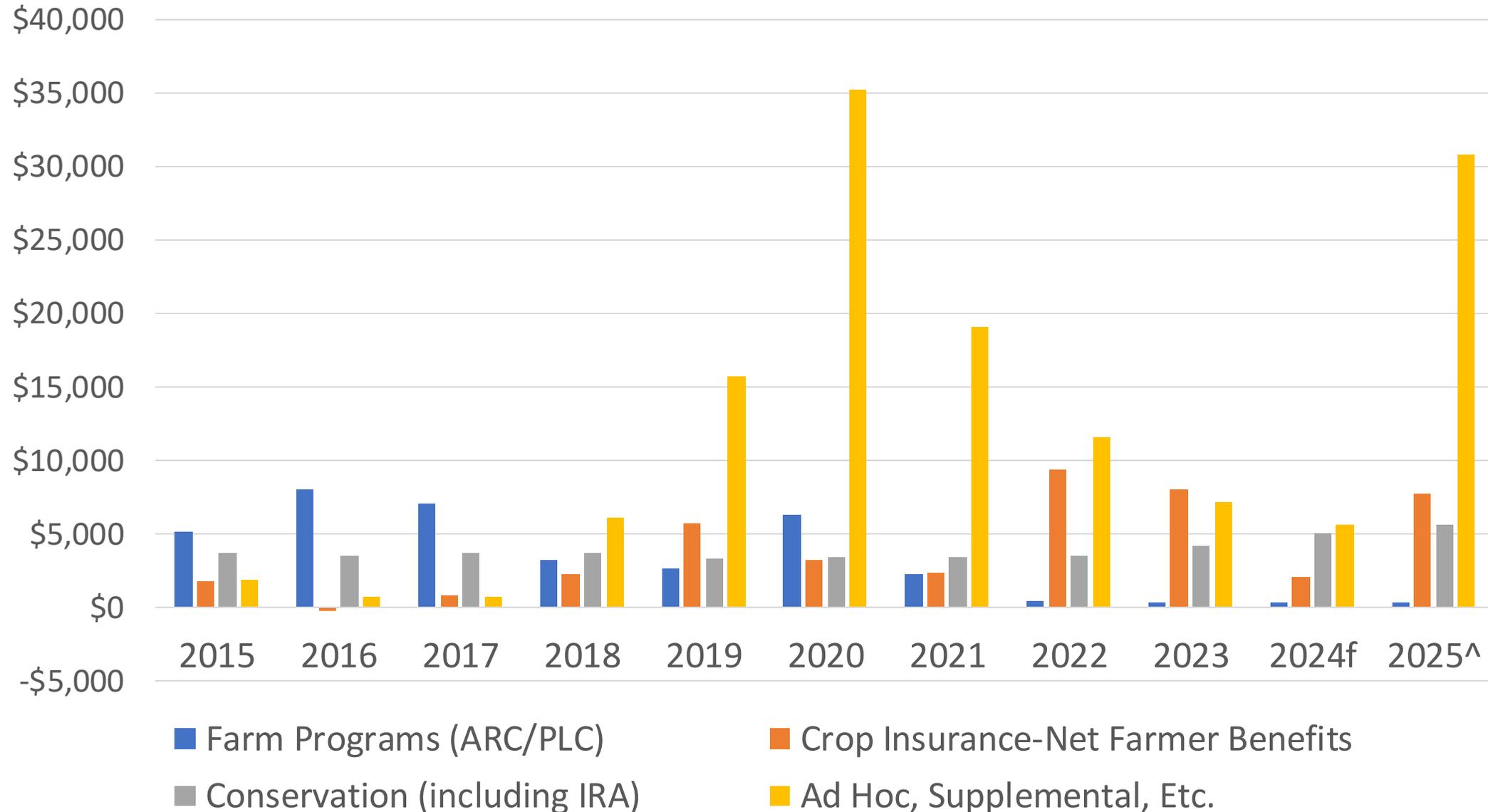
Table 2. Value of Ag Production by State - \$billions 2023

	State	Crop	Livestock	Total
1	California	43.78	15.62	59.41
2	Iowa	21.70	18.17	39.87
3	Nebraska	14.62	17.71	32.33
4	Texas	7.43	21.68	29.11
5	Illinois	23.15	3.54	26.69
6	Minnesota	15.20	9.40	24.60
7	Kansas	8.06	15.27	23.33
8	Indiana	11.07	5.88	16.96
9	North Carolina	4.57	10.92	15.48
10	Wisconsin	5.28	9.79	15.07
11	Missouri	8.01	6.85	14.86
12	South Dakota	8.68	5.85	14.53
13	Ohio	8.53	5.58	14.12
14	Arkansas	5.14	7.56	12.70
15	North Dakota	10.95	1.60	12.55
16	Georgia	4.15	8.06	12.21
17	Washington	7.77	4.35	12.11
18	Michigan	6.47	4.71	11.18
19	Idaho	4.74	6.44	11.18
20	Colorado	2.99	6.48	9.47
21	Florida	7.04	2.11	9.15
22	Oklahoma	1.78	7.30	9.09
23	Pennsylvania	2.92	5.92	8.84
24	Kentucky	3.86	4.36	8.22
25	Alabama	1.65	6.19	7.84

(Source: USDA 2024)

Ad Hoc as the new Standing Farm Program

Assistance to Farmers by Category (USDA, CBO, *farmdocdaily*)



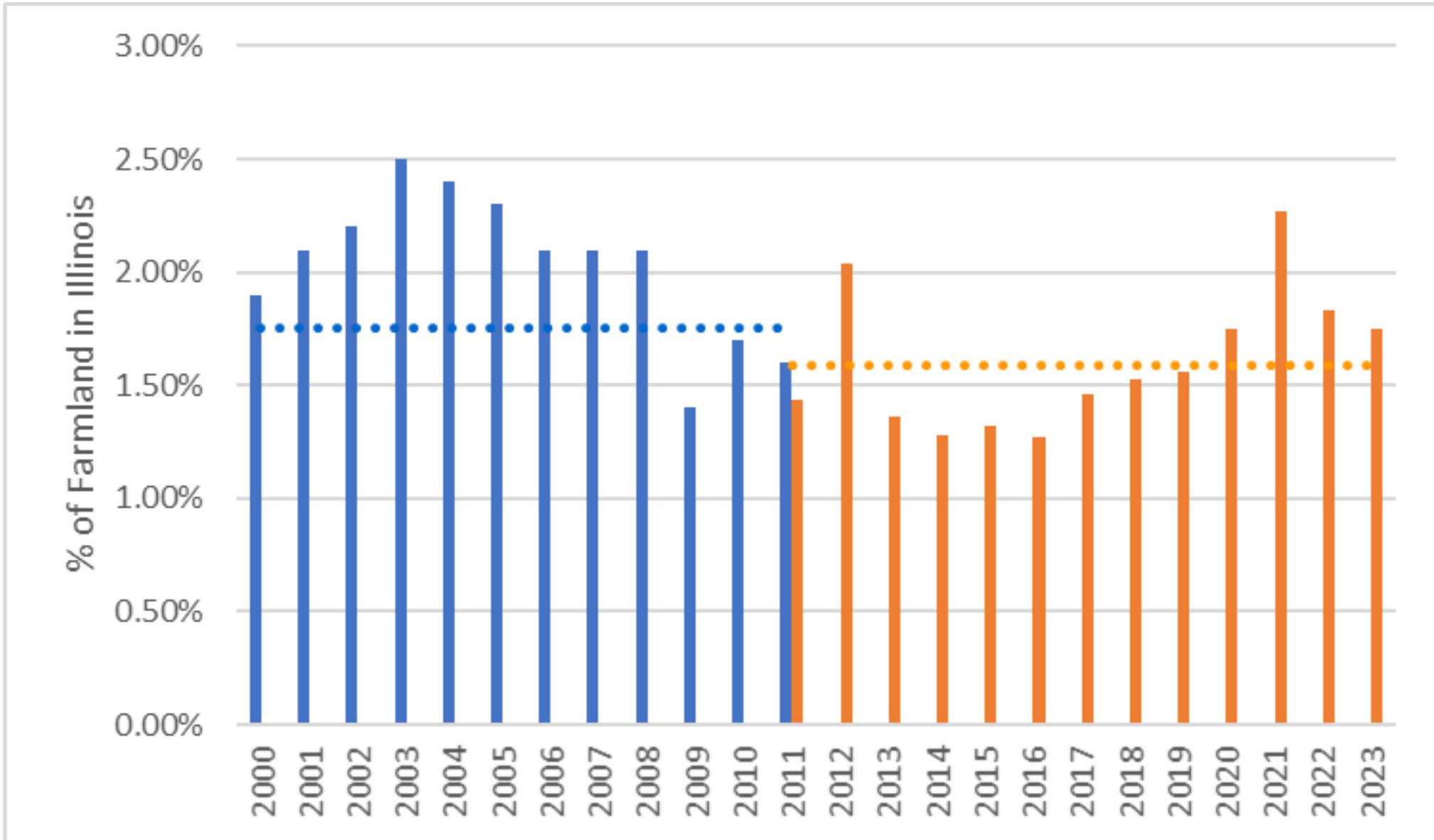
“

One of the great mistakes is to judge policies and programs by their intentions rather than their results.

”

— MILTON FRIEDMAN

THIN MARKET – LOW TURNOVER



Final comments and opinions

- *Transactional Markets incredibly effective at summarizing information into current prices – wider confidence interval with current uncertainty*
- *Long term income prospects based on world demand remain strong for agricultural production, especially in coarse grains. Current stresses are very real and can have real impacts.*
- *Decarbonization and natural capital applications continue to be themes politically, and socially, and the relative economic values will sort out winners, but not be panacea.*

Final comments and opinions

- *Social narrative around agriculture is changing from “bad actor, major problem” to “necessary and in many cases only viable locations for solutions” with enormous value and major political and strategic implication for farmland.*
- Long duration holds in agriculture are tax efficient, and have limited “drawdown” risk. High transactional costs but relatively high and stable returns through time. Reliance on US agriculture (and Brazilian ag) will increase through time.
- Economic uncertainty, and the potential for a broad-based economic meltdown leads to flight to safety.

What asset would you rather own?

Has anything really changed? Will anything?

“There are two sources of return to agricultural land: the first the annual income on the products grown thereon and the second the increase in the value of the land itself. The latter will be the greater through time”.

(University of Illinois Manuscript circa 1878, thought to be by George Morrow)

THE MORROW PLOTS

AMERICA'S OLDEST EXPERIMENTAL FIELD

ESTABLISHED IN 1876

AMERICA'S FIRST EXPERIMENT ON THE
SUSTAINABILITY OF CROPPING SYSTEMS
AND FERTILIZATION PRACTICES.

THANK YOU...

Bruce Sherrick

sherrick@Illinois.edu

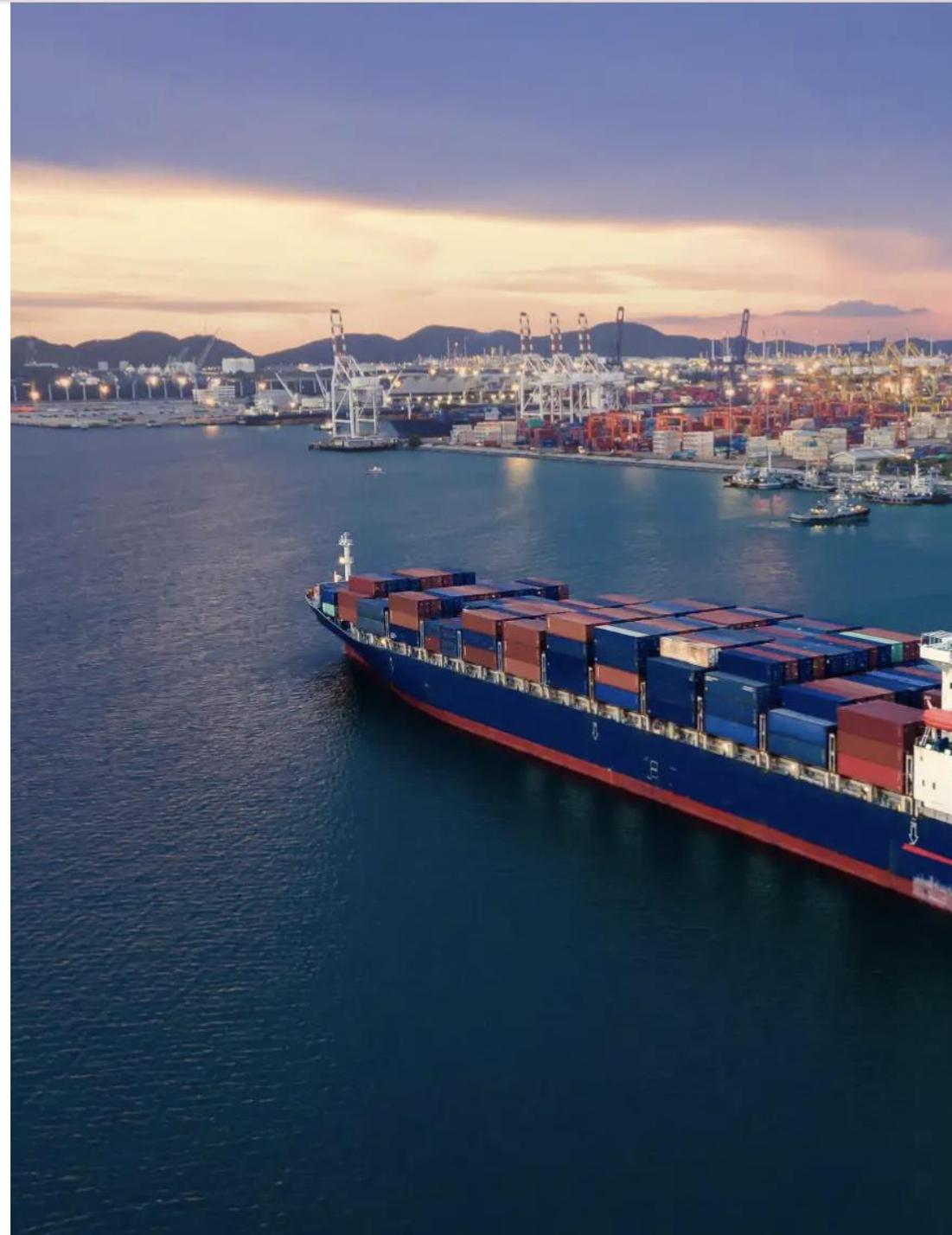
US trade balance varies by country

Imports of goods into the U.S. and exports from the U.S., by trading partner, 2024, in \$

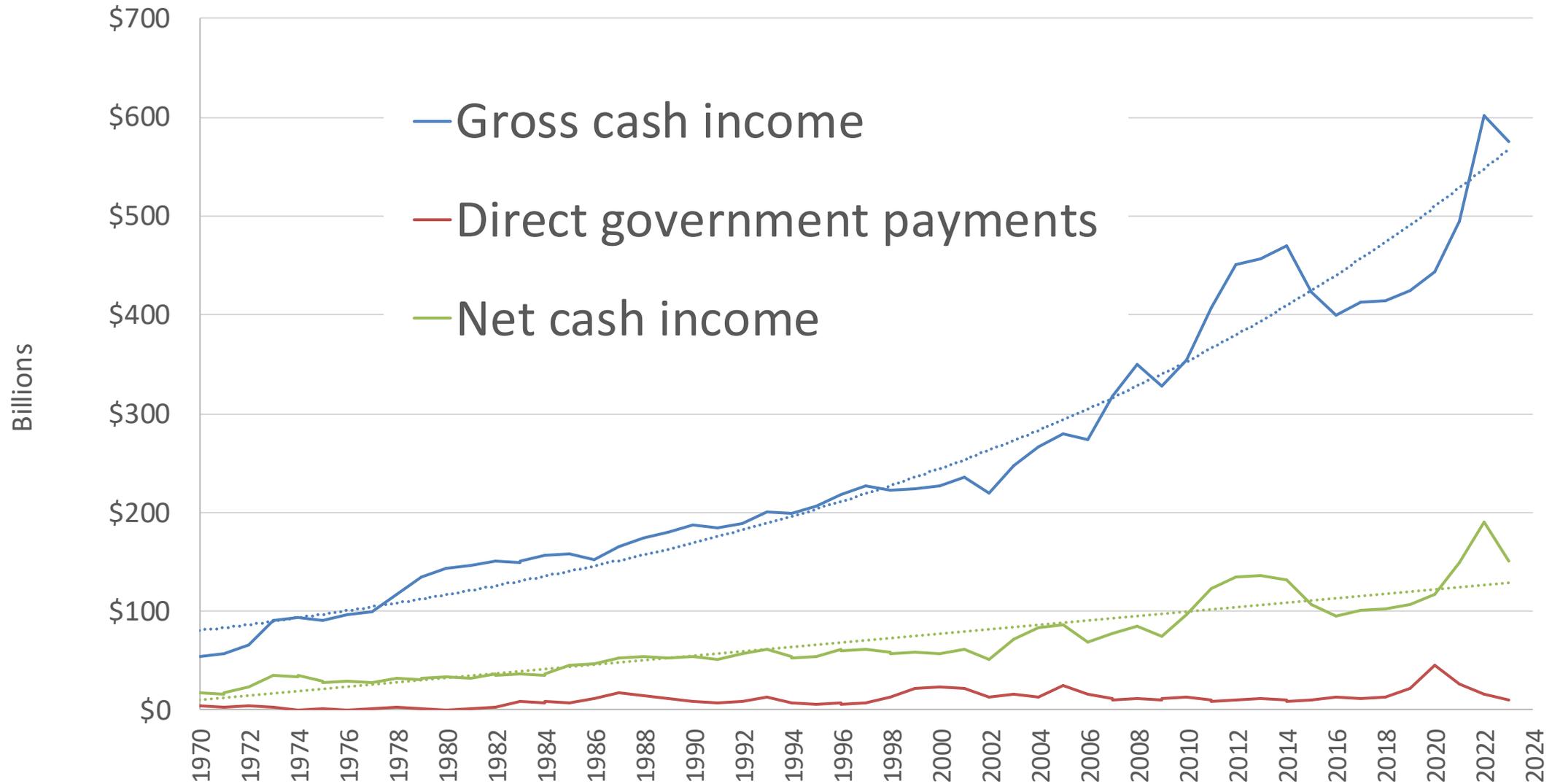
● More exports than imports ● More imports than exports



Total trade balance (exports and imports)



Income Statement Ag Sector – longer term perspective



GLOBAL DEMAND FOR MEAT

2005 vs. 2050

(in tonnes)

