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FEBRUARY 7, 2023

**KSU Stanley Stout Center
Manhattan, Kansas**



PORK ECONOMICS ASSESSING OUTLOOK IN A PERIOD OF ELEVATED UNCERTAINTY

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Where Are We Going?



December Quarterly Hogs & Pigs Report (Dec 2022 as % of Dec 2021)

- Breeding Hogs & Pigs 100%
 - Market Hogs 98%
 - By weight group, all down 2%
 - Farrowing
 - Dec-Feb Farrowing Intentions 101.0%
 - Mar-May Farrowing Intentions 100.5%
- Sets stage for lower hog slaughter, at least 1st half of 2023

QUARTERLY COMMERCIAL HOG SLAUGHTER, PORK PRODUCTION, PER CAPITA PORK DISAPPEARANCE AND NATIONAL BASE HOG PRICE

Year Quarter	Comm'l Slaughter (1,000 Head)	% Chg. from Year Ago	Average Carcass Weight (Lbs.)	% Chg. from Year Ago	Comm'l Pork Production (Mil. Lbs.)	% Chg. from Year Ago	Per Capita Consumption (Retail Wt.)	% Chg. from Year Ago
2021								
I	33,421	-3.1	218	1.2	7,292	-1.8	13.1	-0.7
II	31,120	6.6	215	-0.9	6,668	5.6	11.8	1.6
III	31,167	-6.6	210	-0.6	6,530	-7.4	12.2	-7.4
IV	33,278	-3.6	216	-0.9	7,185	-4.4	13.9	-0.3
Year	128,986	-2.0	215	-0.3	27,675	-2.2	51.0	-1.8
2022								
I	31,603	-5.4	218	0.2	6,904	-5.3	13.1	0.2
II	30,618	-1.6	217	1.2	6,639	-0.4	12.4	5.3
III	30,961	-0.7	211	0.6	6,533	0.0	12.4	1.0
IV ^a	32,133	-3.4	216	-0.2	6,919	-3.7	12.9	-7.4
Year	125,315	-2.8	216	0.5	26,994	-2.5	50.8	-0.5
2023								
I ^b	31,304	-0.9	219	0.4	6,860	-0.6	13.0	-0.7
II	30,286	-1.1	218	0.3	6,603	-0.5	12.3	-0.5
III	30,746	-0.7	212	0.1	6,504	-0.4	12.1	-2.1
IV	32,224	0.3	217	0.5	6,982	0.9	13.0	0.7
Year	124,560	-0.6	216	0.3	26,949	-0.2	50.4	-0.6
2024								
I	31,443	0.4	220	0.4	6,919	0.9	13.1	0.5
II	30,482	0.6	219	0.4	6,676	1.1	12.4	0.4
III	31,058	1.0	212	0.2	6,581	1.2	12.2	0.5
IV	32,623	1.2	218	0.6	7,110	1.8	13.2	1.3
Year	125,606	0.8	217	0.4	27,285	1.2	50.8	0.7

a/ Estimated quarter

b/ Forecasted quarters

Note: Totals may not add due to rounding.

Sources: Livestock Slaughter - USDA Publications; USDA Livestock Market News; Forecasts - LMIC Projections

Lean Hog Price Forecasts



1/23/2023



1/19/2023



Iowa/Minnesota

CME Group LM_HG204

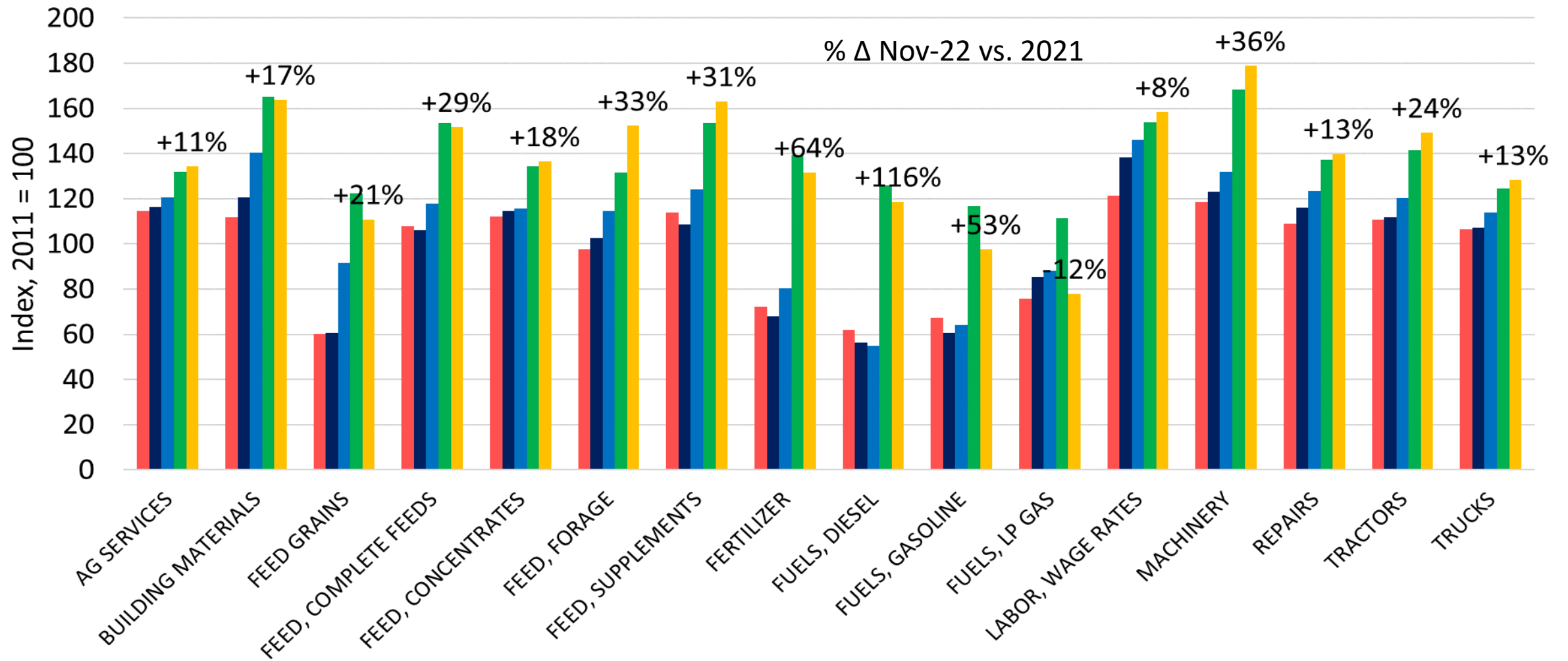
1/24/2023

		National Wtd Avg. Base	National Base 51-52% Lean	IA/MN All Prod Sold	Composite Price/Forecast	% Chg from Year Ago
2018		64.68	61.65	65.56		
2019		67.44	64.36	69.27		
2020		61.63	57.96	61.28		
2021	Q1	75.79	74.78	76.51		
	Q2	104.84	108.62	108.25		
	Q3	99.68	102.21	102.66		
	Q4	77.73	75.65	78.03		
	Year	89.51	90.32	91.36		
2022	Q1	88.74	87.99	89.94	88.89	17%
	Q2	101.10	101.45	103.64	102.06	-5%
	Q3	106.34	107.65	109.11	107.70	6%
	Q4	87.02	85.22	87.20	86.48	12%
	Year	95.80	95.58	97.47	96.28	7%
2023	Q1	88.50	84.56	78.11	83.72	-6%
	Q2	101.00	96.64	90.40	96.01	-6%
	Q3	105.50	97.99	96.41	99.97	-7%
	Q4	88.00	85.91	83.99	85.97	-1%
	Year	95.50	91.28	87.23	91.34	-5%

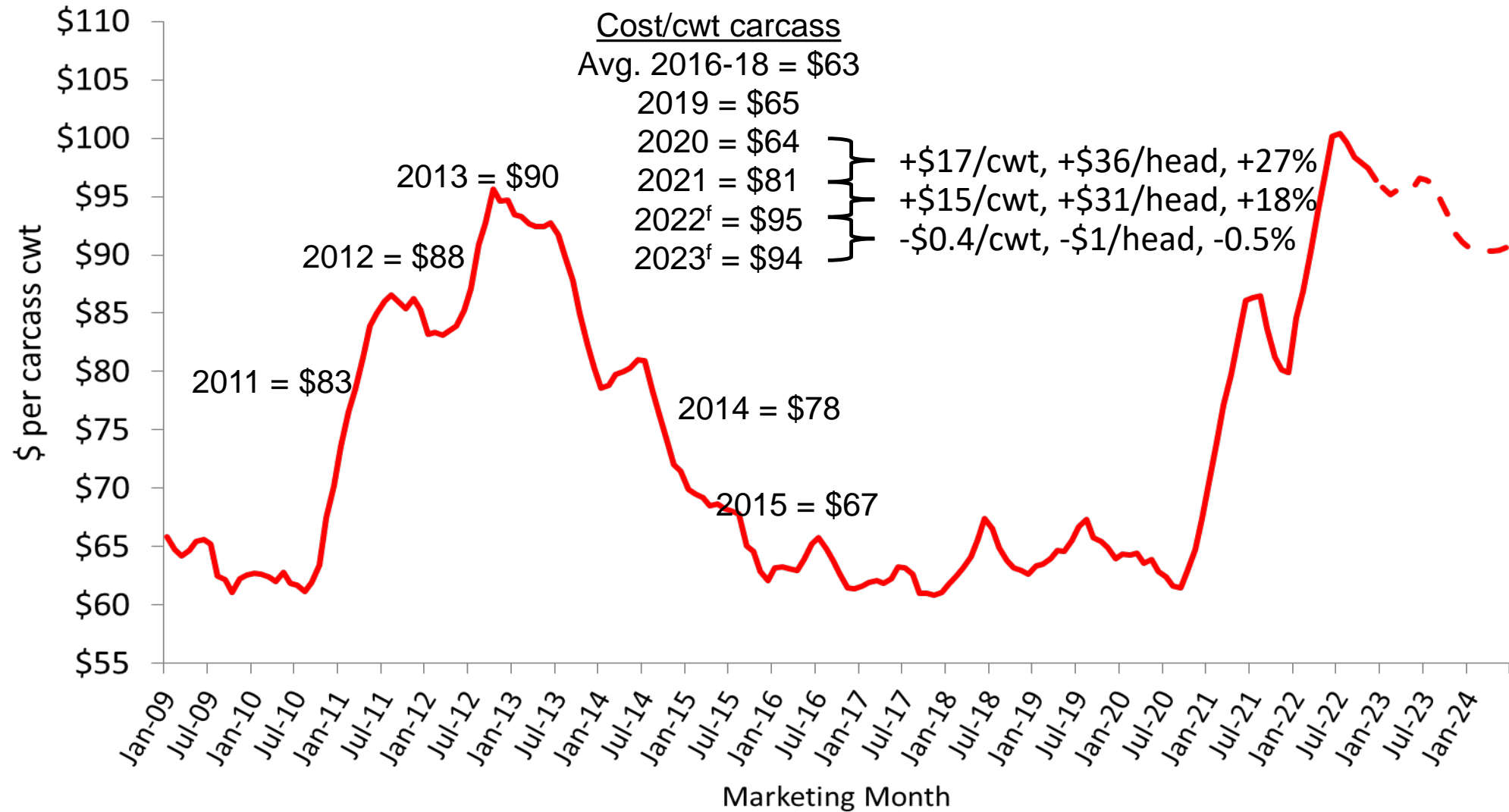
2nd highest to 2014
\$100.64 (IA/MN)

PRICES PAID BY FARMERS FOR SELECT INPUTS

■ Avg. 2015-19
 ■ 2020
 ■ 2021
 ■ May-22
 ■ Nov-22



BREAKEVEN—FARROW TO FINISH, IOWA

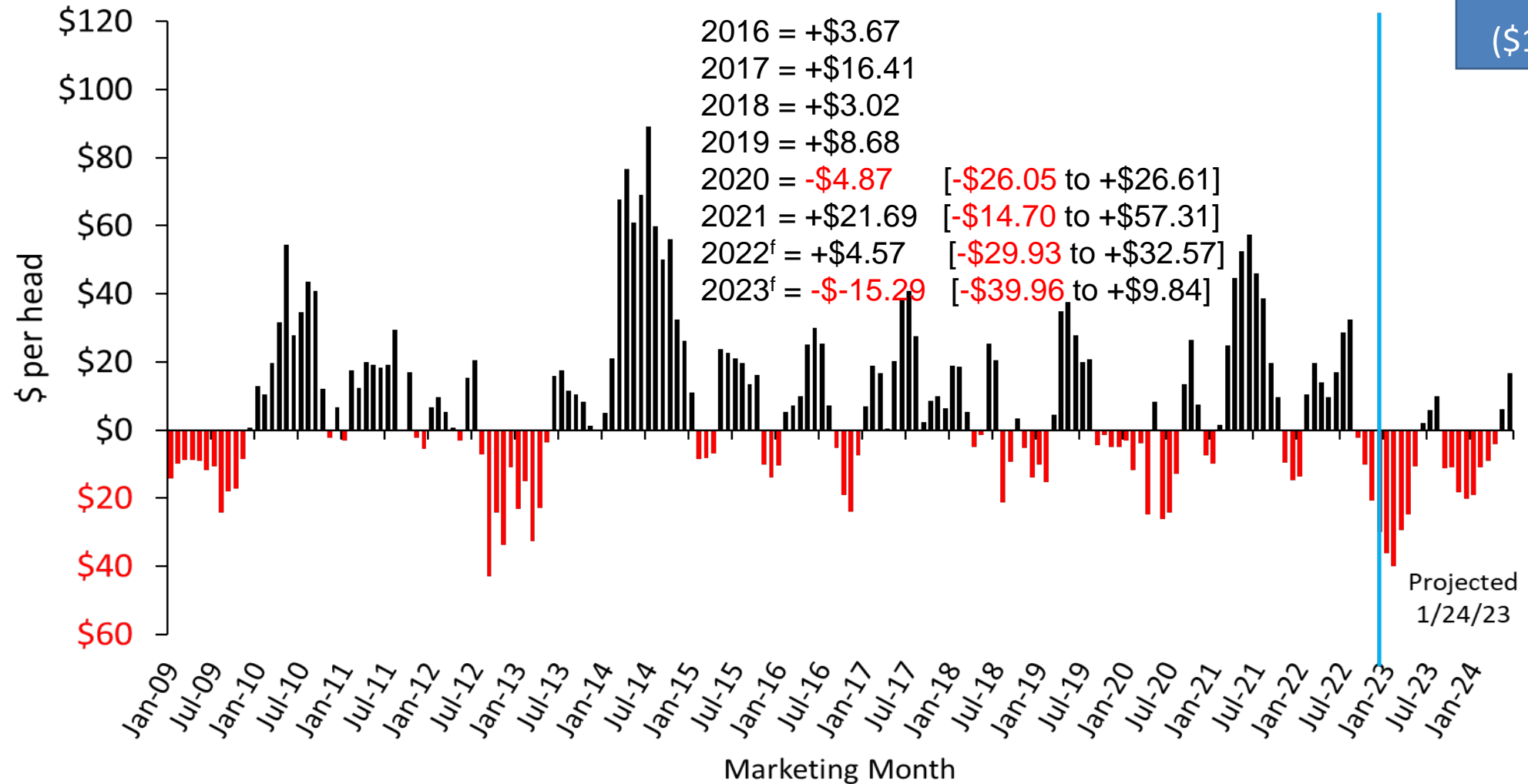


Source: Iowa State University

Estimated Returns to Farrow to Finish, Iowa

Past and Projected with Basis Adjusted Futures

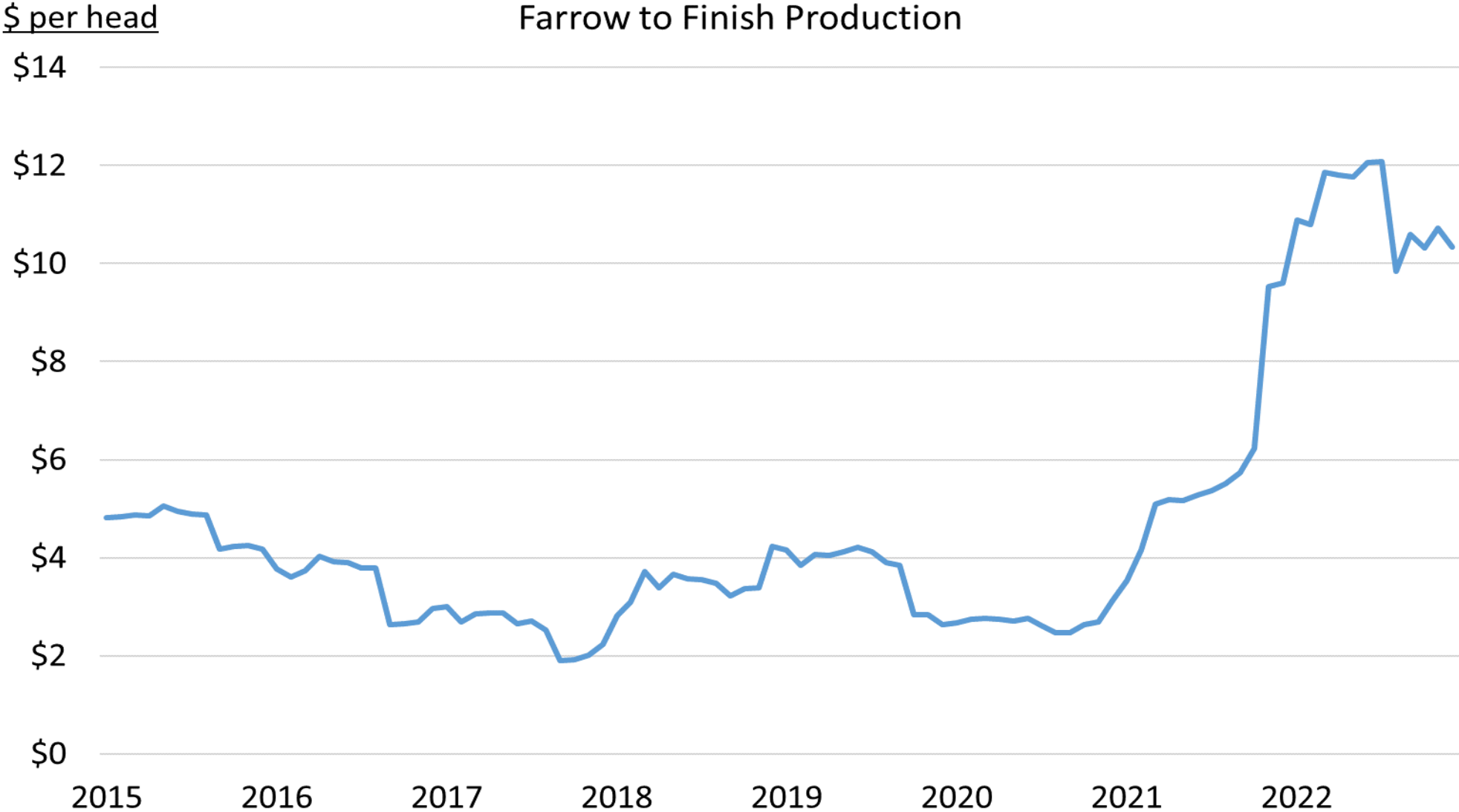
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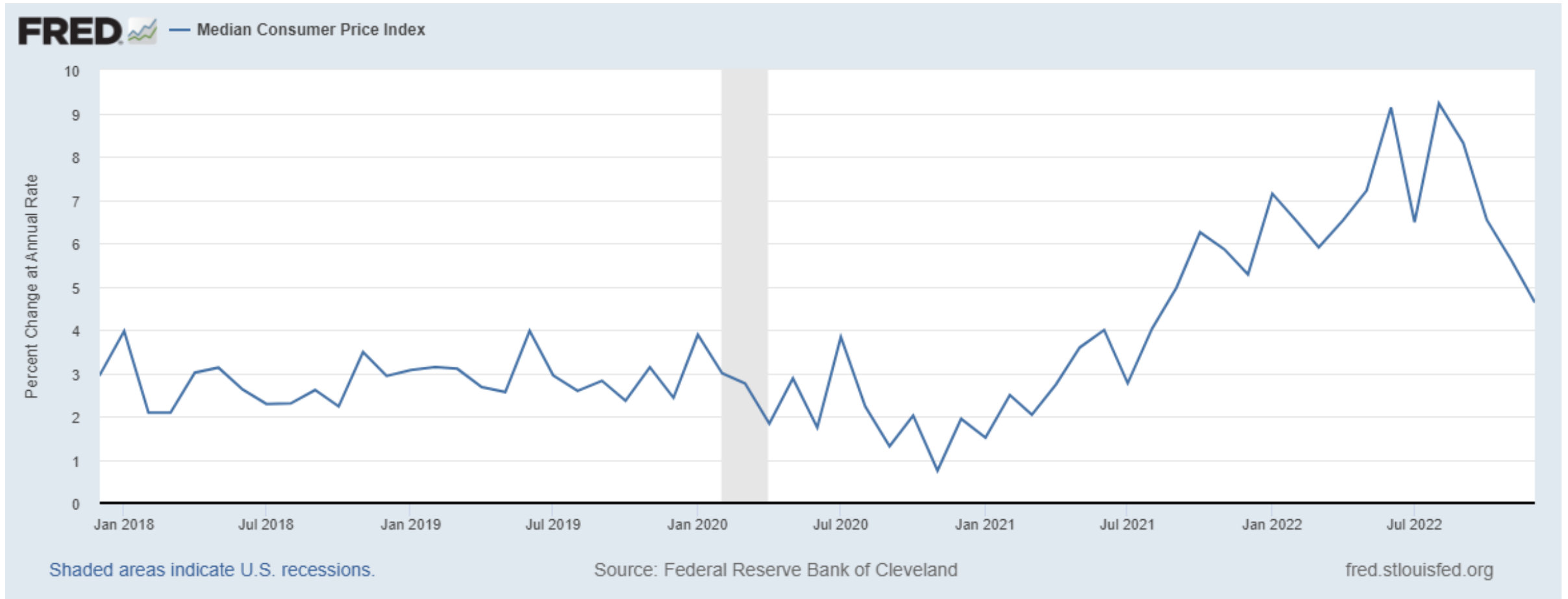
Source: Iowa State University

ESTIMATED MANURE CREDIT

Farrow to Finish Production



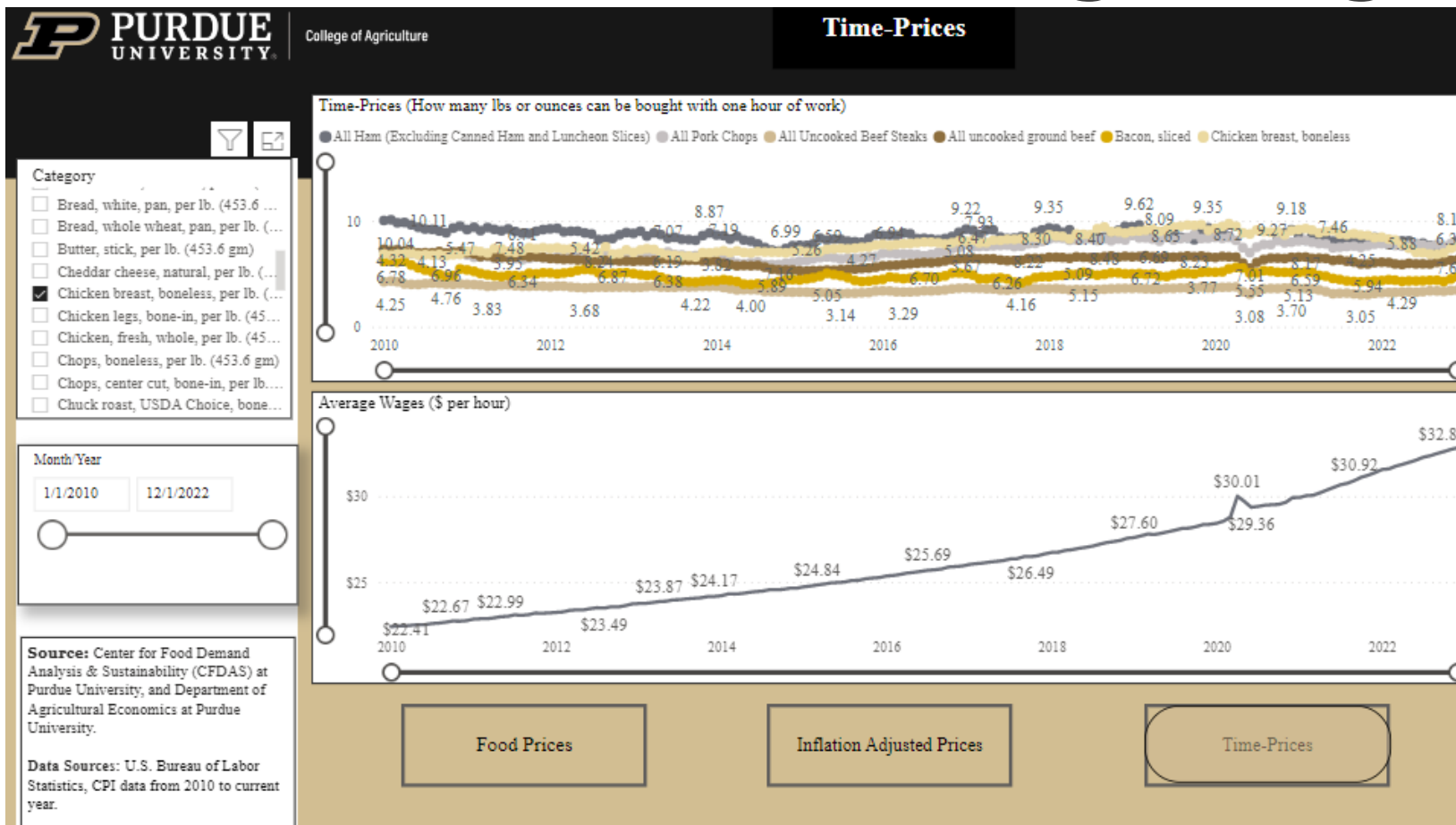
Summer 2022, Inflation in U.S. Was Highest in 4 Decades



Real Wages Are Key



Purdue's Dashboard: Retail Meat Prices (\$/lb) Relative to Average Wages (\$/hr)



Jan. 2020, 1 hr work =

9.1 lbs ham

8.4 lbs pork chop

5.1 lbs bacon

6.6 lbs ground beef

3.7 lbs beef steaks

9.5 lbs chicken breast

Dec. 2022, 1 hr work =

8.1 lbs ham (-11%)

7.6 lbs pork chop (-10%)

4.7 lbs bacon (-8%)

6.3 lbs ground beef (-5%)

3.5 lbs beef steaks (-5%)

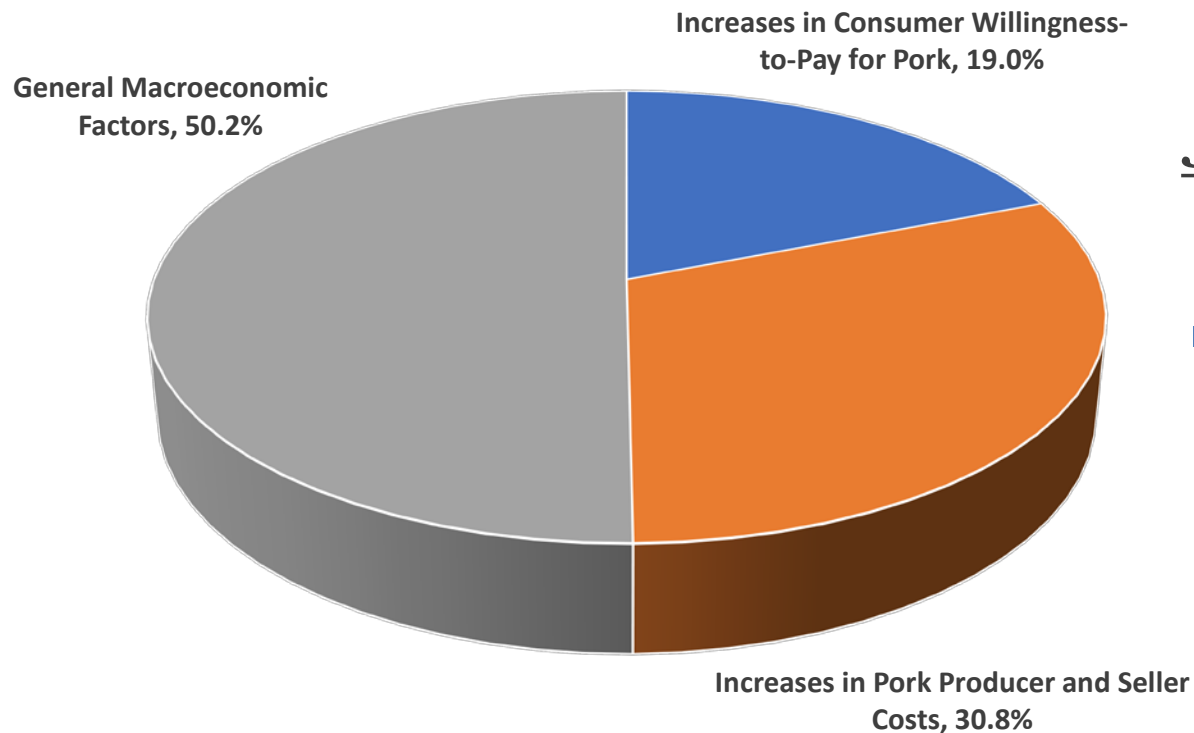
7.6 lbs chicken breast (-20%)

What Underlies Higher Retail Pork Prices?

- Supply-Drivers
 - “Pushing up” prices?
- Demand-Drivers
 - “Pulling up” prices?
- Broader Macroeconomic Drivers
 - Historic increase in money supply underpin general inflation?

What Underlies Higher Retail Pork Prices?

**Relative Drivers of Change in Retail Pork Prices
January 2020 to April 2022**



Jan 2020 – Apr 2022, Nominal Retail
Pork +27.3%

- +13.7% from macroeconomic pressures
- +8.4% from inner-industry supply-side factors
- +5.2% from pork demand factors

How is Elevated Inflation Impacting Pork Price Sensitivity?

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First Consider Econometric Evidence from IRI Data

- Jan 2017 – Aug 2022, 51 U.S. Retail Pork Markets (n=14,208)

Table 1. Own-Price Elasticity Estimates, Across CPI-Delineated Regimes (Mixed Model Approach)

CPI Regime	Loin	Ribs	Shoulder	Breakfast Sausage	Dinner Sausage	Bacon	Pork (Aggregate)
CPI Regime 1 (Under 2.5%)	-0.488	-1.286	-1.746	-3.972	-1.122	-1.773	-0.676
CPI Regime 2 (2.5%-3.0%)	-0.547	-1.399	-1.680	-4.141	-1.218	-1.798	-0.830
CPI Regime 3 (3.0%-4.0%)	-0.466	-1.596	-1.646	-4.068	-1.256	-1.783	-0.677
CPI Regime 4 (Over 4.0%)	-1.003	-1.467	-1.961	-4.299	-1.088	-1.789	-1.246



How is Elevated Inflation Impacting Pork Price Sensitivity?

Now (updated to Q4) Consider Trends in
Meat Demand Monitor (MDM)

Monthly Meat Demand Monitor, Methods, and Supporting Information

Home / Livestock & Meat / Meat Demand / Monthly Meat Demand Monitor [Survey Data]

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[Monthly Domestic Meat Demand Indices \[USDA/BLS Data\]](#)

[Monthly Export Meat Demand](#)

Monthly Meat Demand Monitor [Survey Data]

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The Meat Demand Monitor (MDM) project is funded in-part by the beef checkoff and the pork checkoff. Monthly reports and supporting documentation are available here.



[Meat Demand Monitor Dashboard \(National Maps & State-Level Summaries\)](#)

[LINK](#)

Monthly Meat Demand Monitor

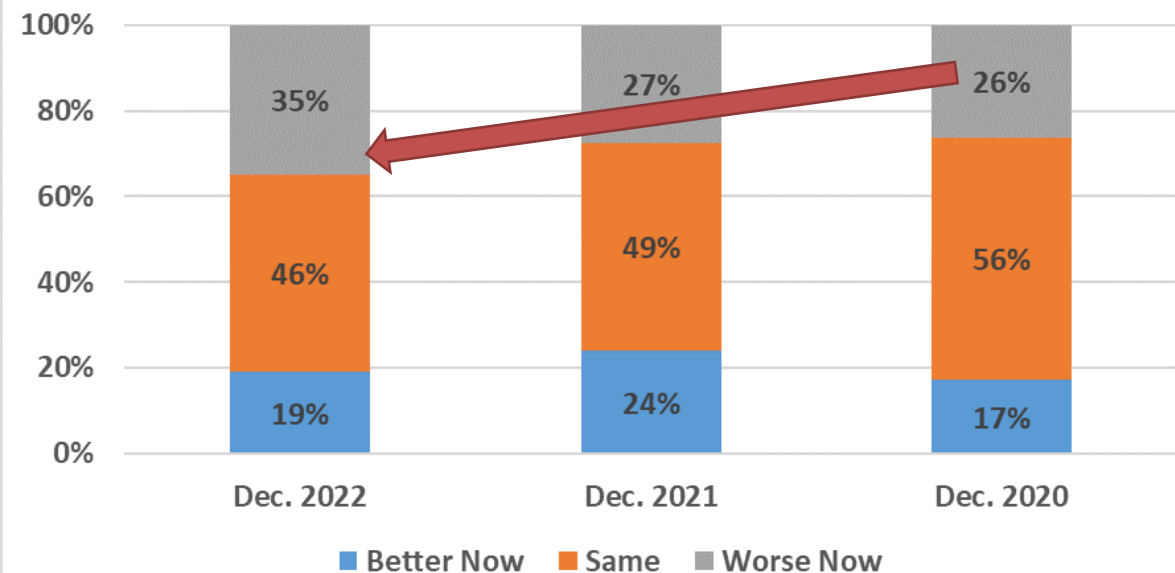
Title	Author	Date	Downloads
Meat Demand Monitor - August 2022	Tonsor	September 1, 2022	Downloads
Meat Demand Monitor - July 2022	Tonsor	August 5, 2022	Downloads
Meat Demand Monitor - June 2022	Tonsor	July 1, 2022	Downloads

How is Elevated Inflation Impacting Pork Price Sensitivity?

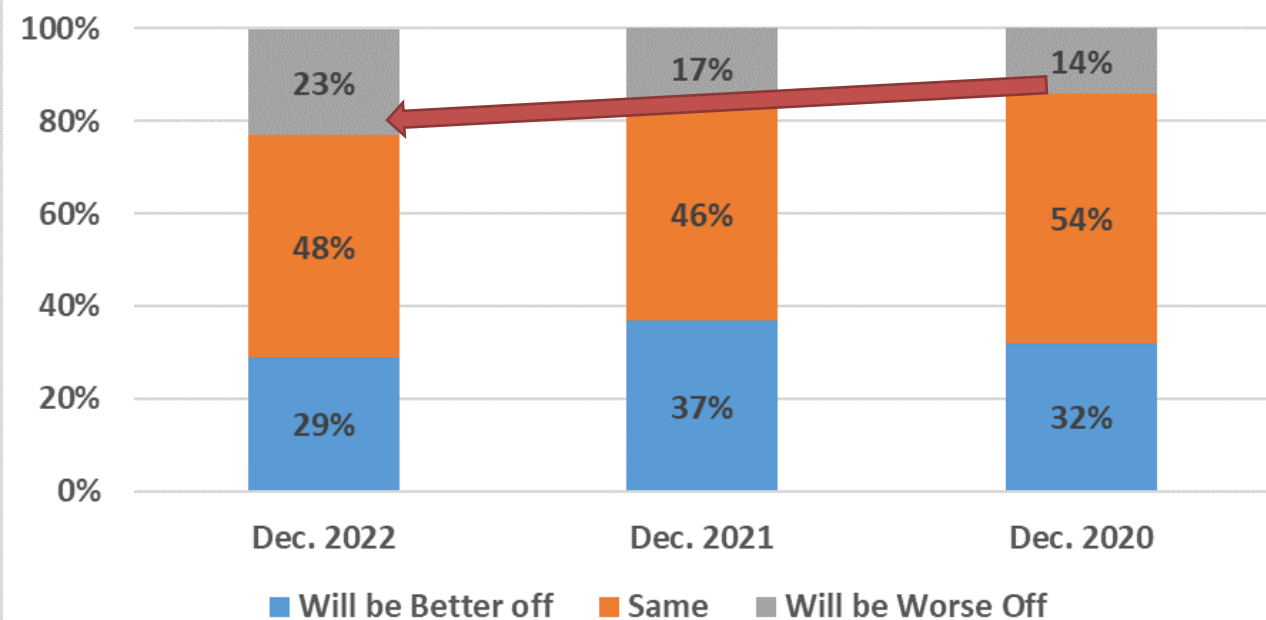
Trends in Meat Demand Monitor (MDM)

- Protein Values & Relative Role of Price
 - Q4.2021 45.9% indicated Price was a top 4 consideration
 - Q4.2022 48.2% indicated Price was a top 4 consideration

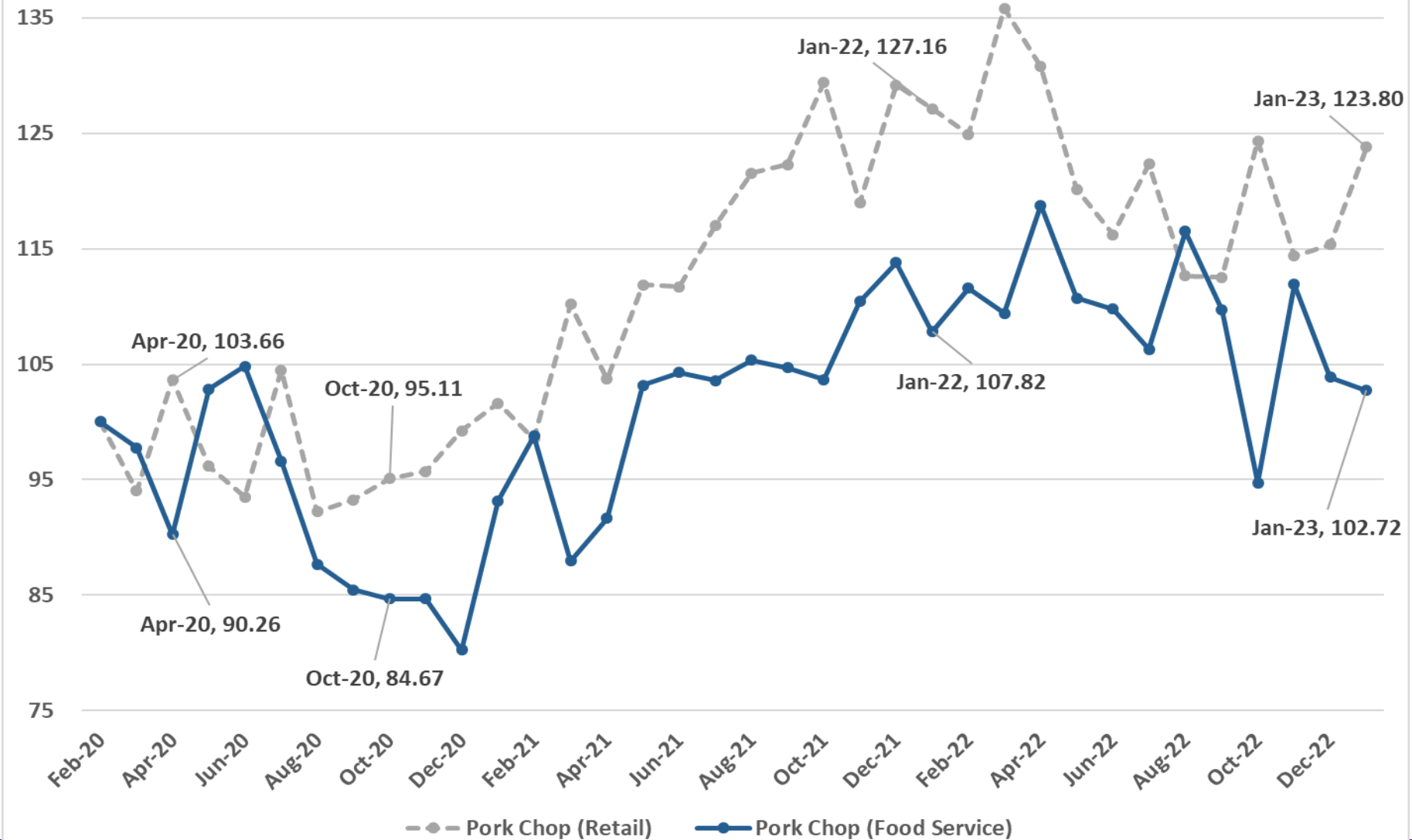
Financial Sentiment: Now vs One Year Ago



Financial Sentiment: One Year from Now vs Now



WTP Indices (Feb 20' = 100), Pork Chop Offerings



All is Not Lost!

USDA & MDM Info:

Meat Demand Outdoes Meat Avoidance

Meat Science 190 (2022) 108843



Contents lists available at [ScienceDirect](#)

Meat Science

journal homepage: www.elsevier.com/locate/meatsci



U.S. perspective: Meat demand outdoes meat avoidance

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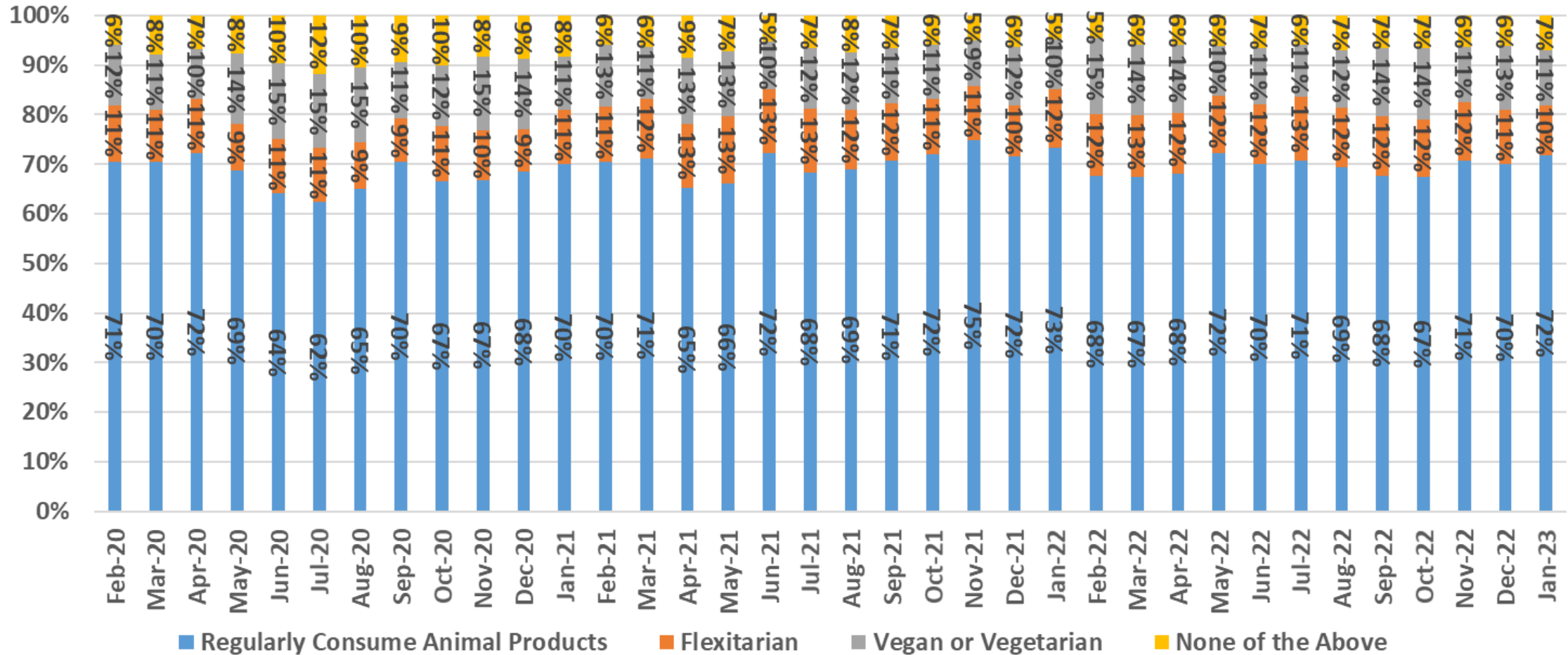


<https://www.sciencedirect.com/science/article/pii/S0309174022001115>

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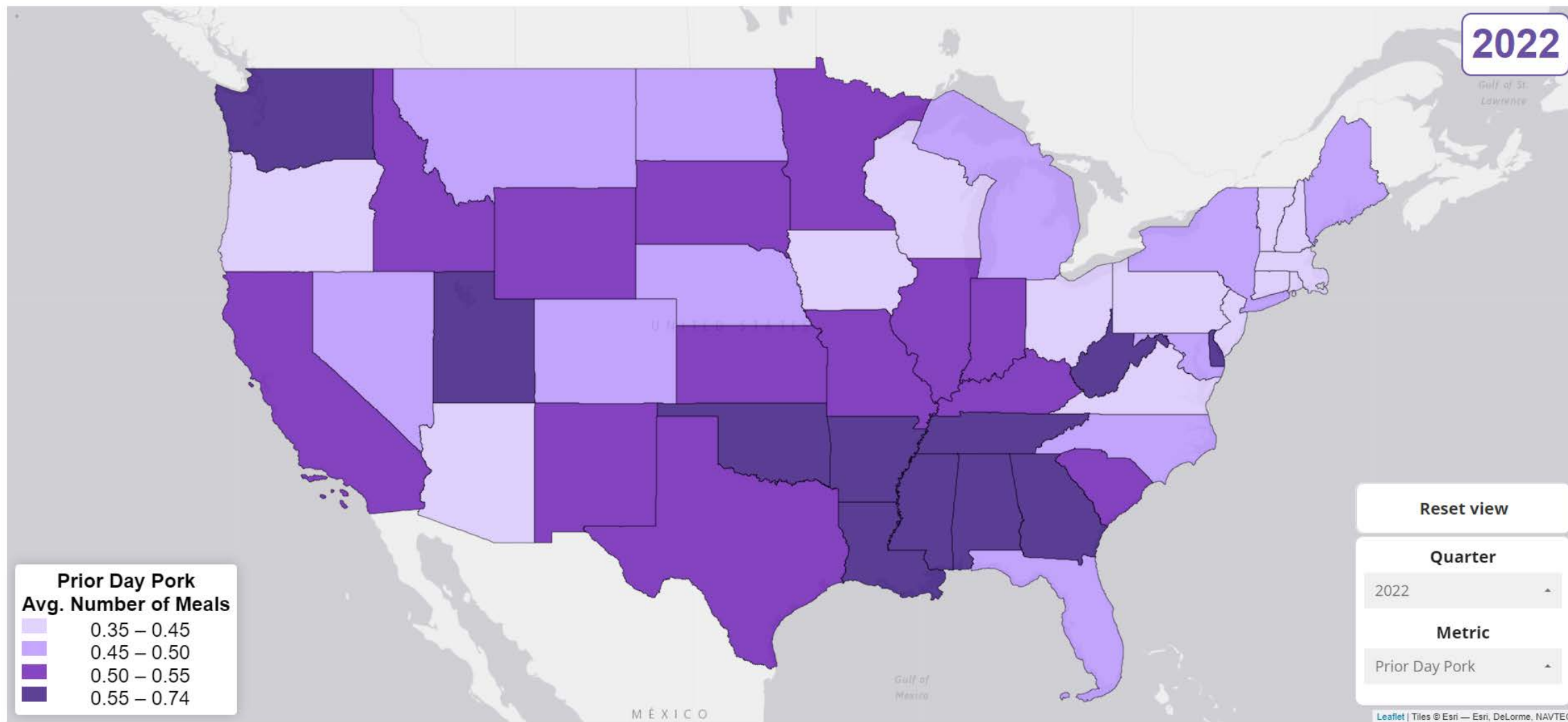
Self-Declared Diet Tracking

Self-Declared Diet, Feb. 2020 - Jan. 2023 (Source: MDM Project)

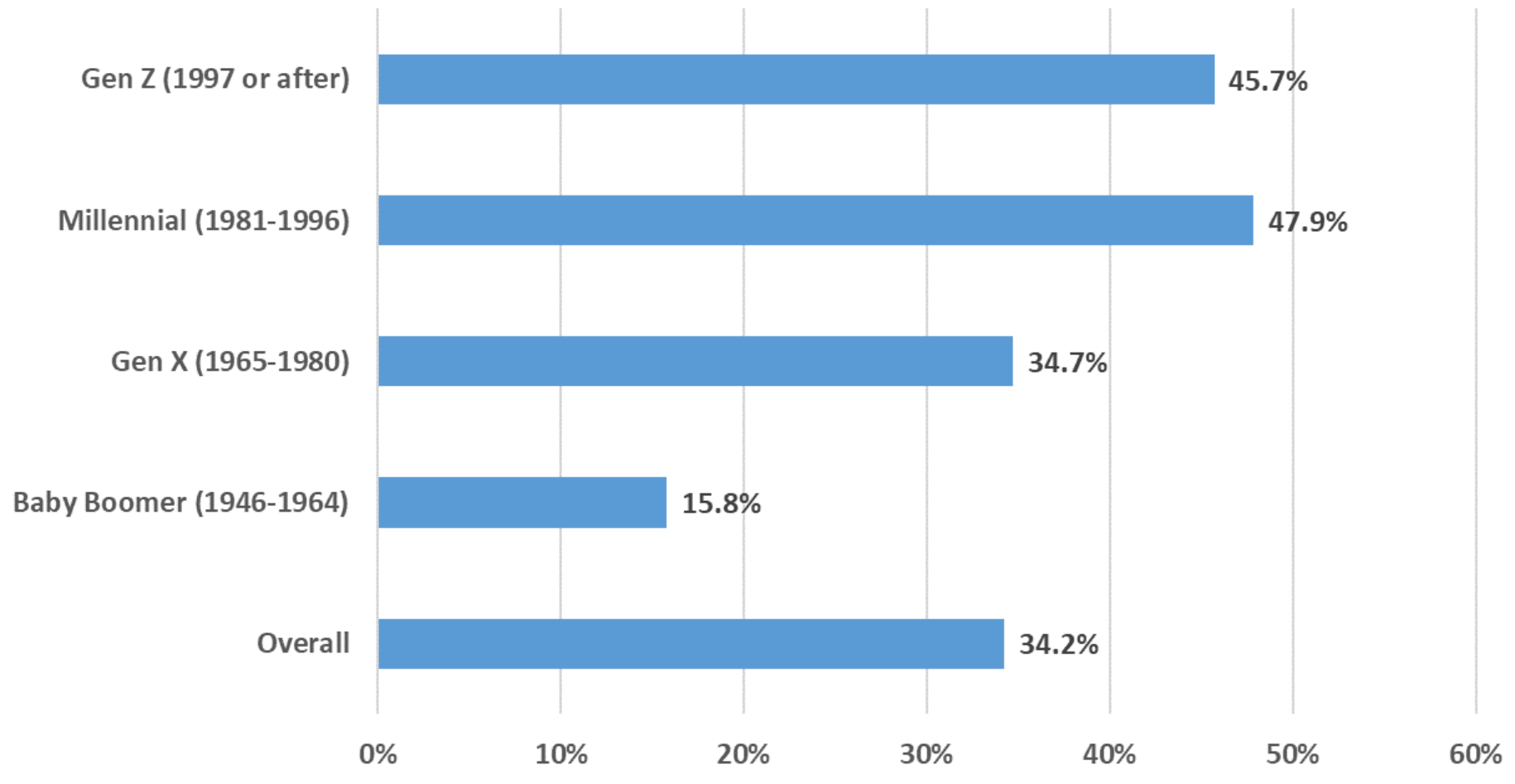


Prior Day Meals including Pork, 2022 (Source: Meat Demand Monitor Dashboard)

Meat Demand Monitor [Home](#) [State Summaries](#) [Supporting Information](#)



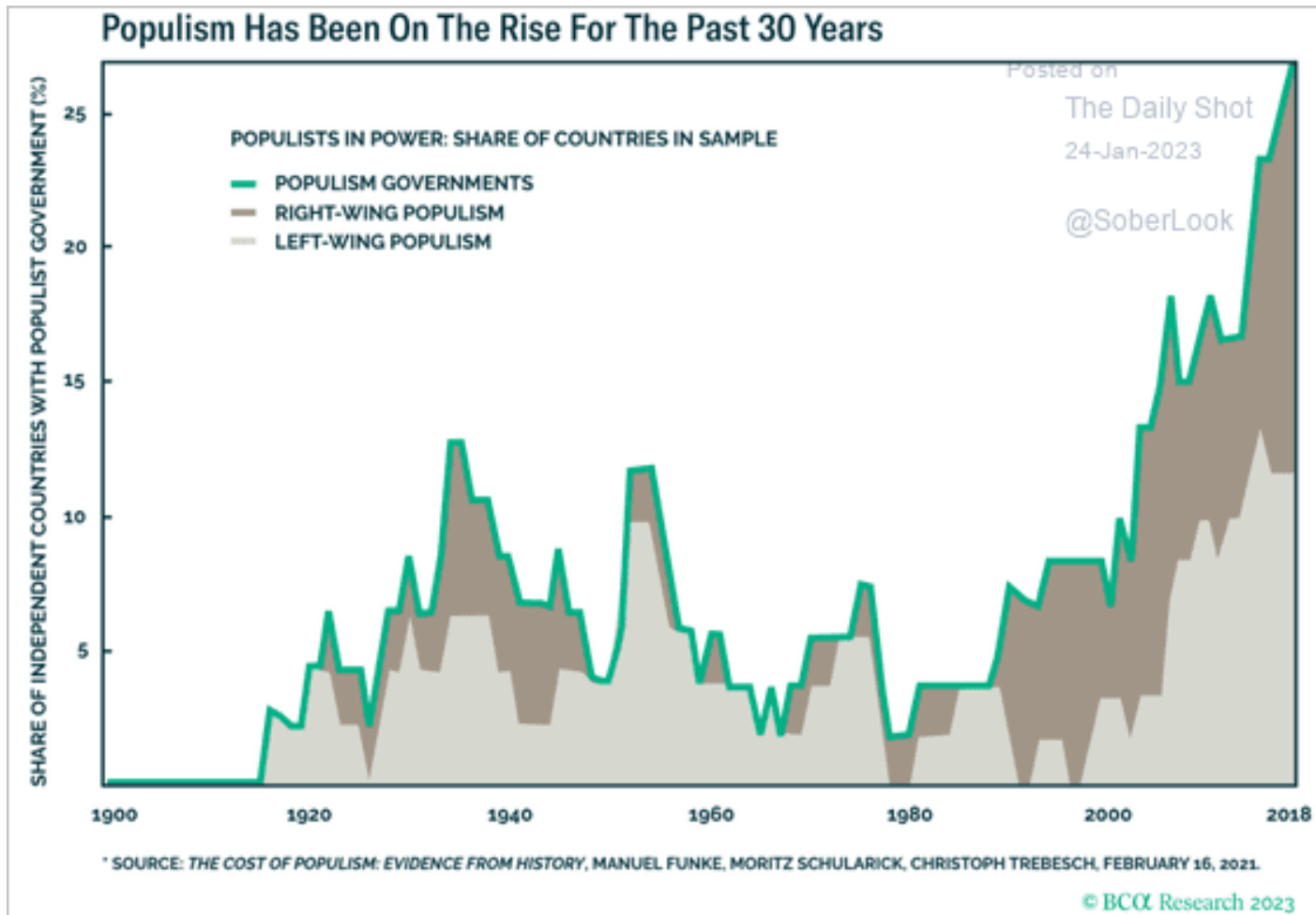
Share Intentionally Eating Protein for Strength-Training or Other Fitness-Related Goals, by Generation (Nov. 2022, MDM)



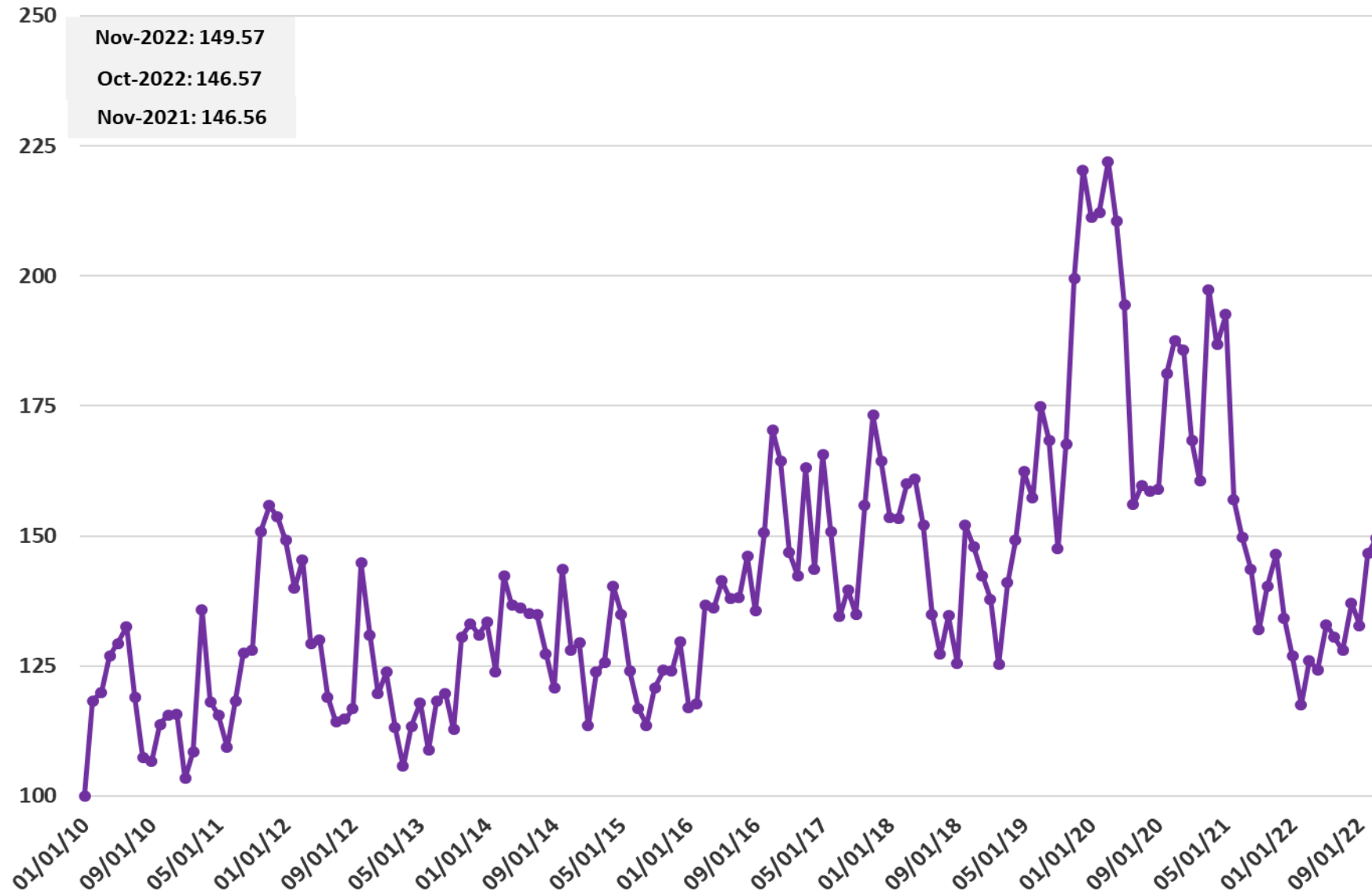
But GT is Concerned

Running list of “uncertainty points”

1. Labor Access/Retention
2. Trade (USD Strength, China Reopening, Retreat from Globalization)

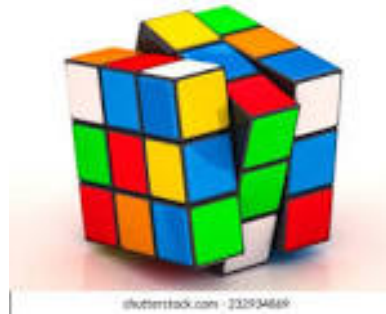


Monthly U.S. Pork, Export Demand Index, Jan. 2010 (base) - present



Running list of “uncertainty points”

1. Labor Access/Retention
2. Trade (USD Strength, China Reopening, Retreat from Globalization)
3. Disease
4. Regulation / Social License to Operate
5. Inner-Industry Fighting vs Collaboration
6. US Climate-Smart Ag (e.g. relative role of manure in profitability)



~15% of
Human Population

~85% of
Human Population



<http://library.meetingplace.com/publication/frame.php?i=727245&p=72&pn=&ver=html5>

“Any good business plan or policy needs a clearly stated goal...”

➤ Think global

➤ Manage local & focus on things you can influence

More information available at:



This presentation will be available in PDF format at:

<http://www.agmanager.info/about/contributors/individual/tonsor.asp>

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