

Agriculture Update

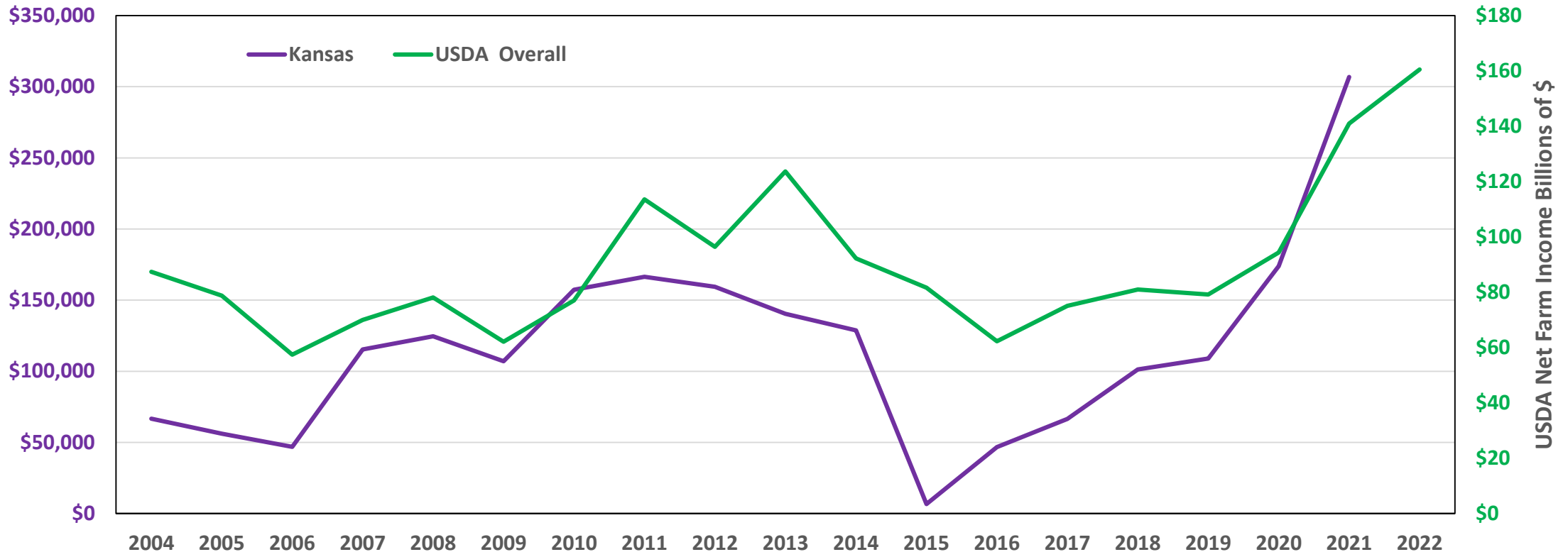
ALLEN M. FEATHERSTONE
KANSAS STATE UNIVERSITY



Introduction

- ❖ An outstanding farm economy through the end of 2021 with another strong year into 2022
- ❖ Net farm income and government program payments
- ❖ Examination of 416 KFMA farms with continuous data 2014 through 2021
 - ❖ Probability of Default
 - ❖ Debt to Asset Ratio
 - ❖ Working Capital Position
 - ❖ Capital Debt Repayment Capacity
- ❖ Farm Interest Rates
- ❖ 2022 and 2023

Net Farm Income – Kansas Farm Management and Aggregate U.S.



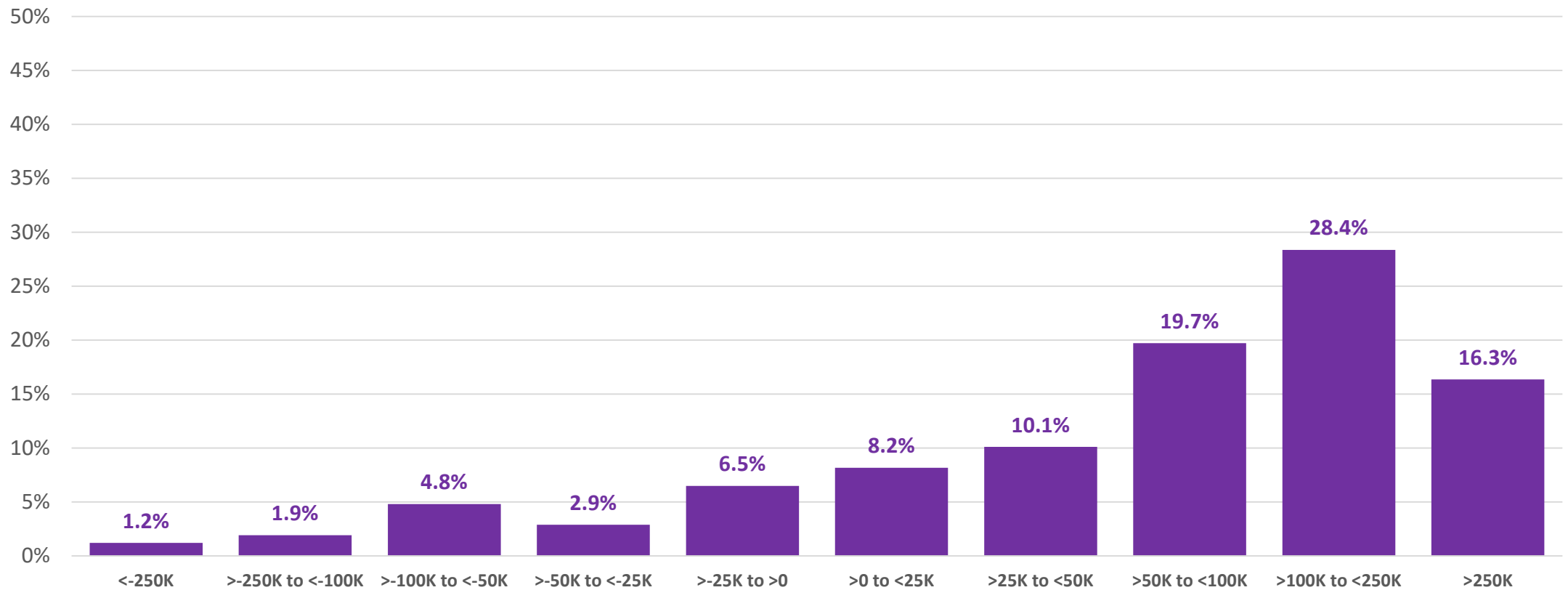
KFMA Average Net Farm Income and Government Payments

	2014	2015	2016	2017	2018	2019	2020	2021
Net Farm Income	\$136,127	\$11,134	\$63,941	\$75,687	\$112,501	\$126,441	\$178,246	\$341,384
Government Payments	\$26,144	\$21,575	\$26,247	\$27,886	\$42,209	\$91,677	\$129,106	\$66,029
Government Payments as a Percent of Income	19.2%	193.8%	41.0%	36.8%	37.5%	72.5%	72.4%	19.3%

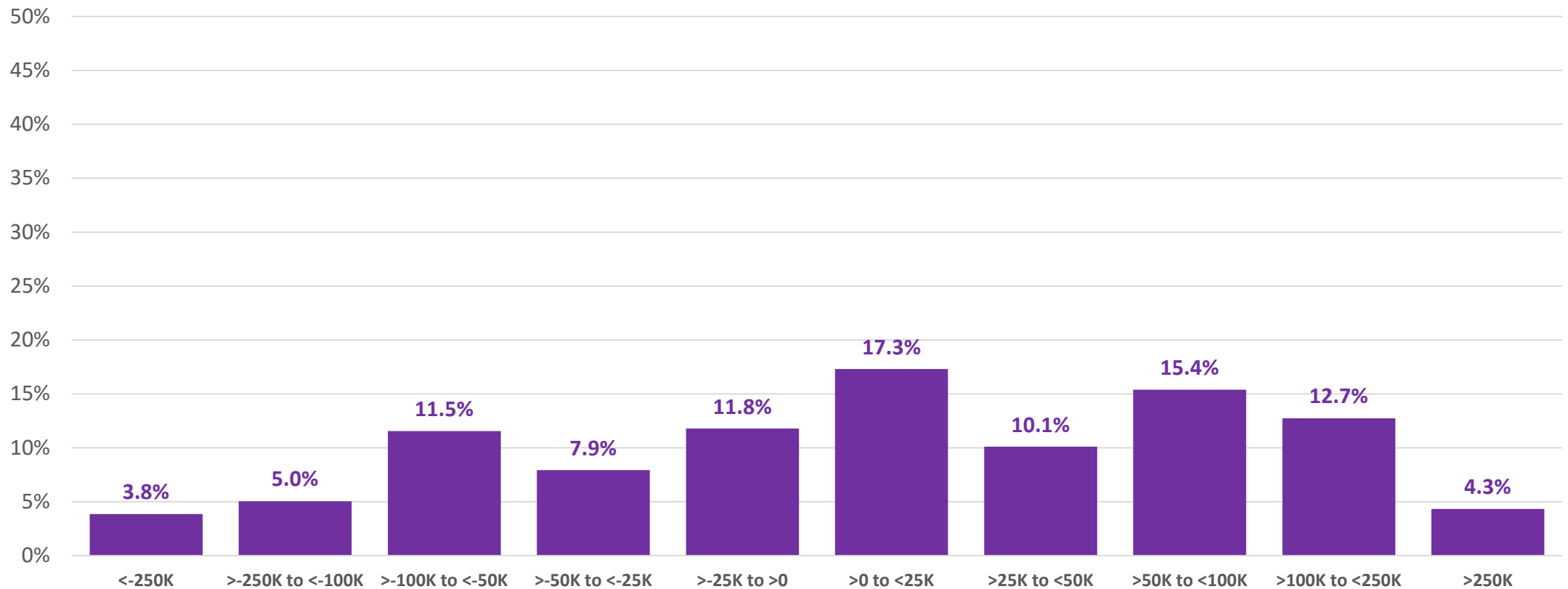
Sample size is 416 farms with 2014 to 2021 continuous data

Government Payments are important as a percentage of income for farms

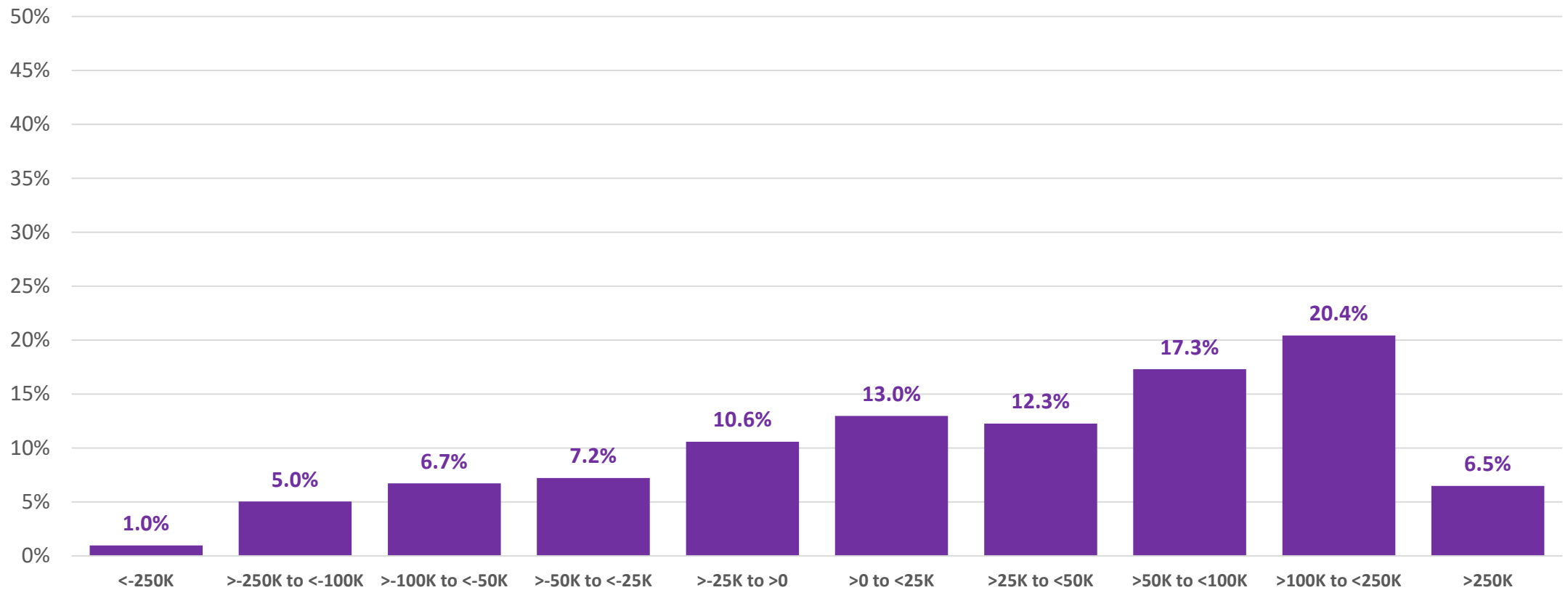
Distribution of 2014 Net Farm Income



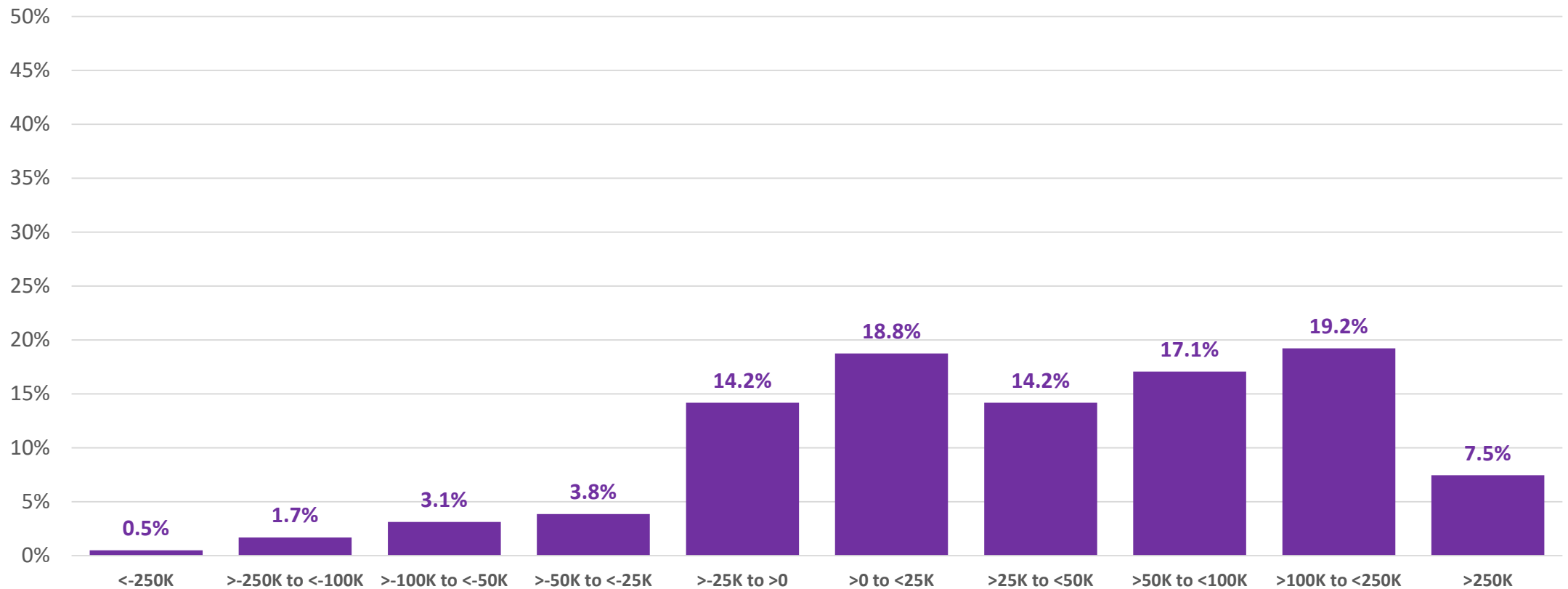
Distribution of 2015 Net Farm Income



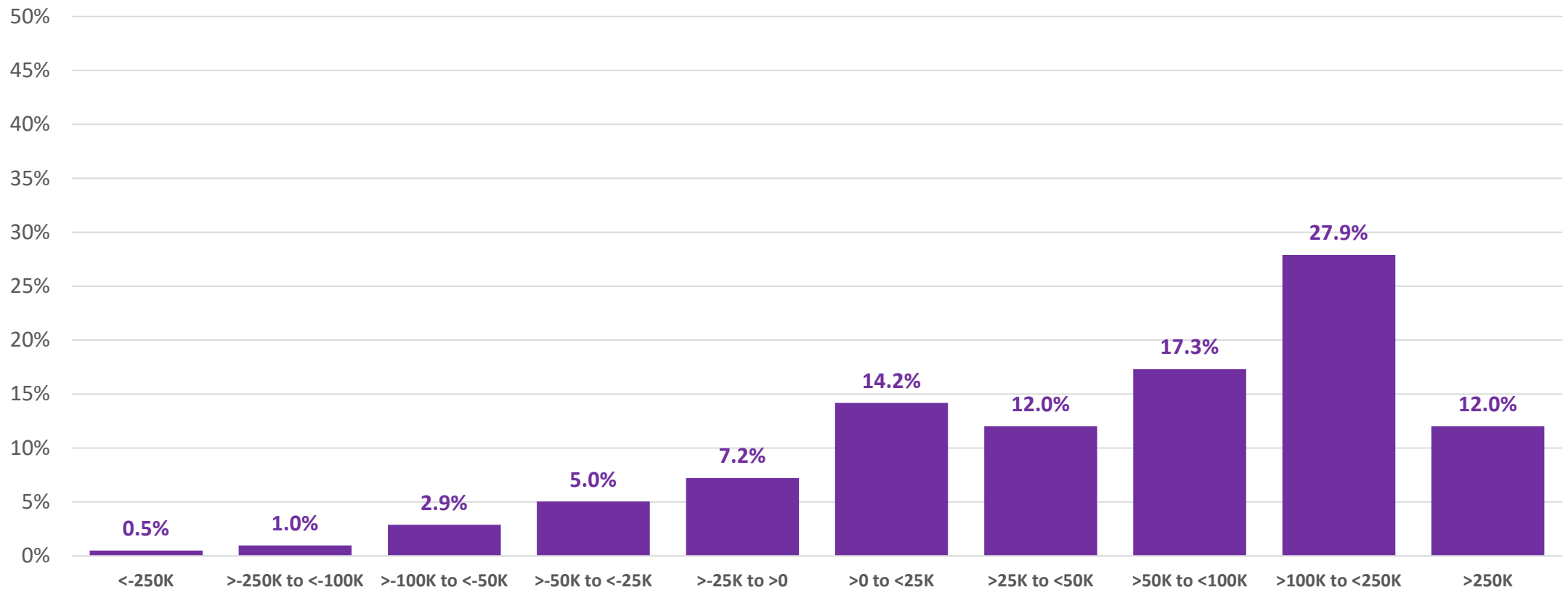
Distribution of 2016 Net Farm Income



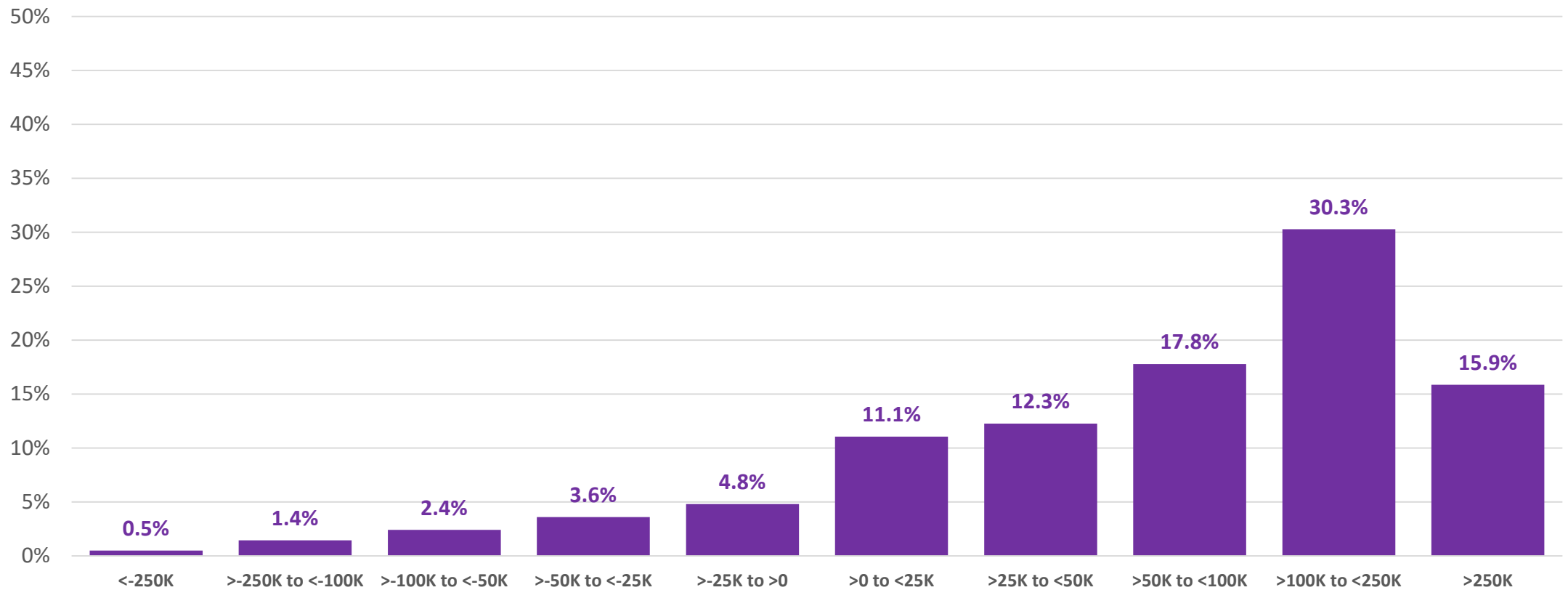
Distribution of 2017 Net Farm Income



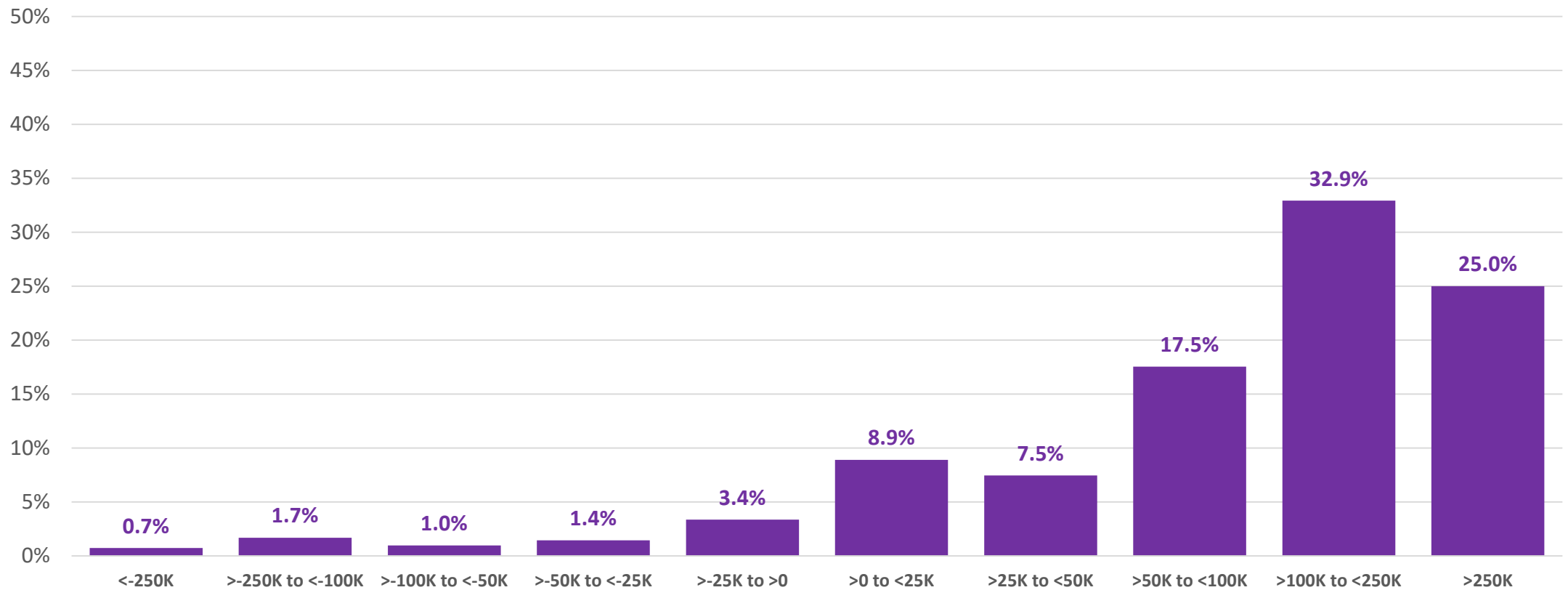
Distribution of 2018 Net Farm Income



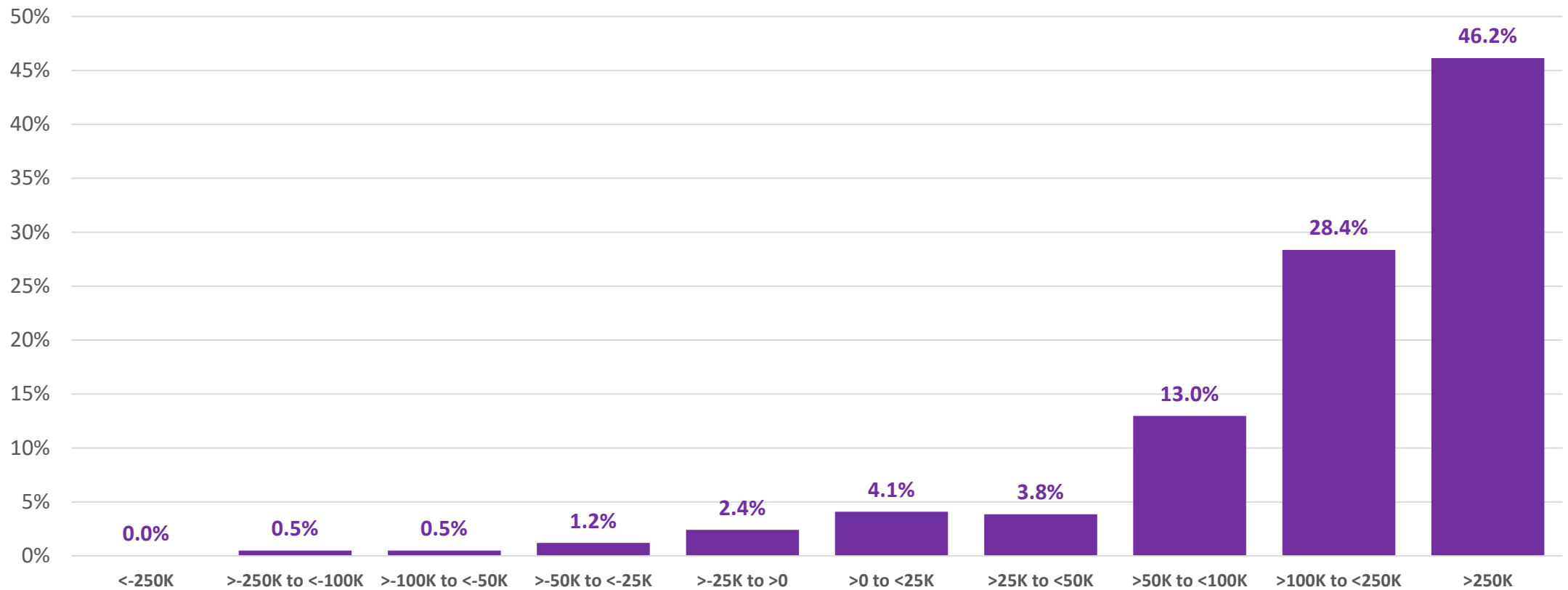
Distribution of 2019 Net Farm Income



Distribution of 2020 Net Farm Income



Distribution of 2021 Net Farm Income



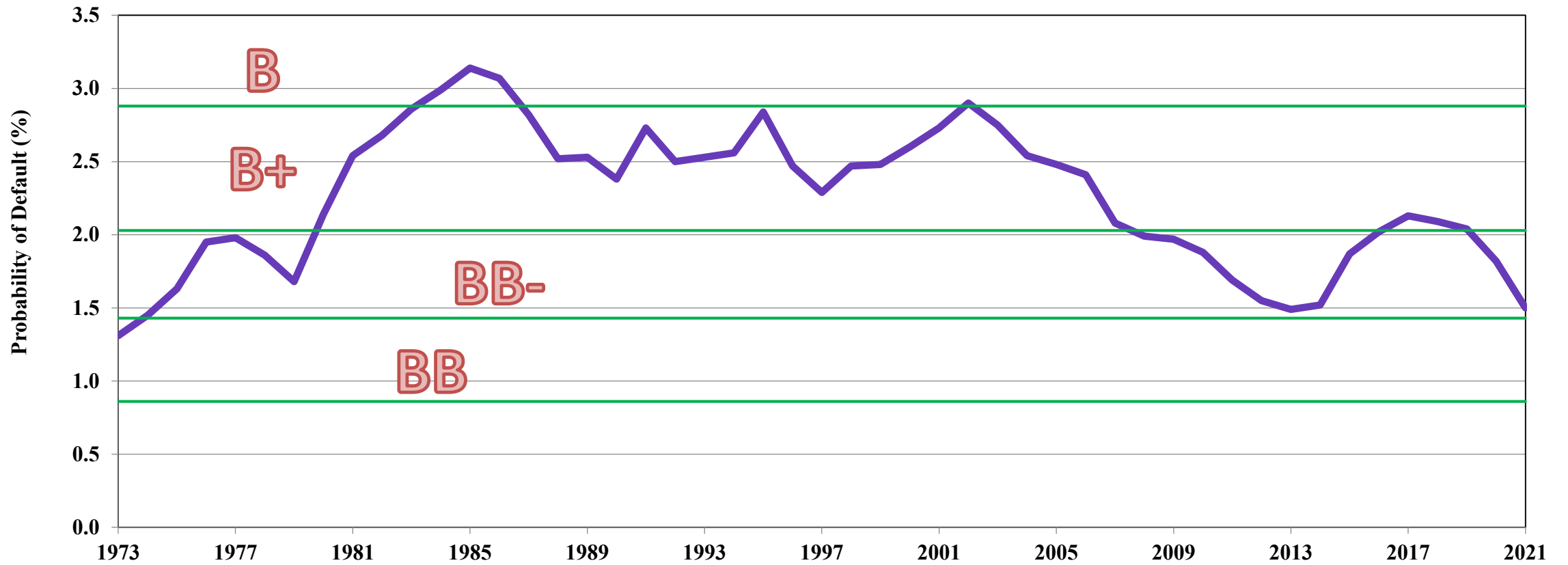
KFMA Average Net Farm Income and Government Payments

	2014	2015	2016	2017	2018	2019	2020	2021
Net Farm Income	\$136,127	\$11,134	\$63,941	\$75,687	\$112,501	\$126,441	\$178,246	\$341,384
Government Payments	\$26,144	\$21,575	\$26,247	\$27,886	\$42,209	\$91,677	\$129,106	\$66,029
Government Payments as a Percent of Income	19.2%	193.8%	41.0%	36.8%	37.5%	72.5%	72.4%	19.3%

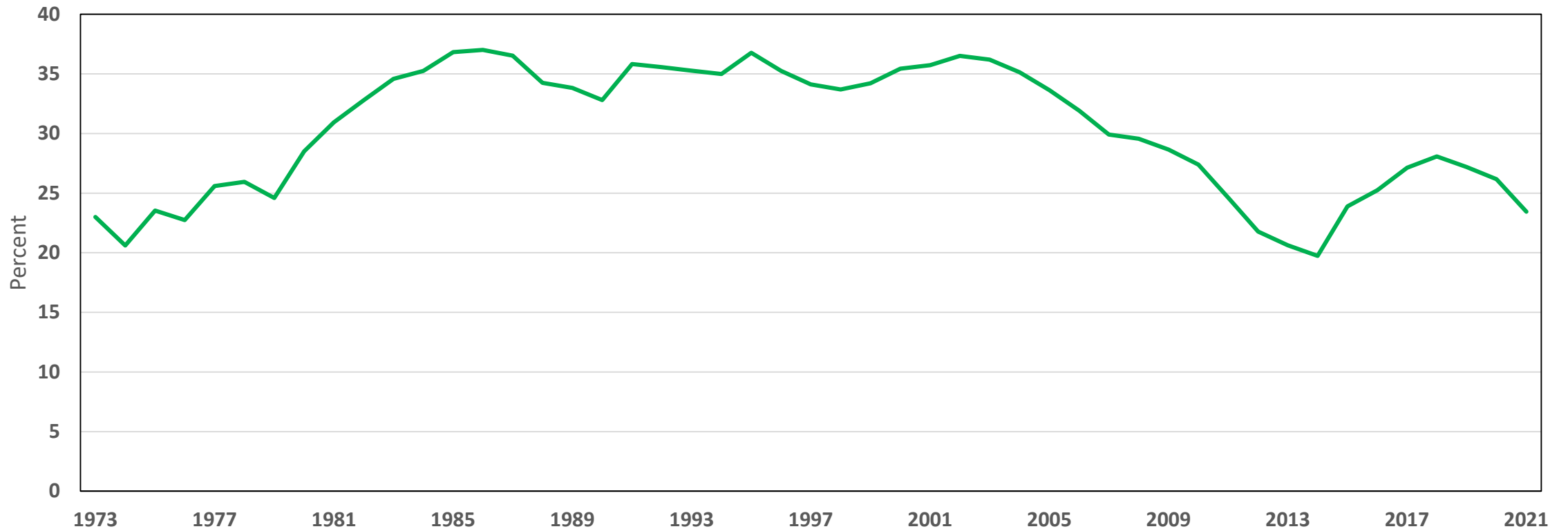
Sample size is 416 farms with 2014 to 2021 continuous data

Government Payments are important as a percentage of income for farms

Default Risk for KFMA farms 1973 through 2021



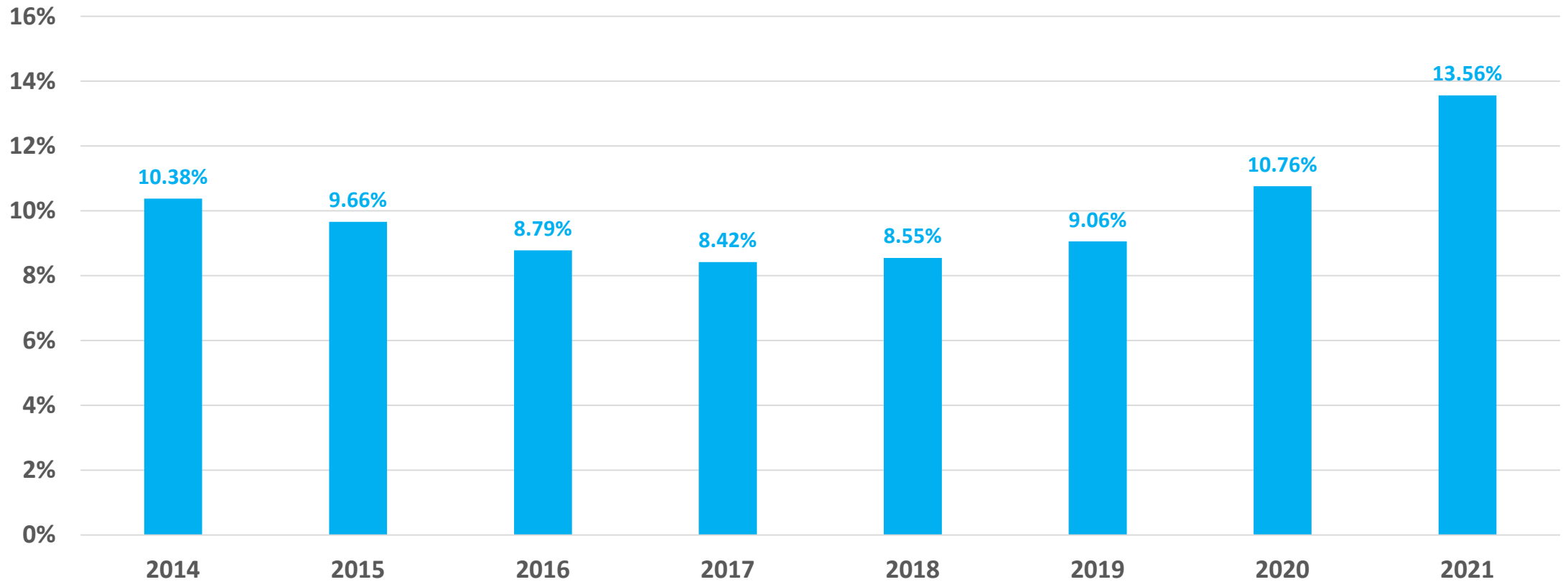
KFMA Farms Debt to Asset Ratio



Lower Tail of the Debt to Asset Ratio

Farms with	2014	2015	2016	2017	2018	2019	2020	2021
Debt > 40%	11.1%	16.6%	20.2%	21.2%	21.2%	20.0%	15.6%	13.0%
Debt > 70%	1.4%	2.4%	3.4%	3.8%	3.8%	3.8%	2.9%	1.4%

KFMA Farms Working Capital to Asset Ratio

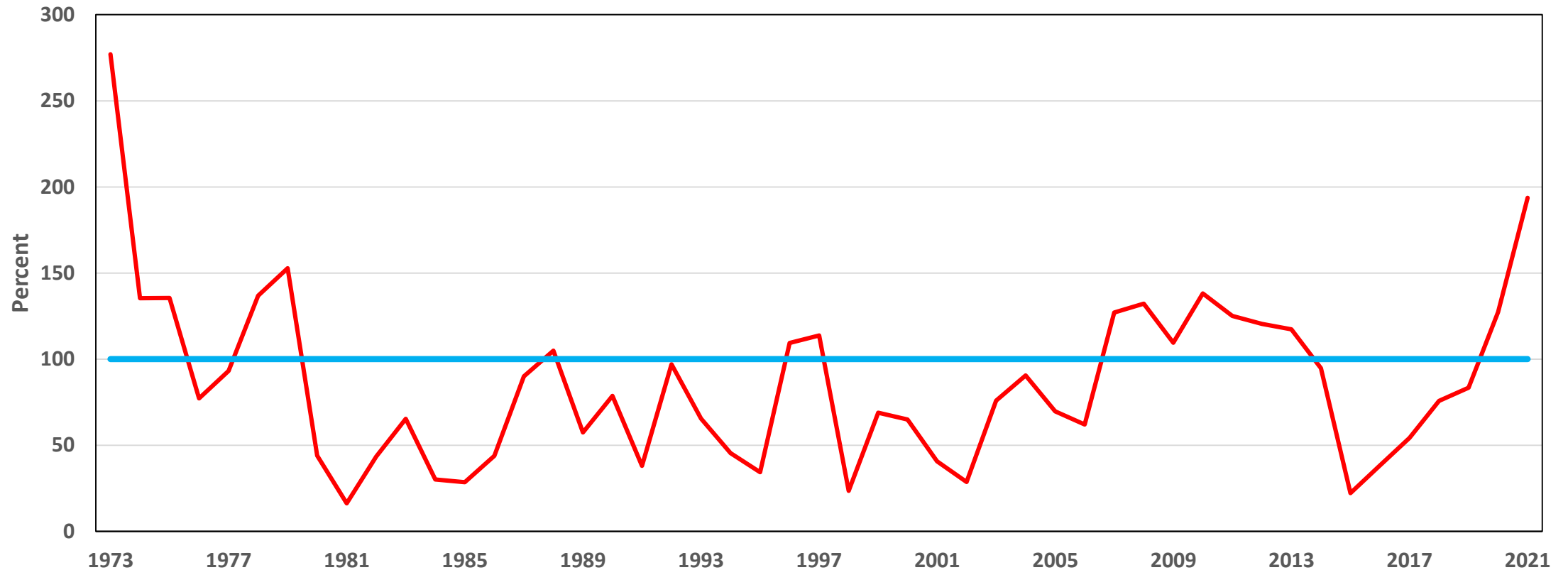


Tails of the Working Capital to Asset Ratio

Farms with	2014	2015	2016	2017	2018	2019	2020	2021
Ratio < 0%	14.2%	18.8%	23.6%	25.7%	24.5%	23.3%	18.0%	11.3%
Ratio > 20%	19.0%	21.9%	19.7%	19.5%	19.5%	19.0%	22.1%	26.2%

Working Capital to Asset Ratio has improved and is the best it has been since 2014

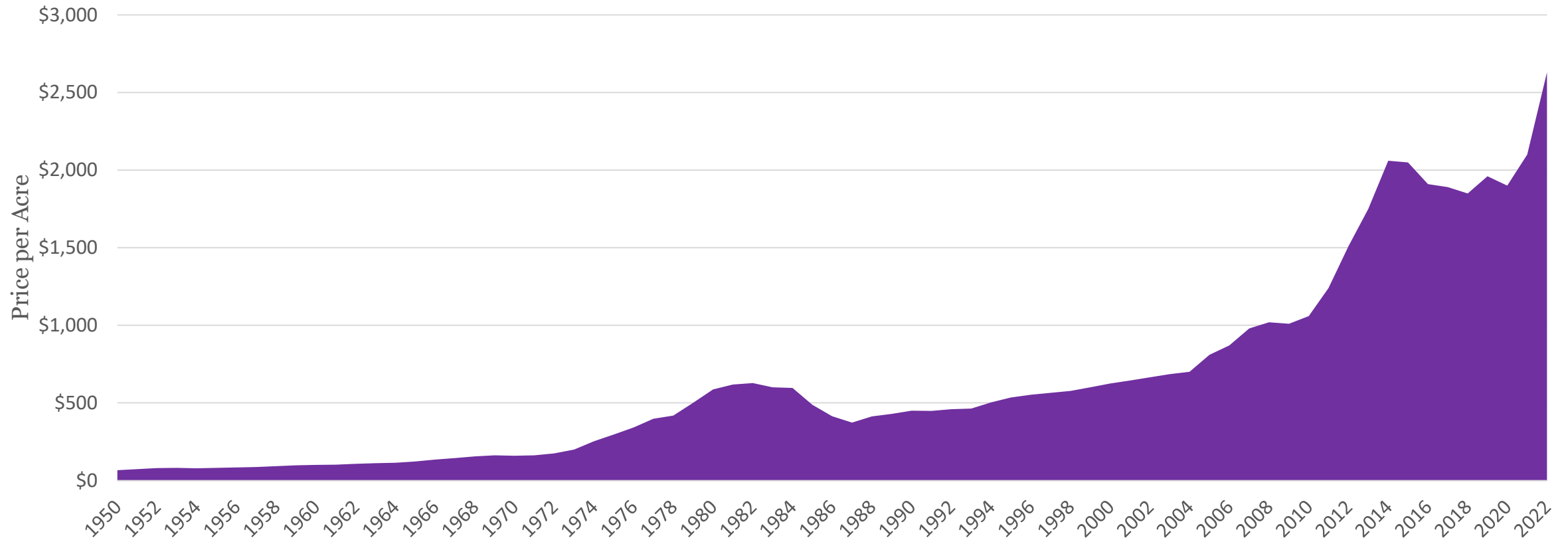
KFMA Farms Repayment Capacity



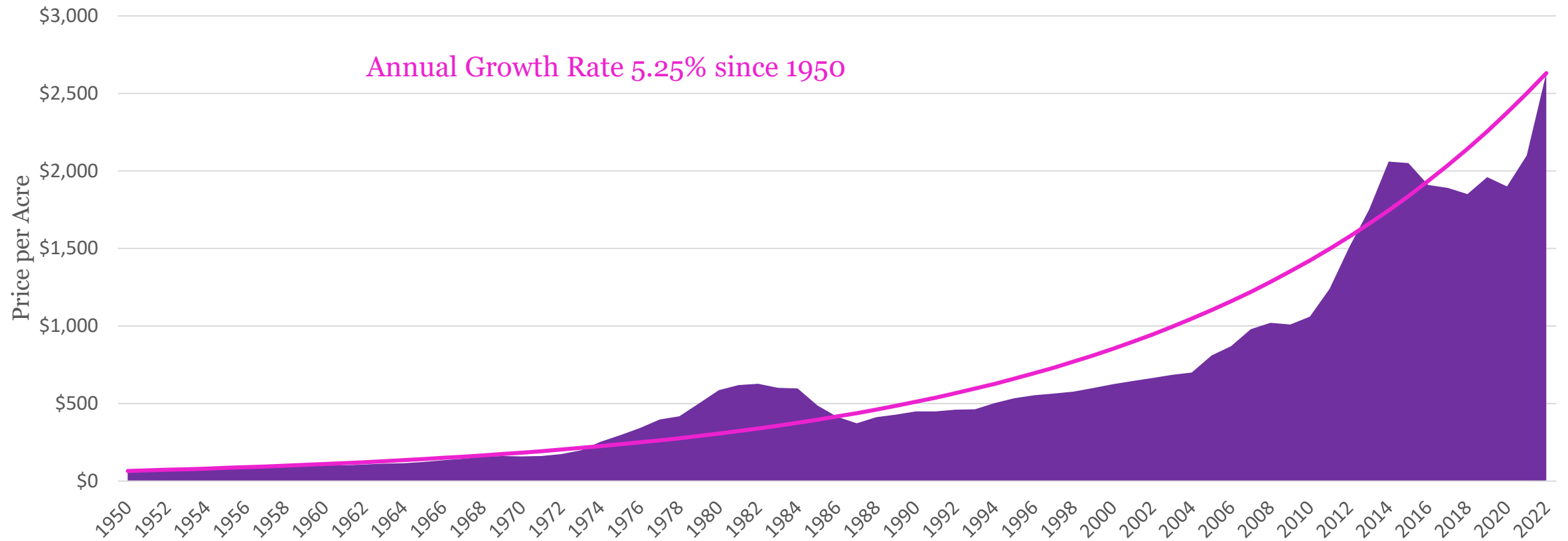
Summary

- At the end of 2021, Kansas has experienced 6 years of increasing average net farm income
 - Farms with negative net income fell from 40.1% of farms in 2015 to 4.6% of farms in 2021
 - Much of that improvement was due to increasing government payments until 2021
- The debt to asset ratio improved in 2021
 - 13.0% of KFMA farms had a debt to asset ratio of greater than 40%, down from 21.2% in 2018
 - 1.4% of KFMA farms had a debt to asset ratio of greater than 70%, down from 3.8% in 2018
- The working capital to asset ratio increased for the 4th year in a row in 2021
- The capital debt repayment capacity increased for the 6th year in a row in 2021
- Excellent financial condition going into 2022

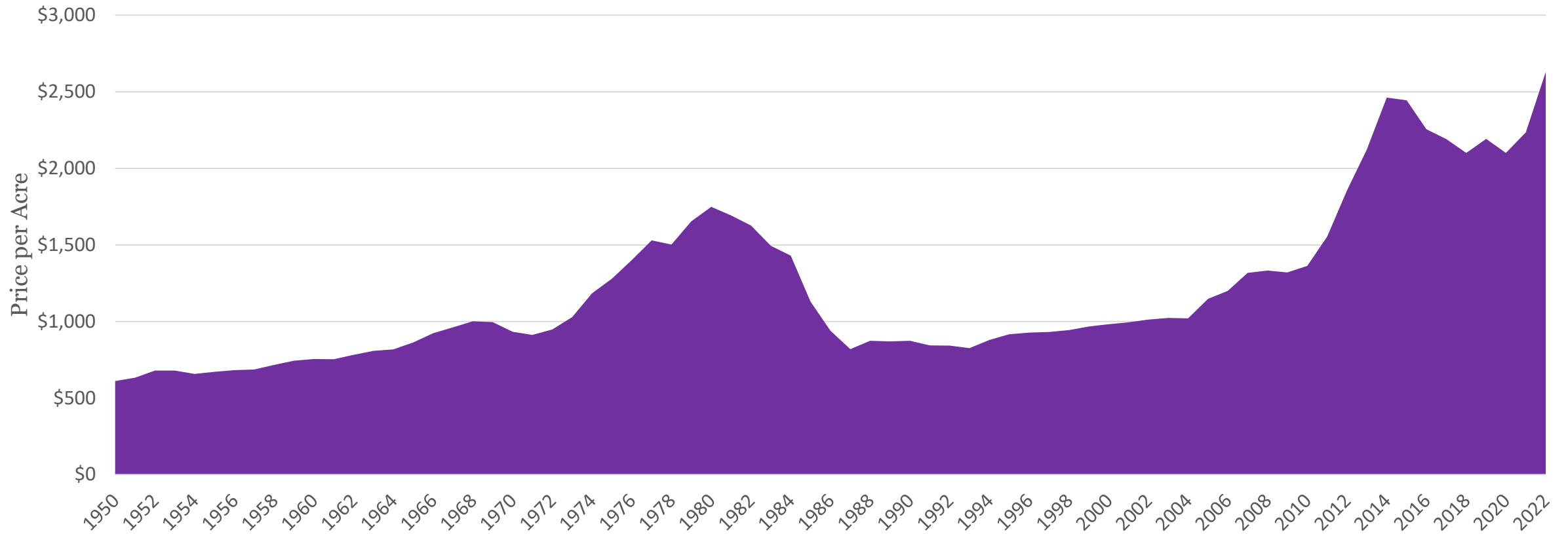
Kansas Land Values from 1950



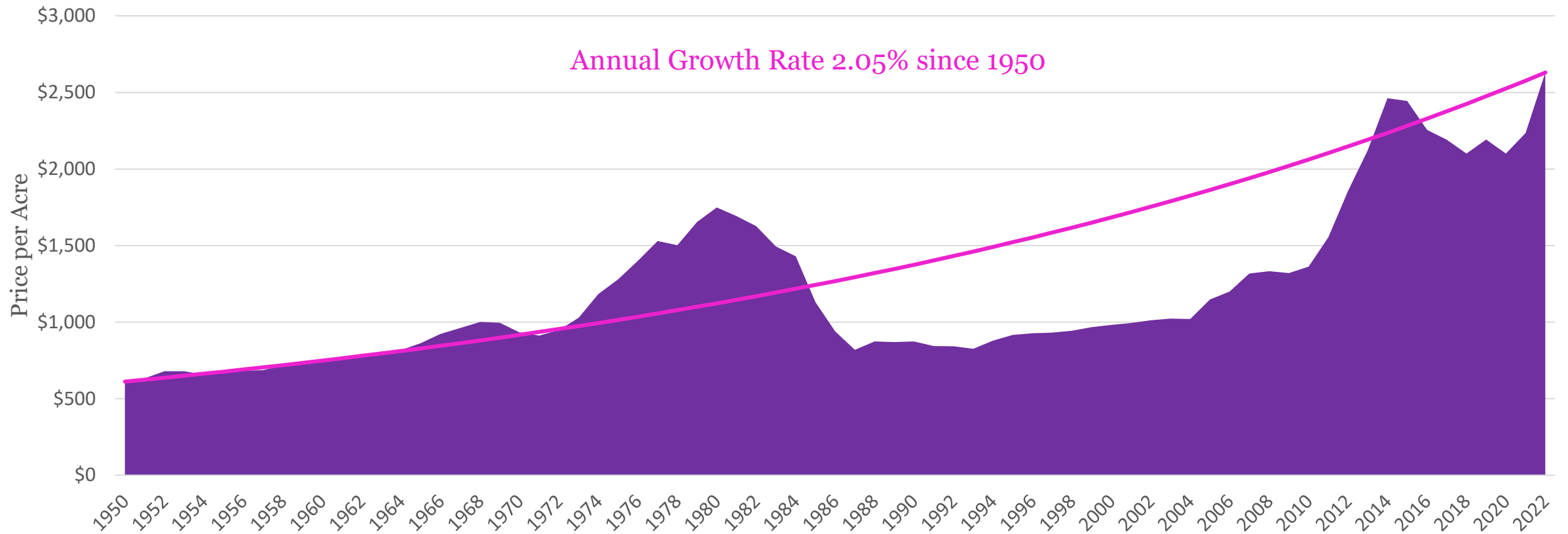
Kansas Land Values from 1950



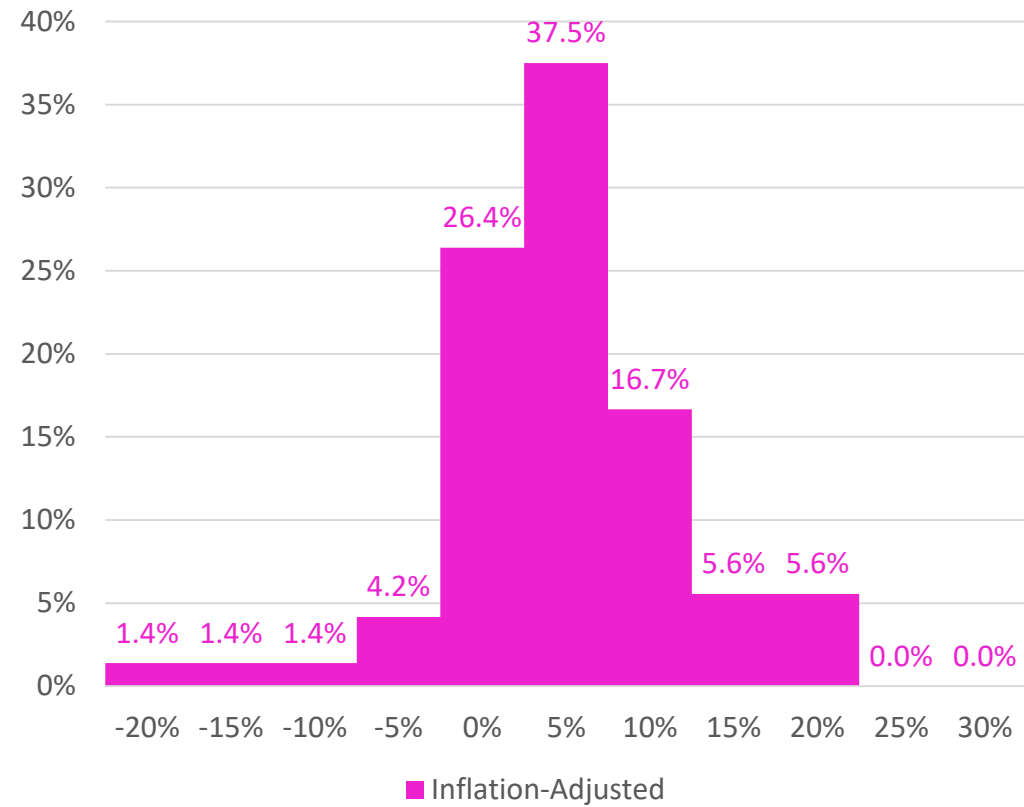
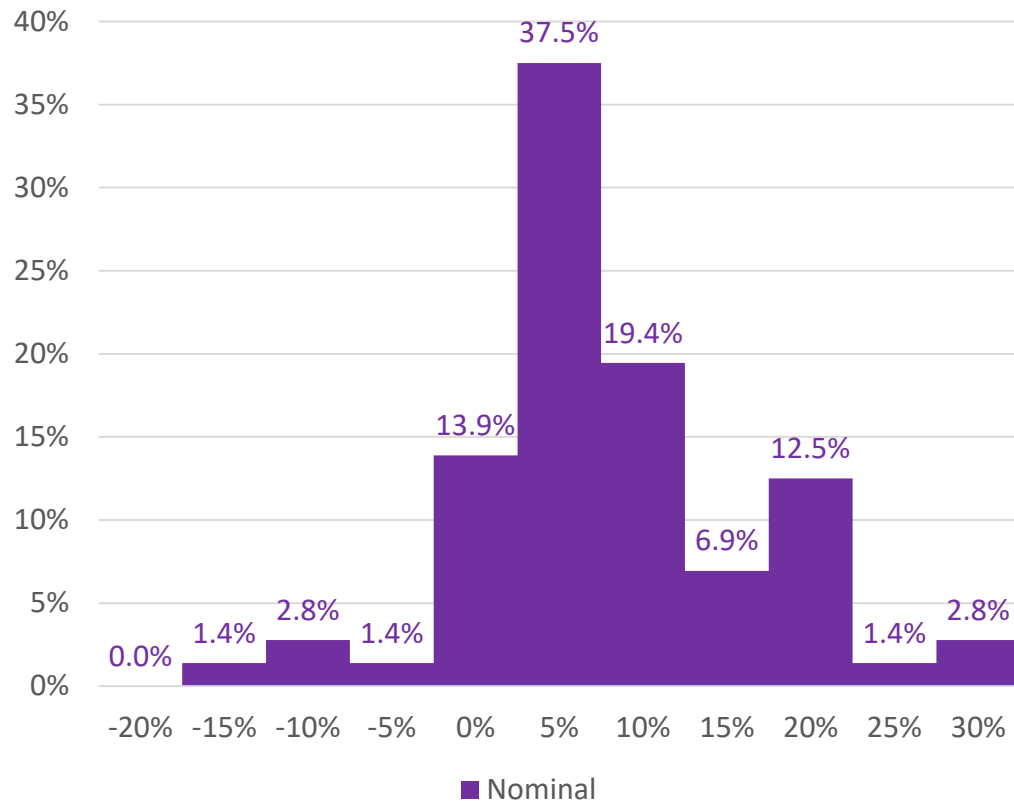
Inflation-Adjusted Kansas Land Values



Inflation-Adjusted Kansas Land Values



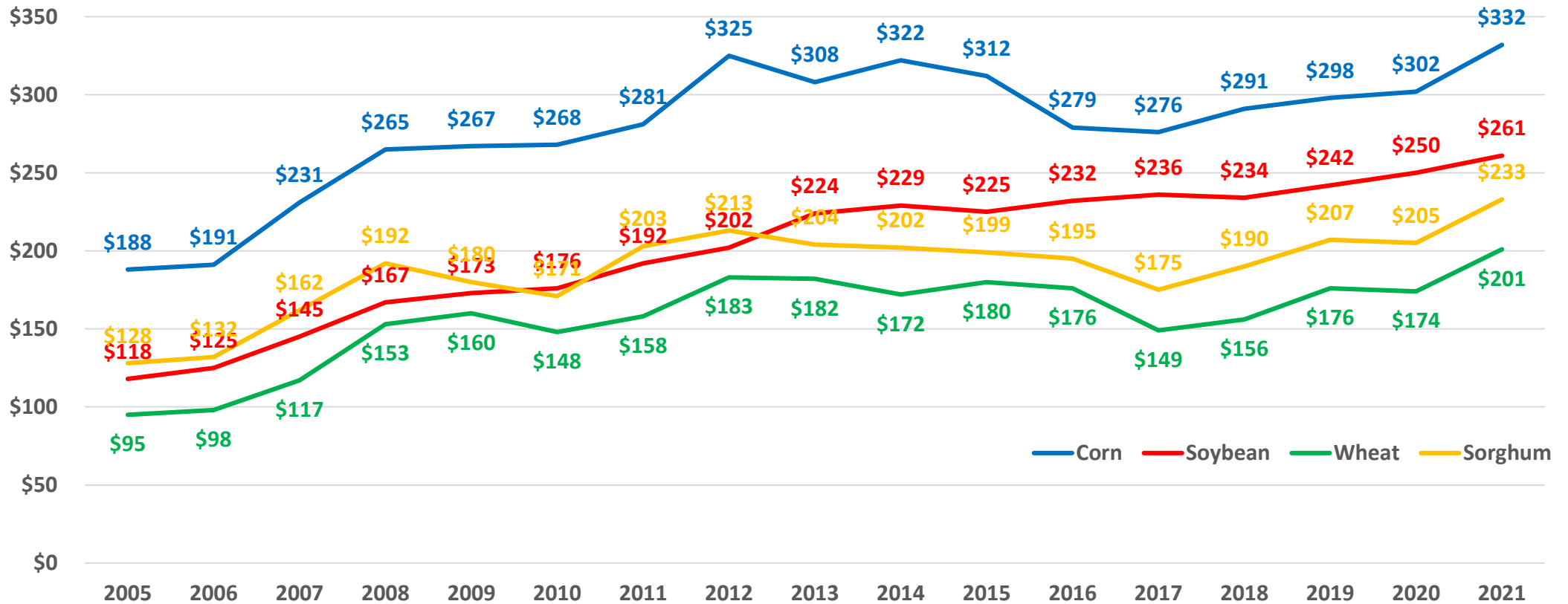
Distribution of Land Price Changes



Land Value Summary

- ❖ Kansas Agricultural Land Values increased by 10.5% in 2022 according to USDA (August)
- ❖ Kansas Inflation-Adjusted Agricultural Land Values increased by 6.4% in 2021 according to USDA
- ❖ The annual increase in Kansas Agricultural Land Values has been 5.25% since 1950
- ❖ The annual inflation-adjusted increase in Kansas Agricultural Land Values has been 2.05% since 1950
- ❖ Kansas Land Values have fallen 19.4% of the years since 1950
- ❖ Kansas Inflation-Adjusted Land Values have fallen 34.7% of the years since 1950
- ❖ 71% of the years Kansas Land Values have been between -5% and 10%
- ❖ 81% of the years Inflation-Adjusted Kansas Land Values have been between -5% and 10%

KFMA Enterprise Non-Irrigated Variable Cost of Production per Acre



2021 Enterprise Information

- Kansas Corn – 2021 Yield 1.3% above the previous 5-year average
 - Revenue - \$565 per acre
 - Variable Cost - \$332 per acre
 - Total Cost - \$471 per acre
- Kansas Soybeans – 2021 Yield 8.1% **below** previous 5-year average
 - Revenue - \$465 per acre
 - Variable Cost - \$261 per acre
 - Total Cost - \$390 per acre
- Kansas Wheat – 2021 Yield 10.6% above the previous 5-year average
 - Revenue - \$329 per acre
 - Variable Cost - \$201 per acre
 - Total Cost - \$300 per acre
- Kansas Sorghum – 2021 Yield 2.6% **below** the previous 5-year average
 - Revenue - \$453 per acre
 - Variable Cost - \$233 per acre
 - Total Cost - \$339 per acre

2023 Price Outlook

Commodity	Cash Bid (1/31)	Forward Bid (2023 Crop)	Difference
Wheat	\$8.46	\$8.19	\$0.27
Corn	\$7.45	\$5.71	\$1.74
Sorghum	\$7.00	\$5.36	\$1.64
Soybean	\$15.43	\$13.08	\$2.35

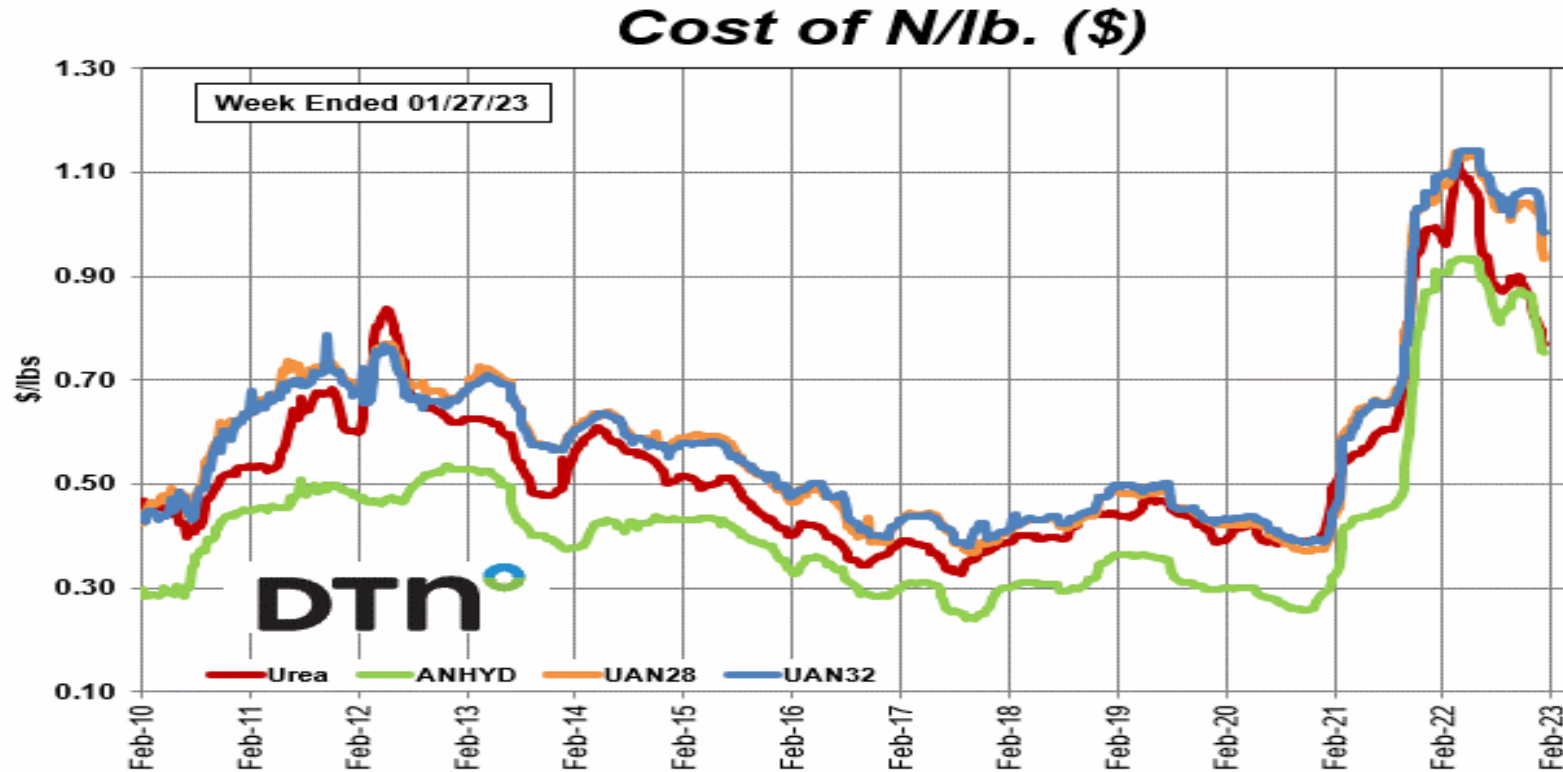
January 31, 2023 Bid at Salina Kansas

Crop Farm Income Estimates

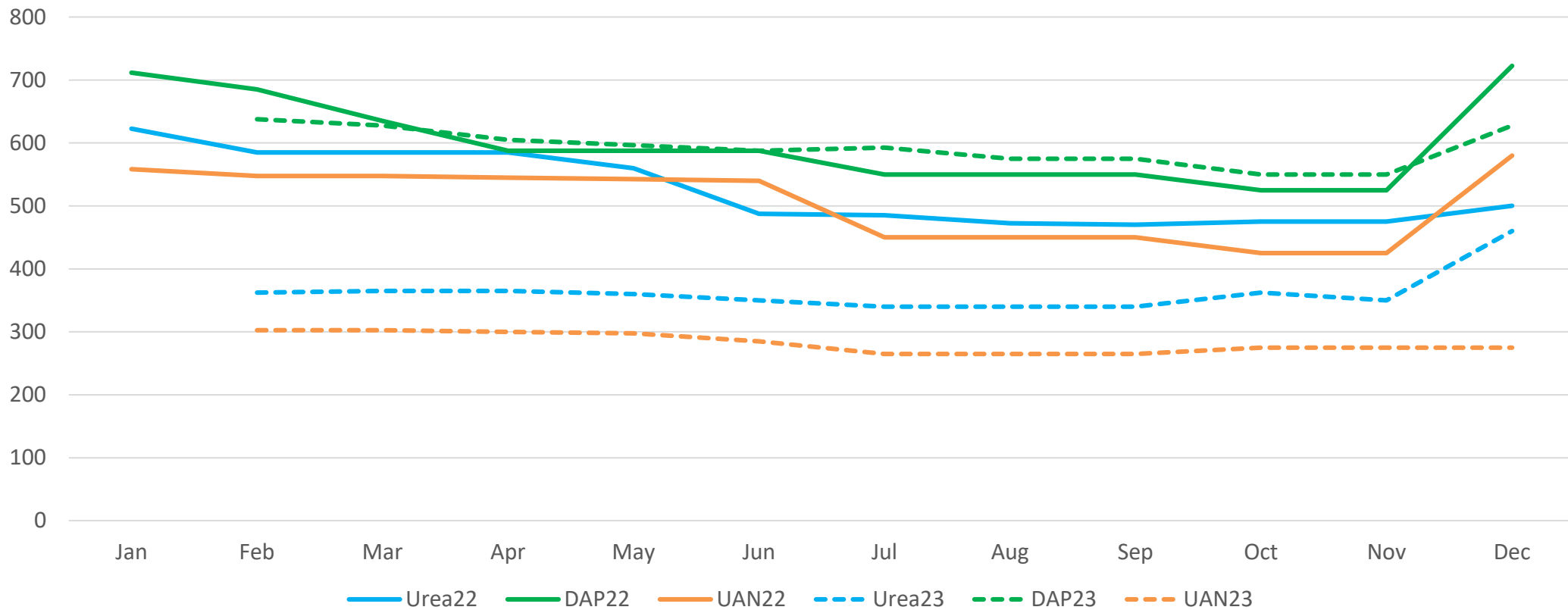
Year	Net Farm Income	Government Payments	% Government Payments
2020	\$190,966	\$81,712	42.8%
2021	\$355,467	\$63,210	17.8%
2022	\$97,124	\$0	0%
2023	-\$45,888	\$0	0%

September 2022 estimates from Gregg Ibendahl

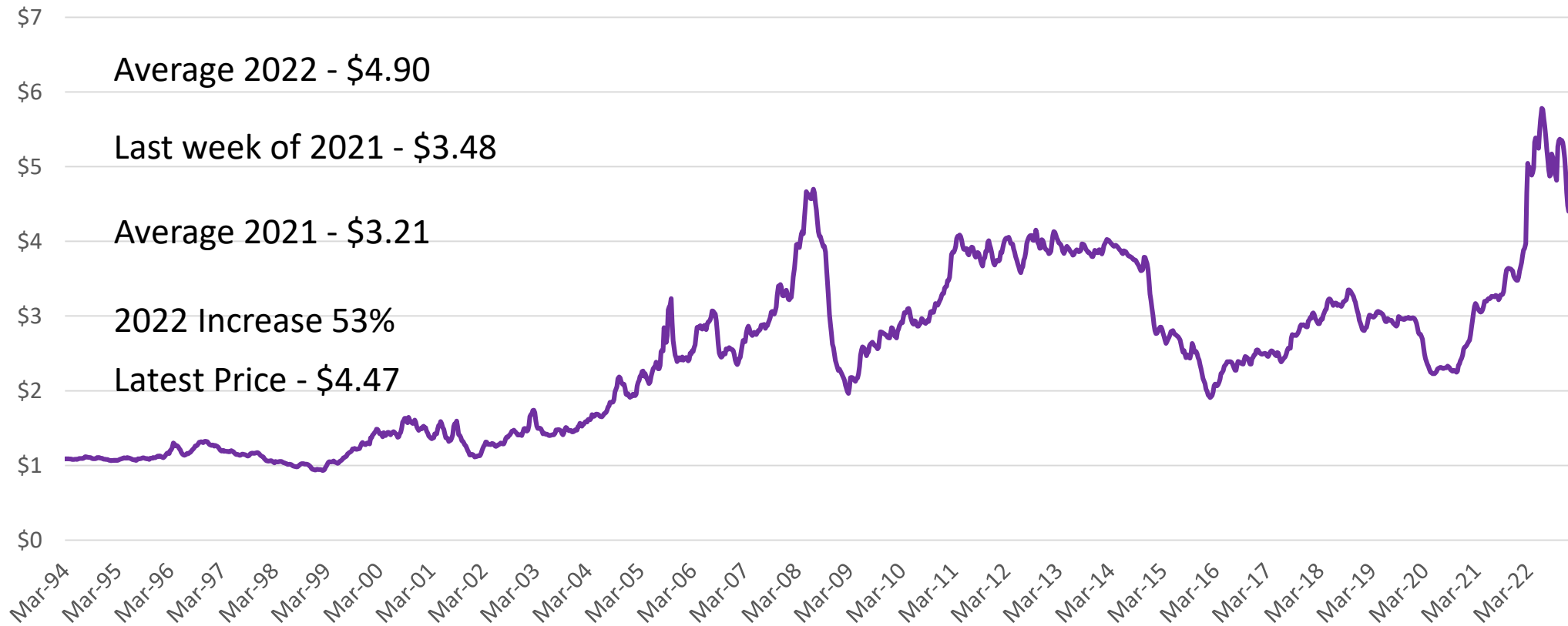
Cost of Nitrogen per pound



Fertilizer Futures Prices 1/24/2022 (solid) and 1/31/2023 (dashed)



Midwest Diesel Fuel Prices



Summary

- At the end of 2021, Kansas has experienced 6 years of increasing net farm income on average
 - Farms with negative net income fell from 39.6% of farms in 2015 to 4.6% of farms in 2021
 - Much of that improvement was due to increasing government payments
- 2021 was the 6th year of increasing average net farm income, and 2022 will be good but not increasing
- The probability of default improved in 2021
- The debt to asset ratio improved in 2021
 - 13.0% of KFMA farms had a debt to asset ratio of greater than 40%, down from 21.2% in 2018
 - 1.4% of KFMA farms had a debt to asset ratio of greater than 70%, down from 3.8% in 2018
- The working capital to asset ratio increased for the 4th year in a row in 2021
- The capital debt repayment capacity increased for the 6th year in a row in 2021

Conclusions

- Crop Farmers income will be good in 2022
- Government Payments will be down in 2022
- 2023 prospects are concerning
- Crop expenses will be up
- Prices will be up slightly
- Land values will be up in 2023, but slowing increases

Allen Featherstone
afeather@ksu.edu

