



U.S. Agricultural Finance Trends

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Outline

- U.S. Farm Structure
- Federal Reserve Bank Surveys
- Farm Level Performance
- Divergence in Performance
- Ag Economy Parameter

U.S. Farm Structure

U.S. Farm Typology (2017)

Source: USDA-ERS

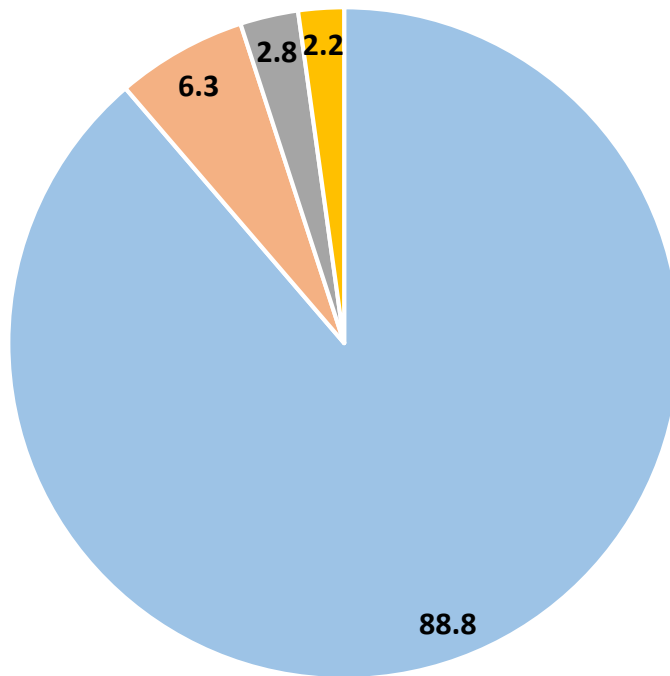
- **Small Family Farms**
 - Gross cash farm income (GCFI) less than \$350,000
 - 88.8% of farms
- **Midsized Family Farms**
 - GCFI between \$350,000 and \$1,000,000
 - 6.3% of farms
- **Large-Scale Family Farms**
 - GCFI greater than \$1,000,000
 - 2.8% of farms

U.S. Farms and Value of Farm Production

Source: USDA-ERS

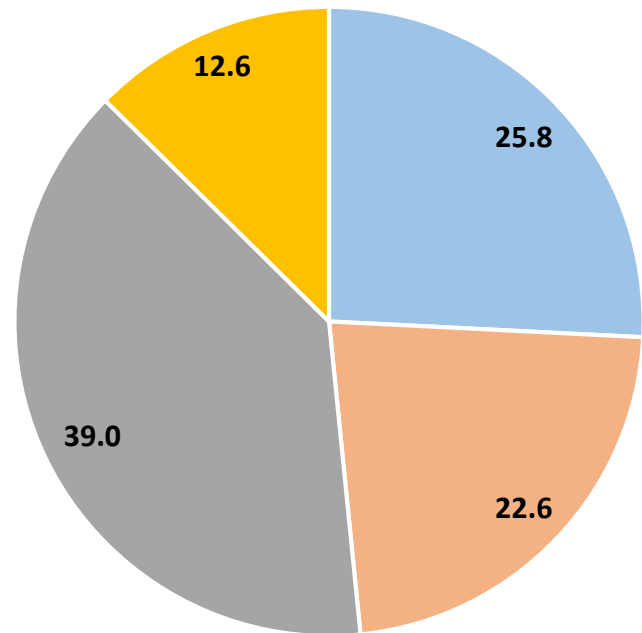
Percent of U.S. Farms, 2017

■ Small Family Farms ■ Midsize Family Farms
■ Large-Scale Family Farms ■ Nonfamily Farms



Percent of U.S. Value of Farm Production, 2017

■ Small Family Farms ■ Midsize Family Farms
■ Large-Scale Family Farms ■ Nonfamily Farms



U.S. Farm Sector, 2019 Balance Sheet

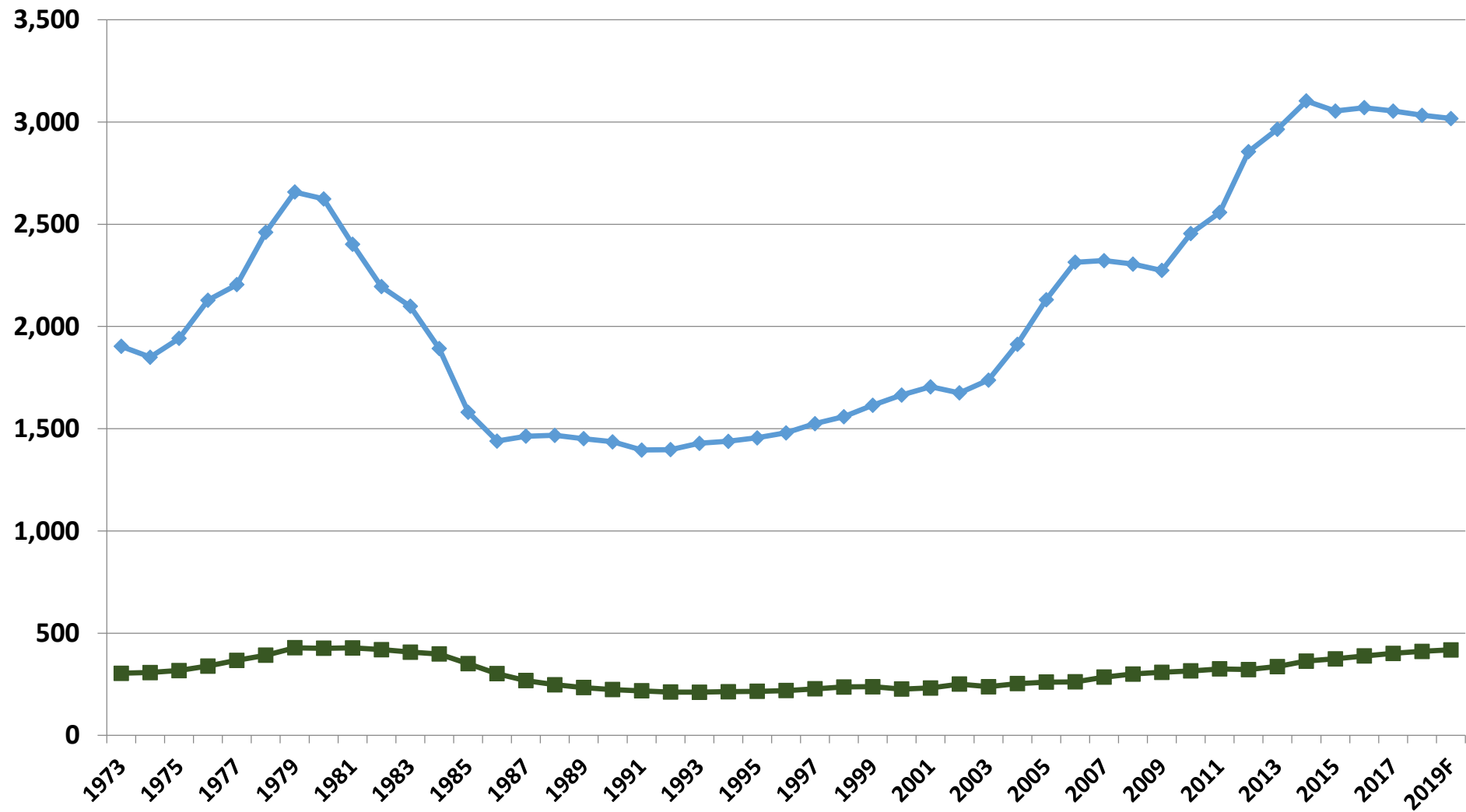
Source: USDA-ERS

Item	\$ Billion	Percentage
Financial Assets	76.5	2.5
Purchased Inputs	16.9	0.5
Crop Inventories	39.8	1.3
Livestock Inventories	105.8	3.4
Machinery and Equipment	274.0	8.9
Real Estate	2564.3	83.3
Total Assets	3077.3	100.0
Total Debt	426.7	13.9
Farm Equity	2650.6	86.1

Real U.S. Farm Sector Asset and Debt Values (billions of dollars)

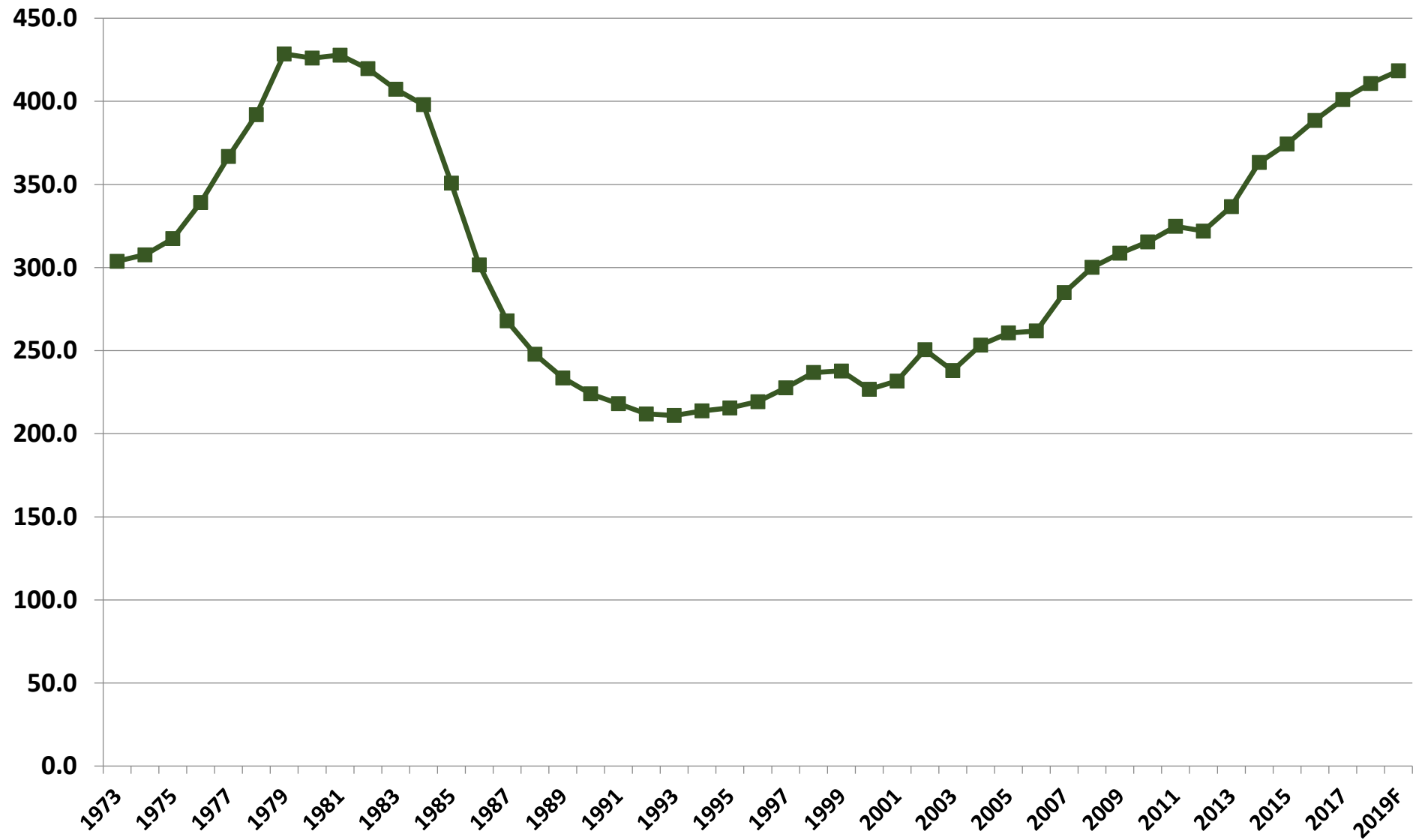
Source: USDA-ERS

Assets Debt



Real U.S. Farm Sector Debt Values (billions of dollars)

Source: USDA-ERS



U.S. Farm Sector, 2019 Balance Sheet

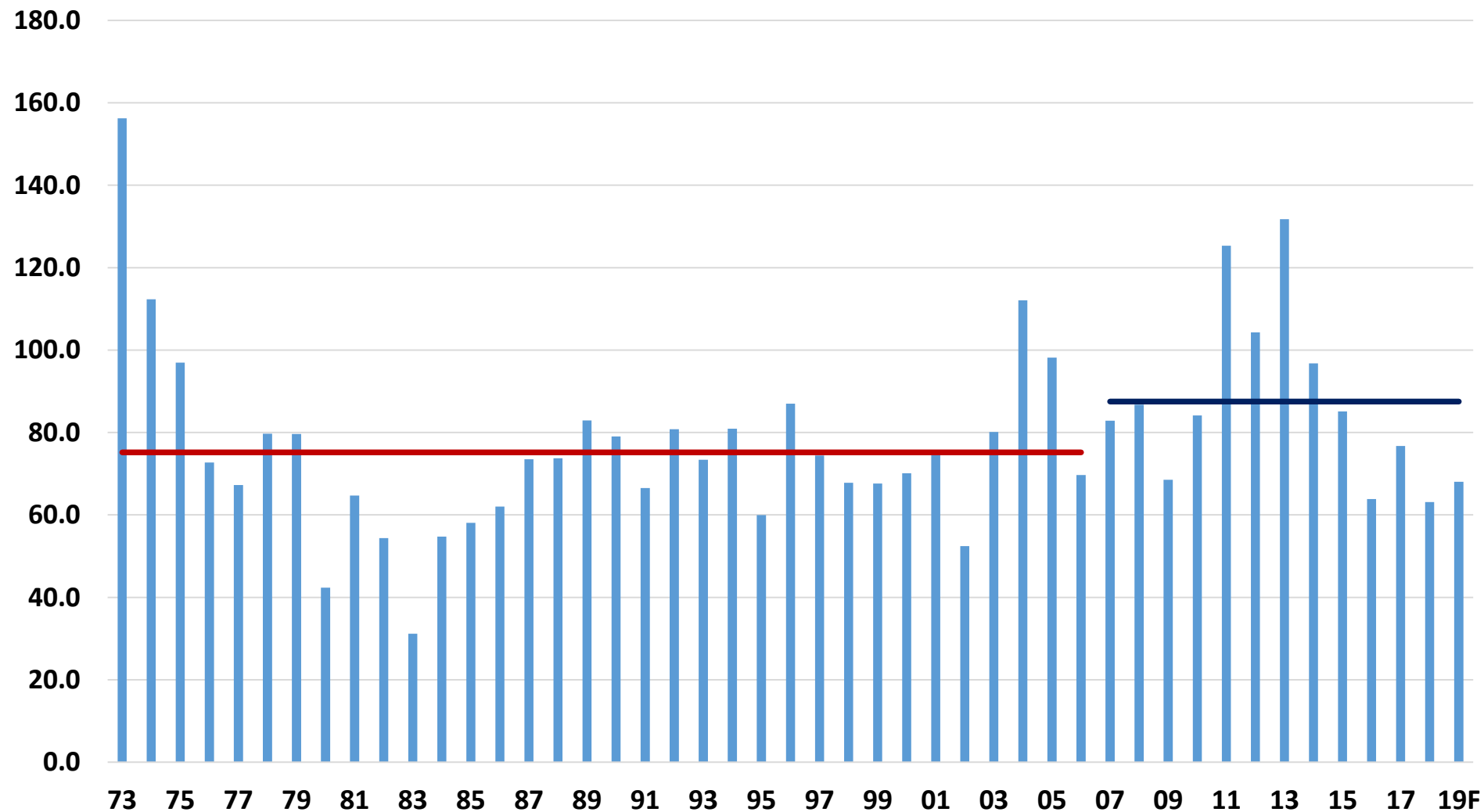
Source: USDA-ERS

- Liquidity Crisis
 - Current Ratio = 1.31
 - Working Capital to Value of Farm Production = 0.09
- Solvency Remains Relatively Low
 - Debt to Asset Ratio = 0.139

Real U.S. Net Farm Income (Billions of \$)

Source: USDA-ERS

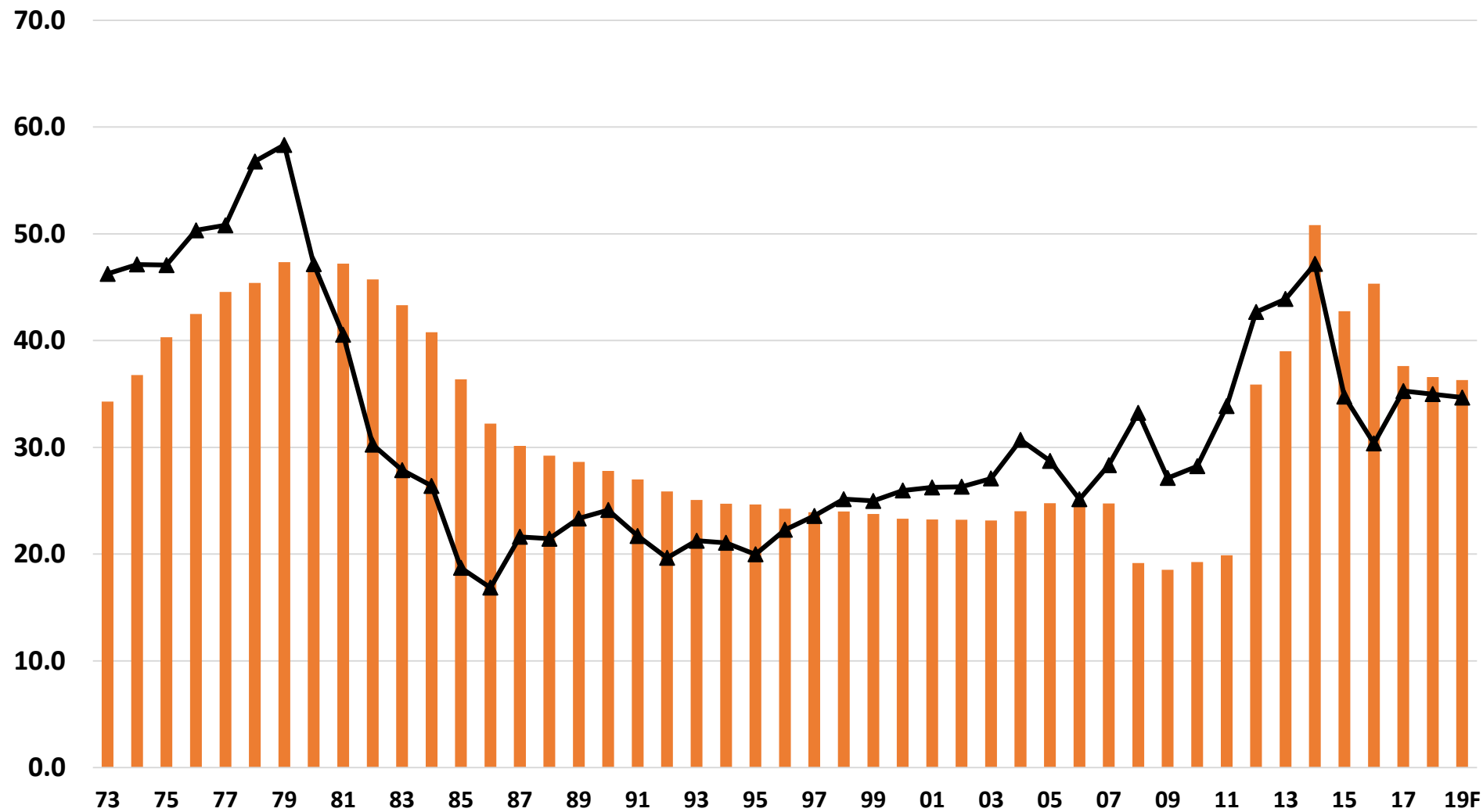
■ U.S. Net Farm Income — 1973-2006 — 2007-2019



Real U.S. Farm Capital Expenditures and Consumption (Billions of \$)

Source: USDA-ERS

Capital Consumption Capital Expenditures



Decomposition of Return on Assets, U.S. Farm Sector

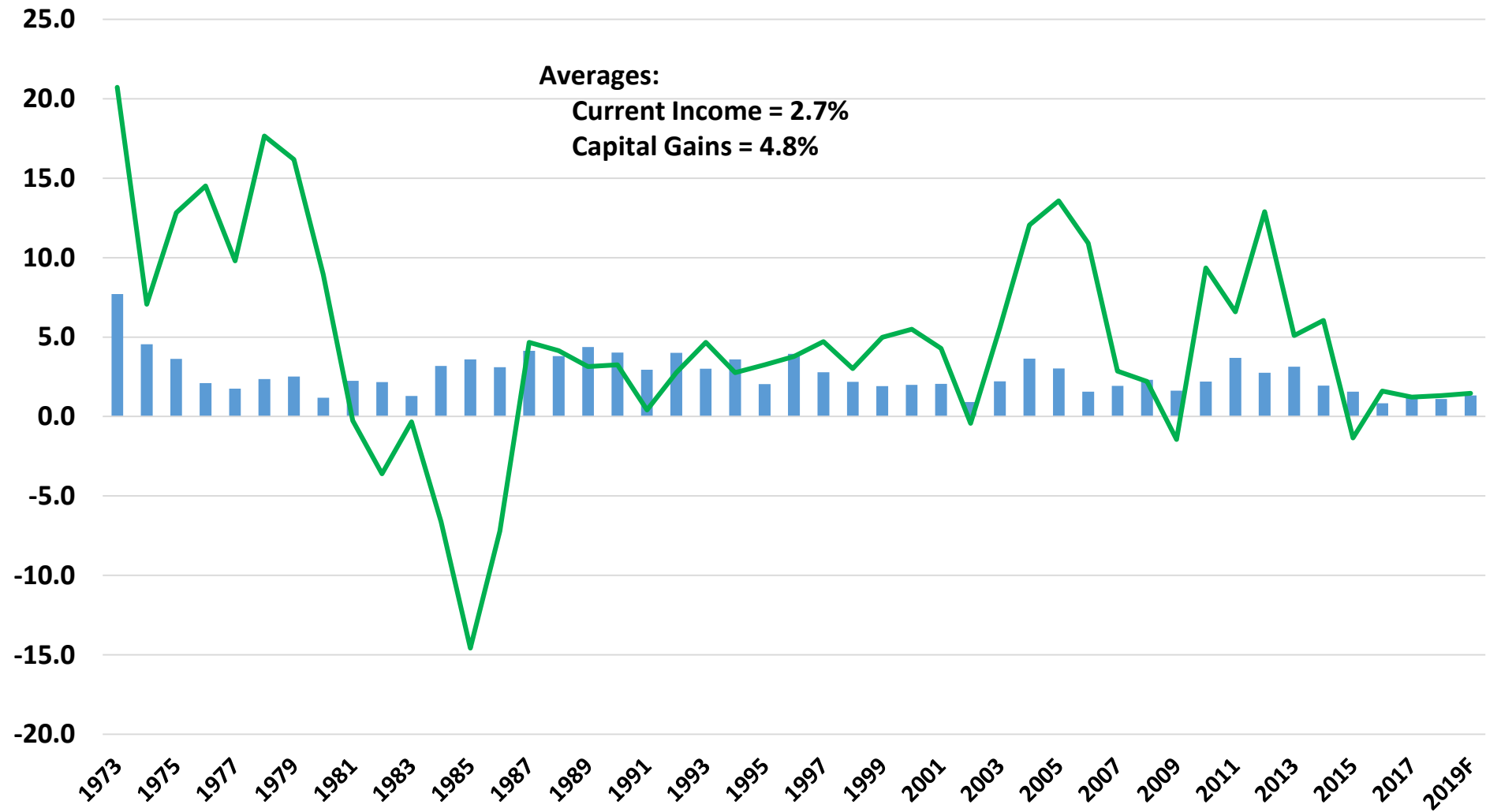
Source: USDA-ERS

Current Income Capital Gains

Averages:

Current Income = 2.7%

Capital Gains = 4.8%

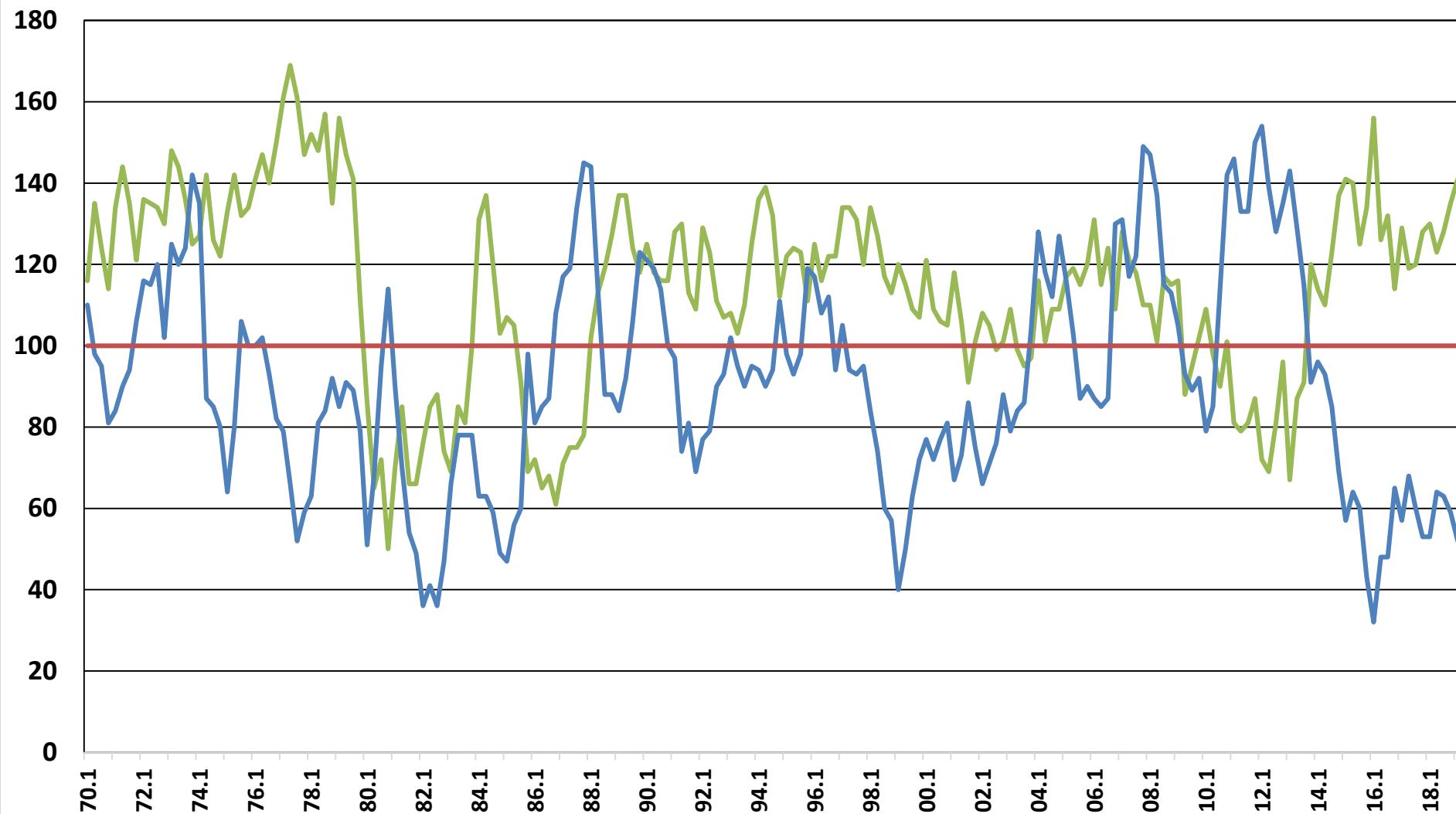


Federal Reserve Bank Surveys

A Liquidity Crisis on the Farm

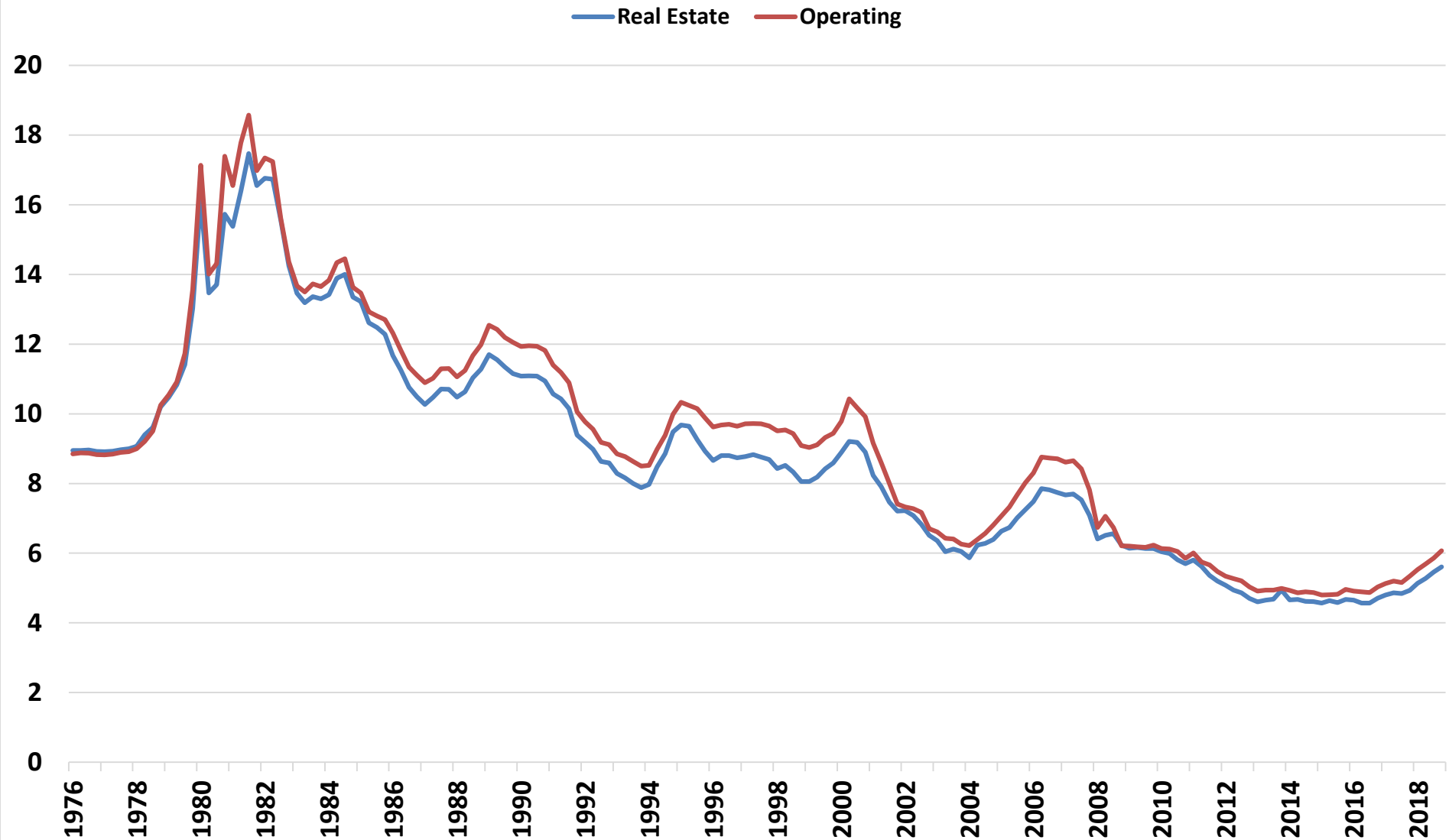
Farm Credit Conditions, Federal Reserve Bank of Chicago

Loan Demand Loan Repayment Neutral



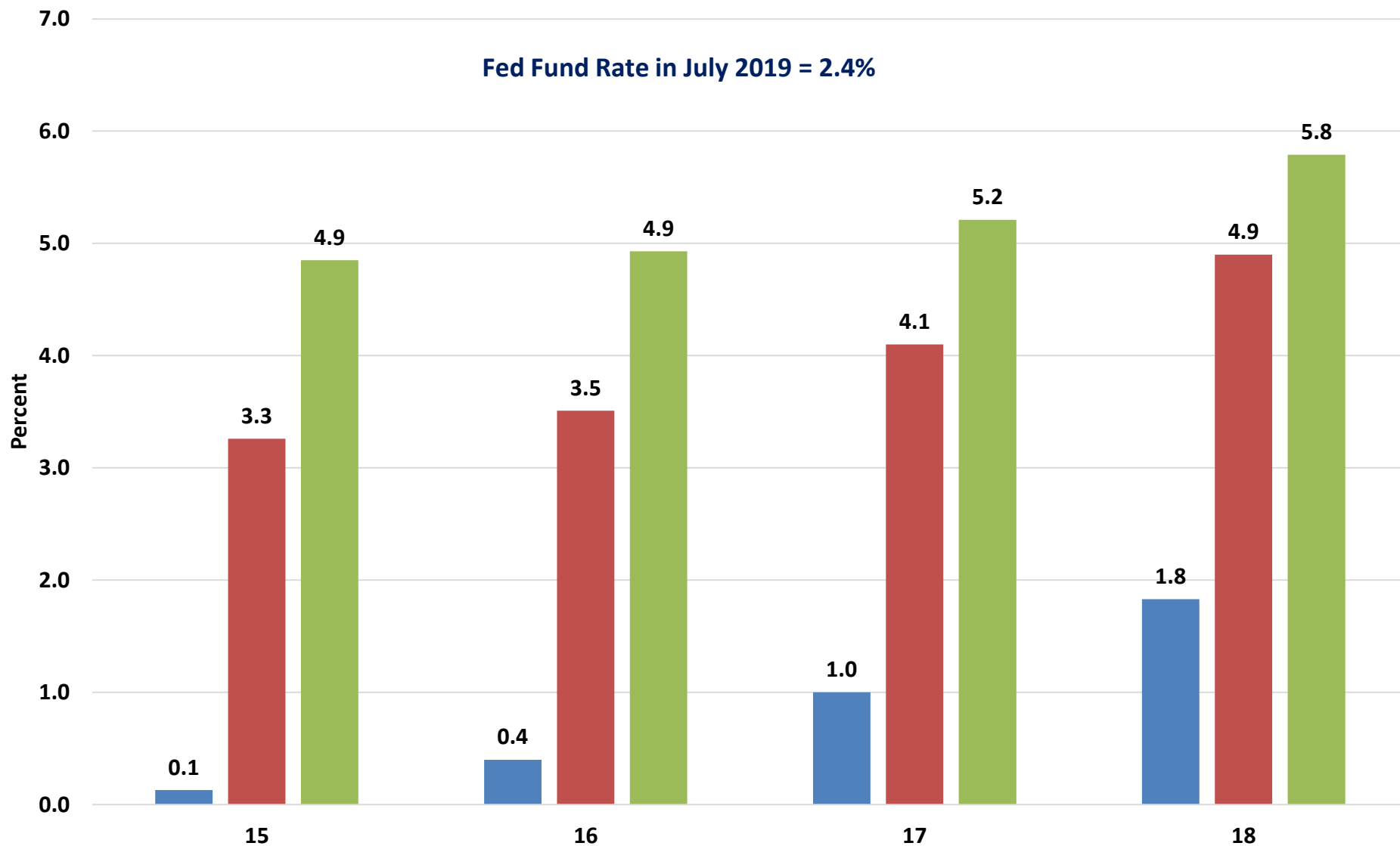
Agricultural Interest Rates

Source: Federal Reserve Bank of Chicago

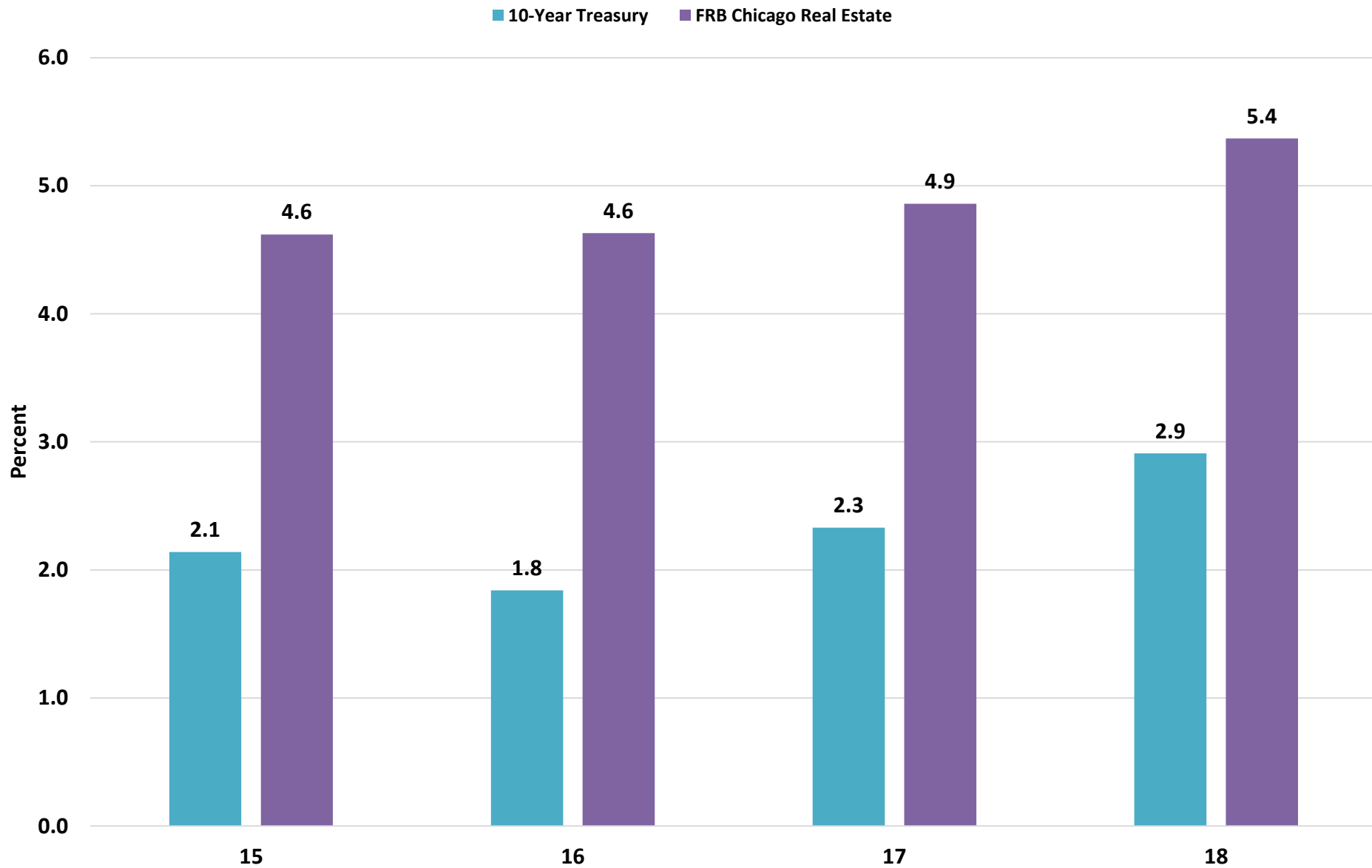


Short-Term Interest Rate Comparisons, 2015 to 2018

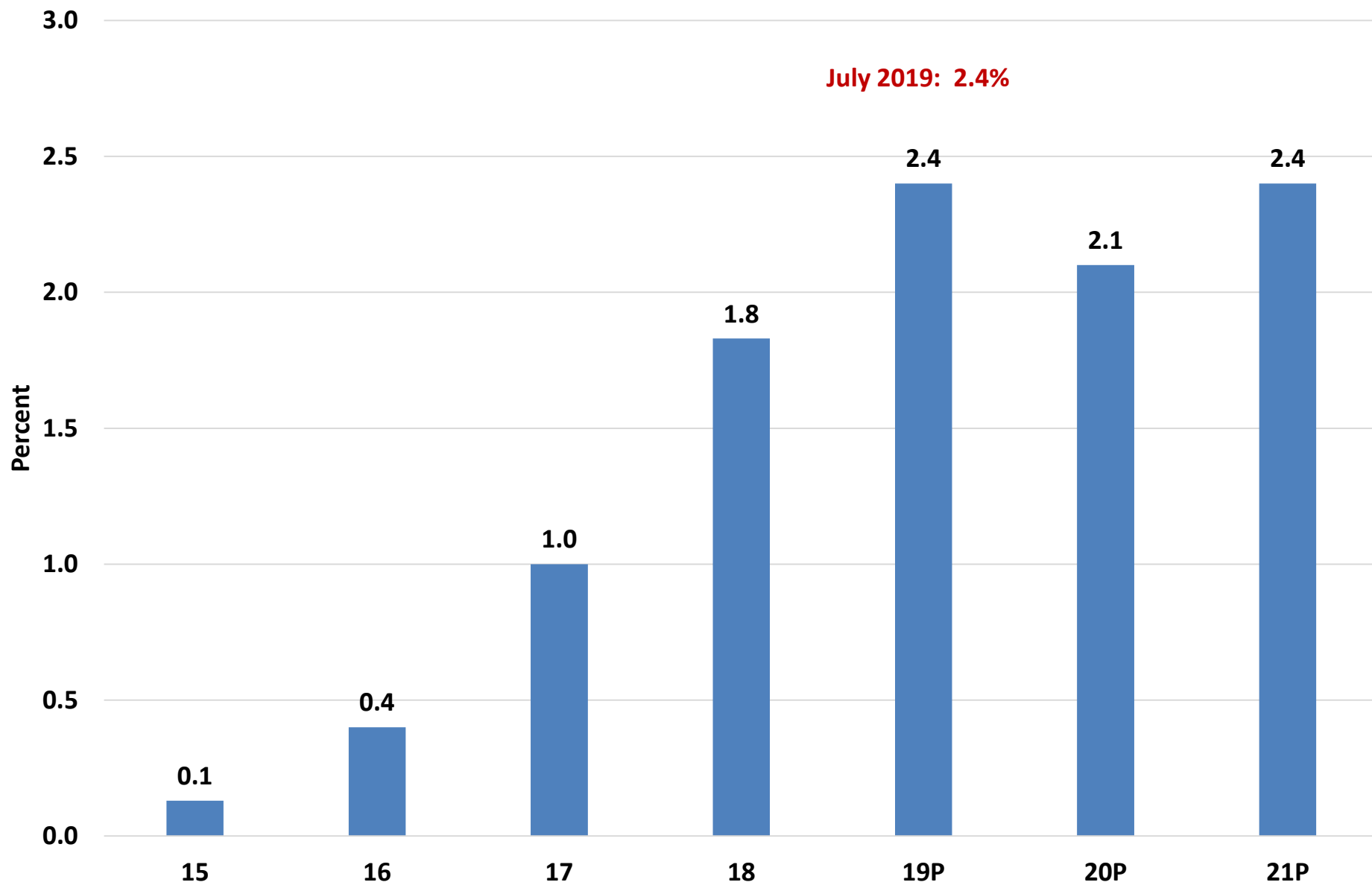
Fed Funds Prime FRB Chicago Operating



Long-Term Interest Rate Comparisons, 2015 to 2018



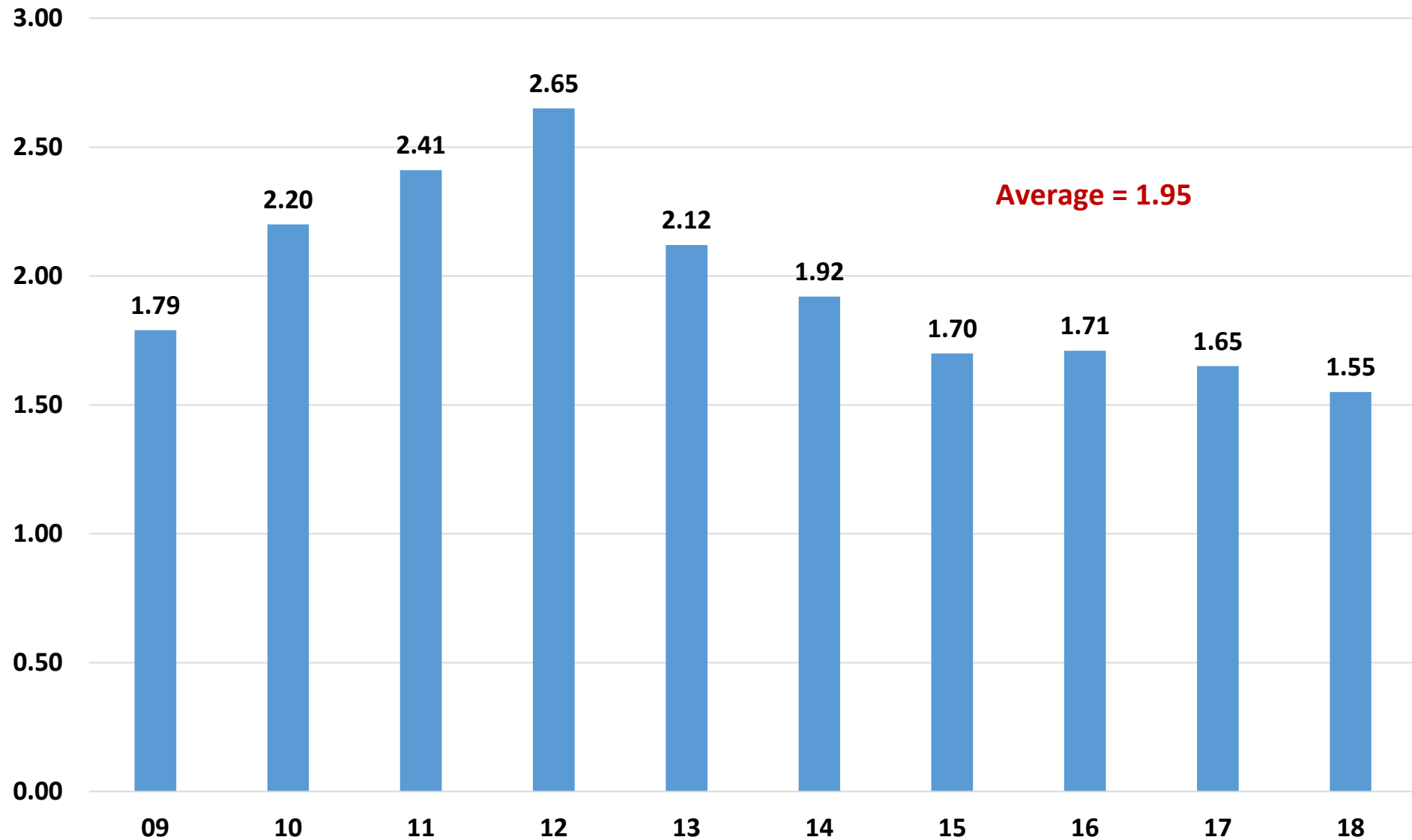
Federal Reserve Board, Federal Funds Rate



Farm Level Performance

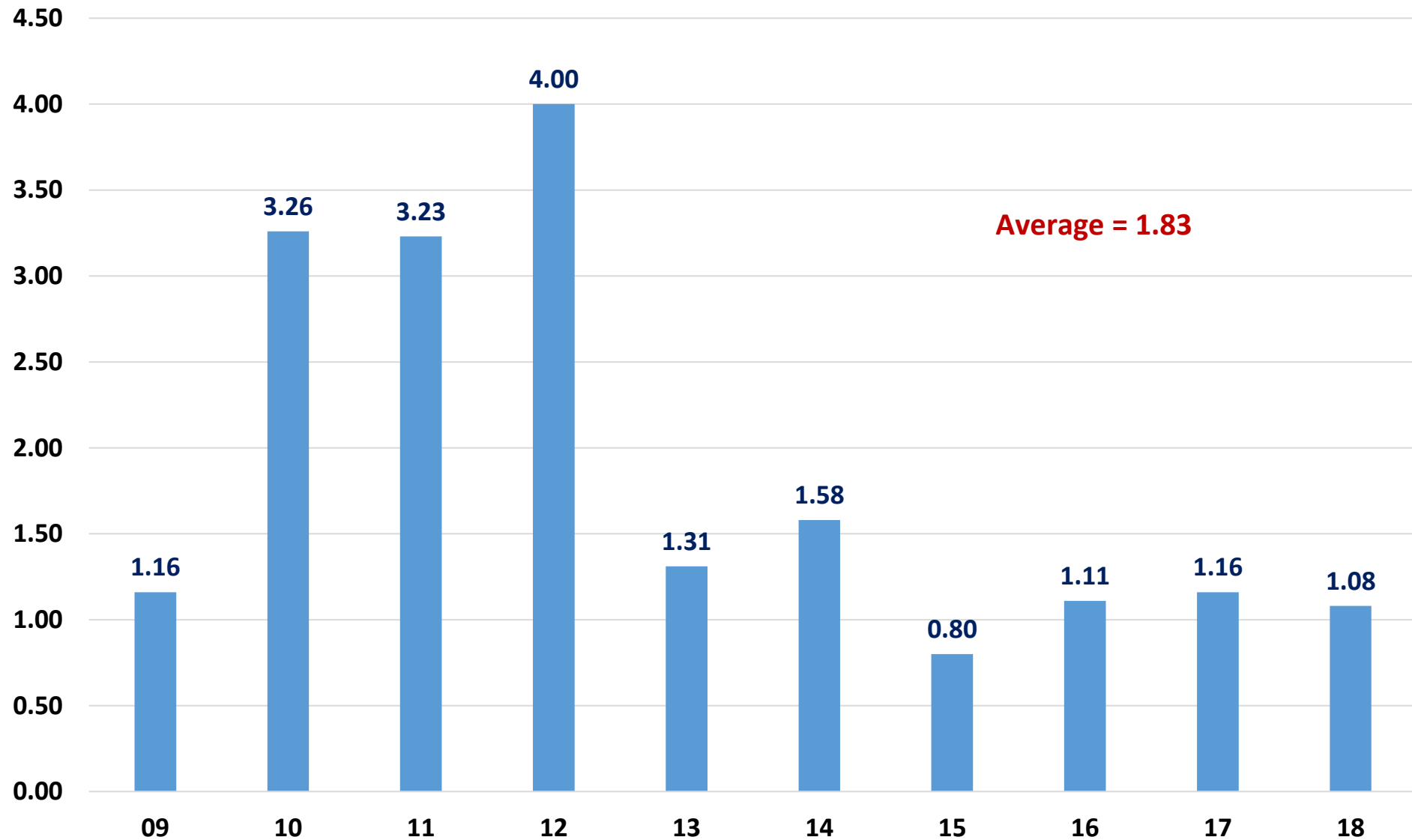
Current Ratio, Annual Averages, 2009 to 2018

University of Minnesota, FINBIN



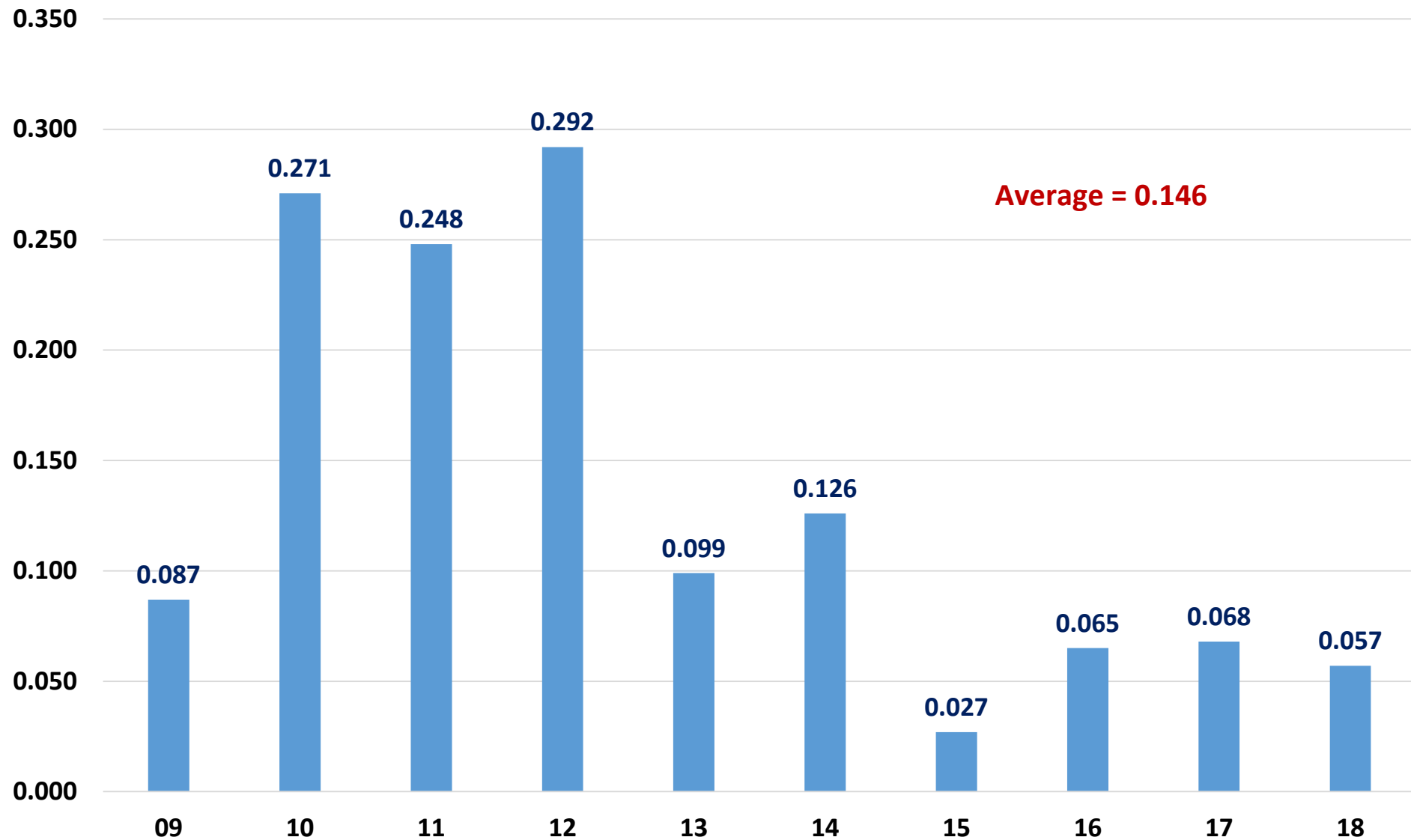
Term Debt Coverage Ratio, Annual Averages, 2009 to 2018

University of Minnesota, FINBIN



Operating Profit Margin Ratio, Annual Averages, 2009 to 2018

University of Minnesota, FINBIN



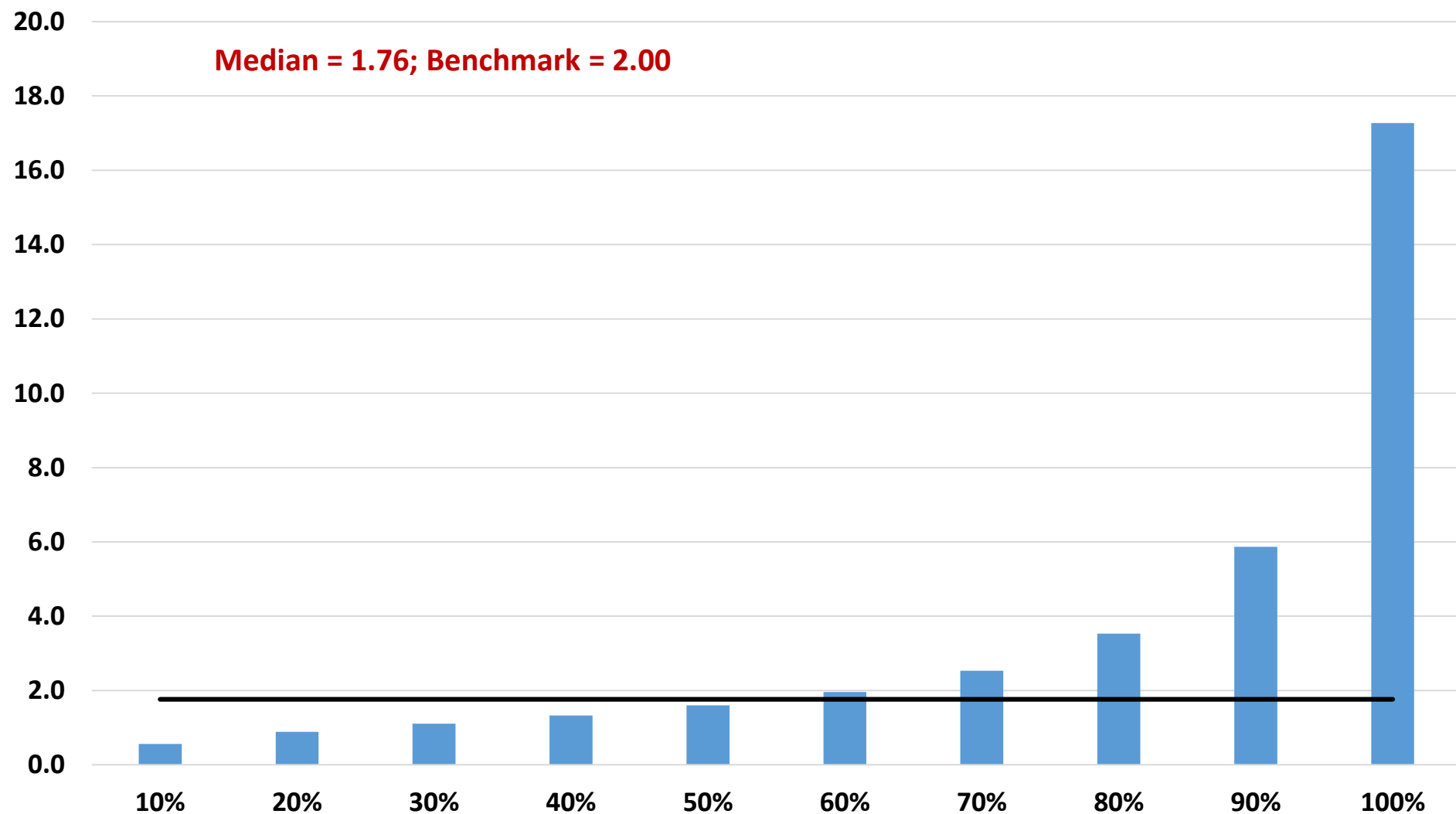
Divergence in Performance

Current Ratio, Averages by Percentiles, 2009 to 2018

University of Minnesota, FINBIN

■ Percentile — Median

Median = 1.76; Benchmark = 2.00

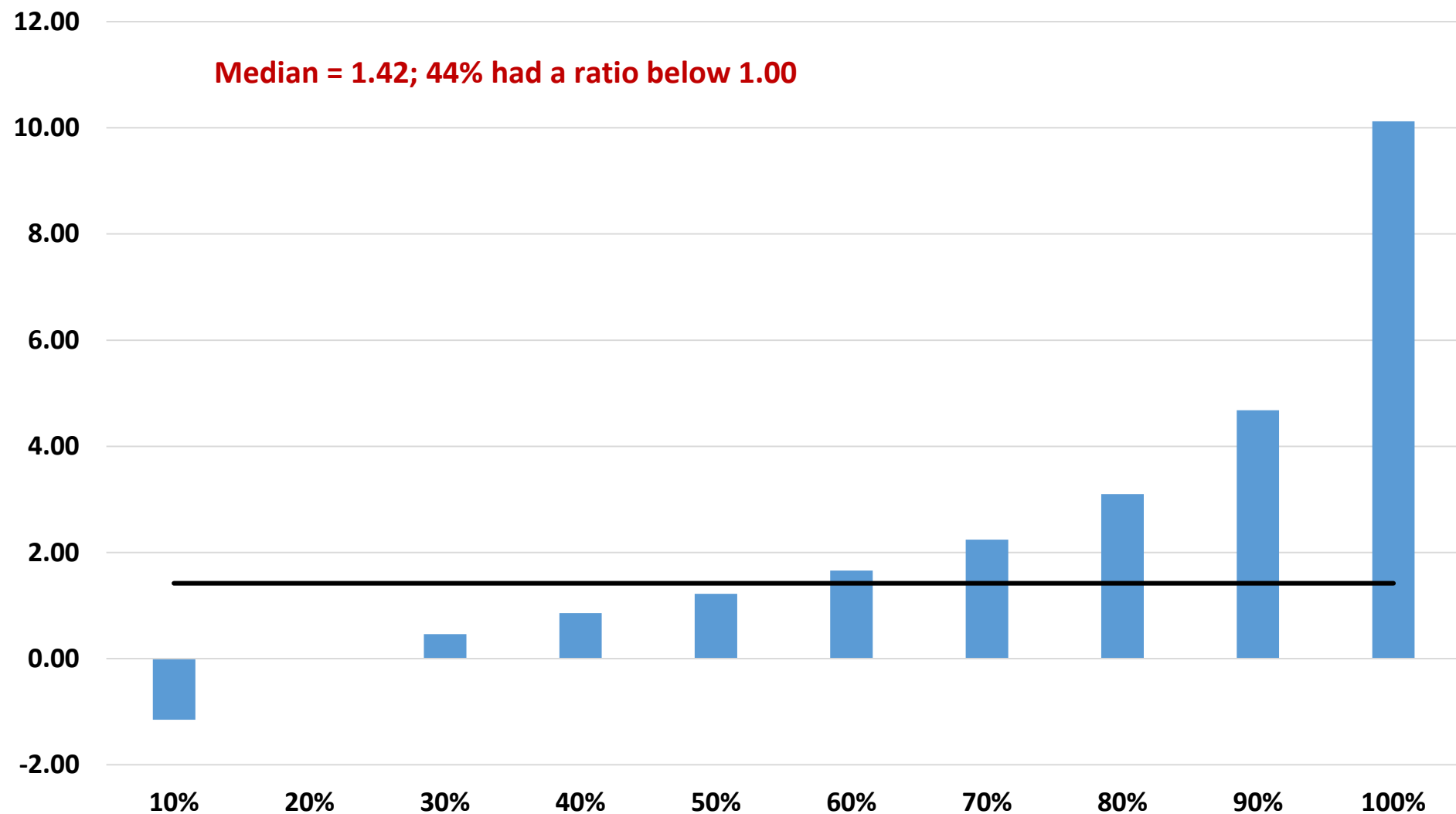


Term Debt Coverage Ratio, Averages by Percentiles, 2009 to 2018

University of Minnesota, FINBIN

■ Percentile — Median

Median = 1.42; 44% had a ratio below 1.00

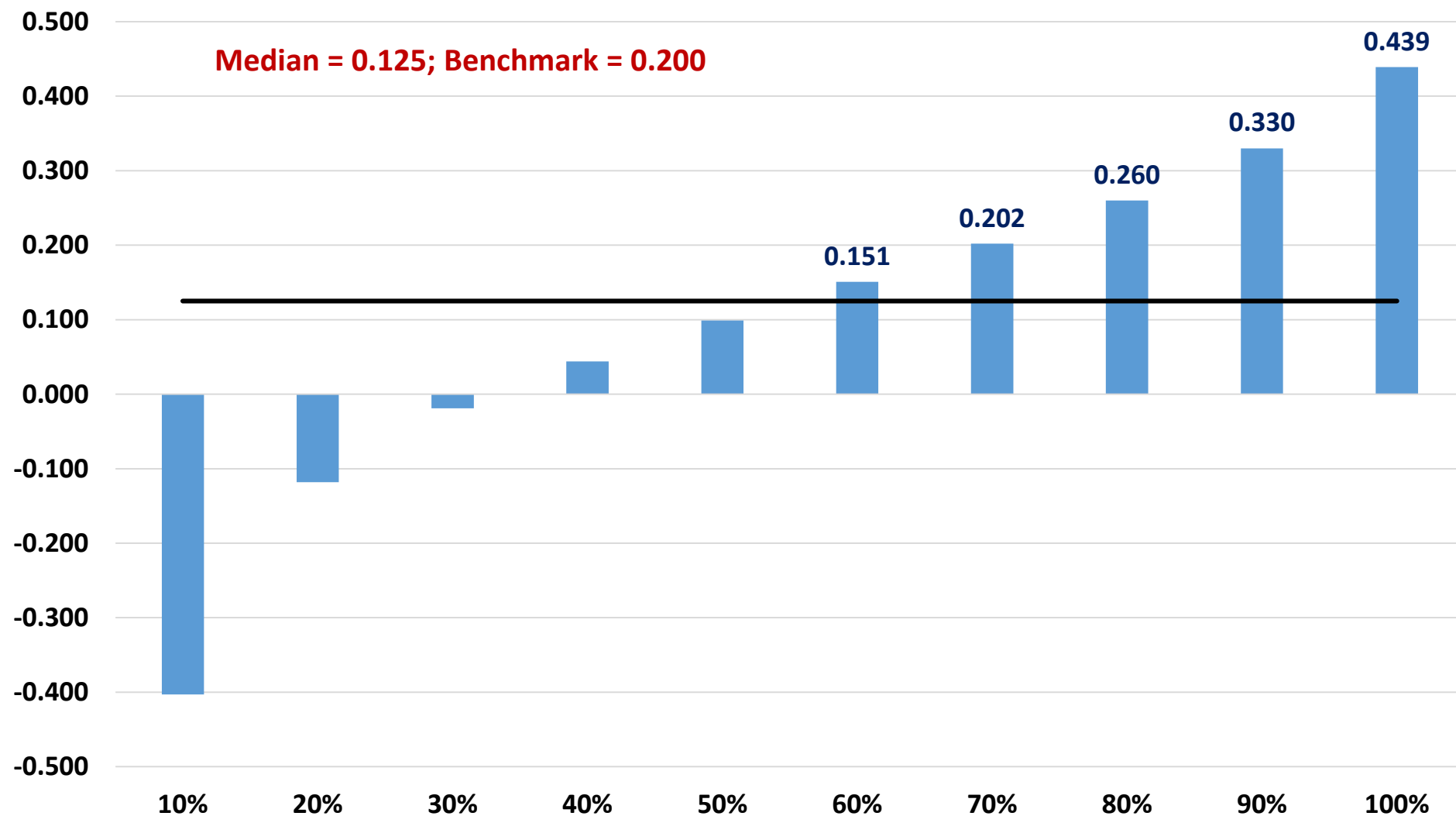


Operating Profit Margin Ratio, Averages by Percentiles, 2009 to 2018

University of Minnesota, FINBIN

■ Percentile — Median

Median = 0.125; Benchmark = 0.200



Ag Economy Barometer

Primary Indices

Ag Economy Barometer Survey Details

- **Monthly survey of 400 U.S. agricultural producers, focused on major crop and livestock enterprises**
 - Corn and Soybeans: 53%
 - Wheat: 14%
 - Cotton: 3%
 - Beef: 19%
 - Swine: 6%
 - Dairy: 5%

Ag Economy Barometer Survey Details (continued)

- Respondents value of farm production is greater than \$500,000.
- Do not survey the same producers each month, but characteristics of survey sample are held constant from month to month.

Ag Economy Barometer

Index Value

170

160

150

140

130

120

110

100

90

80

70

07/16

07/17

07/18

07/19

Month & Year

112

139

117

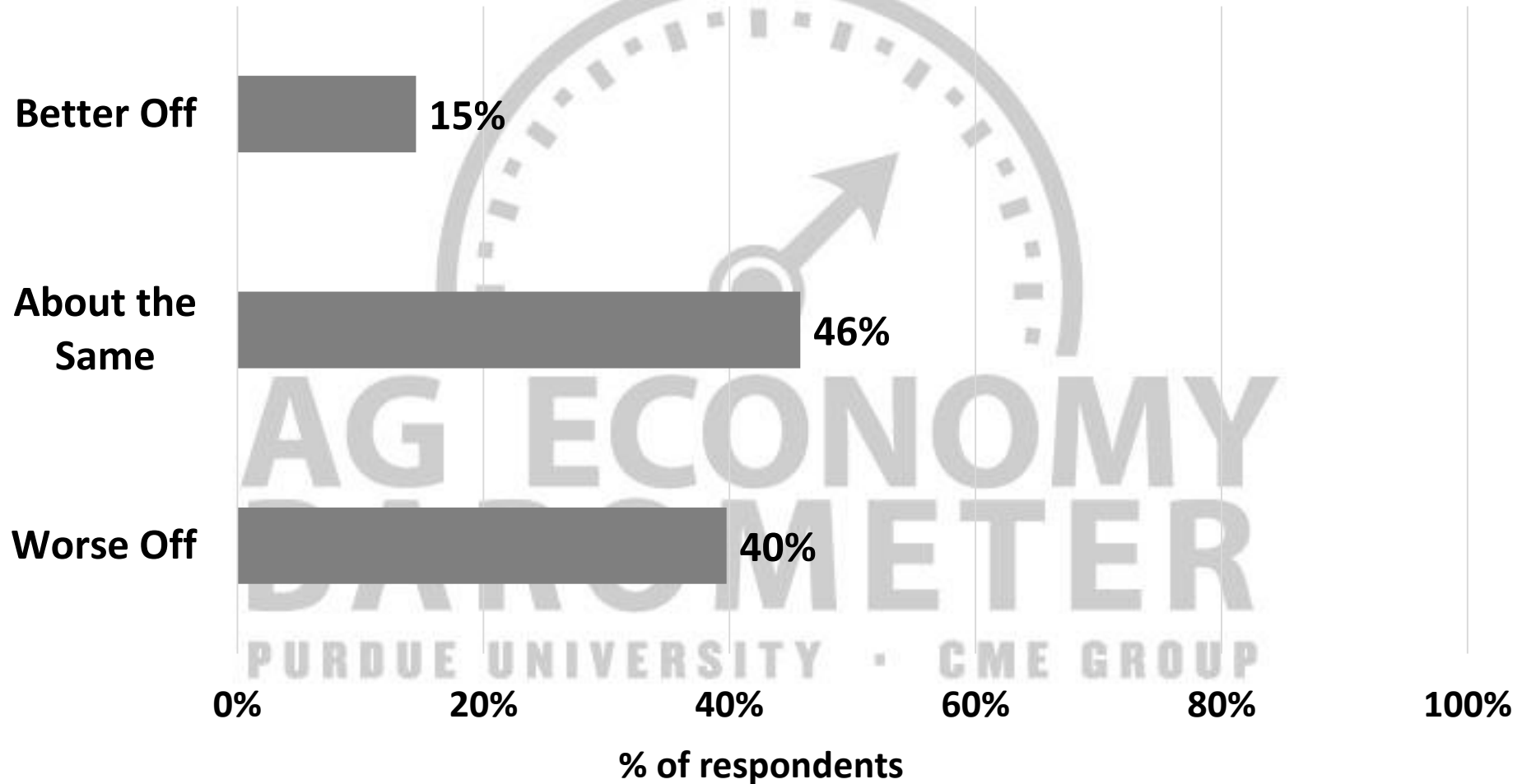
153

126

101

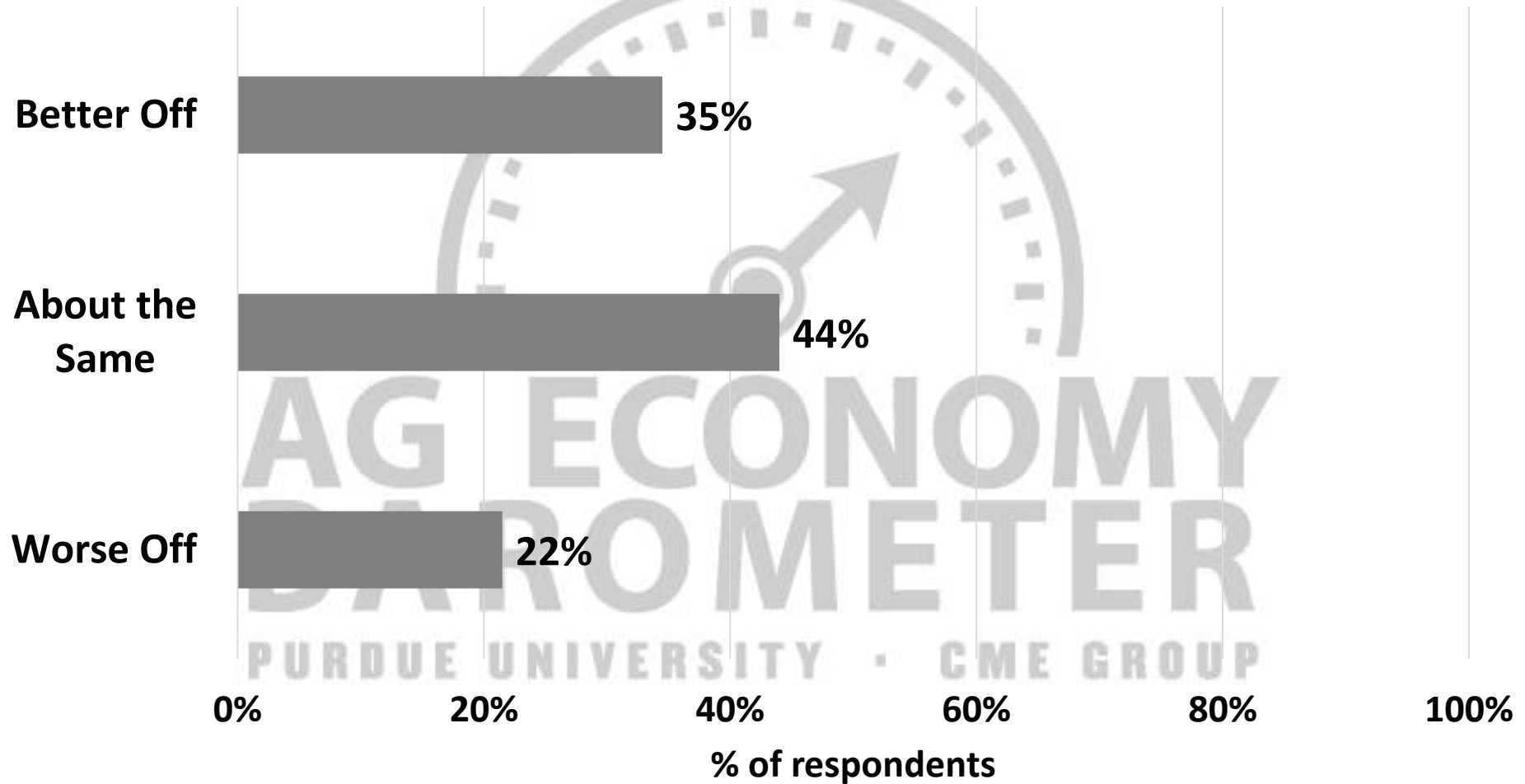
Source: Purdue University Center for Commercial Agriculture, Producer Survey, July 2019

Would you say that your farm operation today is financially better off, worse off, or about the same compared to a year ago?



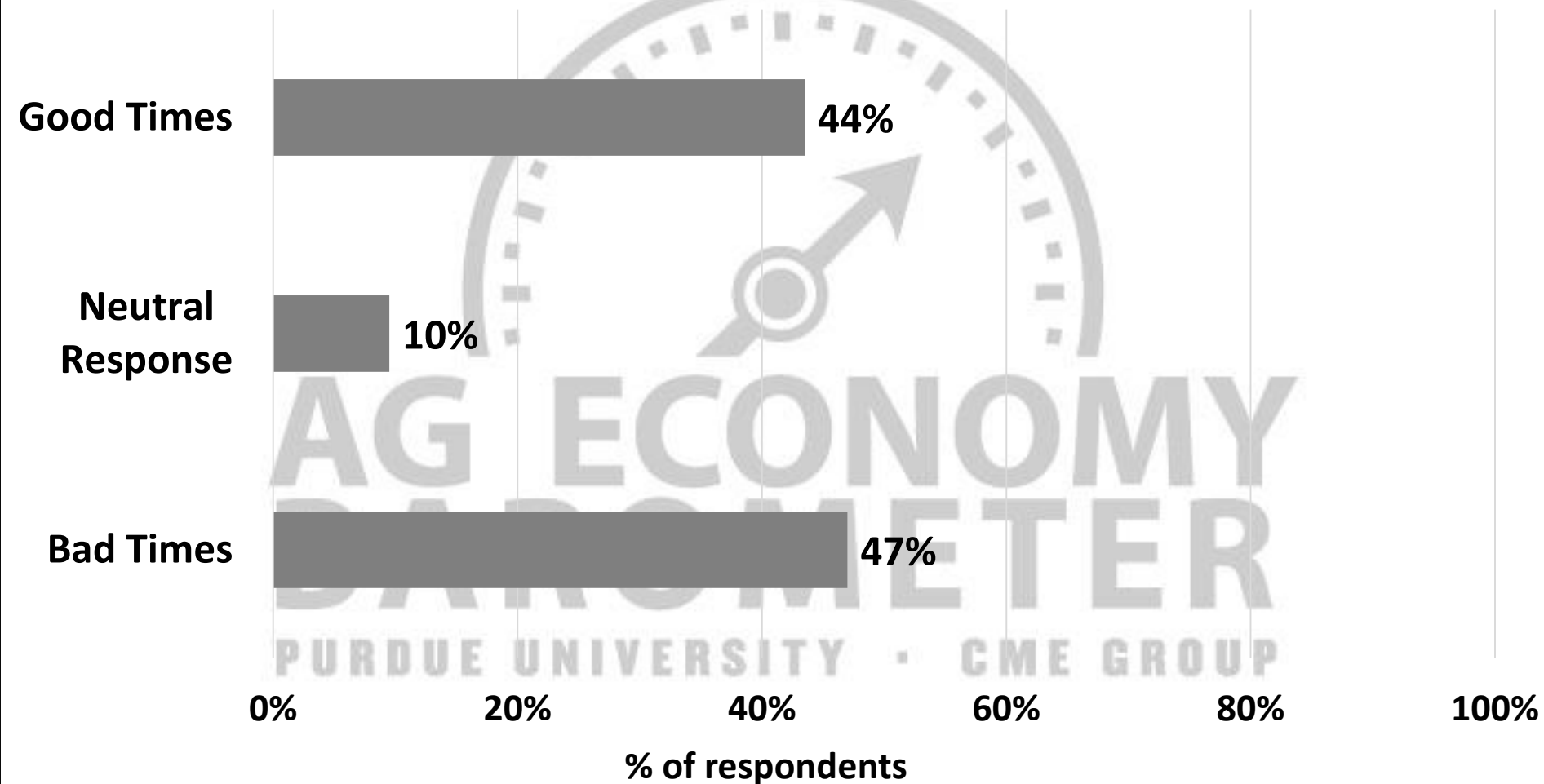
Source: Purdue Center for Commercial Agriculture, Producer Survey, July 2019

Do you think that a year from now your farm operation will be better off financially, worse off, or just about the same as now?



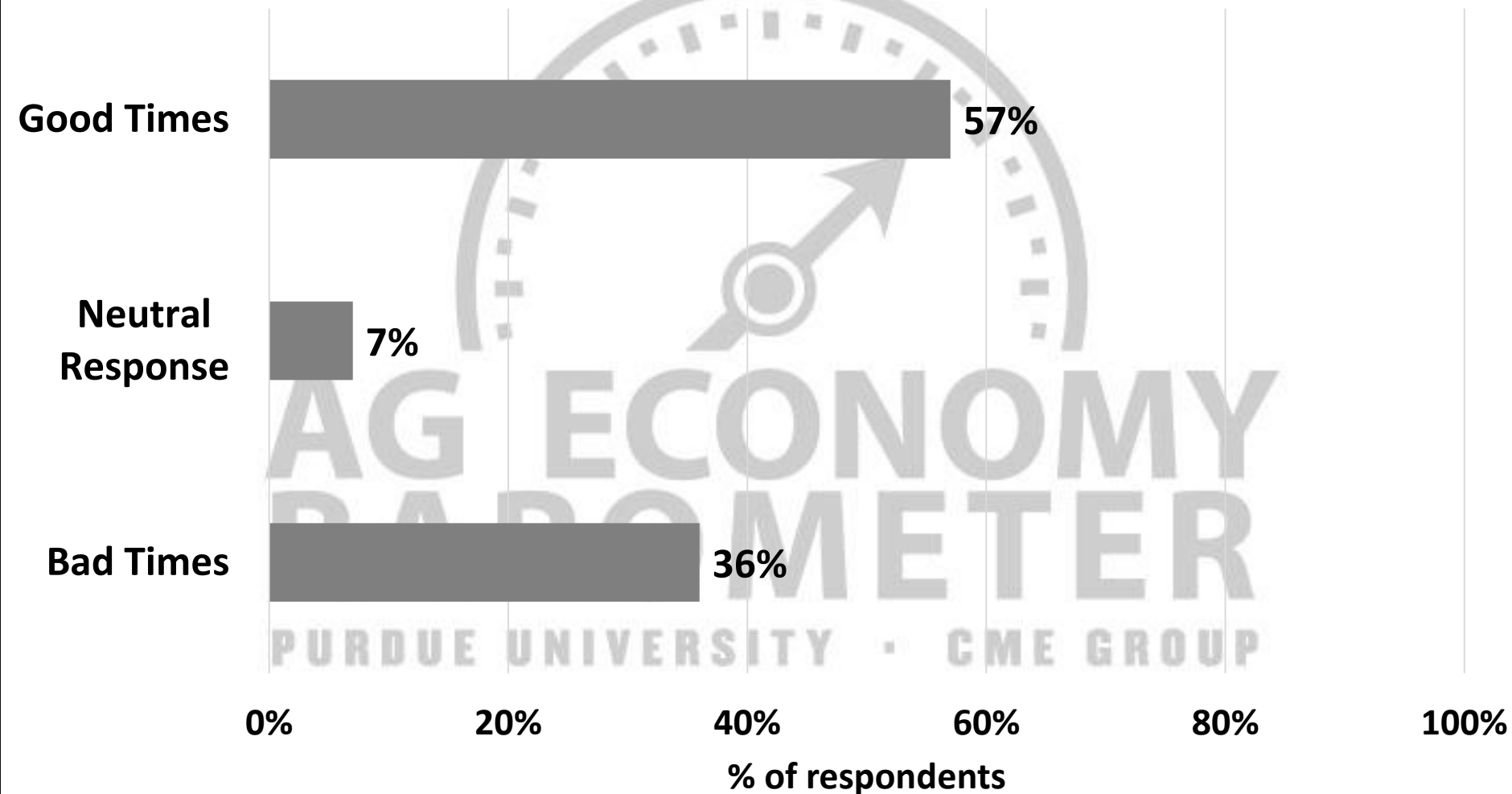
Source: Purdue Center for Commercial Agriculture, Producer Survey, July 2019

Turning to the general agricultural economy, do you think that during the next twelve months there will be good times financially, or bad times?



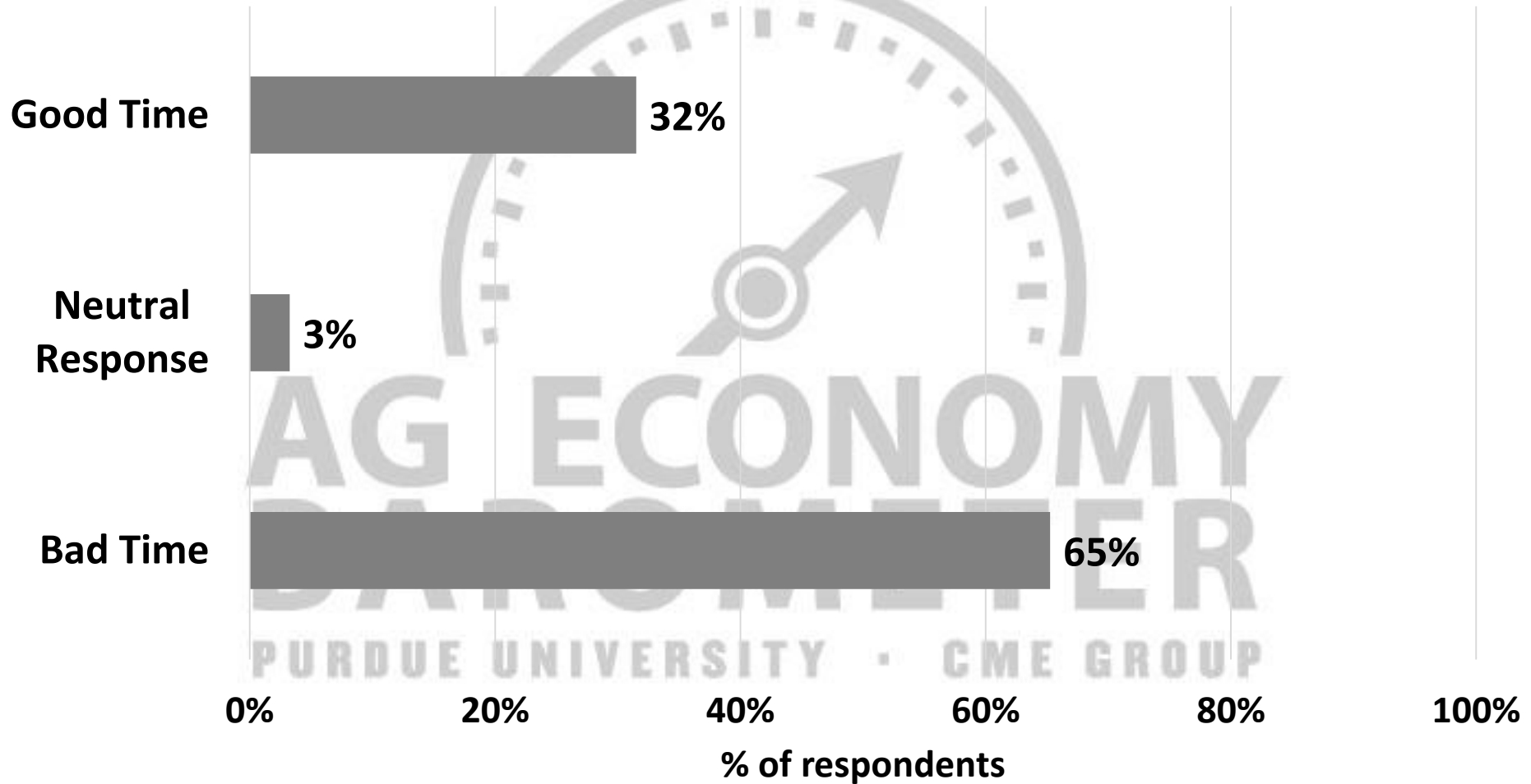
Source: Purdue Center for Commercial Agriculture, Producer Survey, July 2019

Do you think it is more likely that US agriculture during the next five years will have widespread good times or widespread bad times?



Source: Purdue Center for Commercial Agriculture, Producer Survey, July 2019

Thinking about large farm investments – like buildings and machinery -- generally speaking, do you think now is a good time or bad time to buy such items?

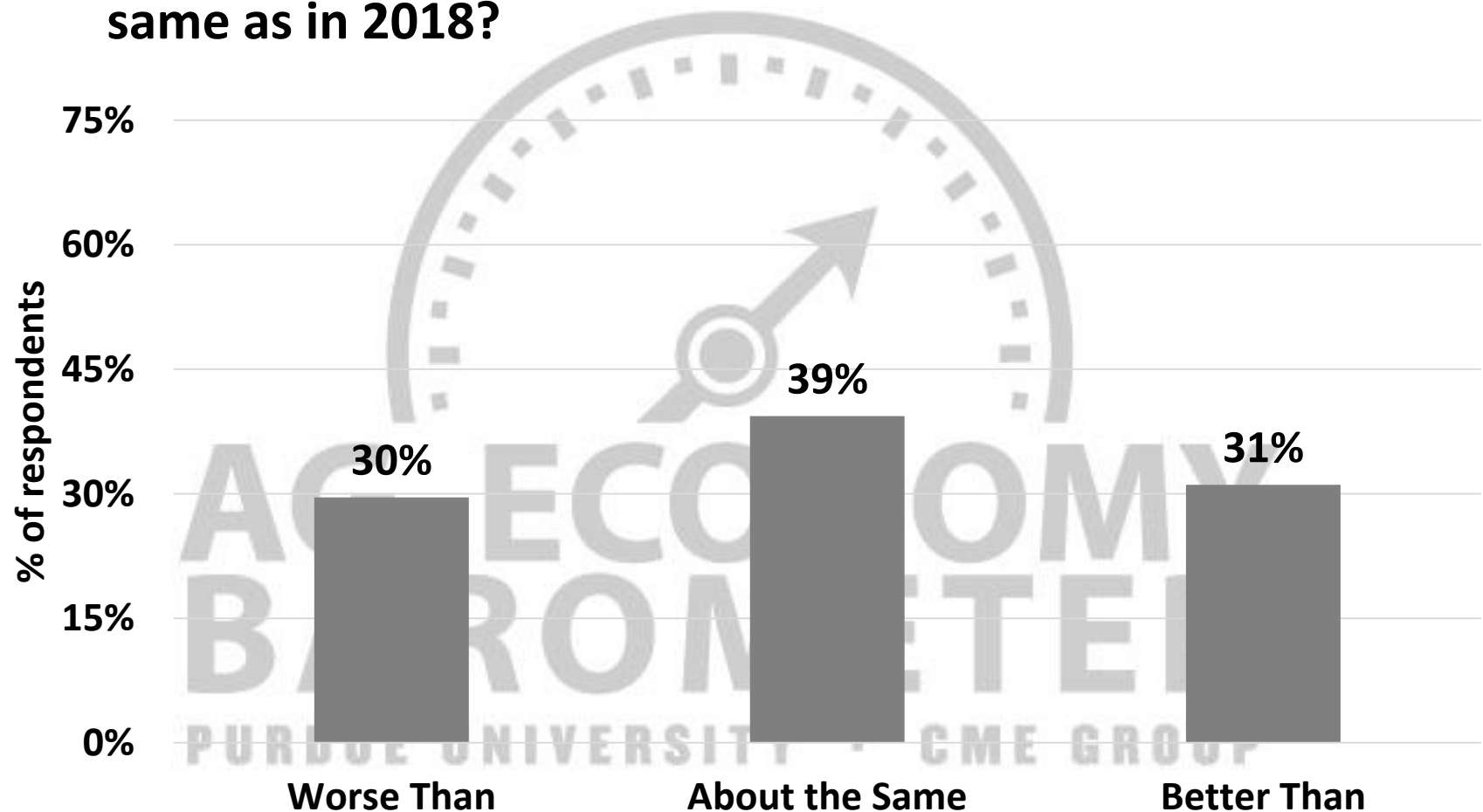


Source: Purdue Center for Commercial Agriculture, Producer Survey, July 2019

Ag Economy Barometer

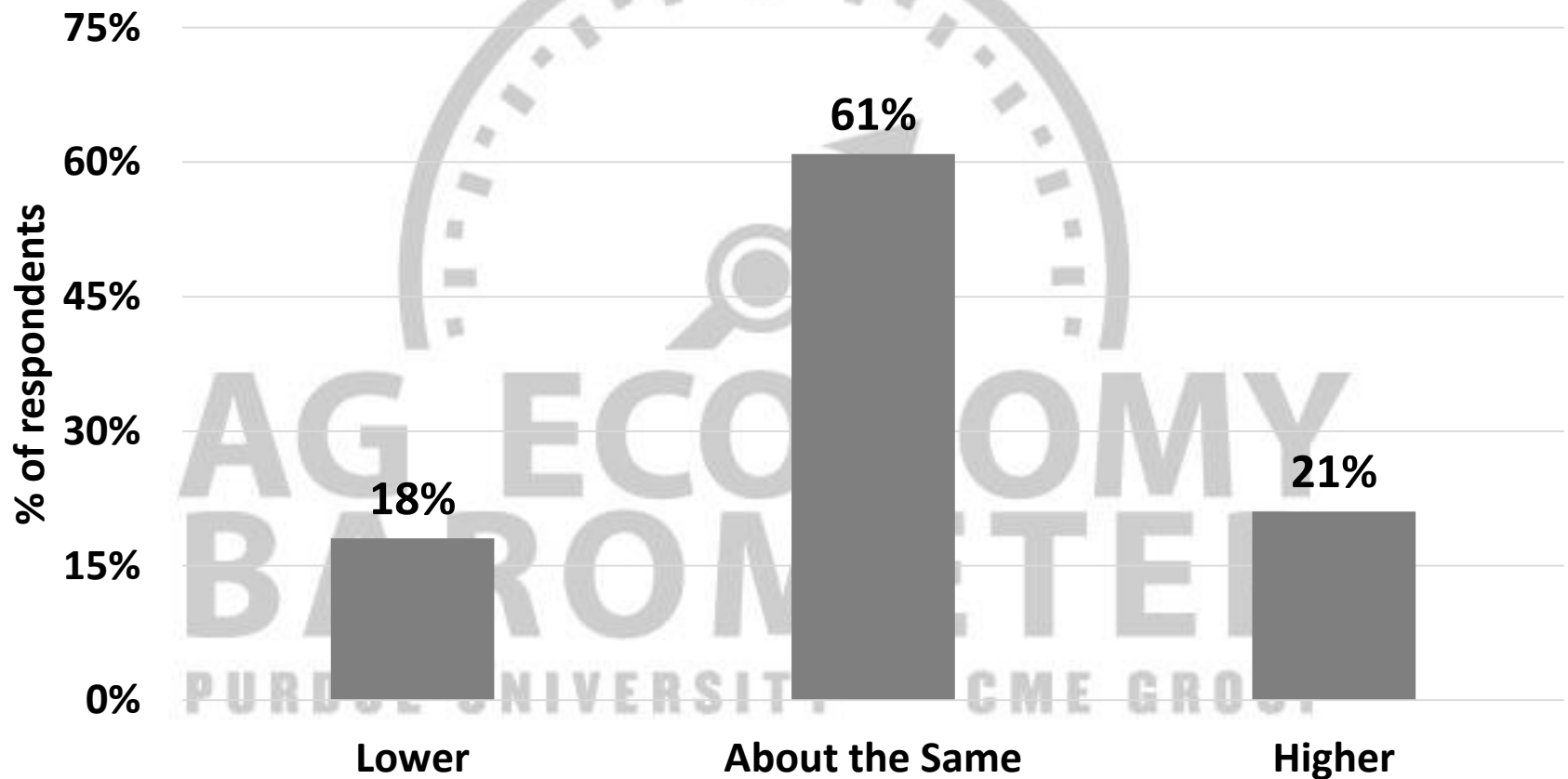
Land Price Expectations

As of today, do you expect your farm's financial performance to be better than, worse than, or about the same as in 2018?



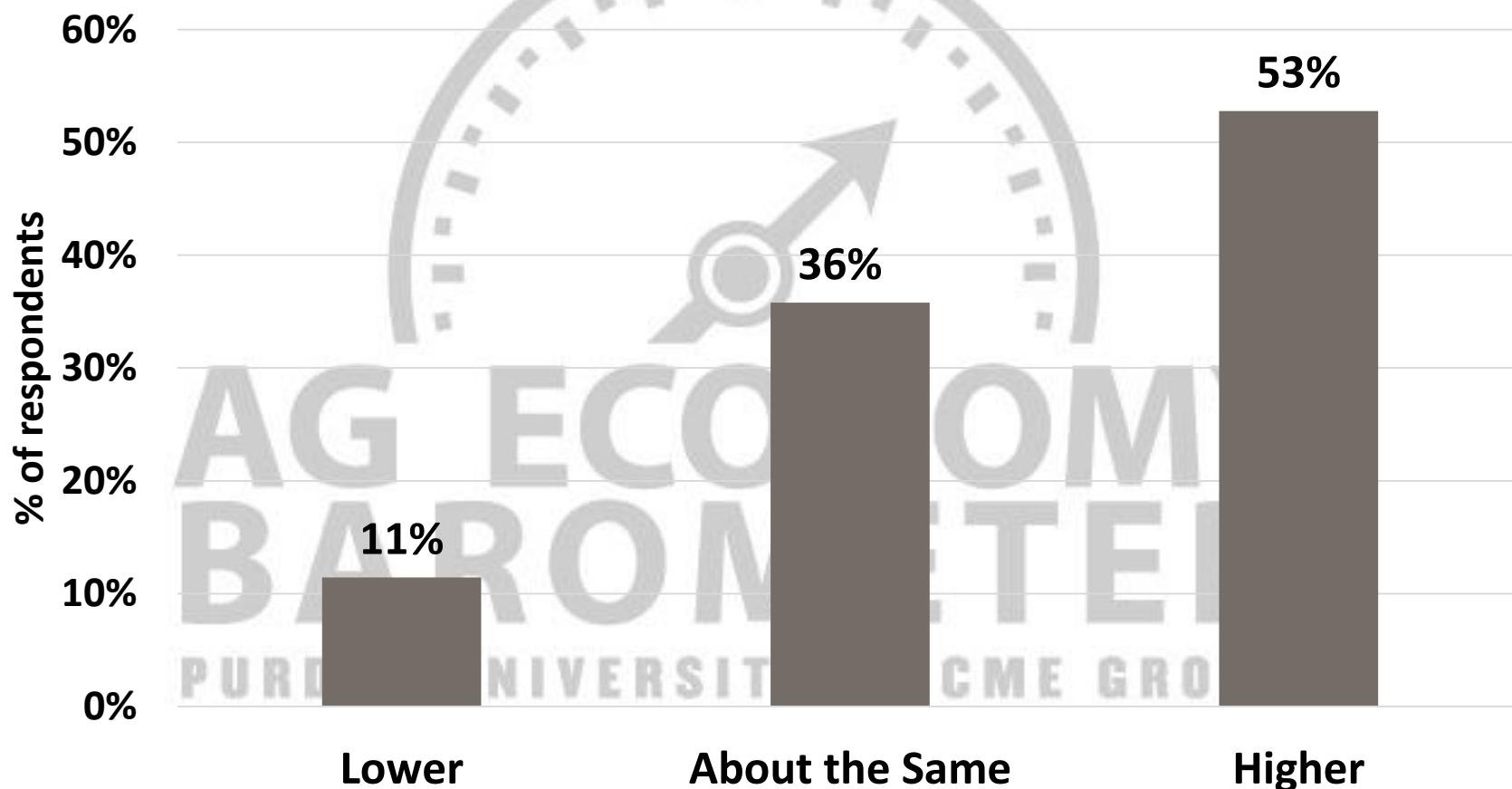
Source: Purdue Center for Commercial Agriculture, Producer Survey, July 2019

Compared to today, what are your expectations for farmland prices in your area 12 months from now? Higher, lower, or about the same?



Source: Purdue Center for Commercial Agriculture, Producer Survey, July 2019

Thinking long term, what are your expectations for farmland prices in your area 5 years from now? Higher, lower, or about the same?



Source: Purdue Center for Commercial Agriculture, Producer Survey, July 2019

Summary

Summary

- Real net farm income from 2007 to 2013 averaged \$97.7 billion. From 2014 to 2019, real net farm income averaged \$75.6 billion, 23% below the 2007 to 2013 average.
- Working capital has declined sharply since 2013. A large percentage of farms have a current ratio below 2.0.

Summary (continued)

- The drop in net farm income since 2013 is much larger than the drop in land values. This has kept solvency from increasing as fast as it did in the 1980s, and has mitigated financial stress.
- Interest rates remain relatively low. These low interest rates reduce interest costs and help support land values.

Questions, Comments

www.ag.purdue.edu/commercialag

