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

• **Midsize 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: 88.8%
- Midsize Family Farms: 6.3%
- Large-Scale Family Farms: 2.8%
- Nonfamily Farms: 2.2%

Percent of U.S. Value of Farm Production, 2017
- Small Family Farms: 12.6%
- Midsize Family Farms: 25.8%
- Large-Scale Family Farms: 39.0%
- Nonfamily Farms: 22.6%
# U.S. Farm Sector, 2019 Balance Sheet

*Source: USDA-ERS*

<table>
<thead>
<tr>
<th>Item</th>
<th>$ Billion</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Assets</td>
<td>76.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Purchased Inputs</td>
<td>16.9</td>
<td>0.5</td>
</tr>
<tr>
<td>Crop Inventories</td>
<td>39.8</td>
<td>1.3</td>
</tr>
<tr>
<td>Livestock Inventories</td>
<td>105.8</td>
<td>3.4</td>
</tr>
<tr>
<td>Machinery and Equipment</td>
<td>274.0</td>
<td>8.9</td>
</tr>
<tr>
<td>Real Estate</td>
<td>2564.3</td>
<td>83.3</td>
</tr>
<tr>
<td>Total Assets</td>
<td>3077.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total Debt</td>
<td>426.7</td>
<td>13.9</td>
</tr>
<tr>
<td>Farm Equity</td>
<td>2650.6</td>
<td>86.1</td>
</tr>
</tbody>
</table>
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

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

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

[Graph showing loan demand and loan repayment trends over time]

[Legend:
- Loan Demand
- Loan Repayment
- Neutral]

[Periods: 1970.1 to 2018.1]
Agricultural Interest Rates
Source: Federal Reserve Bank of Chicago

- Real Estate
- Operating
Short-Term Interest Rate Comparisons, 2015 to 2018

Fed Fund Rate in July 2019 = 2.4%
Long-Term Interest Rate Comparisons, 2015 to 2018

- 10-Year Treasury
- FRB Chicago Real Estate

<table>
<thead>
<tr>
<th>Year</th>
<th>10-Year Treasury</th>
<th>FRB Chicago Real Estate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>2.1</td>
<td>4.6</td>
</tr>
<tr>
<td>2016</td>
<td>1.8</td>
<td>4.6</td>
</tr>
<tr>
<td>2017</td>
<td>2.3</td>
<td>4.9</td>
</tr>
<tr>
<td>2018</td>
<td>2.9</td>
<td>5.4</td>
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</tbody>
</table>
Federal Reserve Board, Federal Funds Rate

July 2019: 2.4%
Farm Level Performance
Current Ratio, Annual Averages, 2009 to 2018
University of Minnesota, FINBIN

Average = 1.95
Term Debt Coverage Ratio, Annual Averages, 2009 to 2018
University of Minnesota, FINBIN

Average = 1.83
Operating Profit Margin Ratio, Annual Averages, 2009 to 2018

University of Minnesota, FINBIN

Average = 0.146
Divergence in Performance
Current Ratio, Averages by Percentiles, 2009 to 2018
University of Minnesota, FINBIN

Median = 1.76; Benchmark = 2.00
Term Debt Coverage Ratio, Averages by Percentiles, 2009 to 2018
University of Minnesota, FINBIN

Median = 1.42; 44% had a ratio below 1.00
Operating Profit Margin Ratio, Averages by Percentiles, 2009 to 2018
University of Minnesota, FINBIN

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%
• 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.
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?

- Better Off: 15%
- About the Same: 46%
- Worse Off: 40%

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?

<table>
<thead>
<tr>
<th>Outcome</th>
<th>% of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better Off</td>
<td>35%</td>
</tr>
<tr>
<td>About the Same</td>
<td>44%</td>
</tr>
<tr>
<td>Worse Off</td>
<td>22%</td>
</tr>
</tbody>
</table>

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?

- Good Times: 44% of respondents
- Neutral Response: 10% of respondents
- Bad Times: 47% of respondents

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?

- **Good Times**: 57% of respondents
- **Neutral Response**: 7% of respondents
- **Bad Times**: 36% of respondents

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?

- **Good Time**: 32% of respondents
- **Neutral Response**: 3%
- **Bad Time**: 65% of respondents

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?

- 30% expect worse than 2018
- 39% expect about the same as 2018
- 31% expect better than 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

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