Farm Income, Land Values and Rent, and Farm Financial Stress: Outlook 2017

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Outlook themes

- **Farm income and finance**: further decline in farm income, low commodity prices, poor cash flow, reduced working capital, and deteriorating financial performance.
- **Farmland markets**: negative growth in land values and rents nationwide and in Ohio.
- **Ag lenders**: heightened loan demand and slower repayment rates, but bankruptcy rates are still low.
- **Outlook**: liquidity challenges have not led to widespread solvency problems so far. What might the outlook for 2017 or 2020 look like?
Net cash income ($90.1B) and net farm income ($66.9B) forecast to decline for the third consecutive year.

Source: USDA, ERS, Farm Income and Wealth Statistics.
Ohio net cash income ($2.4B) and Ohio net farm income ($1.2B) also declined in 2015

Source: USDA, ERS, Farm Income and Wealth Statistics.
Ohio farm income is about 2.4-2.5% of the U.S. farm income but show more relative variability.

Source: USDA, ERS, Farm Income and Wealth Statistics.
Cash receipts are expected to fall $23.4 billion, mostly from livestock receipts; crop receipts forecast unchanged.

U.S. cash receipts for selected crops

- **Corn**: 2010 = 44.9 billion, 2011 = 60.0 billion, 2012 = 55.0 billion, 2013 = 35.5 billion, 2014 = 25.3 billion, 2015 = 18.3 billion, 2016F = 10.0 billion
- **Soybeans**: 2010 = 44.9 billion, 2011 = 30.0 billion, 2012 = 25.0 billion, 2013 = 18.3 billion, 2014 = 12.5 billion, 2015 = 8.6 billion, 2016F = 5.7 billion
- **Fruits & Nuts**: 2010 = 20.0 billion, 2011 = 15.0 billion, 2012 = 10.0 billion, 2013 = 7.5 billion, 2014 = 5.7 billion, 2015 = 4.5 billion, 2016F = 3.0 billion
- **Vegetables & Melons**: 2010 = 10.0 billion, 2011 = 12.5 billion, 2012 = 10.0 billion, 2013 = 7.5 billion, 2014 = 5.0 billion, 2015 = 3.5 billion, 2016F = 2.5 billion
- **Wheat**: 2010 = 8.0 billion, 2011 = 6.0 billion, 2012 = 5.0 billion, 2013 = 4.0 billion, 2014 = 3.0 billion, 2015 = 2.5 billion, 2016F = 2.0 billion
- **Cotton**: 2010 = 5.0 billion, 2011 = 3.5 billion, 2012 = 2.5 billion, 2013 = 2.0 billion, 2014 = 1.5 billion, 2015 = 1.0 billion, 2016F = 0.5 billion

Source: USDA, ERS, Farm Income and Wealth Statistics.
Ohio crops and livestock receipts declined in 2015

Ohio cash receipts for selected crops and livestock

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<tr>
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</thead>
<tbody>
<tr>
<td>Corn</td>
<td>2.0</td>
<td>2.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soybeans</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Dairy products,</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milk</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hogs</td>
<td>0.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cattle and calves</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>0.7</td>
</tr>
</tbody>
</table>

Source: USDA, ERS, Farm Income and Wealth Statistics.
Farm assets and equity expected to decline, farm debt to increase

Source: USDA, ERS, Farm Income and Wealth Statistics.

![Farm sector assets (equity and debt)](chart)

Source: USDA, ERS, Farm Income and Wealth Statistics.
Farm assets and equity expected to decline, farm debt to increase

Farm sector assets, equity, and debt percent changes from previous year

- 2012: Farm assets 13.8%, Farm equity 15.6%, Farm debt 1.0%
- 2013: Farm assets 5.2%, Farm equity 5.1%, Farm debt 6.0%
- 2014: Farm assets 6.2%, Farm equity 5.8%, Farm debt 9.5%
- 2015: Farm assets -1.3%, Farm equity -2.0%, Farm debt 3.3%
- 2016F: Farm assets -2.1%, Farm equity -3.1%, Farm debt 5.2%

Source: USDA, ERS, Farm Income and Wealth Statistics.
Farm real estate assets represent 84% of farm assets; also expected to decline

Source: USDA, ERS, Farm Income and Wealth Statistics.

Farm sector assets by type

<table>
<thead>
<tr>
<th>Asset Type</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real estate</td>
<td>217</td>
<td>102</td>
<td>52</td>
<td>15</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>Machinery and vehicles</td>
<td>2,384</td>
<td>217</td>
<td>102</td>
<td>52</td>
<td>15</td>
<td>78</td>
</tr>
<tr>
<td>Animals and products</td>
<td>217</td>
<td>102</td>
<td>52</td>
<td>15</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>Crops stored</td>
<td>217</td>
<td>102</td>
<td>52</td>
<td>15</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>Purchased inputs</td>
<td>217</td>
<td>102</td>
<td>52</td>
<td>15</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>Financial assets</td>
<td>217</td>
<td>102</td>
<td>52</td>
<td>15</td>
<td>78</td>
<td></td>
</tr>
</tbody>
</table>

Source: USDA, ERS, Farm Income and Wealth Statistics.
Land values for the U.S. declined in 2016

Farmland values per acre, U.S.

<table>
<thead>
<tr>
<th>Type</th>
<th>Value per Acre</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cropland</td>
<td>$4,090</td>
<td>-1.0%</td>
</tr>
<tr>
<td>Pasture</td>
<td>$3,010</td>
<td>-0.3%</td>
</tr>
<tr>
<td>Farm real estate</td>
<td>$1,330</td>
<td>0%</td>
</tr>
</tbody>
</table>

Source: USDA, NASS. Land Values Summary.
Land values also declined in Ohio

Farmland values per acre, OH

Source: USDA, NASS. Land Values Summary.
Cropland values show major differences by state

Cropland Value per acre in U.S. - Year 2016

Source: USDA, NASS. Land Values Summary.
Many regions see declines in land values

Source: USDA, NASS. Land Values Summary.
Cash rent for farmland declined in 2016

Cash rent per acre, U.S.

Source: USDA, NASS, Cash Rent Survey.
Ohio cash rents remained flat at $150/acre in 2016

Cash rent per acre, OH

Source: USDA, NASS, Cash Rent Survey.
Cash rents tend to be highest in the Corn Belt

Source: USDA, NASS, Cash Rent Survey.
Many regions experience declines in cash rents

Source: USDA, NASS, Cash Rent Survey.
Cash rents in Ohio

Cash Rent per acre for Non-irrigated Land in Ohio, Year - 2016

Source: USDA, NASS, Cash Rent Survey.
Changes in cash rent changes vary widely across Ohio

Percent Change in Ohio Cash Rent per acre - Year 2016

Source: USDA, NASS, Cash Rent Survey.
## Landowners for land rented out

<table>
<thead>
<tr>
<th></th>
<th>Number of landlords</th>
<th>Acres rented out (millions)</th>
<th>Rent received ($billions)</th>
<th>Expenses ($billions)</th>
<th>Value of land and buildings ($billions)</th>
<th>Debt ($billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operator landlords (US)</td>
<td>280,044</td>
<td>70.3</td>
<td>6.9</td>
<td>1.9</td>
<td>200</td>
<td>7.9</td>
</tr>
<tr>
<td></td>
<td>13%</td>
<td>20%</td>
<td>22%</td>
<td>20%</td>
<td>18%</td>
<td>24%</td>
</tr>
<tr>
<td>Non-operator landlords (US)</td>
<td>1,851,796</td>
<td>283.4</td>
<td>24</td>
<td>7.4</td>
<td>932</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>87%</td>
<td>80%</td>
<td>78%</td>
<td>80%</td>
<td>82%</td>
<td>76%</td>
</tr>
<tr>
<td>Total (US)</td>
<td>2,131,840</td>
<td>353.7</td>
<td>31</td>
<td>9.3</td>
<td>1132</td>
<td>33</td>
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</tr>
<tr>
<td>Total (OH)</td>
<td>81,942</td>
<td>6.16</td>
<td>1.01</td>
<td>0.3</td>
<td>35</td>
<td>1.3</td>
</tr>
</tbody>
</table>

About 39% of farmland is rented, the rest is owned by farmers

Percent of Farmland Rented, 2012

Rented Acres: 353.8 million
Total Operated Acres: 911 million

Farm liquidity (ability to meet short term obligations) has declined but still acceptable.

Source: USDA, ARMS.
Profitability is low but still positive

Farm profitability ratios (ROA and ROE)

Source: USDA, ARMS.
Debt-to-asset ratios have increased but still at historical lows

Source: USDA, ARMS.
Ag loan delinquency rates are stable/low for most banks

Source: FDIC
Number of farm bankruptcies (chapter 12 filings) remains low

Source: U.S. Courts, Table F-2
Negative relationship between farmland values and bankruptcy rates
Negative relationship between net cash income and bankruptcy rates

Bankruptcy rates vs farm sector net cash income

- Farm sector net cash income
- Number of farm bankruptcies

The Ohio State University
Farm bankruptcy filings in 2016

Number of farmer bankruptcy (chapter 12) filings by state, 1\textsuperscript{st}-3\textsuperscript{rd} Quarters 2016

Number of farmer bankruptcies (chapter 12) filings in 2016: 414 for US and only 1 for Ohio

Source: U.S. Courts, Table F-2
Farm bankruptcy filings since 2001

Number of farmer bankruptcy (chapter 12) filings by state, 2001-2016

Number of farmer bankruptcies (chapter 12) filings since 2001: 6,780 for US and 118 for Ohio

Source: U.S. Courts, Table F-2
Ohio’s farm bankruptcy rate is half of the US rate

Farm bankruptcy rate per 10,000 farmers, 2001-2016

US bankruptcy rate of 2.04 per 10,000 farms since 2001
OH bankruptcy rate of 1.04 per 10,000 farms since 2001

Source: U.S. Courts, Table F-2
How does financial stress now compare to the 80s?

Some parallels to the 1980’s farm crisis:
• Declining commodity prices and net incomes
• Land values falling after a sharp rise
• Debt loads rising

Key differences:
• Interest rates in the 1980s were much higher than current interest rates
• Debt-to-asset ratios at 11% now are lower than at 20% in the 80s
• Much of debt now is held by commercial banks and Farm Credit System

Repeat of the 80s is very unlikely in current conditions.
Ag Outlook 2017

- The downturn in agriculture has been gradual over the last three years.
- Farmers are experiencing more financial stress but it is still low.
- Strength in farmland markets has helped, but farmland values and cash rents have declined in the last year or two and these declines are expected to continue.
- Although financial stress is increasing for some farmers, significant stress is not likely in the next year or two.
- Longer-run projections raise some concerns for 2020 or later. The severity of the concerns will significantly depend on the rate of growth in farm debt and decline in land values and possibly increase in farm loan delinquencies.
Summary – farm income, assets, and debt

• Farm sector income is forecast to decline for the third consecutive year. Net cash farm income for 2016 is forecast at $90.1 billion, down 14.6 percent from the previous year. Net farm income is forecast to be $66.9 billion in 2016, down 17.2 percent. If realized, 2016 net farm income would be the lowest since 2009.

• Farm income in Ohio has been 2.4-2.5% of national estimates over the last decade. Ohio net cash income declined by 14% to $2.4 billion and net farm income declined by 32% to $1.2 billion in 2015. Ohio’s variability in net cash income and net farm income was higher than the U.S. over the last decade.

• Cash receipts are forecast to fall $23.4 billion (6.2 percent) in 2016 due to a $23.4 billion (12.3 percent) drop in animal/animal product receipts; crop receipts are forecast unchanged from 2015.

• Farm sector balance sheet forecasts farm assets in 2016 at $2,849 billion, of which $2,473 billion is farm equity and $375 billion is farm debt. Farm assets are expected to decline by 2.1 percent, farm equity to decline by 3.1 percent and farm debt to grow by 5.2 percent.
Summary – land values and rent

- **Cropland values** for the U.S. declined by 1% to $4,090/acre in 2016, after increasing by 0.7% in 2015. Cropland values in Ohio declined by 0.9% to $5,800/acre in 2016, after increasing 3.5% in 2015. This is the first decline in land values nationally and for Ohio since 2009.

- **Cash rent** for cropland in the U.S. was $136 per acre in 2016, a decline of 5.5% from the previous year after experiencing rent increases since 2007. Cash rents in the Corn Belt are still among the highest. Many states experienced zero or negative growth in cash rents. Cash rent for cropland in Ohio remained unchanged (0% growth) at $150 in 2016.

- **Farmland leasing** was at 38.8% in 2012 with the rest of the land owned in the U.S. Landowners rented out 353.7 million acres and received $31 billion in rent in 2014. Eighty seven percent of the 2.1 million landowners do not farm themselves, but they collected 78% or $24 billion in rent.
Summary – farm financial performance

• Farm financial performance indicators have deteriorated in 2015 since their peaks 3-5 years prior.
• Farm liquidity, measured by the current ratio, fell to 2.3 for the U.S. and 1.9 for Ohio in 2015, but still acceptable.
• The rate of return on assets of 1% and rate of return on equity of 0.6% for the U.S. and Ohio are lower than their peaks in 2010-2012. These lower profitability ratios are problematic.
• Debt-to-asset ratio were at 10.1% for the U.S. and 10.8% for Ohio in 2015. They are still near historic low.
Summary – farm bankruptcies

• Farm bankruptcy rates can be thought of as a lagging indicator of farm financial stress.

• Farm bankruptcy rate is at 2.14 bankruptcies per 10,000 farms through the 3rd quarter of 2016. This is an already higher rate than the rate of 1.93 in 2013, 1.78 in 2014 and 1.85 in 2015, but lower than 2.56 in 2012. In Ohio, 118 farms have filed for bankruptcy (chapter 12) since 2001. The farm bankruptcy rate in Ohio is 1.04 farmers filing for bankruptcy per 10,000 farmers. Ohio’s bankruptcy rate is about half of the US bankruptcy rate.

• Analysis shows negative correlations between farm income and bankruptcy rates, and also between land values and bankruptcy rates. Declining farm incomes and land values resulted in an uptick in farm bankruptcy rates in 2016 but still at historic lows. Farm bankruptcy rates are still relatively low and stable.
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Farm Income Enhancement Program
http://aede.osu.edu/programs/farm-income-enhancement-program