Indiana Farmland Values and Cash Rents Continue Downward Adjustments

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Land Values
Purdue Farmland Value Survey Process

• Survey conducted annually since 1970
  – Rural Appraisers, Ag Lenders, Farm Managers, Farmers
• Ask for land values in
  – December ‘15, June ‘16, and December ’16
  – Responses for top, average, and poor quality land
• Ask for current cash rent
• Ask for long-term corn yield to garner productivity information
**Indiana Farmland Values**

**2016 Survey Results**

<table>
<thead>
<tr>
<th>Land Quality</th>
<th>Yield (Bu./A)</th>
<th>Value ($/A)</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2015</td>
<td>2016</td>
<td></td>
</tr>
<tr>
<td>Top</td>
<td>198</td>
<td>$9,266</td>
<td>$8,508</td>
</tr>
<tr>
<td>Average</td>
<td>166</td>
<td>$7,672</td>
<td>$7,041</td>
</tr>
<tr>
<td>Poor</td>
<td>134</td>
<td>$5,863</td>
<td>$5,353</td>
</tr>
</tbody>
</table>
Regional Farmland Value Changes
Survey Respondents View of Land Value Drivers

![Bar chart showing average influence of factors on land value over years 2014, 2015, and 2016. Factors include Net Inc., Growth Ret., Crop Price, Lysk Price, Interest, Alt. Invest., Export, Inflation, Supply, Cash, and Ag Policy. The chart uses a scale from -3.0 to 3.0 for average value and Influence.]
Land on Market Today Compared to Year Ago

Percent Reporting

<table>
<thead>
<tr>
<th></th>
<th>1999</th>
<th>2011</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less</td>
<td>32.2</td>
<td>38.0</td>
<td>56.4</td>
</tr>
<tr>
<td>Same</td>
<td>39.4</td>
<td>52.7</td>
<td>[VALUE]</td>
</tr>
<tr>
<td>More</td>
<td>15.1</td>
<td>22.6</td>
<td>7.4</td>
</tr>
</tbody>
</table>
## 2016 Land Value Change
### Actual and Forecast

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Top</td>
<td>-5.2%</td>
<td>-1.9%</td>
</tr>
<tr>
<td>Average</td>
<td>-4.6%</td>
<td>-2.2%</td>
</tr>
<tr>
<td>Poor</td>
<td>-5.6%</td>
<td>-2.1%</td>
</tr>
</tbody>
</table>
Cash Rents
Indiana Cash Rent
2016 Survey Results

<table>
<thead>
<tr>
<th>Land Quality</th>
<th>Yield (Bu./A)</th>
<th>Value ($/A)</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2015</td>
<td>2016</td>
</tr>
<tr>
<td>Top</td>
<td>198</td>
<td>$285</td>
<td>$257</td>
</tr>
<tr>
<td>Average</td>
<td>166</td>
<td>$229</td>
<td>$204</td>
</tr>
<tr>
<td>Poor</td>
<td>134</td>
<td>$175</td>
<td>$157</td>
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</table>
Indiana Farmland Cash Rent
1975 – 2016, Average Quality Land

Value per acre

Year

Market
Inflation Adj. (2016)
Short–Term Expectations

- Cash Rent in 2017

<table>
<thead>
<tr>
<th>Change</th>
<th>% Respondents</th>
<th>Average % Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher</td>
<td>3%</td>
<td>8.8%</td>
</tr>
<tr>
<td>No Change</td>
<td>40%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Lower</td>
<td>57%</td>
<td>-8.3%</td>
</tr>
</tbody>
</table>
Cash Rents and Land Values in the Corn Belt

- **Iowa (2013 to 2016)**
  - Cash rents declined 15%
  - Land values declined 25%

- **Illinois (2013 to 2015)**
  - Cash rents declined 12%
  - Land values declined 17%

- **Indiana (2014 to 2016)**
  - Cash rents declined 12%
  - Land values declined 12%
Long-Term Expectations
Cash Rent and Land Values
Possible Pressures on Cash Rents and Land Values

- **Cash Rents**
  - Relatively low earnings for corn and soybeans

- **Land Values**
  - Decline in cash rent
  - Increase in long-term interest rates
  - Increase in inflation
  - Increase in risk premium for the farming sector
  - Relatively high P/rent ratio
Income – Value Link

\[
\text{Farmland Value} = \frac{\text{Farmland Income}}{\text{Capitalization Rate (\%)} - \text{Income Growth Rate (\%)}}
\]

Income = net return to farmland ownership

Capitalization rate = interest rate & risk premium

Growth rate = growth rate in farmland value income

\[
\frac{\text{Farmland Value}}{\text{Farmland Income}} = \frac{1}{\text{Capitalization Rate (\%)} - \text{Income Growth Rate (\%)}}
\]
Land Value to Income Multiplier
1975-2016, Average Quality Land

-2 Standard Deviations
Average = 20.4
+2 Standard Deviations
2016 = 34.5
5-Year Expected Average Values for Corn, Soybeans, Interest Rates & Inflation, By Survey Year
5-Year Forecast By Survey Respondents
Where do you expect farmland prices to be in 5 years?

<table>
<thead>
<tr>
<th>Direction</th>
<th>% Respondents</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase</td>
<td>35%</td>
<td>7.6%</td>
</tr>
<tr>
<td>No change</td>
<td>29%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Decrease</td>
<td>36%</td>
<td>-9.5%</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td><strong>100%</strong></td>
<td><strong>-1.0%</strong></td>
</tr>
</tbody>
</table>
Summary

• Indiana farmland values declined 8.2% to 8.7% from June ‘15 to June ’16 – Second year of decline

• Declines of 1.9% to 2.2% are expected in last half of 2016

• Over the next 5-years, respondents expect Indiana farmland values to decline 1% but there are significant differences of opinion

• Cash rents declined 9.8% to 10.9% in 2016

• 2017 rents flat or lower
Summary

• The value-to-income multiple remains at historic high of 34.5
• Strengths of farmland market
  – Interest rates, good investment, supply, inflation expectations
• Weaknesses of farmland markets
  – Farm incomes, commodity prices, cash position
To read the full report
Visit Our Web Site by typing Purdue Center for Commercial Ag in your search engine
Join Us for our next Webinar on August 23, 2016; 10:00 am EDT

Putting a Value on Sweat Equity in the Farm Business