FARM FINANCIAL OUTLOOK: LAND VALUES & CASH RENTS

Where have they been? And where will they go?
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• Farm balance sheets stronger in 2022; a major contribution was increase in farm asset (majorly land) values.

• Interest rates and inflation (impacting farm income through commodity and input prices) have been most important factors for farmland market.

• Concerns for overpriced farmland exist, but land values are still expected to increase.
Stronger Balance Sheets in 2022

Billion dollars (nominal)

Source: USDA, ERS, Data as of December 1, 2022
U.S. Farm Sector Assets

(inflation adjusted)

(by type)

Source: USDA, ERS, Data as of December 1, 2022
Land Values on the Rise Through 2022

Cropland values, $ per acre

Source: USDA, NASS, Data as of August 5, 2022
$ Change in Cropland Values 2021-2022

Source: USDA, NASS, Data as of August 5, 2022
Farmland Values Trends: Other Sources

Year-over-Year changes in Farmland Values |  Nominal & Inflation-adjusted Iowa Farmland Values

Source: Federal Reserve Bank of Chicago, 2022  
Source: Iowa Land Values Survey, 2022
$ Change in Cash Rents 2021-22

Source: USDA, NASS, Data as of August 5, 2022
What Influences Land Values?

**Land Values**

\[
\text{Localized Net Income} = \frac{\text{Localized Net Income}}{\text{Universal Interest Rate}}
\]

- Inflation (commodity prices)
- Interest rate
- Land supply

**FACTORS IMPACTING LAND VALUES**

**Positive Factors Affecting 2022 Farmland Market**

- Higher Commodity Prices
- Limited Land Supply
- Low Interest Rates Until Summer 2022
- Stronger Yields
- Good Farm Economy
- Strong Demand, incl. Investors

**Negative Factors Affecting 2022 Farmland Market**

- Interest Rate Hikes
- Higher Input Costs
- Stock Market Volatility & Economic Uncertainty
- Weather Uncertainty
- COVID Uncertainty
- Commodity Price Uncertainty
- Land too High (Bubble Burst?)

Source: Iowa Land Values Survey, 2022
WILL LAND VALUES CONTINUE TO RISE?

IT DEPENDS ON ITS DETERMINANTS
Farmland Price Expectations, 12 Months Ahead

Source: Purdue Center for Commercial Agriculture, Producer Survey, 2022
Farmland Price Expectations, 2023 and 2027

Source: Iowa Land Values Survey, 2022
CONTRIBUTOR # 1

FARM INCOME
FUTURE EXPECTATIONS: FARM INCOME

Net Farm Income Expectations, 10 Years Ahead

Source: USDA long-term projections, Data as of February 16, 2022
CONTRIBUTOR # 2
INTEREST RATES
Trends in Interest Rates

- 9% inflation in June 2022 to 7.1% in Nov 2022
- Federal Funds rate of 4.33% with prospects of increase
- Unless quantitative easing continues with a more accommodative monetary policy

Source: St. Louis Federal Reserve Bank, Federal Reserve Economic Data, 2022
Why would Interest Rates be higher?

- 2 - 4% Inflation or higher

- Quantitative easing is exception rather than the rule
  - Federal Open Markets Committee (FOMC) expectations suggest an increase
  - Federal Funds rate at or above 5.0% for 2023
  - Moving back towards 3% by 2025

- Interest rates will average above the inflation rate
IMPLICATIONS OF HIGH INTEREST RATES FOR THE FARM SECTOR
Downward pressure on assets, including land values

\[
\text{Land Values} = \frac{\text{Localized Net Income}}{\text{Universal Interest Rate}}
\]

Higher costs of debt

- $20 per acre ($800 \times \frac{1}{2} \text{ year} \times 5\% \text{ interest rate})
- to $32 per acre ($800 \times \frac{1}{2} \text{ year} \times 8\% \text{ interest rate})

Higher breakeven return level for investments (purchasing an asset)
FUTURE EXPECTATIONS: ASSET BUBBLE

Are we in an Asset Bubble?

Asset bubble $\Rightarrow$ price of land exceeds its income potential

\[
\text{Capitalized Value} = \frac{\text{Cash Rent}}{10 \text{ year CMT Rate}}
\]

Land values are in line with fundamentals

**Farmland Prices and Capitalized Values in Illinois**

<table>
<thead>
<tr>
<th>Year</th>
<th>Land Price</th>
<th>Capitalized Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>1975</td>
<td>$5,000</td>
<td>$9,720</td>
</tr>
<tr>
<td>1980</td>
<td>$10,000</td>
<td>$15,000</td>
</tr>
<tr>
<td>1985</td>
<td>$15,000</td>
<td>$19,500</td>
</tr>
<tr>
<td>1990</td>
<td>$20,000</td>
<td>$24,966</td>
</tr>
<tr>
<td>1995</td>
<td>$25,000</td>
<td>$29,250</td>
</tr>
</tbody>
</table>

Source: Farmdoc Daily Report, January 03, 2023
CONCLUDING THOUGHTS

Main Mechanisms

- Rising interest rates directly put downward pressure on land values.
- Rising interest rates also decrease farm income, further downward pressure.
- Commodity prices may remain high in 2023, upward pressure on land values.
- Limited supply and strong demand for land, upward pressure.
CONCLUDING THOUGHTS

Key Takeaways

Land Values are on the rise
Experts expect increases both in the short run and long run

Land values are capitalized in cash rents in 12-18 months
Cash rents will follow the increase in land values

As long as land value reflects its income potential, we are not in an asset bubble