Understanding Current Farmland Values and Risks

March 10, 2011
FDIC Symposium
Don’t Bet the Farm: Assessing the Boom in U.S. Farmland Prices
by
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Setting the Stage

1. Is it possible that land values could be significantly (20-30%-40%) lower 3-5 years than today?

2. Is there a bubble in the land market?

A bubble implies irrationality in the market and/or a short-term structural issue that impacts market transactions

- People buying/selling in a panic because prices only go up/down
- People forced to sell due to sudden liquidity crisis
- People encouraged to buy, take risk with massive amounts of OPM (liquidity glut)
- Asset prices diverge from any reasonable view of economic fundamentals
What Drives Value?

• General idea of purchasing capital assets
  – Obtain the rights to future earnings for a price less than the real earnings that it will produce

• Capital asset values are determined by EXPECTATIONS of the level of future earnings and their present value
  – Earnings are difficult to forecast
  – Interest rates and inflation drive present values and are equally difficult to forecast

• It is very difficult to understand when expectations are misinformed
  – Compounded by the fact that farmland is an infinite life asset with relatively low rates of turnover
So How Did We Get Here?

• Returns
  – Biofuel demand
  – Strong demand from emerging markets
  – Weather shocks/poor yields

• Generally decreasing interest rate environment
  – Rates at 30 year lows
Value-to-Rent Multiple for Average Quality IN Farmland, 1975-2010

What people are willing to pay for earnings has risen with farmland income.
Two pronged impact: Higher earnings and higher multiples – powerful impact on prices
Interest Rate on 10-Year Treasury Bonds, 1970 to 2010

<table>
<thead>
<tr>
<th>Period</th>
<th>Average Interest Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970 to 1979</td>
<td>7.5</td>
</tr>
<tr>
<td>1980 to 1989</td>
<td>10.6</td>
</tr>
<tr>
<td>1990 to 1999</td>
<td>6.7</td>
</tr>
<tr>
<td>2000 to 2009</td>
<td>4.5</td>
</tr>
<tr>
<td>Entire period 1970 to 2009</td>
<td>7.3</td>
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</tbody>
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Cash rent multiple begins to climb
Price per Acre for Average Quality Indiana Farmland, 1975-2010

Prices have steadily risen, doubling in the last 10 years.
Current Land Values

• Land values appear to reflect current high returns in agriculture
  – Not obviously overvalued, do not appear to have diverged from reality
  – This DOES NOT mean that a downward movement is impossible
• Values are dependent upon interest rates remaining low and/or sustained growth in agricultural incomes
• It is possible that a bubble is in early stages of formation
• Substantial increases from here would be based upon optimistic scenarios for future growth and/or reduced real rates
Things That Tend to Fuel Bubbles

• Easy access to credit for the purchase of the capital asset with someone willing to accept lots of risk (liquidity glut)

• Widespread uncertainty about the level of economic fundamentals and their future outlook and the magnitude of the risk misunderstood by market participants

• Markets that allow participants to easily capture capital gains along the way and/or roll capital gains into ever bigger bets

• New demand (uninformed market participants wanting to enter the market)
Key Questions

- What factors would potentially stimulate bubble formation?
- What factors would reduce land values from current levels?
  - How likely are these factors?
Risk Matrix for Land Value 1-5 Years

- **Large Increase**
  - U.S. Inflation Takes Off
  - U.S. Drought
    - Export Controls Spike Commodity Prices
  - U.S. Double Dips

- **Impact**
  - Low
    - M.E. Turmoil Spreads
  - Significant Outside Inv. Surfaces
  - China Buys U.S. Corn
  - China Growth Story Continues

- **High**
  - Large Reduction
    - Forced Sales Due to CF Crisis
    - China Meltdown
  - U.S. Relaxes Bio-fuel Mandate
  - USDA CRP Release
  - Oil Price Spike Causes Global Recession
  - Ag Input Costs Rise Rapidly – Margins return to “normal”
  - Risk Premium Returns to Land Mkt
  - 200+ bp increase in interest rates
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Summary

• The risks to farmland values are highly non-linear
  – We are operating in the tails of the distribution
  – Do not get there with just one or two trends
  – These confluence of events make projecting income difficult
  – Set the stage for bubble formation and potential correction

• There is great uncertainty about the level at which farmland will trade in 5 years

• It is not clear to me that on balance land is dramatically overvalued at present
  – That can change rapidly
Questions?

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For more information on land values visit our website at:
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