What’s Ahead for Farmland Trends? How do Young Farmers Fit In?

Tomorrow’s Top Producer Seminar
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Agenda

• Where we are
• What might be ahead
• How do young farmers fit in?
We Are

• In the midst of an almost unprecedented boom in farmland values
• In the midst of a substantial period of profitability for row-crop farming operations
• The above results are due to dramatic improvement in ag fundamentals
• Operating in a world full of risk
In Real Terms, Today’s Farmland Value Increases are on Par with those of the 70’s

<table>
<thead>
<tr>
<th>Region</th>
<th>Nominal Change</th>
<th>Real Change and Annualized Growth Rate</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Annualized Growth Rate</td>
<td>Percent</td>
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<tr>
<td><strong>Iowa</strong></td>
<td></td>
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<tr>
<td>1971-1981</td>
<td>399</td>
<td>122</td>
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<td></td>
<td>17.4</td>
<td>8.3</td>
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<tr>
<td>2001-2011</td>
<td>248</td>
<td>176</td>
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<td></td>
<td>13.3</td>
<td>10.7</td>
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<tr>
<td><strong>Illinois</strong></td>
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<tr>
<td>1971-1981</td>
<td>343</td>
<td>97</td>
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<tr>
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<td>16.1</td>
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<td>2001-2011</td>
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<td></td>
<td>9.6</td>
<td>7.0</td>
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<td><strong>Indiana</strong></td>
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<tr>
<td>1971-1981</td>
<td>381</td>
<td>114</td>
</tr>
<tr>
<td></td>
<td>17.0</td>
<td>7.9</td>
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<tr>
<td>2001-2011</td>
<td>104</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>7.4</td>
<td>4.9</td>
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</tbody>
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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 know when expectations are misinformed
A Simple Model of Farmland Values

The income capitalization model:

$$Farmland\ Value = \frac{Income}{discount\ rate\ (\%) - growth\ rate\ (\%)}$$

Important points:

- ↑ Income    →    land value    ↑
- ↑ Discount rate    →    land value    ↓
- ↑ Income growth rate    →    land value    ↑

5% discount rate less 1% growth = 4% “cap rate”
Cash rent multiple is the inverse of the cap rate (25 @4%)
Types of Shocks which Alter Farming Profitability

• **Demand driven:** Expansion of demand which calls for more output at all price levels
  – For example, biofuels and income growth and food demand in emerging markets
  – Persistent demand growth can substantially increase land values and capital investment

• **Supply induced:** Supply contraction where less is available at all price levels
  – Short-term weather shocks do not typically impact fixed asset values
  – Inability of supply to keep up with normal demand expansion. If true could lead asset value increases

Current situation is complicated by interaction of both impacts and extremely low interest rates which make future income more valuable
These multiples require either sustained income growth or continuing low interest rates (and likely both)

Sources: IL and IA compiled from NASS Reports, IN from Purdue Land Value Survey
Will rates move up as slowly as they have moved down?
Rate impact would likely felt on valuations today
Cash flow impact will be secondary impact unlike 70’s
Warning sign 1 – something changes to take us out of accommodation
Budgeted Profit/Loss and Cash Rent for High Quality Indiana Farmland, 1991-2013

- Combined profit and rent shot up in 2007
- Highly variable and < $500/acre
- How high will rents go?
- What is the risk with higher rents?

Source: Derived from Purdue Crop Budgets, ID-166, Corn-Soybean Rotation
Aside from last two, recent years have been good but not spectacular.
Land Values Under Alternative Capitalization Rates (Multiples) and Income Levels

- 3% (33)
- 4% (25)
- 5% (20)
- 6% (17)
- 8% (13)

2012 Value HQ IN Farmland $7,704

Current Cash Rental Rate HQ IN Farmland, $265 per Acre
Cap Rate Risk

- Monetary policy change = cap rate ↑
- Economic recovery = cap rate ↑
- Inflation = cap rate ↑
- Increased volatility/risk = cap rate ↑
- Slowing income growth in ag = cap rate ↑
What Do Landowners Think?

- Current values are dependent upon continuation of low interest rates and high farm returns over variable costs.
- Conducted and internet survey in Spring 2012
  - What do farmland investors think about future
    - Farmland prices
    - Cash rents
    - Crop prices
The Respondents

- Individuals in CCA database with interest in farmland and farming
- 246 complete responses (28%)
- 73% owned farmland
- 74% want to purchase more farmland in the next 5 years
- Median acres
  - owned = 500
  - rented from others = 1,200
  - rented to others = 240

Primary Interest in Farmland

- Do Not Own Farmland or Operate a Farm
- Agribusiness Other Than Lending
- Landowner and Rent to Others
- Agricultural Lender
- Operate a Farm
Respondents asked to consider: 80 Acres of Farmland with a production capability of 165 bushels of corn per acre under normal rain-fed conditions
Estimates of Farmland Value and Price at Auction, 196 Respondents, Spring 2012

Perception of the value for 80 with a production capability of 165 bushels of corn per acre under normal rain-fed conditions, $’s per acre

65% felt auction prices were higher than their perception of value
53% believe farmland prices are in a bubble
73% are interested in purchasing more farmland in the next 5 years
Distribution of Expected Average Cash Corn Prices Over the Next 5 Years, 189 Farmland Value Survey Respondents

Box captures I&G’s corn price range

There is a 1 in 10 chance the average corn price will be less than:
The average corn price will most likely be:
There is a 1 in 10 chance the average corn price will be greater than:
Almost no systematic relationship between perception of land value and expected corn prices
Final Thoughts

• Tremendous volatility in the ag marketplace
• For crop farmers it has been all favorable
  – How good are you at managing risk? (It has been easy so far)
  – How exposed are you to other’s risk management activities? Volatility creates winners and losers
  – How are you managing costs?
  – What about non-land capital investment?
  – When need for operating capital comes it will be substantial and much larger than before the boom
Final Thoughts

• Times in row-crop are very good
  – It is conceivable they could get better
  – It is also conceivable they could be worse
  – It is very difficult to predict what takes us out of this cycle, but credit can magnify the outcome either way

• How favorable is the current risk/return tradeoff for farmland?
What Does it Mean for Young Farmers?

• DO invest in:
  – Operational excellence
  – Building management capacity
  – Building knowledge of the economics of your business
  – Building relationships
  – Assets that have the highest return

• Don’t:
  – Misallocate scarce capital – (overpay for fixed assets or buy at any cost)
  – Bank on the next five years being as profitable as the last five
Overall Financial Lessons
Basic Financial Observations

• Do not be afraid of debt or avoid at all costs
• Use debt in moderation
• Understand the economics of your business
• Cash flow determines value
• Do not be paralyzed by analysis and complication
• Take good opportunities when they are available
Basic Financial Observations

• Avoid proposed opportunities where proposer has only upside (align incentives)
• Address financial trouble early and honestly
• Clearly understand risk and return trade-offs
• Don’t underestimate the power of compound growth and long-term savings/investing
Basic Financial Observations

• Seek advice, but take responsibility for making your financial future
• Invest in yourself
• Invest in those around you