U.S. AGRICULTURE: What Goes Up Must Come …

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The views expressed are those of the author and do not necessarily reflect the positions of Federal Reserve Bank of Kansas City or the Federal Reserve System.
U.S. Agriculture

• Today’s Outline:
  – A Booming Farm Economy
  – Land Values Surge
  – Is the Boom Sustainable?
  – Will Farm Debt Remain in Check?
The Farm Economy is Booming.

**U.S. Real Net Farm Income**

Source: USDA
Crop Prices Surged With Strong Demand And Shorter Global Supplies

U.S. Crop Prices

Dollars per bushel

Source: Wall Street Journal

Photos courtesy of USDA
Tough Times in the Cattle Industry

U.S. Livestock Prices and Breakeven Costs

Dollars per hundredweight

Breakeven Costs
Cattle Price
Hog Price

Source: USDA and Iowa State University
The Agricultural Outlook

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Kansas’ Farmland Values Surge

Kansas Farmland Values

Percent change from year ago

Source: Federal Reserve Bank of Kansas City
On a national basis, real farmland values have topped the 1980s highs.

U.S. Farmland Values

Real
(Inflated to 2008 dollars)

Nominal

Source: USDA
Kansas, however, has not topped 1980s highs.

Real Farmland Value Gains
(Percent change from 1980s highs to 2008)

Source: USDA
The Agricultural Outlook

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World Grain Inventories Have Fallen to Record Lows.

World Grain Stocks to Use Ratio

Percent of annual use

Source: USDA
Agricultural Exports Have Surged . . .

U.S. Agricultural Exports

Billion dollars (2008=100)

Source: USDA
With Stronger World Incomes . . .

World GDP Growth

Percent change

Source: International Monetary Fund

Photos courtesy of USDA
And a Weak Dollar.

Value of U.S. Dollar

Index

Source: Federal Reserve Board of Governors

Photos courtesy of USDA
Has Ethanol Reached its Limit?

U.S. Ethanol Production, Mandates, and Corn Use

Source: USDA and Renewable Fuels Association
The Outlook for Crop Prices has Strengthened in 2008

Corn and Wheat Price Forecasts

**Corn Price**

- March 2008 forecast
- September 2008 forecast

**Wheat Price**

- March 2008 forecast
- September 2008 forecast

Source: FAPRI
Farm input costs surged beyond expectations.

2008 Farm Input Costs

- Fertilizer
- Feed
- Fuels
- Seed
- Interest
- Rent
- Machinery
- Wages
- Chemicals

Source: USDA and FAPRI
Market returns have jumped sharply for corn and soybeans.

*Market returns to Crop Production (less variable or operating costs)*

Dollars per acre (2007=100)

Calculations based on USDA cost and returns data.
Net returns will vary with commodity prices and input costs.

### Net Returns to Land from U.S. Corn Production
*(Dollars per acre – average 2009 to 2013)*

<table>
<thead>
<tr>
<th>2009 Production Cost Increase (Percent)</th>
<th>Corn Price (Dollars per bushel)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5.5% (USDA baseline)</td>
<td>$4.00</td>
<td>$5.25</td>
</tr>
<tr>
<td></td>
<td>$129</td>
<td>$328</td>
</tr>
<tr>
<td>15%</td>
<td>$83</td>
<td>$283</td>
</tr>
<tr>
<td>30% (Actual 2008 increase)</td>
<td>$10</td>
<td>$210</td>
</tr>
</tbody>
</table>

Net returns will vary with commodity prices and input costs.

**Net Returns to Land from U.S. Wheat Production**  
*(Dollars per acre – average 2009 to 2013)*

<table>
<thead>
<tr>
<th>2009 Production Cost Increase (Percent)</th>
<th>Wheat Price (Dollars per bushel)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$6.00</td>
</tr>
<tr>
<td>4.5% (USDA baseline)</td>
<td>$11</td>
</tr>
<tr>
<td>15%</td>
<td>---</td>
</tr>
<tr>
<td>25% (Actual 2008 increase)</td>
<td>---</td>
</tr>
</tbody>
</table>

The Agricultural Outlook

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Debt ratios have reached record lows.

**Debt Repayment Capacity Utilization**

Source: USDA

*Actual debt divided by debt that could be repaid from current income*
Farmland is increasingly owned by older people.

*Distribution of Iowa Farmland by Age of Owner*

Source: Iowa State University
Conclusions

- Land values boom with rising farm income.
- Have farmland values peaked?
  - Rising input costs trim margins.
  - Ethanol and exports present demand risks.
  - What is the global supply response to high prices?
- Will debt levels remain low even with thinner margins?
- Agriculture is a boom and bust industry.