Kansas Agricultural Land Values

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Kansas Land Values

4-year avg. change = 20.8%

Source: USDA-NASS

Rent-to-Land Value Ratio

Source: USDA-NASS
• Where do we get information on land values?

• KS Ag Stats Service
  – Annual survey series
  – Dropped CRD-level estimates in 2013
  – Only have a state value for irrigated, non-irrigated, and pasture land in Kansas

• Where do we get information on land values?

• KC Federal Reserve
  – Quarterly survey of bankers
  – 10th District includes CO, KS, NE, OK, WY and parts of NM and MO
  – Report percent change from previous year by land type
Kansas Land Values

• Potential problems with these data
  – Surveys ask for an opinion (read: guess)
  – NOT a market-based estimate
  – Don’t know the spread, only the average
  – Funding for USDA-KASS is declining

• Can we add to the available information and improve our estimates of land value trends?

MARKET-BASED LAND VALUES
Kansas Land Values

• Source for market transaction data
  – Property Valuation Department, Topeka

• 2010-14 sales data
  – County location
  – Acres in sale
  – Mixture of irrigated, non-irrigated and pasture
  – Soil types found on parcel
  – Enrollment in government set-asides
  – Value of improvements

PVD Sales Data

• Data were ‘cleaned’ to remove outliers
  – Removed parcels under 40 acres
  – Bare land sales only (no houses)
  – Arm’s length sales only

• Other aspects of data
  – Wyandotte and Johnson counties not in dataset
  – Soil type data used to create a productivity measure (AUM capacity)
### PVD Sales Data 2010-14

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acres in Sale, 2014</td>
<td>229.7</td>
<td></td>
</tr>
<tr>
<td>CRP Contracts, 2014</td>
<td>1.80%</td>
<td></td>
</tr>
<tr>
<td>Sales Per County, 2014</td>
<td>15.0</td>
<td></td>
</tr>
<tr>
<td><strong>All Years</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Sales Transactions:</td>
<td>8,743</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>17.8%</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>16.1%</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>19.3%</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>20.5%</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>26.3%</td>
<td></td>
</tr>
</tbody>
</table>

### PVD Sales Data 2014

<table>
<thead>
<tr>
<th>Land Type</th>
<th>Average $/ac</th>
<th>% of All Transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Irrigated</td>
<td>$2,833</td>
<td>54.7%</td>
</tr>
<tr>
<td>Irrigated</td>
<td>$3,478</td>
<td>4.9%</td>
</tr>
<tr>
<td>Pasture</td>
<td>$1,991</td>
<td>40.4%</td>
</tr>
<tr>
<td>All Cropland and Pasture</td>
<td>$2,524</td>
<td>100%</td>
</tr>
<tr>
<td>Land Type</td>
<td>2014 Data Sample Average $/ac</td>
<td>2014 USDA-NASS $/ac</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------------</td>
<td>---------------------</td>
</tr>
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<td>$2,833</td>
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</tr>
<tr>
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<td>$3,478</td>
<td>$3,280</td>
</tr>
<tr>
<td>Pasture</td>
<td>$1,991</td>
<td>$1,300</td>
</tr>
</tbody>
</table>

- Use of a regression model to estimate land values
  - Alternative to summary statistics (average, range)
  - Accounts for variability in land found in sample

- Allows specification of unique characteristics of land parcels
  - Location (rain fall, taxes, proximity to development)
  - Parcel size, size squared
  - Productivity by soil type (AUM)
  - Land type (dryland, irrigated, pasture)
  - When the sale occurs (year, quarter)
  - CRP enrollment
LAND MODEL RESULTS

2014 Land Values

- Non-Irrigated: $2,793
- Pasture: $1,684
- Irrigated: $5,195
### 2014 Irrigated Land Values

<table>
<thead>
<tr>
<th>County</th>
<th>Non-Irrigated</th>
<th>Irrigated</th>
<th>Pasture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas City</td>
<td>$5,970</td>
<td>$5,413</td>
<td>$3,389</td>
</tr>
<tr>
<td>Topeka</td>
<td>$5,413</td>
<td>$6,008</td>
<td>$3,389</td>
</tr>
<tr>
<td>Wichita</td>
<td>$3,389</td>
<td>$6,008</td>
<td>$3,389</td>
</tr>
</tbody>
</table>

### Land Model Results

<table>
<thead>
<tr>
<th>Year</th>
<th>Non-Irrigated</th>
<th>Irrigated</th>
<th>Pasture</th>
<th>Annual % Change in Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>19%</td>
<td>33%</td>
<td>13%</td>
<td></td>
</tr>
<tr>
<td>2011-12</td>
<td>24%</td>
<td>33%</td>
<td>16%</td>
<td></td>
</tr>
<tr>
<td>2012-13</td>
<td>19%</td>
<td>1%</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>2013-14</td>
<td>6%</td>
<td>9%</td>
<td>9%</td>
<td></td>
</tr>
</tbody>
</table>
RENTS AND NET FARM INCOME

NC KFMA Enterprise Analysis

Source: KS Farm Management Association
Updated: Returns to Farming

NC KFMA Enterprise Analysis

- Wheat
- Corn
- Grain Sorghum
- Soybeans

Source: KS Farm Management Association

Cash Rents

Source: USDA-NASS
Rental Rates

• Survey results tend to lag market due to
  – Survey reflect average rents paid (masks quality differences)
  – Doesn’t consider when the rental rates were negotiated
  – May include non-market activities

• Are there alternatives to the USDA-KASS survey?

Projected Rental Rates

• Another way to obtain an estimate of cash rental rates for cropland
  – Budgeting approach that reflects expected returns to farming
  – Marginal rental rate versus average rental rate

• Calculate crop share revenues based on long-term profit expectation and apply a risk premium
Projected Rental Rates

• Crop share revenues
  – Used predicted crop share % obtained by budgets using current inputs costs and production practices
  – County-level yields from a 20 year trend
  – Expected cash prices from futures and local basis
  – Adjust expected revenues down by 15% risk premium

• Biggest different between 2014 and 2015 cash rent projections...

Projected Rental Rates

• Expected crop prices dropped significantly between 2014 and 2015

<table>
<thead>
<tr>
<th>Year</th>
<th>Wheat</th>
<th>Corn</th>
<th>Soybeans</th>
<th>Grain Sorghum</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>6.61</td>
<td>4.60</td>
<td>10.70</td>
<td>4.35</td>
</tr>
<tr>
<td>2015</td>
<td>5.79</td>
<td>4.09</td>
<td>9.30</td>
<td>3.94</td>
</tr>
<tr>
<td>$ change</td>
<td>-0.82</td>
<td>-0.51</td>
<td>-1.40</td>
<td>-0.41</td>
</tr>
</tbody>
</table>

Note: Prices are the average price of harvest futures contracts in preceding November
### Non-Irrigated Rental Rates

<table>
<thead>
<tr>
<th>Region</th>
<th>2014 KSU ($/ac)</th>
<th>2015 KSU ($/ac)</th>
<th>Change in Rent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northwest</td>
<td>70.90</td>
<td>38.75</td>
<td>-45.3</td>
</tr>
<tr>
<td>West Central</td>
<td>65.51</td>
<td>30.18</td>
<td>-53.9</td>
</tr>
<tr>
<td>Southwest</td>
<td>57.29</td>
<td>22.03</td>
<td>-61.5</td>
</tr>
<tr>
<td>North Central</td>
<td>102.55</td>
<td>69.31</td>
<td>-32.4</td>
</tr>
<tr>
<td>Central</td>
<td>86.27</td>
<td>53.79</td>
<td>-37.6</td>
</tr>
<tr>
<td>South Central</td>
<td>69.29</td>
<td>42.61</td>
<td>-38.5</td>
</tr>
<tr>
<td>Northeast</td>
<td>167.65</td>
<td>119.50</td>
<td>-28.7</td>
</tr>
<tr>
<td>East Central</td>
<td>103.84</td>
<td>63.84</td>
<td>-38.5</td>
</tr>
<tr>
<td>Southeast</td>
<td>55.83</td>
<td>31.64</td>
<td>-43.3</td>
</tr>
</tbody>
</table>

Source: Taylor, 2015

### Irrigated Rental Rates

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<thead>
<tr>
<th>Region</th>
<th>2014 KSU ($/ac)</th>
<th>2015 KSU ($/ac)</th>
<th>Change in Rent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northwest</td>
<td>179.13</td>
<td>112.75</td>
<td>-37.1</td>
</tr>
<tr>
<td>West Central</td>
<td>141.00</td>
<td>81.00</td>
<td>-42.6</td>
</tr>
<tr>
<td>Southwest</td>
<td>139.54</td>
<td>71.62</td>
<td>-48.7</td>
</tr>
<tr>
<td>North Central</td>
<td>239.88</td>
<td>167.13</td>
<td>-30.3</td>
</tr>
<tr>
<td>Central</td>
<td>183.20</td>
<td>114.20</td>
<td>-37.7</td>
</tr>
<tr>
<td>South Central</td>
<td>147.64</td>
<td>77.45</td>
<td>-47.5</td>
</tr>
</tbody>
</table>

Note: Estimated values reflect tenant-owned pivot
Source: Taylor and Tsoodle, 2015
Returns to Land

- Has every farmer dropped their cash rents for 2015?
- Answer: no

- Residual cash from better revenue years will allow farmers to be competitive a little longer
  - Neighbors with more carry-over cash will keep bids high
  - But adjustments will occur if commodity prices remain low
Returns to Land

- Contracts length in Kansas averages 3 to 5 years
  - Farmers are locked in for the short run
  - Adjustments will be made as the contracts are renewed

Source: KS Farm Management Association

SUMMARY LAND VALUES & RENTS
Summary

• Land values are up for 2014, but rate of growth has slowed for all land types

• Appears to be reflecting 2014 net farm income and expected income for 2015

• Are we headed for a big drop in land values?
  – Not likely, due to continued low interest rates
  – Would also need a large increase in supply of land on market to see a repeat of 80’s decline in values

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Non-Irrigated Land Values
LEGISLATION AND LAND IN KANSAS

- State of Kansas
  - 2015 property tax proposals
  - Potential implications

- Federal
  - EPA and other regulatory agencies
Legislation

- Flat tax of $3 per acre (or something like this)
- Benefits
  - Easy to implement and understand
  - No additional information required
- Challenges
  - When a flat dollar tax is used, the % tax burden is not consistent across land types
    - Irrigated: 0.05%
    - Non-irrigated: 0.11%
    - Pasture: 0.18%

Legislation

- Taxes based on cash rents
- Benefits
  - Based on productive value of the land
- Challenges
  - Need reliable information on cash rents
  - Possible source: surveys
    - What is the economic incentive to report accurate rental rate data to a survey that will affect your property taxes?
    - What about crop share leases (still about 50% of land in KS rented this way)
• EPA’s Clean Water Rule
  – Waters of the US (WOTUS)
  – 297 page rule released last week available here:
    • [http://www2.epa.gov/cleanwaterrule/prepublication-version-final-clean-water-rule](http://www2.epa.gov/cleanwaterrule/prepublication-version-final-clean-water-rule)
  – “Clarify the scope of WOTUS that are protected under the Clean Water Act, based on...best available peer-reviewed science, public input, and agencies’ technical expertise...”

• What does all this mean?
  – Uncertainty

• To be determined:
  – Are more waters going to be covered by this rule?
  – If so, which ones?
    • Appears to be based on the term “significant nexus”

• I think we will see more
  – Congressional debate, lawsuits, possible changes under a new administration...
  – In other words: continued uncertainty

• Impact: possible downward pressure on value of certain types of farmland (e.g. w/ a wetland)
- New mapping program from UM
- Business Environmental Risk Management
  – [http://ims.missouri.edu/berm/](http://ims.missouri.edu/berm/)
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Online Resources

- 2014 Kansas Agricultural Land Values
  [Link](http://www.agmanager.info/farmmgt/land/county/CountyValues_April_2015.pdf)

- 2014/15 Rental Rates for Non-Irrigated Cropland
  [Link](http://www.agmanager.info/farmmgt/land/county/CountyNon-irrigatedRents(Jan2015).pdf)

- 2014/15 Rental Rates for Irrigated Cropland
  [Link](http://www.agmanager.info/farmmgt/land/county/CountyIrrigatedRents_Feb-2015.pdf)