1. Kansas Land Values -- How Do Survey Values Compare With Transaction Prices?

Mykel Taylor **<mtaylor@k-state.edu>**

Mykel Taylor joined the Department of Agricultural Economics as an Assistant Professor in 2011. Her research and extension programs are focused in the areas of crop marketing and farm management. She grew up on a cattle ranch in Montana and attended Montana State University majoring in Agribusiness Management. Her PhD in Economics is from North Carolina State University. Mykel has worked in extension positions at both Kansas State University and Washington State University. Some of her current research areas include measuring basis risk for commodity grains, understanding the implications of food safety and country of origin labeling on meat demand, and estimating land values for crop and pasture land in Kansas.

Kevin Dhuyvetter **<kcd@ k-state.edu>**

Kevin Dhuyvetter assists farmers, landowners, and others throughout Kansas with risk and return assessment of alternative crop and livestock production and marketing systems. He works extensively with land-related issues such as buying and leasing land. Current research projects are looking at factors impacting land values, crop land cash leases, management factors impacting farm profitability, economics of crop-related production technologies, factors affecting feeder cattle and crop basis, and machinery costs. One of Kevin's trademarks is his development of decision tools that can be used by clientele to help them with the many decisions they face.

Abstract/Summary

The session will provide insight into the current cropland and pasture land market in Kansas. Using actual land sales from the Property Valuation Department in Topeka, county-level estimates of land values will be presented. We will also discuss factors driving land values, including parcel size, soil quality rating, timing of sale, and investor-related issues such as interest rates and real estate market liquidity.

Agricultural Land Values in a Rapidly Changing Market

Mykel Taylor and Kevin Dhuyvetter

Department of Agricultural Economics
Kansas State University

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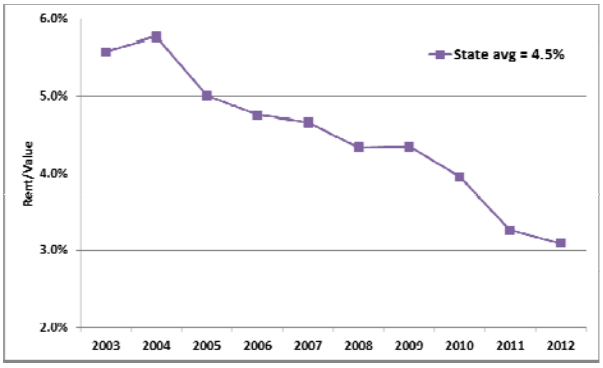
LAND MARKETS

Land Markets

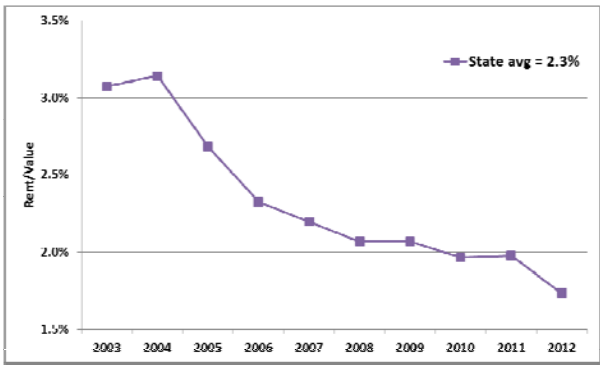
- Why land?
  - Interest rates are LOW and are expected to stay that way for the near-term
  - If you are holding cash…
    - Savings rates
  - If you want to borrow…
    - Lock in a fixed rate at 4-5%
- Land as an investment
  - 3 - 4% cash return on non-irrigated cropland
  - 1 - 2% cash return on pasture

Cash Returns to Non-Irrigated Land



Source: Kansas Agricultural Statistics (KAS), K-State

Cash Returns to Pasture



Source: Kansas Agricultural Statistics (KAS), K-State

Changing Land Values

- But land appreciates…
  - Even if annual cash return is near 0%, you still have an asset that appreciates over time

Source	Price Change (2011-2012)	
	Non-Irrigated Cropland	Pasture
KC Fed	29.2%	26.0%
KS Ag Stats	25.9%	17.3%
K-State	25.0%	14.8%
Average:	**26.7%**	**19.4%**

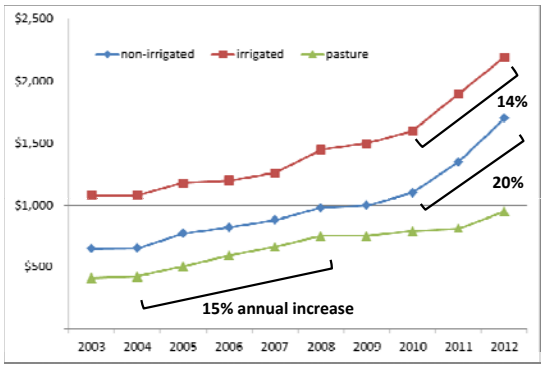
KANSAS AG LAND VALUES

Kansas Land Values

- Where do we get information on land values?
- KS Ag Stats Service
  - Historical series


Kansas Land Prices and Cash Rental Rates

Kansas Land Values



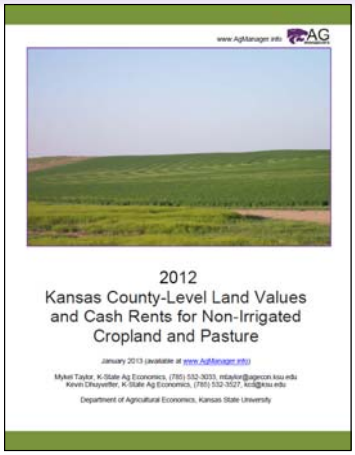
Source: Kansas Agricultural Statistics (KAS), Kansas Board of Agriculture, United States Department of Agriculture

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 KAS is declining
- Can we add to the available information and improve our estimates of land value trends?

Kansas Land Values

- Land values and rental rates for 2012
  - Published in March 2013
- Available at AgManager.info
  - Farm Management Leasing section



Kansas Land Values

- Source for market transaction data
  - Property Valuation Department, Topeka
- 2010-12 sales data
  - County location
  - Size of parcel
  - Mixture of irrigated, non-irrigated and pasture
  - Soil types found on parcel
  - Well depth, acre-feet per acre
  - 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 Sale Data 2010-12

	Average
Parcel Size	229
CRP Acres	1.8%
Sales Per County	56
Total Sales Transactions:	5,782
2012	39.8%
2011	30.9%
2010	29.3%

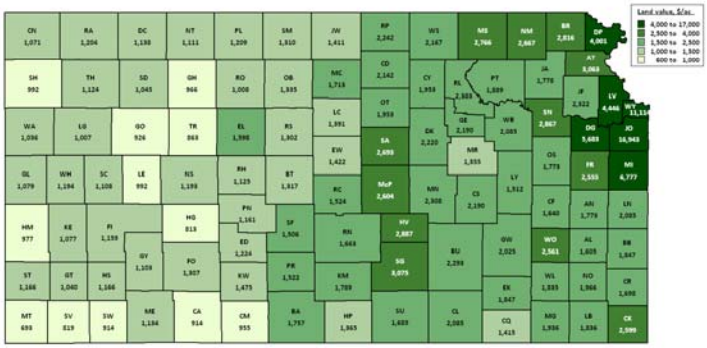
PVD Sale Data 2010-12

Price per Acre	Average	% of All Transactions
Non-Irrigated	$1,734	55.4%
Irrigated	$2,465	5.8%
Native Grass Pasture	$1,325	33.5%
Tame Grass Pasture	$1,765	5.1%
All Cropland and Pasture	$1,638	100%

Results of the Land Model

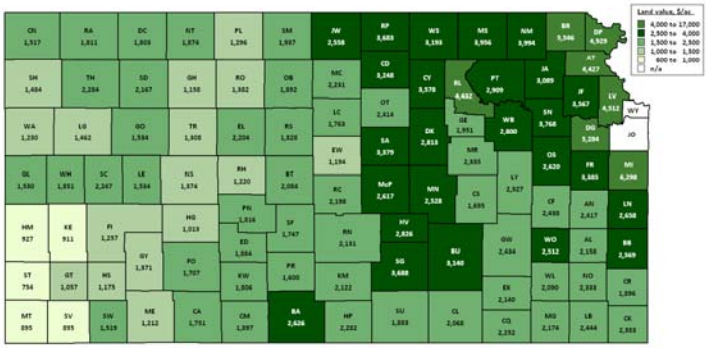
- 2012 estimate for non-irrigated cropland
  - $2,364/acre
  - 39.1% higher than 2012 KAS state estimate of $1,700/acre

2012 Non-Irrigated Land Values



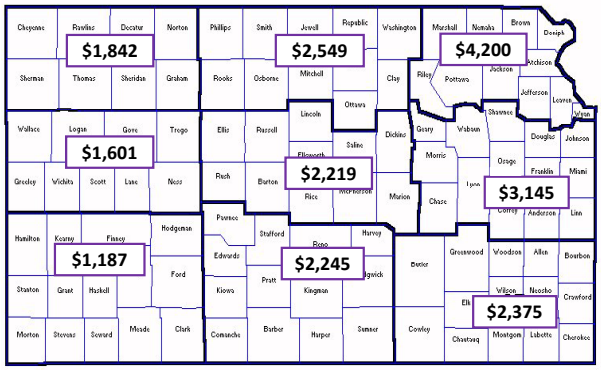
KAS/KSU Non-irrigated land values, 2012

2012 Non-Irrigated Land Values



PVD/KSU Non-irrigated land value, 2012

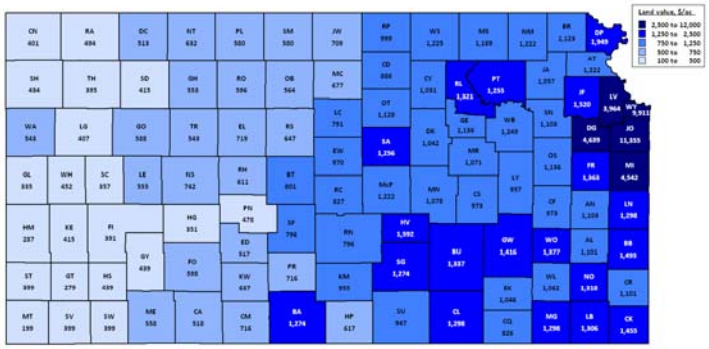
2012 Non-Irrigated Land Values



Results of the Land Model

- 2012 estimate for pasture
  - $1,441/acre
  - 51.7% higher than 2012 KAS estimate of $950/acre

2012 Pasture Land Values

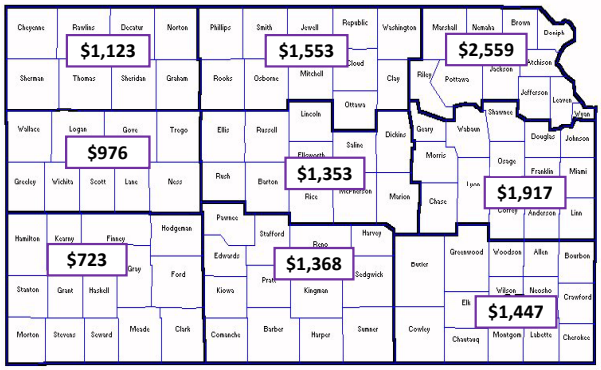


KAS/KSU Non-irrigated land values, 2012

2012 Pasture Land Values

PVD/KSU Non-irrigated land value, 2012

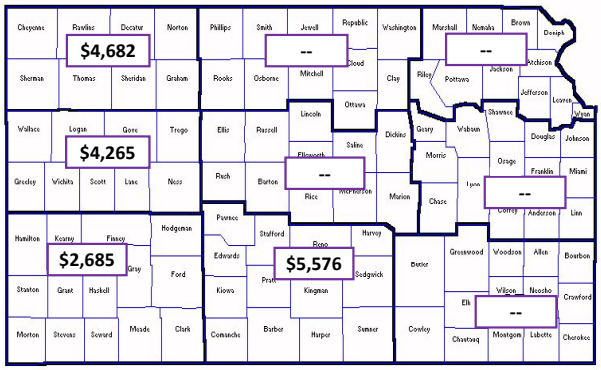
2012 Pasture Land Values



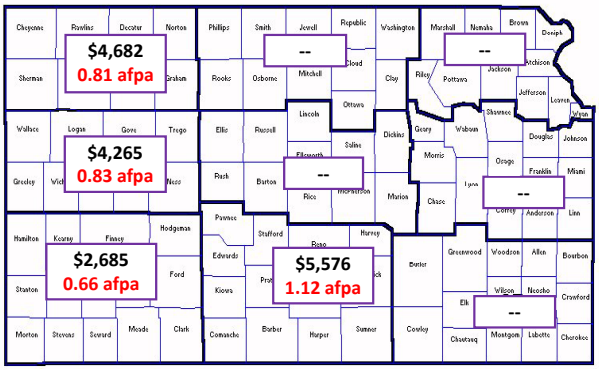
Results of the Land Model

- 2012 estimate for irrigated cropland
  - $4,302/acre
  - 79.3% higher than 2012 KAS estimate of $2,400/acre

2012 Irrigated Land Values



2012 Irrigated Land Values



Note: afpa is acre feet of water authorized divided by total parcel size

Land Model Results

- Use of a regression model to estimate land values
  - Alternative to summary statistics (average, range)
- Allows specification of unique characteristics of land parcels
  - Location (rain fall, taxes, proximity to development)
  - Productivity (AUM)
  - Parcel size
  - Mixed use parcels
  - When the sale occurs
  - CRP enrollment

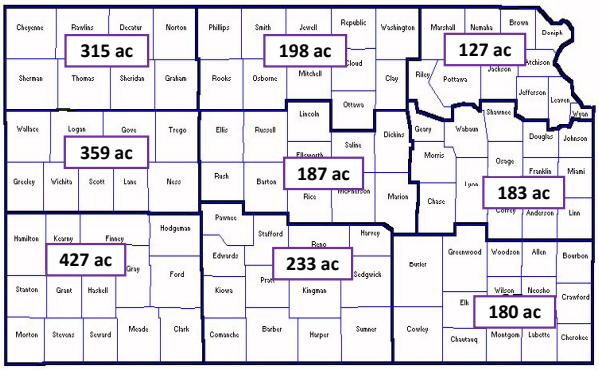
Land Model Results

- CRP enrollment decreases values
  - Approx. a 22.6% discount if acres are enrolled
  - We don't know residual years on contract
- Pasture to non-irrigated cropland value ratio
  - Statewide estimate: 58%

Land Model Results

- Parcel size affects price per acre
  - Negative and nonlinear effect
- Example of this effect in Geary county
  - 600 acre parcel of non-irrigated cropland
    - $1,757/acre (tot: $1,054,407)
  - 200 acre parcel of non-irrigated cropland
    - $2,031/acre (tot: $406,280)

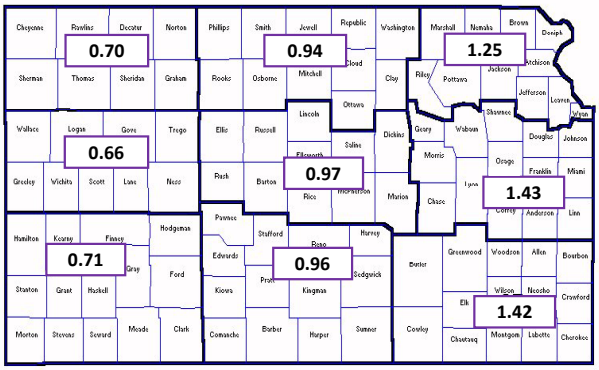
Average Parcel Size



Land Model Results

- Higher quality ground fetches higher price
  - Based on AUM productivity index (NRCS)

Average AUM Rating



Land Model Results

- Selling season effects
  - Strongest prices: Oct.-Dec. (7.0% > summer)
  - Weakest prices: Jan.-Mar. (5.7% < summer)
- Why does this happen?
  - Cash on hand after harvest
  - Tax benefits (change in capital gains rate)
  - KS contract law: give notice 30 days *prior* to March 1st

Land Values

- A word of caution when comparing county-level estimates of value to your land…
- Location and productive capacity are important drivers of price
  - Measureable and parcel-specific
- Model doesn't capture other factors in market
  - Expected returns to agriculture in future
  - Excess liquidity in the real estate market

Resources

- 2012 Kansas Land Values and Rental Rates
  - By Mykel Taylor and Kevin Dhuyvetter
  - http://www.agmanager.info/farmmgt/land/county/CountyValuesRents_Mar_2013.pdf
- Land buying and leasing information and decision-making tools
  - http://www.agmanager.info/farmmgt/land

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Mykel Taylor
Assistant Professor
785-532-3033
mtaylor@ksu.edu

Kevin Dhuyvetter
Professor
785-532-3527
kcd@ksu.edu

AgManager.info