

2010  
Kansas State University

# Farm Leases and Land Values

(specifically a discussion of flexible cash leases)

Thursday  
February 18, 2010

4-H Building  
Kenwood Park  
Salina, Kansas


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2009-2010  
K-State  
Ag Profitability  
Conferences


AG  
MANAGER.INFO  
Kansas State Research & Extension

AG MANAGER.INFO MAST MAST MAST MAST



# Land Values

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## Factors/issues impacting land values

(alphabetical order)

- Farm profitability
- Farm size
- Government programs
- Input costs (e.g., fuel and fertilizer)
- Interest rates
- Outside investors (i.e., stock market money)
- Recreation uses (e.g., hunting)
- Ethanol and bio-diesel / global demand for grain
- Section 1031 tax exchanges
- Technology (e.g., no-till, precision ag, bio-tech, DNA)
- Urban sprawl
- Weather (i.e., drought, flood)

Many factors impact land values -- some are related to agricultural profitability and some are not ...

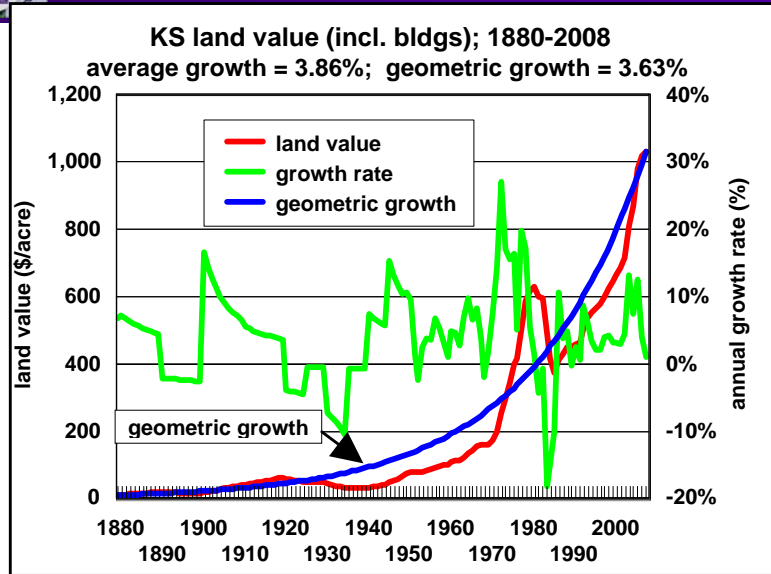
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## Factors impacting agricultural land values...

- Ag factors
  - Ag portion of agricultural land has been diminishing
  - Reduced ability to cash flow traditional land loans with value of agricultural production
- Non-ag factors
  - Urbanization, recreational use of land, etc.
- While agricultural land may continue to be a good investment, producers need to decide if they want to tie up equity in land versus other assets
- Increasingly difficult to analyze/evaluate land purchases/prices

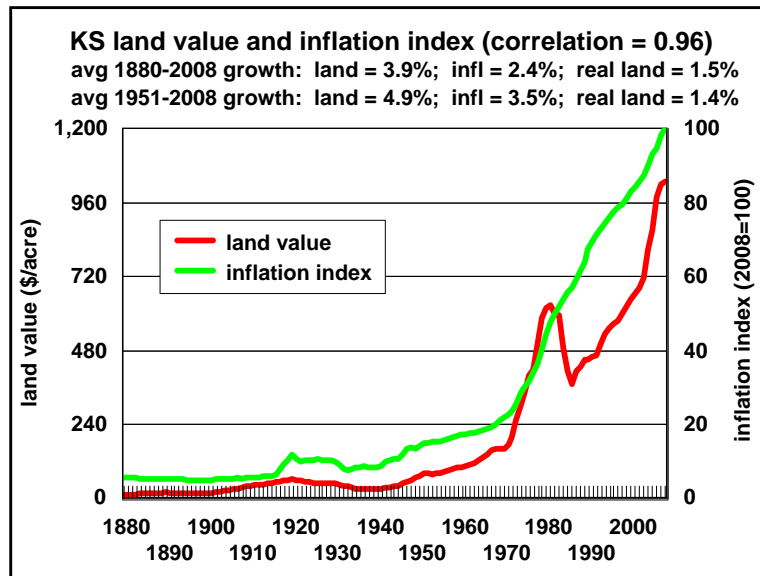
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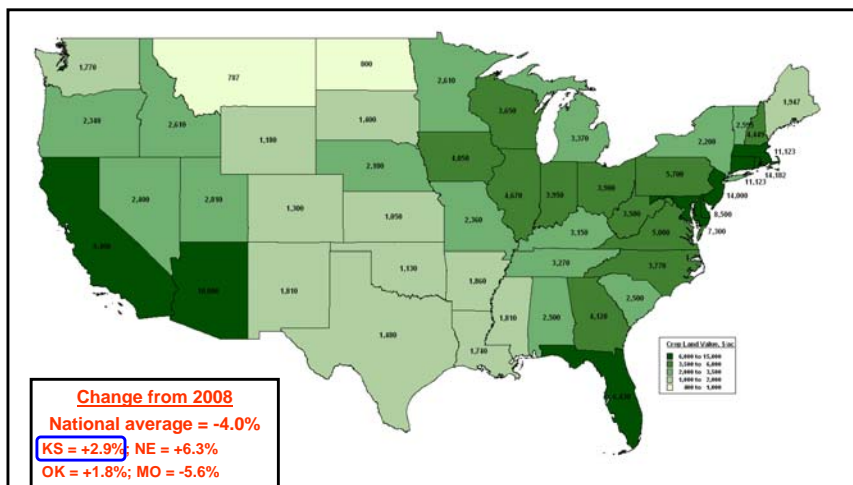
1879 starting land value for Kansas was \$10.30



Land values and inflation rates are highly correlated over time ...



Crop Land Average Value per Acre  
January 1, 2009

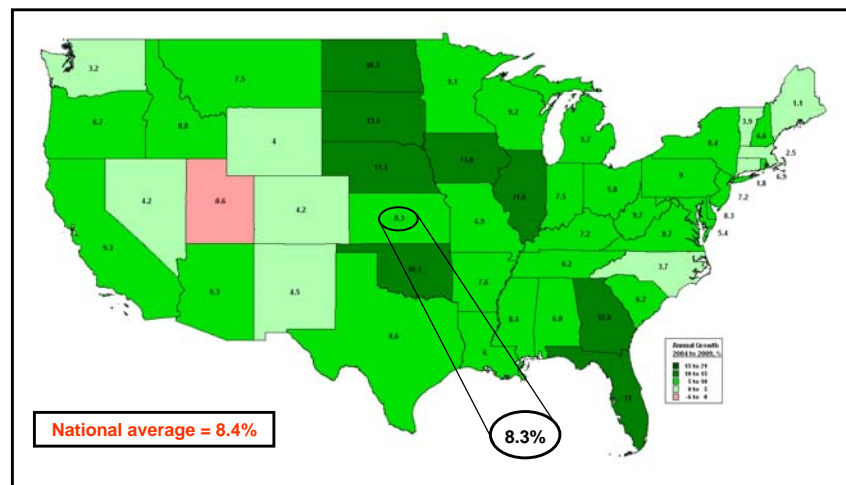


Source: USDA NASS Land Values and Cash Rents 2009 Summary and Dhuyvetter and Kastens, August 2009

\* Corresponding changes in pasture land values were US=0.0%; KS=0.0%; NE=-6.3%; OK=1.0%; and MO=-5.6%.



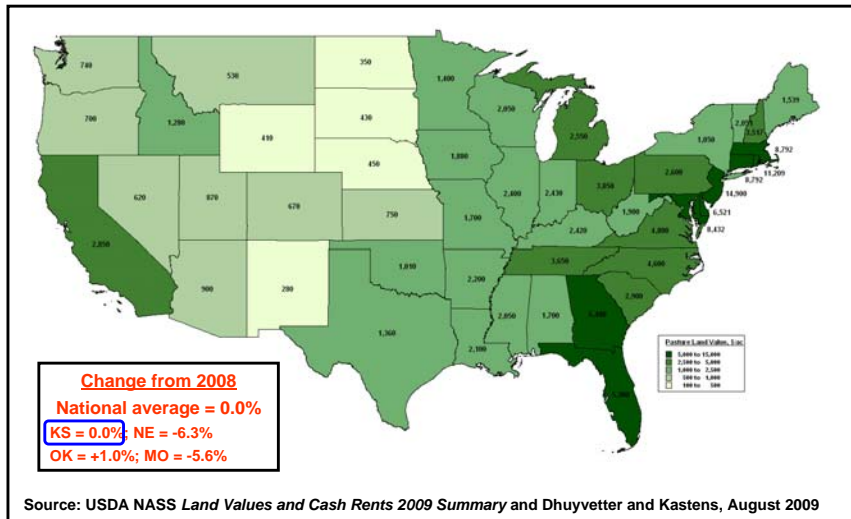
Crop Land Average Annual Growth Rate  
Jan 1, 2004 to Jan 1, 2009, percent (geo mean)



Source: USDA NASS Land Values and Cash Rents 2009 Summary and Dhuyvetter and Kastens, August 2009



## Pasture Land Average Value per Acre January 1, 2009

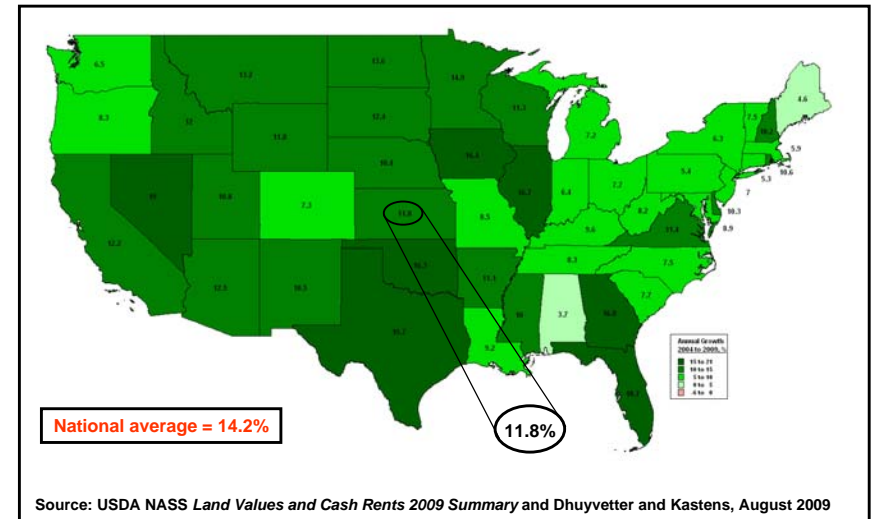


\* Corresponding changes in crop land values were US=-4.0%; KS=2.9%; NE=6.3%; OK=1.8%; and MO=-5.6%.

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## Pasture Land Average Value Annual Growth Rate Jan 1, 2004 to Jan 1, 2009, percent (geo mean)



10



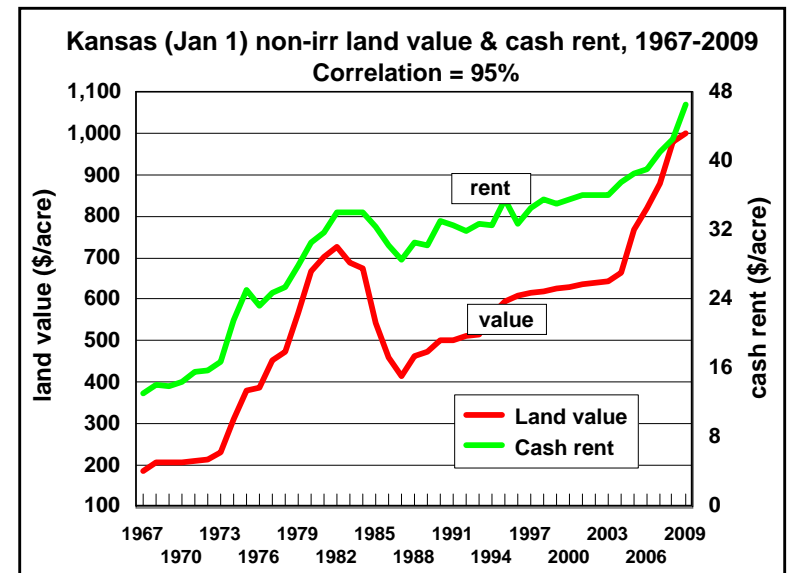
## Returns to land

- Capital gains (growth)
- Cash returns (rent)
- The two returns to land are similar to other investments such as the stock market (capital gains and dividends)

11



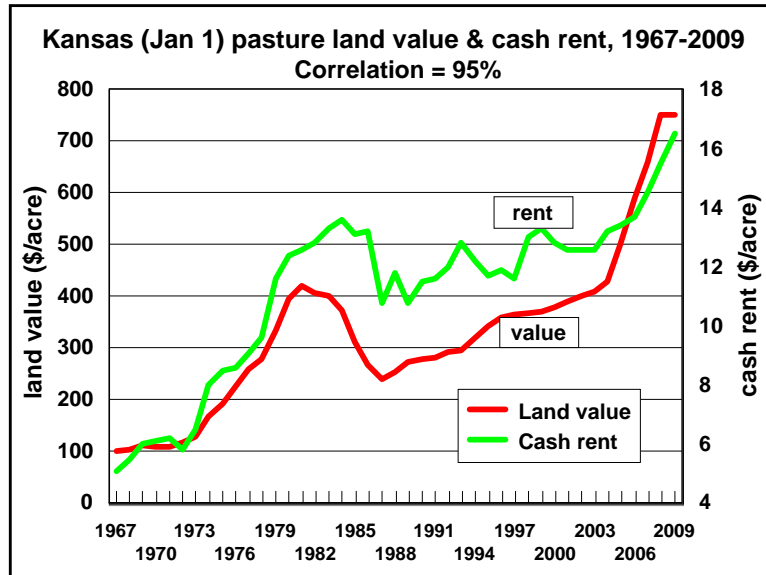
## Cash rent and land values are highly correlated...



12



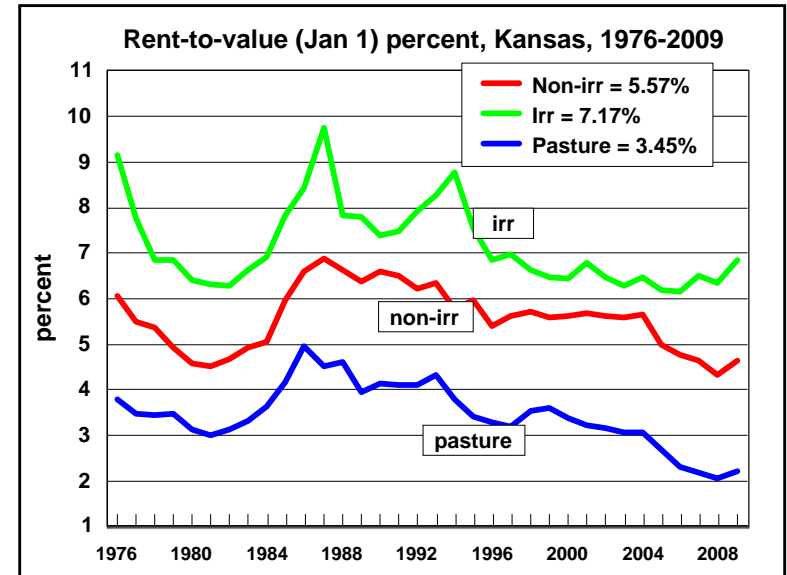
## Cash rent and land values are highly correlated...



13



## Rent-to-value ratios vary by land class ...



14



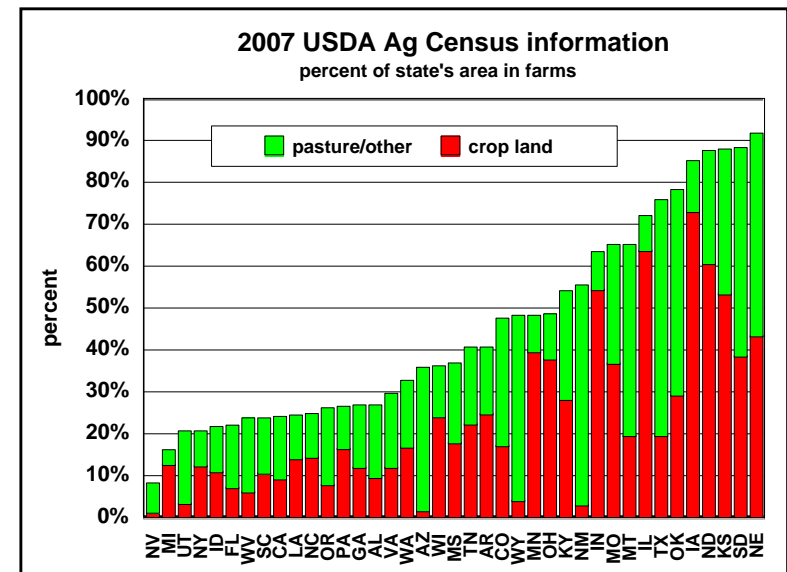
## Non-ag Considerations

- There could be a non-ag rent:
  - e.g., leasing your land to hunters
- There could be a non-ag land value growth:
  - e.g., expectations of future development
- *KSU-Landbuy.xls* allows for both
- But first some historical information

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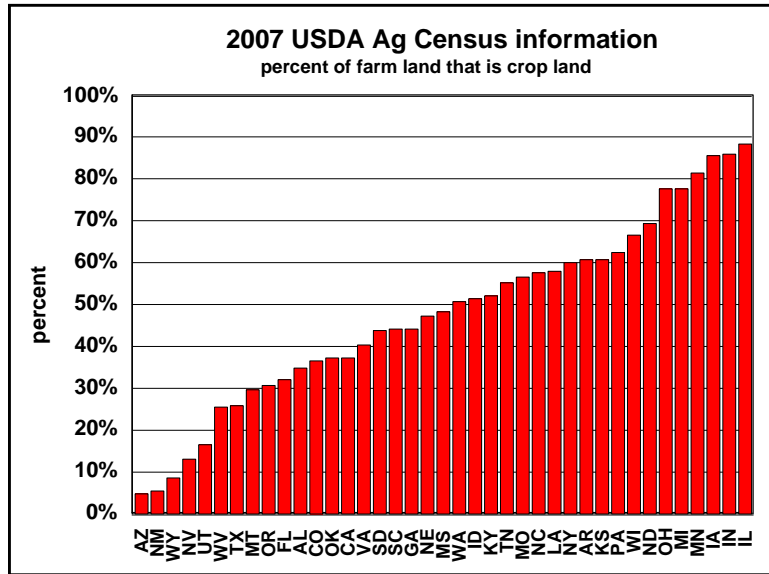
## Ag land available for private ownership varies considerably among states ...



16



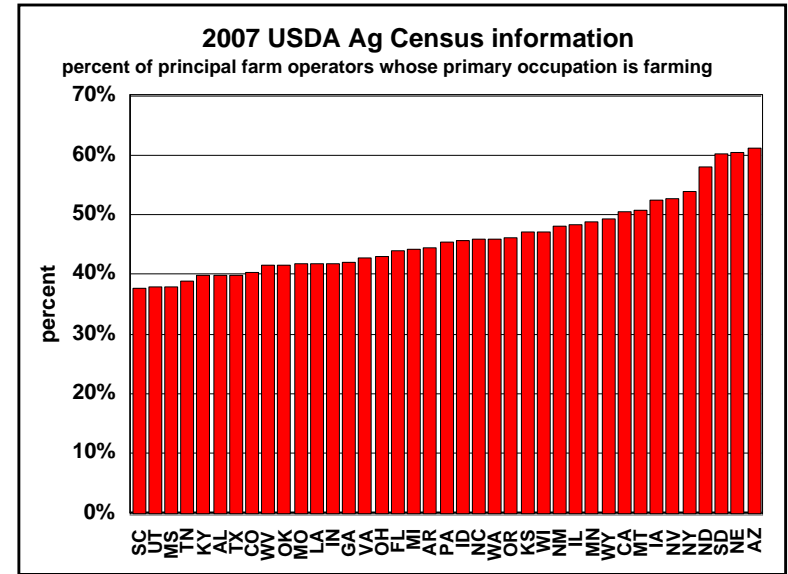
### Land type varies considerably among states ...



17



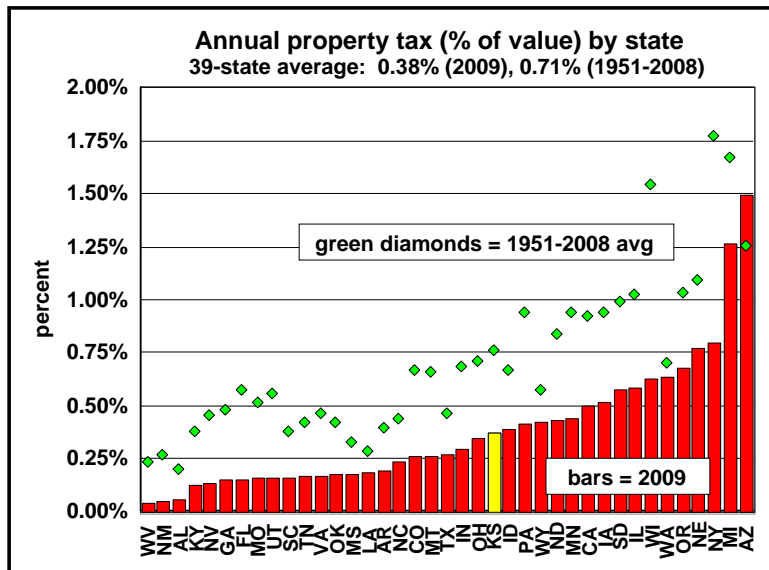
### A lot of farmers are not full-time farmers ...



18



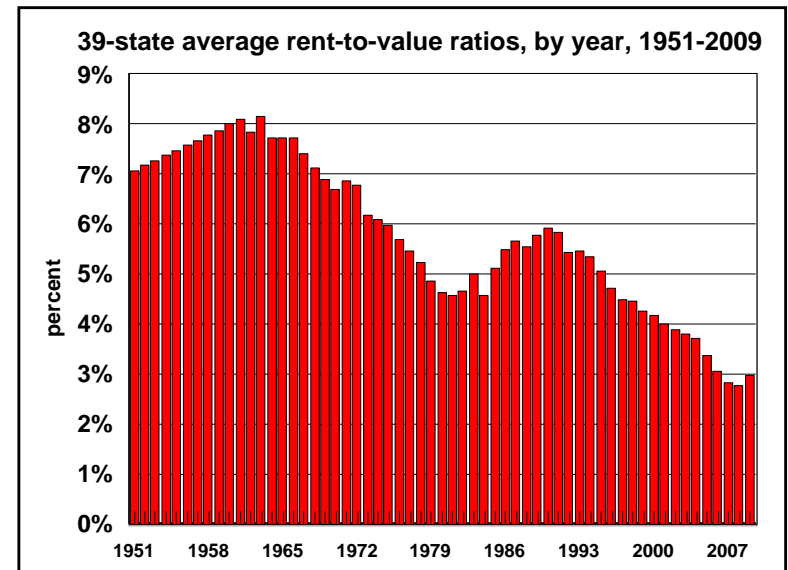
### Most states currently have some type of "use-value" tax policy ...



19



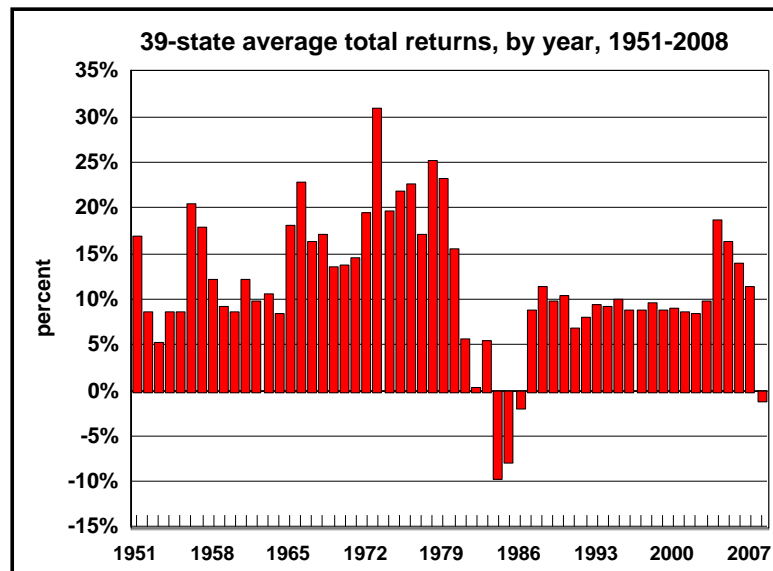
### Agricultural rent as a percentage of land values has been decreasing over time ...



20



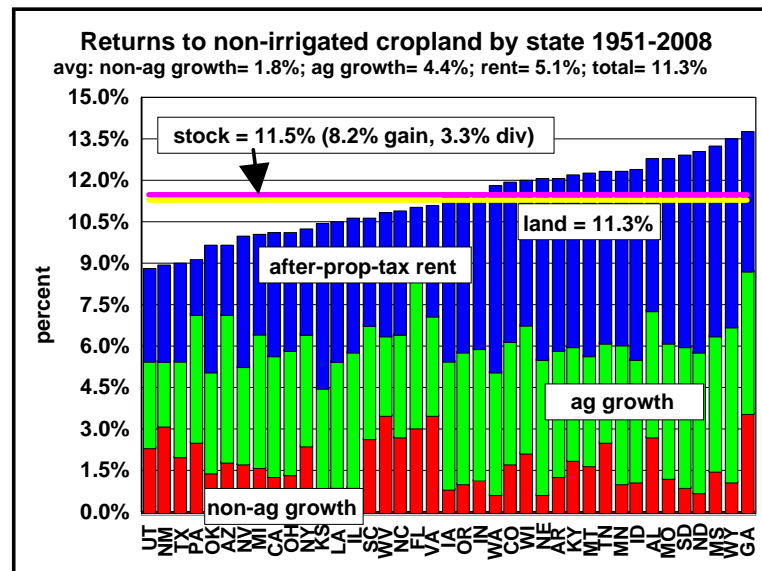
## High farming profit in 2008 did not make it to rents or end-of-year values ...



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## 39 states ranked by total returns to land ...



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## Buying Land – How much can I afford?

- Valuing the capital gains portion
  - Pick a “selling point,” say 30 years from now
  - What will the land be worth then?
    - Assume some annual capital gain % -- ag and non-ag
  - What is left after “sell” & pay cap gains tax?
  - What is that amount worth today?
- Valuing the rent portion
  - What is cash rent today, ag and non-ag?
  - How will rents evolve (grow) over time?
  - What is the future stream of rents worth today?
- Maximum bid = today’s value of the capital gain + today’s value of the rent stream

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Blue shaded values are user inputs – all other values are calculated

Inputs				Print report			
KS	KS	KS	KS	Label (refers to notation in Valuing and Buying Farmland publication)			
Crop	Pasture	Waste	Average	State where land is located (enter as two letter abbreviation, e.g. Kansas = KS)			
120	35	5	160	Land classification (e.g., cropland, pasture, woods)			
\$1,050	\$400	\$0	\$875	Ac	Enter the acres of each class of land (used to calculate weighted average)		
\$1,050	\$400	\$0	\$875	MV <sub>0</sub>	Market price of land, \$/acre		
\$45.00	\$14.00	\$0.00	\$36.81	PP	Purchase price (PP -- amount you pay), \$/acre		
\$3.89	\$1.48	\$0.00	\$3.24	aR	Ag rent--cash or cash equivalent in \$/acre today		
\$0.00	\$0.00	\$0.00	\$0.00	Ptx	Real estate (property) tax in \$/acre today		
30	30	30	30	nR	Non-ag rent in \$/acre today		
43%	43%	43%	43%	T	Time horizon in years land is held (less than or equal to 100 years)		
15%	15%	15%	15%	Itx	Income tax rate (on last dollar of taxable income -- include SE tax if relevant)		
6.50%	6.50%	6.50%	6.50%	Ctx	Capital gains tax rate		
40.0%	40.0%	40.0%	40%	i	Interest rate on land loans (discount rate)		
2.93%	2.81%	0.00%	2.92%		Percent of purchase price that is financed (only needed for return on equity calculations)		
0.00%	0.00%	0.00%	n/a	gA	Growth rate on ag rent and ag portion of land value (see column G in Guidelines)		
3.86%	3.86%	0.00%	3.86%	gNr	Growth rate on non-ag rent (normally = inflation rate)		
0.90%	1.02%	0.00%	0.91%	g	Growth rate on total (ag and non-ag) land value (see column I in Guidelines)		
				gNv	Calculated non-ag growth rate on land value		

Calculated Outputs				Label			
3.71%	3.71%	3.71%	3.71%	l(1-itx)	After-tax interest rate on land loans (discount rate)		
\$23.44	\$7.14	\$0.00	\$19.14		After-tax rent, \$/acre (now property taxes are removed as well)		
\$827.22	\$187.70	\$0.00	\$511.47	PVRA	Discounted value of all future after-tax ag rents		
\$0.00	\$0.00	\$0.00	\$0.00	PVRN	Discounted value of all future after-tax non-ag rents		
\$3,271	\$1,246	\$0	\$2,726		Projected land value in 30 years, based on market price and ag & non-ag growth		
\$2,497	\$919	\$0	\$2,075		Projected land value in 30 years, based on market price and only ag growth		
\$986	\$376	\$0	\$622	PVSA	Discounted value of land sale in 30 years (after capital gains tax)		
\$756	\$282	\$0	\$638	PVSA	Discounted value of land sale in 30 years (after capital gains tax) -- if only ag growth		
\$1,593	\$563	\$0	\$1,333	PV	Present value of land purchase		
86%	83%	n/a	86%	AMVP	Approximate pre-tax rate of return on assets		
59%	47%	n/a	---	AMEV	Approximate pre-tax rate of return on equity		
\$563.49	\$163.43	\$0.00	\$458.37				
\$563.49	\$163.43	\$0.00	\$458.37				
9.88%	9.07%	n/a	9.80%				
12.14%	10.79%	n/a	12.00%				

Present value of land, ROA and ROE – key outputs to focus on



# Land leases

(specifically flexible cash leases)

## Flexible Cash Rents – WHAT?

- Flexible cash rents simply refer to land rental arrangements where the amount of cash rent paid (received) can vary based upon some pre-determined formula (i.e., formalizes bonus rents)
- Methods of “flexing” rental rates, i.e., formulas are based on:
  - Yield (actual for producer, county average, etc.)
  - Price (harvest, season average, actual)
  - Revenue (yield x price, crop insurance, residue)
  - Costs
  - Other...



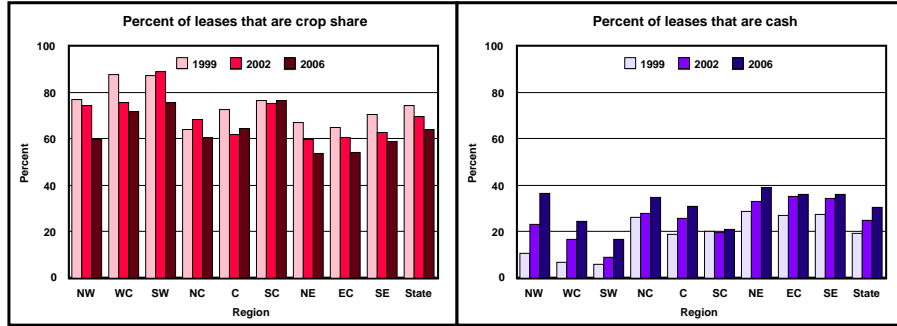
## Distribution of leases by type of lease ...

Region	Cash	Share	Other
Northwest	36.3%	59.8%	3.9%
West Central	24.3	71.7	4.0
Southwest	16.5	75.5	8.0
North Central	34.9	60.5	4.6
Central	30.9	64.6	4.5
South Central	21.0	76.4	2.6
Northeast	38.8	53.5	7.7
East Central	36.0	54.3	9.6
Southeast	36.2	58.9	4.9
State	30.5	63.9	5.6

Source: Schlegel and Tsoodle -- 2007 KAS/KSU survey (2006 data)



## Trend towards more cash rent ...



Source: KSU and KS Ag Stat – Non-Irrigated Farm Lease Arrangement Surveys

Crop share continues to be the most prevalent, but the trend has been a shift from crop share arrangements towards more cash rent leases.

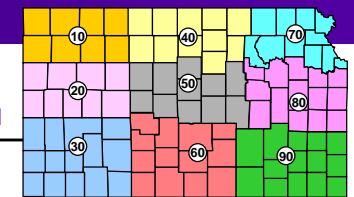
### Questions to ask:

- 1) What factors have been behind this trend?
- 2) Do we expect this to continue, stabilize, or reverse in the future?



## Length of cropland leases ...

KAS Crop Reporting Districts

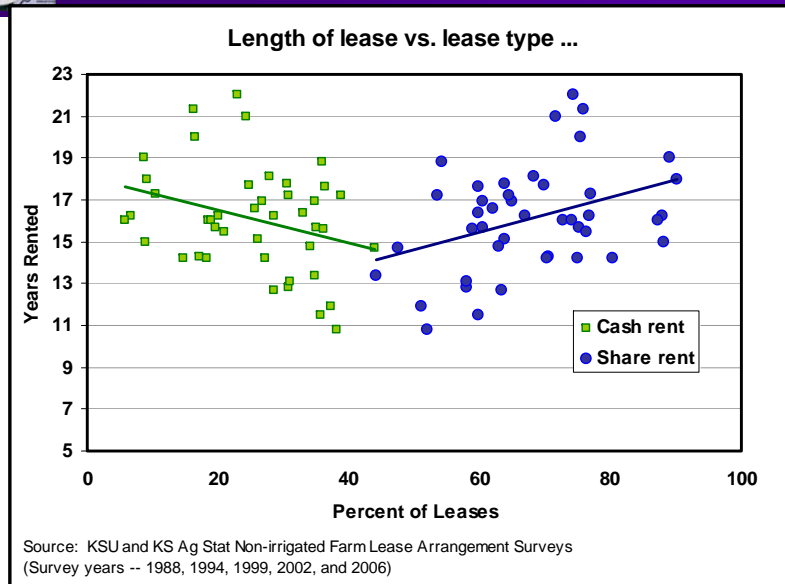


Region	Years rented
Northwest (10)	17.6
West Central (20)	21.0
Southwest (30)	20.0
North Central (40)	16.9
Central (50)	17.2
South Central (60)	15.5
Northeast (70)	17.2
East Central (80)	18.8
Southeast (90)	15.6
State	17.8

Source: Schegel and Tsoodle -- 2007 KAS/KSU survey (2006 data)



## Cash leased land tends to “turnover” quicker ...



Source: KSU and KS Ag Stat Non-Irrigated Farm Lease Arrangement Surveys (Survey years -- 1988, 1994, 1999, 2002, and 2006)

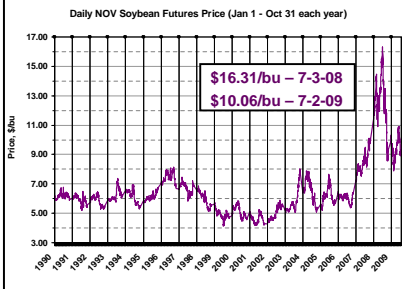
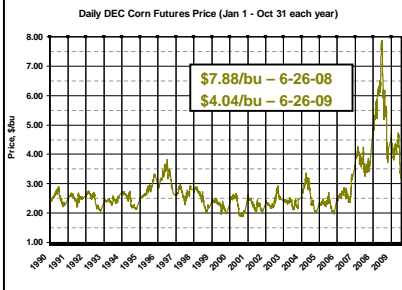
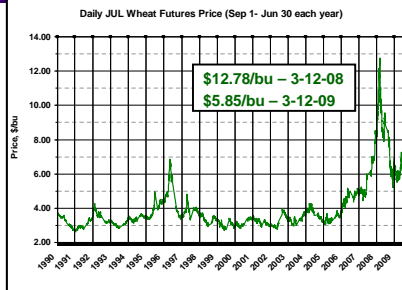


## Flexible Cash Rents – WHY?

- Trend in Kansas has been moving away from crop share leases to more cash leases
- Volatility of last few years has significantly increased the risk of fixed cash rents
  - Most popular question received in the summer of 2008 was “How can I terminate my lease with my current tenant?” (in 2009 several questions about tenants walking away)



## Grain markets have been a bit volatile recently ...

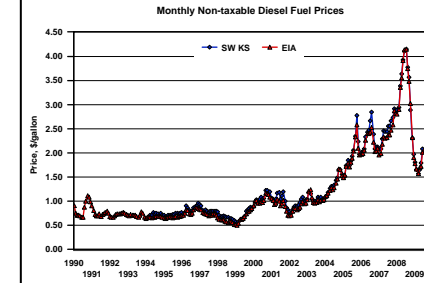
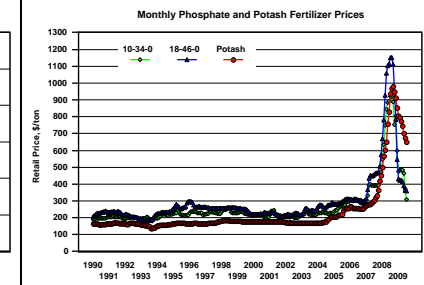
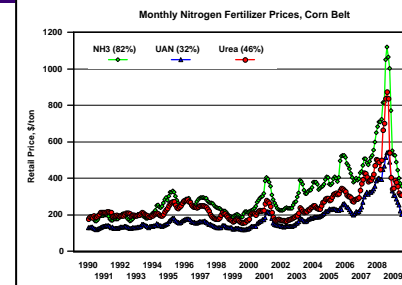


Extremely volatile crop prices make negotiating fixed cash rents very difficult and risky (good chance someone is not going to be happy). Crop share has a built in buffer to this risk.

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## Input markets have been a bit volatile recently ...



Extremely volatile input prices make negotiating fixed cash rents very difficult and risky. Most crop share arrangements have a built in buffer to much of this risk (i.e., those that share fertilizer expense).

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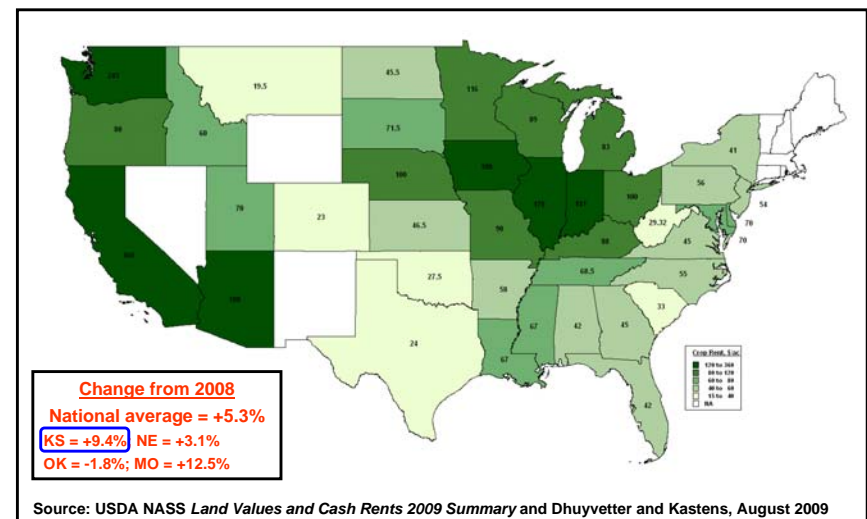
## Flexible Cash Rents – WHY?

- Trend in Kansas has been moving away from crop share leases to more cash leases
- Volatility of last few years has significantly increased the risk of *fixed* cash rents
  - Most popular question received in the summer of 2008 was “How can I terminate my lease with my current tenant?” (in 2009 several questions about tenants walking away)
  - Some folks seem to think that once a cash rent is negotiated this rate is appropriate into eternity (is that true?)
  - Tenants are concerned that if they increase their cash rent, they will never be able to lower it (is that true?)

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## Crop Land Average Rent per Acre, 2009

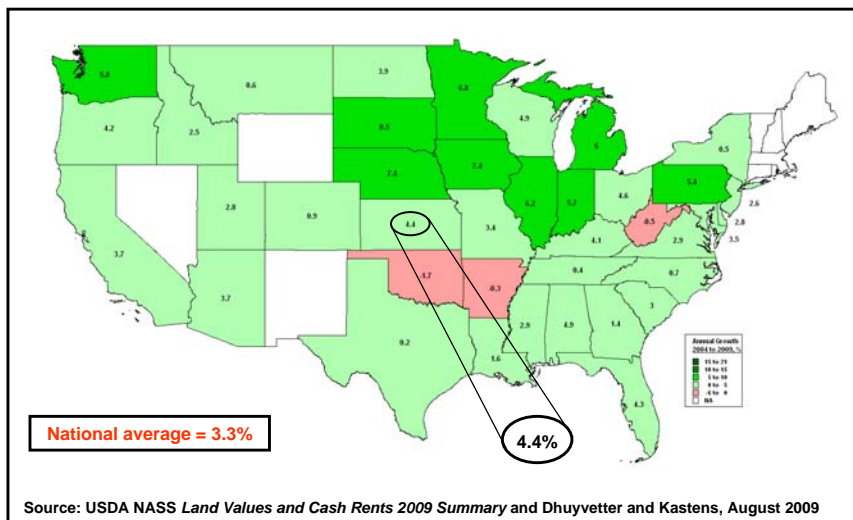


\* Corresponding changes in pasture land rents were US=0.0%; KS=+6.5%; NE=0.0%; OK=0.0%; and MO=-3.8%.

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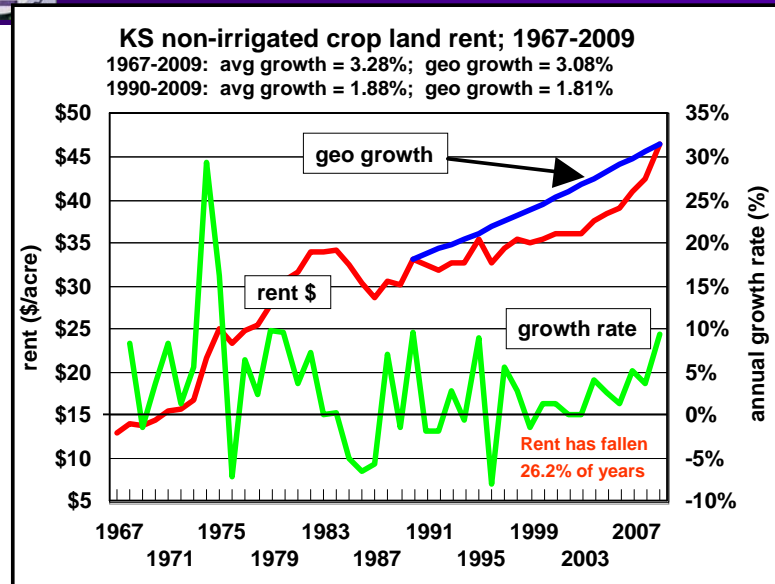
## Crop Land Rent Average Annual Growth Rate Jan 1, 2004 to Jan 1, 2009, percent (geo mean)



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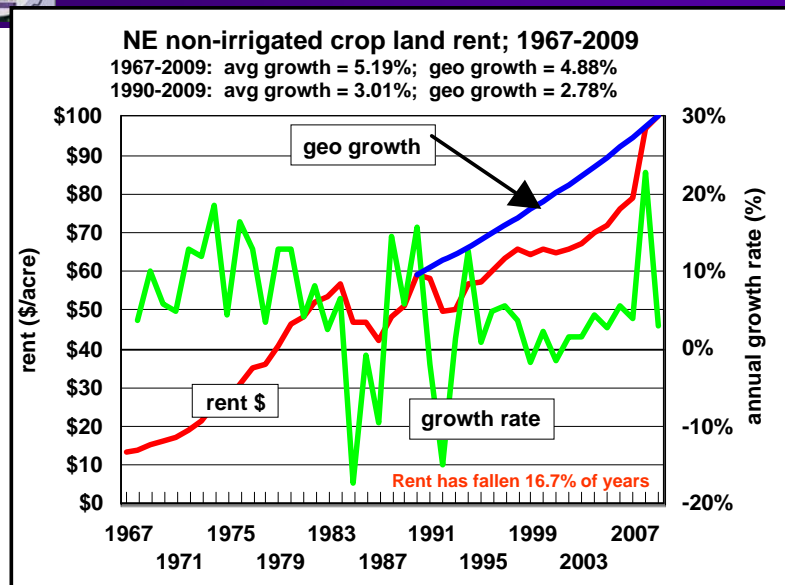
## Cash rent historical perspective



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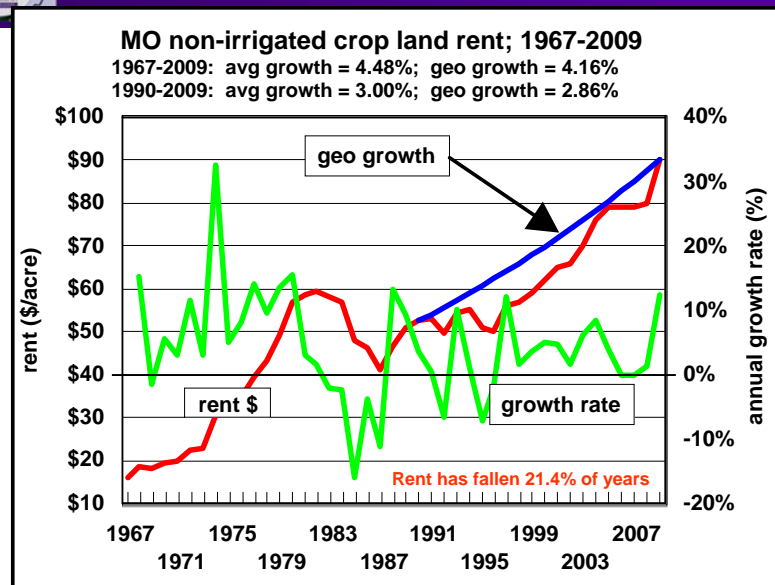
## Cash rent historical perspective



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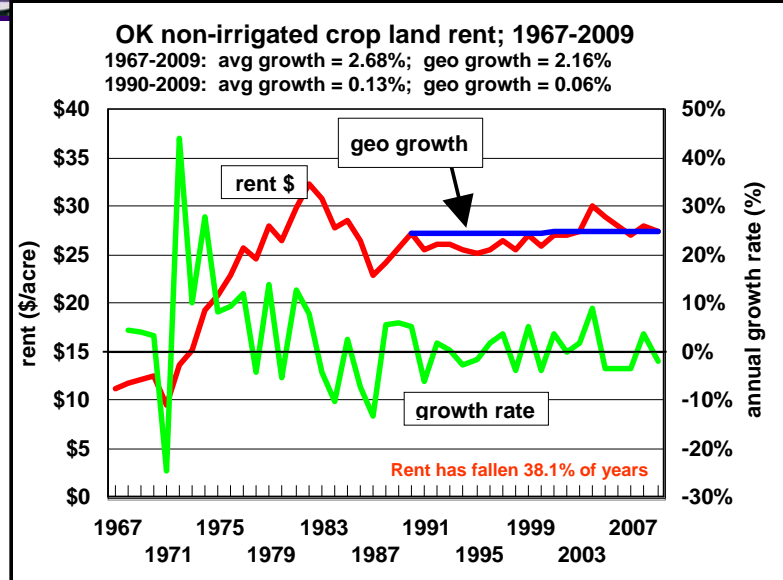
## Cash rent historical perspective



40



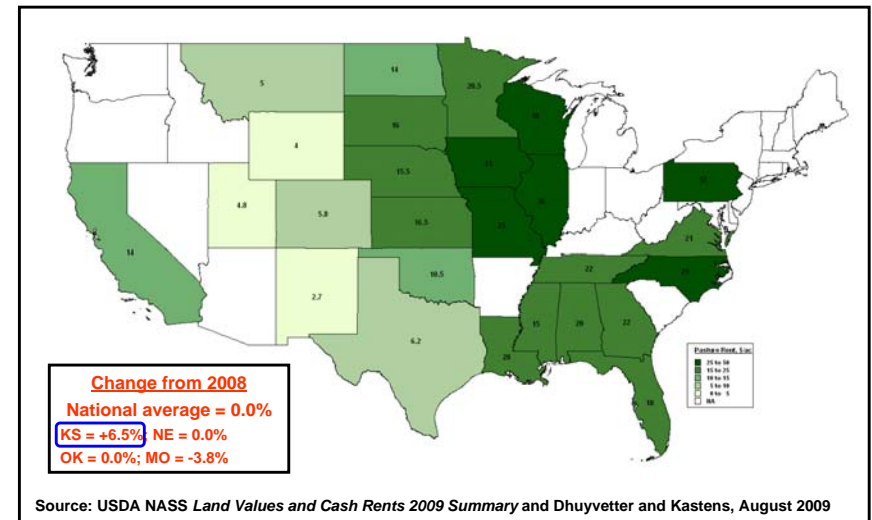
### Cash rent historical perspective



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### Pasture Land Average Rent per Acre, 2009

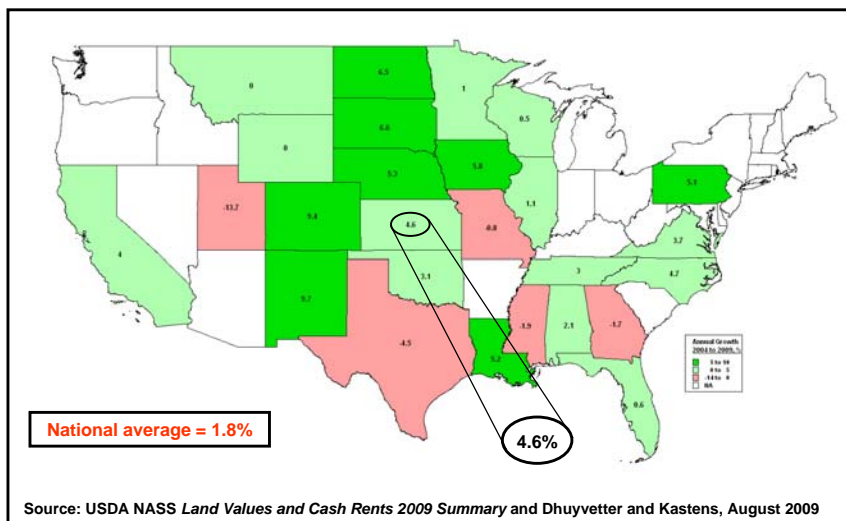


\* Corresponding changes in crop land rents were US=+5.3%; KS=+9.4%; NE=+3.1%; OK=-1.8%; and MO=+12.5%.

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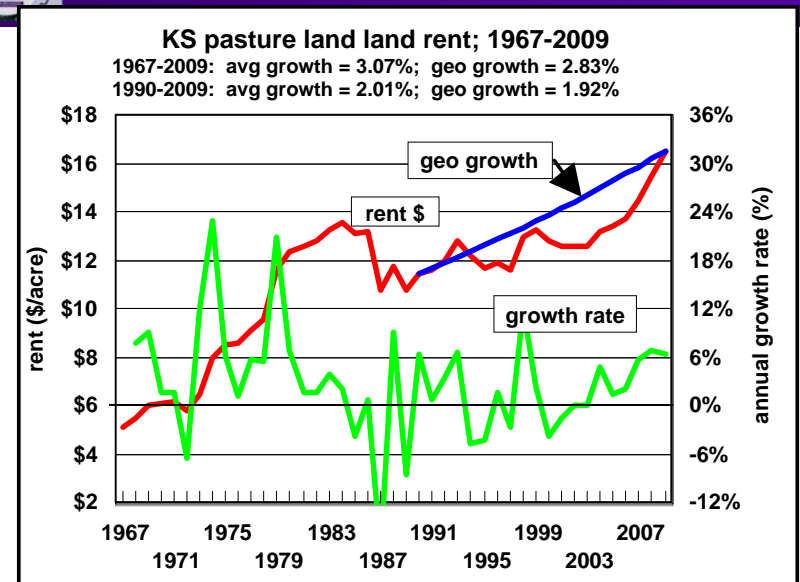
### Pasture Rent Average Annual Growth Rate Jan 1, 2004 to Jan 1, 2009, percent (geo mean)



43



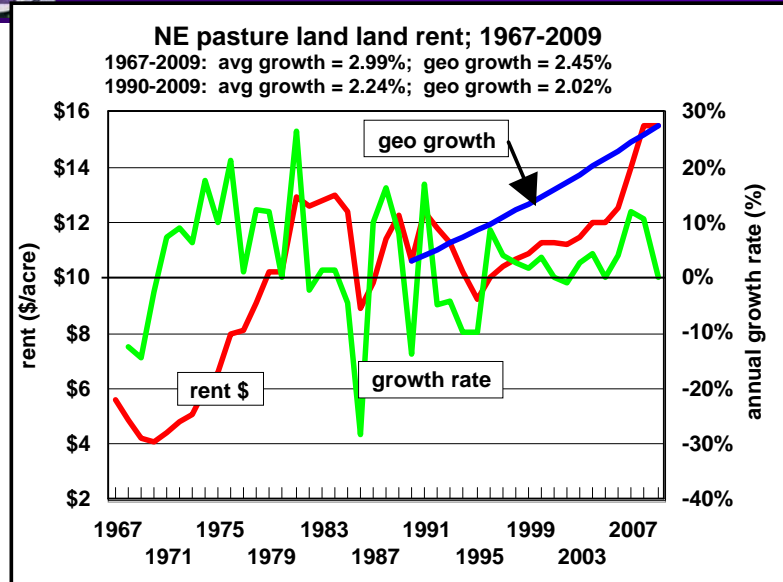
### Cash rent historical perspective



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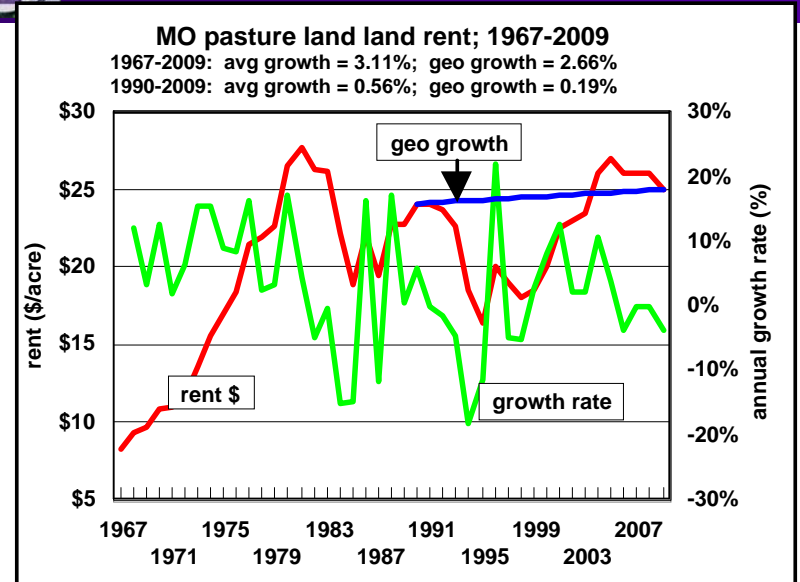
### Cash rent historical perspective



45



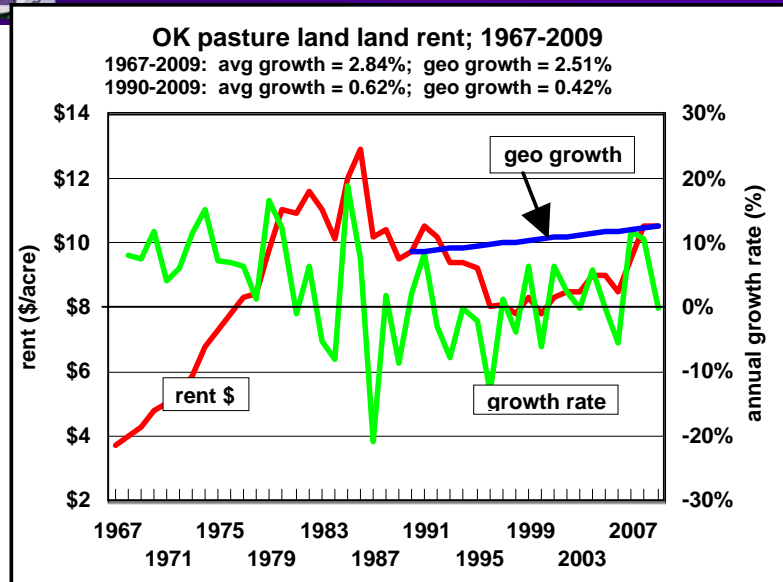
### Cash rent historical perspective



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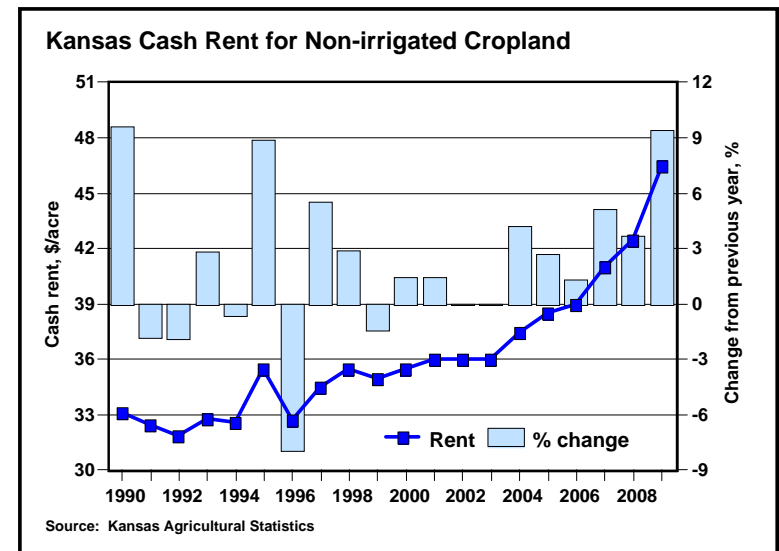
### Cash rent historical perspective



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### At the very least, vary cash rent from year to year (not perfect, but better than never changing rent)



Fixed cash rents can be indexed to statewide average to make year-to-year changes

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## Flexible Cash Rents – WHY?

- Many good reasons to go to cash rent, but there are risks associated with multi-year fixed rents
- Method of allowing rents to vary from year-to-year without having to renegotiate rents annually (avoid mental anguish associated with rental rate negotiation)
- Way of sharing/managing risks associated with volatile markets (without hassles of crop share lease)
- FSA has changed rules allowing flexible leases
- Very appealing for certain situations, but they are not appropriate in all cases (depends on why you are considering cash rent)

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## Flexible Cash Rents – HOW?

- This is the tricky part...
- There is not a single “right” way to do this! (but there are lots of wrong ways)
- A couple things to keep in mind
  - Risk-return trade-off suggests that higher risk is associated with higher expected returns and vice versa

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## Risk

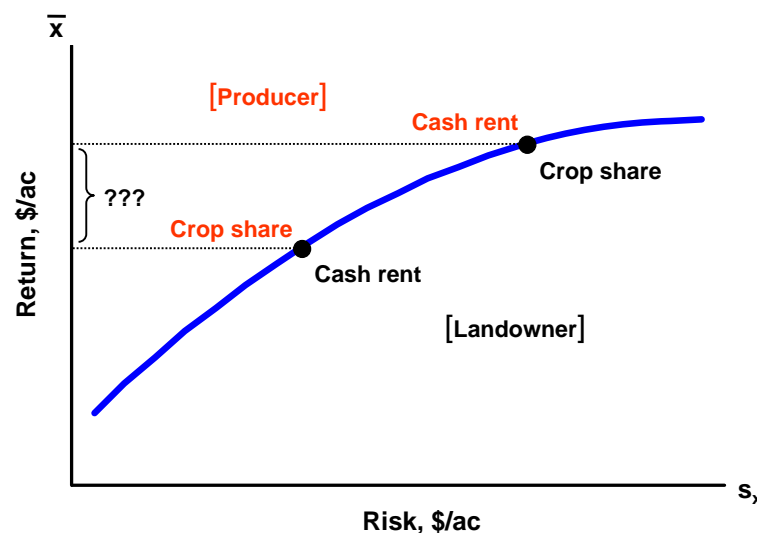
- Risk: variation about expected outcome
  - Suggests that the cash-equivalent of a share lease will be greater than cash rent
- Hasn't helped much in understanding rents
  - Tenant's risk lower recently (1990s thru 2006)
  - Cash rent is not riskless
  - Costs may be higher with share rents
    - So cash rents may be higher than share rents i.e., tenants bid up cash rents to avoid costs
- Crop share rent shares are sticky
  - Only way to bid up rents is through cash rent

Just when we got used to ignoring risk, it seems to come back into play . . .

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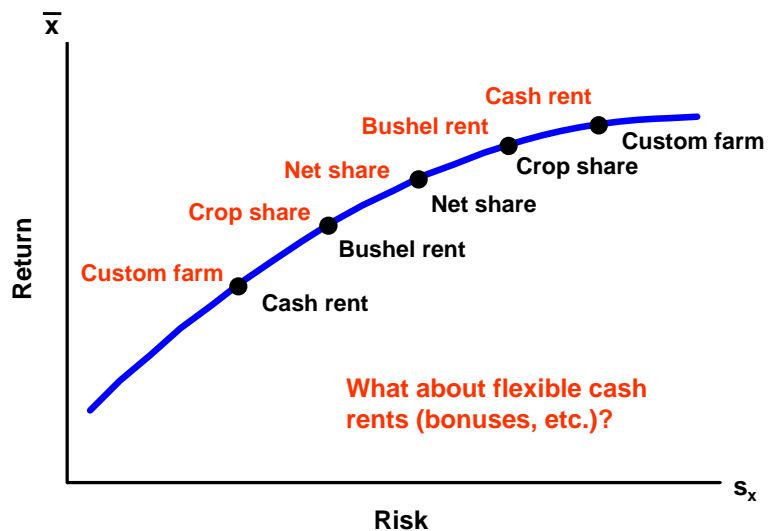
## Landowner/producer risk-return tradeoff



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## Landowner/producer risk-return tradeoff



53



## Distribution of crop share percentages ...

Percent of Leases by Crop Share Percentage

Landlord Share	Crop Reporting District								
	NW-10	WC-20	SW-30	NC-40	C-50	SC-60	NE-70	EC-80	SE-90
10.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%
16.5%	1.7%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.6%
20.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.7%	0.0%
25.0%	2.9%	0.0%	4.1%	0.4%	0.3%	0.9%	3.8%	1.3%	1.1%
<b>33.3%</b>	<b>90.1%</b>	<b>96.1%</b>	<b>89.5%</b>	<b>69.4%</b>	<b>85.2%</b>	<b>94.3%</b>	<b>20.5%</b>	<b>79.5%</b>	<b>92.6%</b>
40.0%	0.0%	1.7%	0.9%	25.9%	9.4%	3.5%	25.7%	10.6%	4.0%
45.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
50.0%	4.1%	2.2%	3.2%	3.5%	2.8%	1.3%	50.0%	7.9%	1.7%
60.0%	0.0%	0.0%	0.5%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%
66.7%	0.0%	0.0%	1.8%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%
100.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: Schlegel and Tsoodle -- 2007 KAS/KSU survey (2006 data)

Wheat belt  
Corn belt

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## Flexible Cash Rents – HOW?

### Examples of flexible cash rents...

1. Crop share “after the fact”
2. Base rent plus bonus/discount based on actual farm yield and local price
3. Base rent (floor) plus bonus based on actual farm yield and local price
4. Base rent (floor) plus bonus based on county/region average yield and price versus historical average
5. Base rent plus (+/-) bonus based on region/state average cash rent change from previous year
6. ???

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## Flexible Cash Rents – HOW?

- This is the tricky part...
- There is no right way to do this!
- A couple things to keep in mind
  - Risk-return trade-off suggests that higher risk is associated with higher expected returns and vice versa
  - Absolutely critical that all parties involved understand the flexible arrangement and how it can play out under different scenarios (i.e., have a written lease and include example calculations)

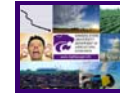
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## Flexible Cash Rents – HOW?

- Steps to determining a flexible cash lease
  1. Establish a base cash rent  
(often tied to local market and/or costs of production)
  2. Determine how base rent will be “flexed” ...
    - Price deviation from base (fixed bushel rent)
    - Yield deviation from base
    - Price and yield (revenue) deviation from base
    - Cost deviation from base

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## Flexible Cash Rents – HOW?

### Questions to ask

1. Does cash rent flex up and down or only up?  
(this should impact base price as it relates to market rate)
2. Is crop insurance included / accounted for?
3. What sources of data are used to determine base rent and flex provisions?
4. What will final rent be under alternative potential outcomes? (i.e., ask yourself lots of “what if” questions)

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## Flexible Cash Rents – EXAMPLES

- Three simple examples to show ...
  - types of information needed
  - types of terms that need to be agreed upon
  - how price impacts rent
- Example 1 – rent flexed on either yield, price, or revenue (yield x price)
- Example 2 – rent flexed based on how gross revenue compares to a base revenue
- Example 3 – rent flexed based on how gross revenue at regional level compares to 5-yr average

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## Projected crop budgets for NC KS (prices 2/1 - 2/12) ...

CROP BUDGETS SHOWING TOTAL COSTS AND RETURNS

Crop/System	Wht-R	Wht-C	Sorghum	Soybean	Corn	DC SB	Total	Per
Planted acres of each crop	44.0	22.0	14.0	15.0	5.0	0.0	100.0	Acres
Tillable acres per planted acre	1.00	1.00	1.00	1.00	1.00	0.00	100.0	Tillable
<b>INCOME PER ACRE</b>								
A. Yield per acre	50.0	45.0	90.0	35.0	90.0	20.0	---	---
B. Price per unit	\$4.30	\$4.30	\$3.01	\$8.17	\$3.31	\$8.17	---	---
C. Net government payments	\$14.00	\$14.00	\$14.00	\$14.00	\$14.00	\$0.00	\$1,400	\$14.00
D. Indemnity payments	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0	\$0.00
E. Miscellaneous income	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0	\$0.00
F. Returns/acre ((A x B) + C + D + E)	\$228.94	\$207.44	\$284.83	\$299.87	\$311.83	\$163.36	\$24,682	\$246.82
<b>COSTS PER ACRE</b>								
1. Seed	\$11.70	\$11.70	\$15.36	\$43.40	\$84.72	\$49.60	\$2,062	\$20.62
2. Herbicide	5.99	5.99	32.87	20.65	27.10	9.72	1,301	13.01
3. Insecticide / Fungicide	26.28	26.28	0.00	0.00	0.00	0.00	1,734	17.34
4. Fertilizer and Lime	39.64	28.49	43.62	18.02	42.70	8.40	3,466	34.66
5. Crop Consulting	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00
6. Crop Insurance	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00
7. Drying	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00
8. Miscellaneous	6.25	6.25	6.25	6.25	6.25	6.25	625	6.25
9. Machinery Expense	58.06	84.01	79.67	60.31	75.33	47.49	6,799	67.99
10. Non-machinery Labor	7.80	7.80	9.10	7.15	9.10	5.85	795	7.95
11. Irrigation	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00
12. Land Charge / Rent	65.00	65.00	65.00	65.00	65.00	0.00	6,500	65.00
G. SUB TOTAL	\$220.72	\$235.52	\$251.87	\$220.78	\$310.20	\$127.31	\$23,282	\$232.82
13. Interest on 1/2 Nonland Costs	5.04	5.24	5.92	5.02	8.16	4.12	536	5.36
H. TOTAL COSTS	\$225.76	\$240.76	\$257.78	\$225.79	\$318.37	\$131.43	\$23,818	\$238.18
I. RETURNS OVER COSTS (F - H)	\$3.17	(\$3.32)	\$27.05	\$74.08	(\$6.54)	\$31.92	\$864	\$8.64
J. TOTAL COSTS/UNIT (H/A)	\$4.52	\$5.35	\$2.86	\$6.45	\$3.54	\$6.57	---	---
K. RETURN TO TOTAL COST ((+I)/G)	3.72%	-11.92%	13.09%	35.83%	0.52%	28.31%	3.63%	3.63%

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## Equitable crop share = 59.9/40.1 (share fertilizer (not lime), fungicide, in-season herbicides, no applications)

ALTERNATIVE METHODS OF ESTIMATING CASH RENT								02/15/10
Crop/System	Wht-R	Wht-C	Sorghum	Soybean	Corn	DC SB	Total	Per
Total tillable acre	----->							Tillable
Planted acres of each crop	44.0	22.0	14.0	15.0	5.0	0.0	100.0	Acres
<b>A. Landowner's COST</b>								
Land	\$65.00	\$65.00	\$65.00	\$65.00	\$65.00	\$0.00	\$6,500	\$65.00
Irrigation equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0	\$0.00
<b>Total</b>	<b>\$65.00</b>	<b>\$65.00</b>	<b>\$65.00</b>	<b>\$65.00</b>	<b>\$65.00</b>	<b>\$0.00</b>	<b>\$6,500</b>	<b>\$65.00</b>
<b>B. Landowner's EQUITABLE SHARE RENT ---- risk adj factor</b>								
Total income	\$228.94	\$207.44	\$284.83	\$299.87	\$311.83	\$163.36	\$24,682	\$246.82
Landowner's share	40.1%	40.1%	40.1%	40.1%	40.1%	40.1%	40.1%	40.1%
Landowner's income	\$91.83	\$83.21	\$114.25	\$120.28	\$125.08	\$65.52	\$9,900	\$99.00
Landowner operating expense	34.33	29.69	34.42	16.66	31.64	4.79	3,054	30.54
Income less operating expense	\$57.50	\$53.52	\$79.83	\$103.62	\$93.44	\$60.73	\$6,846	\$68.46
Less risk adjustment	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00
<b>Cash rent equivalent</b>	<b>\$57.50</b>	<b>\$53.52</b>	<b>\$79.83</b>	<b>\$103.62</b>	<b>\$93.44</b>	<b>\$60.73</b>	<b>\$6,846</b>	<b>\$68.46</b>
<b>C. Amount tenant CAN AFFORD TO PAY</b>								
Total income	\$228.94	\$207.44	\$284.83	\$299.87	\$311.83	\$163.36	\$24,682	\$246.82
Total operating expense	\$160.76	\$175.76	\$192.78	\$160.79	\$253.37	\$131.43	\$17,318	\$173.18
<b>Return to land and irr equip</b>	<b>\$68.17</b>	<b>\$31.68</b>	<b>\$92.05</b>	<b>\$139.08</b>	<b>\$58.46</b>	<b>\$31.92</b>	<b>\$7,364</b>	<b>\$73.64</b>
<b>Comparison of alternative cash rent methods</b>								
Low	\$57.50	\$31.68	\$65.00	\$65.00	\$58.46	\$0.00	\$6,500	\$65.00
Average	\$63.56	\$50.07	\$78.96	\$102.57	\$72.30	\$30.88	\$6,903	\$69.03
High	\$68.17	\$65.00	\$92.05	\$139.08	\$93.44	\$60.73	\$7,364	\$73.64
Returns above all costs (profit)	\$3.17	(\$33.32)	\$27.05	\$74.08	(\$6.54)	\$31.92	\$864	\$8.64

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## Flexible Cash Rents – Example 1 (KSU-Lease.xls)

### Example of Cash Rent Flexing on Yield, Price, or Revenue

A. Market cash rent, \$/acre									\$65.00
B. Adjustment to market rent, \$/acre									-\$3.25
C. Base cash rent, \$/acre (A+B)									\$61.75
D. Flex direction (Both (up and down) vs Up)									Up
E. Percent of change to factor into flexible rent									100%
F. Adjustments based on Base acres or Actual acres									Base
<b>G. Crop</b>									
H. Include crop (Y=1, N=0)	1	1	1	1	1	1	0		
I. Base acres	44.0	22.0	14.0	15.0	5.0	0.0			100.0
J. Base yield	50	45	90	35	90	20			
K. Base price	\$4.50	\$4.50	\$3.20	\$8.25	\$3.50	\$8.25			
L. Expected revenue	\$225.00	\$202.50	\$288.00	\$288.75	\$315.00	\$165.00			\$24,293

### Issues to resolve:

Base prices are above those used in budgets.

- 1) Where does base cash rent come from?
- 2) Where do base acres, yields, and prices come from? (consistent with base rent?)
- 3) What crops should all be included?
- 4) Does rent flex on yield, price, or combination (revenue)?
- 5) Does rent flex both directions or only up?
- 6) What percent change from base should be used?

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## Flexible Cash Rents – Example 2 (KSU-Lease.xls)



## Flexible Cash Rents – Price risk to consider...

### Example of Cash Rent Flexing on Gross Income (accounting for crop insurance)

A. Base cash rent, \$/acre									\$65.00
B. Adjustment to market rent, \$/acre									-\$3.25
C. Base cash rent, \$/acre (A+B)									\$61.75
D. Flex direction (Both (up and down) vs Up)									Up
<b>E. Crop</b>									
F. Include crop (Y=1, N=0)	1	1	1	1	1	0			
G. Acres	44.0	22.0	14.0	15.0	5.0	0.0			100.0
H. Expected yield	50	45	90	35	90	20			
I. Expected price	\$4.30	\$4.30	\$3.01	\$8.17	\$3.31	\$8.17			
J. Crop insurance premium	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00			\$0
K. Expected revenue + prem	\$214.94	\$193.44	\$270.83	\$285.87	\$297.83	\$163.36			\$23,282
L. Base revenue, \$/ac	\$275	\$250	\$300	\$300	\$300	\$180			\$27,800
M. Bonus above gross, %	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%			

### Issues to resolve:

Base revenues are above projections used in budgets.

Same as before plus...

- 1) Do you include crop insurance as part of gross revenue?
- 2) What bonus above base gross income should be used?

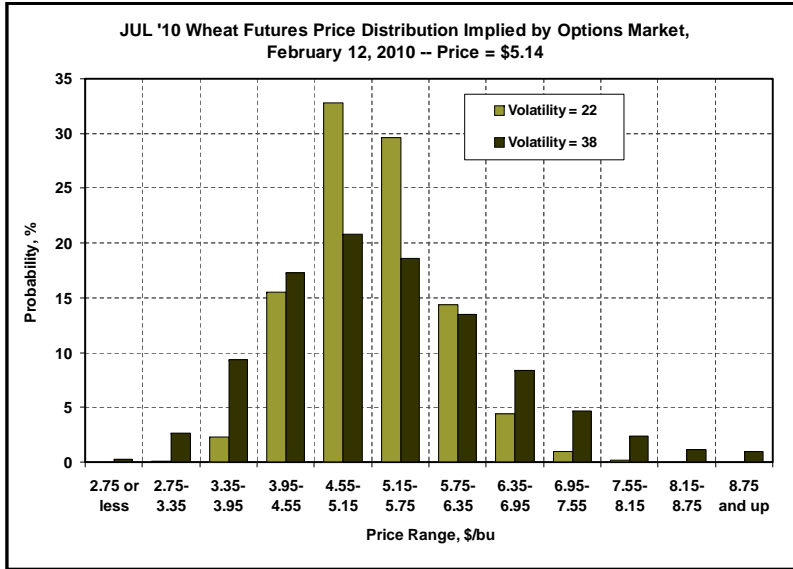
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- The options market can be used to estimate a distribution of potential price outcomes
- Price distribution gives a range of prices with associated probabilities that is consistent with what the “market believes” could happen
- Price distribution given current volatility can be compared with what is more “normal”
- Price distribution can help determine range of prices to consider in “what if” analysis

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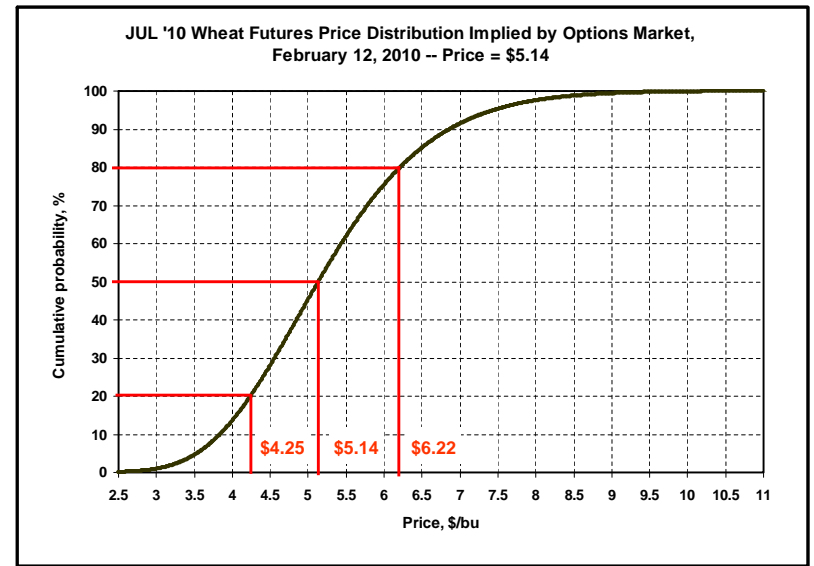
### Less confidence in accuracy of current price forecast (compared to "normal") given high volatility ...



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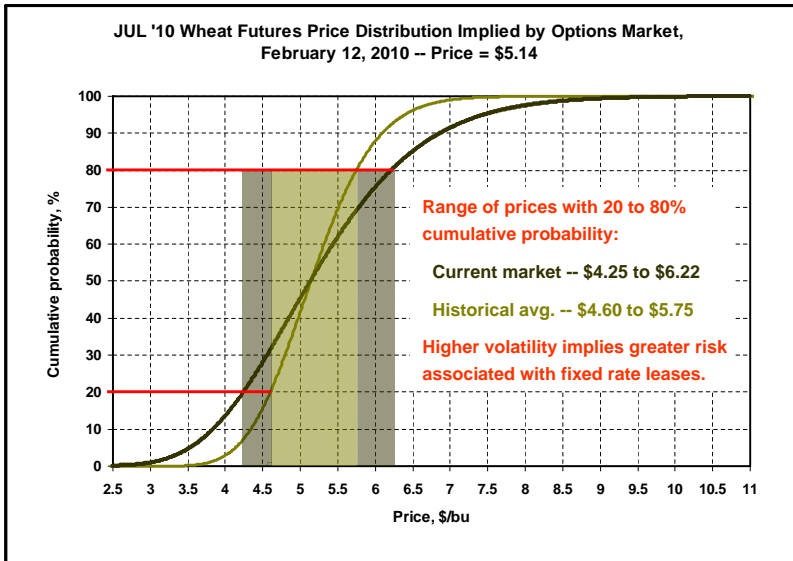
### Flexible Cash Rents – Price risk to consider...



66



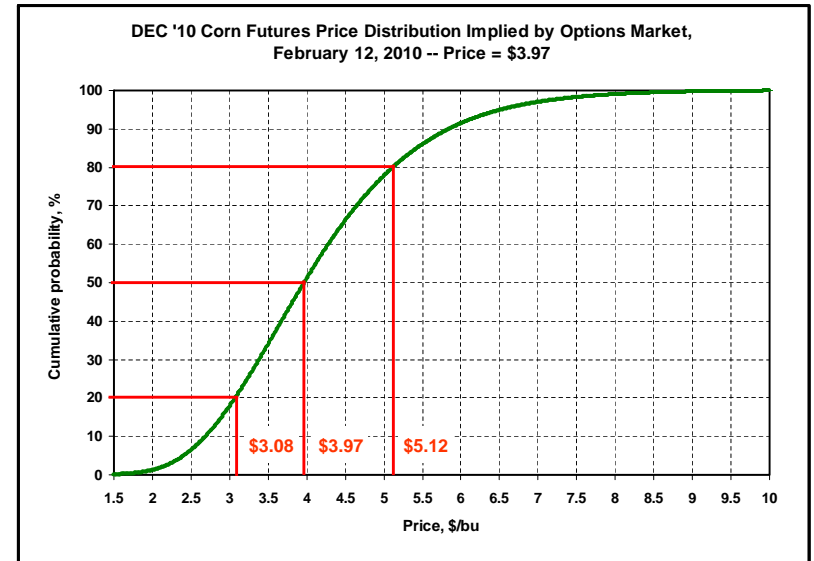
### Flexible Cash Rents – Price risk to consider...



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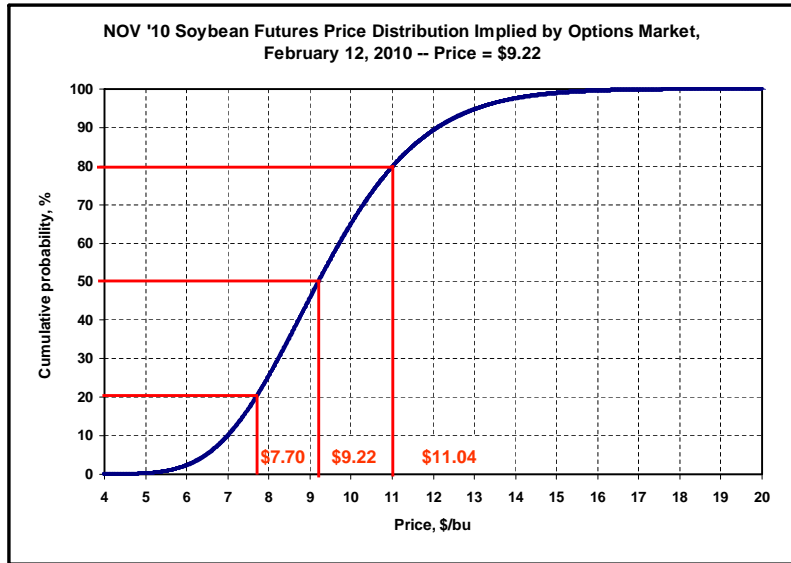
### Flexible Cash Rents – Price risk to consider...



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## Flexible Cash Rents – Price risk to consider...



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## Flexible Cash Rents – Price scenarios

### Price scenarios to consider

	Wheat	Sorghum	Soybean	Corn
Base prices (50%)	\$4.30	\$3.01	\$8.17	\$3.31
High price scenario (80%)	\$5.38	\$4.16	\$9.99	\$4.46
Low price scenario (20%)	\$3.41	\$2.12	\$6.65	\$2.42
Prices increase slightly (60%)	\$4.60	\$3.33	\$8.68	\$3.63
Prices decrease slightly (40%)	\$4.01	\$2.72	\$7.68	\$3.02

Base prices are based on 10-day average (2/1 – 2/12) of forward contracts bids (i.e., prices used in budgets).

High and low price scenarios are based on options-market-based cumulative probabilities, respectively, and assuming basis remains constant.

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## Flexible Cash Rents – Example 1 (KSU-Lease.xls)

### Scenario with YIELDS SLIGHTLY ABOVE base and PRICES SLIGHTLY BELOW.

#### Example of Cash Rent Flexing on Yield, Price, or Revenue

A. Market cash rent, \$/acre							\$65.00	
B. Adjustment to market rent, \$/acre							-\$3.25	
C. Base cash rent, \$/acre (A+B)							\$61.75	
D. Flex direction (Both (up and down) vs Up)							Up	
E. Percent of change to factor into flexible rent							100%	
F. Adjustments based on Base acres or Actual acres							Base	
<b>G. Crop</b>	Wht-R	Wht-C	Sorghum	Soybean	Corn	DC SB	Total	
H. Include crop (Y=1, N=0)	1	1	1	1	1	0		
I. Base acres	44.0	22.0	14.0	15.0	5.0	0.0	100.0	
J. Base yield	50	45	90	35	90	20		
K. Base price	\$4.50	\$4.50	\$3.20	\$8.25	\$3.50	\$8.25		
L. Expected revenue	\$225.00	\$202.50	\$288.00	\$288.75	\$315.00	\$165.00	\$24,293	
<b>M. Actual acres</b>	45	20	10	15	10	0	100	
N. Actual yield (rows 35-39)	53	47	95	37	95	22	\$25,644	
O. Actual price (rows 45-49)	\$4.01	\$4.01	\$2.72	\$7.68	\$3.02	\$7.68	\$21,604	
P. Actual revenue	\$212.46	\$188.41	\$258.33	\$284.08	\$286.83	\$168.91	\$22,805	
							<u>% chg from base</u>	<u>Rent, \$/ac</u>
Q. Cash rent flexing on yield only							5.6%	\$65.36
R. Cash rent flexing on price only							-11.1%	\$61.75
S. Cash rent flexing on revenue (yield x price)							-6.1%	\$61.75

\* Blue values are inputs and all other values are calculated

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## Flexible Cash Rents – Example 2 (KSU-Lease.xls)

### Scenario with YIELDS SLIGHTLY ABOVE base and PRICES SLIGHTLY BELOW.

#### Example of Cash Rent Flexing on Gross Income (accounting for crop insurance)

A. Base cash rent, \$/acre							\$65.00
B. Adjustment to market rent, \$/acre							-\$3.25
C. Base cash rent, \$/acre (A+B)							\$61.75
D. Flex direction (Both (up and down) vs Up)							Up
<b>E. Crop</b>	Wht-C	Wht-R	Sorghum	Soybean	Corn	DC SB	Total
F. Include crop (Y=1, N=0)	1	1	1	1	1	0	
G. Acres	44.0	22.0	14.0	15.0	5.0	0.0	100.0
H. Expected yield	50	45	90	35	90	20	
I. Expected price	\$4.30	\$4.30	\$3.01	\$8.17	\$3.31	\$8.17	
J. Crop insurance premium	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
K. Expected revenue + prem	\$214.94	\$193.44	\$270.83	\$285.87	\$297.83	\$163.36	\$23,282
L. Base revenue, \$/ac	\$275	\$250	\$300	\$300	\$300	\$180	\$27,800
M. Bonus above gross, %	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	
<b>N. Actual yield</b>	53	47	95	37	95	22	
O. Actual price (rows 63-67)	\$4.01	\$4.01	\$2.72	\$7.68	\$3.02	\$7.68	
P. Crop ins indemnity	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
Q. Actual revenue	\$212.46	\$188.41	\$258.33	\$284.08	\$286.83	\$168.91	\$22,805
R. Bonus due, \$/acre	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
S. Cash rent due, \$/acre	\$61.75	\$61.75	\$61.75	\$61.75	\$61.75	\$0.00	\$61.75

\* Blue values are inputs and all other values are calculated

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## Flexible Cash Rents – Example 1 (KSU-Lease.xls)

### Scenario with AVERAGE YIELDS and HIGH PRICES.

#### Example of Cash Rent Flexing on Yield, Price, or Revenue

A. Market cash rent, \$/acre	\$65.00
B. Adjustment to market rent, \$/acre	-\$3.25
C. Base cash rent, \$/acre (A+B)	\$61.75
D. Flex direction (Both (up and down) vs Up)	Up
E. Percent of change to factor into flexible rent	100%
F. Adjustments based on Base acres or Actual acres	Base

G. Crop	Wht-R	Wht-C	Sorghum	Soybean	Corn	DC SB	Total
H. Include crop (Y=1, N=0)	1	1	1	1	1	0	
I. Base acres	44.0	22.0	14.0	15.0	5.0	0.0	100.0
J. Base yield	50	45	90	35	90	20	
K. Base price	\$4.50	\$4.50	\$3.20	\$8.25	\$3.50	\$8.25	
L. Expected revenue	\$225.00	\$202.50	\$288.00	\$288.75	\$315.00	\$165.00	\$24,293

M. Actual acres	45	20	10	15	10	0	100
N. Actual yield (rows 35-39)	50	45	90	35	90	20	\$24,293
O. Actual price (rows 45-49)	\$5.38	\$5.38	\$4.16	\$9.99	\$4.46	\$9.99	\$29,649
P. Actual revenue	\$268.94	\$242.04	\$374.33	\$349.57	\$401.33	\$199.76	\$29,649

	% chg from base	Rent, \$/ac
Q. Cash rent flexing on yield only	0.0%	\$61.75
R. Cash rent flexing on price only	22.0%	\$76.08
S. Cash rent flexing on revenue (yield x price)	22.0%	\$76.08

\* Blue values are inputs and all other values are calculated



## Flexible Cash Rents – Example 2 (KSU-Lease.xls)

### Scenario with AVERAGE YIELDS and HIGH PRICES.

#### Example of Cash Rent Flexing on Gross Income (accounting for crop insurance)

A. Base cash rent, \$/acre	\$65.00
B. Adjustment to market rent, \$/acre	-\$3.25
C. Base cash rent, \$/acre (A+B)	\$61.75
D. Flex direction (Both (up and down) vs Up)	Up

E. Crop	Wht-C	Wht-R	Sorghum	Soybean	Corn	DC SB	Total
F. Include crop (Y=1, N=0)	1	1	1	1	1	0	
G. Acres	44.0	22.0	14.0	15.0	5.0	0.0	100.0
H. Expected yield	50	45	90	35	90	20	
I. Expected price	\$4.30	\$4.30	\$3.01	\$8.17	\$3.31	\$8.17	
J. Crop insurance premium	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
K. Expected revenue + prem	\$214.94	\$193.44	\$270.83	\$285.87	\$297.83	\$163.36	\$23,282
L. Base revenue, \$/ac	\$275	\$250	\$300	\$300	\$300	\$180	\$27,800
M. Bonus above gross, %	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	

N. Actual yield	50	45	90	35	90	20	
O. Actual price (rows 63-67)	\$5.38	\$5.38	\$4.16	\$9.99	\$4.46	\$9.99	
P. Crop ins indemnity	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
Q. Actual revenue	\$268.94	\$242.04	\$374.33	\$349.57	\$401.33	\$199.76	\$29,649
R. Bonus due, \$/acre	\$0.00	\$0.00	\$29.73	\$19.83	\$40.53	\$0.00	\$9.16
S. Cash rent due, \$/acre	\$61.75	\$61.75	\$91.48	\$81.58	\$102.28	\$0.00	\$70.91

\* Blue values are inputs and all other values are calculated



## Flexible Cash Rents – Example 1 (KSU-Lease.xls)

### Scenario with HIGH YIELDS and HIGH PRICES.

#### Example of Cash Rent Flexing on Yield, Price, or Revenue

A. Market cash rent, \$/acre	\$65.00
B. Adjustment to market rent, \$/acre	-\$3.25
C. Base cash rent, \$/acre (A+B)	\$61.75
D. Flex direction (Both (up and down) vs Up)	Up
E. Percent of change to factor into flexible rent	100%
F. Adjustments based on Base acres or Actual acres	Base

G. Crop	Wht-R	Wht-C	Sorghum	Soybean	Corn	DC SB	Total
H. Include crop (Y=1, N=0)	1	1	1	1	1	0	
I. Base acres	44.0	22.0	14.0	15.0	5.0	0.0	100.0
J. Base yield	50	45	90	35	90	20	
K. Base price	\$4.50	\$4.50	\$3.20	\$8.25	\$3.50	\$8.25	
L. Expected revenue	\$225.00	\$202.50	\$288.00	\$288.75	\$315.00	\$165.00	\$24,293

M. Actual acres	45	20	10	15	10	0	100
N. Actual yield (rows 35-39)	65	60	125	48	130	30	\$32,625
O. Actual price (rows 45-49)	\$5.38	\$5.38	\$4.16	\$9.99	\$4.46	\$9.99	\$29,649
P. Actual revenue	\$349.62	\$322.73	\$519.91	\$479.41	\$579.70	\$299.63	\$39,852

	% chg from base	Rent, \$/ac
Q. Cash rent flexing on yield only	34.3%	\$84.04
R. Cash rent flexing on price only	22.0%	\$76.08
S. Cash rent flexing on revenue (yield x price)	64.0%	\$103.38

\* Blue values are inputs and all other values are calculated



## Flexible Cash Rents – Example 2 (KSU-Lease.xls)

### Scenario with HIGH YIELDS and HIGH PRICES.

#### Example of Cash Rent Flexing on Gross Income (accounting for crop insurance)

A. Base cash rent, \$/acre	\$65.00
B. Adjustment to market rent, \$/acre	-\$3.25
C. Base cash rent, \$/acre (A+B)	\$61.75
D. Flex direction (Both (up and down) vs Up)	Up

E. Crop	Wht-C	Wht-R	Sorghum	Soybean	Corn	DC SB	Total
F. Include crop (Y=1, N=0)	1	1	1	1	1	0	
G. Acres	44.0	22.0	14.0	15.0	5.0	0.0	100.0
H. Expected yield	50	45	90	35	90	20	
I. Expected price	\$4.30	\$4.30	\$3.01	\$8.17	\$3.31	\$8.17	
J. Crop insurance premium	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
K. Expected revenue + prem	\$214.94	\$193.44	\$270.83	\$285.87	\$297.83	\$163.36	\$23,282
L. Base revenue, \$/ac	\$275	\$250	\$300	\$300	\$300	\$180	\$27,800
M. Bonus above gross, %	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	

N. Actual yield	65	60	125	48	130	30	
O. Actual price (rows 63-67)	\$5.38	\$5.38	\$4.16	\$9.99	\$4.46	\$9.99	
P. Crop ins indemnity	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
Q. Actual revenue	\$349.62	\$322.73	\$519.91	\$479.41	\$579.70	\$299.63	\$39,852
R. Bonus due, \$/acre	\$29.85	\$29.09	\$87.96	\$71.76	\$111.88	\$0.00	\$48.21
S. Cash rent due, \$/acre	\$91.60	\$90.84	\$149.71	\$133.51	\$173.63	\$0.00	\$109.96

\* Blue values are inputs and all other values are calculated



## Flexible Cash Rents – Example 3

Average Crop Yields and Prices for North Central Kansas  
Source: Kansas Agricultural Statistics

Year	historical data				"typical" rotation				100%				
	Yield, bu/planted acre				Price, \$/bu								
	Corn	Sorghum	Soybeans	Wheat	Corn	Sorghum	Soybeans	Wheat					
1985	76.2	57.9	26.5	36.7	\$2.27	\$1.70	\$4.55	\$2.82	\$8.65	\$13.76	\$18.08	\$68.28	\$108.77
1986	82.6	75.6	34.1	28.4	\$1.41	\$1.24	\$4.38	\$2.11	\$5.82	\$13.10	\$22.41	\$39.48	\$80.82
1987	63.6	74.0	29.6	40.3	\$1.55	\$1.32	\$4.83	\$2.26	\$4.93	\$13.64	\$21.46	\$60.10	\$100.13
1988	32.1	50.3	17.9	32.7	\$2.62	\$2.25	\$7.42	\$3.39	\$4.20	\$15.86	\$19.95	\$73.20	\$113.20
1989	28.4	38.6	18.9	8.5	\$2.19	\$1.93	\$5.13	\$3.80	\$3.10	\$10.45	\$14.53	\$21.38	\$49.46
1990	58.0	56.5	20.1	44.2	\$2.14	\$1.86	\$5.54	\$2.71	\$6.21	\$14.72	\$16.70	\$79.07	\$116.69
1991	27.2	40.3	15.3	31.4	\$2.38	\$2.19	\$5.31	\$2.48	\$3.24	\$12.35	\$12.21	\$51.35	\$79.15
1992	83.0	74.9	36.2	32.6	\$2.09	\$1.75	\$5.06	\$3.09	\$8.67	\$18.37	\$27.51	\$66.42	\$120.97
1993	59.7	63.0	32.1	24.3	\$2.26	\$2.02	\$5.84	\$2.76	\$6.75	\$17.83	\$28.11	\$44.22	\$96.91
1994	78.7	83.6	33.5	39.6	\$2.11	\$1.76	\$5.17	\$2.99	\$8.30	\$20.57	\$25.95	\$78.13	\$132.95
1995	58.8	56.4	23.4	30.9	\$2.73	\$2.73	\$6.17	\$4.20	\$8.03	\$21.58	\$21.64	\$85.56	\$136.82
1996	82.2	83.8	38.6	31.3	\$2.75	\$2.22	\$6.55	\$4.98	\$11.30	\$26.02	\$37.92	\$102.74	\$177.99
1997	69.8	69.1	29.9	48.6	\$2.56	\$2.22	\$6.25	\$3.13	\$8.93	\$21.45	\$28.07	\$100.43	\$158.89
1998	99.3	87.6	35.1	53.6	\$1.67	\$1.54	\$4.91	\$2.43	\$8.30	\$18.88	\$25.83	\$86.01	\$139.01
1999	89.8	81.1	31.4	45.4	\$1.66	\$1.27	\$4.37	\$2.15	\$7.45	\$14.38	\$20.57	\$64.36	\$106.76
2000	53.7	39.3	10.3	36.7	\$1.81	\$1.65	\$4.40	\$2.43	\$4.86	\$9.05	\$6.81	\$58.86	\$79.59
2001	62.7	73.8	28.4	33.9	\$1.83	\$1.75	\$3.79	\$2.71	\$5.73	\$18.10	\$16.16	\$60.65	\$100.64
2002	17.7	34.4	10.6	34.9	\$2.43	\$2.45	\$5.09	\$3.26	\$2.15	\$11.80	\$8.06	\$75.01	\$97.02
2003	19.9	37.4	13.7	56.7	\$2.27	\$2.21	\$6.84	\$2.76	\$2.26	\$11.59	\$14.06	\$103.21	\$131.12
2004	92.9	82.3	34.2	39.5	\$2.08	\$1.61	\$4.90	\$3.33	\$9.66	\$18.52	\$25.12	\$86.92	\$140.22
2005	89.6	91.0	37.8	39.6	\$1.94	\$1.55	\$5.36	\$3.14	\$8.69	\$19.70	\$30.38	\$82.03	\$140.80
2006	54.4	70.5	30.7	40.9	\$2.62	\$2.95	\$5.20	\$4.45	\$7.12	\$29.12	\$23.92	\$120.24	\$180.41
2007	92.9	87.3	35.6	29.3	\$3.32	\$3.28	\$8.27	\$5.21	\$15.42	\$40.04	\$44.19	\$100.74	\$200.38
2008	107.9	104.4	43.5	41.6	\$4.29	\$3.57	\$9.58	\$7.63	\$23.14	\$52.20	\$62.47	\$209.34	\$347.15
2009	124.8	117.7	51.7	43.6	\$3.28	\$2.89	\$8.88	\$5.22	\$20.46	\$47.63	\$68.86	\$150.38	\$287.33
2010	100.0	85.0	35.0	40.0	\$3.31	\$3.01	\$8.17	\$4.30	\$16.55	\$35.81	\$42.88	\$113.49	\$208.72

Revenue given typical rotation

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## Flexible Cash Rents – Example 3 (baseline prices)

Average Crop Yields and Prices for North Central Kansas  
Source: Kansas Agricultural Statistics

Year	5.0%				14.0%				15.0%				66.0%				100%
	Revenue \$/acre, weighted by % of crop				Revenue \$/acre, weighted by % of crop				Revenue \$/acre, weighted by % of crop				Revenue \$/acre, weighted by % of crop				
	Corn	Sorghum	Soybeans	Wheat	Corn	Sorghum	Soybeans	Wheat	Corn	Sorghum	Soybeans	Wheat	Corn	Sorghum	Soybeans	Wheat	
1985	\$8.65	\$13.76	\$18.08	\$68.28	\$108.77	\$4.91	\$12.19	\$15.94	\$75.78	\$108.82	99.9%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1986	\$5.82	\$13.10	\$22.41	\$39.48	\$80.82	\$6.44	\$13.26	\$17.86	\$71.90	\$109.45	73.8%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1987	\$4.93	\$13.64	\$21.46	\$60.10	\$100.13	\$5.98	\$13.19	\$17.61	\$67.48	\$104.26	96.0%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1988	\$4.20	\$15.86	\$19.95	\$73.20	\$113.20	\$5.75	\$12.90	\$18.52	\$65.17	\$102.35	110.6%	\$3.61	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1989	\$3.10	\$10.45	\$14.53	\$21.38	\$49.46	\$5.86	\$13.65	\$19.51	\$62.18	\$101.20	48.9%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1990	\$6.21	\$14.72	\$16.70	\$79.07	\$116.69	\$5.34	\$13.36	\$19.29	\$52.49	\$90.48	129.0%	\$8.73	\$1.80	\$0.00	\$0.00	\$0.00	\$0.00
1991	\$3.24	\$12.35	\$12.21	\$51.35	\$79.15	\$4.85	\$13.55	\$19.01	\$54.65	\$92.06	86.0%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1992	\$8.67	\$18.37	\$27.51	\$66.42	\$120.97	\$4.34	\$13.40	\$16.97	\$57.02	\$91.73	131.9%	\$9.74	\$3.16	\$0.00	\$0.00	\$0.00	\$0.00
1993	\$6.75	\$17.83	\$28.11	\$44.22	\$96.91	\$5.08	\$14.35	\$18.18	\$58.28	\$95.89	101.1%	\$0.34	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1994	\$8.30	\$20.57	\$25.95	\$78.13	\$132.95	\$5.59	\$14.74	\$19.81	\$52.49	\$92.64	143.5%	\$13.42	\$8.58	\$0.00	\$0.00	\$0.00	\$0.00
1995	\$8.03	\$21.58	\$21.64	\$85.56	\$136.82	\$6.63	\$16.77	\$22.10	\$63.84	\$109.33	125.1%	\$9.15	\$0.07	\$0.00	\$0.00	\$0.00	\$0.00
1996	\$11.30	\$26.02	\$37.92	\$102.74	\$177.99	\$7.00	\$18.14	\$23.08	\$65.14	\$133.31	157.0%	\$21.52	\$18.14	\$0.00	\$0.00	\$0.00	\$0.00
1997	\$8.93	\$21.45	\$28.07	\$100.43	\$158.89	\$8.61	\$20.87	\$28.23	\$75.42	\$133.13	119.3%	\$8.58	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1998	\$8.30	\$18.88	\$25.83	\$86.01	\$139.01	\$8.66	\$21.49	\$28.34	\$82.22	\$140.71	98.8%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1999	\$7.45	\$14.38	\$20.57	\$64.36	\$106.76	\$8.97	\$21.70	\$27.88	\$90.58	\$149.13	71.6%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2000	\$4.86	\$9.05	\$6.81	\$58.86	\$79.59	\$8.80	\$20.46	\$26.81	\$87.82	\$143.89	55.3%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2001	\$5.73	\$18.10	\$16.16	\$60.65	\$100.64	\$8.17	\$17.96	\$23.84	\$82.48	\$132.45	76.0%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2002	\$2.15	\$11.80	\$8.06	\$75.01	\$97.02	\$7.06	\$16.37	\$19.49	\$74.06	\$116.98	82.9%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2003	\$2.26	\$11.59	\$14.06	\$103.21	\$131.12	\$5.70	\$14.44	\$15.49	\$68.98	\$104.60	125.3%	\$8.83	\$0.18	\$0.00	\$0.00	\$0.00	\$0.00
2004	\$9.66	\$18.52	\$25.12	\$86.92	\$140.22	\$4.49	\$12.98	\$13.13	\$72.42	\$103.03	136.1%	\$12.38	\$5.72	\$0.00	\$0.00	\$0.00	\$0.00
2005	\$8.69	\$19.70	\$30.38	\$82.03	\$140.80	\$4.93	\$13.81	\$14.04	\$76.93	\$109.72	128.3%	\$10.35	\$1.83	\$0.00	\$0.00	\$0.00	\$0.00
2006	\$7.12	\$29.12	\$23.92	\$120.24	\$180.41	\$5.70	\$15.94	\$18.76	\$81.56	\$121.96	147.9%	\$19.46	\$13.98	\$0.00	\$0.00	\$0.00	\$0.00
2007	\$15.42	\$40.04	\$44.19	\$100.74	\$200.38	\$5.97	\$18.15	\$20.31	\$93.48	\$137.91	145.3%	\$20.80	\$13.99	\$0.00	\$0.00	\$0.00	\$0.00
2008	\$23.14	\$52.20	\$62.47	\$209.34	\$347.15	\$8.63	\$23.79	\$27.53	\$98.63	\$158.58	218.9%	\$62.79	\$74.46	\$0.00	\$0.00	\$0.00	\$0.00
2009	\$20.46	\$47.63	\$68.86	\$150.38	\$287.33	\$13.59	\$35.27	\$40.24	\$128.09	\$217.18	132.3%	\$23.36	\$7.93	\$0.00	\$0.00	\$0.00	\$0.00
2010	\$16.55	\$35.81	\$42.88	\$113.49	\$208.72	\$16.53	\$42.25	\$49.86	\$145.18	\$253.82	104.9%	\$4.13	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

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## Flexible Cash Rents – Example 3 (high prices)

Average Crop Yields and Prices for North Central Kansas  
Source: Kansas Agricultural Statistics

Year	5.0%				14.0%				15.0%				66.0%				100%
	Revenue \$/acre, weighted by % of crop				Revenue \$/acre, weighted by % of crop				Revenue \$/acre, weighted by % of crop				Revenue \$/acre, weighted by % of crop				
	Corn	Sorghum	Soybeans	Wheat	Corn	Sorghum	Soybeans	Wheat	Corn	Sorghum	Soybeans	Wheat	Corn	Sorghum	Soybeans	Wheat	
1985	\$8.65	\$13.76	\$18.08	\$68.28	\$108.77	\$4.91	\$12.19	\$15.94	\$75.78	\$108.82	99.9%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1986	\$5.82	\$13.10	\$22.41	\$39.48	\$80.82	\$6.44	\$13.26	\$17.86	\$71.90	\$109.45	73.8%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1987	\$4.93	\$13.64	\$21.46	\$60.10	\$100.13	\$5.98	\$13.19	\$17.61	\$67.48	\$104.26	96.0%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1988	\$4.20	\$15.86	\$19.95	\$73.20	\$113.20	\$5.75	\$12.90	\$18.52	\$65.17	\$102.35	110.6%	\$3.61	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1989	\$3.10	\$10.45	\$14.53	\$21.38	\$49.46	\$5.86	\$13.65	\$19.51	\$62.18	\$101.20	48.9%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1990	\$6.21	\$14.72	\$16.70	\$79.07	\$116.69	\$5.34	\$13.36	\$19.29	\$52.49	\$90.48	129.0%	\$8.73	\$1.80	\$0.00	\$0.00	\$0.00	\$0.00
1991	\$3.24	\$12.35	\$12.21	\$51.35	\$79.15	\$4.85	\$13.55	\$19.01	\$54.65	\$92.06	86.0%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1992	\$8.67	\$18.37	\$27.51	\$66.42	\$120.97	\$4.34	\$13.40	\$16.97	\$57.02	\$91.73	131.9%	\$9.74	\$3.16	\$0.00	\$0.00	\$0.00	\$0.00
1993	\$6.75	\$17.83	\$28.11	\$44.22	\$96.91	\$5.08	\$14.35	\$18.18	\$58.28	\$95.89	101.1%	\$0.34	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1994	\$8.30	\$20.57</															



## Flexible Cash Rents – SUMMARY

- Flexible cash leases are simply a way of sharing risks of unpredictable markets (and yields?) without the hassles of crop ownership
- Why not simply give landowner ad hoc “bonuses” when times are good?
- There are many types of flex leases – no one method is right or best in all cases
- Important to think about risk-return tradeoff when establishing the base and trigger point where bonuses are earned (e.g., does lease flex both ways?)

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## Flexible Cash Rents – SUMMARY

- Prices used should be a market average (publicly reported) as opposed to actual price received (typically recommend using a harvest time price – identify dates and locations in advance)
- Yields can be either county or farm averages, but need to be spelled out how/source for determining
- It is important that both parties know and understand what they are agreeing to!
- Likely will become more common in the future and thus producers will need to be willing to use them or risk losing land

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The screenshot shows the AgManager.info website interface. The main content area features several articles and updates, including:

- 2010 RAM II (Risk Assessed Marketing) Workshops** in Kansas, Ohio, and Nebraska, scheduled for Feb. 19, 2010.
- SURE: How Sure Are You About SURE?** A webinar by Art Barnaby.
- 2009-2010 K-State Ag Profitability Conferences**.
- CRML Cattle Risk Management Library**.
- Recent Updates** section listing various reports and programs such as "Webinar and RAM Workshops to Cover ACRE, SURE, Crop Insurance and Marketing", "Livestock Outlook Radio Program", "Livestock and Hay Charts", "Grain Outlook Radio Program", "Crop Basis Maps", "Updated Crop Basis Tool", "Current Grain Outlook Newsletter", "Updated MYA 2009/10 Price Estimates for ACRE", "World Grain Supply and Demand Estimates (WASDE)", "Seasonal Grain and Cattle Price Spreadsheets (Excel)", "Risk Analysis of Converting CRP Acres to Cropland in Western Kansas", "Kansas Grain Price Spread-Transportation Returns", "KfMA Monthly Newsletter", "Grain Market Situation", "In The Cattle Markets", and "Futures-Based Price Forecast".

At the bottom of the page, there is a purple box with the text "Questions?" and a contact information box for Kevin Dhuyvetter: 785-532-3527, kcd@ksu.edu.