

# Crop Land Leases – Things to think about...

**WBW Radio Farm Profit Conference**  
 Wednesday, March 17, 2010  
 Centralia Community Center  
 106 John Riggins Avenue, Centralia, Kansas  
 (In conjunction with Meadowlark District Extension)

5:30 pm: Doors Open  
 6:00 pm: Dinner  
 6:45 pm: Farm Profit Conference begins

John Unsworth - USDA NRCS & Crop Acreage - USDA FSA  
 "Expanding CRP contracts - What are My Options?"

Kevin Dhuyvetter, KSU Ext. Agr. Econ.  
 Farm Management, "Crop Leases - Leases Things to Think About - Flexible Cash Leases - What, Why & How"

Daniel Holliday - Country Futures  
 "Another Volatile Year in the Markets?"

This is a free program. Please make reservations by calling the Nemaha County Extension office at (785) 334-2184 by March 15, 2010 or you may email us at farmprofit@ks56wbw.com.

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 Kansas Agriculture Network, FRONTIER FARM CREDIT, AM 580 WBW

## Flexible Cash Leases – What, Why and How?

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Department of Agricultural Economics  
 Kansas State University

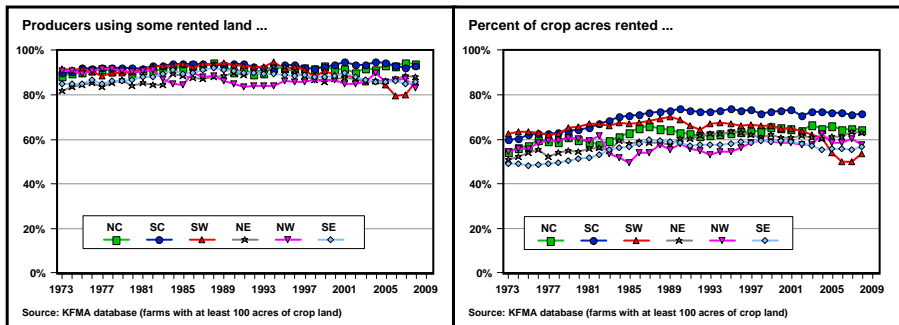


## Flexible Cash Rents – WHAT?

- 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...

## Renting cropland in Kansas ...

- Producers in Kansas rely heavily upon rented land in their operations...



Almost everybody rents land...

... and they rent the majority of their acres.

**The result is that the market for rented land is very competitive, and thus lease arrangements need to reflect market conditions.**

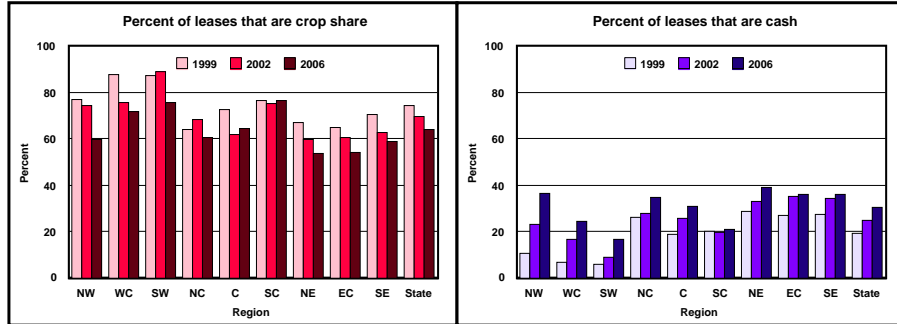
## Distribution of leases by type of lease ...

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
<b>State</b>	<b>30.5</b>	<b>63.9</b>	<b>5.6</b>

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

**Most landowners are familiar with crop share leases and thus variable income.**

## Trend towards more cash rent ...



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

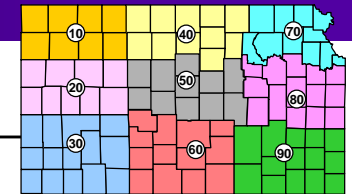
Crop share continues to be the most prevalent, but the trend has been a shift from crop share arrangements towards more cash rent leases.

### 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



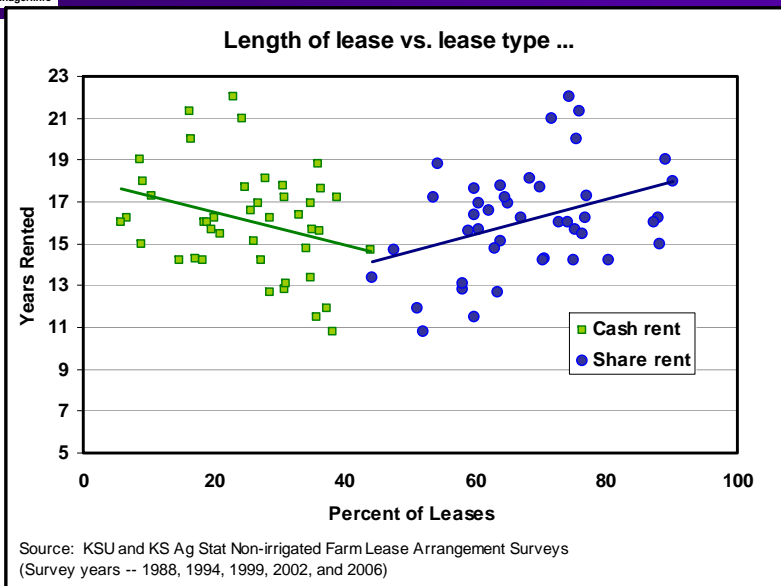
Region	Years rented
Northwest (10)	17.6
West Central (20)	21.0
Southwest (30)	20.0
North Central (40)	16.9
Central (50)	17.2
South Central (60)	15.5
Northeast (70)	17.2
East Central (80)	18.8
Southeast (90)	15.6
State	17.8

Producers tend to lease from the same landowner for a long time.

Long-term relationships can be good or bad...

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

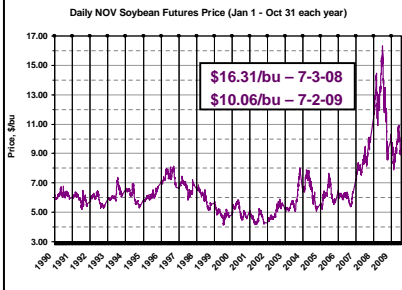
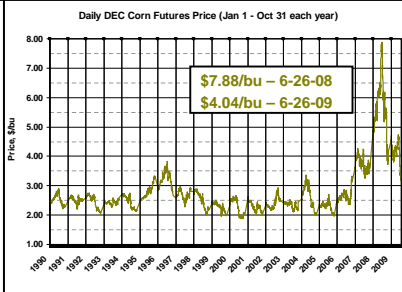
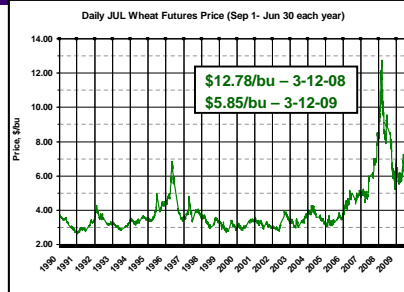
## Cash leased land tends to "turnover" quicker ...



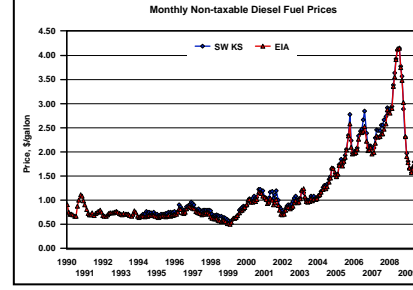
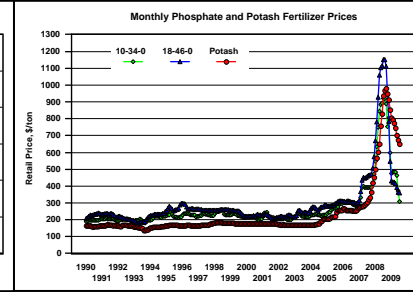
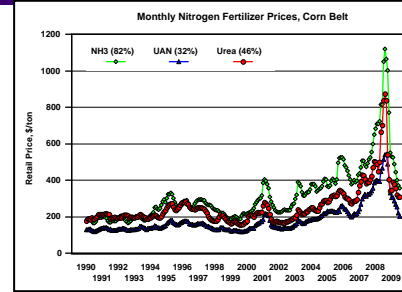
Source: KSU and KS Ag Stat Non-irrigated Farm Lease Arrangement Surveys (Survey years -- 1988, 1994, 1999, 2002, and 2006)

## 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)

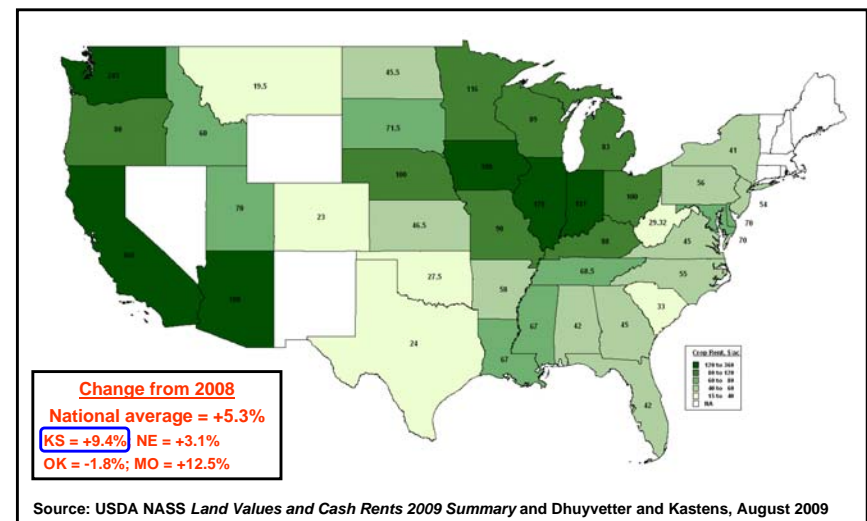


Extremely volatile crop prices make negotiating fixed cash rents very difficult and risky (good chance someone is not going to be happy). Crop share has a built in buffer to this risk.



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).

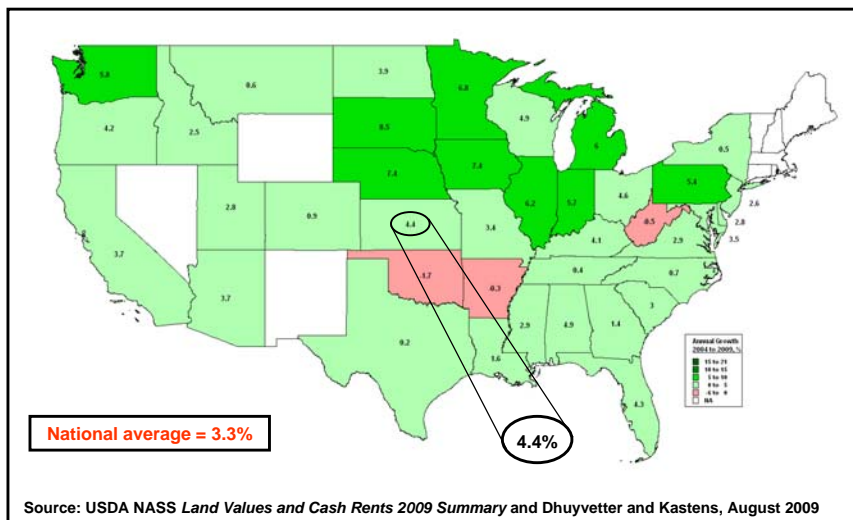
- Trend in Kansas has been moving away from crop share leases to more cash leases
- Volatility of last few years has significantly increased the risk of *fixed* cash rents
  - Most popular question received in the summer of 2008 was “How can I terminate my lease with my current tenant?” (in 2009 several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



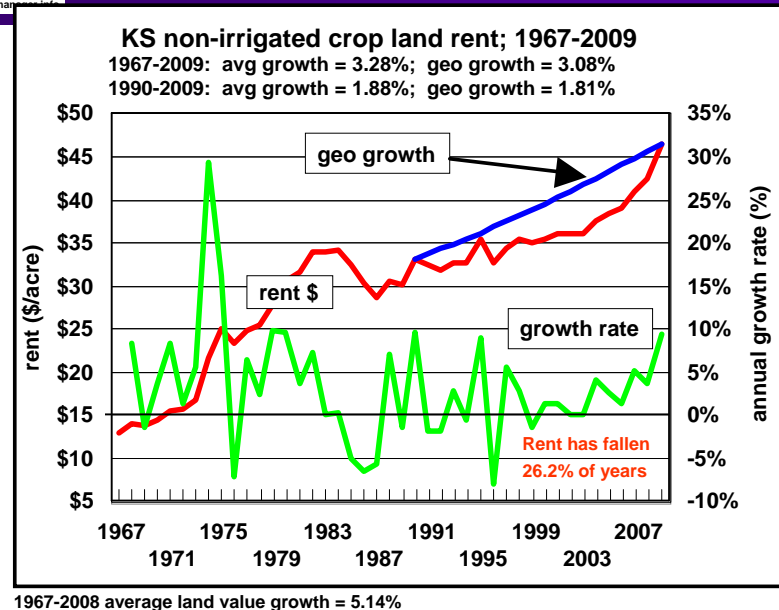
Source: USDA NASS *Land Values and Cash Rents 2009 Summary* and Dhuyvetter and Kastens, August 2009

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

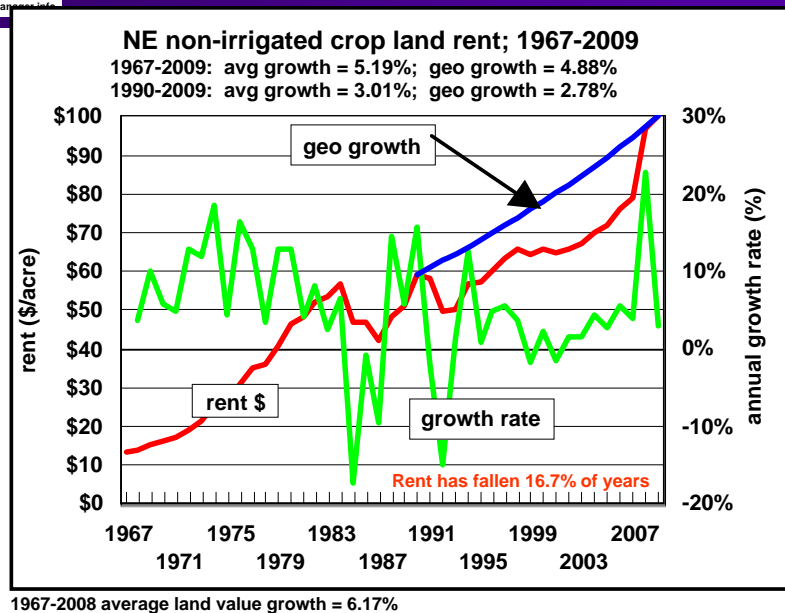
## Crop Land Rent Average Annual Growth Rate Jan 1, 2004 to Jan 1, 2009, percent (geo mean)



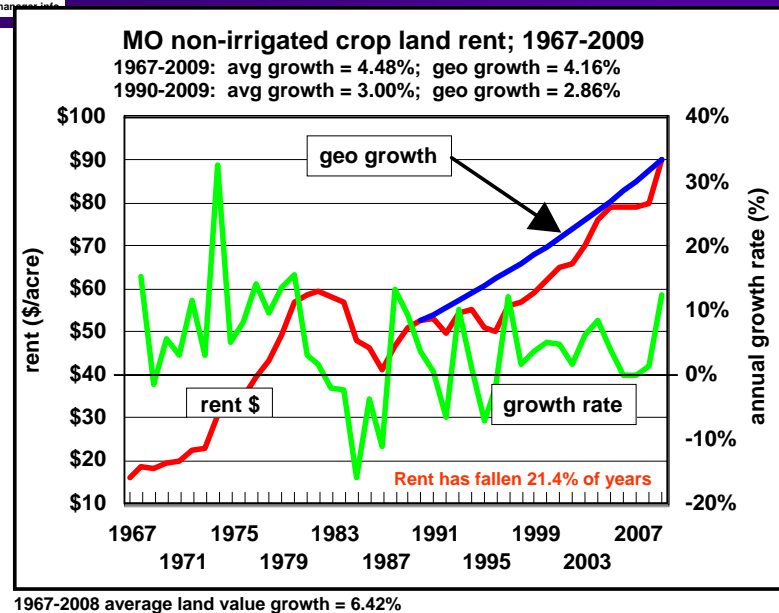
## Cash rent historical perspective

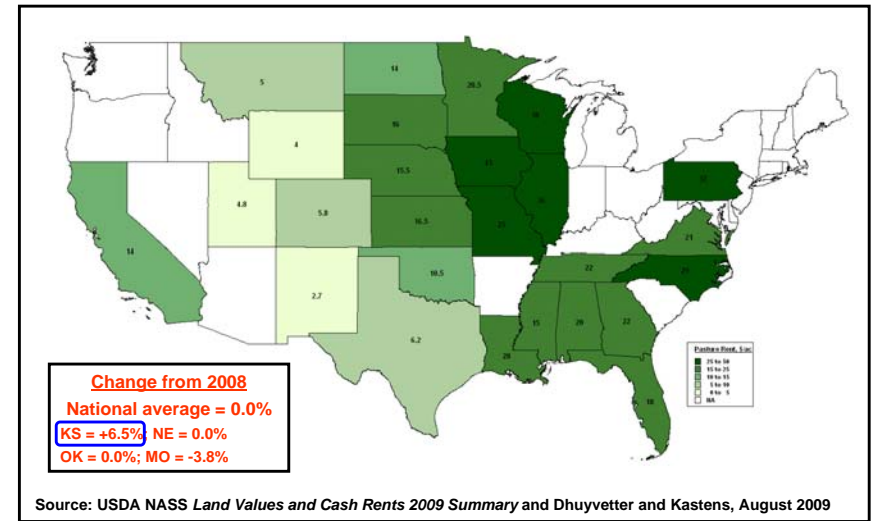
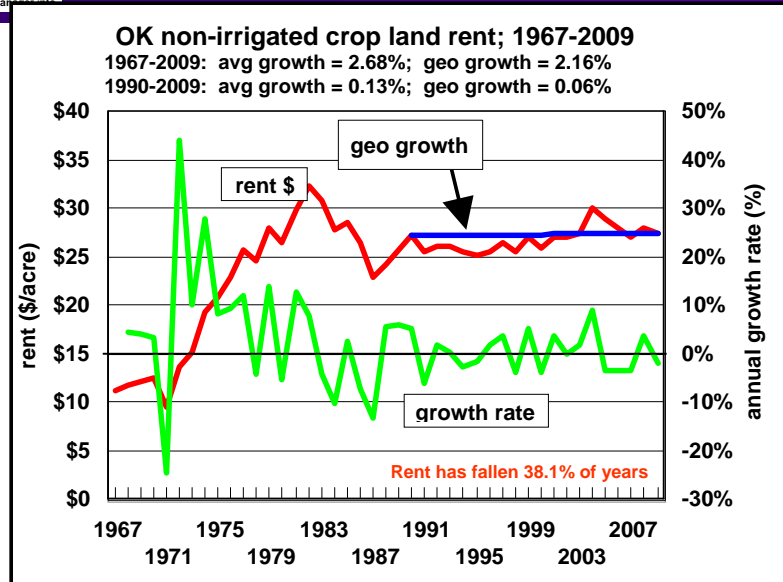


## Cash rent historical perspective

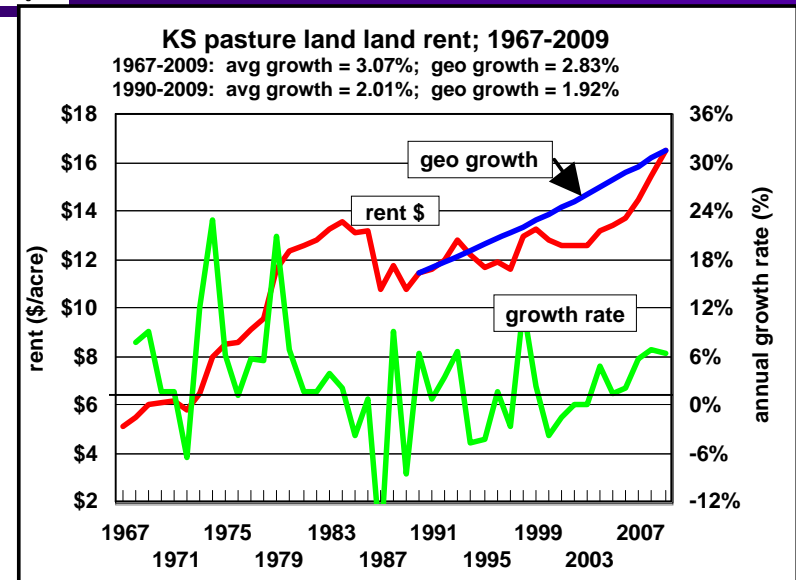
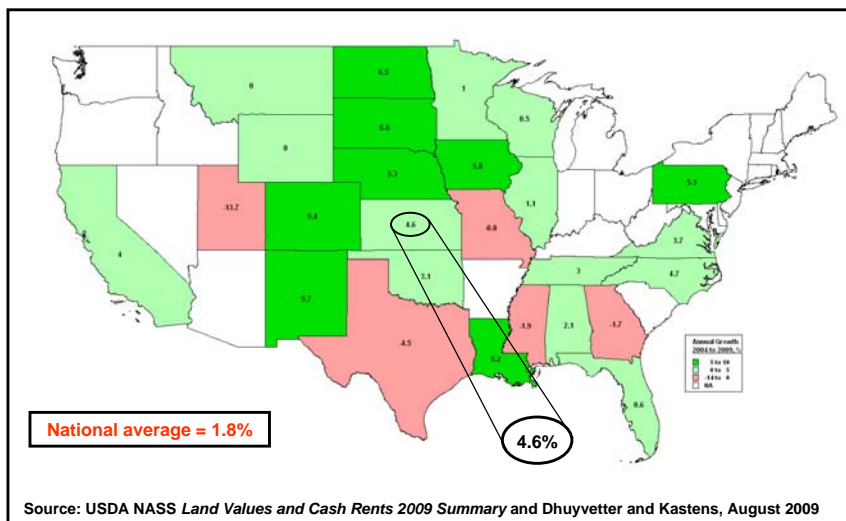


## Cash rent historical perspective

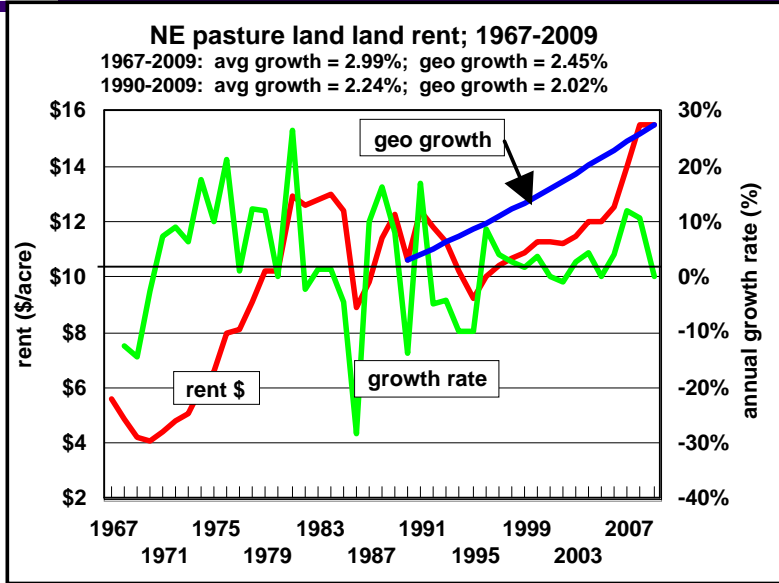




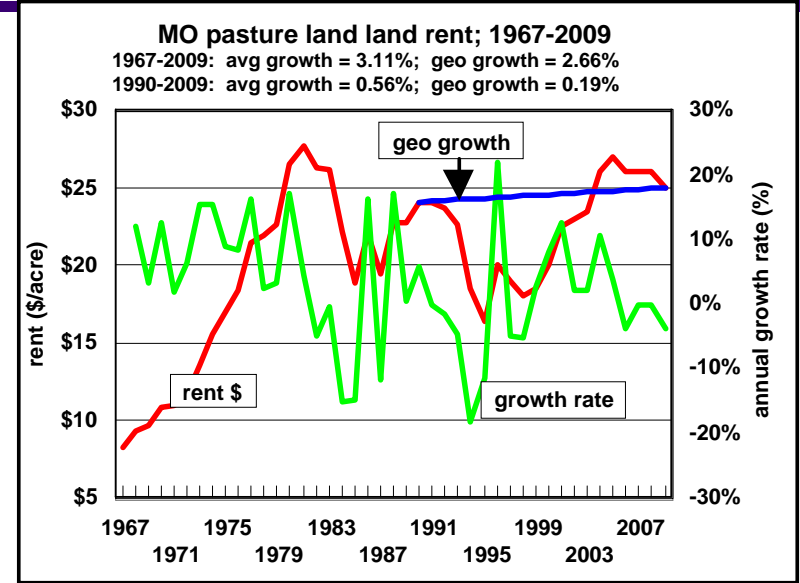
\* Corresponding changes in crop land rents were US=+5.3%; KS=+9.4%; NE=+3.1%; OK=-1.8%; and MO=+12.5%.



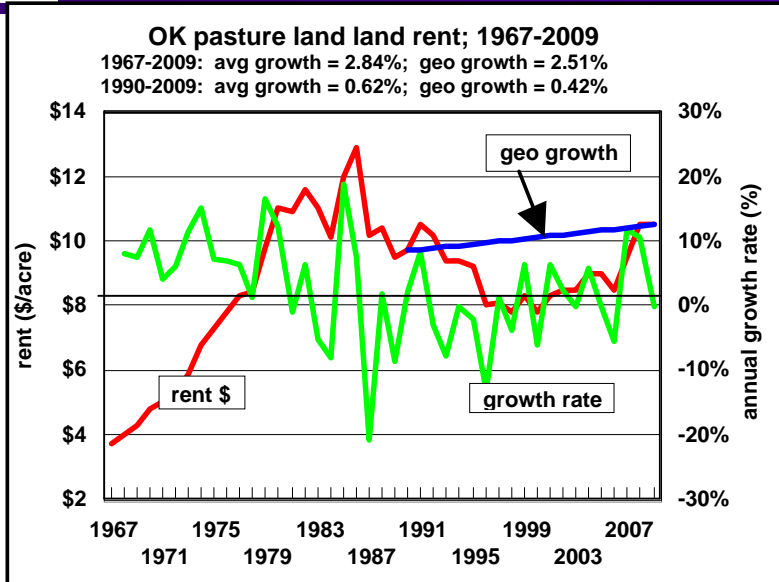
Cash rent historical perspective



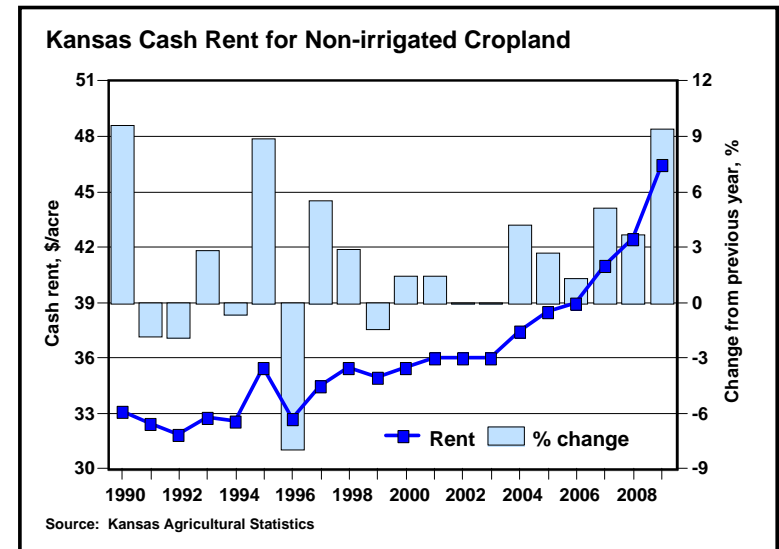
Cash rent historical perspective



Cash rent historical perspective



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

## 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)

## Flexible Cash Rents – HOW?

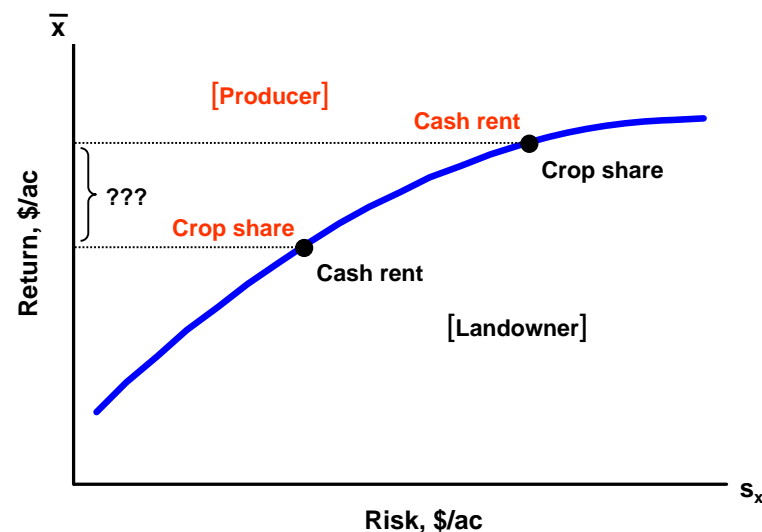
- This is the tricky part...
- There is not a single “right” way to do this! (but there are lots of wrong ways)
- A couple things to keep in mind
  - Risk-return trade-off suggests that higher risk is associated with higher expected returns and vice versa

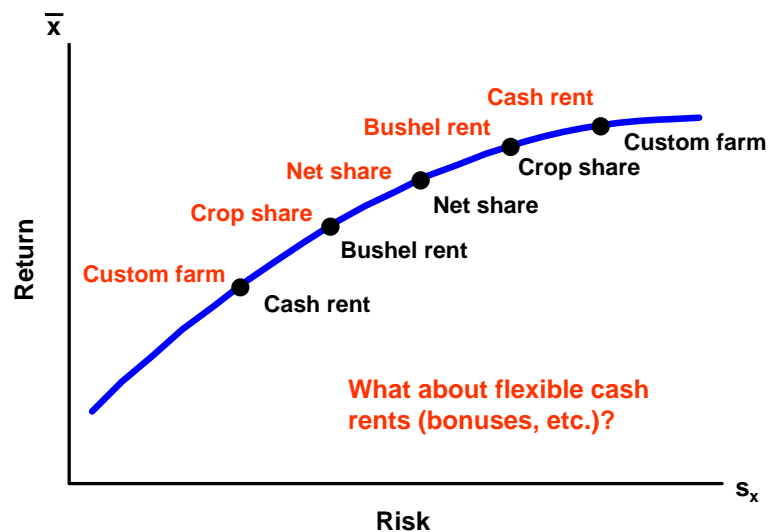
## Risk

- 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 . . .

## Landowner/producer risk-return tradeoff





### 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. ???

- 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)

- 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

## 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)

- 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

## CROP BUDGETS SHOWING TOTAL COSTS AND RETURNS

Crop/System	Wht-C	Wht-R	Sorghum	Soybean	Corn	DC SB	Total	Per
Planted acres of each crop	0.0	14.6	5.0	43.7	36.7	0.0	100.0	Acre
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	43.0	50.0	76.0	33.0	110.0	20.0	---	---
B. Price per unit	\$4.20	\$4.20	\$3.07	\$8.40	\$3.40	\$8.40	---	---
C. Net government payments	\$13.60	\$13.60	\$13.60	\$13.60	\$13.60	\$0.00	\$1,360	\$13.60
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)	\$194.20	\$223.60	\$246.92	\$290.80	\$387.60	\$168.00	\$31,432	\$314.32
<b>COSTS PER ACRE</b>								
1. Seed	\$9.75	\$13.00	\$15.36	\$43.40	\$95.31	\$49.60	\$5,661	\$56.61
2. Herbicide	11.39	11.39	28.52	15.34	22.75	9.72	1,814	18.14
3. Insecticide / Fungicide	26.28	26.28	0.00	0.00	0.00	0.00	384	3.84
4. Fertilizer and Lime	35.46	43.42	36.46	17.76	53.48	8.80	3,555	35.55
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	8.25	8.25	8.25	8.25	8.25	8.25	825	8.25
9. Machinery Expense	105.16	69.67	84.31	61.07	93.28	56.99	7,531	75.31
10. Non-machinery Labor	9.88	6.50	7.93	5.72	8.84	5.33	709	7.09
11. Irrigation	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00
12. Land Charge / Rent	85.00	85.00	85.00	85.00	85.00	0.00	8,500	85.00
G. SUB TOTAL	\$291.17	\$263.51	\$265.83	\$236.54	\$366.91	\$138.69	\$28,979	\$289.79
H. TOTAL COSTS	\$297.47	\$269.25	\$271.46	\$241.39	\$376.21	\$143.11	\$29,644	\$296.44
I. RETURNS OVER COSTS (F - H)	(\$103.27)	(\$45.65)	(\$24.54)	\$49.41	\$11.39	\$24.89	\$1,788	\$17.88
J. TOTAL COSTS/UNIT (H/A)	\$6.92	\$5.38	\$3.57	\$7.31	\$3.42	\$7.16	---	---
K. RETURN TO TOTAL COST ((I+13)/G)	-33.30%	-15.14%	-7.11%	22.94%	5.64%	21.14%	6.03%	6.03%

## ALTERNATIVE METHODS OF ESTIMATING CASH RENT

03/17/10

Crop/System	Wht-C	Wht-R	Sorghum	Soybean	Corn	DC SB	Total	Per
Planted acres of each crop	0.0	14.6	5.0	43.7	36.7	0.0	100.0	Acre
<b>A. Landowner's COST</b>								
Land	\$85.00	\$85.00	\$85.00	\$85.00	\$85.00	\$0.00	\$8,500	\$85.00
Irrigation equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0	\$0.00
<b>Total</b>	<b>\$85.00</b>	<b>\$85.00</b>	<b>\$85.00</b>	<b>\$85.00</b>	<b>\$85.00</b>	<b>\$0.00</b>	<b>\$8,500</b>	<b>\$85.00</b>
<b>B. Landowner's EQUITABLE SHARE RENT ----- risk adj factor 0.0%</b>								
Total income	\$194.20	\$223.60	\$246.92	\$290.80	\$387.60	\$168.00	\$31,432	\$314.32
Landowner's share	39.9%	39.9%	39.9%	39.9%	39.9%	39.9%	\$12,538	\$125.38
Landowner's income	\$77.46	\$89.19	\$98.49	\$116.00	\$154.61	\$67.01	\$12,538	\$125.38
Landowner operating expense	41.54	44.83	36.01	22.82	40.67	13.67	3,325	33.25
Income less operating expense	\$35.93	\$44.36	\$62.48	\$93.17	\$113.94	\$53.34	\$9,213	\$92.13
Less risk adjustment	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00
<b>Cash rent equivalent</b>	<b>\$35.93</b>	<b>\$44.36</b>	<b>\$62.48</b>	<b>\$93.17</b>	<b>\$113.94</b>	<b>\$53.34</b>	<b>\$9,213</b>	<b>\$92.13</b>
<b>C. Amount tenant CAN AFFORD TO PAY</b>								
Total income	\$194.20	\$223.60	\$246.92	\$290.80	\$387.60	\$168.00	\$31,432	\$314.32
Total operating expense	\$212.47	\$184.25	\$186.46	\$156.39	\$291.21	\$143.11	\$21,144	\$211.44
<b>Return to land and irr equip</b>	<b>(\$18.27)</b>	<b>\$39.35</b>	<b>\$60.46</b>	<b>\$134.41</b>	<b>\$96.39</b>	<b>\$24.89</b>	<b>\$10,288</b>	<b>\$102.88</b>
<b>Comparison of alternative cash rent methods</b>								
Low	(\$18.27)	\$39.35	\$60.46	\$85.00	\$85.00	\$0.00	\$8,500	\$85.00
Average	\$34.22	\$56.24	\$69.31	\$104.19	\$98.44	\$26.08	\$9,334	\$93.34
High	\$85.00	\$85.00	\$85.00	\$134.41	\$113.94	\$53.34	\$10,288	\$102.88
Returns above all costs (profit)	(\$103.27)	(\$45.65)	(\$24.54)	\$49.41	\$11.39	\$24.89	\$1,788	\$17.88



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

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

A. Market cash rent, \$/acre	\$85.00
B. Adjustment to market rent, \$/acre	-\$4.25
C. Base cash rent, \$/acre (A+B)	\$80.75
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-C	Wht-R	Sorghum	Soybean	Corn	DC SB	Total
H. Include crop (Y=1, N=0)	1	1	1	1	1	0	
I. Base acres	0.0	14.6	5.0	43.7	36.7	0.0	100.0
J. Base yield	45	50	80	35	120	20	
K. Base price	\$4.25	\$4.25	\$3.15	\$8.50	\$3.50	\$8.50	
L. Expected revenue	\$191.25	\$212.50	\$252.00	\$297.50	\$420.00	\$170.00	\$32,777

#### Issues to resolve:

Base yields and prices are slightly 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?



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

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

A. Base cash rent, \$/acre	\$85.00
B. Adjustment to market rent, \$/acre	-\$4.25
C. Base cash rent, \$/acre (A+B)	\$80.75
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	0.0	14.6	5.0	43.7	36.7	0.0	100.0
H. Expected yield	43	50	76	33	110	20	
I. Expected price	\$4.20	\$4.20	\$3.07	\$8.40	\$3.40	\$8.40	
J. Crop insurance premium	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
K. Expected revenue + prem	\$180.60	\$210.00	\$233.32	\$277.20	\$374.00	\$168.00	\$30,072
L. Base revenue, \$/ac	\$205	\$235	\$260	\$300	\$400	\$195	\$32,521
M. Bonus above gross, %	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	

#### Issues to resolve:

Base revenues are roughly \$25/ac 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?



## “What if” scenarios...

- Need to examine how lease arrangement being considered “plays out” under various yield and price scenarios.
- Historical yield history and the options market can be used to estimate potential yield and price outcomes with assigned probabilities
- Or, you can simply use a subjective “gut feel” guess at possible outcomes.
- Bottom line – while it is preferred to do something that has statistical validity, that is not near as important as just doing something!



## Flexible Cash Rents – Price scenarios

### Price scenarios to consider

	Wheat	Sorghum	Soybean	Corn
Expected prices	\$4.20	\$3.07	\$8.40	\$3.40
High price scenario (+30%)	\$5.46	\$3.99	\$10.92	\$4.42
Low price scenario (-40%)	\$2.52	\$1.84	\$5.04	\$2.04
Prices increase slightly (+10%)	\$4.62	\$3.38	\$9.24	\$3.74
Prices decrease slightly (-10%)	\$3.78	\$2.76	\$7.56	\$3.06

Base prices are based on 12-day average (3/1 – 3/16) of forward contracts bids (i.e., prices used in budgets).

High and low price scenarios are simply subjective increases and decreases that could be realized.

Also considered yield scenarios of +40%, -50%, +10%, and -10%

## 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	\$85.00
B. Adjustment to market rent, \$/acre	-\$4.25
C. Base cash rent, \$/acre (A+B)	\$80.75
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-C	Wht-R	Sorghum	Soybean	Corn	DC SB	Total
H. Include crop (Y=1, N=0)	1	1	1	1	1	0	
I. Base acres	0.0	14.6	5.0	43.7	36.7	0.0	100.0
J. Base yield	45	50	80	35	120	22	
K. Base price	\$4.25	\$4.25	\$3.15	\$8.50	\$3.50	\$8.50	
L. Expected revenue	\$191.25	\$212.50	\$252.00	\$297.50	\$420.00	\$187.00	\$32,777

M. Actual acres	45	20	10	15	10	0	100
N. Actual yield (rows 35-39)	47.3	55.0	83.6	36.3	121.0	22.0	\$33,756
O. Actual price (rows 45-49)	\$3.78	\$3.78	\$2.76	\$7.56	\$3.06	\$7.56	\$28,904
P. Actual revenue	\$178.79	\$207.90	\$230.99	\$274.43	\$370.26	\$166.32	\$29,771

	% chq from base	Rent, \$/ac
Q. Cash rent flexing on yield only	3.0%	\$83.29
R. Cash rent flexing on price only	-11.8%	\$80.75
S. Cash rent flexing on revenue (yield x price)	-9.2%	\$80.75

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

## 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	\$85.00
B. Adjustment to market rent, \$/acre	-\$4.25
C. Base cash rent, \$/acre (A+B)	\$80.75
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	0.0	14.6	5.0	43.7	36.7	0.0	100.0
H. Expected yield	47.3	55	83.6	36.3	121	22	
I. Expected price	\$3.78	\$3.78	\$2.76	\$7.56	\$3.06	\$7.56	
J. Crop insurance premium	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
K. Expected revenue + prem	\$178.79	\$207.90	\$230.99	\$274.43	\$370.26	\$166.32	\$29,771
L. Base revenue, \$/ac	\$205	\$235	\$260	\$300	\$400	\$195	\$32,521
M. Bonus above gross, %	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	

N. Actual yield	47.3	55.0	83.6	36.3	121.0	22.0	
O. Actual price (rows 63-67)	\$3.78	\$3.78	\$2.76	\$7.56	\$3.06	\$7.56	
P. Crop ins indemnity	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
Q. Actual revenue	\$178.79	\$207.90	\$230.99	\$274.43	\$370.26	\$166.32	\$29,771
R. Bonus due, \$/acre	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
S. Cash rent due, \$/acre	\$80.75	\$80.75	\$80.75	\$80.75	\$80.75	\$0.00	\$80.75

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

## 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	\$85.00
B. Adjustment to market rent, \$/acre	-\$4.25
C. Base cash rent, \$/acre (A+B)	\$80.75
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-C	Wht-R	Sorghum	Soybean	Corn	DC SB	Total
H. Include crop (Y=1, N=0)	1	1	1	1	1	0	
I. Base acres	0.0	14.6	5.0	43.7	36.7	0.0	100.0
J. Base yield	45	50	80	35	120	20	
K. Base price	\$4.25	\$4.25	\$3.15	\$8.50	\$3.50	\$8.50	
L. Expected revenue	\$191.25	\$212.50	\$252.00	\$297.50	\$420.00	\$170.00	\$32,777

M. Actual acres	45	20	10	15	10	0	100
N. Actual yield (rows 35-39)	43.0	50.0	76.0	33.0	110.0	20.0	\$30,687
O. Actual price (rows 45-49)	\$5.46	\$5.46	\$3.99	\$10.92	\$4.42	\$10.92	\$41,750
P. Actual revenue	\$234.78	\$273.00	\$303.32	\$360.36	\$486.20	\$218.40	\$39,094

	% chq from base	Rent, \$/ac
Q. Cash rent flexing on yield only	-6.4%	\$80.75
R. Cash rent flexing on price only	27.4%	\$102.86
S. Cash rent flexing on revenue (yield x price)	19.3%	\$96.31

\* 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	\$85.00
B. Adjustment to market rent, \$/acre	-\$4.25
C. Base cash rent, \$/acre (A+B)	\$80.75
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	0.0	14.6	5.0	43.7	36.7	0.0	100.0
H. Expected yield	43	50	76	33	110	20	
I. Expected price	\$5.46	\$5.46	\$3.99	\$10.92	\$4.42	\$10.92	
J. Crop insurance premium	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
K. Expected revenue + prem	\$234.78	\$273.00	\$303.32	\$360.36	\$486.20	\$218.40	\$39,094
L. Base revenue, \$/ac	\$205	\$235	\$260	\$300	\$400	\$195	\$32,521
M. Bonus above gross, %	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	

N. Actual yield	43.0	50.0	76.0	33.0	110.0	20.0	
O. Actual price (rows 63-67)	\$5.46	\$5.46	\$3.99	\$10.92	\$4.42	\$10.92	
P. Crop ins indemnity	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
Q. Actual revenue	\$234.78	\$273.00	\$303.32	\$360.36	\$486.20	\$218.40	\$39,094
R. Bonus due, \$/acre	\$11.91	\$15.20	\$17.33	\$24.14	\$34.48	\$0.00	\$26.29
S. Cash rent due, \$/acre	\$92.66	\$95.95	\$98.08	\$104.89	\$115.23	\$0.00	\$107.04

\* 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				5.0% 14.0% 15.0% 66.0% 100%				
	Yield, bu/planted acre				Price, \$/bu				Revenue \$/acre, weighted by % of crop				All crops
	Corn	Sorghum	Soybeans	Wheat	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	\$3.35	\$3.05	\$8.25	\$4.33	\$16.75	\$36.30	\$43.31	\$114.31	\$210.67

Revenue given typical rotation 45

## 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%				preceding				5.0% 14.0% 15.0% 66.0% 100%				Average =>	
	Revenue \$/acre, weighted by % of crop				5yr avg				5yr avg				% of 5-year average as target =>	
	Corn	Sorghum	Soybeans	Wheat	Corn	Sorghum	Soybean	Wheat	Corn	Sorghum	Soybean	Wheat	all crops	this yr % of 5yr avg
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	
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	
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	
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	
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	
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	
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	
1992	\$8.67	\$18.37	\$27.51	\$66.42	\$120.97	\$4.34	\$13.40	\$16.97	\$57.02	\$91.73	101.9%	\$9.74	\$3.16	
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	
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	
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	
1996	\$11.30	\$26.02	\$37.92	\$102.74	\$177.99	\$7.00	\$18.14	\$23.08	\$65.14	\$133.16	157.0%	\$21.52	\$18.14	
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	
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	
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	
2000	\$4.86	\$9.05	\$6.81	\$58.86	\$79.59	\$8.80	\$20.46	\$26.81	\$82.82	\$143.89	55.3%	\$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	
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	
2003	\$2.26	\$11.59	\$14.06	\$103.21	\$131.12	\$5.70	\$14.44	\$15.49	\$68.98	\$104.60	126.3%	\$8.83	\$0.18	
2004	\$9.66	\$18.52	\$25.12	\$86.92	\$140.22	\$4.49	\$12.98	\$13.13	\$72.42	\$103.03	135.1%	\$12.38	\$5.72	
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	
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	
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	
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	
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	
2010	\$16.55	\$35.81	\$42.88	\$113.49	\$208.72	\$16.53	\$42.25	\$49.86	\$145.18	\$253.82	82.2%	\$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%				preceding				5.0% 14.0% 15.0% 66.0% 100%				Average =>	
	Revenue \$/acre, weighted by % of crop				5yr avg				5yr avg				% of 5-year average as target =>	
	Corn	Sorghum	Soybeans	Wheat	Corn	Sorghum	Soybean	Wheat	Corn	Sorghum	Soybean	Wheat	all crops	this yr % of 5yr avg
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	
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	
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	
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	
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	
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	
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	
1992	\$8.67	\$18.37	\$27.51	\$66.42	\$120.97	\$4.34	\$13.40	\$16.97	\$57.02	\$91.73	101.9%	\$9.74	\$3.16	
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	
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	
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	
1996	\$11.30	\$26.02	\$37.92	\$102.74	\$177.99	\$7.00	\$18.14	\$23.08	\$65.14	\$133.16	157.0%	\$21.52	\$18.14	
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	
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	
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	
2000	\$4.86	\$9.05	\$6.81	\$58.86	\$79.59	\$8.80	\$20.46	\$26.81	\$82.82	\$143.89	55.3%	\$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	
2002	\$2.15	\$11.80	\$8.06	\$75.01	\$97.02	\$7.06	\$16.37	\$19.49	\$74.06	\$11				

[www.agmanager.info/farmmgt/land/lease](http://www.agmanager.info/farmmgt/land/lease) (click on Lease Decision-Making Tools)

### Decision-Making Tools

Some of these files require the Adobe Flash Player.  To download or to update your Flash software, please click <a href="#">HERE</a> , or go to: <a href="http://get.adobe.com/flashplayer/">http://get.adobe.com/flashplayer/</a>					
File Name	Spreadsheet	Excel	View in Web Dashboard	Corresponding Paper	PDF
PastureRent	Web tool for determining pasture rents in the Flint Hills of Kansas		<a href="#">View</a>	Determining Pasture Rents in the Flint Hills of Kansas	<a href="#">Download</a>
KSU-Lease		<a href="#">Download</a>		Explanation of the inputs and concepts associated with the KSU-Lease spreadsheet	<a href="#">Download</a>
KSU-Lease: Flex rent dashboard	Web tool for evaluating flexible rent leases, based on the Flex1 tab of the KSU-Lease spreadsheet.		<a href="#">View</a>		
FlexRent	Tool for determining the terms of a flexible cash rent lease	<a href="#">Download</a>		Explanation of the inputs and output associated with the FlexRent spreadsheet	<a href="#">Download</a>
KSU-Graze	Tool for determining cattle grazing lease agreements	<a href="#">Download</a>		Grazing Leases	<a href="#">Download</a>
BeefCow-Lease	Tool for determining beef cow lease agreements	<a href="#">Download</a>		Developing Equitable Arrangements for Leasing Beef Cows	<a href="#">Download</a>

- 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?)

- 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

“We have decided that we do not need to include [REDACTED] as a farm manager with your lease. We have complete confidence in your operation and always appreciate your open communication and response to any questions and or concerns.”

Information sent from landowner to tenant (sent prior to signing of second lease contract).

