



Flexible Cash Rents – What, Why, and How?

**2009
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Economics:
Macro,
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August 20-21, 2009

K-State Alumni Center
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Manhattan, KS


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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...

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Flexible Cash Rents – WHY?

- Trend in Kansas has been moving away from crop share leases to more cash leases

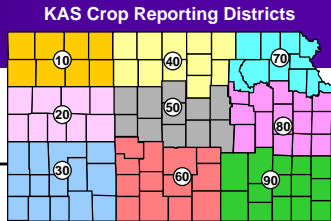


Distribution of leases by type of lease ...

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 -- 2006 KAS/KSU survey

Length of cropland leases ...



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 -- 2006 KAS/KSU survey

Distribution of crop share percentages ...

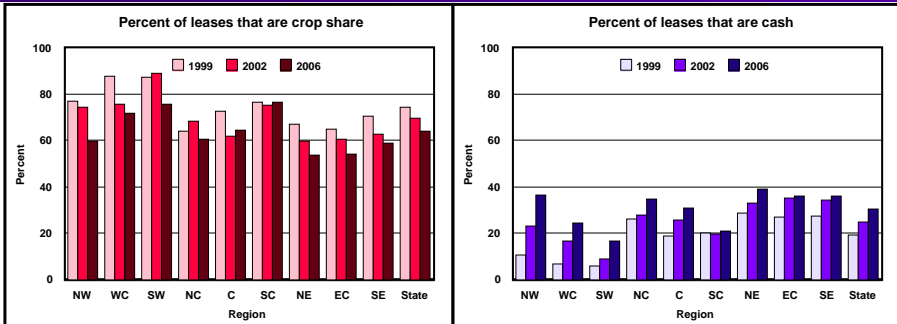
Percent of Leases by Crop Share Percentage

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%
33.3%	90.1%	96.1%	89.5%	69.4%	85.2%	94.3%	20.5%	79.5%	92.6%
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: Schegel and Tsoodle -- 2006 KAS/KSU survey

Wheat belt
Corn belt

Trend towards more cash rent ...



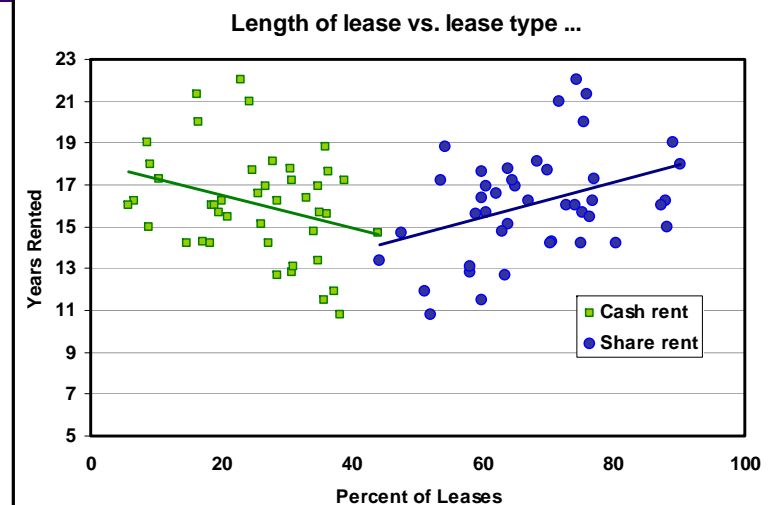
Source: KSU and KS Ag Stat - Non-Irrigated Farm Lease Arrangement Surveys

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?

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)

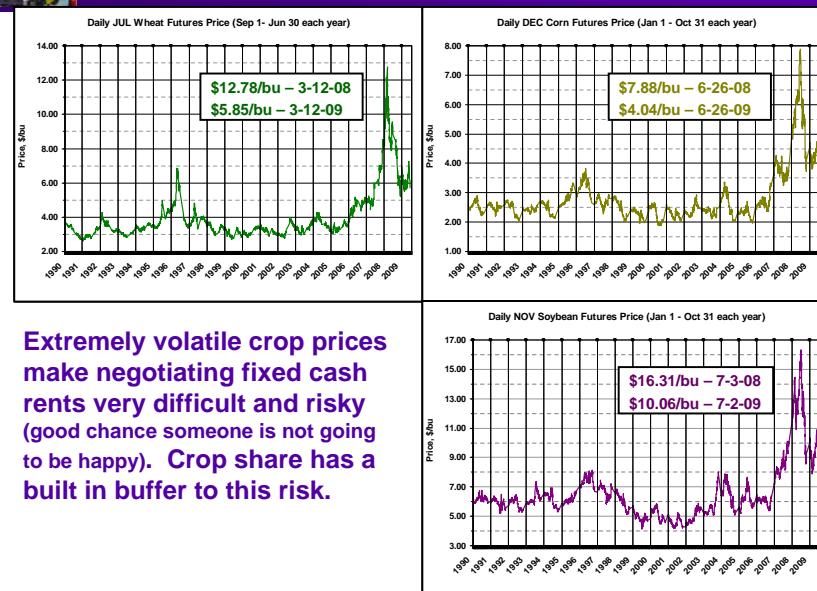


Flexible Cash Rents – WHY?

- 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)



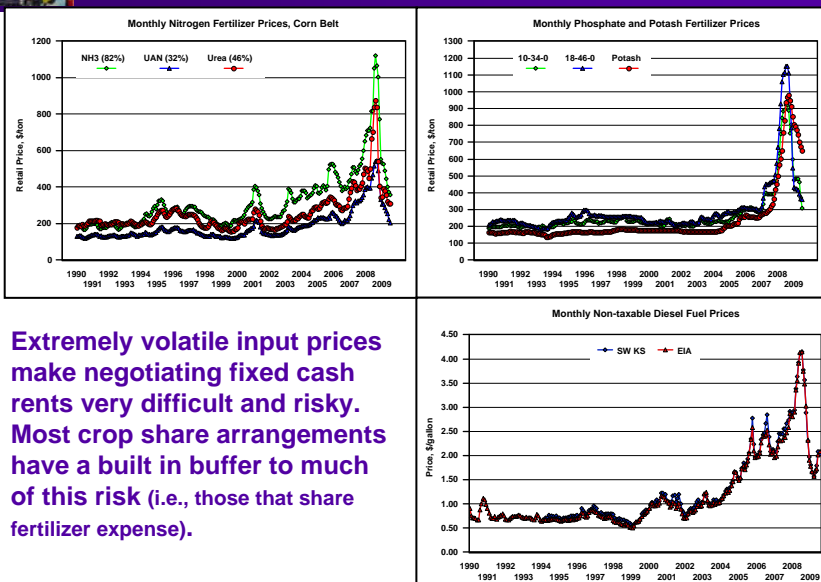
Grain markets have been a bit volatile recently ...



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.



Input markets have been a bit volatile recently ...



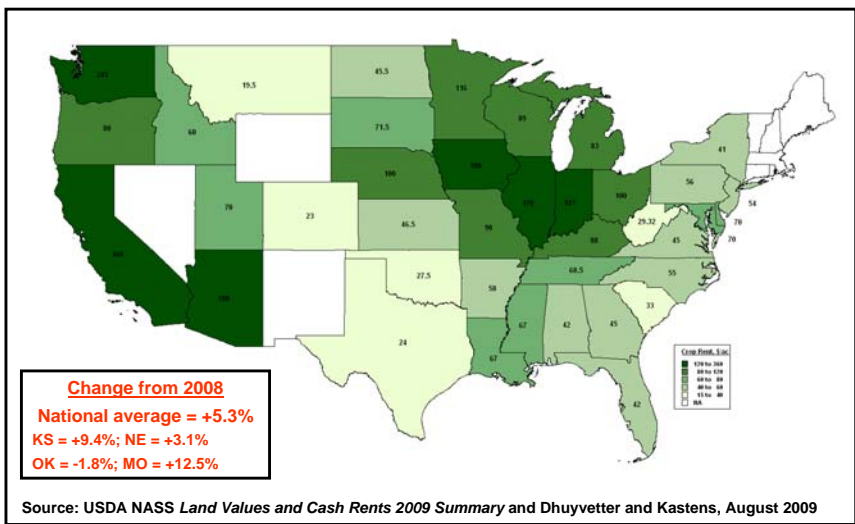
Extremely volatile input prices make negotiating fixed cash rents very difficult and risky. Most crop share arrangements have a built in buffer to much of this risk (i.e., those that share fertilizer expense).



Flexible Cash Rents – WHY?

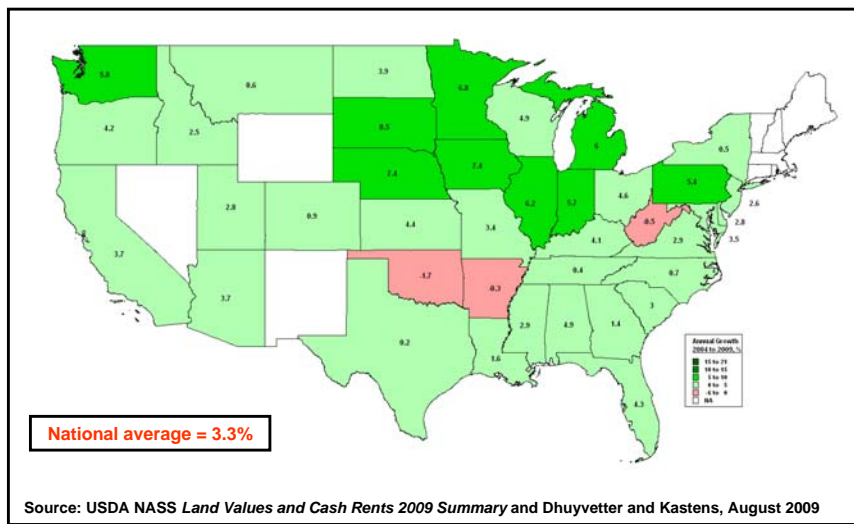
- Trend in Kansas has been moving away from crop share leases to more cash leases
- Volatility of last few years has significantly increased the risk of *fixed* cash rents
 - Most popular question received in the summer of 2008 was “How can I terminate my lease with my current tenant?” (in 2009 several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

Crop Land Average Rent per Acre, 2009

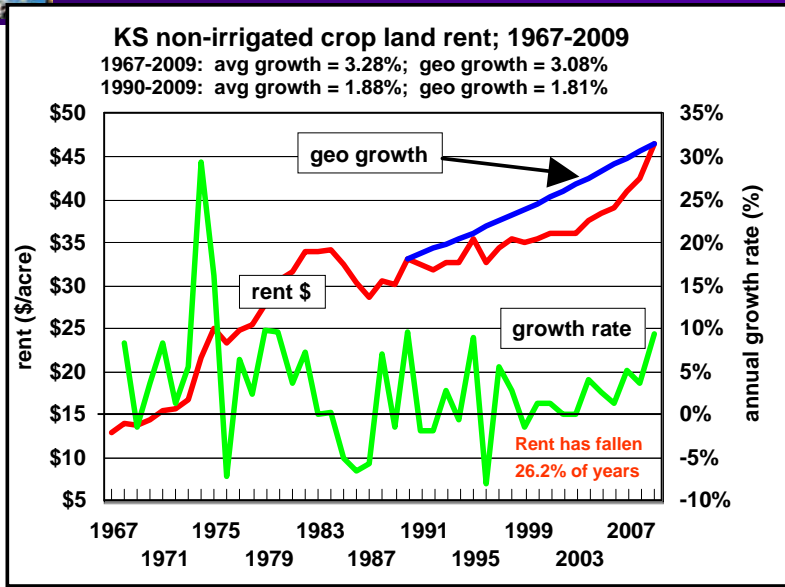


* Corresponding changes in pasture land rents were US=0.0%; KS=+6.5%; NE=0.0%; OK=0.0%; and MO=-3.8%.

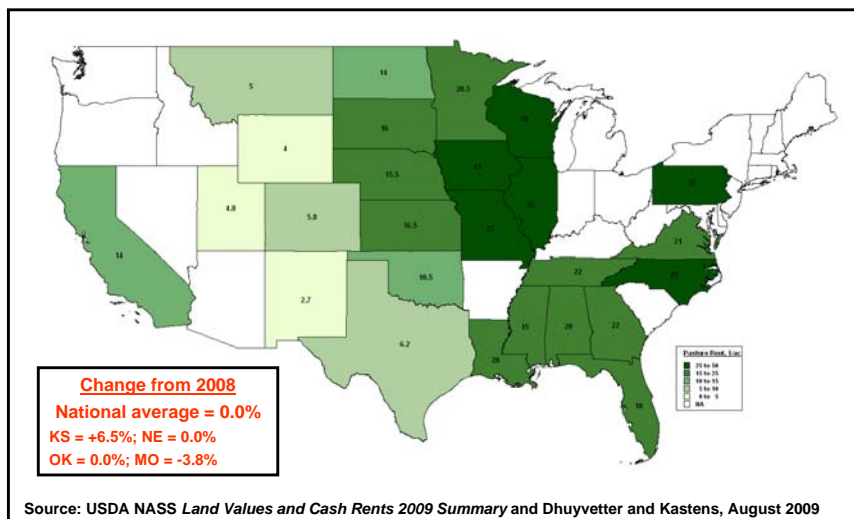
Crop Land Rent Average Annual Growth Rate Jan 1, 2004 to Jan 1, 2009, percent (geo mean)



Cash rent historical perspective

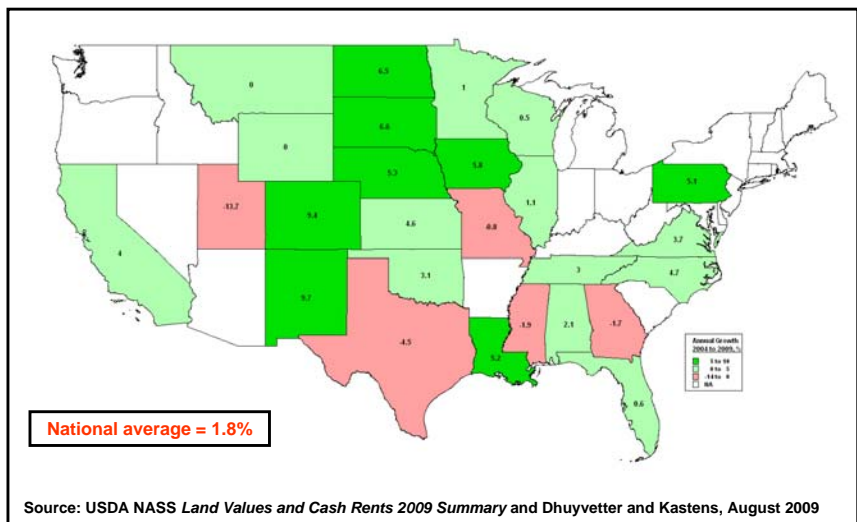


Pasture Land Average Rent per Acre, 2009



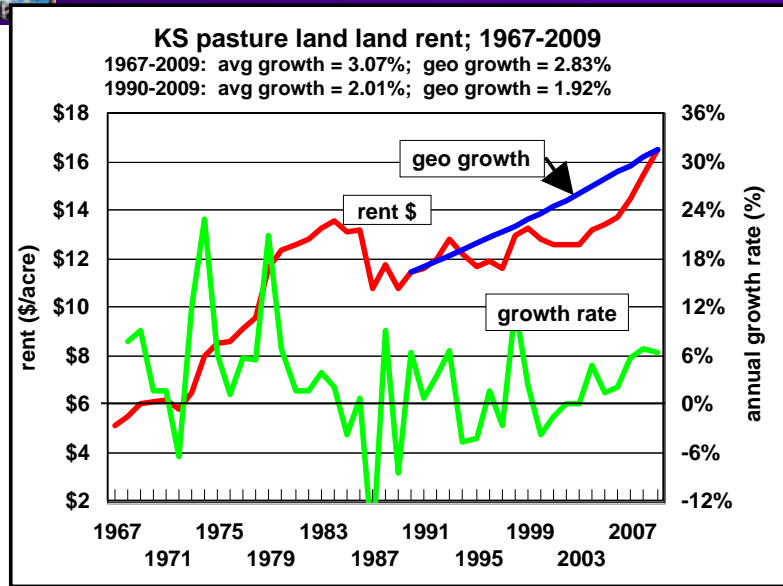
* Corresponding changes in crop land rents were US=+5.3%; KS=+9.4%; NE=+3.1%; OK=-1.8%; and MO=+12.5%.

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



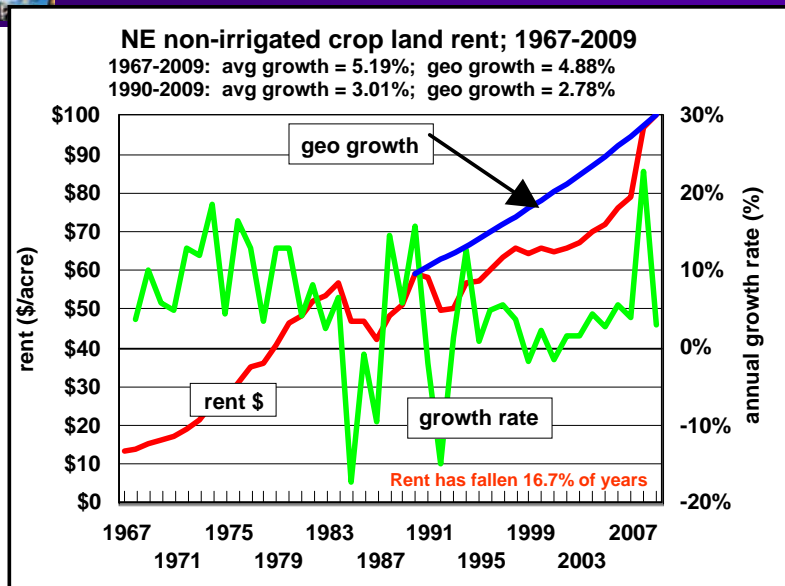
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Cash rent historical perspective



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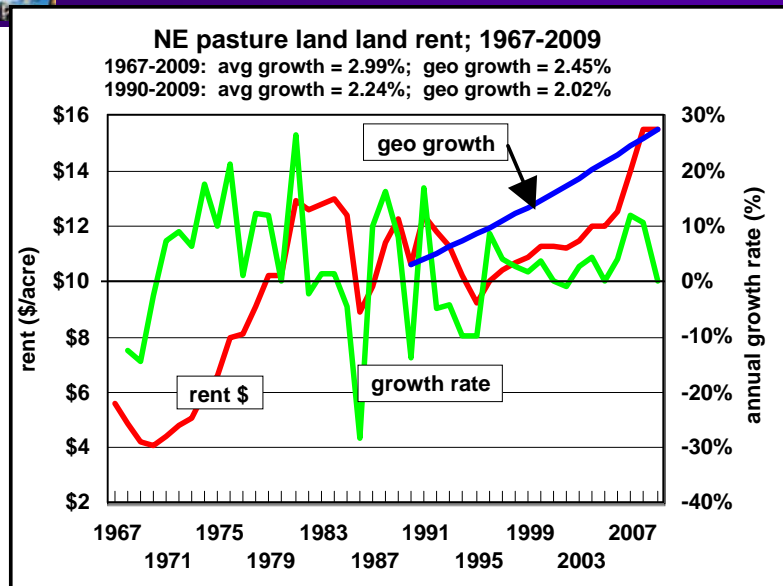
Cash rent historical perspective



1967-2008 average land value growth = 6.17%

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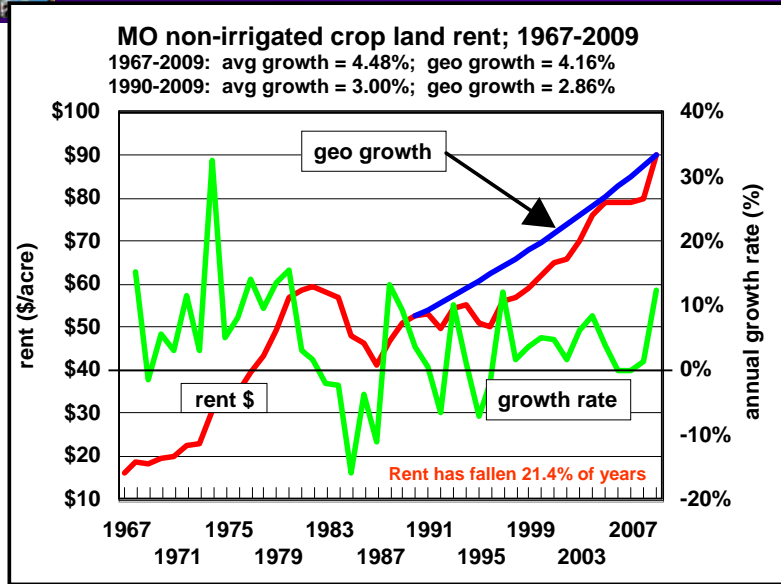
Cash rent historical perspective



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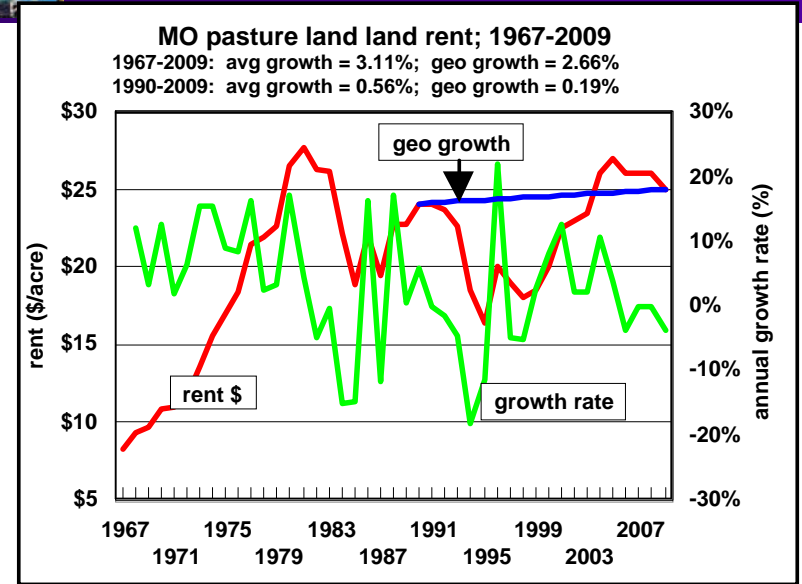
Cash rent historical perspective



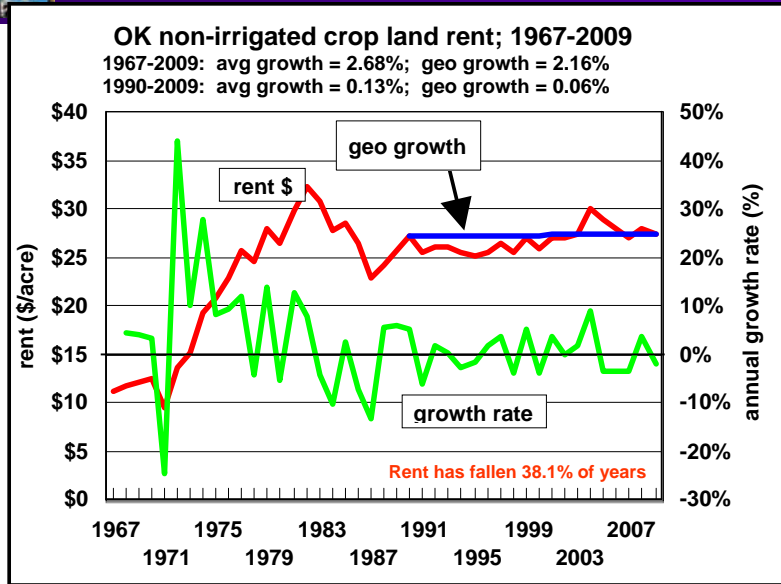
1967-2008 average land value growth = 6.42%



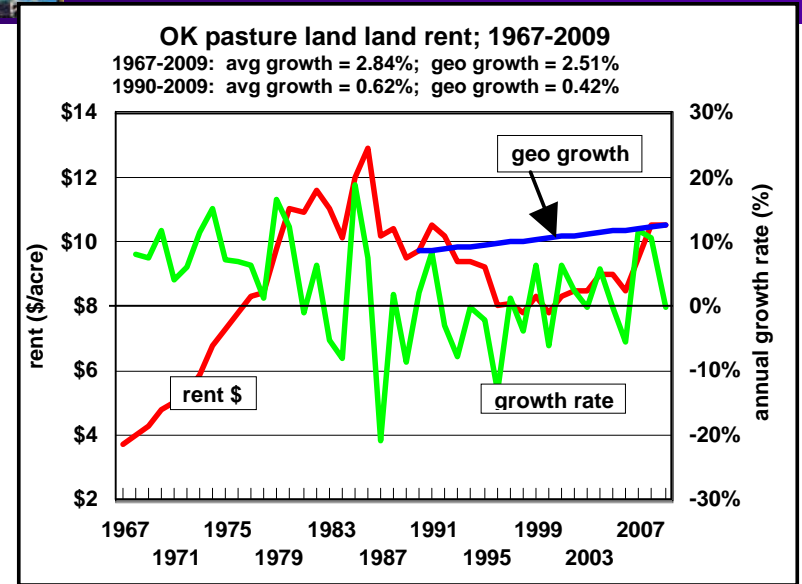
Cash rent historical perspective



Cash rent historical perspective

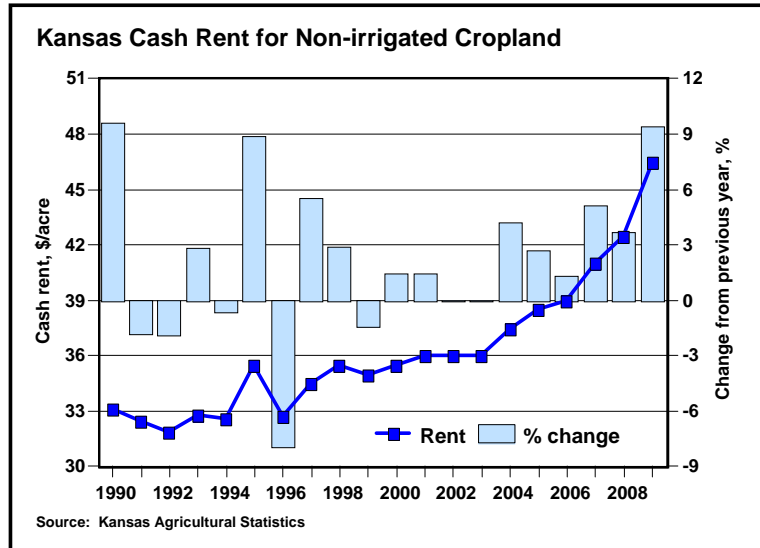


Cash rent historical perspective



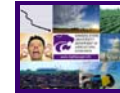


At the very least, vary cash rent from year to year (not perfect, but better than never changing rent)



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

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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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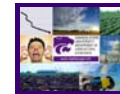


Flexible Cash Rents – HOW?

- 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

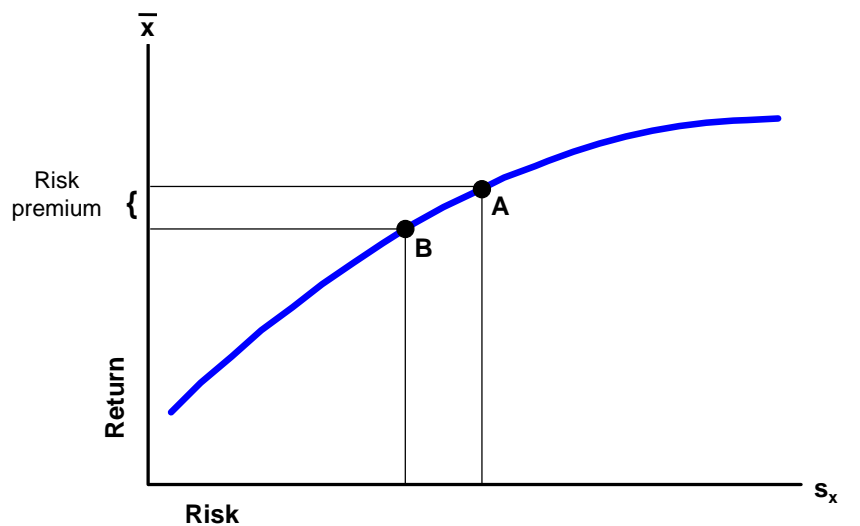
- Risk: variation about expected outcome
 - Suggests that the cash-equivalent of a share lease will be greater than cash rent
- Hasn't helped much in understanding rents
 - Tenant's risk lower recently (1990s thru 2006)
 - Cash rent is not riskless
 - Costs may be higher with share rents
 - So cash rents 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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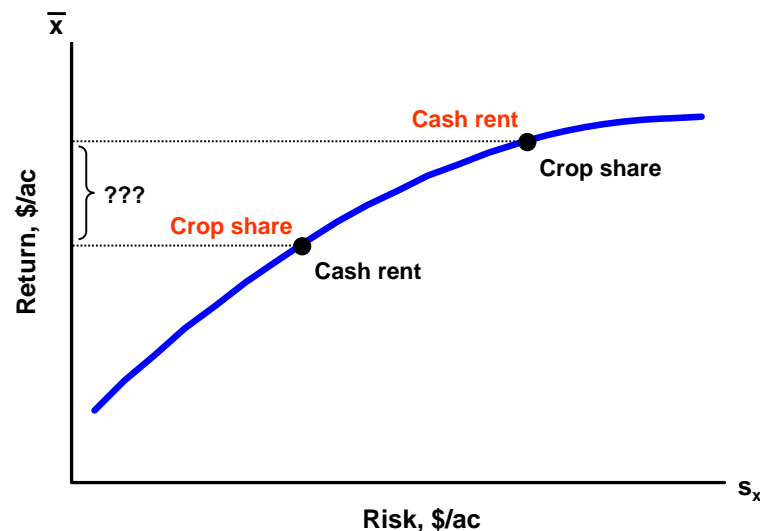
Risk-return tradeoff



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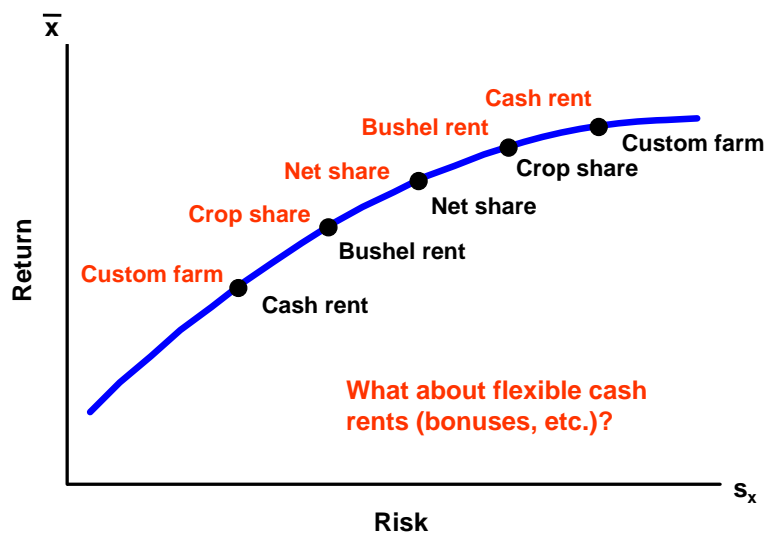
Landowner/producer risk-return tradeoff



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Landowner/producer risk-return tradeoff



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Flexible Cash Rents – HOW?

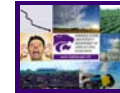
- This is the tricky part...
- There is no right way to do this!
- A couple things to keep in mind
 - Risk-return trade-off suggests that higher risk is associated with higher expected returns and vice versa
 - Absolutely critical that all parties involved understand the flexible arrangement and how 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



Flexible Cash Rents – HOW?

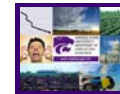
Questions to ask

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)



Flexible Cash Rents – EXAMPLES

- Two 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



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

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

A. Market cash rent, \$/acre								\$46.50
B. Adjustment to market rent, \$/acre								-\$2.50
C. Base cash rent, \$/acre (A+B)								\$44.00
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	Corn	Milo	Soybean	Wht-R	Wht-C	DC SB	Total	
H. Include crop (Y=1, N=0)	1	1	1	1	1	0		
I. Base acres	10	50	20	80	160	40	320	
J. Base yield	90	80	28	50	45	20		
K. Base price	\$3.00	\$2.40	\$7.50	\$4.50	\$4.50	\$7.50		
L. Expected revenue	\$270.00	\$192.00	\$210.00	\$225.00	\$202.50	\$150.00		\$66,900

Issues to resolve:

- 1) Where does base cash rent come from?
- 2) Where do base acres, yields, and prices come from
(these should be 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 1 (KSU-Lease.xls)

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G. Crop	Corn	Milo	Soybean	Wht-R	Wht-C	DC SB	Total
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L. Expected revenue	\$270.00	\$192.00	\$210.00	\$225.00	\$202.50	\$150.00	\$66,900

M. Actual acres	22	38	25	85	150	0	320
N. Actual yield	93	86	32	47	42	23	\$65,070
O. Actual price	\$3.15	\$2.65	\$7.80	\$4.80	\$4.80	\$7.80	\$71,563
P. Actual revenue	\$292.95	\$227.90	\$249.60	\$225.60	\$201.60	\$179.40	\$69,621

	% chg from base	Rent, \$/ac
Q. Cash rent flexing on yield only	-2.7%	\$44.00
R. Cash rent flexing on price only	7.0%	\$47.24
S. Cash rent flexing on revenue (yield x price)	4.1%	\$45.89

Issues to resolve:

- 1) Do you use actual acres or base acres in calculations?
- 2) Do you use actual yields or county yields (do they need to be verified)?
- 3) What actual prices should be used (location, time, etc)?

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

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E. Percent of change to factor into flexible rent								100%
F. Adjustments based on Base acres or Actual acres								Base

G. Crop	Corn	Milo	Soybean	Wht-R	Wht-C	DC SB	Total
H. Include crop (Y=1, N=0)	1	1	1	1	1	0	
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L. Expected revenue	\$270.00	\$192.00	\$210.00	\$225.00	\$202.50	\$150.00	\$66,900

M. Actual acres	22	38	25	85	150	0	320
N. Actual yield	93	86	32	47	42	23	\$65,070
O. Actual price	\$4.50	\$3.85	\$10.00	\$6.25	\$6.25	\$10.00	\$95,050
P. Actual revenue	\$418.50	\$331.10	\$320.00	\$293.75	\$262.50	\$230.00	\$92,640

	% chg from base	Rent, \$/ac
Q. Cash rent flexing on yield only	-2.7%	\$44.00
R. Cash rent flexing on price only	42.1%	\$63.57
S. Cash rent flexing on revenue (yield x price)	38.5%	\$61.89

If prices take a big unexpected jump, the cash rent paid will increase substantially. However, if prices drop substantially rent will not go below the base rent (\$44/ac) in this example.

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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								\$46.50
B. Adjustment to market rent, \$/acre								-\$2.50
C. Base cash rent, \$/acre (A+B)								\$44.00
D. Flex direction (Both (up and down) vs Up)								Up

E. Crop	Corn	Milo	Soybean	Wht-R	Wht-C	DC SB	Total
F. Include crop (Y=1, N=0)	1	1	1	1	1	0	
G. Acres	10	50	20	80	160	40	320
H. Base yield	90	80	28	50	45	20	
I. Base price	\$3.00	\$2.40	\$7.50	\$4.50	\$4.50	\$7.50	
J. Crop insurance premium	\$16.00	\$14.00	\$18.00	\$15.00	\$18.00	\$0.00	\$5,300
K. Expected revenue + prem	\$286.00	\$206.00	\$228.00	\$240.00	\$220.50	\$150.00	\$72,200
L. Non-land costs	\$309.73	\$222.55	\$158.22	\$226.87	\$205.32	\$133.76	\$68,390
M. Bonus above gross, %	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	

Issues to resolve:

- 1) Where does base cash rent come from?
- 2) Where do base acres, yields, and prices come from (these should be consistent with base rent)?
- 3) What crops should all be included?
- 4) Do you include crop insurance as part of gross revenue?
- 5) Does rent flex both directions or only up?
- 6) What bonus above base gross income should be used?

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D. Flex direction (Both (up and down) vs Up)								Up

E. Crop	Corn	Milo	Soybean	Wht-R	Wht-C	DC SB	Total
F. Include crop (Y=1, N=0)	1	1	1	1	1	0	
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L. Non-land costs	\$309.73	\$222.55	\$158.22	\$226.87	\$205.32	\$133.76	\$68,390
M. Bonus above gross, %	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	

N. Actual yield	93	86	32	47	42	23	
O. Actual price	\$3.15	\$2.65	\$7.80	\$4.80	\$4.80	\$7.80	
P. Crop ins indemnity	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
Q. Actual revenue	\$292.95	\$227.90	\$249.60	\$225.60	\$201.60	\$179.40	\$69,621
R. Bonus due, \$/acre	\$2.31	\$7.29	\$7.19	\$0.00	\$0.00	\$0.00	\$1.66
S. Cash rent due, \$/acre	\$46.31	\$51.29	\$51.19	\$44.00	\$44.00	\$0.00	\$45.66

Issues to resolve:

- 1) Do you use actual yields or county yields (do they need to be verified)?
- 2) What actual prices should be used (location, time, etc)?

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F. Include crop (Y=1, N=0)	1	1	1	1	1	0	
G. Acres	10	50	20	80	160	40	320
H. Base yield	90	80	28	50	45	20	
I. Base price	\$3.00	\$2.40	\$7.50	\$4.50	\$4.50	\$7.50	
J. Crop insurance premium	\$16.00	\$14.00	\$18.00	\$15.00	\$18.00	\$0.00	\$5,300
K. Expected revenue + prem	\$286.00	\$206.00	\$228.00	\$240.00	\$220.50	\$150.00	\$72,200
L. Non-land costs	\$309.73	\$222.55	\$158.22	\$226.87	\$205.32	\$133.76	\$68,390
M. Bonus above gross, %	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	
N. Actual yield	93	86	32	47	42	23	
O. Actual price	\$4.50	\$3.85	\$10.00	\$6.25	\$6.25	\$10.00	
P. Crop ins indemnity	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
Q. Actual revenue	\$418.50	\$331.10	\$320.00	\$293.75	\$262.50	\$230.00	\$92,640
R. Bonus due, \$/acre	\$44.12	\$41.66	\$30.64	\$17.90	\$13.99	\$0.00	\$21.27
S. Cash rent due, \$/acre	\$88.12	\$85.66	\$74.64	\$61.90	\$57.99	\$0.00	\$65.27

If prices take a big unexpected jump, the cash rent paid will increase substantially. However, if prices drop substantially rent will not go below the base rent (\$44/ac) in this example.

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Flexible Cash Rents – Corn Belt Examples

(from examples in Corn & Soybean Digest article)

- 1) Base rent
+ 35% of gross revenue above \$800 for corn
+ 40% of gross revenue above \$600 for soybeans
- 2) Base rent + 35% of gross revenue above \$600
- 3) Base rent of \$140/ac (soybeans)
Tenant cost of production = \$260/ac
Base gross revenue = \$360/ac
Bonus = 46% of gross revenue above base

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Flexible Cash Rents – Corn Belt Examples

(from examples in Corn & Soybean Digest article)

- 3) Base rent of \$140/ac (soybeans)
Tenant cost of production = \$260/ac
Base gross revenue = \$360/ac
Bonus = 46% of gross revenue above base

a) High price:

52 bu @ \$8.50/bu = \$442/ac
 Bonus = (\$442 - \$360) x 46% = \$38
 Rent = \$140 (base) + \$38 (bonus) = \$178
 Tenant return = \$442 - \$260 - \$178 = \$4/ac

b) Average price:

52 bu @ \$7.00/bu = \$364/ac
 Bonus = (\$364 - \$360) x 46% = \$2
 Rent = \$140 (base) + \$2 (bonus) = \$142
 Tenant return = \$364 - \$260 - \$142 = -\$38/ac

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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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