

Cropland Leasing – Understanding the In's/Out's and What's Fair

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Purpose of land talks

- Develop an understanding of the underlying economic principles and management aspects of land ownership and leasing
- Trying to reduce decisions to numbers
- Two decision tools:
 - *KSU-Landbuy.xls*
 - *KSU-Lease.xls*

Related papers are found at
www.agmanager.info

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Factors/issues impacting land values

(alphabetical order)

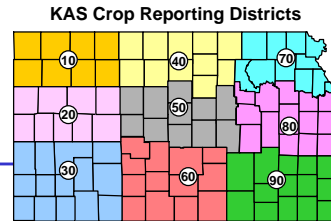
- Farm profitability
- Farm size
- Government programs
- Input costs (e.g., fuel and fertilizer)
- Interest rates
- Outside investors (i.e., stock market money)
- Recreation uses (e.g., hunting)
- Renewable fuels (ethanol and bio-diesel)
- Section 1031 tax exchanges
- Technology (e.g., no-till, precision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

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Background for land leasing

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Length of cropland leases ...



Region	Years rented
Northwest (10)	22.0
West Central (20)	21.3
Southwest (30)	19.0
North Central (40)	18.1
Central (50)	16.6
South Central (60)	15.7
Northeast (70)	16.4
East Central (80)	15.7
Southeast (90)	14.8
State	17.7

Source: Golden, Tsoodle, and Bigge -- 2002 KAS/KSU survey

Distribution of leases by type of lease ...

Region	Cash	Share	Other
Northwest	23.0%	74.3%	2.7%
West Central	16.4	75.8	7.8
Southwest	8.7	89.1	2.2
North Central	27.8	68.2	4.0
Central	25.7	62.0	12.3
South Central	19.7	75.2	5.1
Northeast	33.1	59.9	7.0
East Central	35.0	60.4	4.6
Southeast	34.2	62.9	2.9
State	24.8	69.8	5.4

Source: Golden, Tsoodle, and Bigge -- 2002 KAS/KSU survey

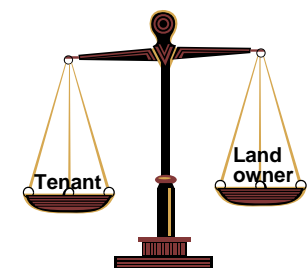
In recent years, the majority of leasing questions received pertain to:

- Impact of adopting new technologies
- Cash renting
- “Non-traditional” leases
 - Net share rent
 - Flexible cash rent
 - Bushel rent
 - Combination cash/cropshare

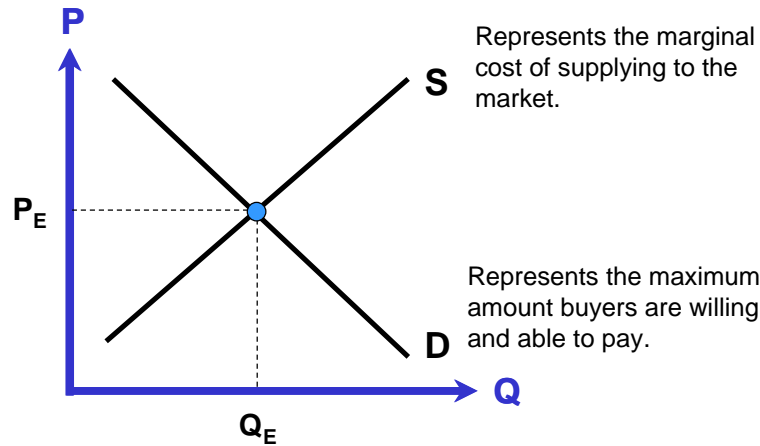
... while current “hot topic” changes over time, the method of addressing questions has not changed.

Determining the terms of a lease ...

How are cash lease rates or the terms of crop share leases established?



Market established rental rates ...

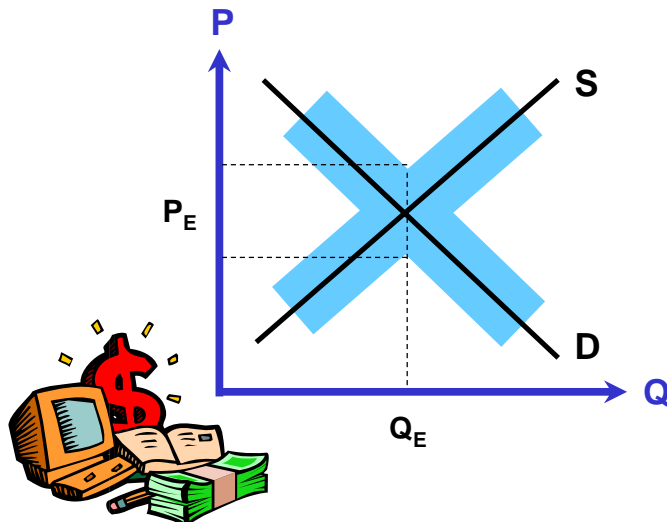


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Market established rates...

- Land Use Value Project of the KSU Ag Econ Dept annually conducts one of four surveys (irrigated, non-irrigated, pasture, input costs)
- Kansas Agricultural Statistics (KAS) annually surveys landowners and producers regarding land values and cash rents
- Local and regional surveys of leasing practices
- With surveys there is often a trade-off between statistical validity and level of aggregation

Market established rental rates



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Ways to find equilibrium price/share ...

While landowners and tenants (i.e., the market) ultimately determine terms of crop share and cash leases, we use the equitable concept to arrive at a starting point for negotiations.

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Equitable vs. traditional share rent ...

Equitable: Income is shared in the same proportion as the contribution of total inputs.

Traditional: Income and shared expenses (if any) are shared in the same proportion as what has been done in the past. Share rent based on tradition may, or may not, be equitable.

Traditional = Equitable in the long-run

Principles embodied in an equitable lease ...

- Profit maximization (MR=MC)
- Economic profits (expected profit = 0)
- Opportunity costs
- Risk across lease types
- Equal rates of return on annual investment (if economic profit = 0, then rate of return = 0)

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A good crop share lease should follow five basic principles ...

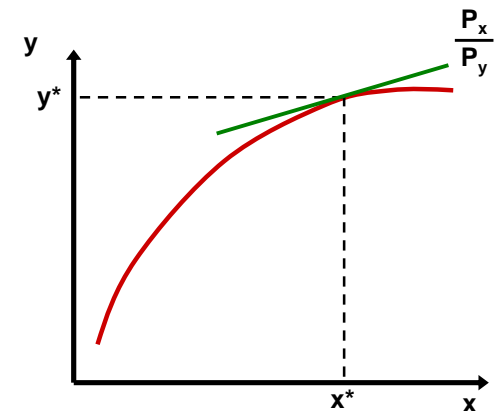
1. Yield increasing inputs should be shared
 2. Share arrangements should be evaluated as technology changes
 3. Total returns divided in same proportion as resources contributed
-
4. Compensation for unused long-term investments at termination
 5. Good landlord/tenant communications

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Principle #1: Yield increasing inputs should be shared

Examples of yield increasing inputs

- Fertilizer
- Irrigation water
- Herbicides ???
- Seed ???

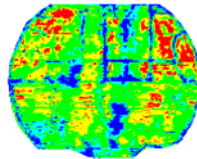


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Principle #2:
Technology may affect share arrangements

Examples of technological change

- Reduced-/no-till
- New crops and/or rotations
- Center pivot irrigation
- Hybrid seed
- Bio-technology
- Precision agriculture (GPS)

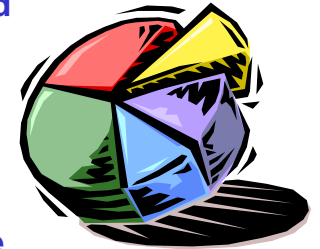


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Principle #3:
Returns divided in same proportion as resources contributed.

This requires annual contributions of both parties to be identified (budgeting type approach).

Valuing inputs can depend on whether the lease being developed is a one-year lease versus multiple-year lease.

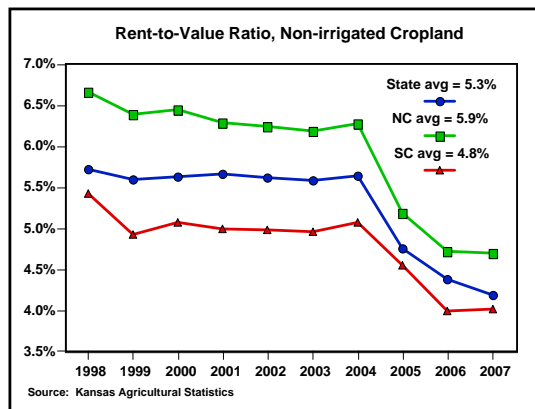


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Land contribution ...

The land contribution has typically been based on an “average market value” for the land along with an historical average return to land.

As cash leases become more common, the land contribution can be set equal to the cash rent.



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Machinery contributions ...

Machinery contribution should be based on average costs. Two methods for estimating the machinery contribution:

1. Machinery investment approach - annual contribution is based on depreciation, interest, repairs, fuel and oil, and labor.
2. Custom rates approach - annual contribution is based on reported custom rates and the typical operations.



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Crop production input contributions ...

The value of contributions for input expenses such as seed, herbicides, insecticides, fertilizer, etc. are generally valued at current market prices and represent “typical” production practices.

How do we deal with input prices if they currently deviate significantly from historical averages (e.g., fertilizer, fuel)?

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Principle #4: Compensation for unused long-term investments at lease termination.

It is generally recommended that landowners make long-term investments such as terraces, irrigation well, lime, alfalfa seed, etc.

If the tenant pays for long-term investments, or shares their cost, he should be compensated for his share of any value that remains when the lease is terminated

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Principle #5: Good communications between the landlord and the tenant.

Because so many of the terms of a lease are based on negotiation between the landowner and the tenant, good communications are critical.

A lease is a legal contract in Kansas, thus it is suggested that terms of the lease agreed upon by both parties be put in writing. This becomes more important as the complexity of leases increases – or as the volatility of crop and input prices increases.

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Tests of a good crop share lease ...

- Are yield increasing inputs shared?
- Does it have flexibility to deal with change?
- Does it promote optimal management?
- Is income shared in same % as contributions?
- Is it written?
- Will it be reviewed periodically?
- Do all parties agree that lease is “fair”?

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“Non-traditional” leases ...

- Cash rent
- Net share rent
- Bushel rent
- Flexible cash rent
- Combination cash and crop share rent

Because there is currently much interest in these types of leases, there must be good reasons to use them ...

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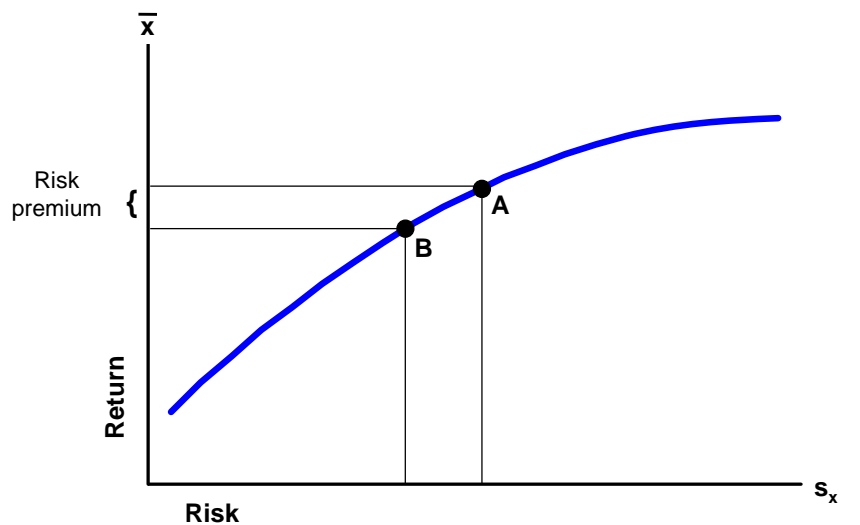
“Non-traditional” leases ...

Numerous good reasons to use these different types of leases, but landowners and producers need to recognize several things when doing so ...

- Communication is critical
- Rules-of-thumb really don't exist
- More important to have a written lease
- Pay special attention to FSA rulings

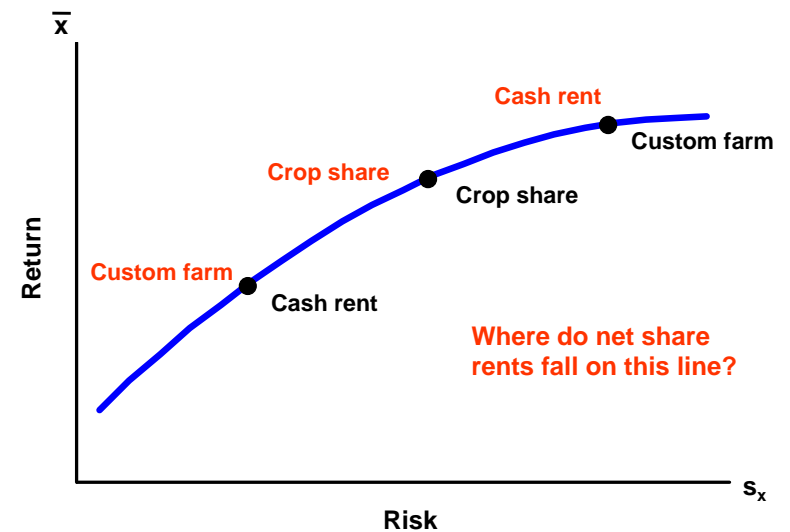
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Risk-return tradeoff



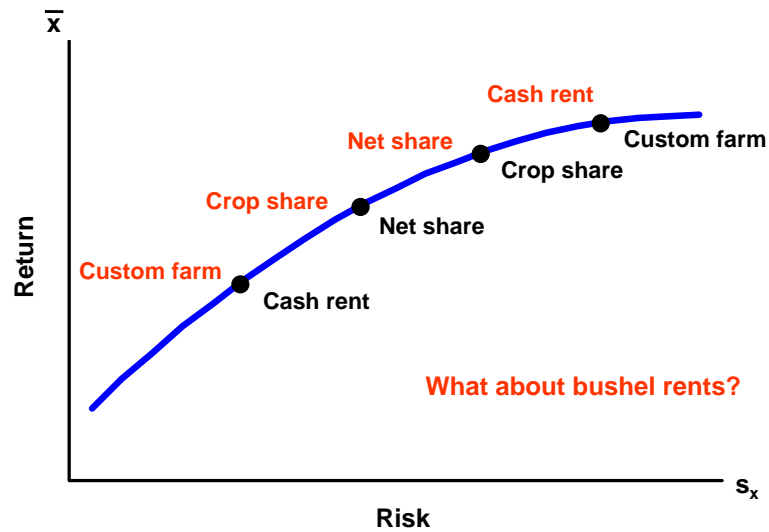
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Landowner/producer risk-return tradeoff



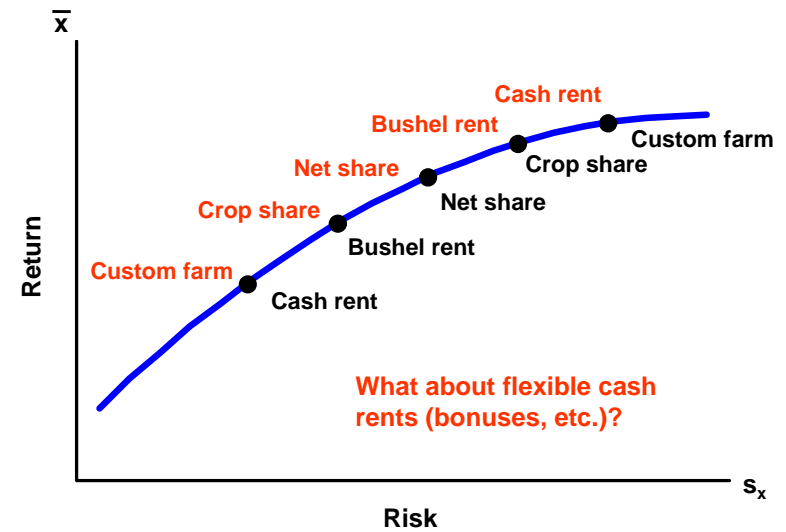
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Landowner/producer risk-return tradeoff



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Landowner/producer risk-return tradeoff



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Methods of establishing cash rent values ...

- Market going rate (if available)
-
- Crop share equivalent (adjusted for risk)
- Landowner's cost
- Amount tenant can afford to pay

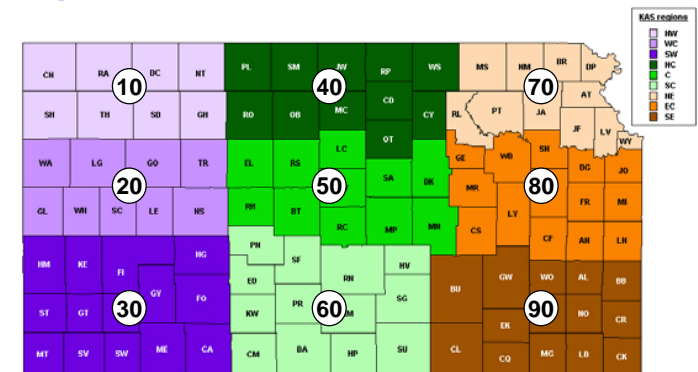


The last three require yield, price, and government payment projections (as well as cost information used for crop share).

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Market going rate ...

- Kansas Agricultural Statistics (KAS) reports average cash rent values for non-irrigated, irrigated, and pasture land at the crop reporting district (CRD) level



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KAS surveyed market rates ...

United States Department of Agriculture
National Agricultural Statistics Service, Kansas Field Office
AGRICULTURAL LAND VALUES & RENTS
Kansas Agricultural Statistics
Cooperating with the Kansas Department of Agriculture
810 West 1034 - Topeka, KS 66604-2024 - (785) 235-2275 - www.kas.usda.gov - kasstats@nass.usda.gov
Released: August 18, 2007

Highlights
Kansas' average value of all farmland and buildings for 2007 is estimated to be \$1,090 per acre. This compares with \$940 in 2006 and \$850 in 2005. Kansas' average value of all farmland and buildings increased by 16 percent from 2006 to 2007. The total value of all farmland and buildings was \$51.4 billion dollars or an increase of almost 10 percent from last year. Irrigated cropland values rose 5.5 percent, non-irrigated was up 10.1 percent, and pasture land values increased 15.8 percent.
Rental rates for non-irrigated cropland increased by \$2.00 per acre and irrigated cropland was \$8.50 per acre. Pasture rents for 2007 rose \$.50 per acre to \$14.50 per acre.

Year	Cropland		Pasture and Rangeland		All Farmland and Buildings				
	Value	Rent	Value	Rent	Value	Total Value			
	Non-irrigated	Irrigated	Non-irrigated	Irrigated	Value	Rent			
1996	966	607	638	68.30	32.70	361	11.90	553	26.288
1997	990	615	649	69.00	24.50	265	11.60	555	26,838
1998	1,010	620	655	67.00	35.50	367	13.00	577	26,838
1999	1,020	625	660	68.00	35.00	370	13.30	600	26,500
2000	1,040	630	666	67.00	35.50	380	12.80	625	26,688
2001	1,060	635	673	72.00	36.00	390	12.60	645	26,508
2002	1,090	640	679	72.00	36.00	400	12.60	665	27,455
2003	1,080	645	684	68.00	36.00	410	12.60	685	28,332
2004	1,110	660	705	72.00	37.50	430	13.20	715	33,748
2005	1,240	810	849	73.00	38.50	530	13.40	850	45,120
2006	1,300	890	927	74.00	39.00	640	13.70	940	44,960
2007	1,410	980	1,020	82.00	41.00	740	14.50	1,090	51,448

* Rental rates are for land only.

Survey Background
The Agricultural Land Values & Rents Survey is conducted during May/June 2007. Survey respondents were asked to provide information on the value of the land they operate and the rental rates for any land they rented. Additional land value and rent data were collected in the June Agricultural Survey.
The Census provides the official base for estimates of all farmland values. However, the Census occurs only every five years and only estimates the value of all agricultural land and buildings. The Land Values & Rents Survey and Agricultural Survey provide data to make annual estimates of both market values and rental rates for different categories of farmland.
The average values in this report encompass a wide range of soil types and practices. These data are more appropriate for studying overall trends and should not be used to establish rental rates or market values.

KAS report

Farm Management Guide MF-1100
Kansas Land Prices and Cash Rental Rates
Department of Agricultural Economics - www.pmpg.org
Kansas State University Agricultural Experiment Station and Cooperative Extension Service

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Agricultural Economist
Farm Management

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Agricultural Economist
Crop Production

This Farm Management Guide reports Kansas land prices and cash rents for 1998-2007. These data are useful to farm managers in determining cash rental rates, to financial agencies in evaluating income for existing farm education in land prices, and to landowners and growers who have expectations on existing prices and levels for farmland. The average prices in this guide encompass prices of land that vary widely in productivity. This data are more appropriate for studying overall trends than the individual county value or recent news on specific areas of farmland.

Kansas Agricultural Statistics
For reporting purposes, Kansas Agricultural Statistics Service has divided the state into six agricultural statistical districts: the districts are: Northwest (NW), West Central (WC), Southwest (SW), South Central (SC), Central (C), and Southeast (SE). Source: USDA, Kansas Agricultural Statistics Service, Kansas Department of Agriculture, and Kansas State University Agricultural Experiment Station and Cooperative Extension Service.

Kansas Land Prices
Table 1 through 6 show average prices of land and buildings by county. District and the average price of the land and buildings are reported. Data are shown for each of the six land groups: all land in farms, all irrigated, non-irrigated cropland, irrigated cropland, and pasture. The rental rates are based on February 1 for 1998-2006, and January 1 for 2007-2007.

Table 1. Price per acre of land in farms and buildings, Kansas Agricultural Statistics, 1998-2007*

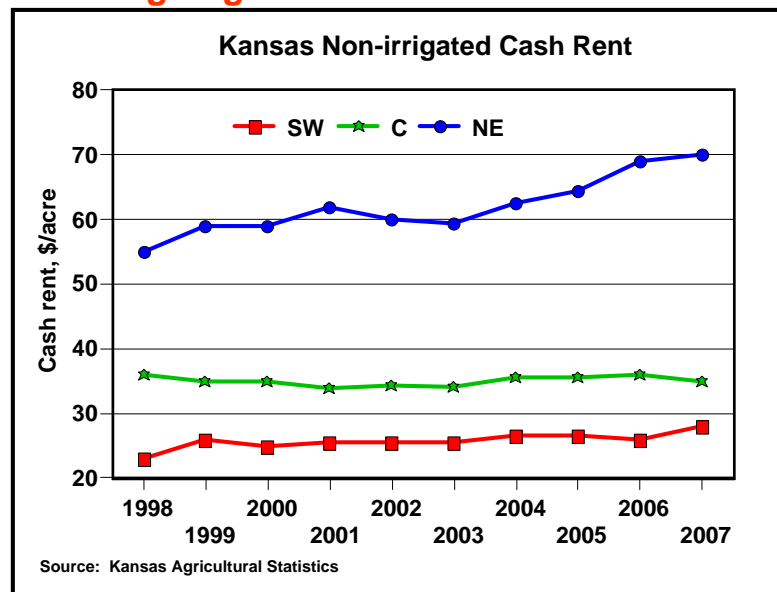
Year	NW	WC	SW	SC	C	SE	Total
1998	1015	1012	942	1020	1048	1013	1018
1999	984	988	940	1012	1048	1013	1018
2000	1015	1012	942	1020	1048	1013	1018
2001	1015	1012	942	1020	1048	1013	1018
2002	1015	1012	942	1020	1048	1013	1018
2003	1015	1012	942	1020	1048	1013	1018
2004	1015	1012	942	1020	1048	1013	1018
2005	1015	1012	942	1020	1048	1013	1018
2006	1015	1012	942	1020	1048	1013	1018
2007	1015	1012	942	1020	1048	1013	1018

Land Economics 7 - Revised October 2007

KSU report

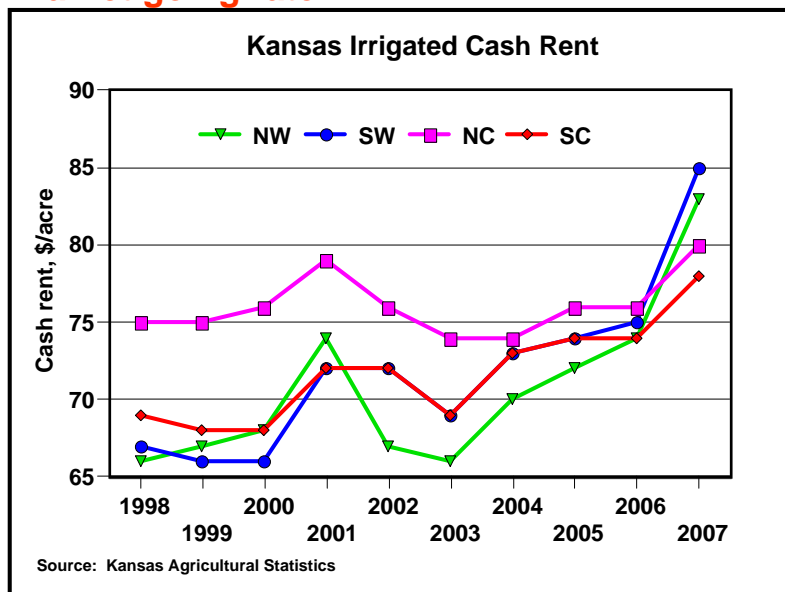
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Market going rate ...



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Market going rate ...



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County-level cash rents ...

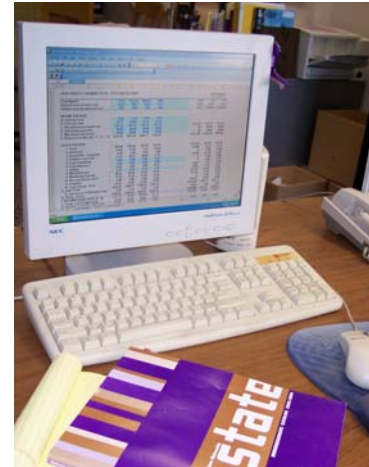
- County-level cash rents were estimated for non-irrigated crop and pasture land based upon the KAS reported CRD values
- CRD values prorated to individual counties based on 3-year average of county-level rents from FSA and 2002 census acreage data
- Weighted average county-level cash rents are exactly equal to the KAS reported district value
- Similar procedure was done for land values

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Using *KSU-Lease*

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Using “*KSU-Lease.xls*” to determine equitable crop share and cash leases ...



Information/data required:

1. Crop rotation/mix
2. Income information
3. Production inputs
4. Machinery costs
5. Land value
6. Irrigation equipment
-
7. Contributor of input
8. Risk adjustment

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Sources of data ...

- Crop budgets are designed to follow KSU Farm Management Guides and thus these budgets are often a good “first start” at inputs
- Machinery costs are based on custom rates approach (as opposed to investment per acre)
- Generally suggest using “average” data as opposed to farm-specific data, but this will depend on situation

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Level of complexity ...

- *KSU-Lease* is extremely flexible and can be used to generate leases with terms that are quite simple to extremely complex
- For example equitable percentages for ...
 - net share lease (i.e., no inputs shared)
 - fertilizer shared equitably (i.e., same % as income)
 - fertilizer shared equitably, herbicides shared in some other proportion
 - different inputs shared differently for each crop
 - combination of crop share and cash rent
 - percent of yield for bushel rent

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Microsoft Excel - KSU Lease (SC Kansas).xls

KSU Lease.xls ----- A spreadsheet budgeting program to determine equitable crop share and cash lease rental arrangements.

Version -- 11.19.07

INPUTS vs CALCULATED VALUES
 In the *Crop budgets*, *Shares*, and *Lease budgets* sheets all blue numbers are inputs and all black numbers are calculated from these inputs. The spreadsheet automatically recalculates every time an additional input is entered. Thus, it is important to wait until all data have been entered and reviewed before interpreting any of the calculated results (i.e., black numbers).

DESCRIPTION OF INPUTS
 The paper titled *KSU Lease.pdf* serves as a "users guide" and provides a brief overview of this spreadsheet. Also, several of the input cells (i.e., blue number) have a red diamond in the upper right hand corner of the cell. By moving your mouse cursor over this diamond, a brief description of the input will be displayed on the screen.

COMPANION PUBLICATIONS
 This spreadsheet was developed as a decision-aid tool based on the principles of equitable leases outlined in several publications that can be found on the K-State Ag Econ departmental website (www.agecon.ksu.edu). Additionally, the budget format of this spreadsheet was designed to follow that of the K-State Farm Management Guide crop budgets, which are also available on the Ag Econ website, so they can also be a useful resource when analyzing leasing alternatives.

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 website: www.agmanager.info

Various tabs

Intro / Crop budgets / Shares / Lease budgets / Irr energy costs / Notes /

Microsoft Excel - KSU Lease (SC Kansas).xls

CROP BUDGETS SHOWING TOTAL COSTS AND RETURNS

Crop/System	Corn	Milo Soybeans	Wheat	Total	Per Acre	Per Acre
Planted acres of each crop	11.0	157.5	20.3	320.0	Planted	Tillable
Tillable acres per planted acre	1.00	1.00	1.00	320.0		
INCOME PER ACRE						
A. Yield per acre	90.0	80.0	27.0	---	---	---
B. Price per unit	\$3.78	\$3.66	\$8.40	---	---	---
C. Net government payments	\$15.35	\$15.35	\$15.35	\$4,912	\$15.35	\$15.35
D. Indemnity payments	\$0.00	\$0.00	\$0.00	\$0	\$0.00	\$0.00
E. Miscellaneous income	\$0.00	\$0.00	\$0.00	\$0	\$0.00	\$0.00
F. Returns/acre ((A x B) + C + D + E)	\$355.55	\$308.15	\$242.15	\$92,381	\$288.69	\$288.69
COSTS PER ACRE						
1. Seed	\$40.32	\$9.09	\$29.70	\$4,184	\$13.08	\$13.08
2. Herbicide	26.25	16.51	11.22	3,662	11.44	11.44
3. Insecticide / Fungicide	1.00	0.00	0.00	142	0.44	0.44
4. Fertilizer and Lime	54.96	48.69	14.24	15,642	48.88	48.88
5. Crop Consulting	0.00	0.00	0.00	0	0.00	0.00
6. Crop Insurance	0.00	0.00	0.00	0	0.00	0.00
7. Drying	0.00	0.00	0.00	0	0.00	0.00
8. Miscellaneous	5.75	5.75	5.75	1,840	5.75	5.75
9. Machinery Expense	87.26	75.88	46.96	24,666	77.08	77.08
10. Non-machinery Labor	9.90	8.60	5.30	2,791	8.72	8.72
11. Irrigation	0.00	0.00	0.00	0	0.00	0.00
12. Land Charge / Rent	42.00	42.00	42.00	13,440	42.00	42.00
G. SUB TOTAL	\$267.44	\$206.52	\$155.17	\$66,368	\$207.40	\$207.40
H. TOTAL COSTS	8.35	5.92	4.15	1,900	5.94	5.94
I. RETURNS OVER COSTS (F - H)	\$275.78	\$212.44	\$159.32	\$68,268	\$213.34	\$213.34
J. TOTAL COSTS/UNIT (H/A)	\$79.77	\$95.71	\$82.83	\$24,113	\$75.35	\$75.35
K. RETURN TO TOTAL COST ((H)	28.92%	45.05%	51.99%	35.32%	35.32%	35.32%

Print budgets

Intro / Crop budgets / Shares / Lease budgets / Irr energy costs / Notes /

Microsoft Excel - KSU Lease (SC Kansas).xls

TABLE 1. Production Inputs Used for Budgets

ITEM	Corn	Milo Soybeans	Wheat	\$/unit
Seeding rate (lbs. seeds, etc)	21	3	135	100
Seed price, \$/unit	\$1.92	\$3.03	\$0.22	\$0.13
Fertilizer:				
82-0-0	86	77	0	60
N (dry liquid)	20	15	0	40
P	39	36	24	30
K	0	0	0	0
Lime	500	500	500	500
Herbicide				
Bicep Lite II Magnum (PRE)	2			\$11.87 /qt
Atrazine 4L + crop oil	1	1		\$2.51 /qt
Bicep II Magnum (PRE)		1.6		\$8.75 /qt
Roundup Ultra Max II			44	\$0.24 /oz
+ 2% Ammonium Sulfate			3	\$9.22 /oz
Ally				\$20.35 /oz
+ Banvel			4	\$0.53 /oz
xxx				
xxx				
xxx				
Insecticide / Fungicide				
Seed treatment	1			\$1.00 /ac
Seedbox treatment			1	\$1.00 /ac
xxx				
Irrigation water, inches/acre				
Irrigation repairs, \$/acre-inch	0	0	0	\$4.50 /in
Drying cost, \$/unit (bu, cwt, etc)	\$0.00	\$0.00	\$0.00	\$0.33 /in

86 x 0.29 = \$24.94 /ac
 + 20 x 0.50 = + 20 x 0.50
 + 39 x 0.385 = + 39 x 0.385
 + 0 x 0.23 = + 0 x 0.23
 + 500 x 0.01 = + 500 x 0.01
 \$54.96/ac

Intro / Crop budgets / Shares / Lease budgets / Irr energy costs / Notes /

Microsoft Excel - KSU Lease (SC Kansas).xls

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INCOME PER ACRE						
A. Yield per acre	90.0	80.0	27.0	---	---	---
B. Price per unit	\$3.78	\$3.66	\$8.40	---	---	---
C. Net government payments	\$15.35	\$15.35	\$15.35	\$4,912	\$15.35	\$15.35
D. Indemnity payments	\$0.00	\$0.00	\$0.00	\$0	\$0.00	\$0.00
E. Miscellaneous income	\$0.00	\$0.00	\$0.00	\$0	\$0.00	\$0.00
F. Returns/acre ((A x B) + C + D + E)	\$355.55	\$308.15	\$242.15	\$92,381	\$288.69	\$288.69
COSTS PER ACRE						
1. Seed	\$40.32	\$9.09	\$29.70	\$4,184	\$13.08	\$13.08
2. Herbicide	26.25	16.51	11.22	3,662	11.44	11.44
3. Insecticide / Fungicide	1.00	0.00	0.00	142	0.44	0.44
4. Fertilizer and Lime	54.96	48.69	14.24	15,642	48.88	48.88
5. Crop Consulting	0.00	0.00	0.00	0	0.00	0.00
6. Crop Insurance	0.00	0.00	0.00	0	0.00	0.00
7. Drying	0.00	0.00	0.00	0	0.00	0.00
8. Miscellaneous	5.75	5.75	5.75	1,840	5.75	5.75
9. Machinery Expense	87.26	75.88	46.96	24,666	77.08	77.08
10. Non-machinery Labor	9.90	8.60	5.30	2,791	8.72	8.72
11. Irrigation	0.00	0.00	0.00	0	0.00	0.00
12. Land Charge / Rent	42.00	42.00	42.00	13,440	42.00	42.00
G. SUB TOTAL	\$267.44	\$206.52	\$155.17	\$66,368	\$207.40	\$207.40
H. TOTAL COSTS	8.35	5.92	4.15	1,900	5.94	5.94
I. RETURNS OVER COSTS (F - H)	\$275.78	\$212.44	\$159.32	\$68,268	\$213.34	\$213.34
J. TOTAL COSTS/UNIT (H/A)	\$79.77	\$95.71	\$82.83	\$24,113	\$75.35	\$75.35
K. RETURN TO TOTAL COST ((H)	28.92%	45.05%	51.99%	35.32%	35.32%	35.32%

Print budgets

Intro / Crop budgets / Shares / Lease budgets / Irr energy costs / Notes /

Microsoft Excel - KSU-Lease (SC Kansas).xls

TABLE 2. Machinery and Land Resources Used for Budgets

ITEM	Corn	Milo Soybeans	Wheat	\$/unit
Drill/Plant, \$/acre	\$11.71	\$9.77	\$12.14	\$8.62
Tillage and Chemical Applications:				
Chisel	0	0	0	1
Disk	1	1	0	1
Field cultivate	1	1	0	2
Cultivate with sidedress	1	0	0	0
Anhydrous application	1	1	0	1
Fertilizer application	1	0	0	1
Herbicide application	1	2	2	1
Insecticide application	0	0	0	0
Harvest				
Base charge, \$/acre	\$22.01	\$16.84	\$22.14	\$15.97
Charge for high yields, \$/unit	\$0.152	\$0.150	\$0.174	\$0.151
High yield	74	36	27	21
Hauling, \$/unit	\$0.140	\$0.145	\$0.140	\$0.147
Non-machinery labor, hr/acre	0.99	0.86	0.53	0.93
Irrigation labor, hr/acre	0.00	0.00	0.00	0.00
Average land value, \$/acre	\$42	\$42	\$42	\$42
Annual return to land, %				100.0%
Interest on capital, %				8.5%
Irrigation Equipment				
Well, pump and gearhead value	\$0	n/a		25
Power unit and meter	\$0	n/a		7
Irrigation system	\$0	n/a		20
Price scenarios to consider				
Long-run prices	\$2.76	\$2.64	\$6.60	\$4.29
Short-run prices	\$3.78	\$3.66	\$8.40	\$5.59
Current forward contract bids	\$4.03	\$3.82	\$9.30	\$6.49

Non-machinery costs have been estimated to be 10-13% of total machinery costs for non-irrigated crops in Kansas.

Price scenario to use depends on length of lease.

Microsoft Excel - KSU-Lease (SC Kansas).xls

Landowner -----> Average landowner, Central KS, 555-987-6543 11/19/07

Operator -----> Average farmer, Central KS, 555-123-4567 7:01 AM

Basis for equitable share calculations: For the entire rotation (L4 = 0), Crop-by-crop (L4 = 1) L4 ==> 0

OPERATOR'S share of production inputs (enter -100% if equitably shared)

Crop/System	Corn	Milo Soybeans	Wheat	Total
Planted acres	11.0	157.5	20.3	320.0
Seed	100%	100%	100%	100%
Fertilizer:				
82-0-0	-100%	-100%	-100%	-100%
N (dry/liquid)	-100%	-100%	-100%	-100%
P	-100%	-100%	-100%	-100%
K	-100%	-100%	-100%	-100%
Lime	0%	0%	0%	0%
Herbicide				
Bicep Lite II Magnum (PRE)	-100%	-100%	-100%	-100%
Atazine 4L + crop oil	-100%	-100%	-100%	-100%
Bicep II Magnum (PRE)	-100%	-100%	-100%	-100%
Roundup Ultra Max II + 2% Ammonium Sulfate	-100%	-100%	-100%	-100%
Ally	-100%	-100%	-100%	-100%
+ Banvel	-100%	-100%	-100%	-100%
xxx	-100%	-100%	-100%	-100%
xxx	-100%	-100%	-100%	-100%
xxx	-100%	-100%	-100%	-100%
Insecticide / Fungicide				
Seed treatment	100%	100%	100%	100%
Seedbox treatment	100%	100%	100%	100%
xxx	-100%	-100%	-100%	-100%
xxx	-100%	-100%	-100%	-100%
Crop consulting	100%	100%	100%	100%
Crop insurance	-100%	-100%	-100%	-100%
Drying cost	-100%	-100%	-100%	-100%
Operator's equitable share (OS%)	74.8%	66.4%	63.3%	69.2%

67.8%

Entering a number between 0-100% (or -100%) by crop and by input provides flexibility to handle most any situation.

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Crop/System	Corn	Milo Soybeans	Wheat	Total
Planted acres	11.0	157.5	20.3	320.0
OPERATOR'S share of machinery, labor, irrigation, and land (enter -100% if shared equitably)				
Drill/Plant	100%	100%	100%	100%
Tillage and Chemical Applications:				
Chisel	100%	100%	100%	100%
Disk	100%	100%	100%	100%
Field cultivate	100%	100%	100%	100%
Cultivate with sidedress	100%	100%	100%	100%
Anhydrous application	100%	100%	100%	100%
Fertilizer application	-100%	-100%	-100%	-100%
Herbicide application	-100%	-100%	-100%	-100%
Insecticide application	-100%	-100%	-100%	-100%
Harvest				
Harvest	100%	100%	100%	100%
Hauling	100%	100%	100%	100%
Miscellaneous	100%	100%	100%	100%
Non-machinery labor	100%	100%	100%	100%
Irrigation expenses				
Labor	100%	100%	100%	100%
Fuel and oil	100%	100%	100%	100%
Repair and maintenance	100%	100%	100%	100%
Irrigation investment				
Well, pump and gearhead	0%	0%	0%	0%
Motor	0%	0%	0%	0%
Irrigation system	0%	0%	0%	0%
Land	0%	0%	0%	0%
Cash payment to landowner, \$/acre	\$0.00	\$0.00	\$0.00	\$0.00
Operator's equitable share (OS%)	74.8%	66.4%	63.3%	69.2%
Landowner's equitable share (LS%)	25.2%	33.6%	36.7%	30.8%

67.8%

32.2%

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CROP BUDGETS SHOWING OPERATOR'S COSTS AND RETURNS

Average farmer, Central KS, 555-123-4567 8:52 AM 11/19/07

Equitable share (OS%) -----> 67.8% 67.8% 67.8% 67.8%

Crop/System	Corn	Milo Soybeans	Wheat	Total	Planted	Per Acre	Per Tillable Acre
Total tillable acre	11.0	157.5	20.3	320.0			
Planted acres of each crop	11.0	157.5	20.3	320.0			
Harvested yield per acre	90.0	80.0	27.0	45.0			
INCOME PER ACRE							
A. Yield per acre	61.0	54.2	18.3	30.5			
B. Price per unit	\$3.78	\$3.66	\$8.40	\$5.59			
C. Net government payments	\$10.41	\$10.41	\$10.41	\$10.41		\$3,330	\$10,411
D. Indemnity payments	\$0.00	\$0.00	\$0.00	\$0.00		\$0	\$0.00
E. Miscellaneous income	\$0.00	\$0.00	\$0.00	\$0.00		\$0	\$0.00
F. Returns/acre (AxB) + C + D + E	\$241.06	\$208.93	\$164.18	\$180.96		\$62,634	\$195,733
COSTS PER ACRE							
1. Seed	\$40.32	\$9.09	\$29.70	\$13.00		\$4,184	\$13,008
2. Herbicide	17.80	11.19	7.61	2.82		2,483	7,761
3. Insecticide / Fungicide	1.00	0.00	0.00	1.00		142	0.44
4. Fertilizer and Lime	33.87	29.62	6.26	33.19		9,520	29,755
5. Crop Consulting	0.00	0.00	0.00	0.00		0	0.00
6. Crop Insurance	0.00	0.00	0.00	0.00		0	0.00
7. Drying	0.00	0.00	0.00	0.00		0	0.00
8. Miscellaneous	5.75	5.75	5.75	5.75		1,840	5,755
9. Machinery Expense	84.48	73.01	44.09	79.53		23,760	74,255
10. Non-machinery Labor	9.90	8.60	5.30	9.30		2,791	8,721
11. Irrigation	0.00	0.00	0.00	0.00		0	0.00
12. Land Charge / Rent	0.00	0.00	0.00	0.00		0	0.00
G. SUB TOTAL	\$193.11	\$137.27	\$98.72	\$144.59		\$44,721	\$139,755
13. Interest on 1/2 Nonland Costs	7.01	4.80	3.57	5.02		1,564	4,891
H. TOTAL COSTS	\$200.13	\$142.07	\$102.29	\$149.61		\$46,286	\$144,646
I. RETURNS OVER COSTS (F - H)	\$40.94	\$66.86	\$61.89	\$31.35		\$16,348	\$51,091
J. TOTAL COSTS/UNIT (H/A)	\$3.28	\$2.62	\$5.59	\$4.90			
K. RETURN TO TOTAL COST (I/H)	20.46%	47.06%	60.51%	20.95%		35.32%	35.32%

35.32%

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CROP BUDGETS SHOWING LANDOWNER'S COSTS AND RETURNS

Average landowner, Central KS, 555.987.6543 8:52 AM 11/19/07

Equitable share (100 - OS%)	Corn	Milo Soybeans	Wheat	Total	Per Planted Acre	Per Tillable Acre
32.2%	32.2%	32.2%	32.2%	320.0	320.0	320.0
Total tillable acre				320.0		
Planted acres of each crop	11.0	157.5	20.3	131.2		
Harvested yield per acre	90.0	80.0	27.0	45.0		
INCOME PER ACRE						
A. Yield per acre	29.0	25.8	8.7	14.5		
B. Price per unit	\$3.78	\$3.66	\$8.40	\$5.59		
C. Net government payments	\$4.94	\$4.94	\$4.94	\$4.94		
D. Indemnity payments	\$0.00	\$0.00	\$0.00	\$0.00		
E. Miscellaneous income	\$0.00	\$0.00	\$0.00	\$0.00		
F. Returns/acre ((AxB) + C + D + E)	\$114.49	\$99.22	\$77.97	\$85.94		
COSTS PER ACRE						
1. Seed	\$0.00	\$0.00	\$0.00	\$0.00		
2. Herbicide	8.45	5.32	3.64	1.34		
3. Insecticide / Fungicide	0.00	0.00	0.00	0.00		
4. Fertilizer and Lime	21.09	19.07	7.98	20.76		
5. Crop Consulting	0.00	0.00	0.00	0.00		
6. Crop Insurance	0.00	0.00	0.00	0.00		
7. Drying	0.00	0.00	0.00	0.00		
8. Miscellaneous	0.00	0.00	0.00	0.00		
9. Machinery Expense	2.79	2.87	2.87	2.79		
10. Non-machinery Labor	0.00	0.00	0.00	0.00		
11. Irrigation	0.00	0.00	0.00	0.00		
12. Land Charge / Rent	42.00	42.00	42.00	42.00		
G. SUB TOTAL	\$74.32	\$69.25	\$56.45	\$66.89		
H. Interest on 1/2 Nonland Costs	1.33	1.42	0.57	1.02		
I. TOTAL COSTS	\$75.66	\$70.37	\$57.03	\$67.90		
J. RETURNS OVER COSTS ((F - H) / I)	\$38.83	\$28.86	\$20.94	\$18.04		
K. TOTAL COSTS/UNIT ((H/A) / I)	\$2.61	\$2.73	\$6.56	\$4.69		
L. RETURN TO TOTAL COST ((I/H) / I)	51.32%	41.01%	36.73%	26.56%		

Intro / Crop budgets / Shares / Lease budgets / Irr energy costs / Notes /

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ALTERNATIVE METHODS OF ESTIMATING CASH RENT

Print cash rent info 8:52 AM 11/19/07

Crop/System	Corn	Milo Soybeans	Wheat	Total	Per Planted Acre	Per Tillable Acre
Total tillable acre				320.0		
Planted acres of each crop	11.0	157.5	20.3	131.2		
A. Landowner's COST						
Land	\$42.00	\$42.00	\$42.00	\$42.00	\$13.440	\$42.00
Irrigation equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0	\$0.00
Total	\$42.00	\$42.00	\$42.00	\$42.00	\$13.440	\$42.00
B. Landowner's EQUITABLE SHARE RENT ---- risk adj factor 0.0%						
Total income	\$355.55	\$308.15	\$242.15	\$266.90	\$92.381	\$288.69
Landowner's share	32.2%	32.2%	32.2%	32.2%	\$29.746	\$92.96
Landowner's income	\$114.49	\$99.22	\$77.97	\$85.94	\$8.542	\$26.69
Landowner operating expense	33.66	28.37	15.03	25.90	\$21.204	\$66.26
Income less operating expense	\$80.83	\$70.86	\$62.94	\$60.04	0	\$0.00
Less risk adjustment	0.00	0.00	0.00	0.00	0	\$0.00
Cash rent equivalent	\$80.83	\$70.86	\$62.94	\$60.04	\$21.204	\$66.26
C. Amount tenant CAN AFFORD TO PAY						
Total income	\$355.55	\$308.15	\$242.15	\$266.90	\$92.381	\$288.69
Total operating expense	\$233.78	\$170.44	\$117.32	\$175.51	\$54.828	\$171.34
Return to land and irr equip	\$121.77	\$137.71	\$124.83	\$91.39	\$37.553	\$117.35
Comparison of alternative cash rent methods						
Low	\$42.00	\$42.00	\$42.00	\$42.00	\$13.440	\$42.00
Average	\$81.53	\$83.52	\$76.59	\$64.48	\$24.066	\$75.21
High	\$121.77	\$137.71	\$124.83	\$91.39	\$37.553	\$117.35
Returns above all costs (profit)						
	\$79.77	\$95.71	\$82.83	\$49.39	\$24.113	\$75.35

Intro / Crop budgets / Shares / Lease budgets / Irr energy costs / Notes /

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TABLE 2. Machinery and Land Resources Used for Budgets

ITEM	Corn	Milo Soybeans	Wheat	\$/unit
Drill/Plant, \$/acre	\$11.71	\$9.77	\$12.14	\$8.62
Tillage and Chemical Applications:				
Chisel	0	0	0	\$9.21 /ac
Disk	1	1	0	\$7.88 /ac
Field cultivate	1	1	0	\$7.46 /ac
Cultivate with side dress	1	0	0	\$7.69 /ac
Anhydrous application	1	1	0	\$6.83 /ac
Fertilizer application	1	0	0	\$4.20 /ac
Herbicide application	1	2	2	\$4.45 /ac
Insecticide application	0	0	0	\$4.56 /ac
Harvest				
Base charge, \$/acre	\$22.01	\$16.84	\$22.14	\$15.97
Charge for high yields, \$/unit	\$0.152	\$0.150	\$0.174	\$0.151
High yield	74	36	27	21
Hauling, \$/unit	\$0.140	\$0.145	\$0.140	\$0.147
Non-machinery labor, hr/acre				
Irrigation labor, hr/acre	0.99	0.86	0.53	0.93
	0.00	0.00	0.00	0.00
Average land value, \$/acre	\$63	\$63	\$63	\$63
Annual return to land, %				100.00%
Interest on capital, %				8.5%
Investment, \$				
Total \$/wet.ac				Years
Well, pump and gearhead value	\$0	n/a		25
Power unit and meter	\$0	n/a		7
Irrigation system	\$0	n/a		20
Salvage value, %				
				0%
				0%
				0%
Price scenarios to consider				
Long-run prices	\$2.76	\$2.64	\$6.60	\$4.29
Short-run prices	\$3.78	\$3.66	\$8.40	\$5.59
Current forward contract bids	\$4.03	\$3.82	\$9.30	\$6.49

Intro / Crop budgets / Shares / Lease budgets / Irr energy costs / Notes /

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ALTERNATIVE METHODS OF ESTIMATING CASH RENT

Print cash rent info 8:57 AM 11/19/07

Crop/System	Corn	Milo Soybeans	Wheat	Total	Per Planted Acre	Per Tillable Acre
Total tillable acre				320.0		
Planted acres of each crop	11.0	157.5	20.3	131.2		
A. Landowner's COST						
Land	\$63.00	\$63.00	\$63.00	\$63.00	\$20.160	\$63.00
Irrigation equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0	\$0.00
Total	\$63.00	\$63.00	\$63.00	\$63.00	\$20.160	\$63.00
B. Landowner's EQUITABLE SHARE RENT ---- risk adj factor 0.0%						
Total income	\$355.55	\$308.15	\$242.15	\$266.90	\$92.381	\$288.69
Landowner's share	40.7%	40.7%	40.7%	40.7%	\$28.317	\$88.49
Landowner's income	\$144.69	\$125.40	\$98.54	\$108.61	\$8.236	\$25.36
Landowner operating expense	41.16	34.48	17.62	31.36	\$23.238	\$71.82
Income less operating expense	\$103.53	\$90.92	\$80.92	\$77.25	0	\$0.00
Less risk adjustment	0.00	0.00	0.00	0.00	0	\$0.00
Cash rent equivalent	\$103.53	\$90.92	\$80.92	\$77.25	\$27.238	\$85.12
C. Amount tenant CAN AFFORD TO PAY						
Total income	\$355.55	\$308.15	\$242.15	\$266.90	\$92.381	\$288.69
Total operating expense	\$233.78	\$170.44	\$117.32	\$175.51	\$54.828	\$171.34
Return to land and irr equip	\$121.77	\$137.71	\$124.83	\$91.39	\$37.553	\$117.35
Comparison of alternative cash rent methods						
Low	\$63.00	\$63.00	\$63.00	\$63.00	\$20.160	\$63.00
Average	\$96.10	\$97.21	\$89.59	\$77.21	\$28.317	\$88.49
High	\$121.77	\$137.71	\$124.83	\$91.39	\$37.553	\$117.35
Returns above all costs (profit)						
	\$58.77	\$74.71	\$61.83	\$28.39	\$17.393	\$54.35

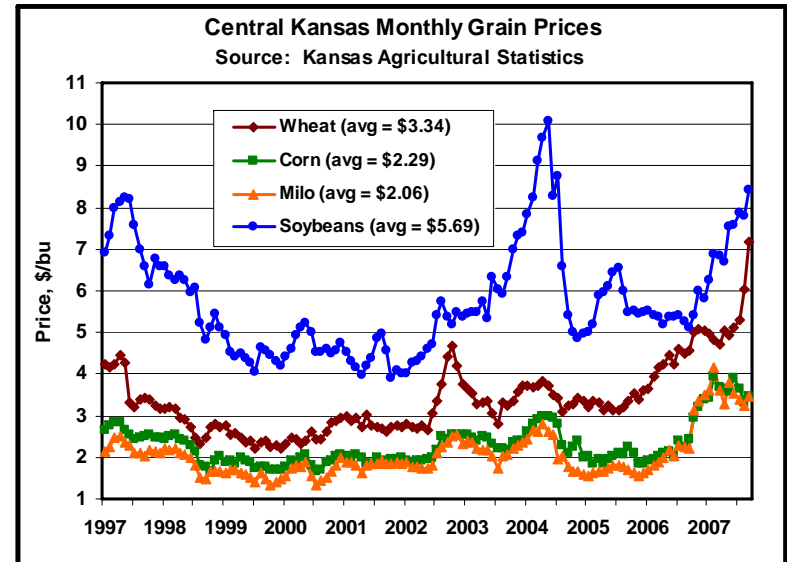
Intro / Crop budgets / Shares / Lease budgets / Irr energy costs / Notes /

Impact of high commodity prices on rental rates

Two approaches:
 Crop budgets
 Historical relationship

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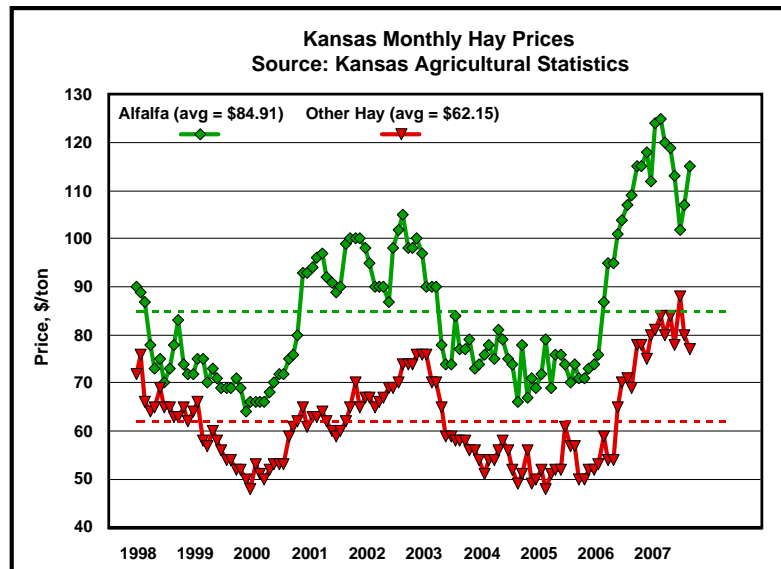
Crop prices are strong by historical standards...



It's not just corn!

162

Strength in crop markets impacts hay prices...



It's not just grains!

163

Impact of high costs and prices on leases ...

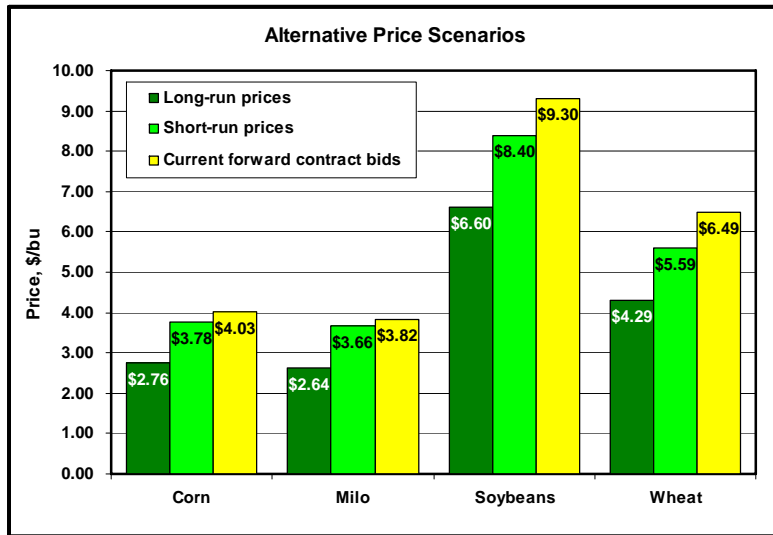
KSU-Lease.xls is a tool that can be used to analyze the impact current costs and prices have on equitable crop share leases as well as their cash-rent equivalents

How leases are impacted by current conditions depends on how producers change (or not change) production practices in response to these high prices and costs

→ producers should “run their own numbers”

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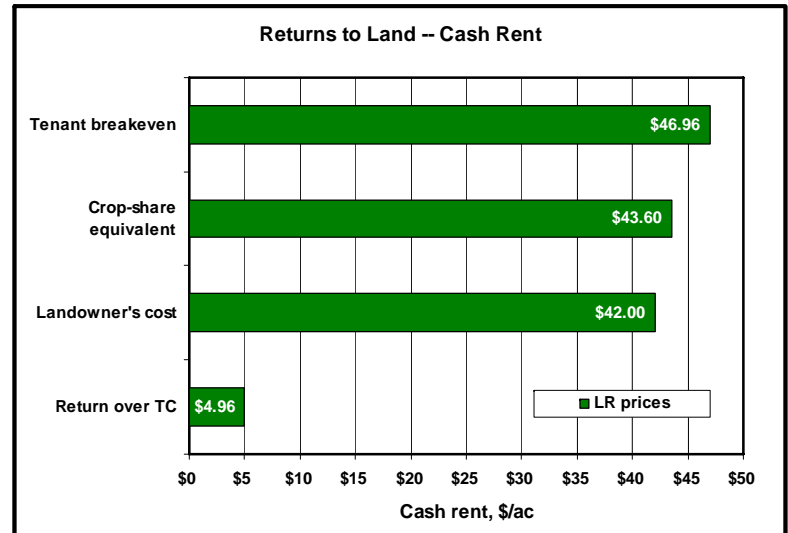
Alternative Prices to Consider for Central Kansas



Long-run and short-run from MF-1013, current bids for Newton, KS (11/16/07)

Estimated cash rents for Central Kansas

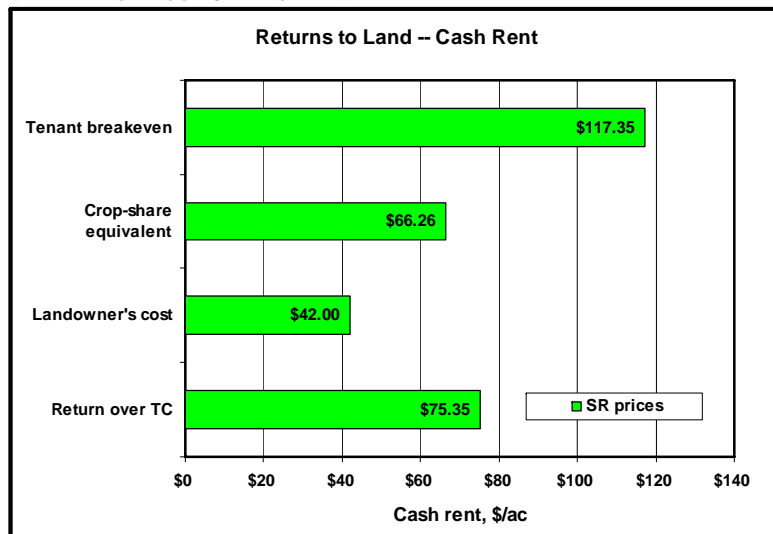
[long run (2008-2012) projected prices]



Based on KSU Farm Management Guides (November 2007) and KSU-Lease.xls (available at www.agmanager.info)

Estimated cash rents for Central Kansas

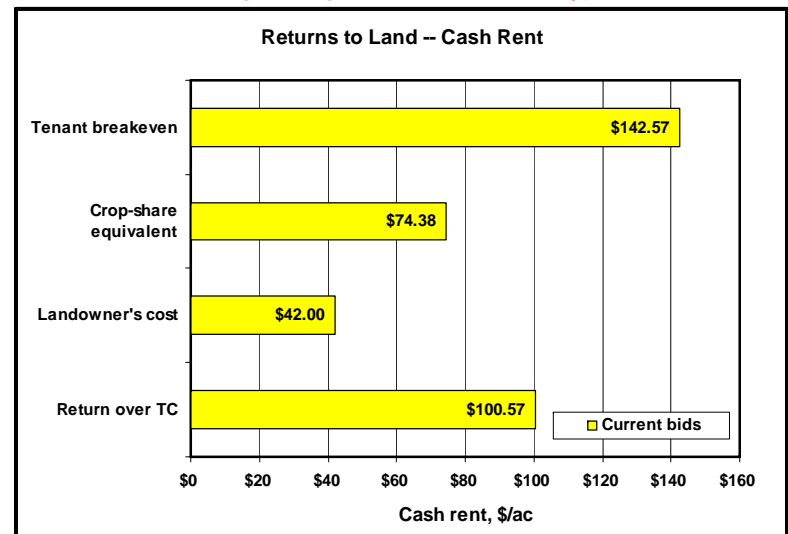
[short-run (2008) projected prices]



Based on KSU Farm Management Guides (November 2007) and KSU-Lease.xls (available at www.agmanager.info)

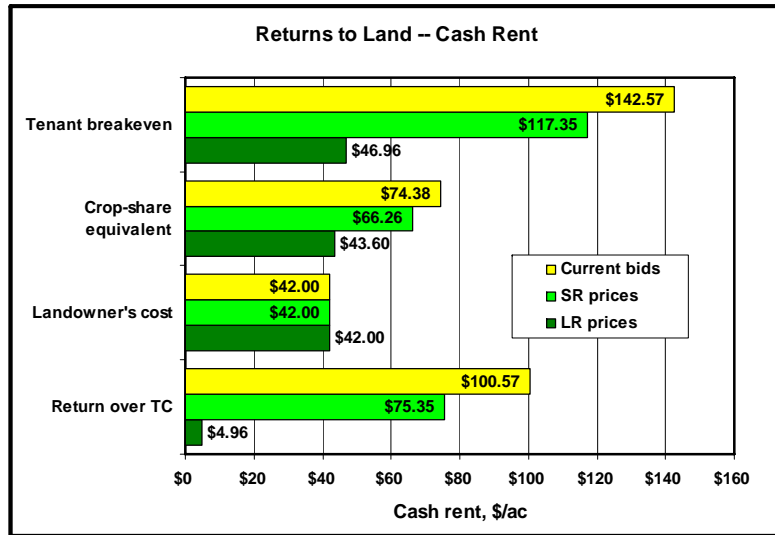
Estimated cash rents for Central Kansas

[forward contract bids (11/16/07) for 2008 harvest delivery]



Based on KSU Farm Management Guides (November 2007) and KSU-Lease.xls (available at www.agmanager.info)

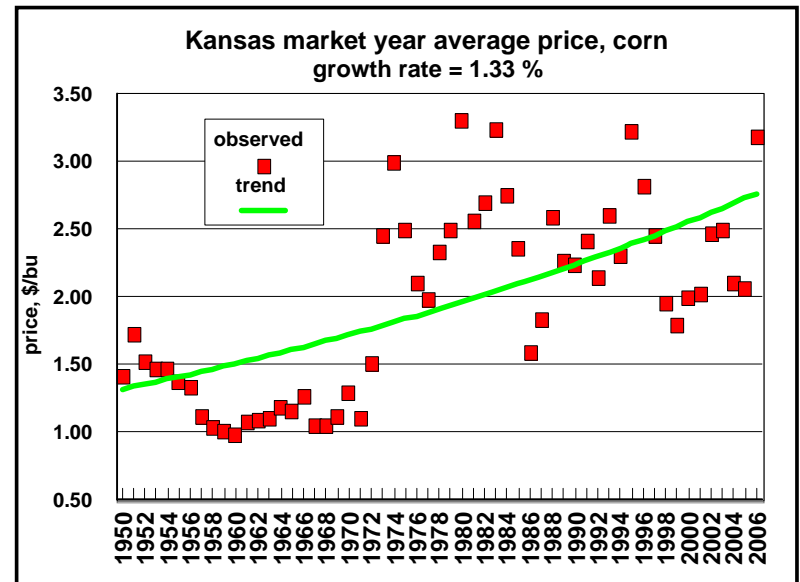
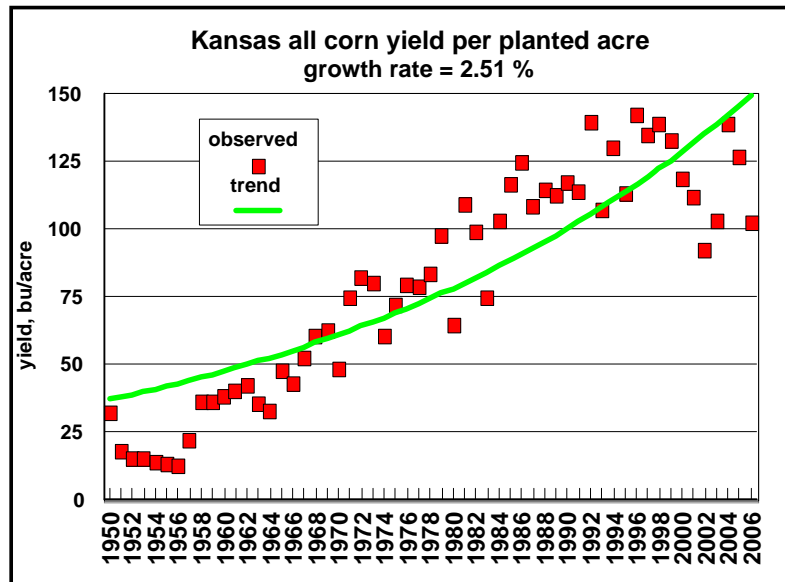
Estimated cash rents for South Central Kansas
(alternative price scenarios)

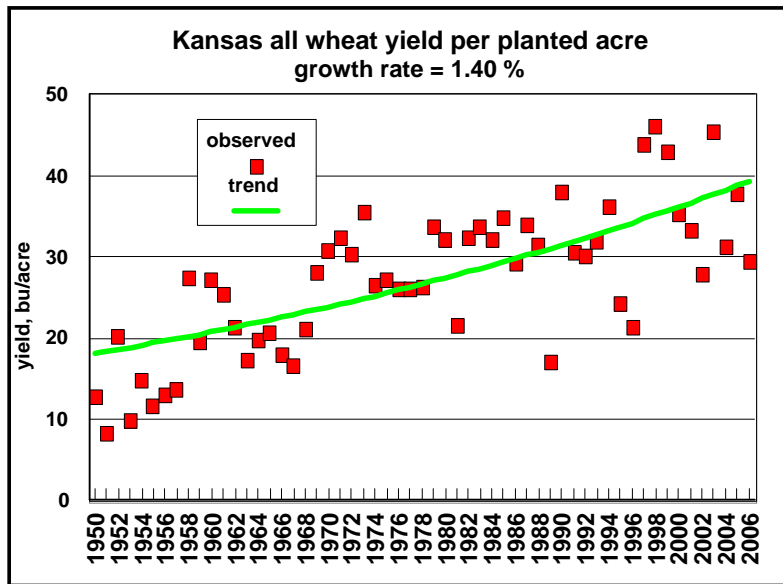


Based on KSU Farm Management Guides (October 2007) and KSU-Lease.xls
(available at www.agmanager.info)

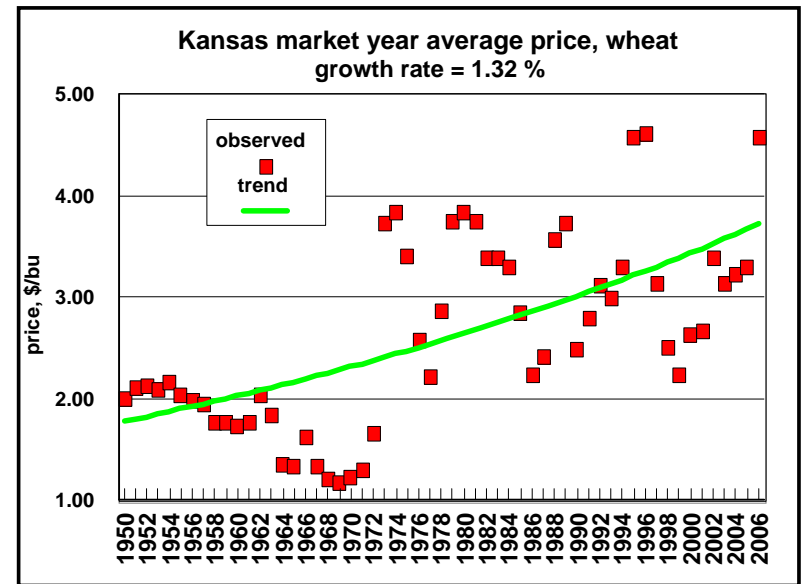
Market approach...

Examine relationship between historical prices and crop yields and cash rents





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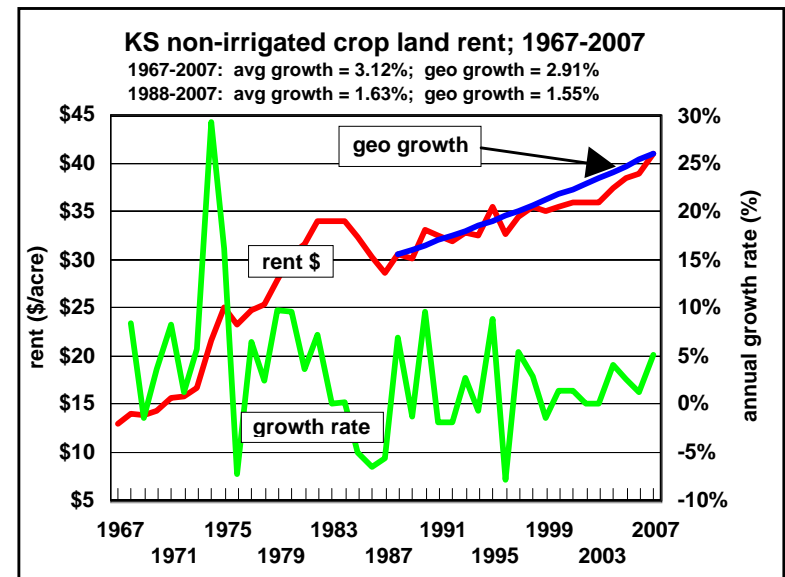


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Relationship between yields and crop prices and rents and land values (1950-2006)

	Rent (% change)	Value (% change)
Yield (1% change)	0.70	0.77
Price (1% change)	0.71	0.99

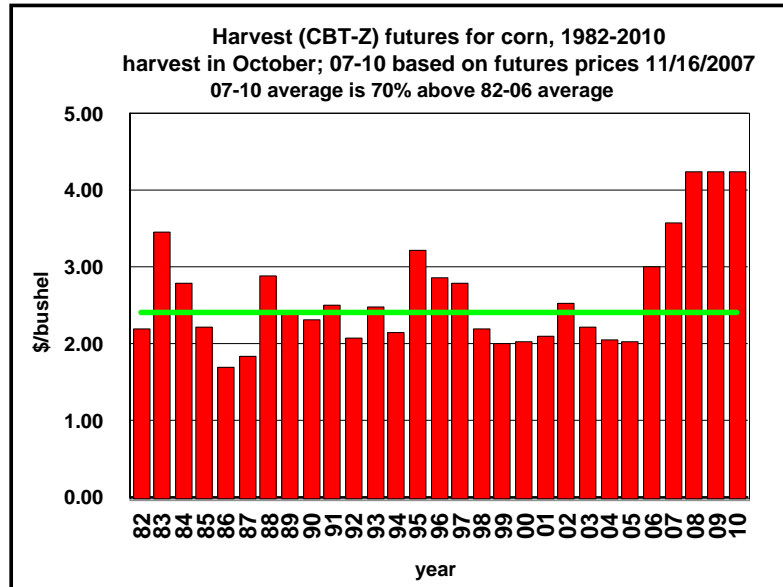
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Suggested expected ag growth rate = 2.37% (but if ethanol continues . . . ?)

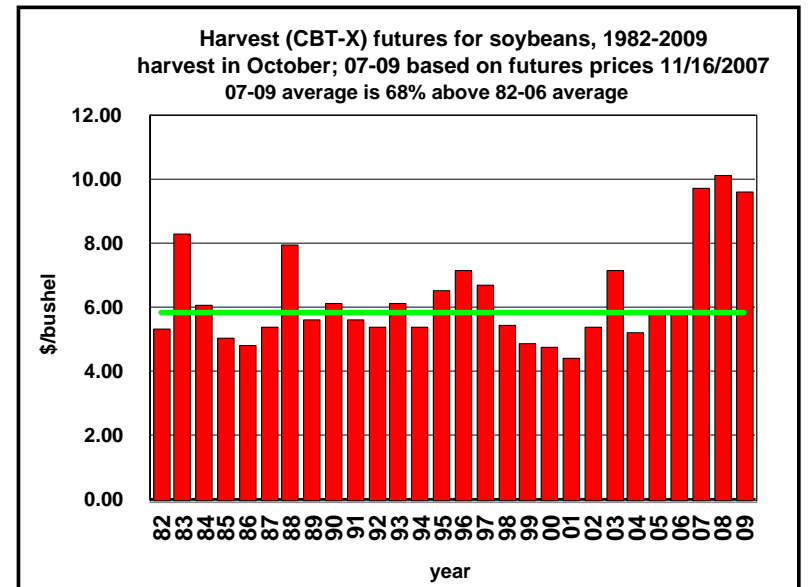
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How long will strong prices stick around?



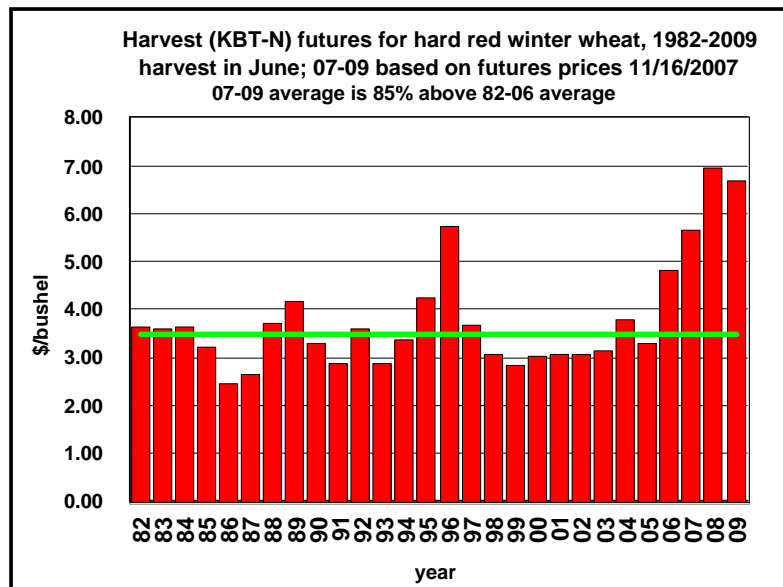
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How long will strong prices stick around?



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How long will strong prices stick around?



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Market approach...

Assuming yields continue to grow at historical rates (i.e., 1.4 to 2.5 percent per year) and given current futures markets prices, increases in rents of 30 to 50 percent would be expected.

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Closing Thoughts

- Ethanol is inducing higher crop prices and it looks like they'll be around for awhile
- Higher crop prices have the potential to substantially increase rental rates, but rising input costs will temper increases somewhat
- Price volatility will be high in years ahead (without benefit of LDPs), thus fixed cash rents will be risky (potentially to both parties)
- Need for good communications between landowners and tenants is critical in these times

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Questions?

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