

Land Ownership: Should We Keep Buying?

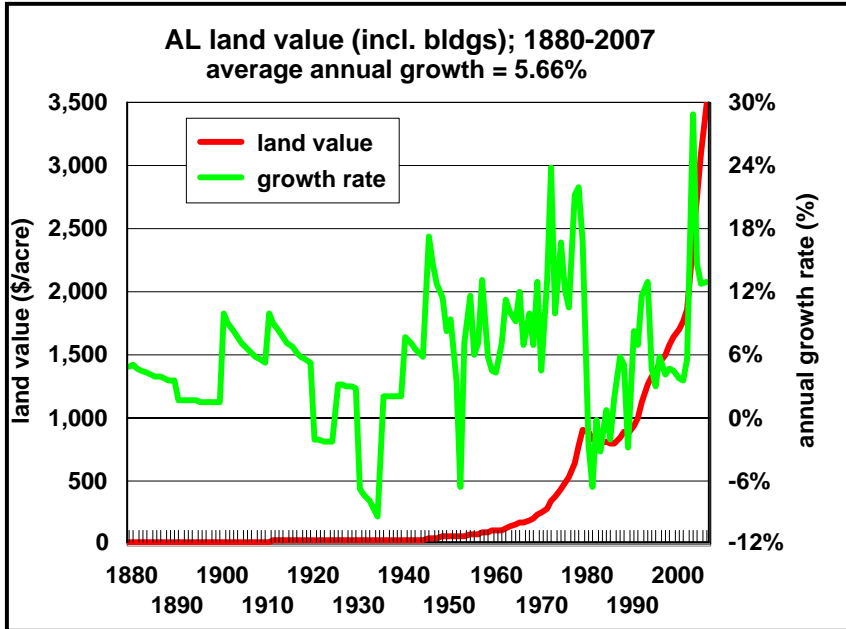
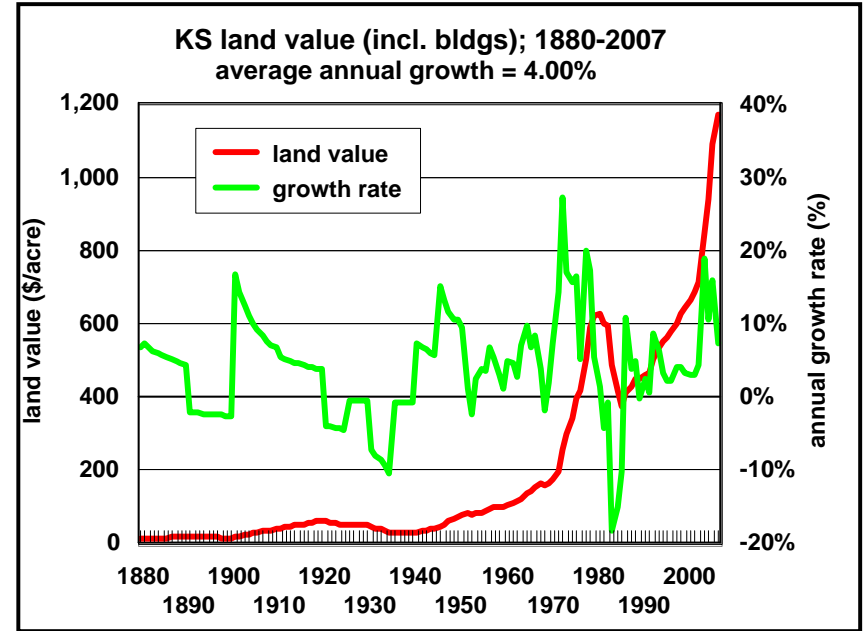
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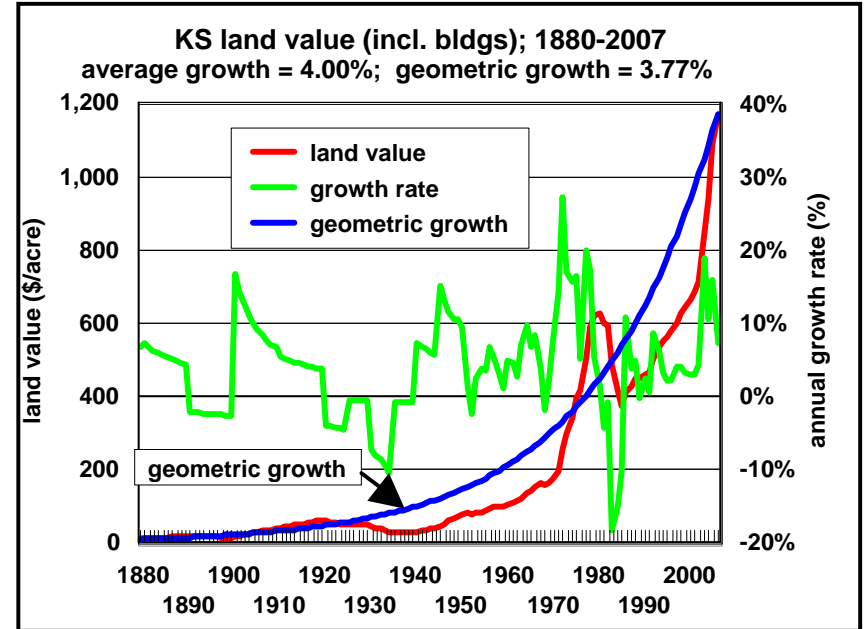
Presented at:
 2009 Ag Profitability Conference
 February 27, 2009; Garden City, KS



Historical perspective



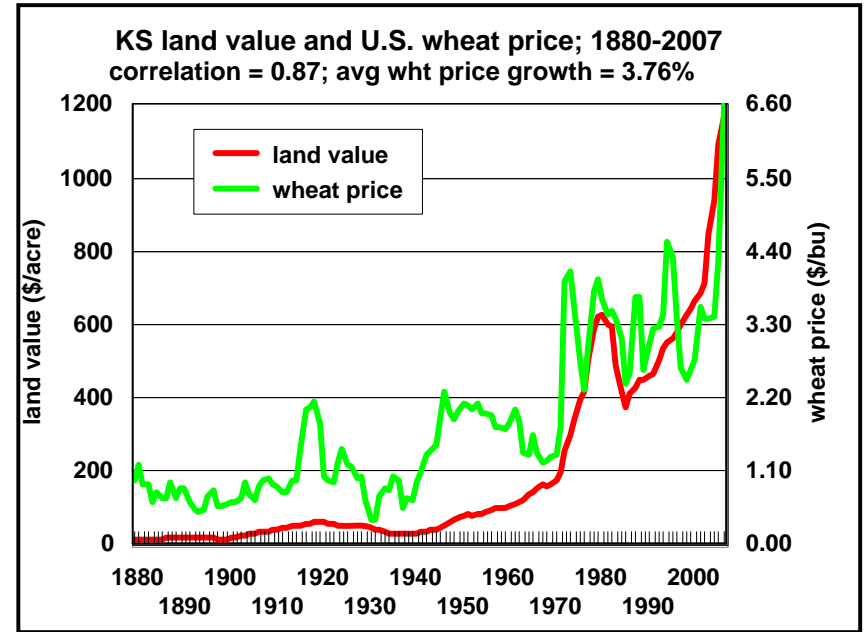
AL did as bad in the 1930s as KS, but not nearly as bad in the 1980s



1879 starting land value for Kansas was \$10.30

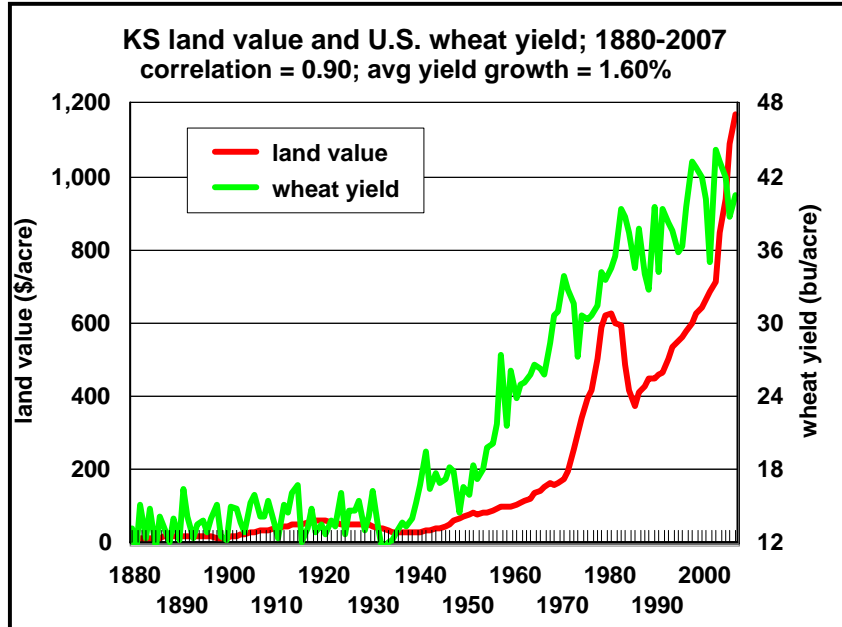
What drives land prices in the long run?

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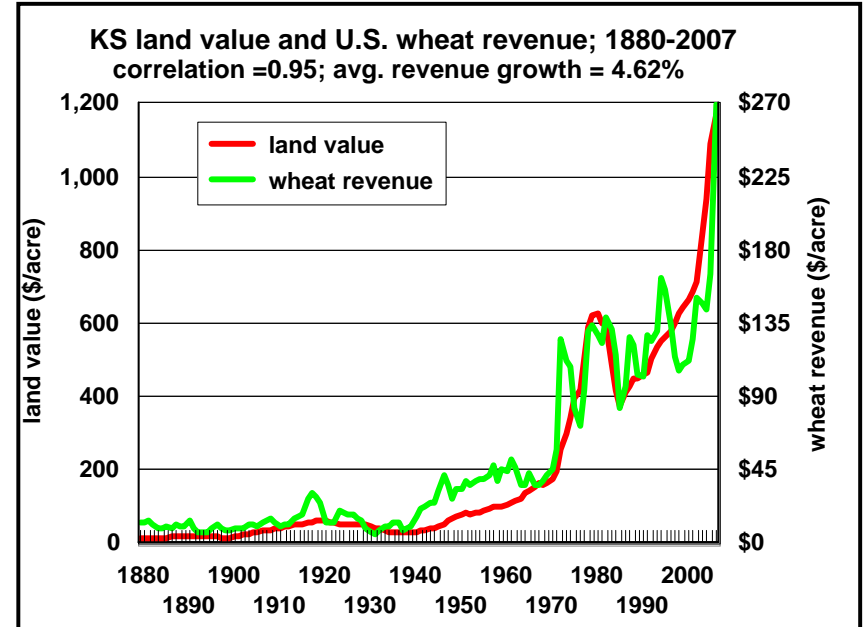


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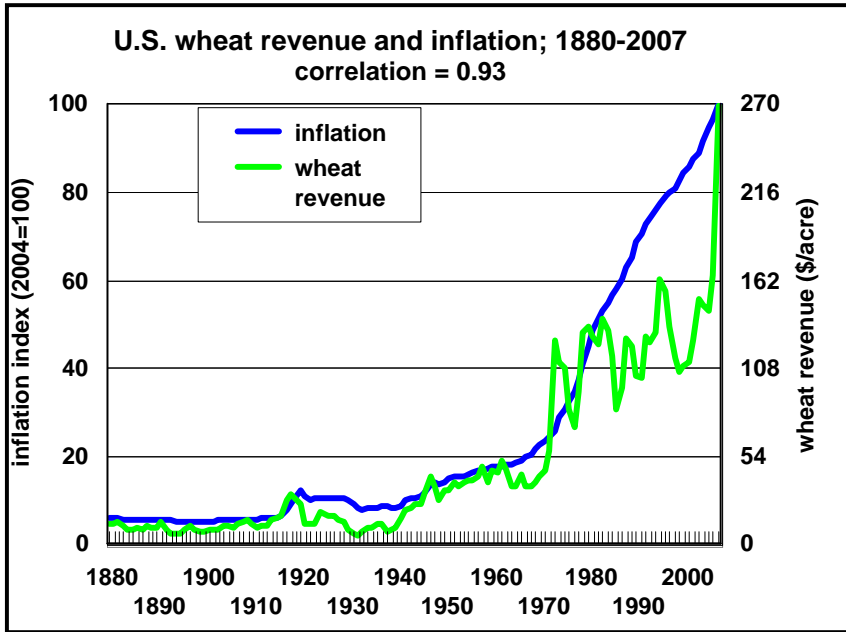
Crop production technology (yield grows at 1.6%)



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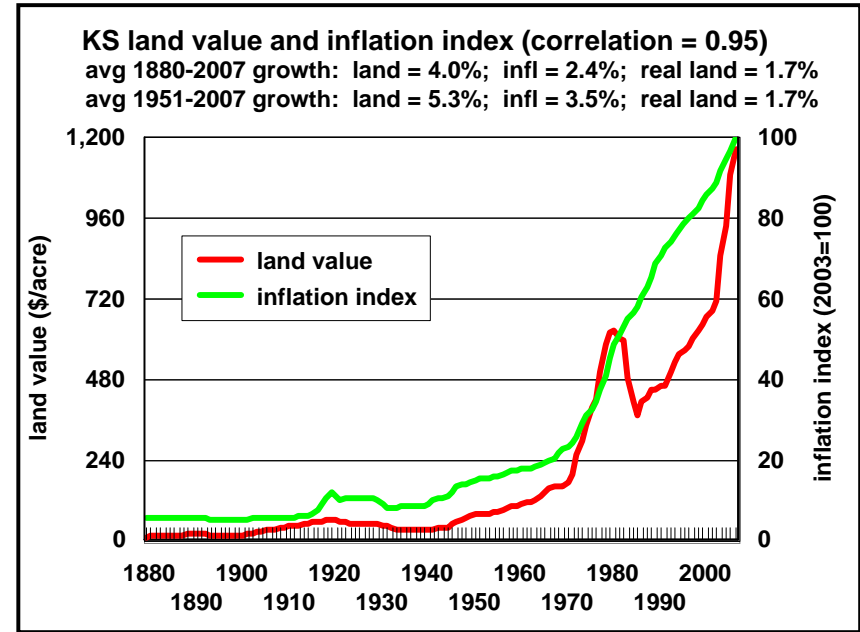


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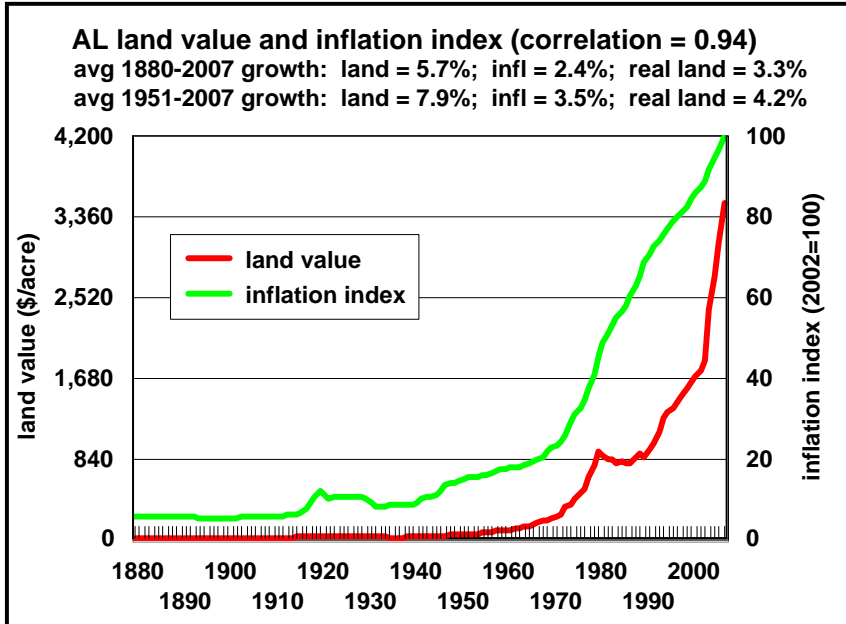
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Just add real growth (technology) to inflation?



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Was technology growth that much higher in AL than KS?



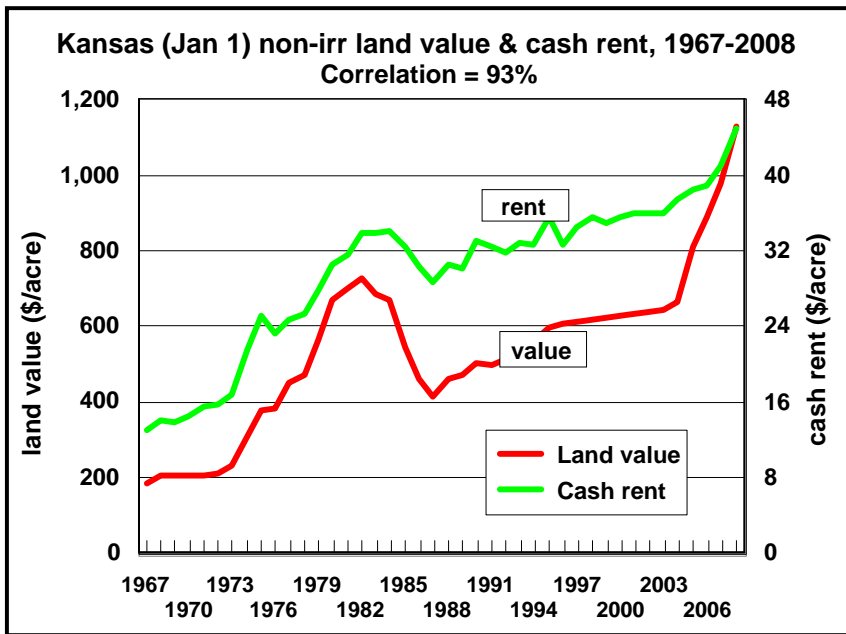
Obviously, something else is going on here . . . we'll come back to this later

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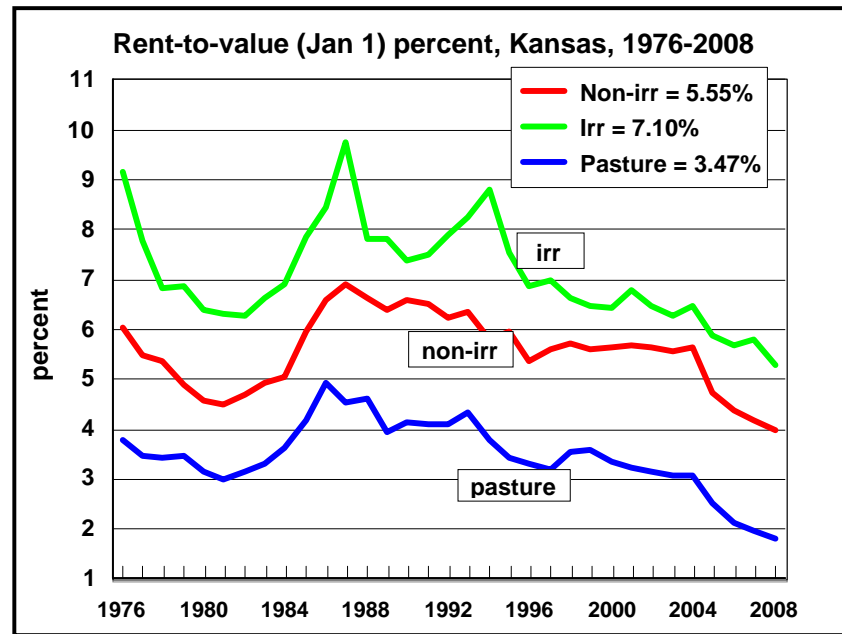
Returns to land

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

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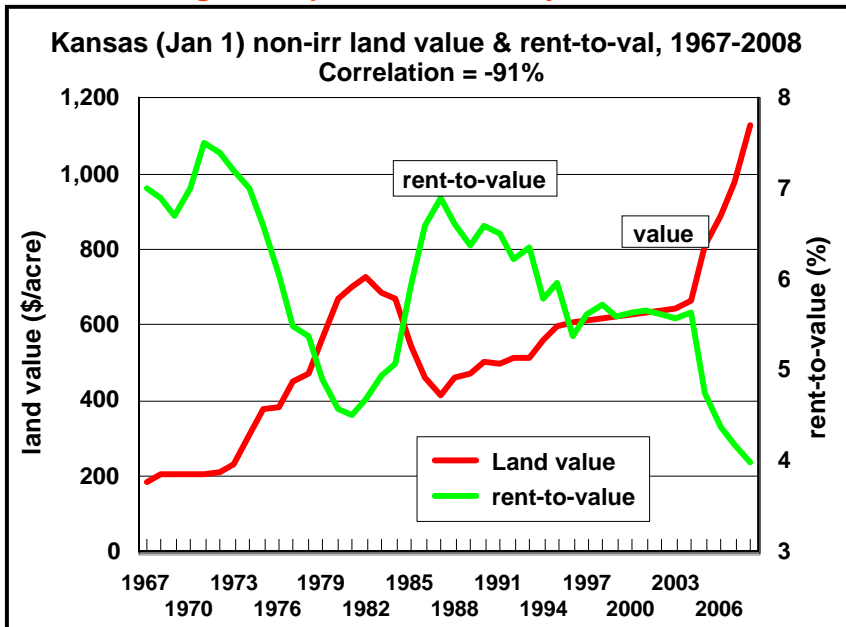
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Downtrend hints at something else going on . . .

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Are we seeing a land price bubble today?



We'll come back to rent-to-value issues later . . .

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Returns to Land

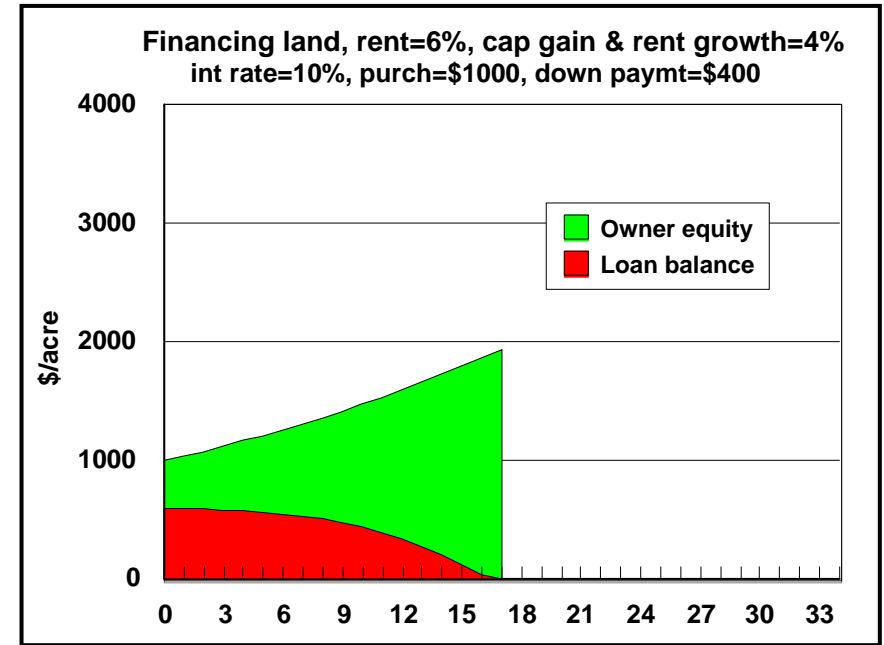
- Land
 - Cash returns: rents or rent-equivalents on owned land
 - Non-cash returns: capital gains (growth)
- Stock market
 - Cash returns: dividends
 - Non-cash returns: capital gains (growth)
- Typically, neither land nor stock investments “cash flow”

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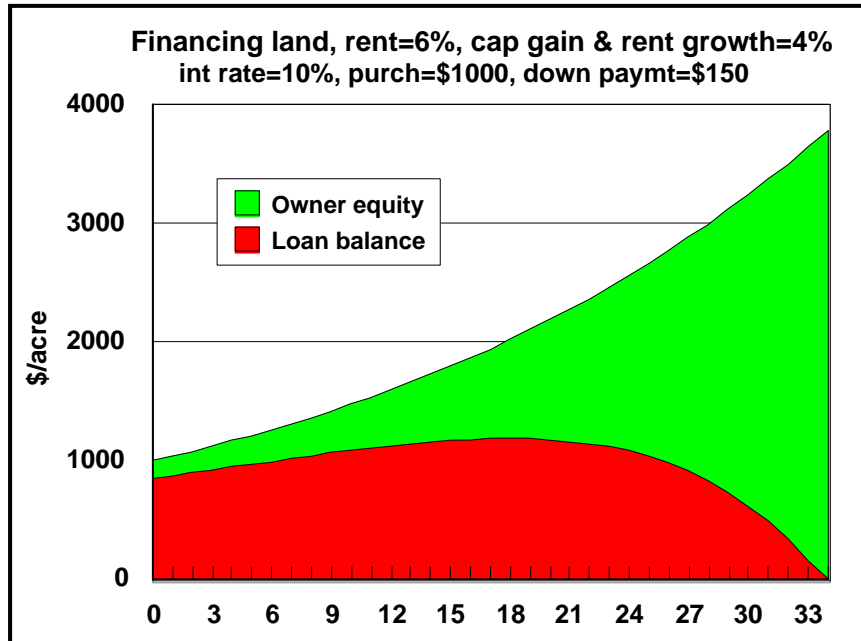
Cash-flowing land

- Total return (profit) = rent + capital gain
- Cash flow is not the same as profitability
- Cash flowing a land purchase
 - Does rent cover a 100% loan? Almost never!
 - Does rent cover a 25% loan? Almost always!
- Land doesn't cash flow when purchased
 - i.e, rents don't cover loan payments
 - rents grow, loan payments don't
 - land eventually cash flows
- A simplistic view follows . . .

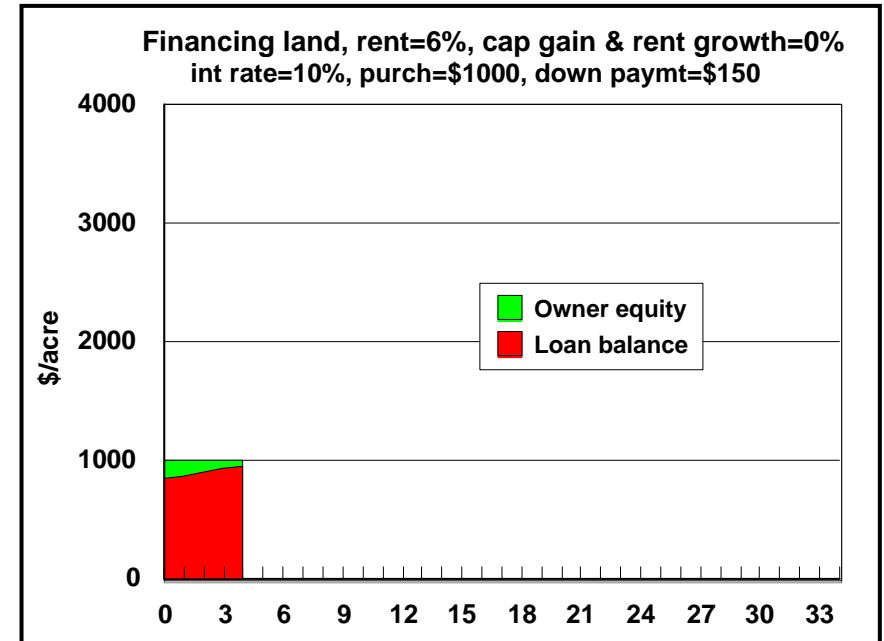
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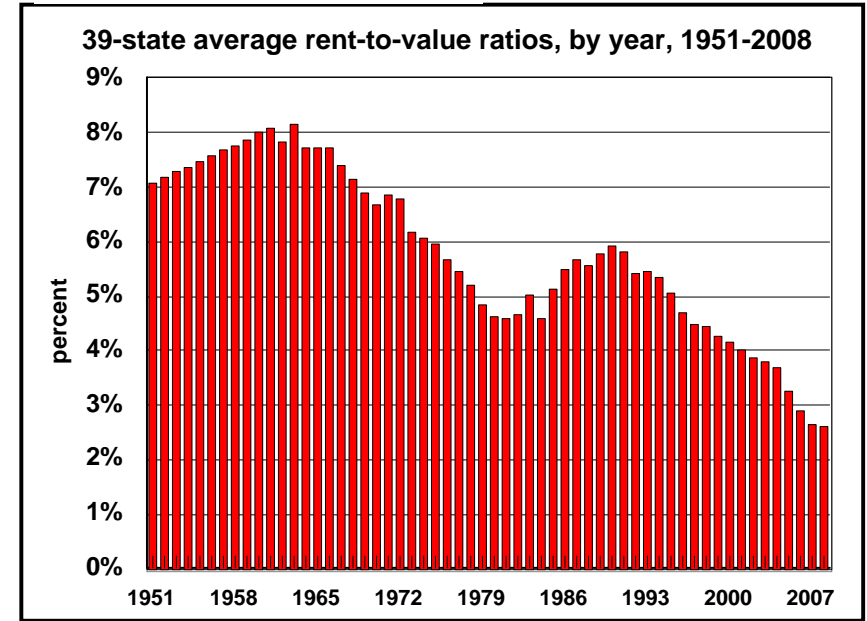
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Preceding slides showed:

- **Borrowing too much money AND being too optimistic on expected profit can be disastrous**
 - Everybody knows this
- **Seasoned farmer landowners often say:**
 - “I never bought a piece I didn’t think was too high at the time, yet it always seemed to work out”
 - This one is a hard one for folks to understand
 - Reaction is “I just need to be optimistic enough”
 - Reaction should be “makes sense when I understand”

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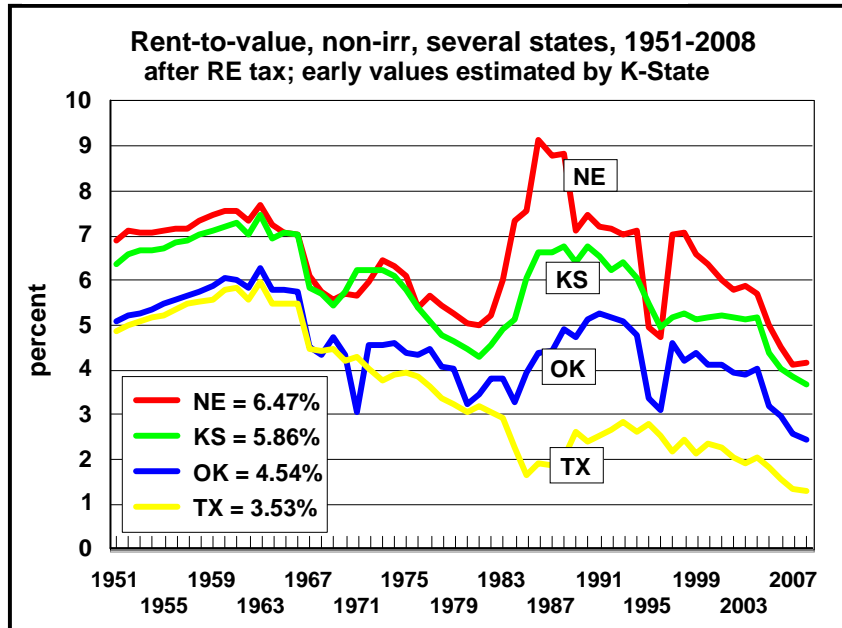
Coming back to rent-to-value (RTV)



Is RTV really a reliable indicator of land price bubbles?

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Still another reason that RTV may be a poor indicator

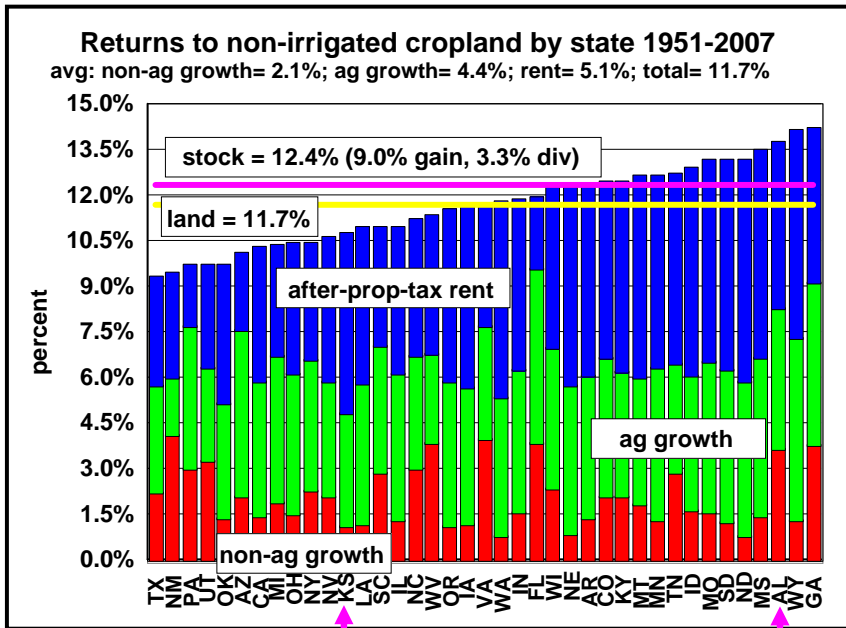


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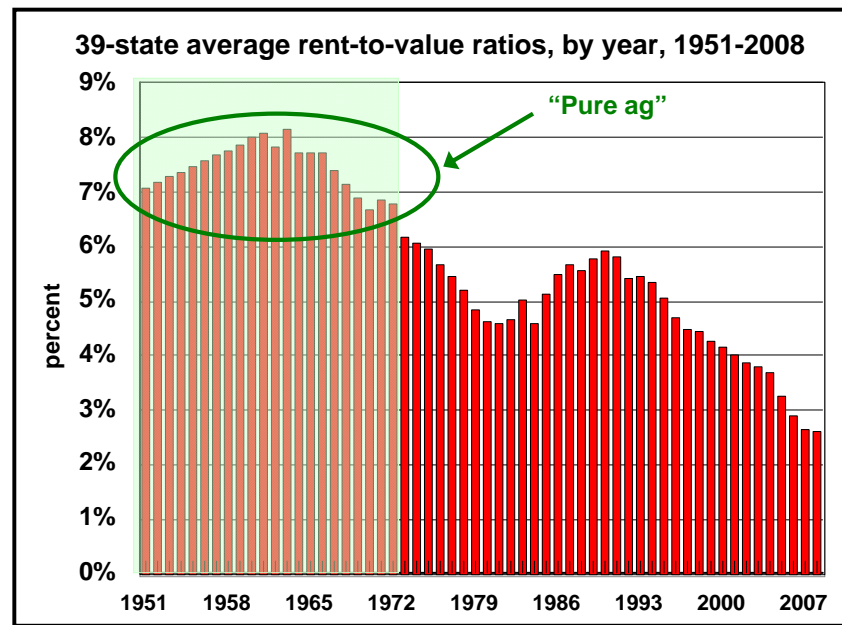
A number of years back we began to incorporate non-agricultural aspects into agricultural land values

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We separated land returns into various components



39 states ranked by total returns to land



Agricultural Market Value of Agricultural Land

- Based on the idea of an ag cap rate
- Used average after-property-tax RTV 1951-72
 - Early on while ag still is dominant
 - Before wild inflation of the 1970’s
- Alabama ag cap rate = 8.03%
- Kansas ag cap rate = 6.64%
- 39-state average cap rate = 6.57%

Agricultural Market Value of Agricultural Land using Alabama crop land as an example

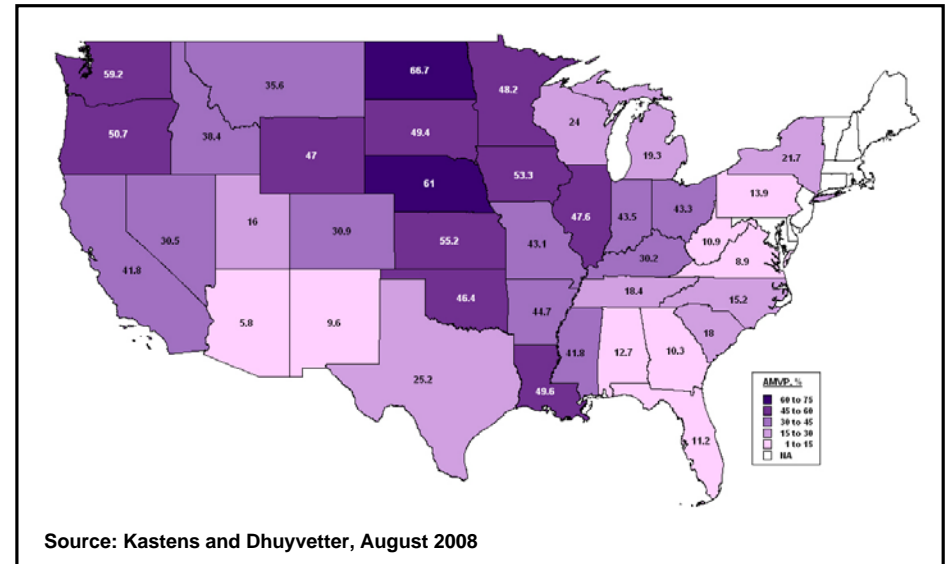
- Jan. 1, 2008 crop land value = \$3900 /acre
- Cash rent for 2008 = \$41.00 /acre
- 2008 property tax = \$1.38 /acre
- 2008 after-property-tax rent = \$39.62 /acre
- $\$39.62 / 0.0803 = \$493.40 /acre$
- $AMVP = \$493.40 / \$3900 = 0.1265 = 12.65\%$

Agricultural Market Value of Agricultural Land using KS non-irrigated cropland as an example

- Jan. 1, 2008 land value = \$1130 /acre
- Cash rent for 2008 = \$45.00 /acre
- 2008 property tax = \$3.58 /acre
- 2008 after-property-tax rent = \$41.42 /acre
- $\$41.42 / 0.0664 = \$623.80 /acre$
- $AMVP = \$623.80 / \$1130 = 0.552 = 55.2%$
(non-irr)

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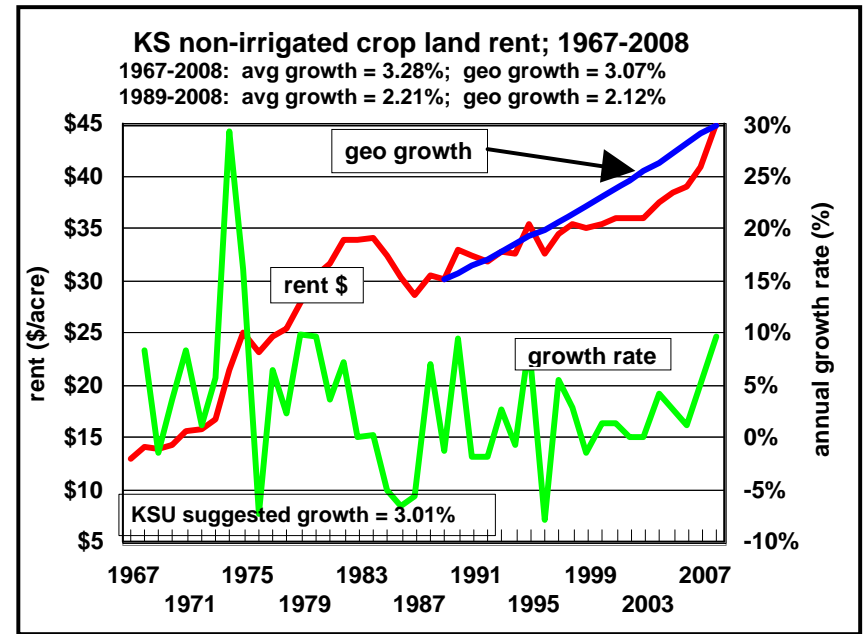
Portion of Land Value Attributed to Agricultural (production and government payments)



Buying Land – How much can I afford?

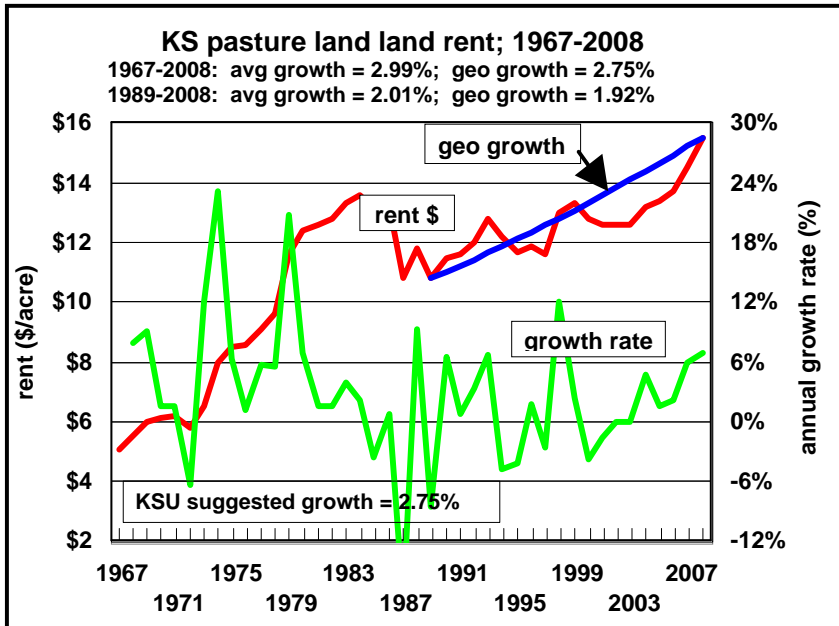
- Valuing the capital gains portion
 - Pick a “selling point,” say 30 years from now
 - What will the land be worth then?
 - Assume some annual capital gain % -- ag and non-ag
 - What is left after “sell” & pay cap gains tax?
 - What is that amount worth today?
- Valuing the rent portion
 - What is cash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

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If grain demand comes back, expectation for growth might need to be raised

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If grain demand comes back, expectation for growth might need to be raised

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KSU-Landbuy.xls spreadsheet for land investment decisions

Inputs		KS		KS		KS		KS	
		Crop	Pasture	Waste	Average				
120	35	5	160						
\$1,130	\$860	\$0	\$1,036						
\$1,130	\$860	\$0	\$1,036						
\$45.00	\$15.50	\$0.00	\$37.14						
\$3.96	\$3.01	\$0.00	\$3.62						
\$0.00	\$0.00	\$0.00	\$0.00						
30	30	30	30						
43%	43%	43%	43%						
15%	15%	15%	15%						
7.00%	7.00%	7.00%	7.00%						
40.0%	40.0%	40.0%	40%						
3.01%	2.75%	0.00%	2.99%						
0.00%	0.00%	0.00%	n/a						
4.00%	4.00%	0.00%	4.00%						
0.96%	1.22%	0.00%	0.98%						

Calculated Outputs		KS		KS	
3.99%	3.99%	3.99%	3.99%		
\$23.40	\$7.12	\$0.00	\$19.10		
\$608.10	\$175.30	\$0.00	\$495.08		
\$0.00	\$0.00	\$0.00	\$0.00		
\$3,665.04	\$2,789.32	\$0.00	\$3,358.94		
\$2,750.81	\$1,940.68	\$0.00	\$2,506.06		
\$1,015.69	\$773.00	\$0.00	\$936.86		
\$775.40	\$549.95	\$0.00	\$706.70		
\$1,623.79	\$951.30	\$0.00	\$1,425.54		
85%	77%	n/a	84%		
55%	22%	n/a			
\$493.79	\$91.30	\$0.00	\$390.31		
\$493.79	\$91.30	\$0.00	\$390.31		
9.82%	7.68%	n/a	9.43%		
11.70%	8.14%	n/a	11.05%		

We provide quite a bit of background on the inputs you need to inject to make an informed land ownership decision.

More and more we tend to focus on ROA and ROE, especially for making good micro land purchases

A little personal experience (NW KS)

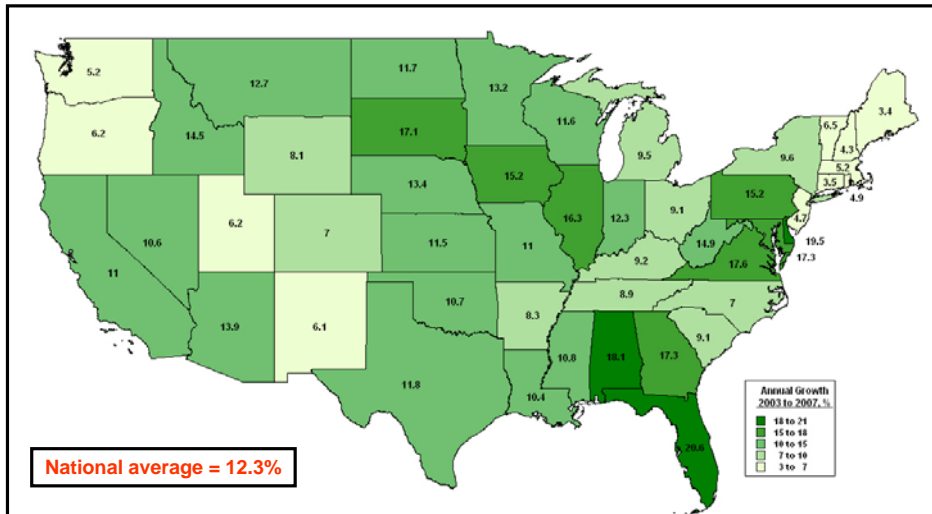
- Target an expected ROA of > 9%, using:
 - Rent and ag growth 3.01%
 - Total growth 4.00%
 - Non-ag growth falls out as residual
 - Property taxes 0.40% to 0.60%
 - Income tax 35%; capital gains tax 10%
- About half the land considered projects out to an ROA > 9%
- Side issues:
 - 50% debt so that cash flows
 - means ROE often considerably higher than ROA, depending upon interest rates of course

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Moving to more current information

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**Crop Land Average Annual Growth Rate
Jan 1, 2003 to Jan 1, 2008, percent (geo mean)**

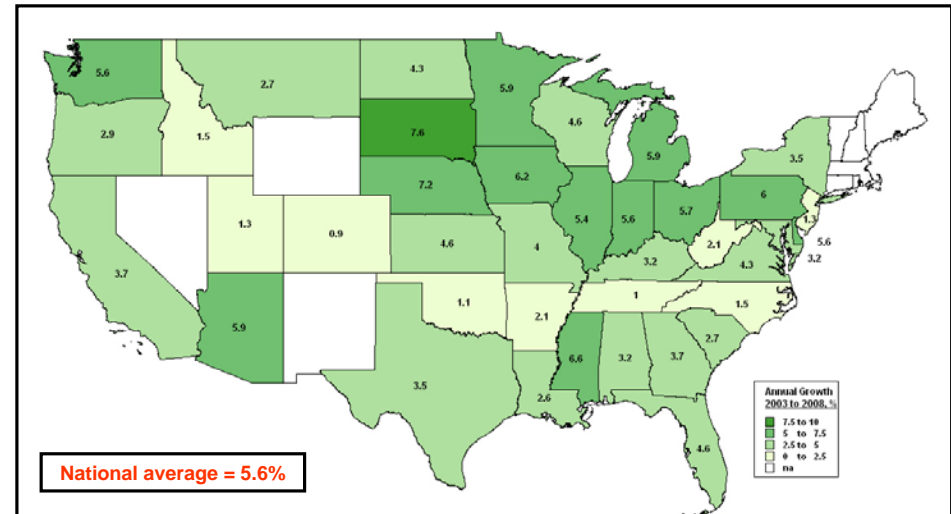


Source: USDA NASS *Land Values and Cash Rents 2008 Summary* and Dhuyvetter and Kastens, August 2008

* Corresponding pasture land growth rates are US=15.2%; KS=16.0%; NE=15.8%; OK=17.3%; and MO=12.8%.

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**Crop Land Rent Average Annual Growth Rate
Jan 1, 2003 to Jan 1, 2008, percent (geo mean)**



Source: USDA NASS *Land Values and Cash Rents 2008 Summary* and Dhuyvetter and Kastens, August 2008

* Corresponding pasture rent growth rates are US=7.6%; KS=4.2%; NE=4.3%; OK=3.3%; and MO=4.3%.

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The “new world” (started in 07)

- Landlords detected massive profits
 - Using 3-year expectations, tenants “could” pay as much as 2x-3x of going market rental rates
- Land prices rise
- Cash rents not keeping up
 - Risk? Poor information? Taking advantage?
 - Some landowners wish to go back to crop-share
- Some tenants jumping cash rents
- Some tenants paying bonus rents
 - What are the FSA issues
 - Will bonuses be expected in future?

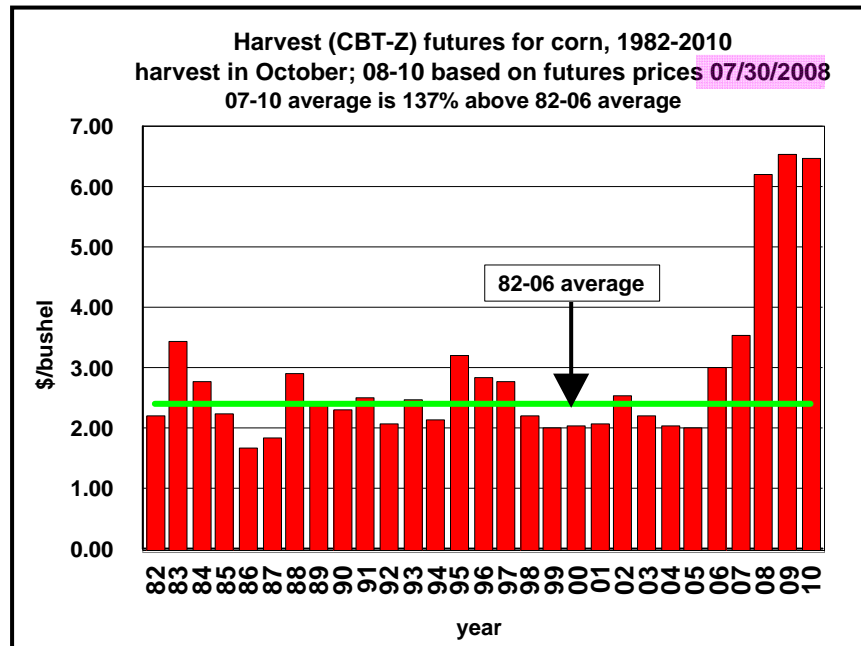
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The “newer” new world (summer 08)

- Fertilizer, herbicide, machinery costs, and fuel, all have taken massive jumps in the last 12 months
 - Availability sometimes bigger worry than price
- Tenant’s risk has greatly increased
 - Less of a problem in crop share leases
- Expected crop prices still swamp input prices but a very large risk premium remains between crop-share and cash rent terms
 - Makes it difficult to determine whether the terms we observe are appropriate or inappropriate

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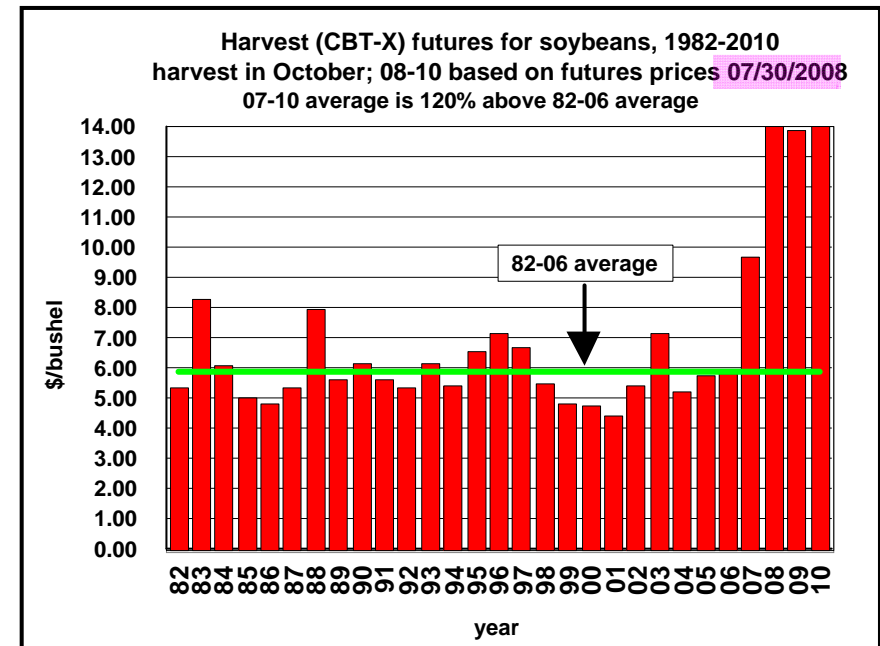
How long will strong crop prices stick around?



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... what we were saying mid-summer 2008

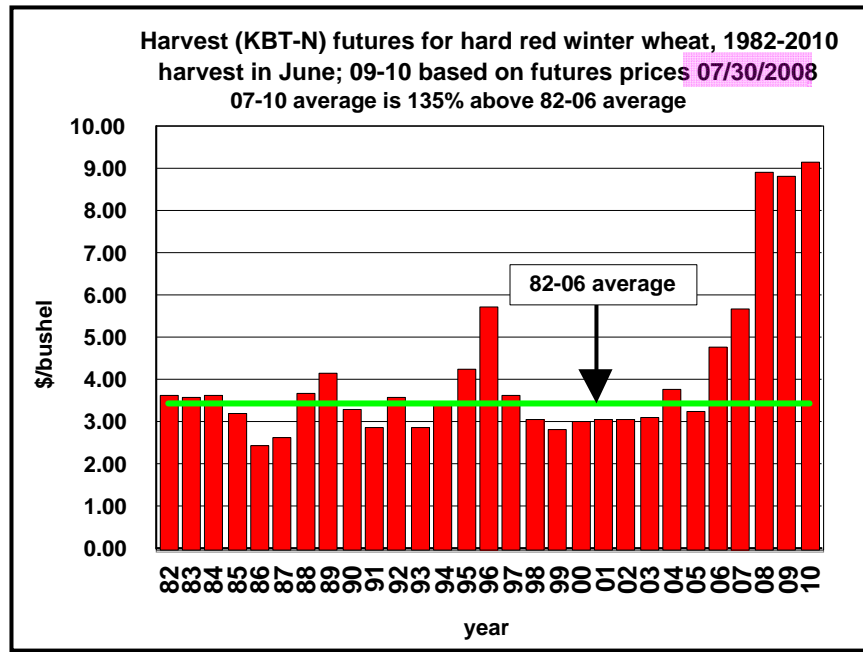
It’s not just corn prices...



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... what we were saying mid-summer 2008

It's not just corn prices...



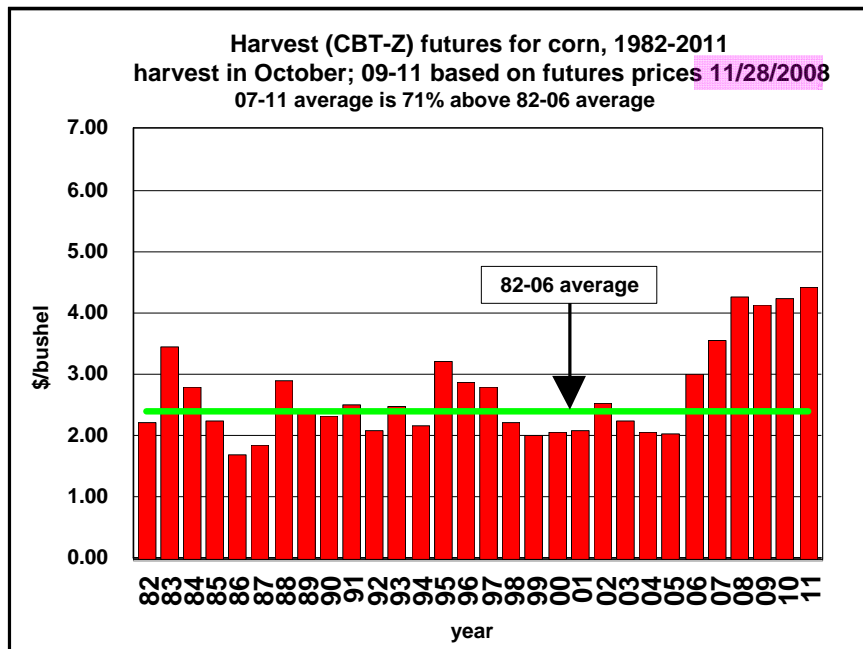
... what we were saying mid-summer 2008

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The "newer" newer new world (late 2008)

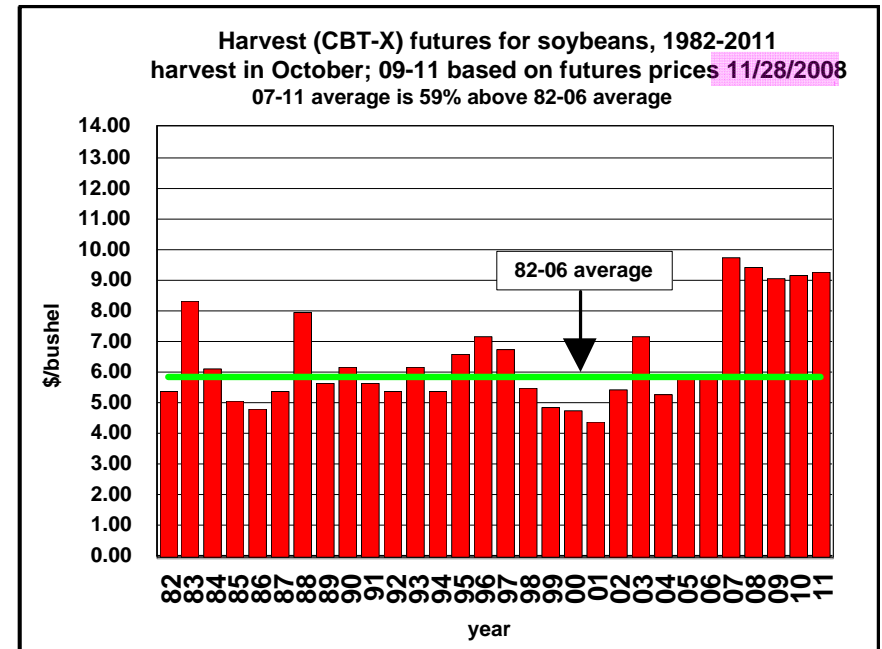
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What a difference 4 months makes!



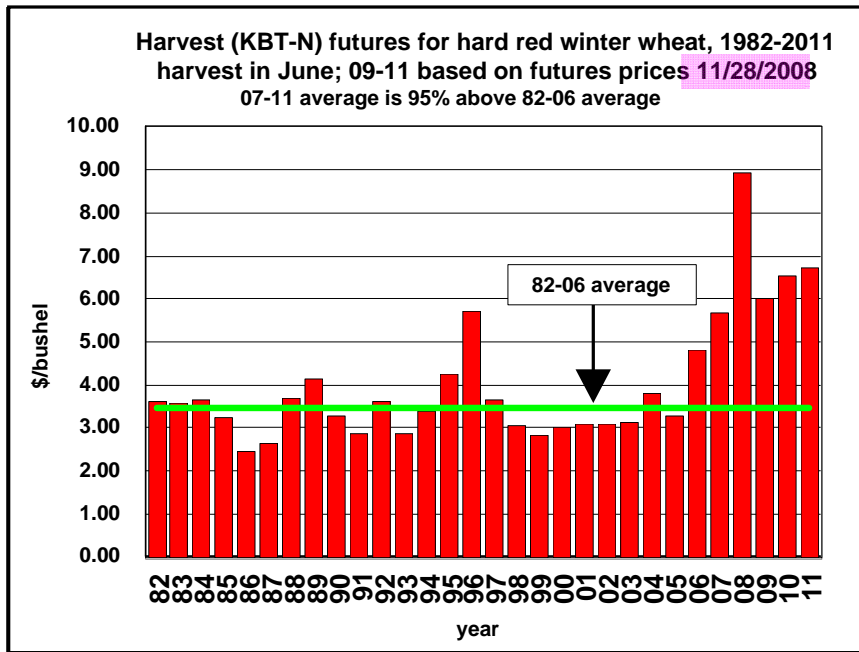
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What a difference 4 months makes!



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What a difference 4 months makes!



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The “newer” newer new world

- Expected crop prices way down
- Fuel costs have fallen way back
 - Will machinery operations cost less in 2009?
- Fertilizer prices are falling. Seed? Herbicide?
 - Where will these input prices be in 2009?
- Will crop prices cover “still high” fertilizer prices?
- Tenants’ risk is still huge

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- Change in expected farming profit, thus rents that **COULD** be paid, varied dramatically the last 12 months, and may continue to do so.
- But, rents don’t adjust that fast and neither do land values
 - Faster adjustment in Corn Belt (low risk)
 - Slower adjustment in High Plains (high risk)

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Are land prices overheated?

- Investors began asking earlier this year

Analysis if 2012 corn price is 175% of 2006 (\$3.00 to \$5.25)

Kastens & Dhuyvetter research, 2008 -- expectation of agricultural land returns

	KS	CO	MO	NE	OK
if buy land 1/1/09 this % above the 1/1/08 market >	11.8%	15.6%	12.5%	16.6%	9.5%
we expect this return on equity (50% leveraged) >	12.5%	11.2%	16.3%	15.8%	10.6%

Analysis if 2012 corn price is 133% of 2006 (\$3.00 to \$4.00)

Kastens & Dhuyvetter research, 2008 -- expectation of agricultural land returns

	KS	CO	MO	NE	OK
if buy land 1/1/09 this % above the 1/1/08 market >	11.8%	15.6%	12.5%	16.6%	9.5%
we expect this return on equity (50% leveraged) >	10.3%	8.6%	12.6%	12.7%	8.7%

- The end of the world is NOT nigh!

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Summary

- Land values:
 - Appear to be falling a little in low-risk areas
 - Appear to still be rising in high-risk areas
- It's not the end of the world unless you believe the worst of the economic pessimists
- There are still opportunities to buy land
 - Especially if you do a good micro analysis
 - Land quality & soil fertility, perhaps no-till considerations
 - Economies of size impacts on your farm
 - Machinery efficiency (field size & shape)
 - Distance from headquarters
 - Use this stuff to adjust rents
 - Internally, or in fact so as to appeal to outside investors
 - Do your homework (use KSU-Landbuy.xls!)

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AgManager: providing agricultural economic information on crops, livestock, marketing and outlo - Windows Internet Explorer

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2008-2009 K-State Ag Profitability Conferences

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Click on Terry Kastens or Kevin Dhuyvetter and then slide presentations...

Cattle Risk Management Library

In the Cattle Markets" and Radio Interview:

Michael Woolverton's "Grain Outlook" Newsletter

Grain Basis Tool and Basis Maps:

Recent Updates

KSU-FertCalc -- Excel spreadsheet for calculating per unit fertilizer costs

Commodity Program Decisions in the 2008 Farm Bill

Livestock Outlook Radio Program

Livestock and Hay Charts

Grain Outlook Radio Program

Crop Basis Maps

Updated Crop Basis Tool

In The Cattle Markets

Futures-Based Price Forecasts for Diesel Fuel

Current Grain Outlook Newsletter

Kansas Grain Price Spread-Transportation Returns

World Grain Supply and Demand Estimates (WASDE)

US Ethanol Production, Imports and Stock (Updated)

Seasonal Grain and Cattle Price Spreadsheets (Excel)

KEMA Monthly Newsletter

Biofuels: The Environment and the Economy

Grain Market Outlook Presentation

2002 & 2006 Fence Construction Cost Survey in Kansas

Pasture Leasing Arrangement in Kansas