

## Where are U.S. Land Prices Going? high crop price implies high rent and land value?

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## Factors/issues impacting land values

(alphabetical order)

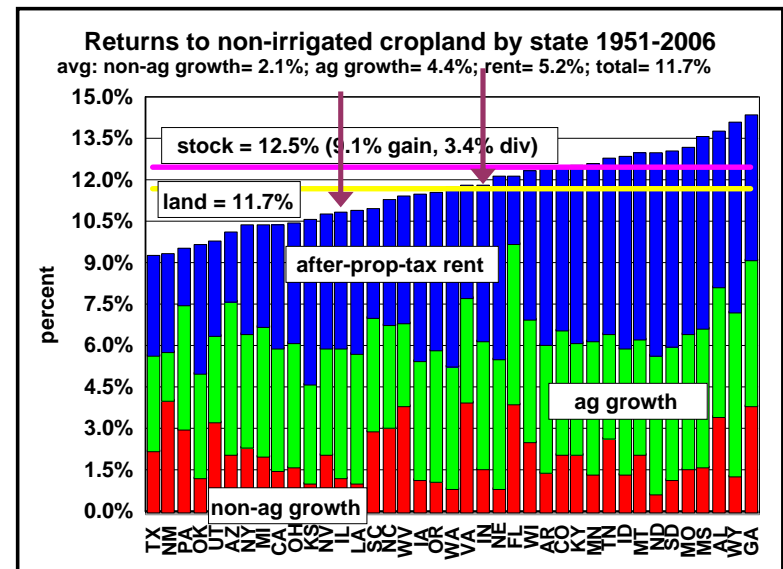
- Farm profitability
- Farm size
- Government programs
- Input costs (e.g., fuel and fertilizer)
- Interest rates
- Outside investors (i.e., stock market money)
- Recreation uses (e.g., hunting)
- Renewable fuels (ethanol and bio-diesel)
- Section 1031 tax exchanges
- Technology (e.g., no-till, precision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

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## Returns to land

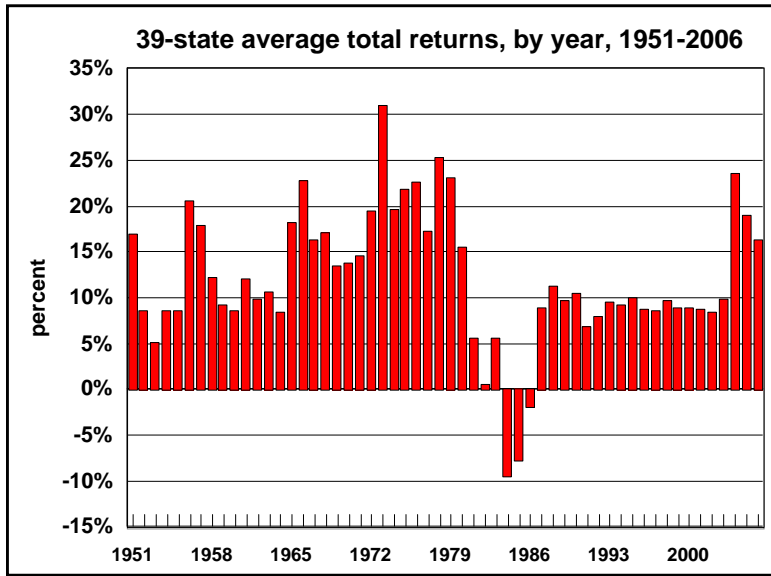
- Capital gains (growth)
- Cash returns (rent)
- The two returns to land are similar to other investments such as the stock market (capital gains and dividends)

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39 states ranked by total returns to land

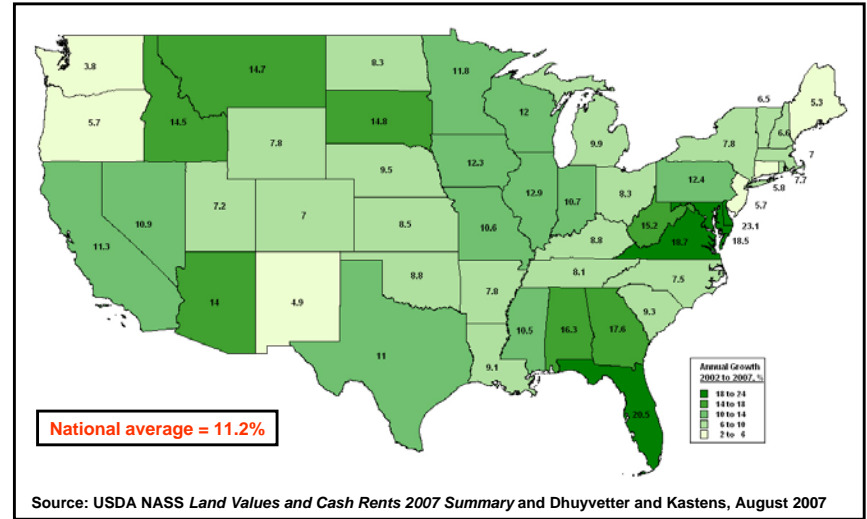
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Is the "bubble" ready to burst? Not, based on all past run-ups.

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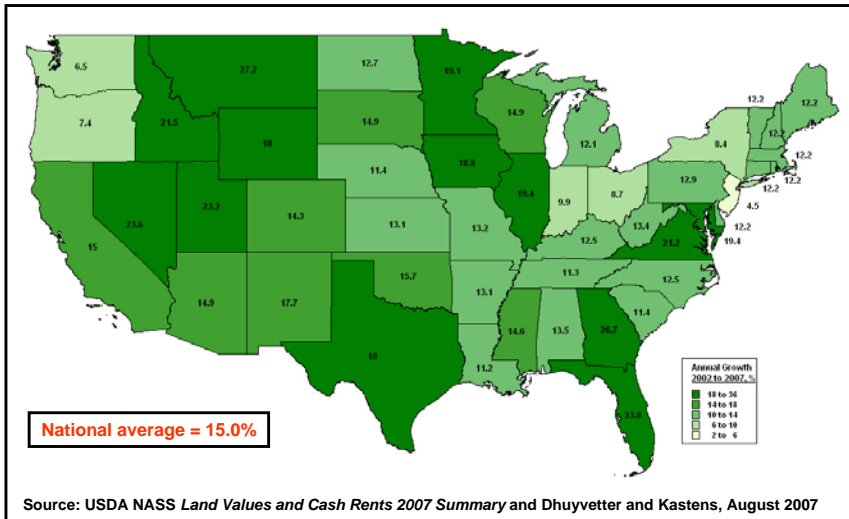
### Crop Land Average Annual Growth Rate Jan 1, 2002 to Jan 1, 2007, percent (geo mean)



Notice that this is PRE-ethanol!

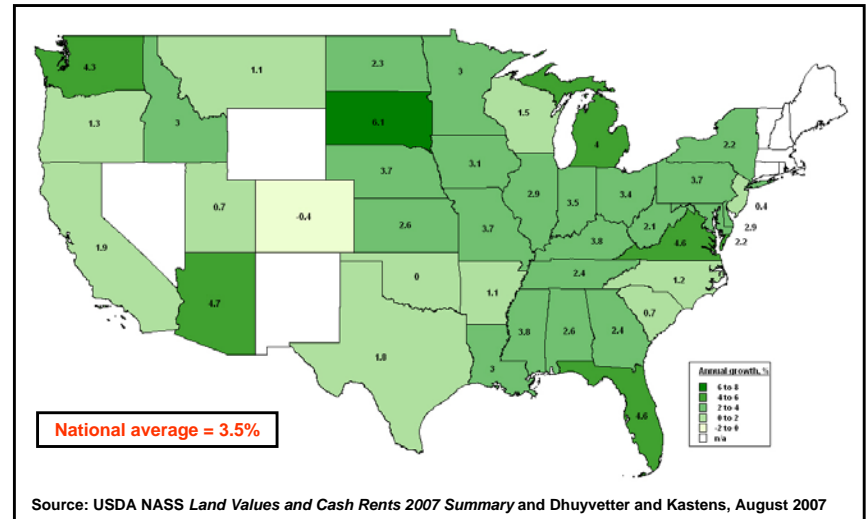
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### Pasture Land Average Annual Growth Rate Jan 1, 2002 to Jan 1, 2007, percent (geo mean)



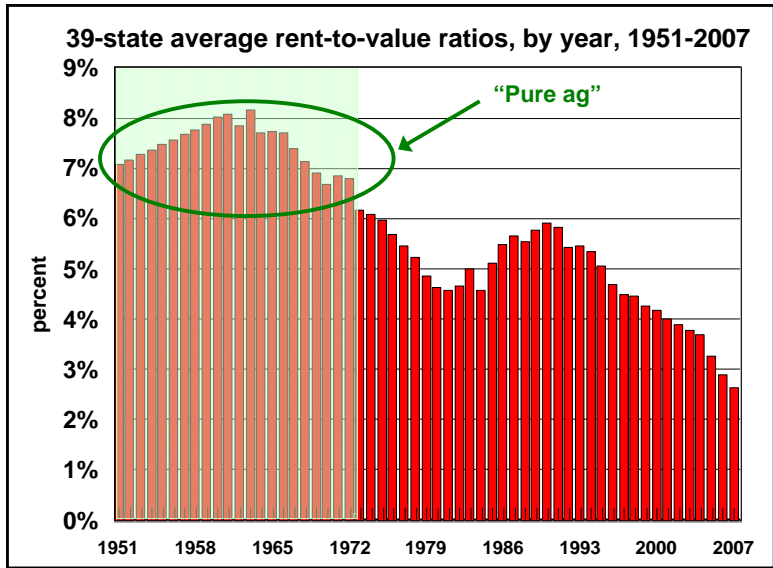
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### Cropland Rent Average Annual Growth Rate Jan 1, 2002 to Jan 1, 2007, percent (geo mean)

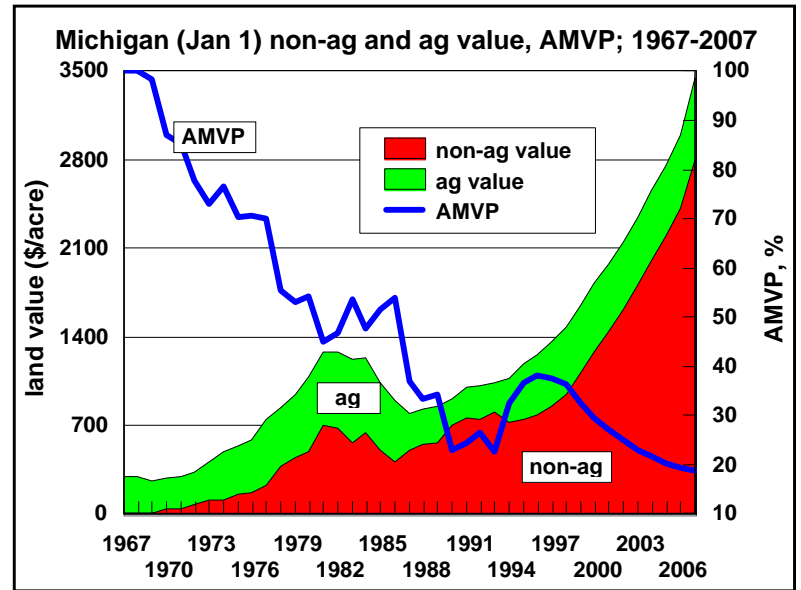


Rents have not been growing especially fast . . . at least pre-ethanol

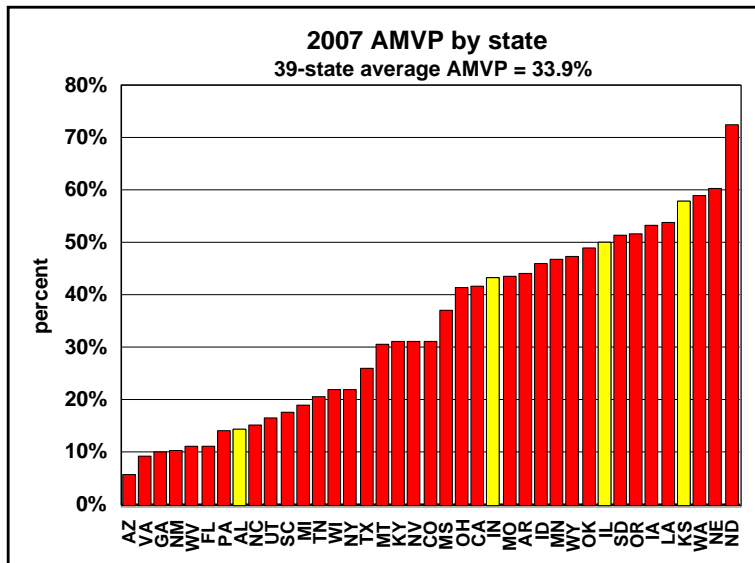
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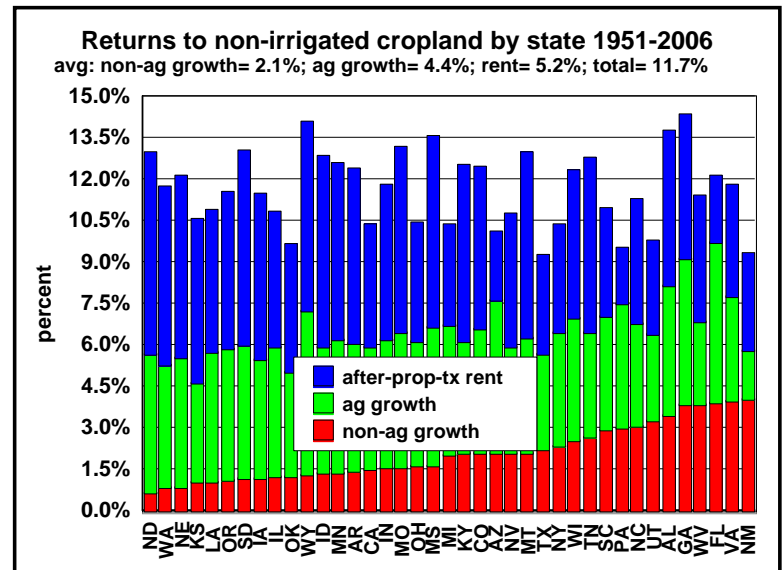


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percent of land value that is due to agriculture

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39 states ranked by non-ag growth

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## Assumptions in KSU study

- Growth in corn yield and price determines rent growth
  - Yield grows at historical (1950-2007) rate in all
  - Price grows at historical rate in baseline but different rates in other two scenarios
- Rent growth assigned to ag portion of land
- Non-ag portion of land value grows at 3%
- Miscellaneous assumptions:
  - start 1/1/06; 30-year land ownership analysis (show 12 years)
  - interest = 7%; income tax rate = 25%; cap gain = 15%
  - property tax = 0.4% of land value
  - 2010-to-2006 price ratio with ethanol is 1.75
  - starting rents, values, crop prices from USDA-NASS

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A KSU study in July 2008 (Kastens & Dhuyvetter)

state	a 1% change in corn revenue i.e., yield or price, leads to a change of this % in rent	1950-1972 avg pre-REtax rent-to-value ratio (ag cap rate, %)	2007 % of land value due to agriculture	1950-2007 avg ann. growth rate in %, for non-ag land value	1950-2007 avg ann. growth rate in %, for corn yield	1950-2007 avg ann. growth rate in %, for corn price
IL	1.31	6.63	50.03	12.01	1.84	1.54
IN	1.33	7.28	43.40	13.03	1.85	1.61
KS	0.76	7.78	57.98	11.17	3.15	1.58
MI	1.26	6.62	18.93	14.71	1.94	1.51
AL	0.99	8.37	14.51	15.85	2.98	1.67
ND	1.10	9.02	72.51	9.29	3.01	1.57

Notes:

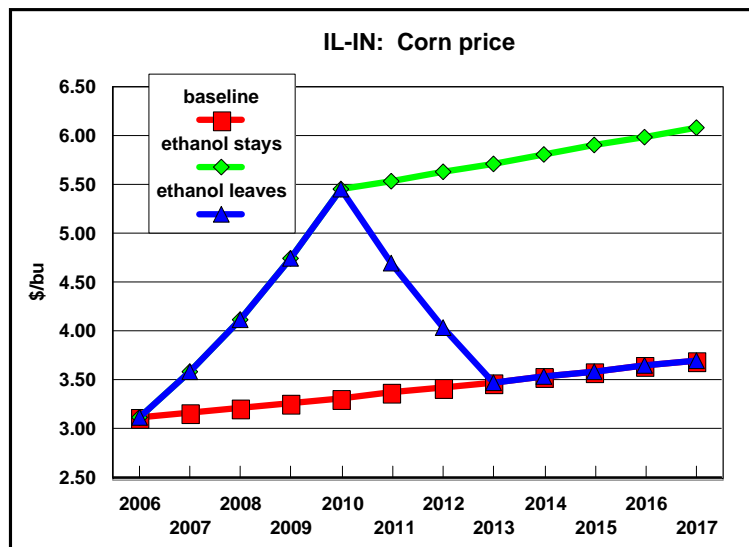
Results don't materially change if use wheat or soybeans in analysis.

Most mathematical models explained 85 to 95% of variation in dependent variable.

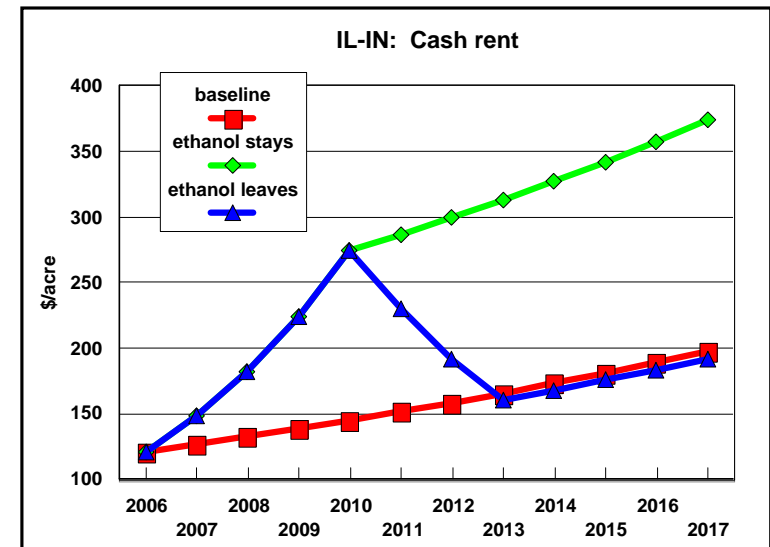
Rent/(ag cap rate) equals agricultural portion of land market value.

AL and ND included as examples of high and low non-ag influence

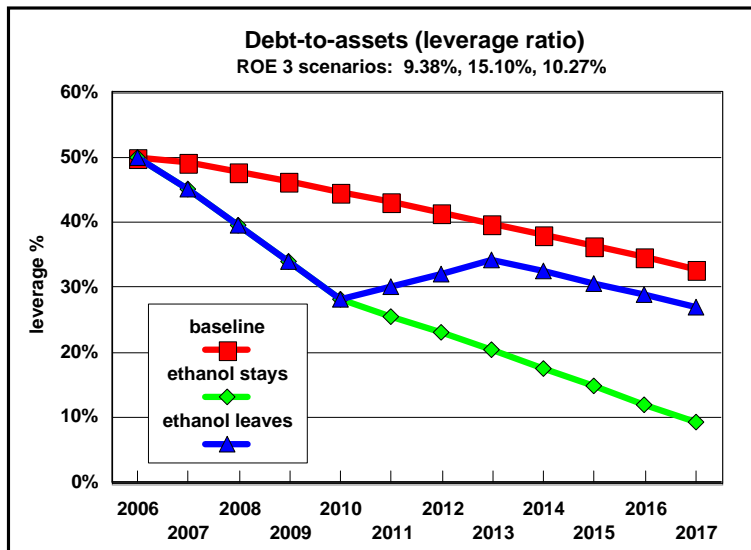
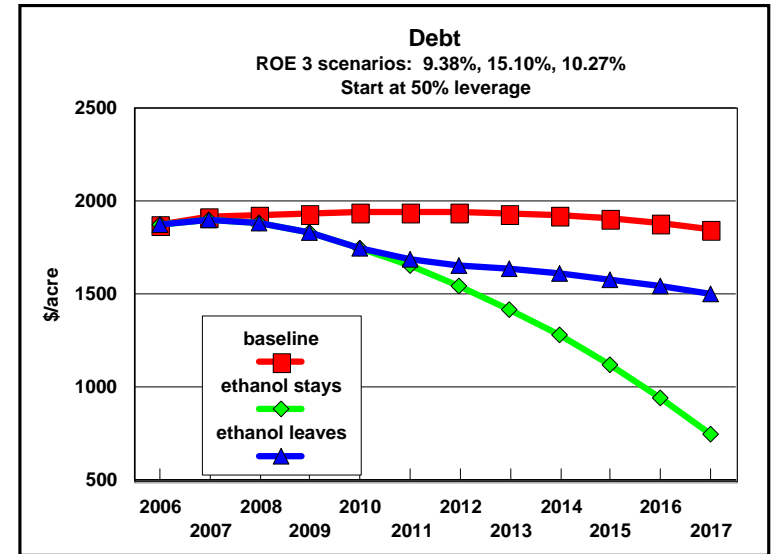
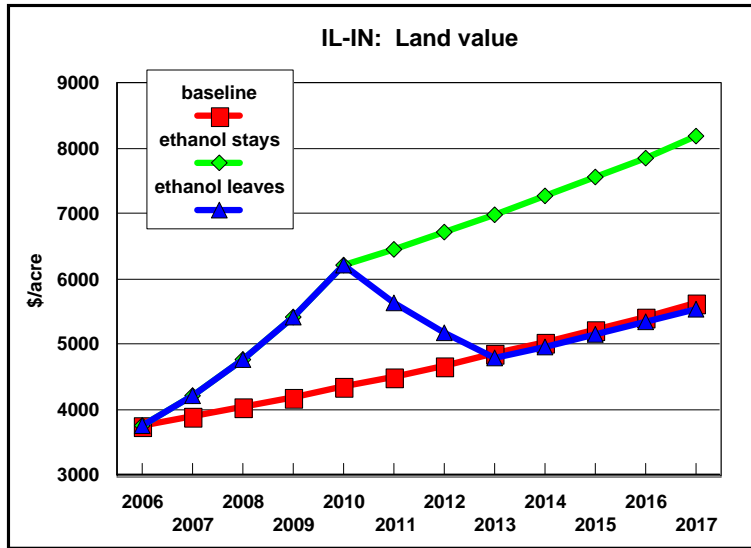
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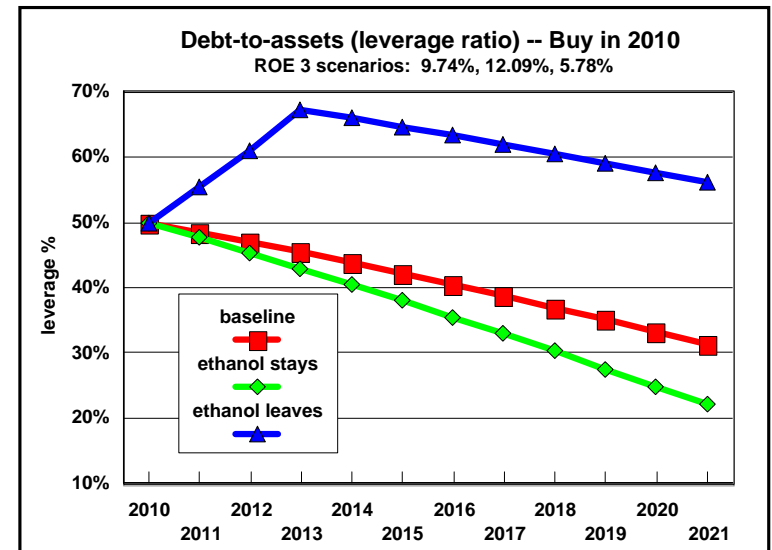
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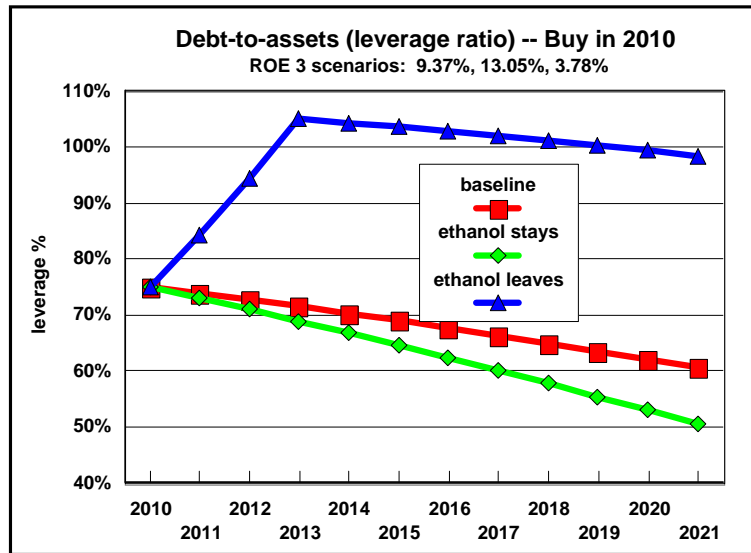
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Late to game: don't buy until January 2010

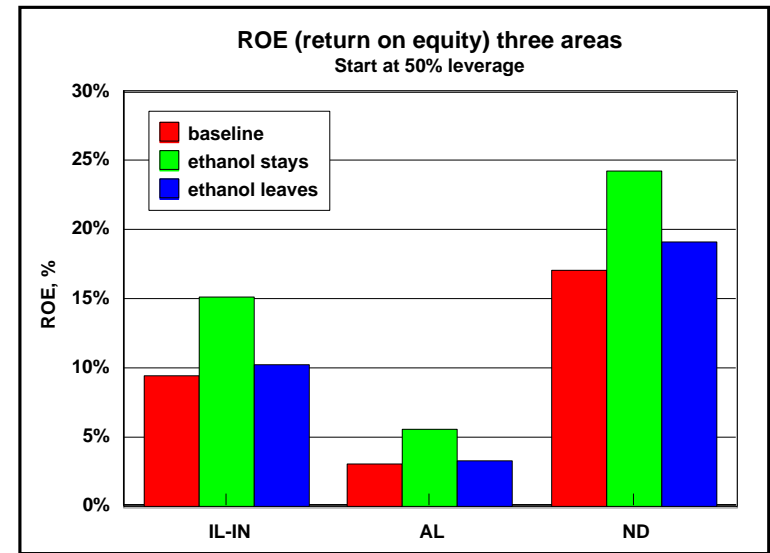


Late to game AND LEVERAGE AT 75% rather than at 50%



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Ethanol will be good to states like ND, which is dominated by ag



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## Closing Thoughts...

- Historically, ag land has been a good investment
  - RUN THE NUMBERS!
- Non-ag features have been an important driver of ag land values in recent years
- Ethanol may stop or reverse that trend to ever greater importance of non-ag factors behind ag land values
- Government payments have diminished as a driver of land values in recent years

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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
- There is considerable interest in non-traditional rental arrangements
  - RUN THE NUMBERS!
- If ethanol goes away in a few years it's not the end of the world
  - ... unless you're late to the game
  - ... AND you're highly leveraged

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