



Farmland Markets: Current Issues, Future Implications

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The Profitability of Illinois Agriculture: Managing in a Turbulent World

Outline:

- **Farmland Recent Trends**
 - High relative recent incomes
 - Rapid increases in values
- **Financial performance as an asset**
 - Comparison and context with other assets
- **Future issues**
 - Risks and opportunities

Recent Trends



- Recent Performance of farmland resulted in increased interest by investors, landowners, lenders, operators
- Post-Housing Crisis renewed interest as financial markets correlations converged and alternatives evaluated – raised question about how to evaluate real assets
- Data comparability and availability limited compared to other assets
- “Sticky” Rental markets – questions about profitability at current rates, adjustments

Evaluation issues



- Annual income cycle
- Thin markets/high transactions costs
- Epochal returns – correlated in time
- Unlike financial markets, price of observed sale is not fully informative about value of asset class
 - Land not sold randomly
 - Non-land attributes differ by parcel
- No equity market analog

Ag Sector Balance Sheet



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	1970	1980	1990	2000	2010	2011	2012	2013f
	(\$millions, except ratios - source ERS-USDA)							
Farm Assets	278,864	983,305	840,609	1,203,215	2,358,461	2,529,849	2,811,255	3,010,265
Real Estate	202,417	782,819	619,149	946,428	1,887,157	2,078,284	2,310,560	2,483,852
Non Real Estate	76,447	200,486	221,459	256,787	471,305	451,566	500,695	526,413
Farm Debt	48,753	166,824	137,962	177,637	278,931	294,472	300,315	308,324
Real Estate	27,506	89,692	74,732	91,109	154,065	167,191	173,019	178,411
Non Real Estate	21,247	77,131	63,230	86,529	124,865	127,281	127,296	129,912
Equity	230,112	816,481	702,647	1,025,578	2,079,531	2,235,377	2,510,940	2,701,941
Selected Indicators								
Debt/Equity	21.2%	20.4%	19.6%	17.3%	13.4%	13.2%	12.0%	11.4%
Debt/Assets	17.5%	17.0%	16.4%	14.8%	11.8%	11.6%	10.7%	10.2%
Real Estate/Assets	72.6%	79.6%	73.7%	78.7%	80.0%	82.2%	82.2%	82.5%
Real Estate/Equity	88.0%	95.9%	88.1%	92.3%	90.7%	93.0%	92.0%	91.9%
Real Estate D/Total D	56.4%	53.8%	54.2%	51.3%	55.2%	56.8%	57.6%	57.9%

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- Farmland represents about 83% of farm assets
- Farm real estate debt only 58% of total farm debt
- Low aggregate leverage (approx. 10% D/A)
- Growth rates '70-'13f, continuous compounding:
 - Assets -5.5%
 - Real Estate - 5.8%
 - Debt - 4.3%
 - Equity - 5.7%
- Absence of active equity market. This IS a big deal.
- Ag Balance sheet compared to corporate sector vastly different, especially in financial structure.

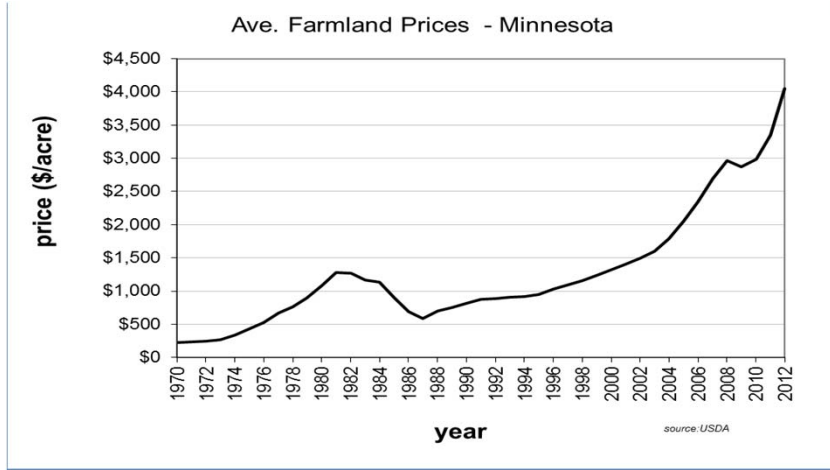
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Farmland Values through Time



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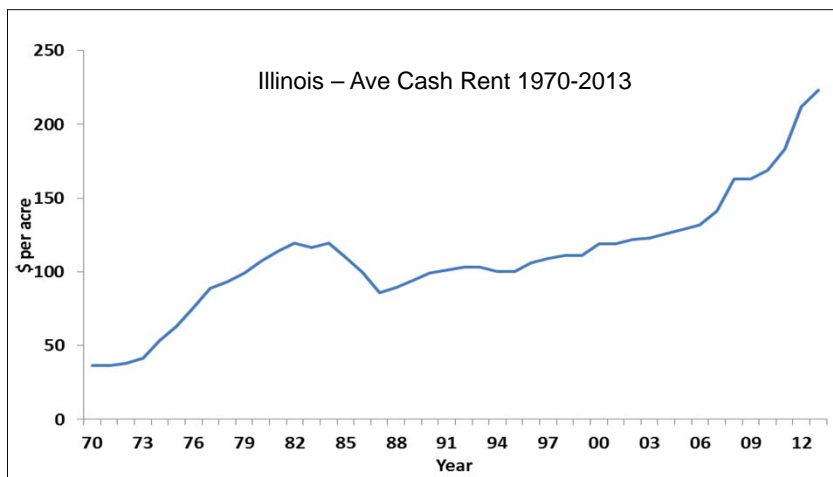


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Illinois Cash Rents - ave USDA



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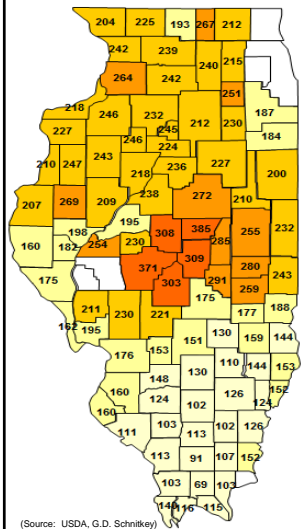


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Cash Rent by County, 2013



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- Ave Cash rent at County level correlates closely with productivity and land value.
- Pattern very stable

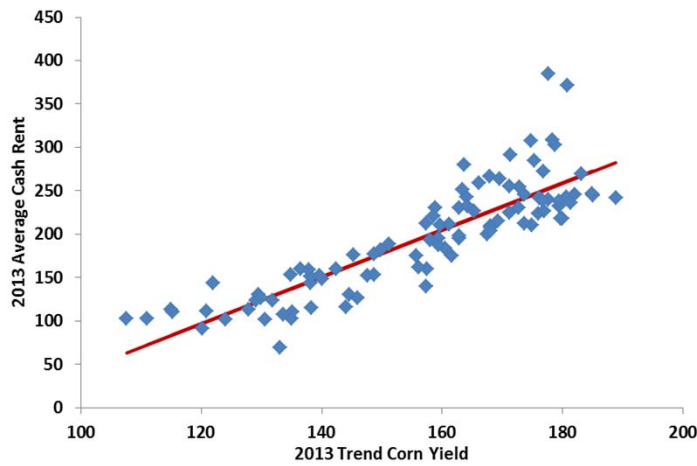
(Source: USDA, G.D. Schnitkey)

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Cash Rent and Trend Yield



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(Source: G.D. Schnitkey)

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Ave. vs. Professionally Managed, 2013



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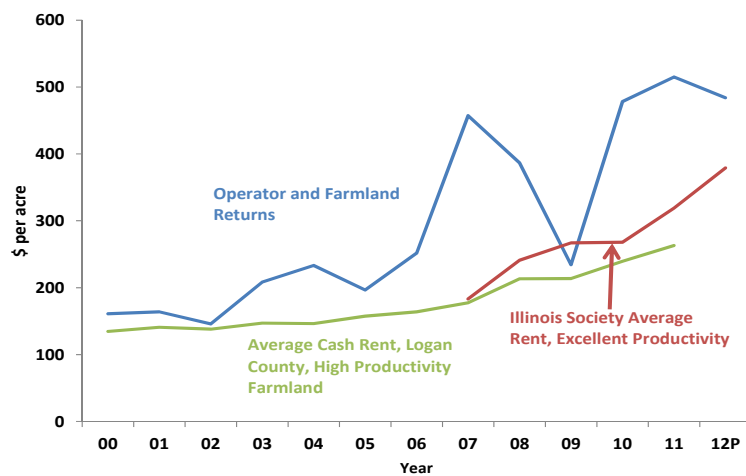
Productivity Class	Average NASS	Professionally Managed	Difference
	Rent	Rent	
	\$/acre	\$/acre	\$/acre
Excellent	313	388	75
Good	259	332	73
Average	205	278	73
Fair	151	224	73

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Returns and Rents



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(Source: G.D. Schnitkey, ISPFMRA)

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Table 1. Asset Return Characteristics

Asset/Index	Annual Ave. Return	Standard Deviation	Coefficient of Variation	Illinois Correlation
----- 1970 - 2012-----				
<i>Illinois</i>	10.83%	9.84%	0.91	1
AAA	8.05%	2.38%	0.30	-0.317
Gold	8.96%	22.77%	2.54	0.163
PPI	3.99%	4.85%	1.22	0.434
CPI	4.20%	2.85%	0.68	0.342
TBSM3M	5.28%	3.13%	0.59	-0.113
S&P500	6.33%	17.00%	2.68	-0.244
Dow Jones	6.50%	15.74%	2.42	-0.335
Equity REITS	11.15%	17.61%	1.58	-0.100
CompositeREITS	9.01%	20.92%	2.32	-0.112
US Ave Select32	11.09%	6.73%	0.61	0.869
BAA	9.16%	2.59%	0.28	-0.326
CP3M	2.91%	2.17%	0.74	-0.100
TCM10Y	6.98%	2.74%	0.39	-0.253
EAFE	6.49%	21.16%	3.26	-0.272

sources include: Fed H.15, MSCI, NAREIT, USDA, BLS. Equity indexes div. unadjusted, geometric annual rates, CV = ave/st.dev.

Table 2. Asset Return Characteristics

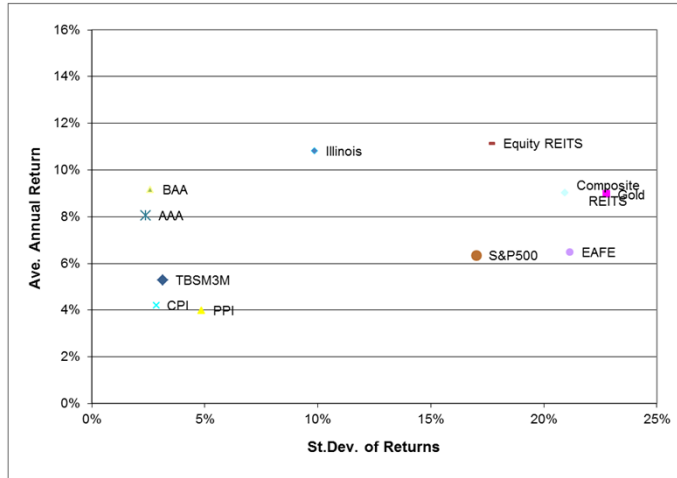
Asset/Index	Annual Ave. Return	Standard Deviation	Coefficient of Variation	Illinois Correlation
----- 1990 - 2012-----				
<i>Illinois</i>	10.98%	5.12%	0.47	1
AAA	6.53%	1.38%	0.21	-0.488
Gold	6.20%	12.85%	2.07	0.161
PPI	2.51%	3.85%	1.53	0.172
CPI	2.61%	1.09%	0.42	-0.089
TBSM3M	3.29%	2.12%	0.64	-0.179
S&P500	5.99%	18.10%	3.02	-0.084
Dow Jones	6.78%	15.34%	2.26	-0.146
Equity REITS	10.39%	19.50%	1.88	-0.208
CompositeREITS	9.72%	20.00%	2.06	-0.228
US Ave Select32	9.85%	3.41%	0.35	0.717
BAA	7.50%	1.27%	0.17	-0.547
CP3M	2.91%	2.17%	0.74	-0.100
TCM10Y	5.18%	1.65%	0.32	-0.359
EAFE	1.85%	21.27%	11.49	-0.041

sources include: Fed H.15, MSCI, NAREIT, USDA, BLS. Equity indexes div. unadjusted, geometric annual rates, CV = ave/st.dev.

Financial performance



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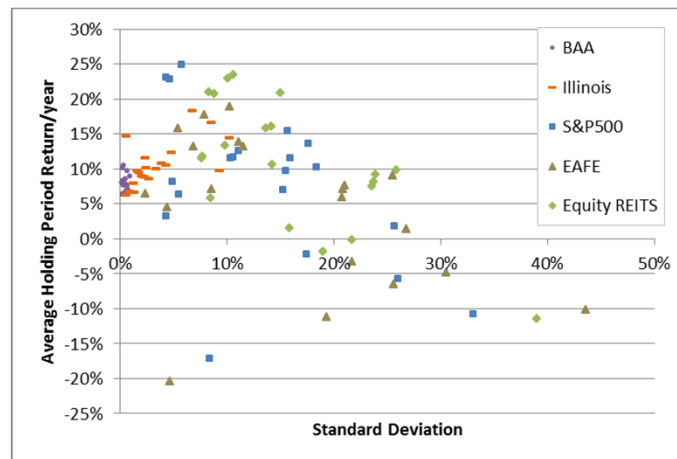
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20/3 year performance sets



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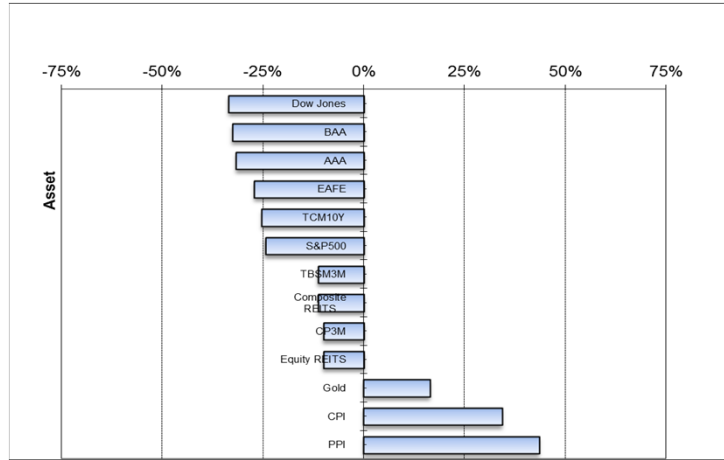


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Low Equity correlation, positive CPI

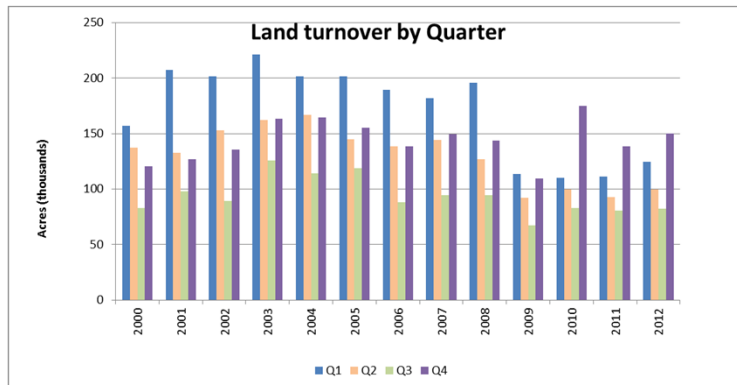


Correl. w/ Illinois Farmland Returns annual holding periods, 1970-2012



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Turnover – seasonal



IDOR 2000-2012f transfer data

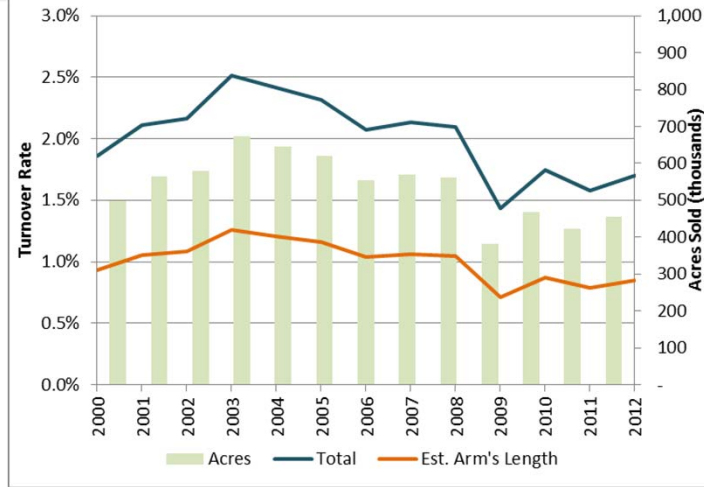
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Turnover – low shares



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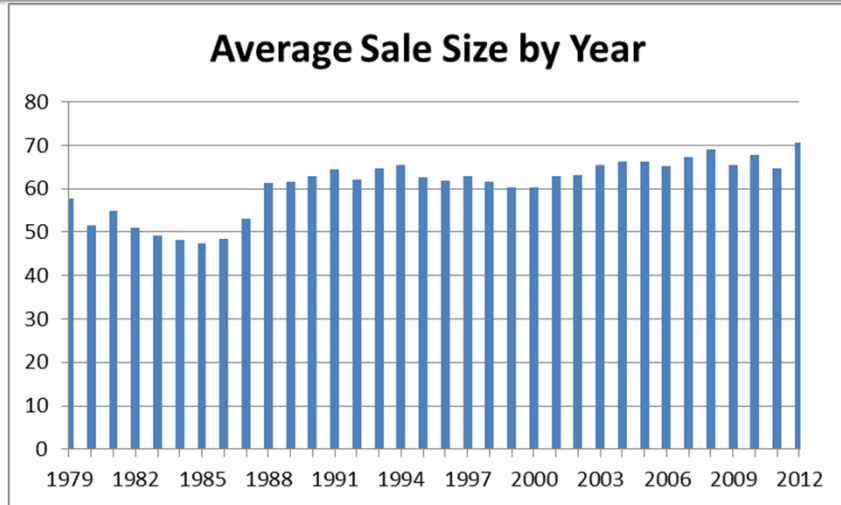


IDOR 2000-2012f transfer data

Parcel size fairly stable



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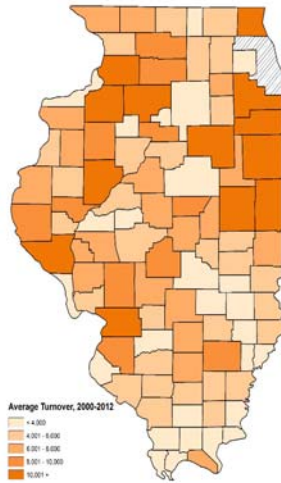


IDOR 2000-2012f transfer data

Regional variation in turnover



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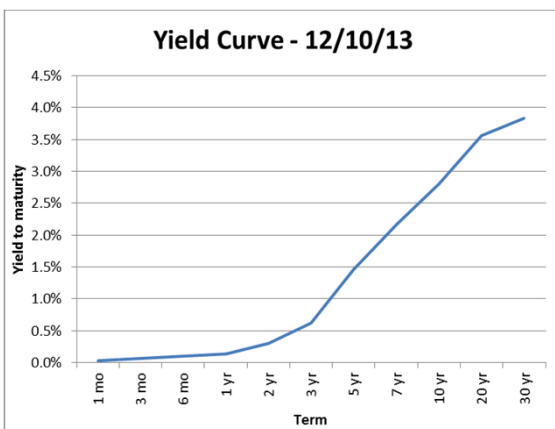


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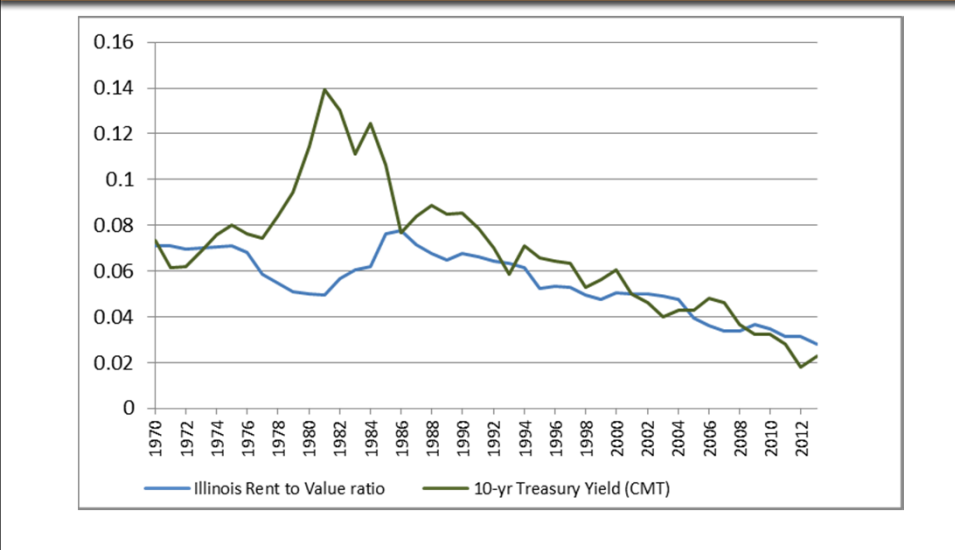
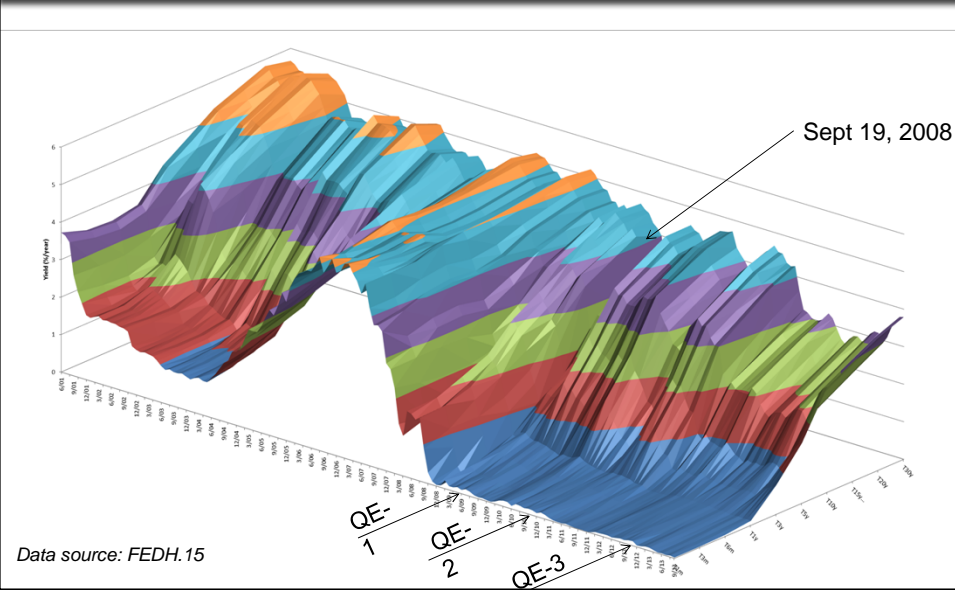
Yield and cap rate issues



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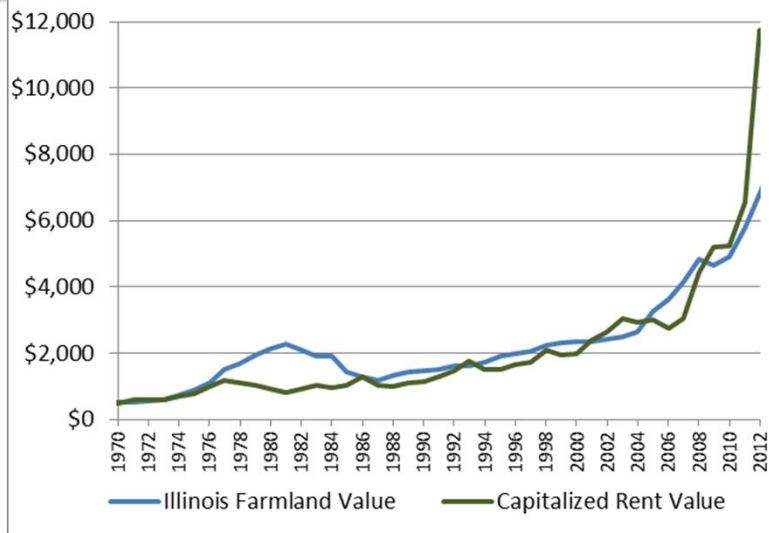
- Yield Curve relates rate to term of investment
- P/E analog for permanent income – multiply income by $1/r$ to determine price
- Current Fed Program extends QE regimes
- “Tapering” likely, but not clear when and by what means.



Does the market make sense?



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Future Issues:



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- Economy wide impacts of sudden reversal of Monetary Policy (unlikely... unclear exit strategy)
- Significant changes in Crop Insurance provisions (unlikely...) or other radical impacts of Farm Bill (evolving)
- Global slowdown in income growth (maybe?)
- Demand for Calories worldwide more stable than for corn only. Supply shocks matter. Ability to “buy” up food scale?
- Major changes in RFS, Farm Bill, and related policies (some direct impacts, some unclear, complex linkages....)
- Slow adjustments of rental markets –emerging contracts to better align risk.

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Questions/Comments?

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