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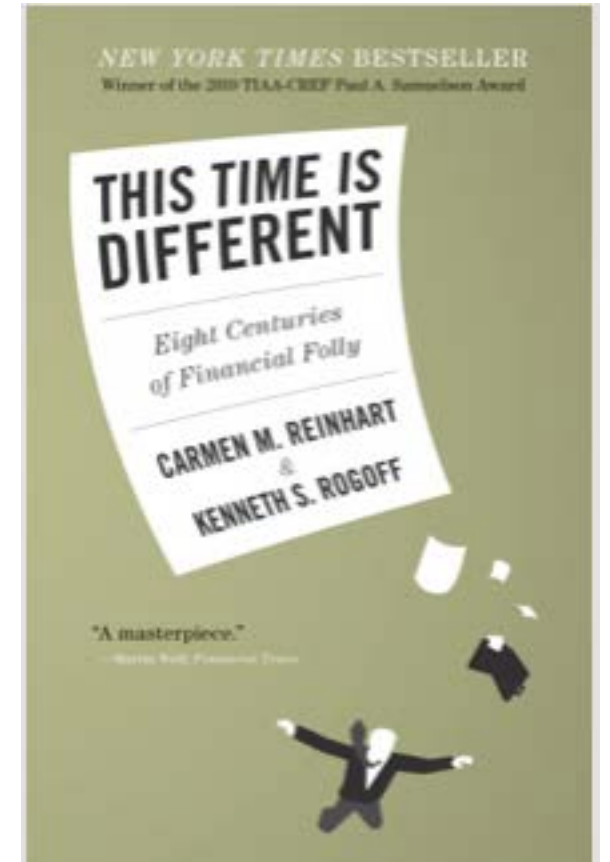
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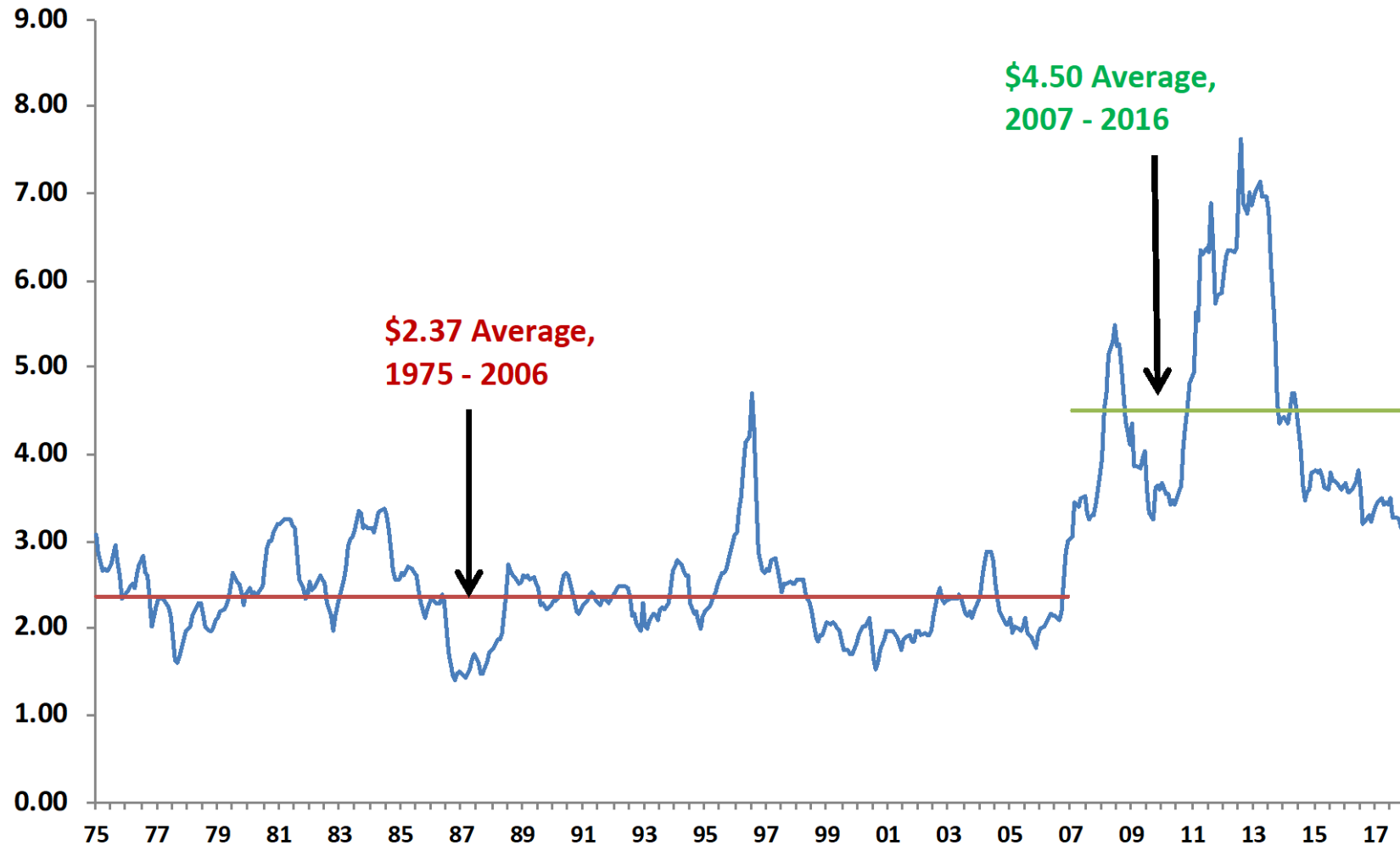
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This Time Is Different: Why the Current Low Corn and Soybean Returns are Different than the 1980s

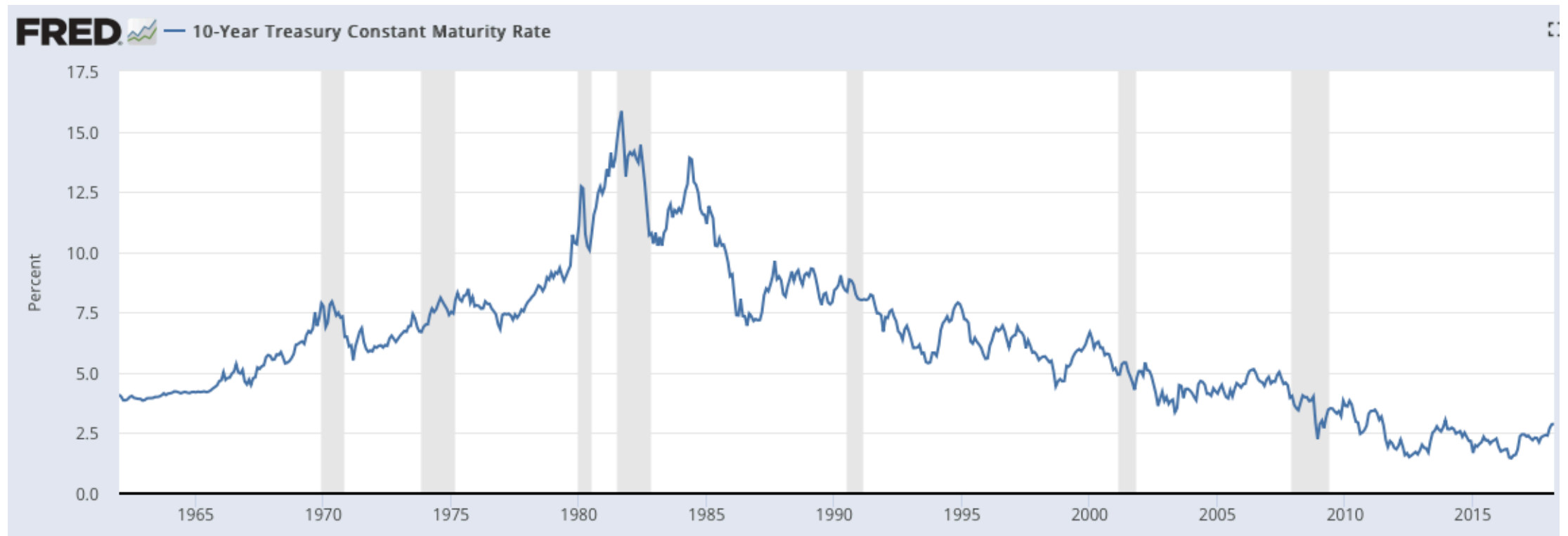
Gary Schnitkey
University of Illinois



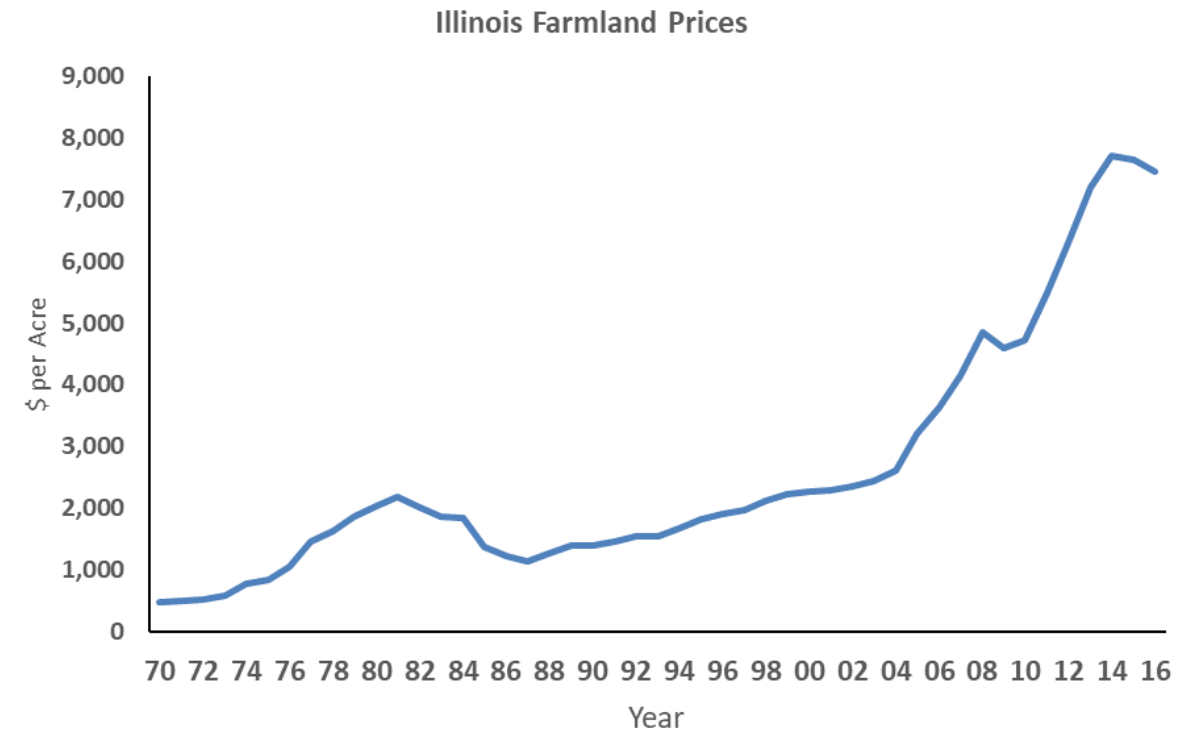
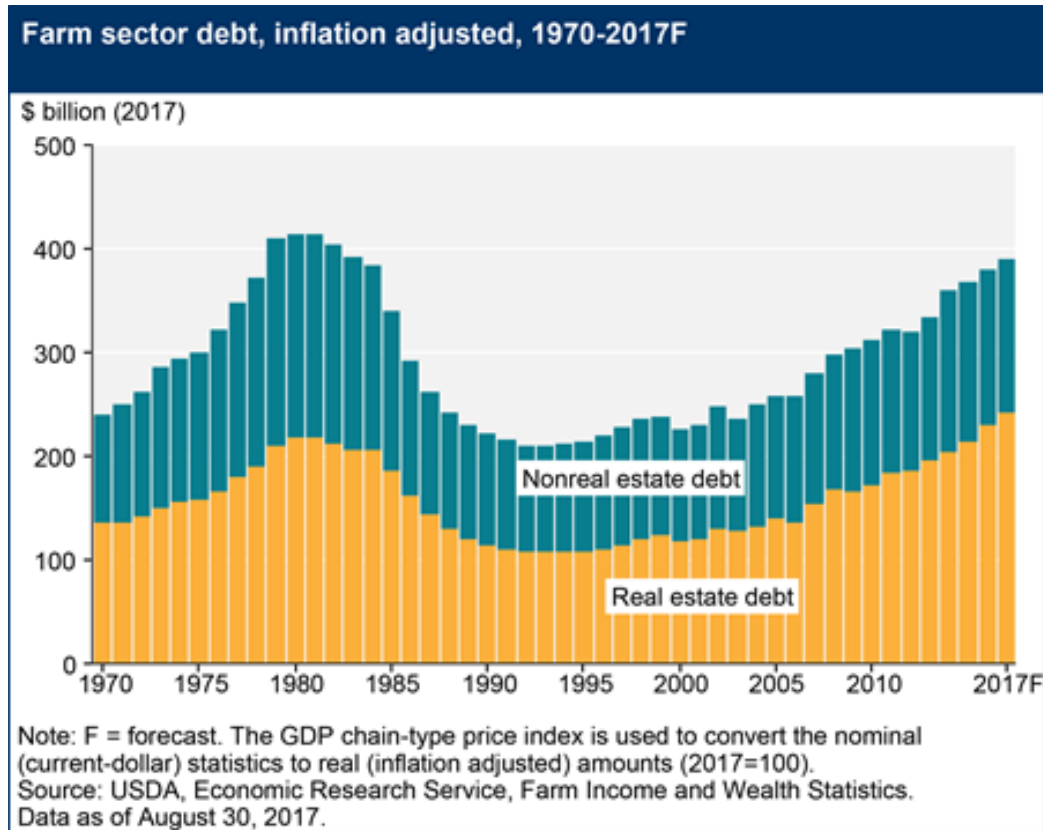
Monthly Corn Prices, U.S.



10-Year Constant Maturity Treasury Rates (FRED)



Debt and Farmland Prices

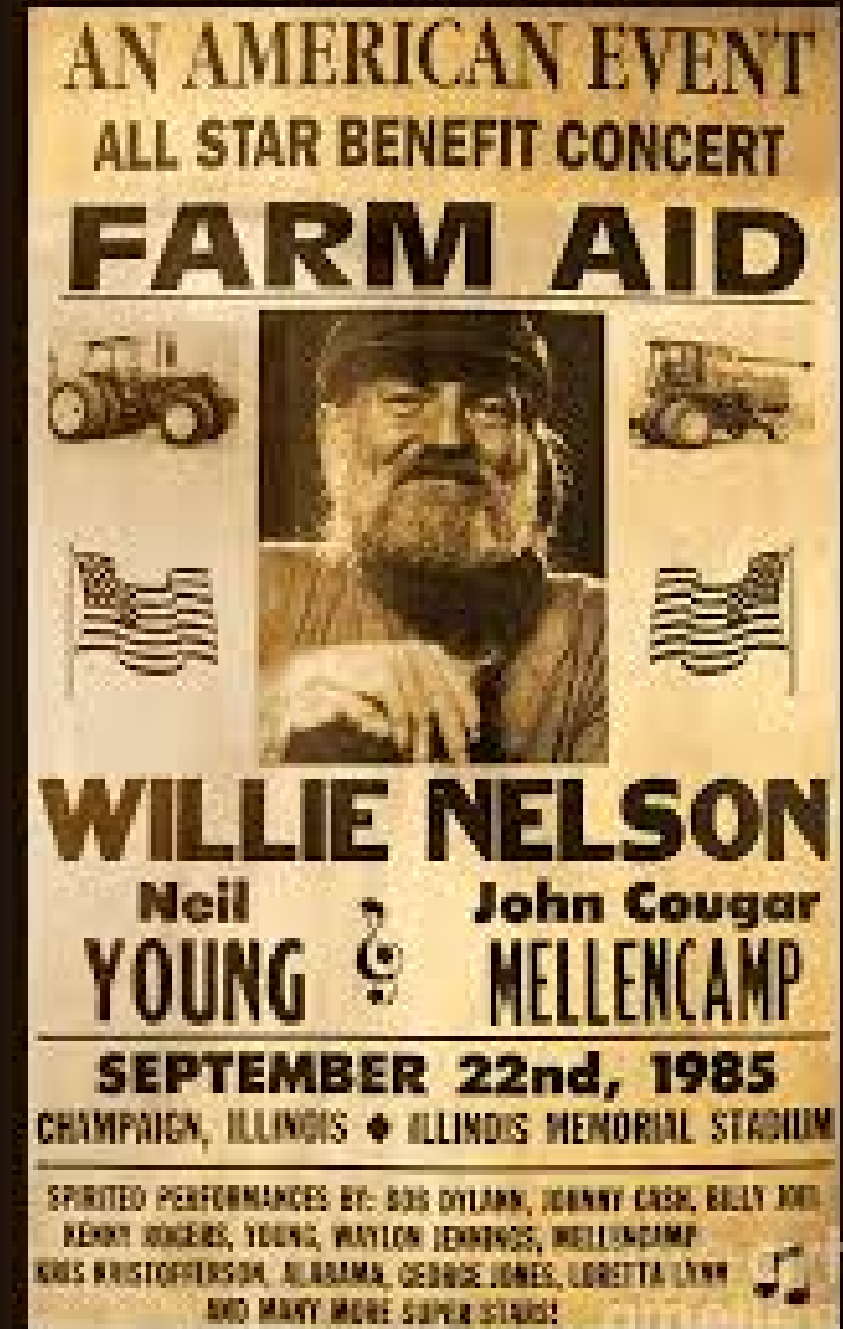


Source: NASS, USDA



What did we do?

- Massive debt restructuring
 - Restructured debt
 - Sold assets and restructured debt
 - Sold asset, forgave debt, and restructured debt
 - Bankruptcy
- Profession
 - USDA came under scrutiny: Why did we not know this was happening?
 - Emphasized financial statements to agricultural production firms



What is Different in the 1980s Versus 2010s

Categories as a Percent of Total Cash Costs by Period,
Corn USDA

	1977-78	1981-84	1990-95	2012-16
Seed	8%	8%	12%	26%
Fertilizer, lime and gypsum	27%	25%	24%	35%
Chemicals	8%	9%	13%	8%
Custom operations	6%	6%	5%	6%
Fuel, lube, and electricity	5%	8%	10%	6%
Repairs	5%	5%	8%	7%
Hired labor	2%	2%	4%	1%
Other variable expenses	0%	0%	0%	0%
General farm overhead	11%	7%	6%	5%
Taxes and insurance	4%	7%	10%	3%
Interest	22%	22%	8%	4%

Difference in Cost Structure

- Note the steady decline in importance of interest
- Note the importance of seed fertilizer and chemicals
- Note fuel and oil

What is Different in 2010s Versus 1980s?

Specialized, Risky Farms

- Fewer diversified farms (If you are a crop farm you are a crop farm)
- Increases in size (and a continuing belief that farm size needs to increase)
- Lower debt levels
- Expansion on crops farm by renting land, with a move to cash rent farmland

Year	Owned	Share Rent	Cash Rent
2000	14%	65%	21%
2005	14%	56%	30%
2010	14%	53%	33%
2015	15%	46%	39%

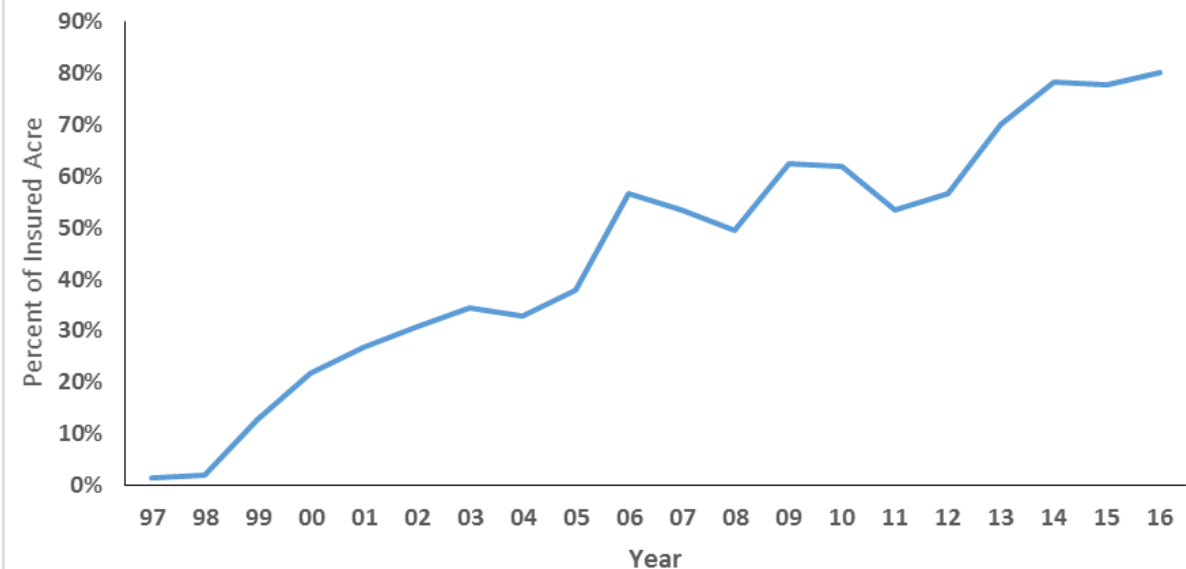


What is Different in 2010s Versus 1980s

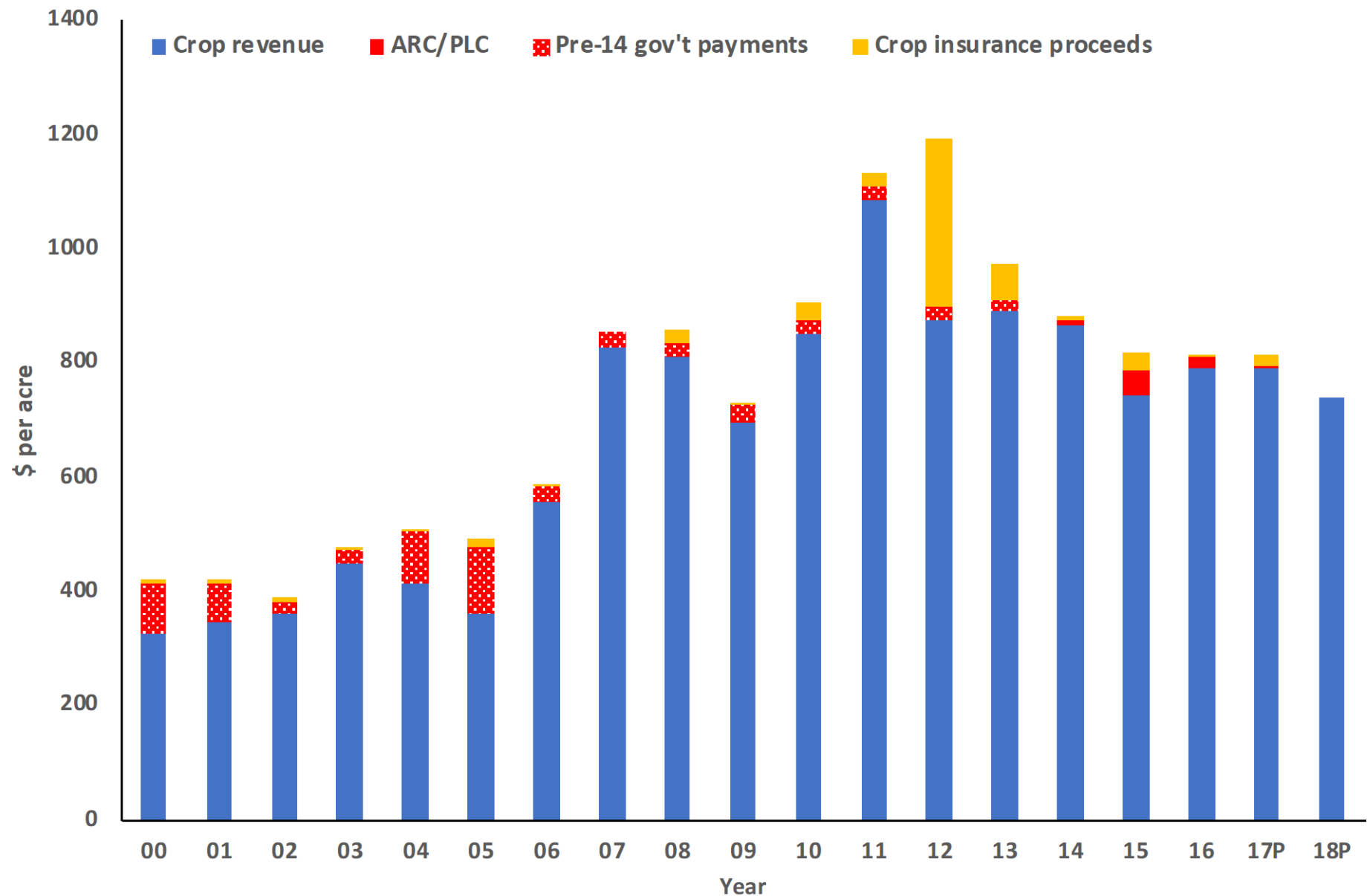
Introduction and Use of Crop Insurance

- In 2016, 85% of acres are insured in Illinois, higher percentages on larger farms
- Most with high coverage levels (75% and higher)
- Research looking at the importance of this in mitigating large disasters on farms
- Implication: Most farms will not have catastrophic losses, but will have shallow losses

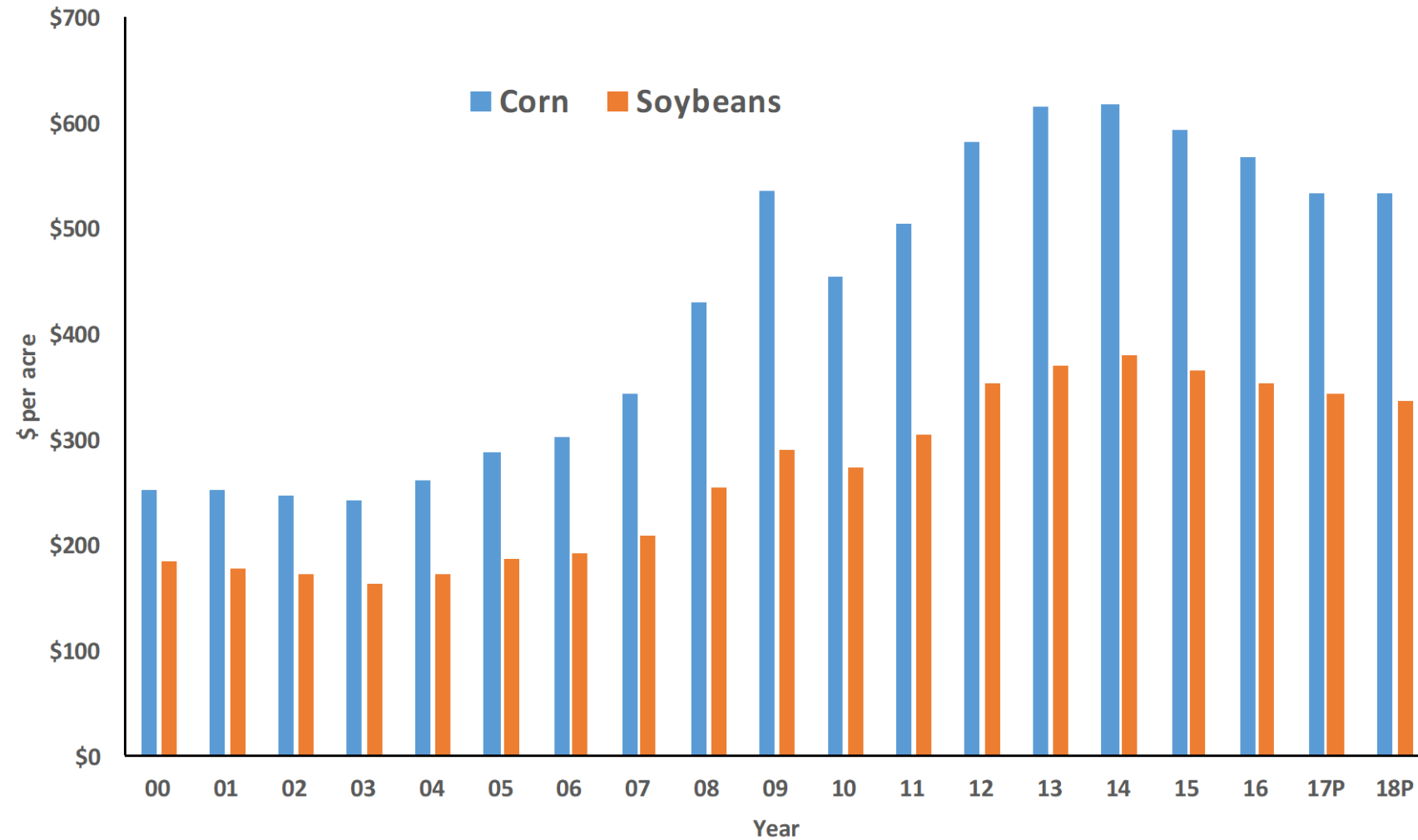
Figure 1. Use of High Coverage Level Revenue Insurances with Guarantee Increases, Corn, Illinois, 1997 to 2016.



Gross Revenue, Corn, Central Illinois (High-prod)



Non-land Costs, Corn and Soybeans



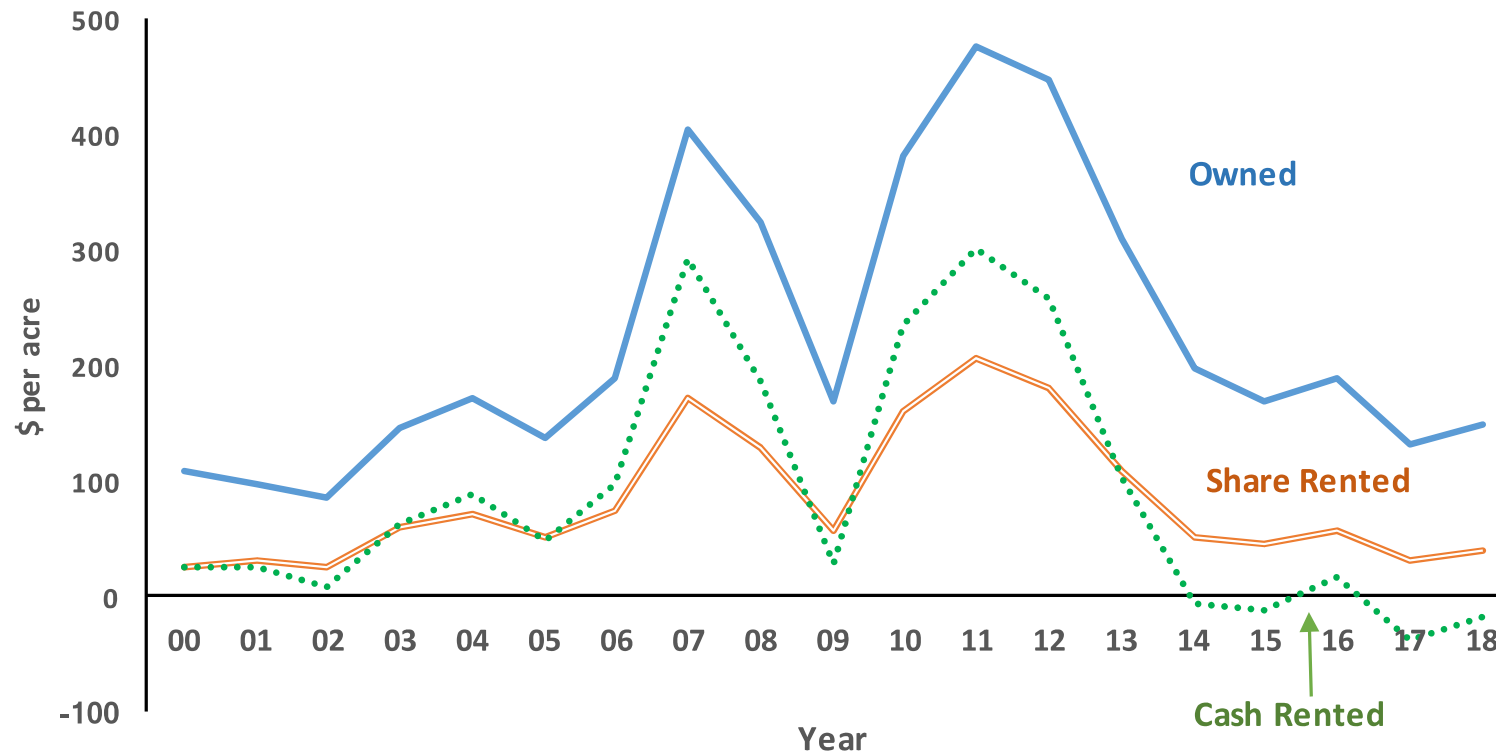
Costs and Changes, Corn, Central Illinois

	Year			Change	
	2006	2013	2016	06-13	13-16
	\$/acre	\$/acre	\$/acre	\$/acre	\$/acre
Non-land costs	302	615	566	313	-49
Fertilizer	82	193	154	111	-39
Seed	55	114	118	59	4
Pesticides	40	66	64	26	-2
Mach. depreciation	23	63	65	40	2
Mach. Repair	16	22	22	6	0
Fuel	18	24	14	6	-10
Non-land interest	17	11	13	-6	2
Cash rent	150	290	273	140	-17



Cash Rent Decisions

Returns to Owned, Share Rented, and Cash Rented High-Productivity
Farmland in Central Illinois



Source: Illinois Farm Business Farm Management

See farmdocDaily, August 22, 2017

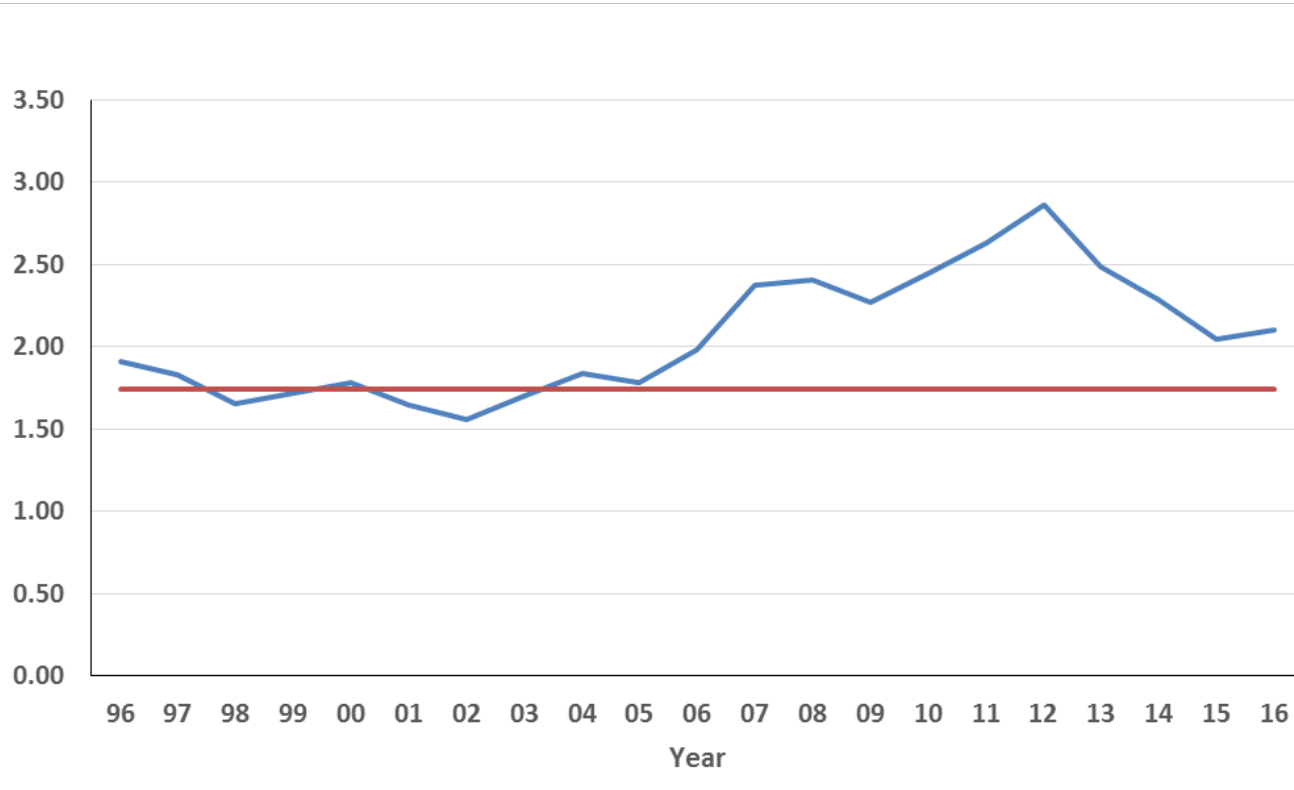
Balance Sheet, Average Non-Corporate, Illinois Grain Farms, End of Year, 2016

	Per Acre		Per Acre
Current Assets	962 20%	Current Liabilities	469 10%
Intermediate Assets	1,234 25%	Intermediate Liabilities	116 2%
Fixed Asset	2,654 55%	Long-term Liabilities	450 9%
Total Assets	<u>4,850</u>	Total Liabilities	<u>1,035 21%</u>
		Net Worth	<u>3,815 79%</u>
			4,850

- 26% of acres are owned
- Market value balance sheet from Illinois FBFM
- Land at $\frac{3}{4}$ market value
- Machinery at full value



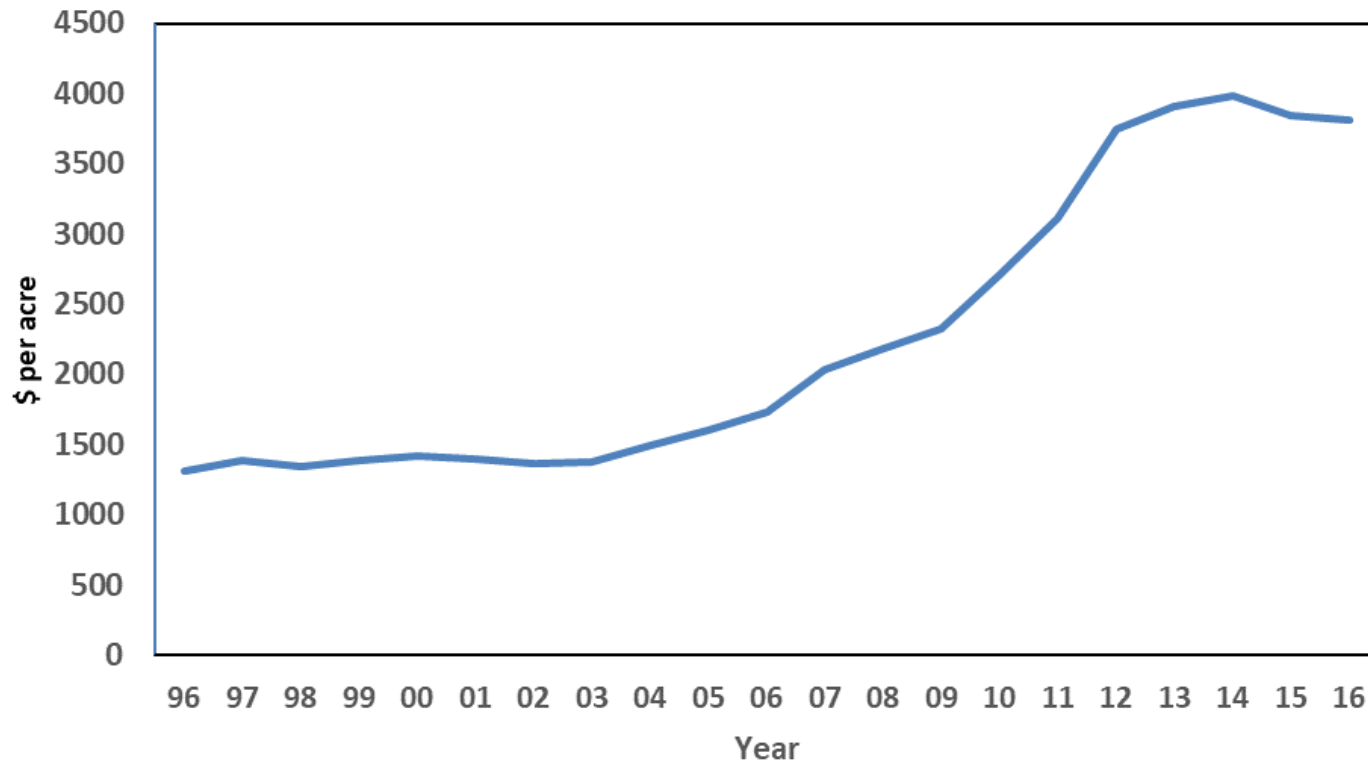
Current Ratio



- Significant increases in current ratio and working capital from 2006 to 2012
- Eroding working capital since 2013 but not to levels of 96-06 yet (1.76 average)



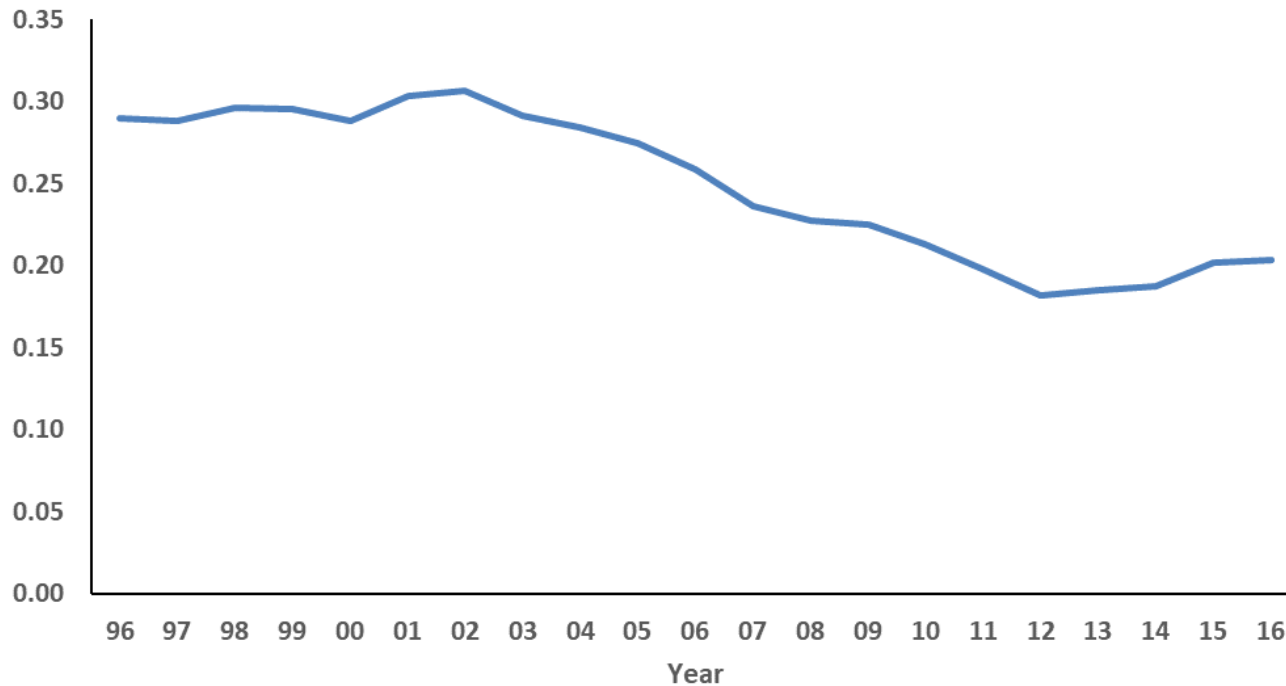
Equity (per acre)



- Large increase in equity from 2006 to 2013.
- Stabilizing to slight decreases since 2013



Debt-To-Asset Ratio



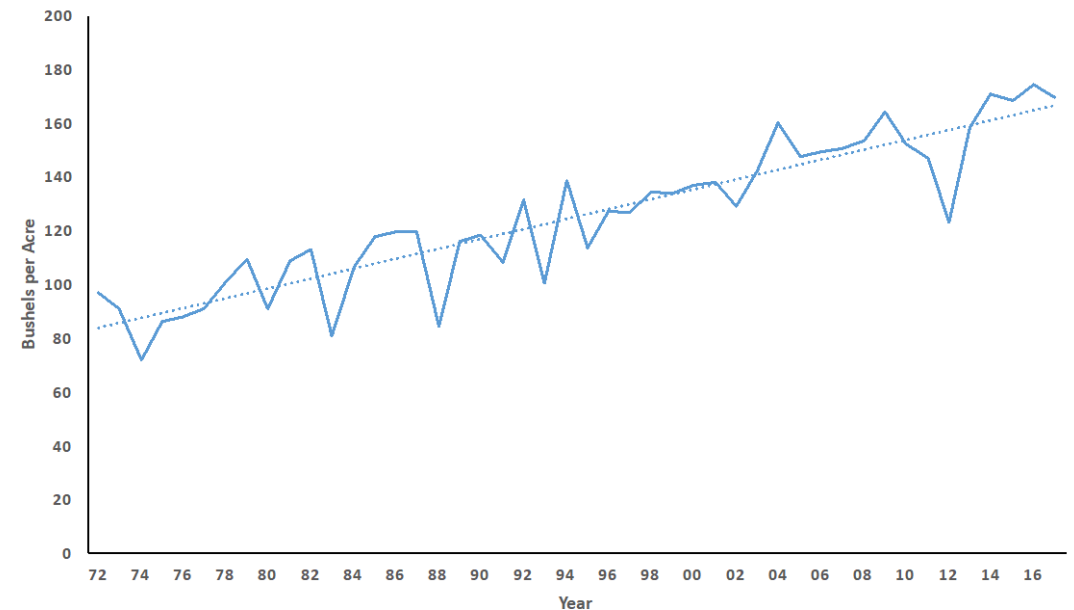
- Slight increases in recent years, but still at very low levels



Where to from Here?

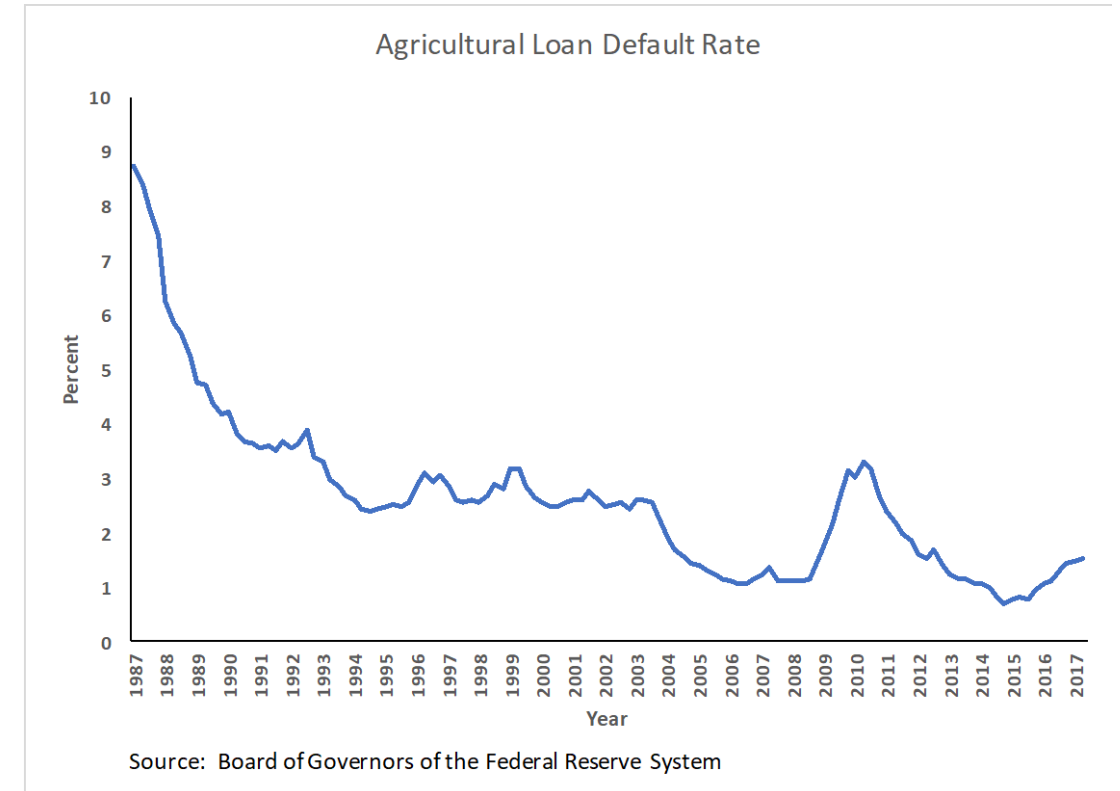
- Tight time continues if we have a below \$4 corn price and below \$10 soybean price
- Don't want to think about below \$3 corn prices
- Likely happen until we have a yield shock here or in South America

U.S. Corn Yields (USDA)



Where to from Here?

- Continued "shallow" losses, particularly on farms with high levels of cash rent (90% cash rented at high cash rents)
- Lenders will impose discipline
 - Restructuring, but restructuring does not solve any problem until revenue exceed costs
 - Operating note will not exceed \$XXX per acre
 - There will be some defaults
- Concerns with "dealer" or operating note financing outside of Farm Credit or banking system



Where to from Here?

- Downward pressure on costs:
 - Non-land costs (Seed)
 - Cash rents
- Eventually cash rents give and go lower
 - How fast depends on public perceptions (e.g., large farm going bankrupt or lowering rents)
- Land prices?
 - From a crop farm standpoint, it does not matter a lot

Illinois Cash Rents and Land Prices

