Weathering Unexpected Downturns in Agriculture

Paul Ellinger
University of Illinois
pellinge@illinois.edu

Outline

- Risks and risk weights
- Agricultural producers
  - Profitability
  - Asset valuations
  - Simple shocks
- Lenders to Agriculture
  - Who is financing?
  - Financial condition
  - Simple shocks
- Discussions

Quotes

Robert Shiller:

farmland is a dark horse bubble candidate partially because the environment is similar to the 1970s in the U.S. when a food price scare sparked the last farmland bubble.

Sheila Bair (FDIC Chair):

signs of instability exist in farmland markets and require close monitoring

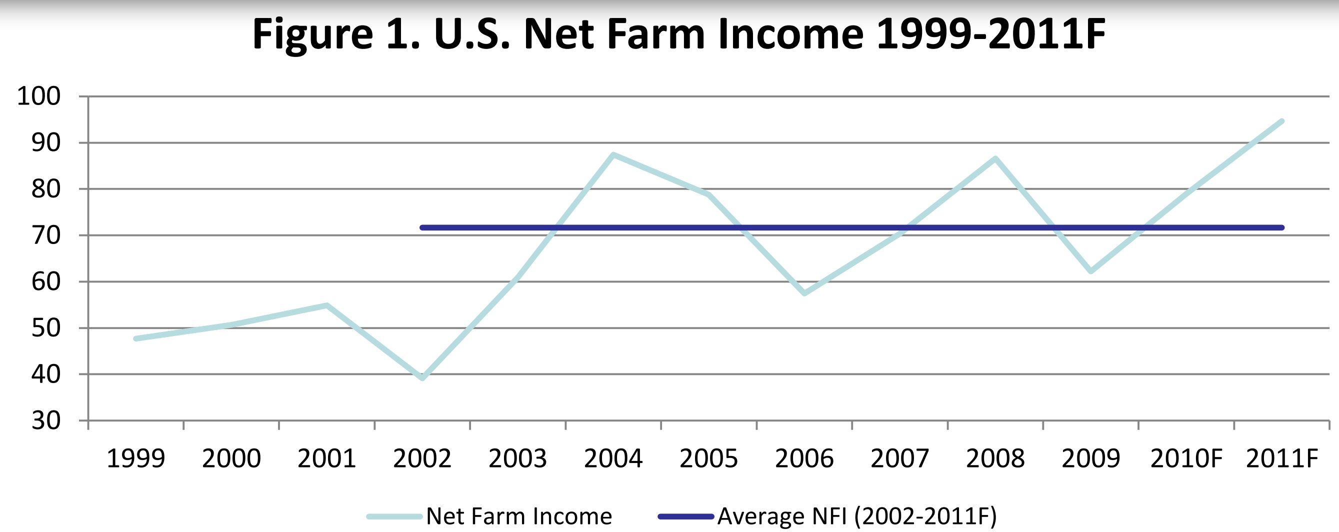
Agricultural Weights Risks:
different from 1980s?

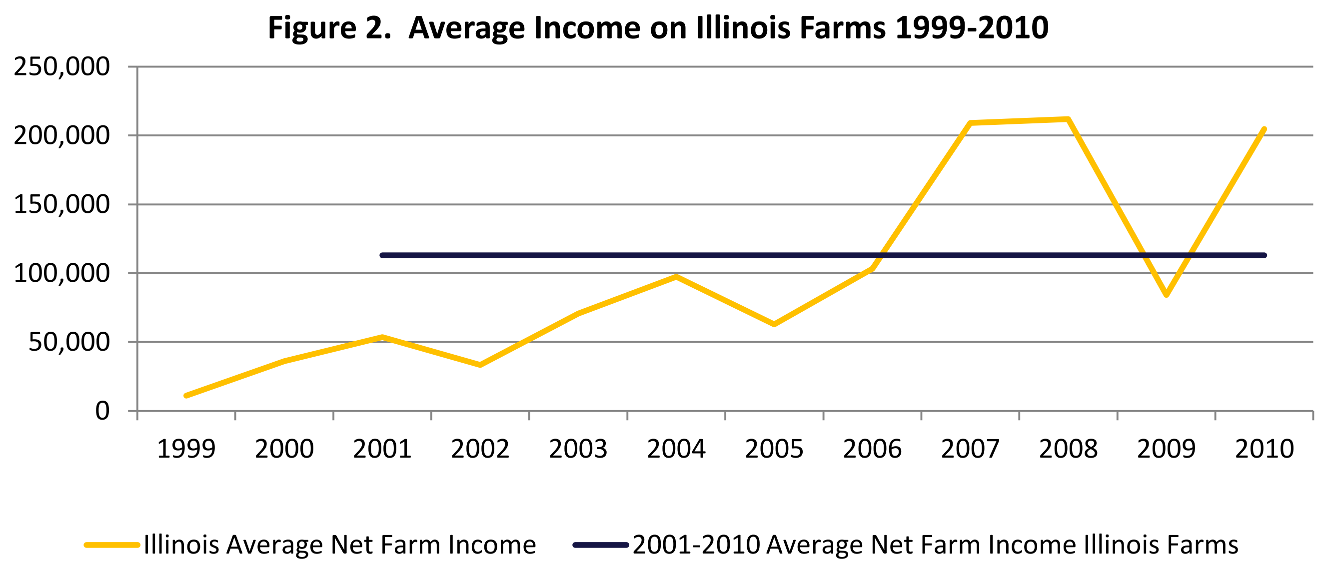
Portfolio / Magnitude
Higher or Lower?

Weights Different?
- Farmers
- Lenders
- Suppliers
- Government
- Investors
- Insurance Cos.
- Consumers
- Others

Can the “new” risk bearers manage the risks?

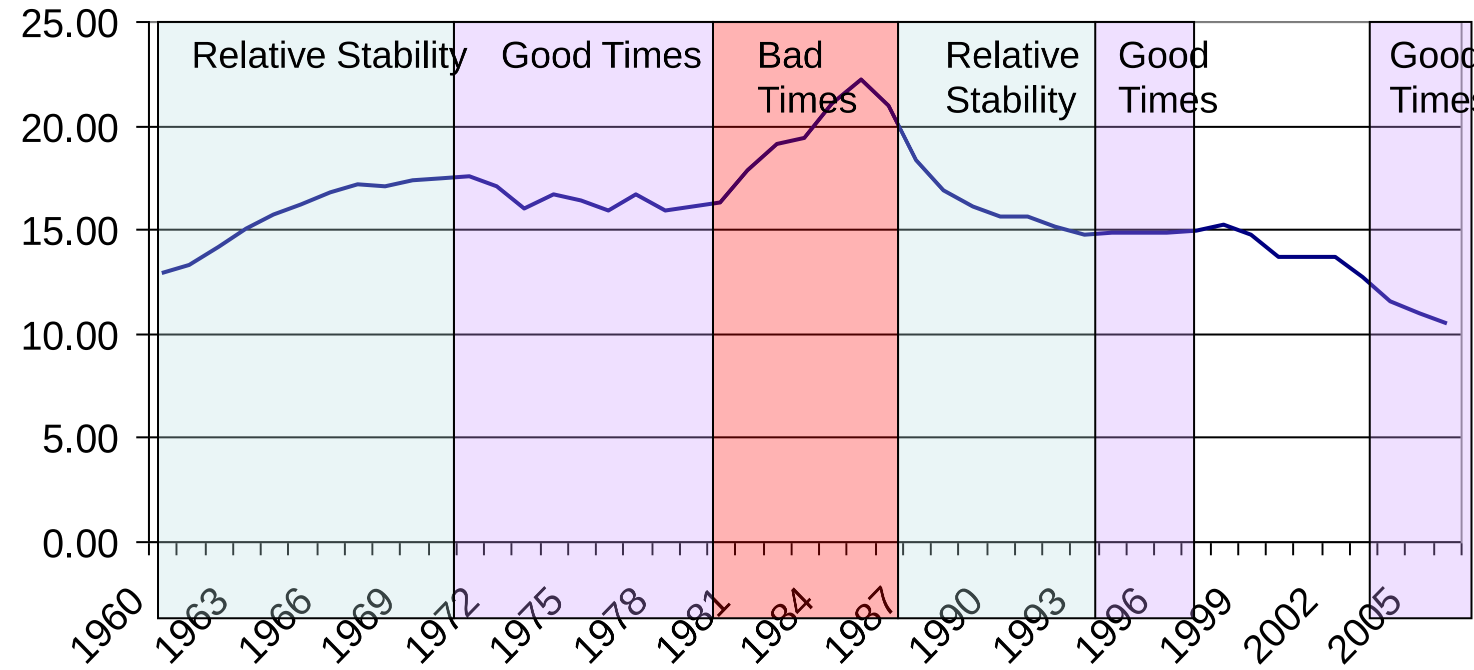
Profitability



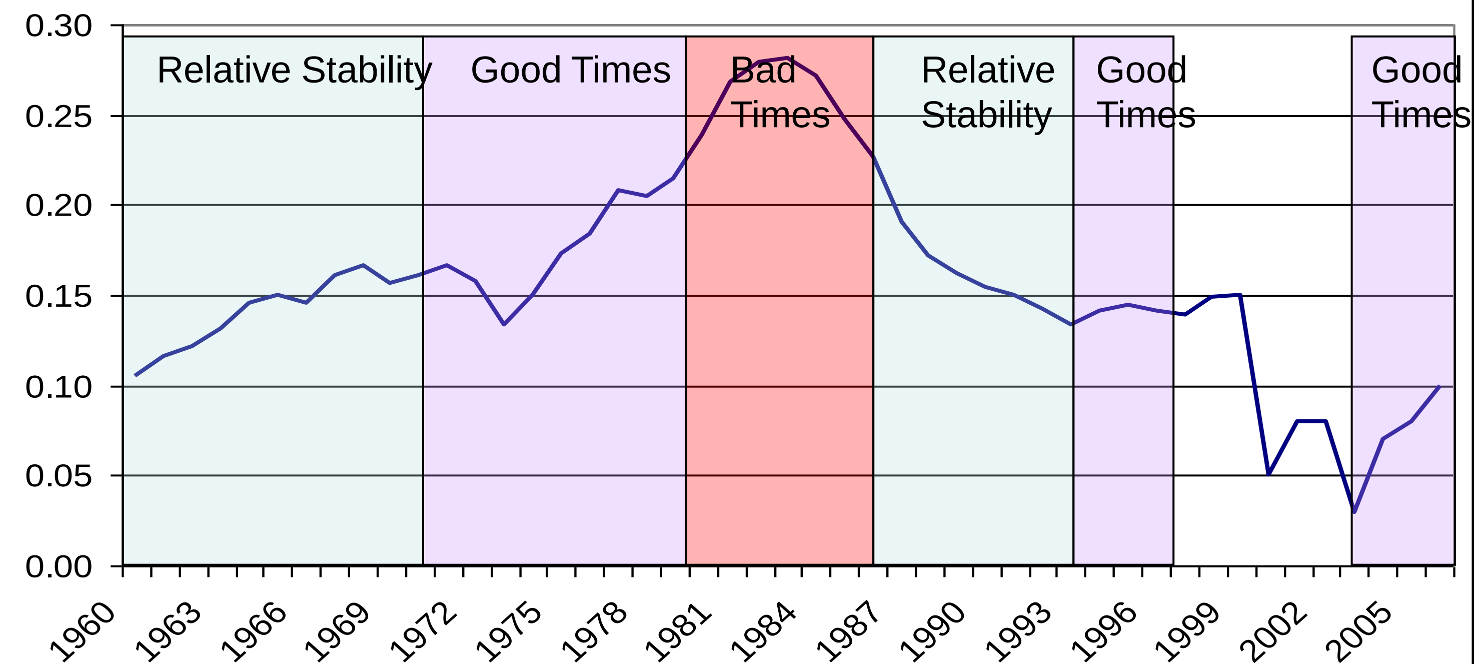


Aggregate Measures

Debt to Asset



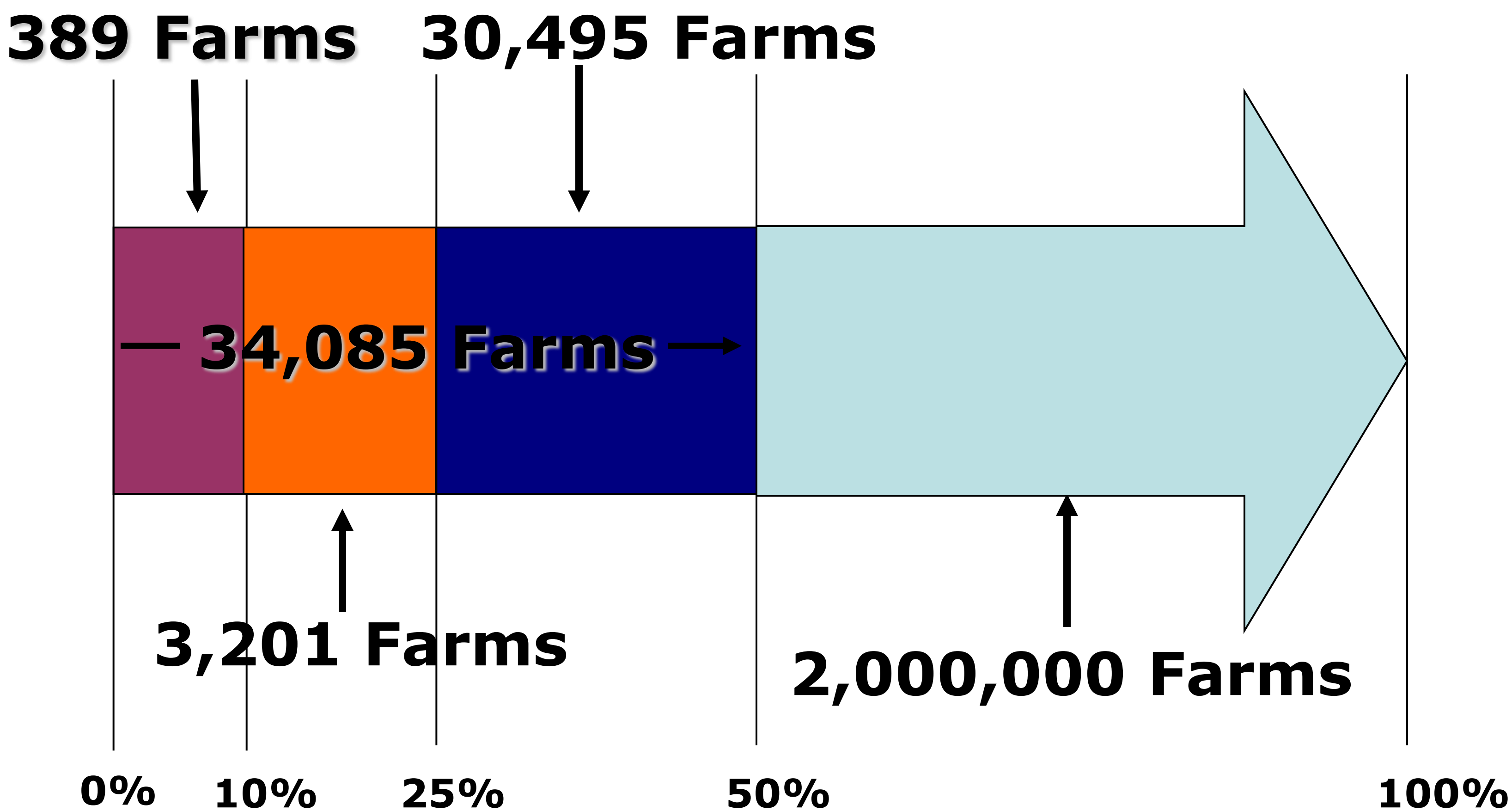
Debt Coverage



Economic Research Service

How Many Farms Does It Take?
Value of Ag Output - $200 Billion

Distribution matters

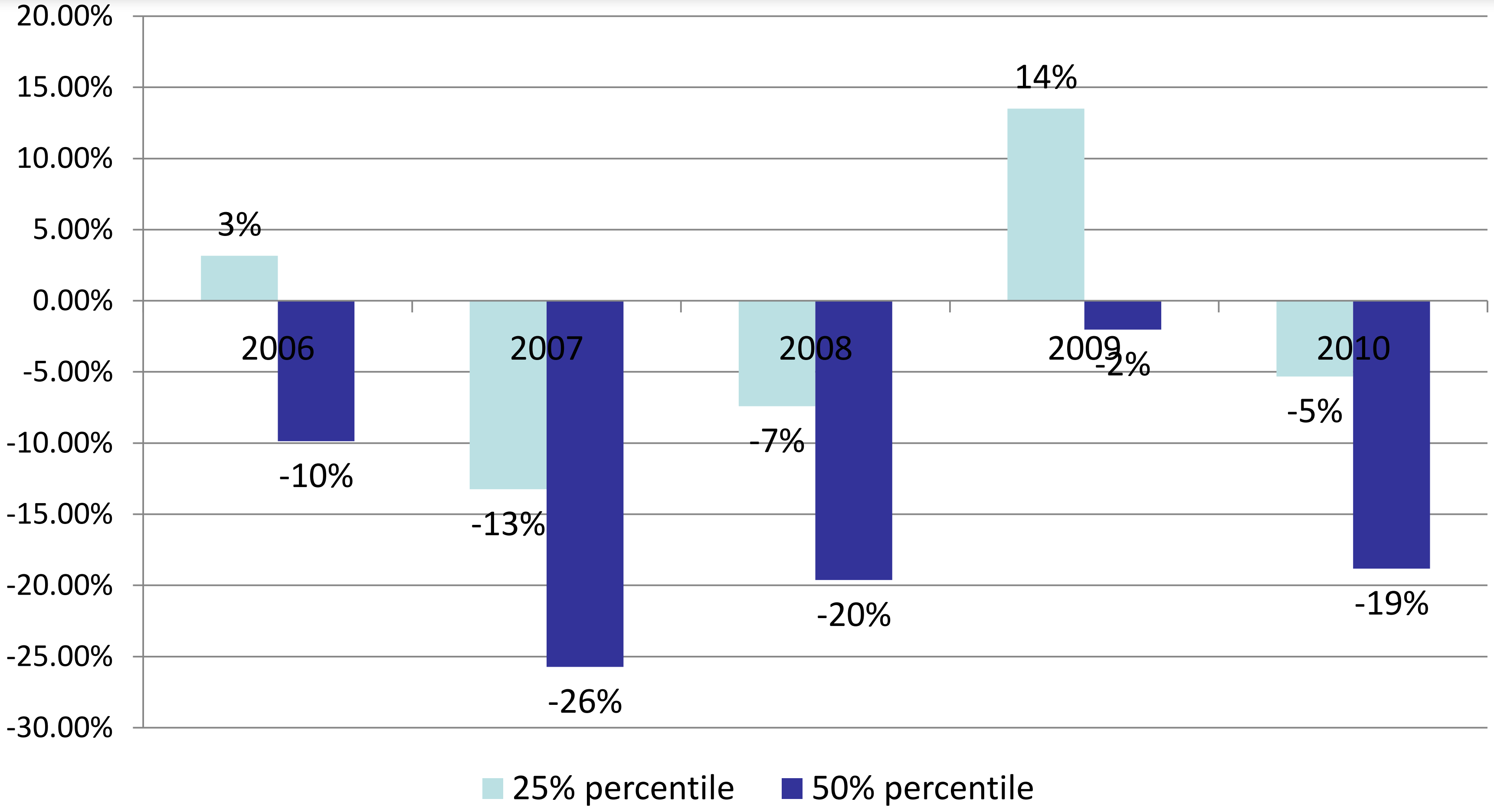


Farm Financial Conditions

- Briggeman: 2008 & 2011
  - Debt Utilization
  - Leverage
  - Net Worth
- Extensions: Sources of loan repayment
  - Cash Flow and Earnings
  - Liquidity
  - Equity

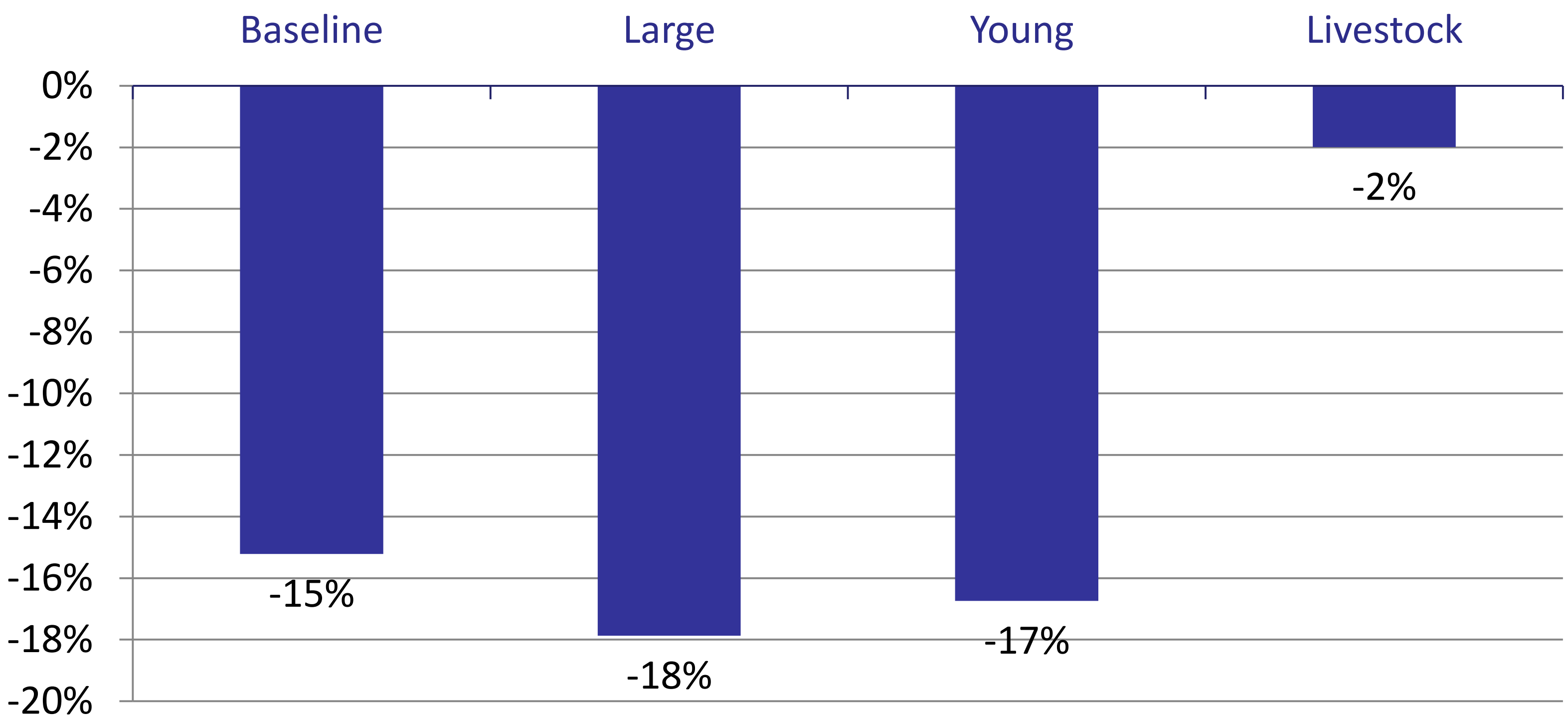
Illinois Farm Records data

% revenue drop to reduce repayment capacity to 1.25 benchmark

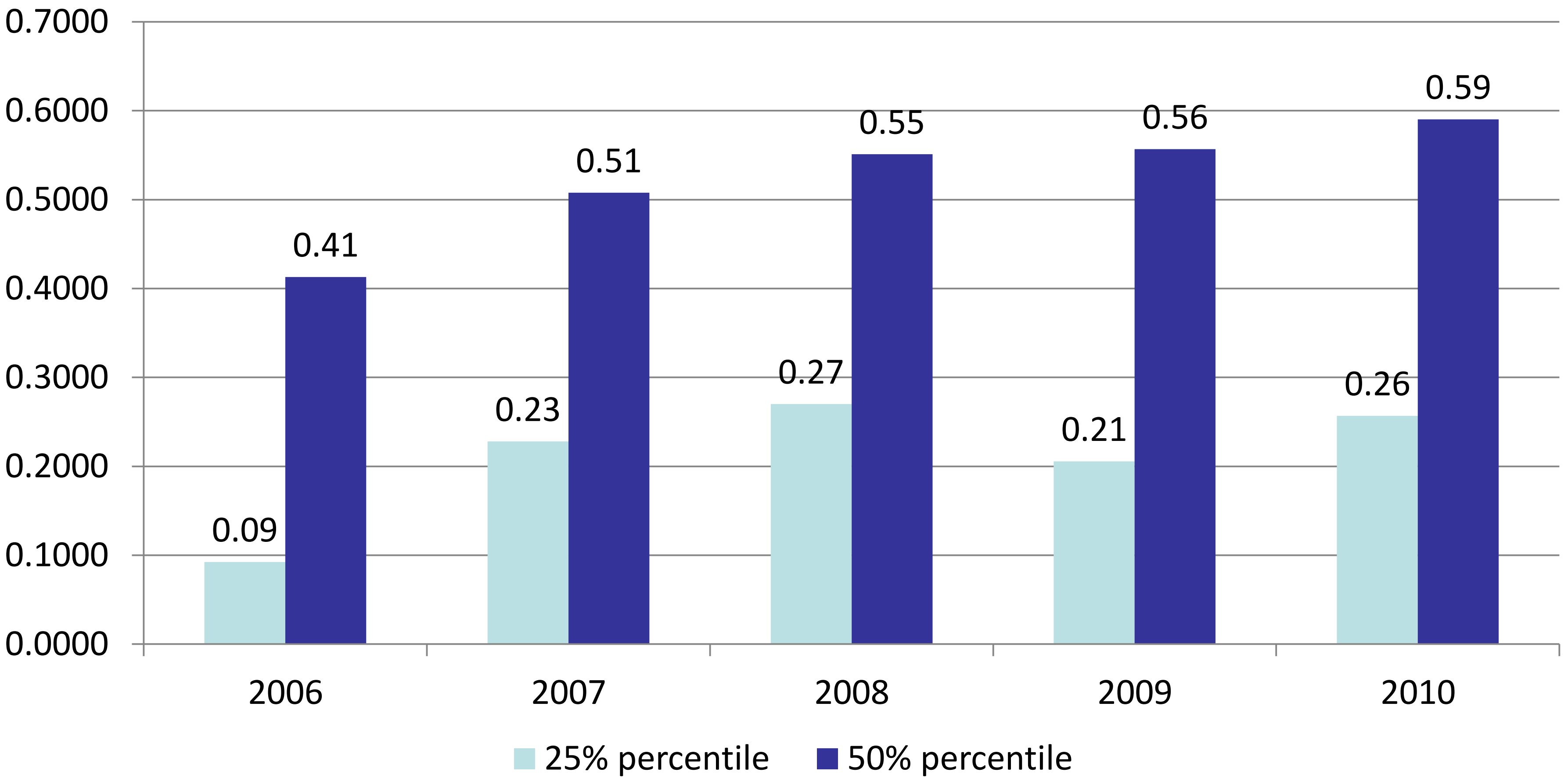


Revenue Decline:

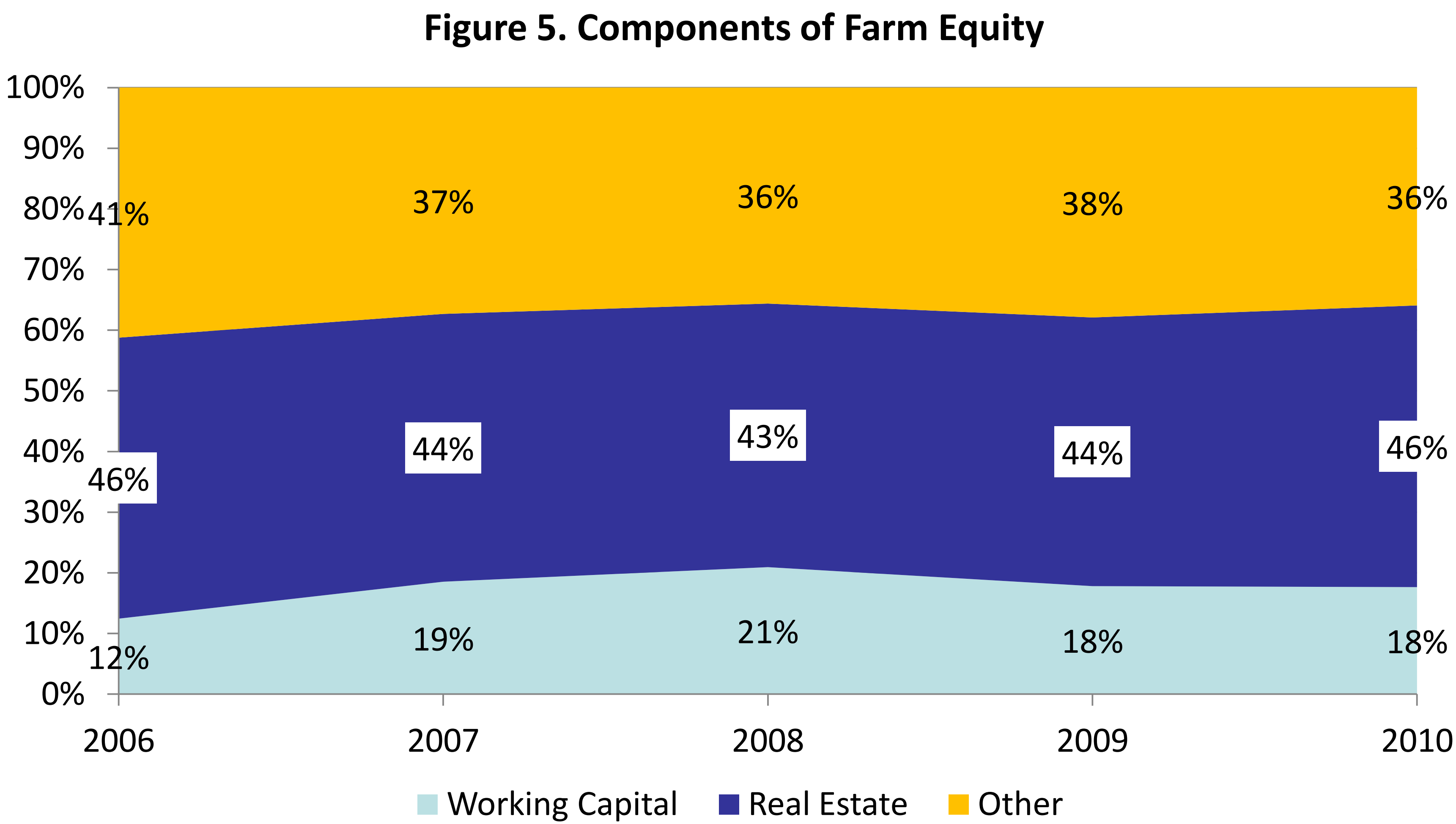
50% farms below repayment capacity benchmark (ave: 2006-10)



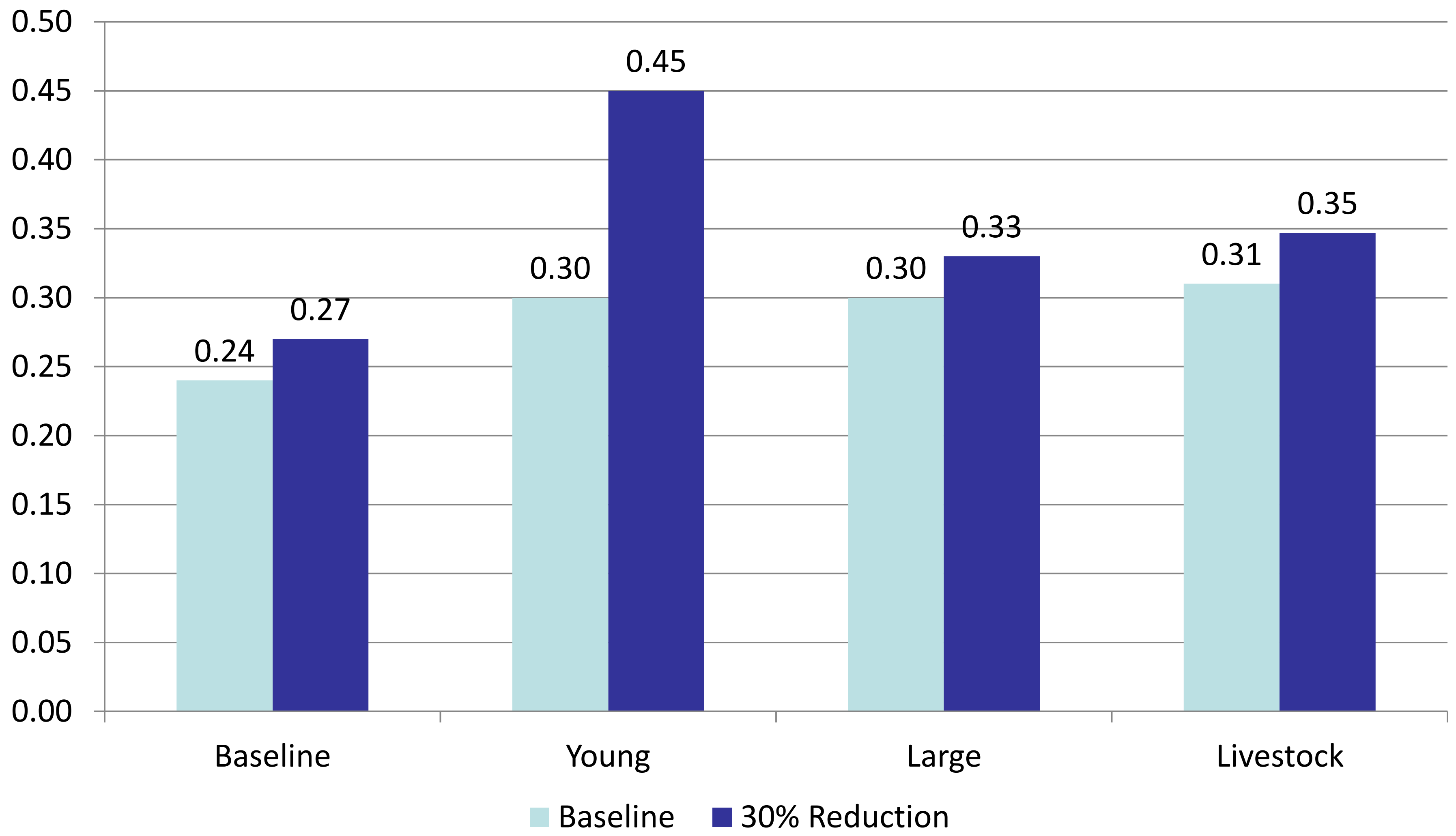
Liquidity: Working Capital to Sales



Components of Equity

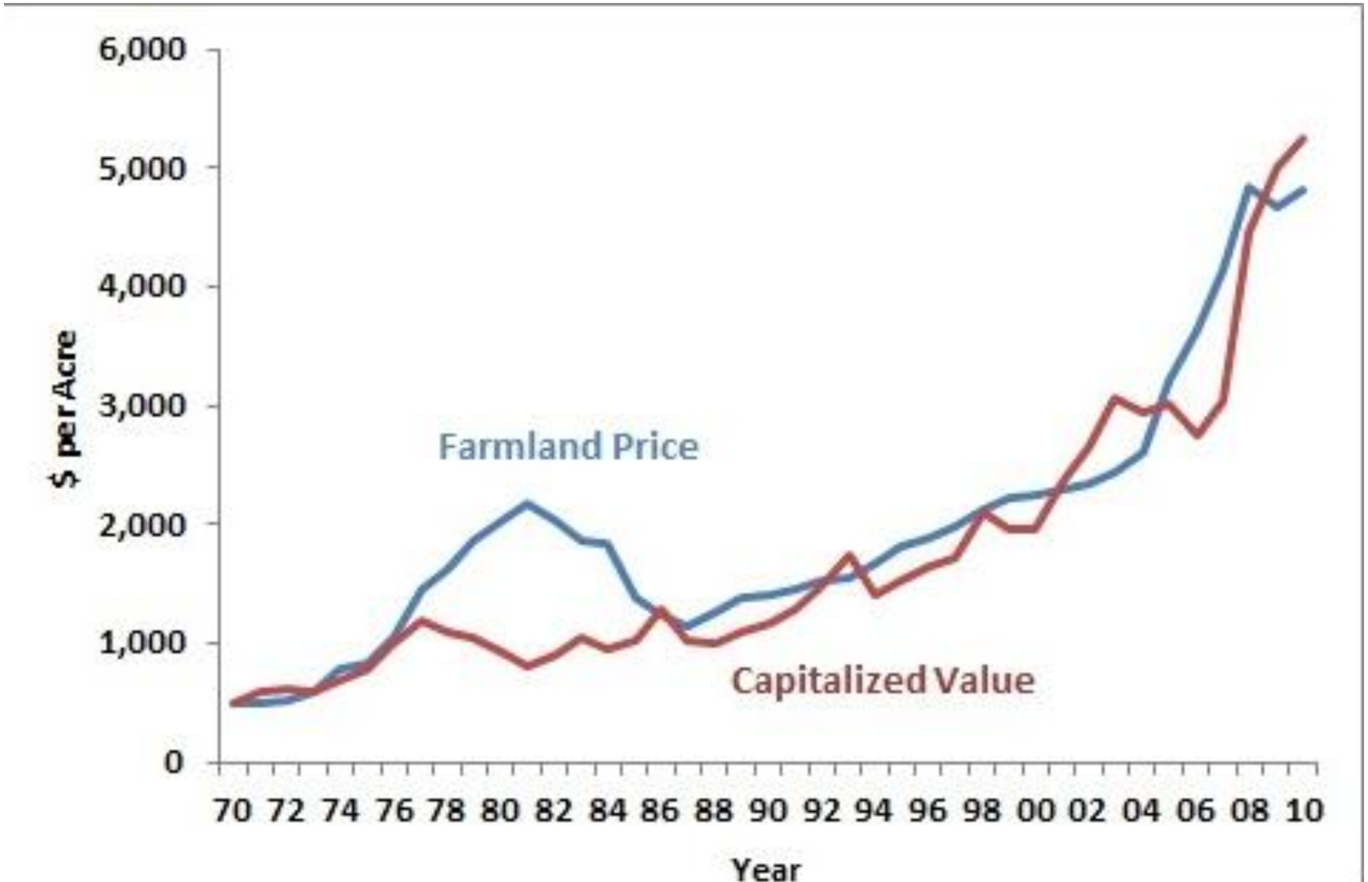


Leverage Changes: 30% Decline in Farmland Prices



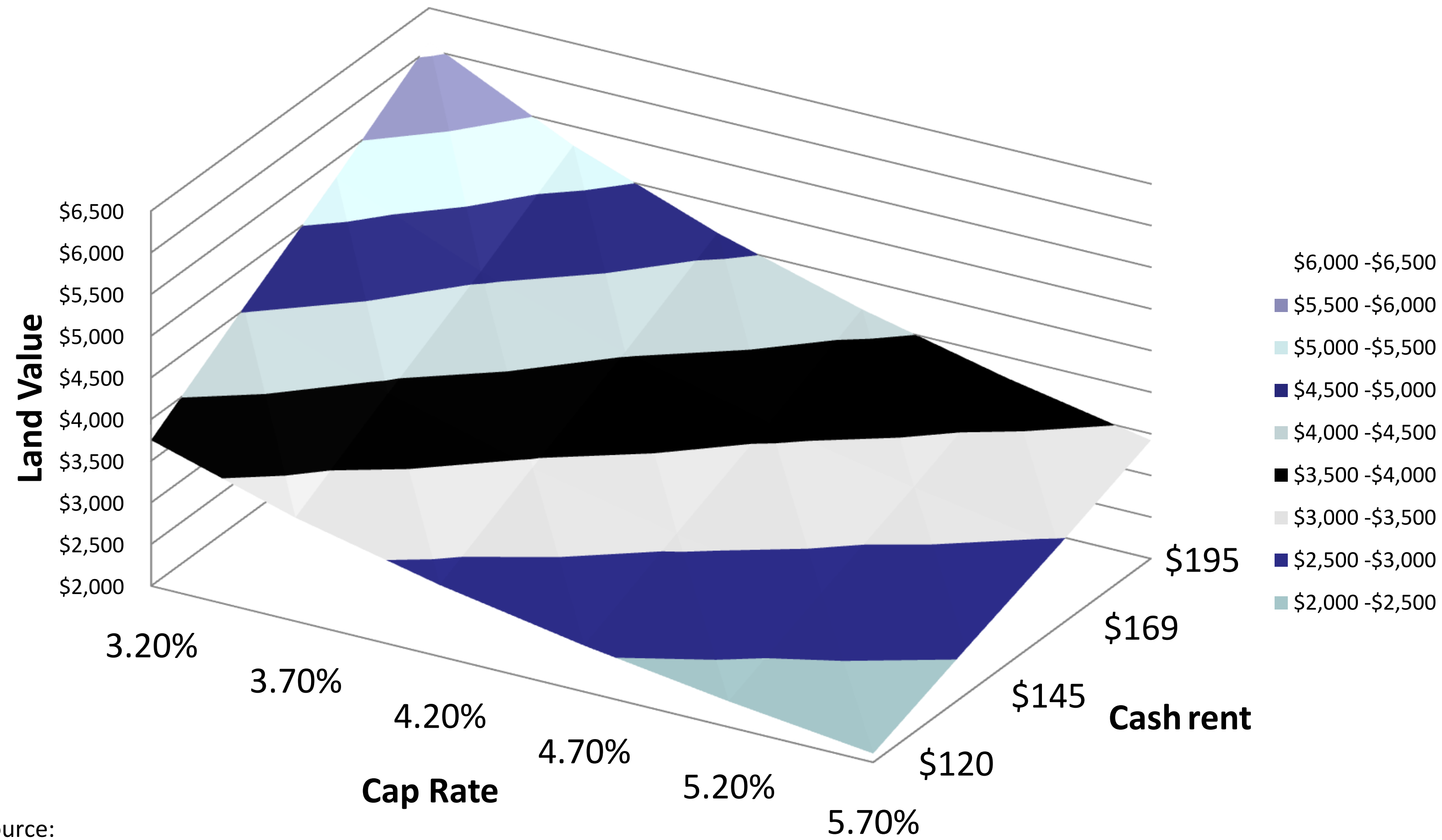
Interest Rate Risk: Farmers

- Capital values more than cash flows



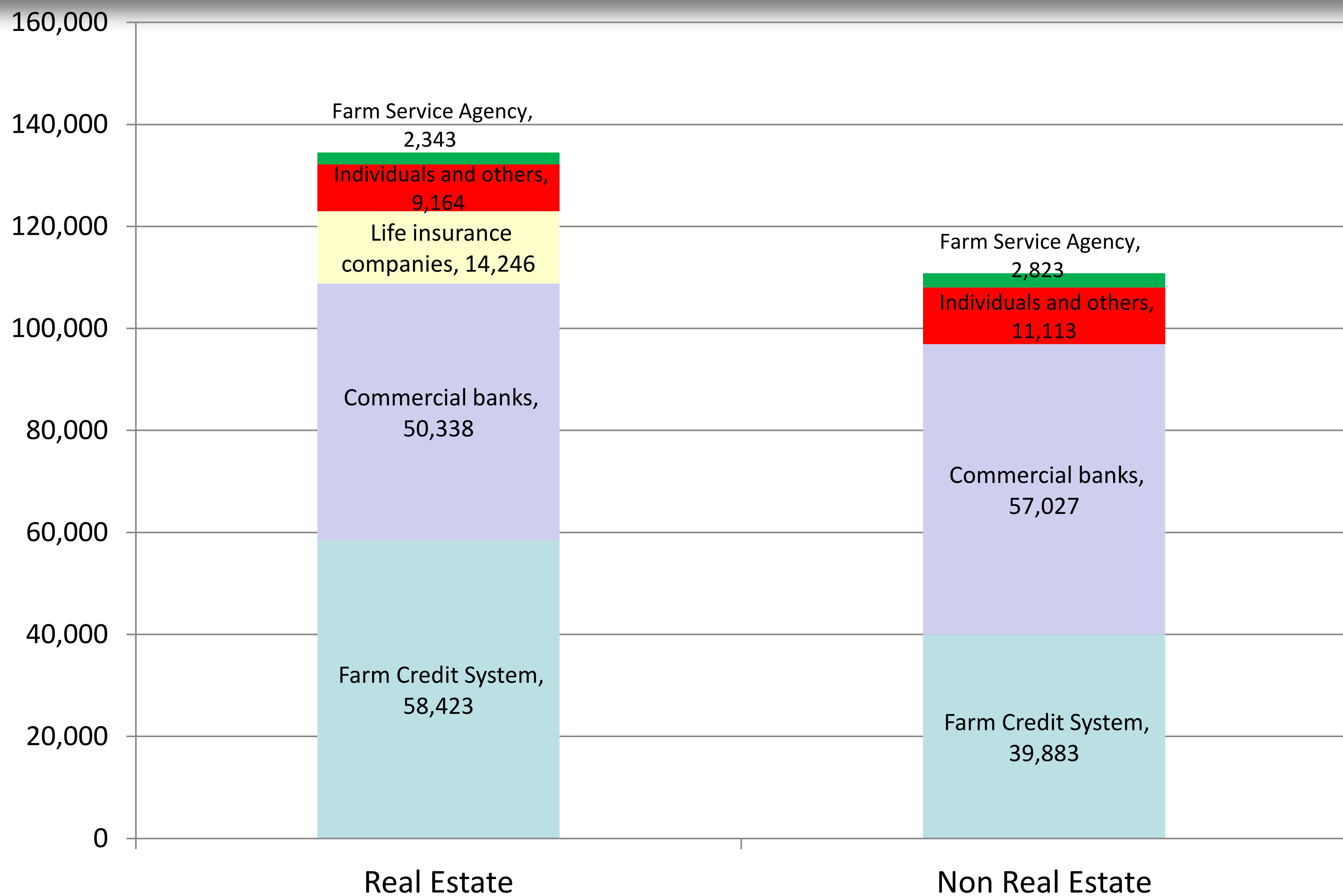
Source: Schnitkey and Sherrick

Land Prices: CAP Rates x Cash Rents



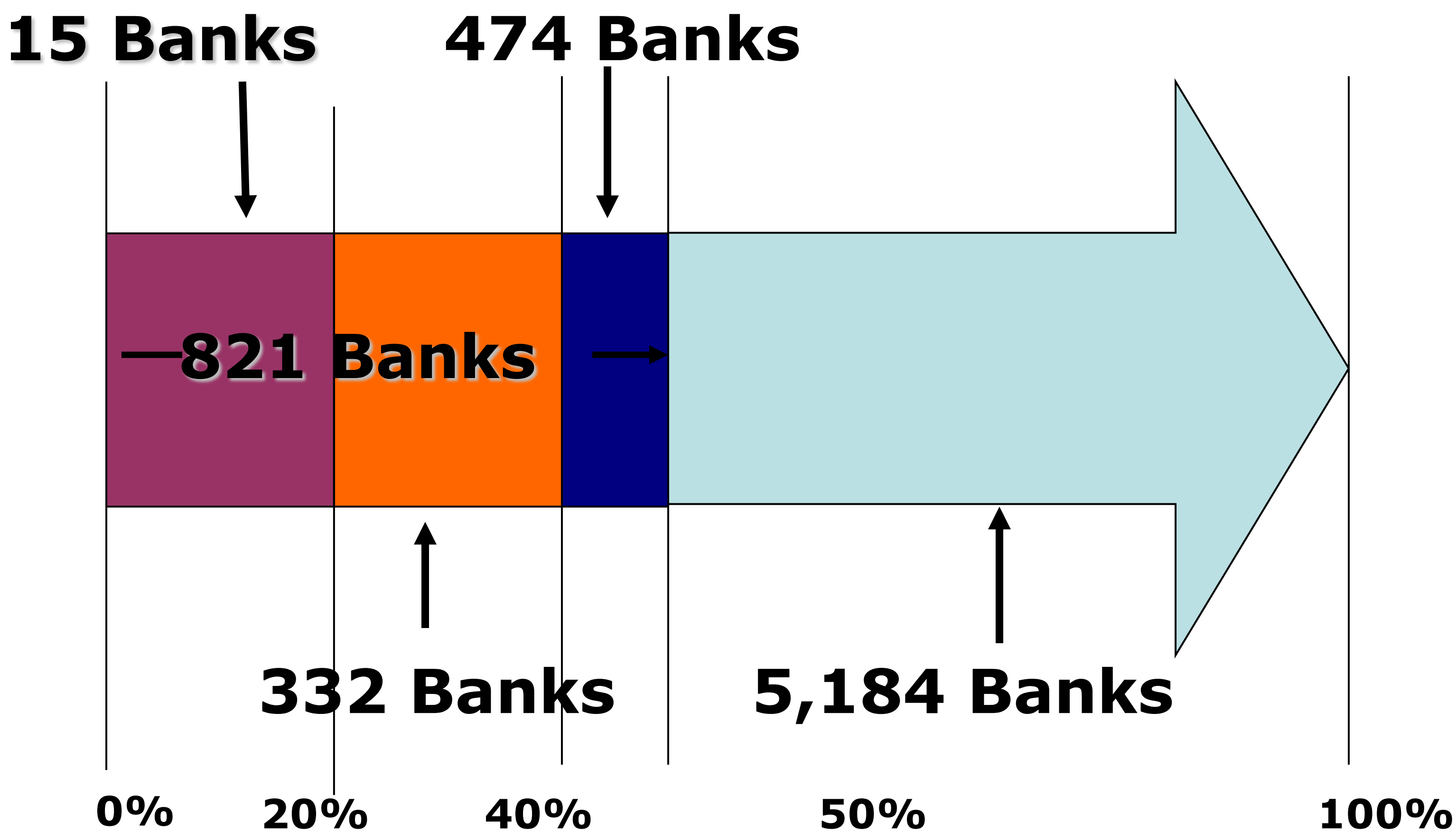
Source:
Schnitkey and Sherrick

Farm Debt Shares

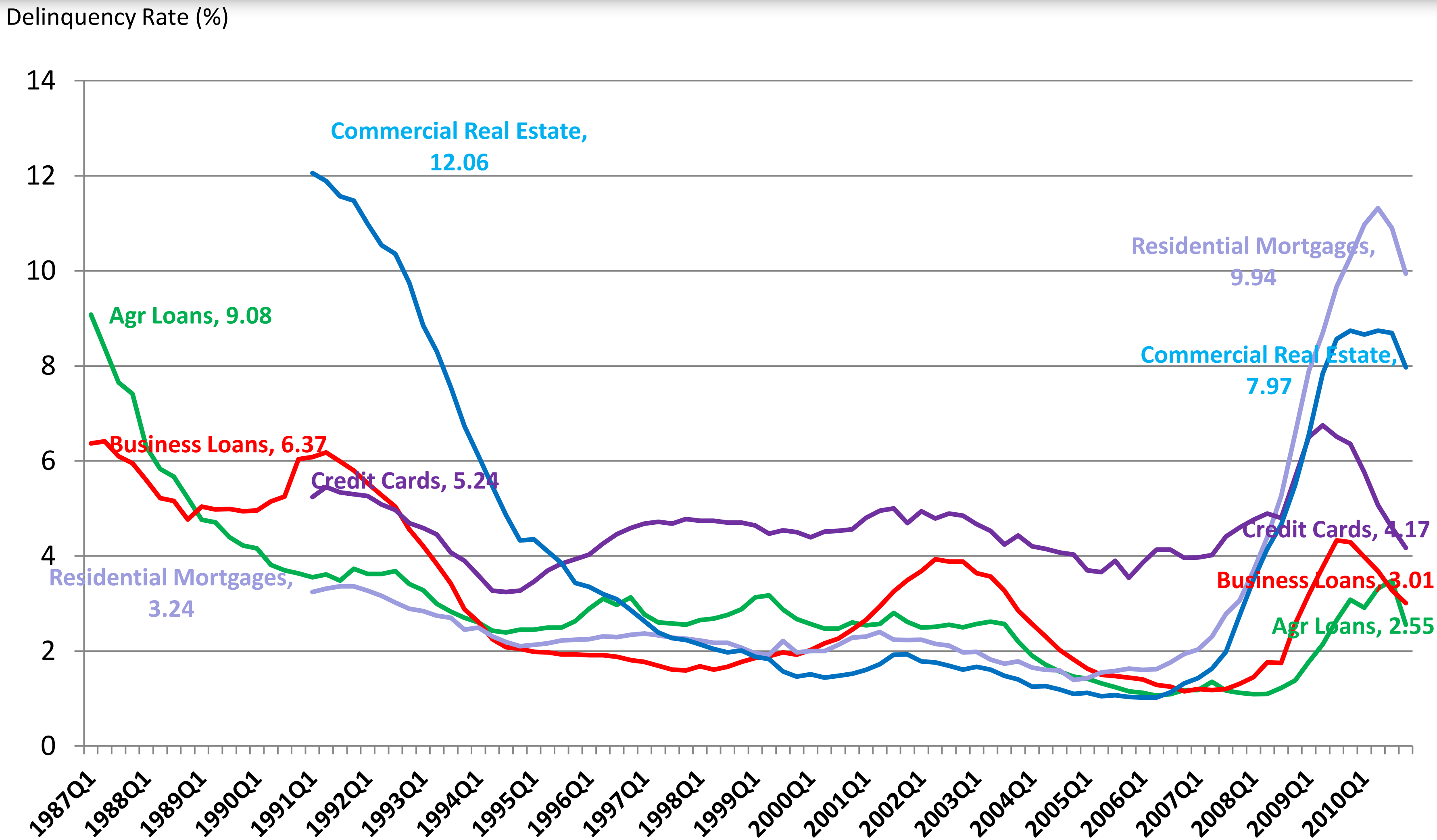


How Many Banks Does It Take?
% of Commercial Bank Loans to Agriculture

Distribution Matters



Delinquency Rates: Commercial Banks



Financial Health: Commercial Banks

Profitability: ROA 2010 Q4= 0.88

Failed Banks 2010- 2011Q1

1.2 billion of ag loans (1% @ banks)

Commercial Banks:

Problem Ag Loans / Equity

68 banks > 20%	232 banks > 10%
(1.5% ag loans)	(4.7% ag loans)
GA, FL, OK, NE	

Health of Commercial Banks

Table 1. Distribution of Agricultural Loans at Commercial Banks By Equity/Asset Ratio

December 2010	Large Banks [1]		Other Banks	
Equity to Assets	Share	Number	Share	Number
less than 4%	0	0	0.6%	86
4-8%	1.2%	8	7.0%	714
8-12%	16.5%	33	56.0%	3605
> 12%	6.0%	22	12.7%	1235

[1] Banks with assets exceeding $10 billion.

Table 2. Distribution of Agricultural Loans at Commercial Banks By Equity/Asset Ratio
Shock Equity 10% of Ag Loans

December 2010	Large Banks [1]		Other Banks	
Equity to Assets	Share	Number	Share	Number
less than 4%	0	0	4.2%	182
4-8%	1.2%	8	32.6%	1644
8-12%	16.6%	34	32.7%	2902
> 12%	5.9%	21	6.9%	912

[1] Banks with assets exceeding $10 billion.

Health of Farm Credit System

- ROA 2011Q1=2.19%
- Capital to assets ratio for FCS associations exceeded 17% with nonperforming loans at 2.39% of gross loan volume.
- 16 FCS associations nonaccrual / loans > 5% (Q4 2010)
  - 5 FL, 3 TX, 2 GA and all others in south
- Ethanol, hogs, dairy, forestry, and poultry are the portfolio segments experiencing the most stress across the Farm Credit System. Cumulatively, these segments represent about 1/5 of Farm Credit System's portfolio.

Discussion:

Weathering Unexpected Downturns in Agriculture