



**WELLS
FARGO**

Investing Agricultural Land

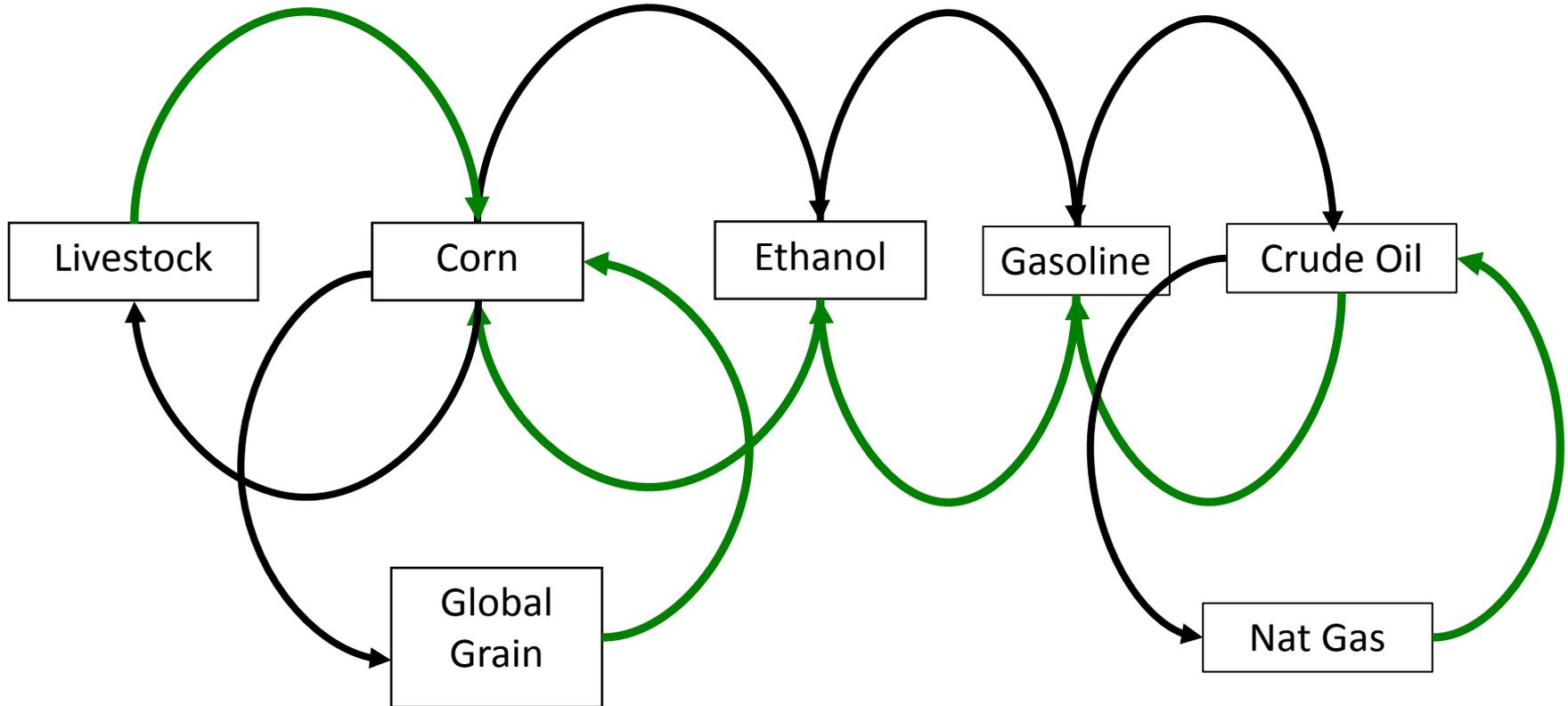
Michael Swanson Ph.D.
Wells Fargo

Economic and Commodity Risk

Everything is connected.

We just can't see how.

A single loop ... from a subsystem



Risk versus Uncertainty

- **Risks**

- Weather
- Input prices
- Output prices

- **Uncertainty**

- Ethanol policy
- Fiscal policy
- Monetary policy
- Global trade policy

Inter-connected Markets

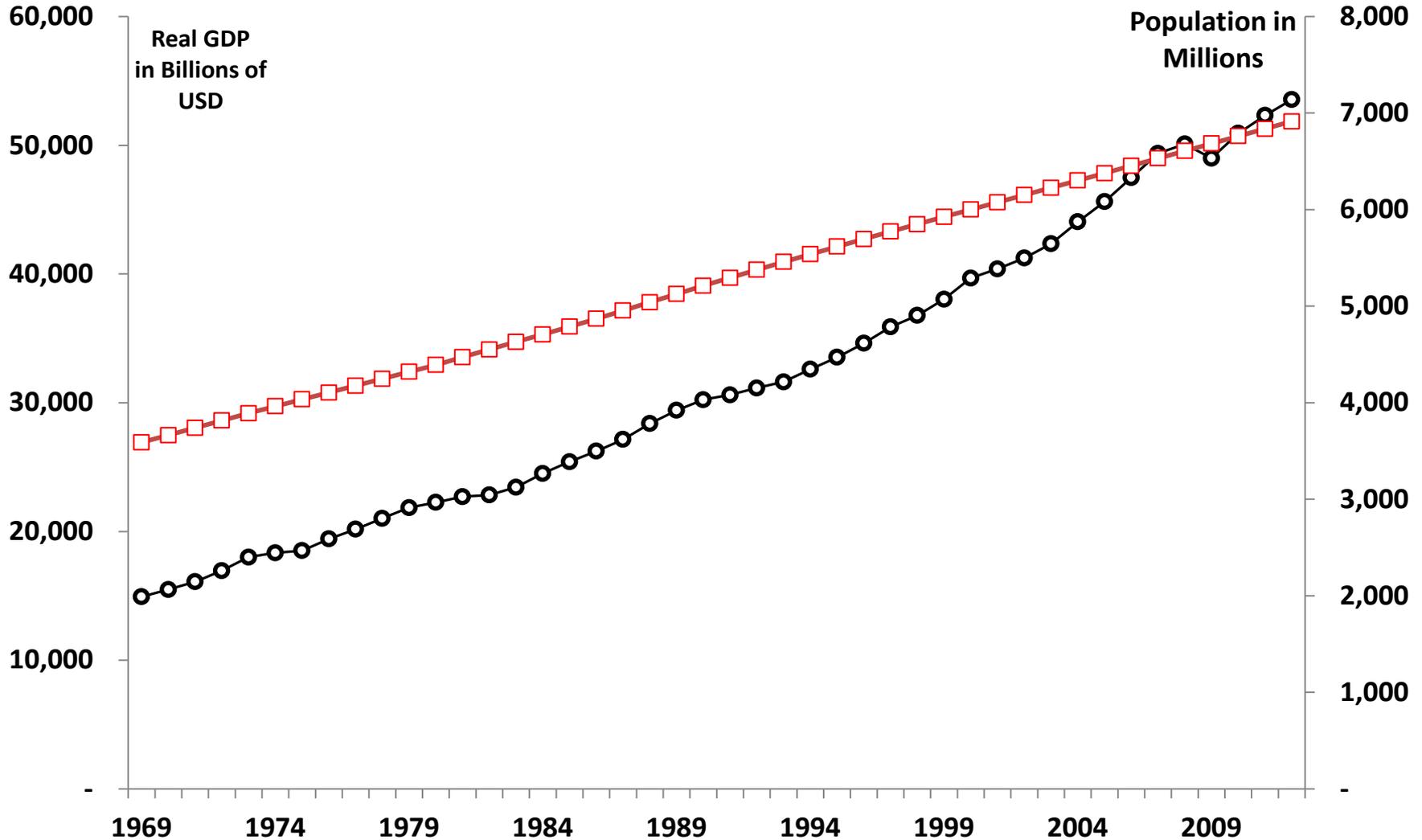
- **Economic growth**
 - GDP, Population and Income
 - Currency competition
- **Federal Reserve policy**
 - Beliefs
 - Influence versus control
- **US Biofuels policy**
 - RFS failed to anticipate
 - Declining gasoline consumption
 - Impact of falling natural gas pricing
 - Long-term outlook highly uncertain

What is the outlook for global growth?

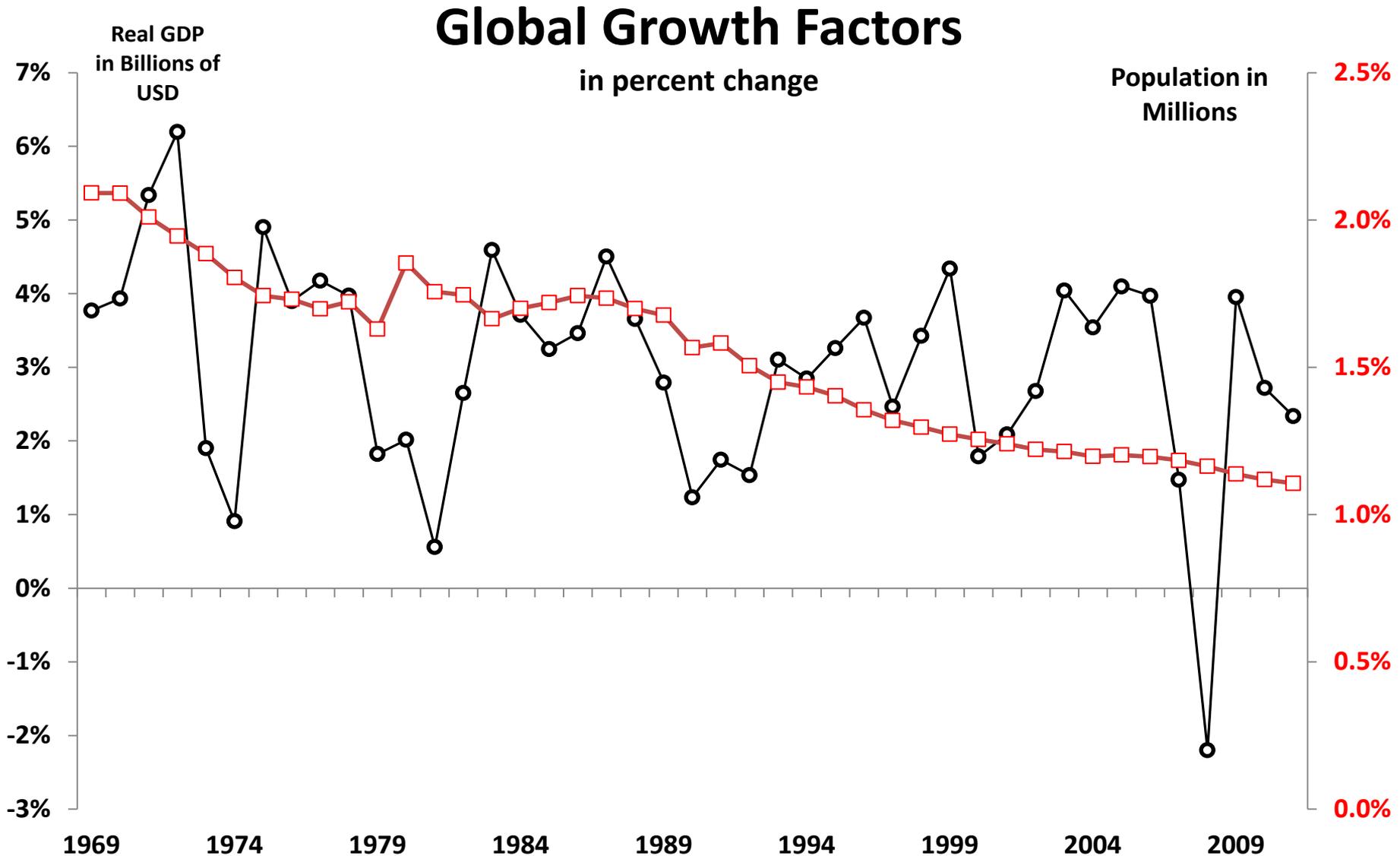
- **Trend v. trend-rate**
 - Trending higher
 - Growing slower
- **Do China's numbers really matter?**
 - Observable
 - Implied
 - Hoped for
- **What are the other key markets?**

The numbers are big

Global Growth Factors

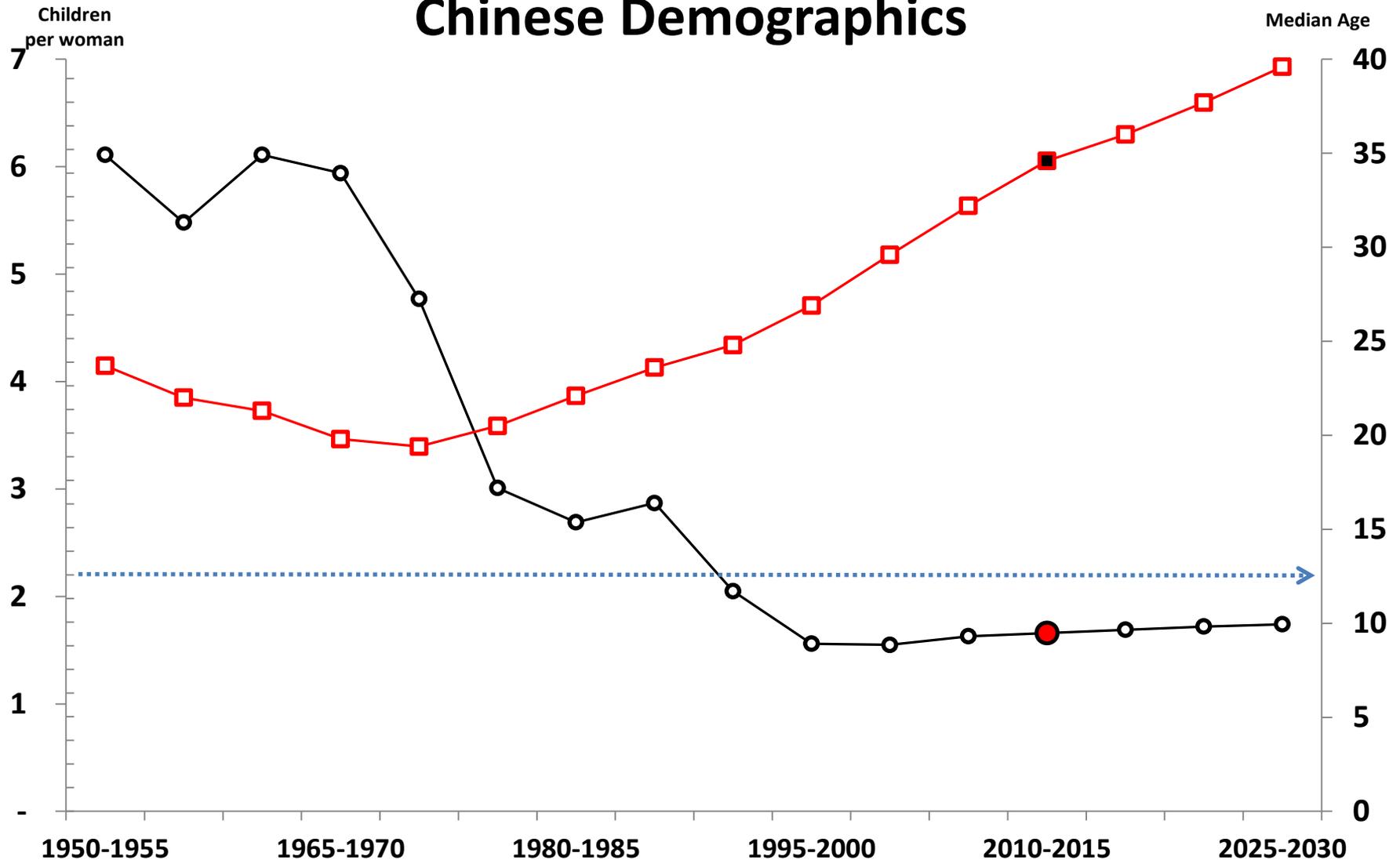


The trend is different



Where's China headed?

Chinese Demographics

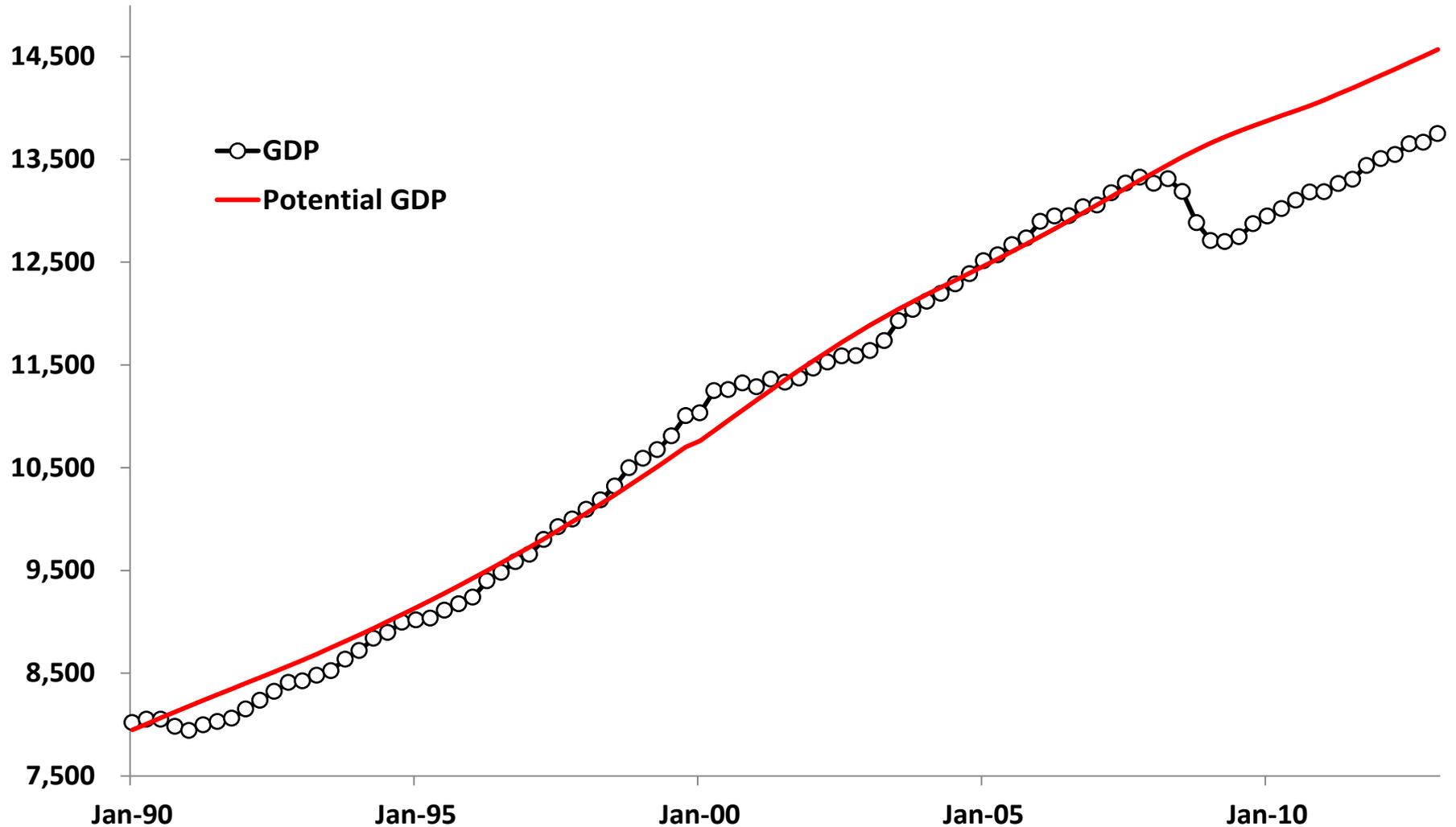


Economic policy and currency

- **Extraordinary Fed Policy**
 - Interest rates
 - Money supply
- **Exchange linkages**
 - General trade
 - The “agricultural” dollar

What's wrong? Assumptions ...

GDP versus Potential GDP



They can change their minds ...

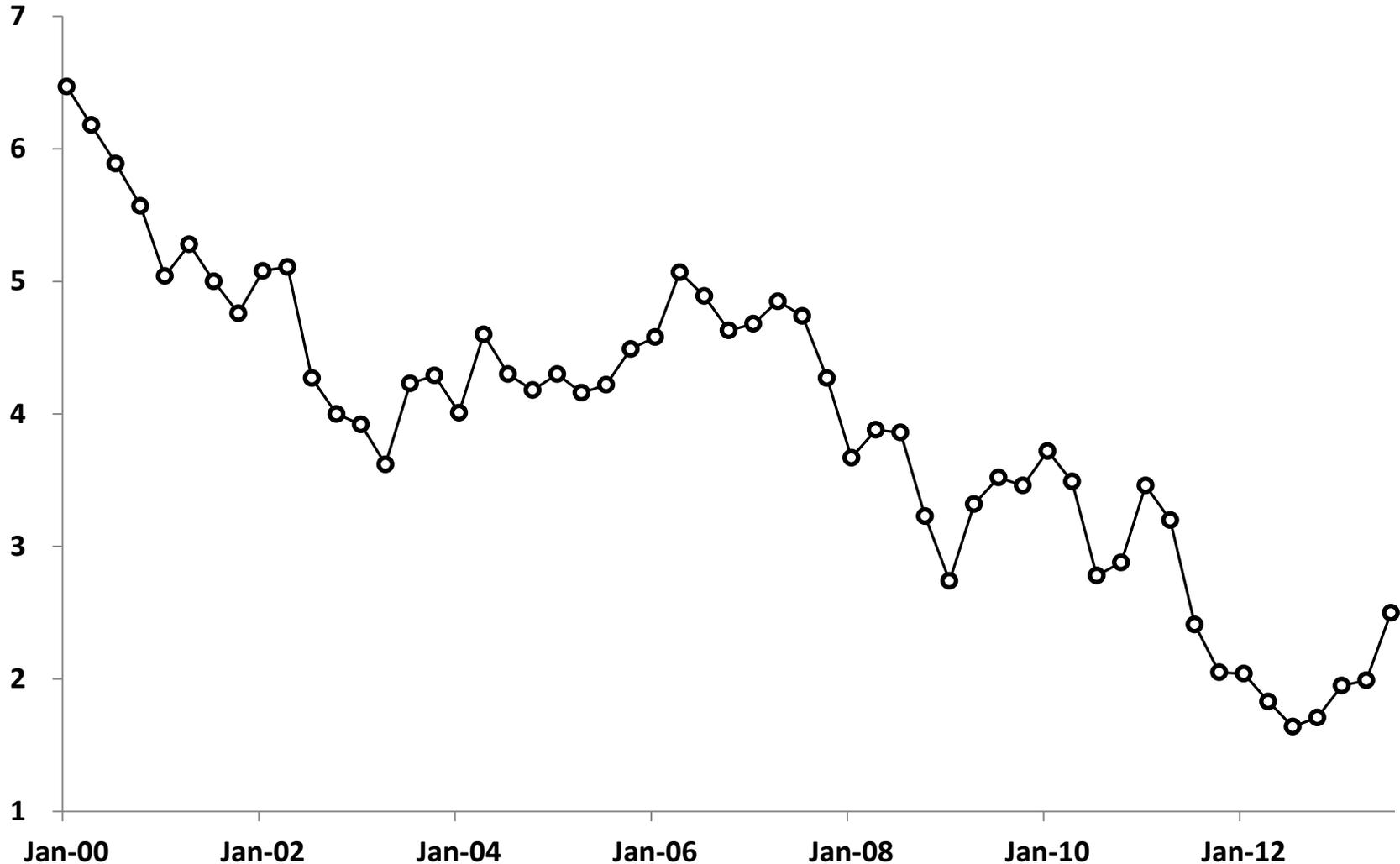
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Policy operates on beliefs as
much as facts

Ag land is sensitive to cash flow
and interest rates

The Fed “influences” not controls

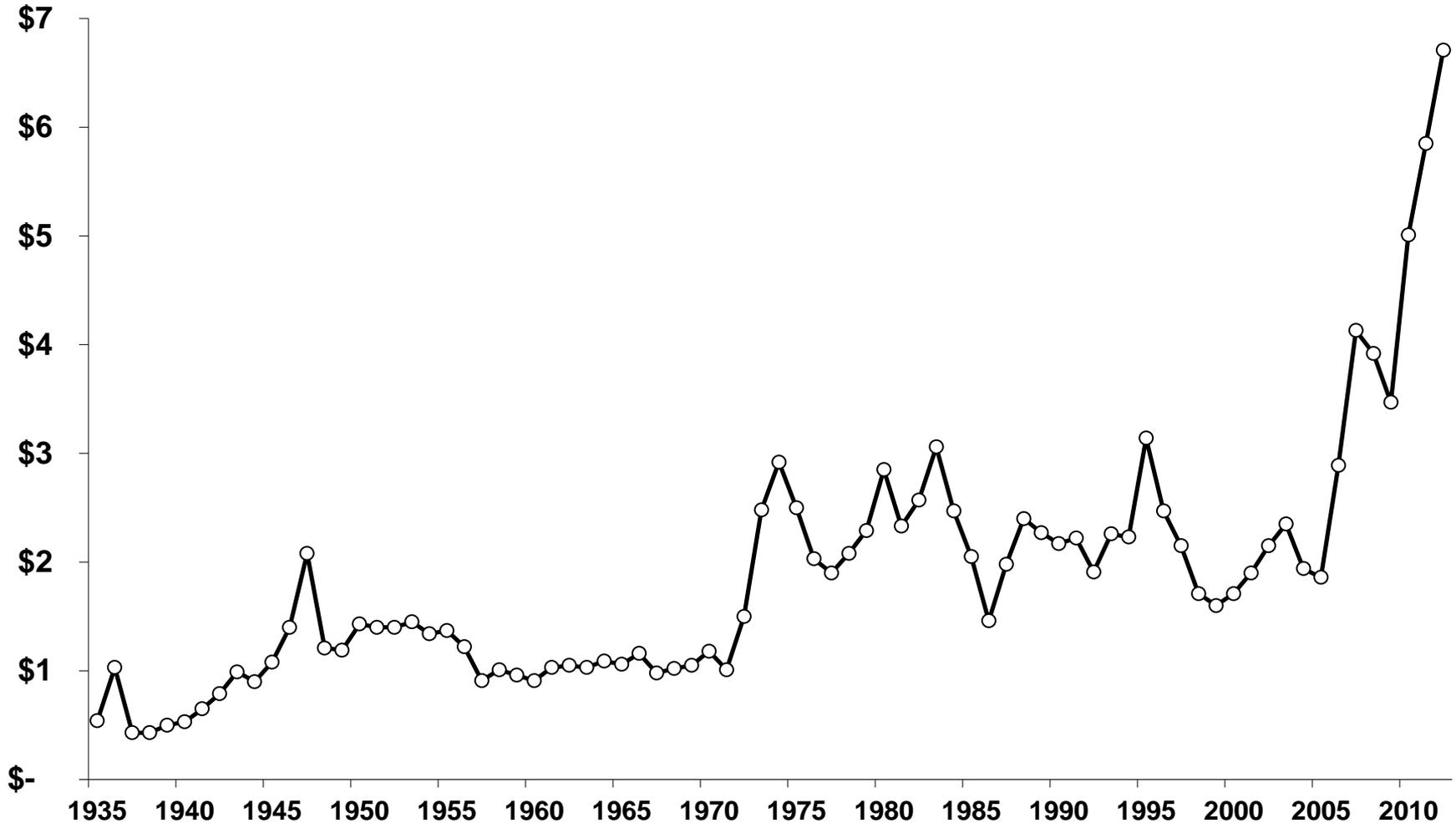
10 Year Treasury Yield Constant Maturity



The revenue component

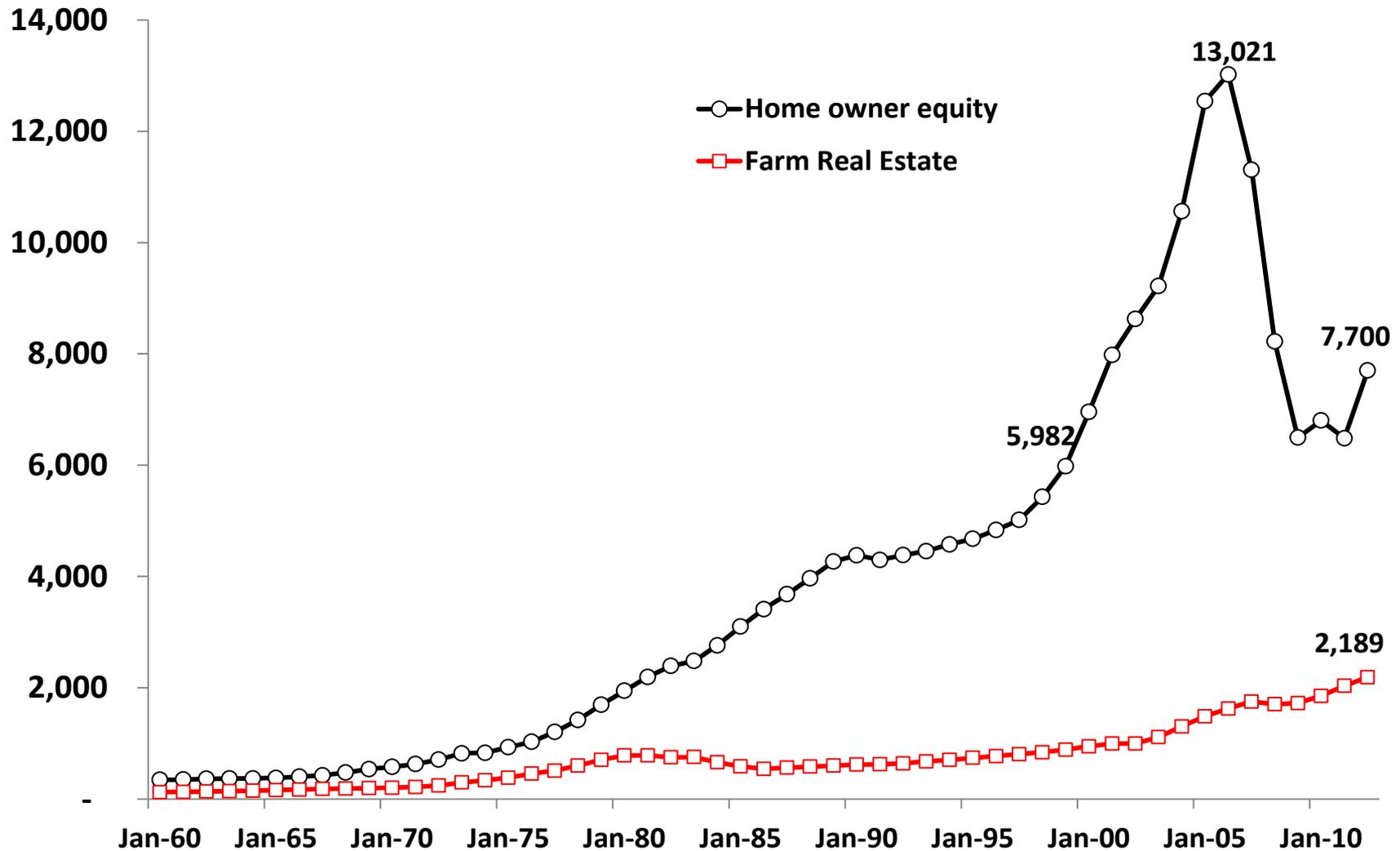
Corn Price per Bushel

SW Minnesota



How you get there matters

Home Equity and Farm/Ranch Real Estate

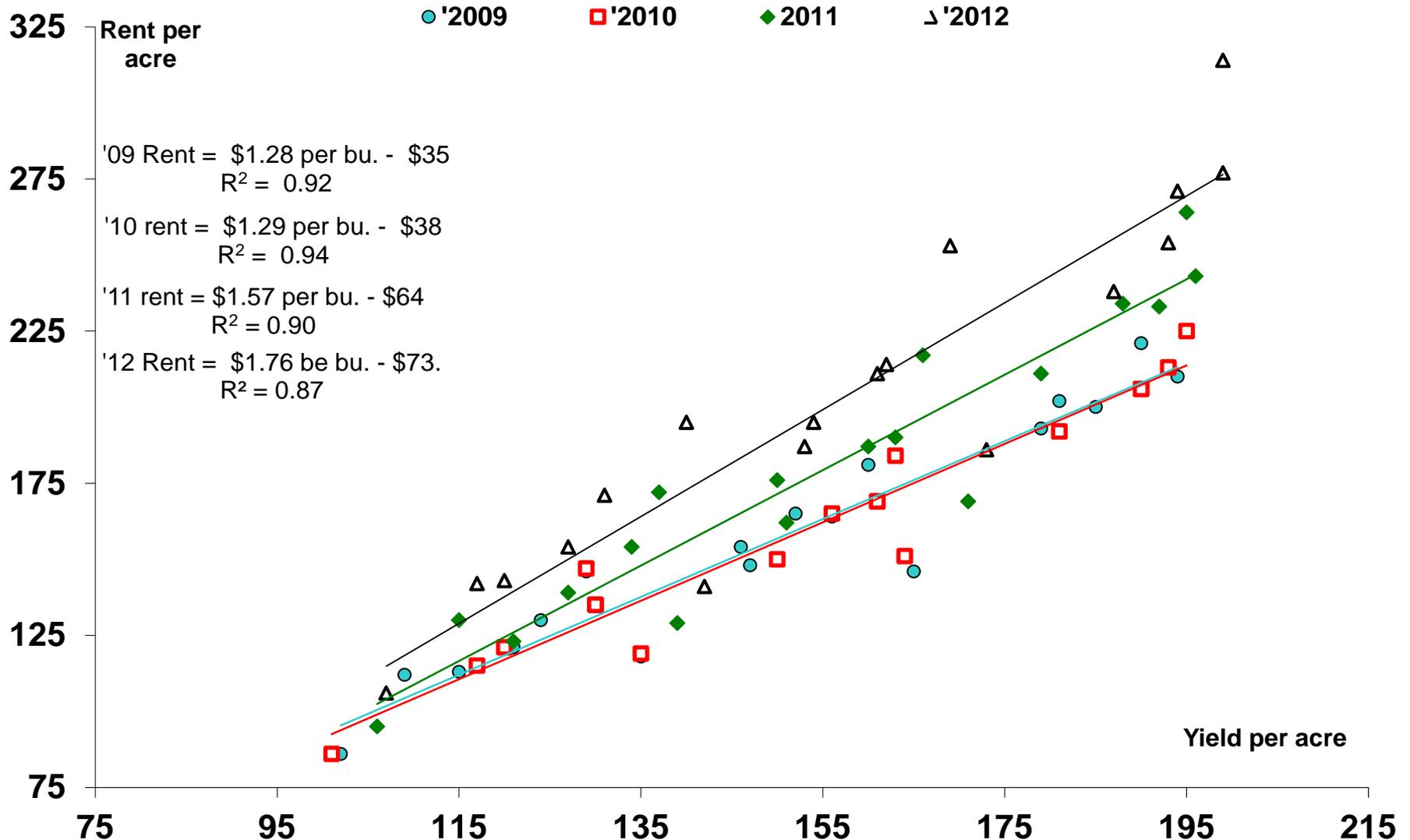


So what's the future?

- **Lack of discipline in the market**
 - Over-emphasis of economies of scale
 - Short-term cost optimization
 - The land markets are “too narrow”
- **Organic versus acquisition growth**
 - Different responses to environment
 - Land is “almost” backwards bending
 - Improvement supply curve relatively flat
- **The corn annuity talk**

The slope is not steep enough

Rent versus Yield



There wasn't discipline before

Corn on Cash Rent -- 2006 South Central Minnesota

Rent per bushel	\$ 0.73	\$ 0.67	\$ 0.63	\$ 0.62	\$ 0.57
	Low 20%	20 - 40%	40 - 60%	60 - 80%	High 20%
Number of fields	122	112	113	96	102
Number of farms	77	77	78	76	78
Yield per acre (bu.)	159	177	183	190	195
Seed, Fertilizer and Chemical	\$ 150	\$ 144	\$ 140	\$ 137	\$ 124
Land rent	\$ 117	\$ 118	\$ 116	\$ 117	\$ 111

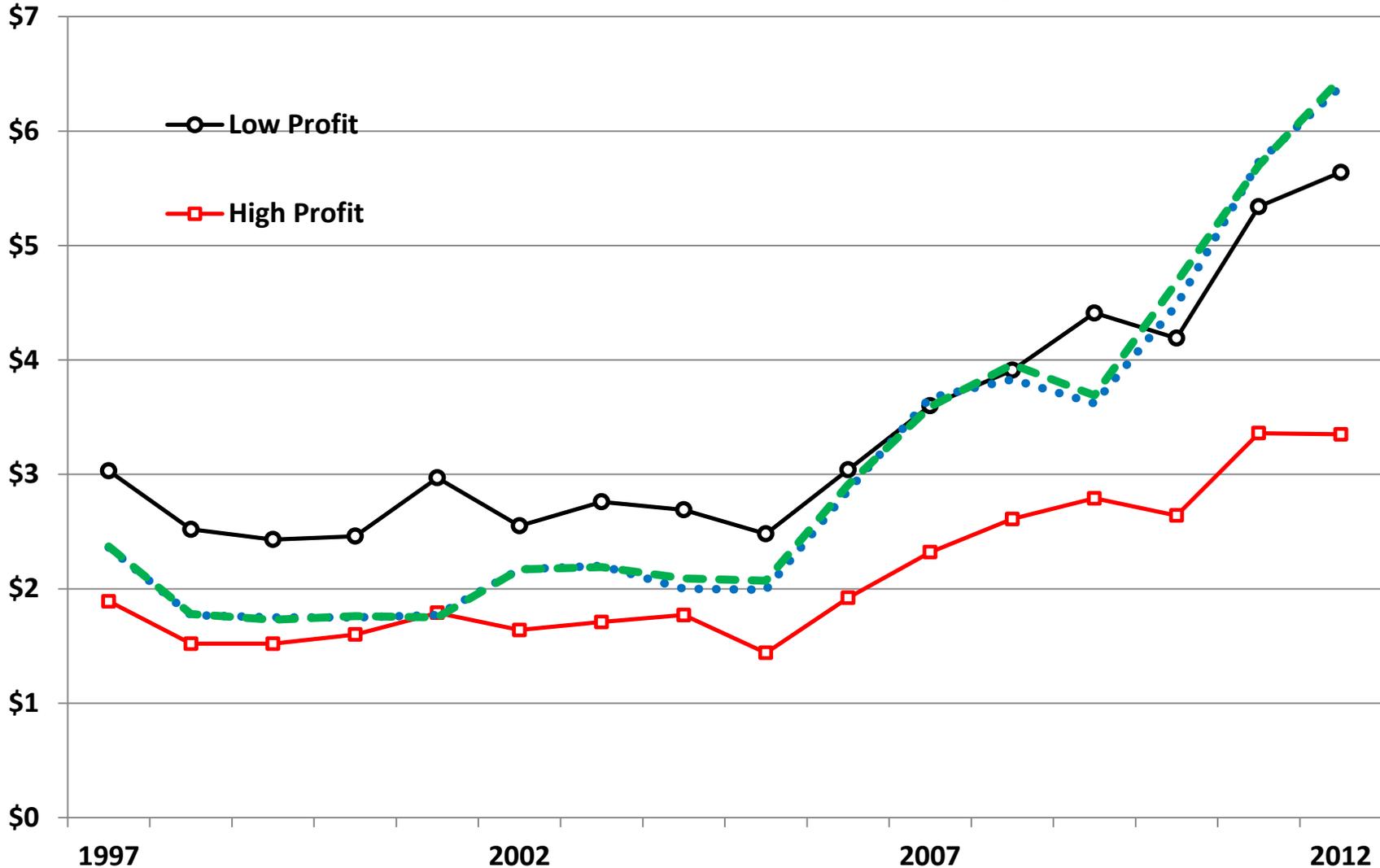
Higher prices have made worse

Corn on Cash Rent -- 2012 South Central Minnesota

Rent per bushel	\$ 1.53	\$ 1.33	\$ 1.29	\$ 1.20	\$ 0.89
	Low 20%	20 - 40%	40 - 60%	60 - 80%	High 20%
Number of fields	125	135	159	103	118
Number of farms	76	77	77	77	77
Yield per acre (bu.)	157	176	187	190	193
Seed, Fertilizer and Chemical	\$ 370	\$ 367	\$ 368	\$ 329	\$ 299
Land rent	\$ 240	\$ 233	\$ 241	\$ 229	\$ 171

Better marketing and hedging isn't the answer

MN Cash Rent Corn: Total Cost / Bushel



Who gets paid what?

- **Land – 25 to 35%**
 - On average is paid – 25%
 - Is just another asset class
 - Can be overpriced/underpriced
- **Management – 15 to 25%**
 - Your time
 - Your smarts
- **Everything else – 45 to 55%**

It's about bushels not acres

- **Land prices have responded to:**
 - Crop prices
 - Low interest rates
- **Land improvements have not**
 - Tiling
 - Leveling
 - Irrigation
 - Soil enhancement

Organic or acquisition growth?

A time and a place for different
tactics

Corn Annuity Investment

Land Purchase

\$10,000 per acre

200 bushel per acre APH

Land's share = 33%

Cost per bushel of annuity = \$150

Tiling investment

\$900 per acre

15 bushels per acre increase to APH

Cost per bushel of annuity = \$60

The annuity question

- **All investments are equally sensitive to**
 - Crop prices
 - Interest rates
- **It's about**
 - Buying the best return
 - Understanding expected and variation
 - Self-discipline
 - Tax advantage

Final thoughts

- **Don't count on global demand to bail you out**
 - Domestic competitors
 - Foreign competitors
- **Policy**
 - Beliefs
 - Influence versus control
- **Discipline trumps smarts**
 - Can't change the market just yourself
 - Investor versus traders