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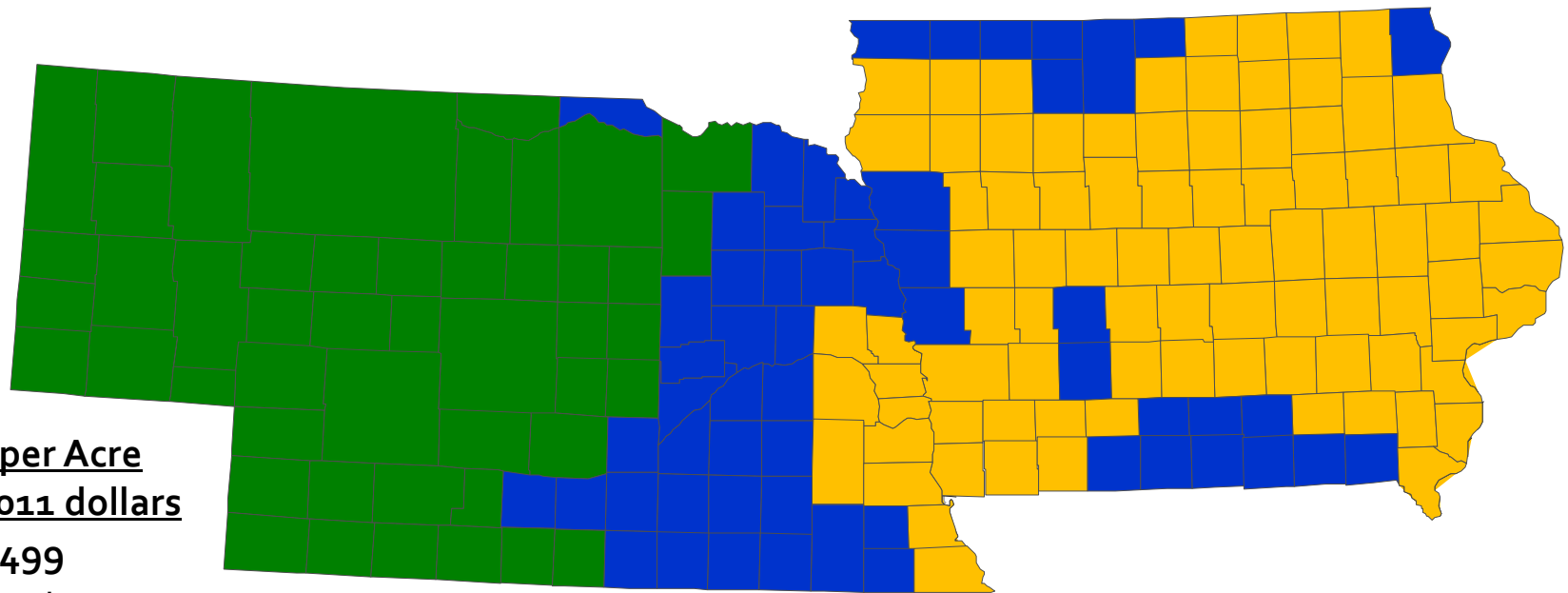
Agricultural Outlook



The views expressed are those of the author and do not necessarily reflect the opinions of the Federal Reserve Bank of Kansas City or the Federal Reserve System.

A Farm Boom starting in 1900.

Nebraska and Iowa Farm Real Estate Values 1900



\$Dollars per Acre
Constant 2011 dollars

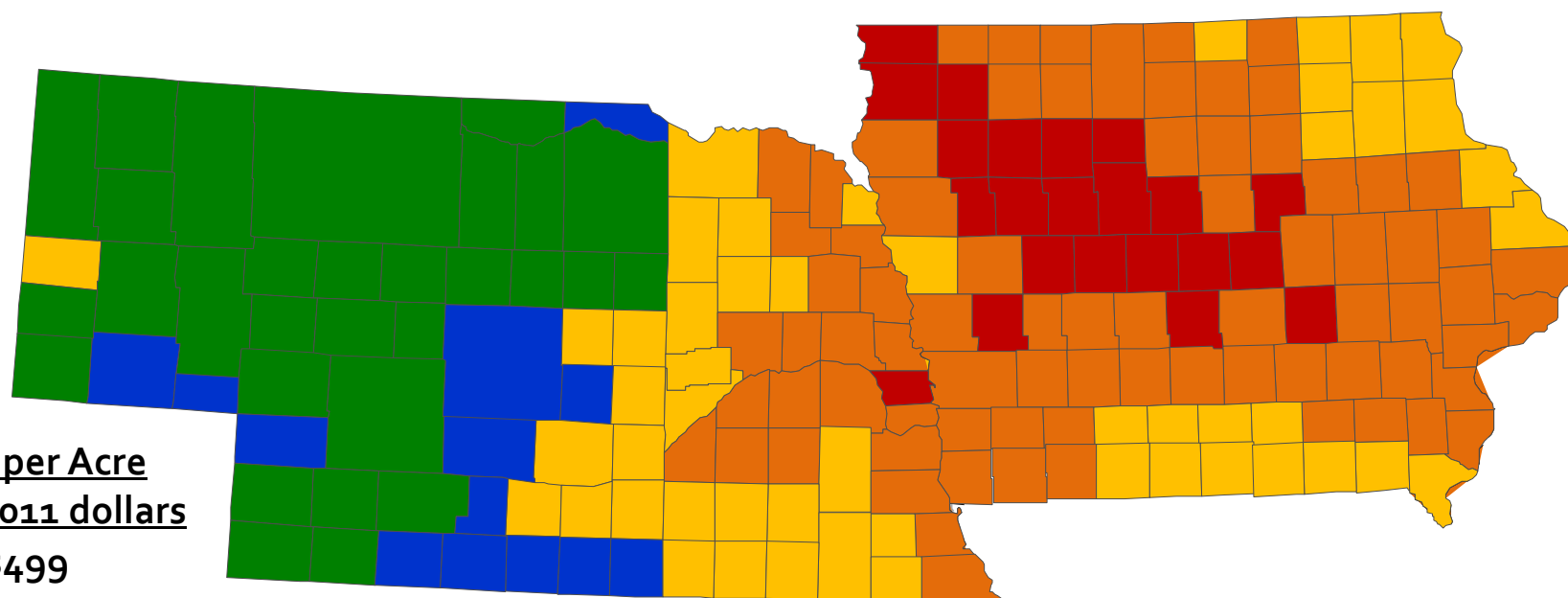
- 0 - \$499
- \$500 - \$999
- \$1000 - \$1999
- \$2000 - \$2999
- \$3000 and up

Source: USDA



WWI and the "Golden Era for Agriculture" boost farmland values.

Nebraska and Iowa Farm Real Estate Values 1920



\$Dollars per Acre
Constant 2011 dollars

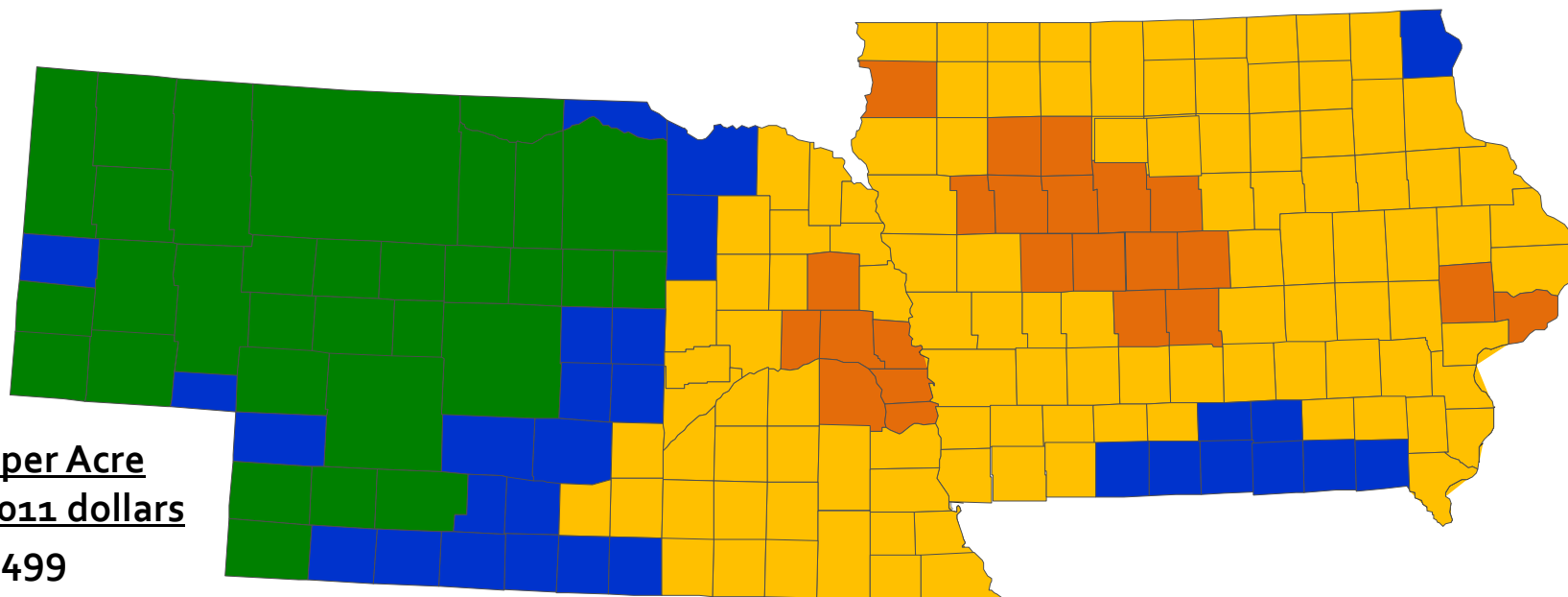
- 0 - \$499
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- \$3000 and up

Source: USDA



Farmland value decline during the "Roaring 20s"

Nebraska and Iowa Farm Real Estate Values 1930



\$Dollars per Acre
Constant 2011 dollars

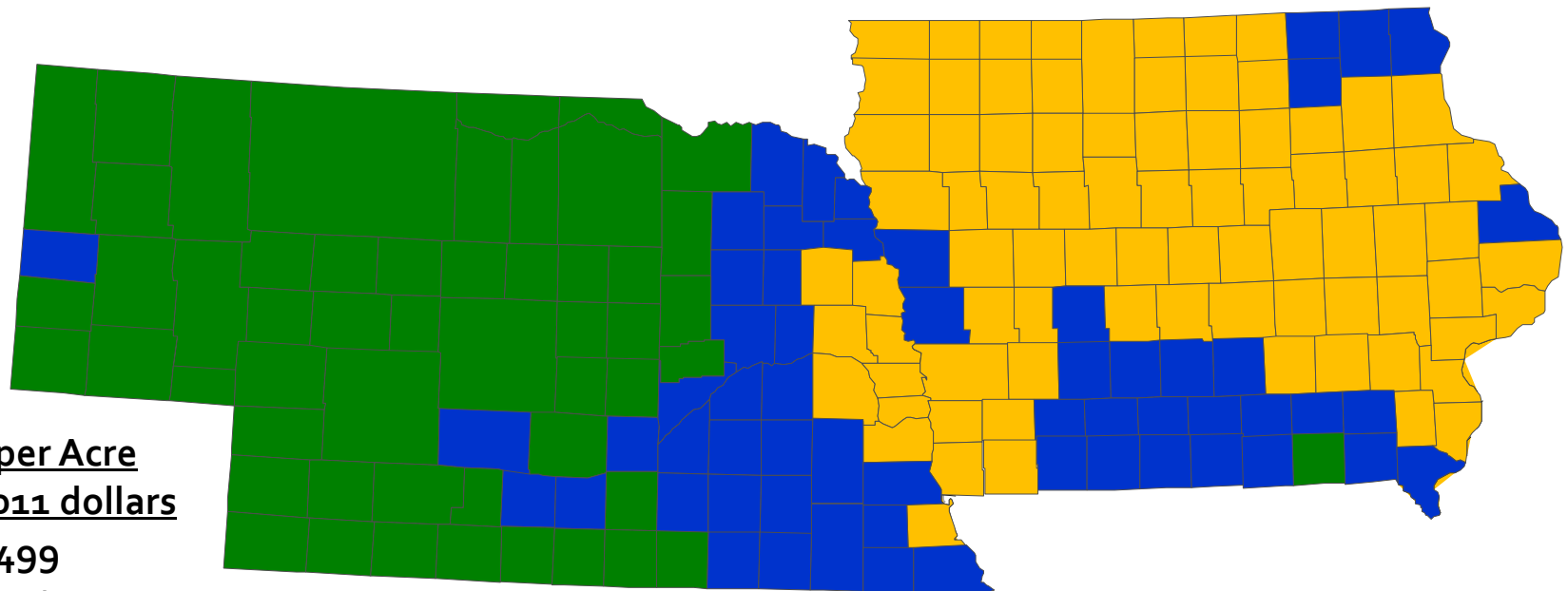
- 0 - \$499
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- \$3000 and up

Source: USDA



The Great Depression pushed down farmland values further.

Nebraska and Iowa Farm Real Estate Values 1940



\$Dollars per Acre
Constant 2011 dollars

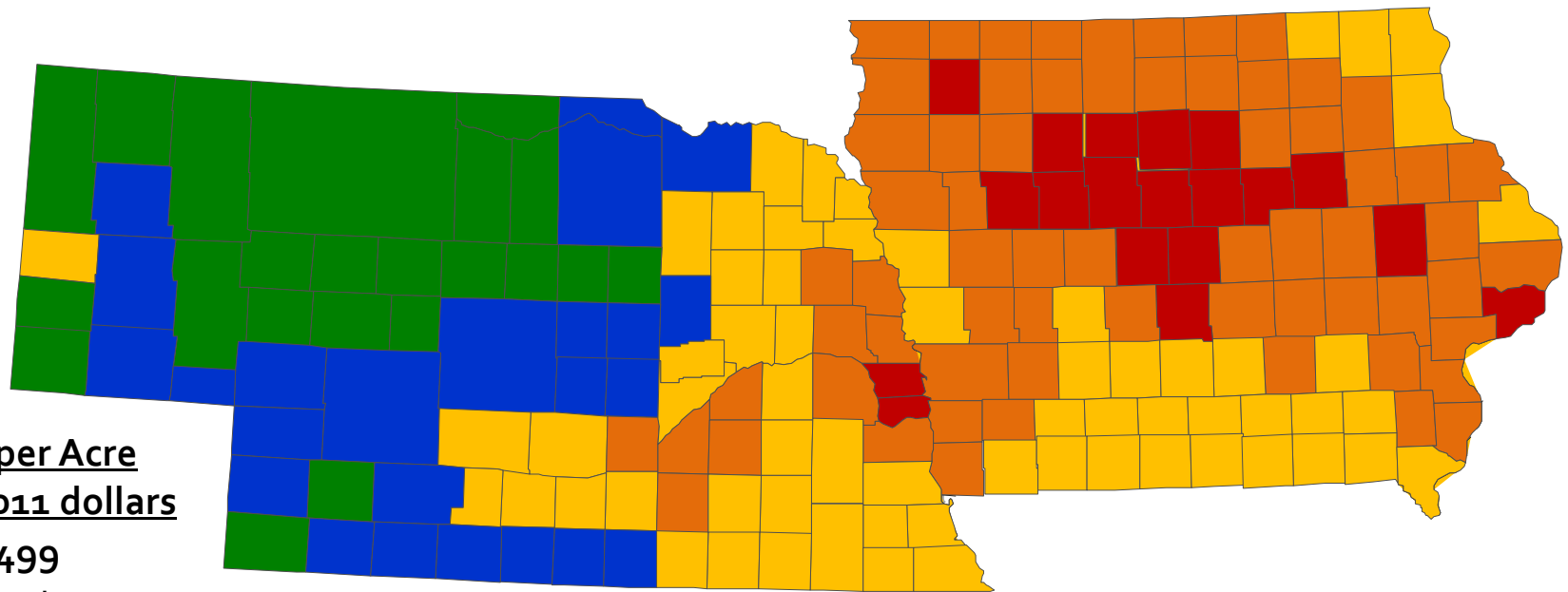
- 0 - \$499
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- \$2000 - \$2999
- \$3000 and up

Source: USDA



Enhanced productivity lifts farmland values during the 1950s and 1960s.

Nebraska and Iowa Farm Real Estate Values 1969



\$Dollars per Acre
Constant 2011 dollars

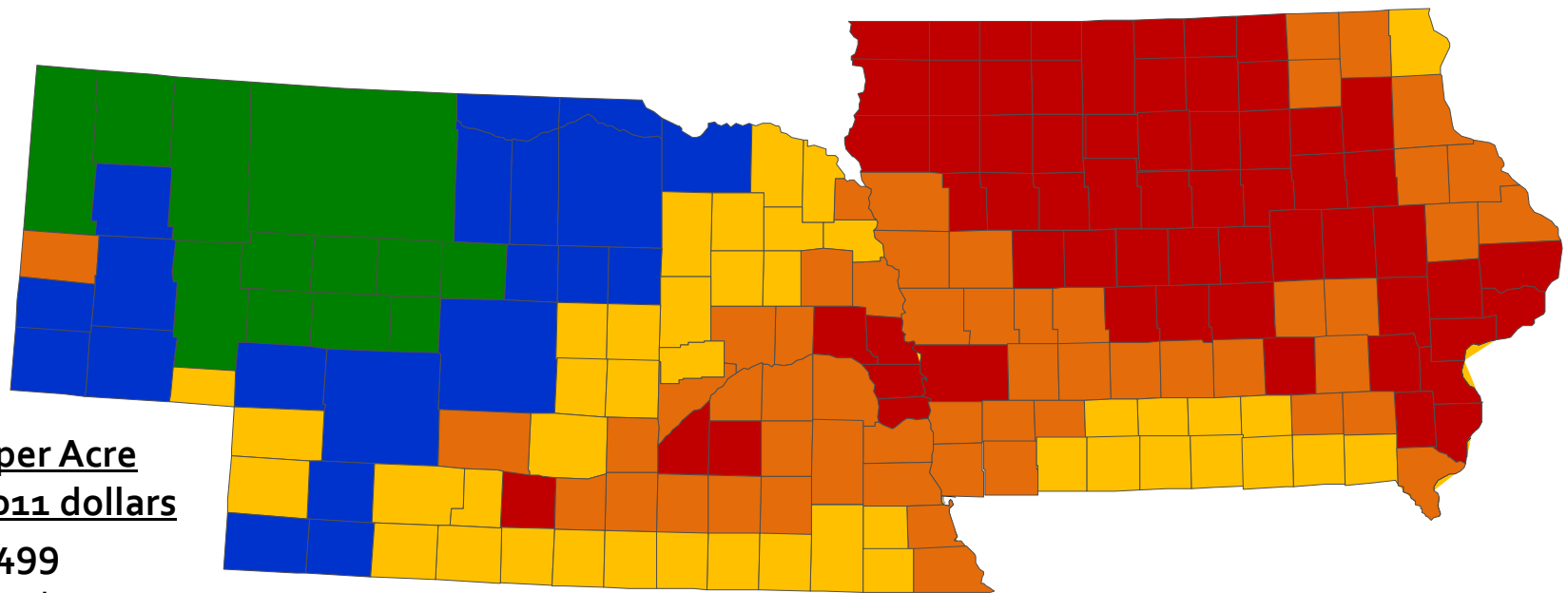
- 0 - \$499
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- \$3000 and up

Source: USDA



The Russian grain deal sparks the farm real estate boom.

Nebraska and Iowa Farm Real Estate Values 1974



\$Dollars per Acre
Constant 2011 dollars

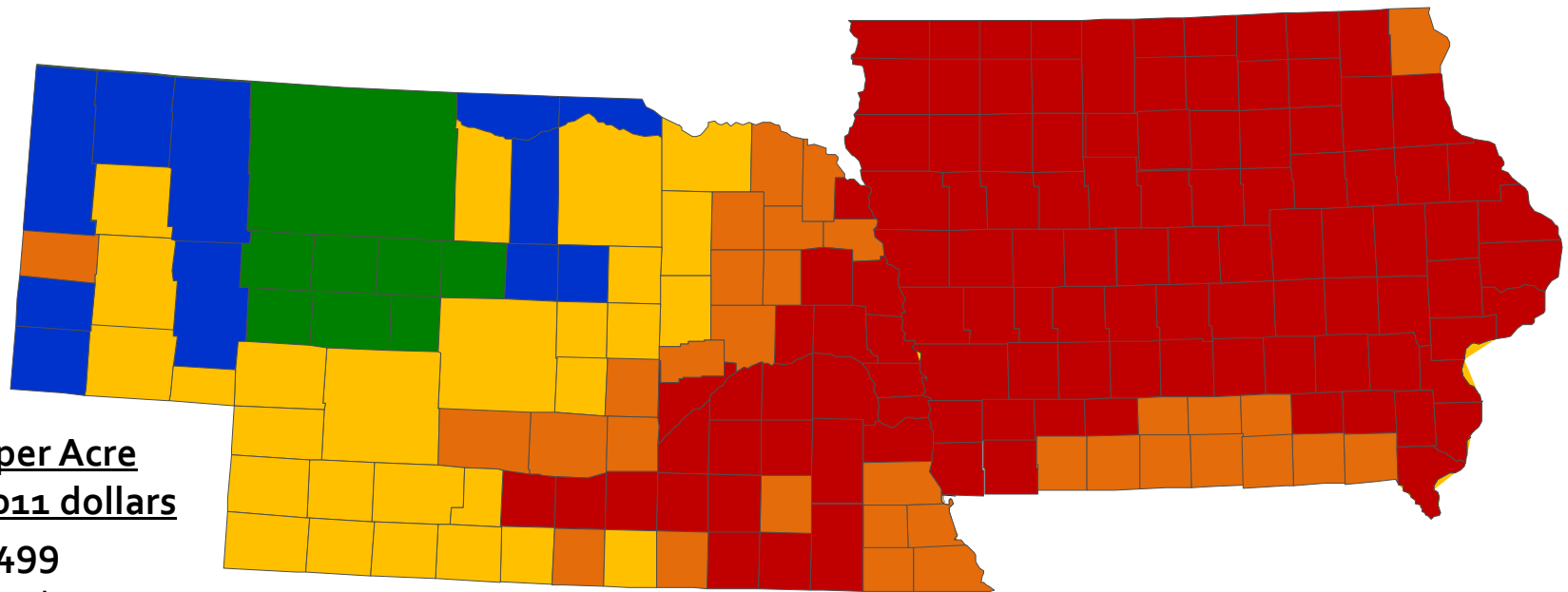
- 0 - \$499
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- \$3000 and up

Source: USDA



By the late 1970s, farmland values are "hot".

Nebraska and Iowa Farm Real Estate Values 1978



\$Dollars per Acre
Constant 2011 dollars

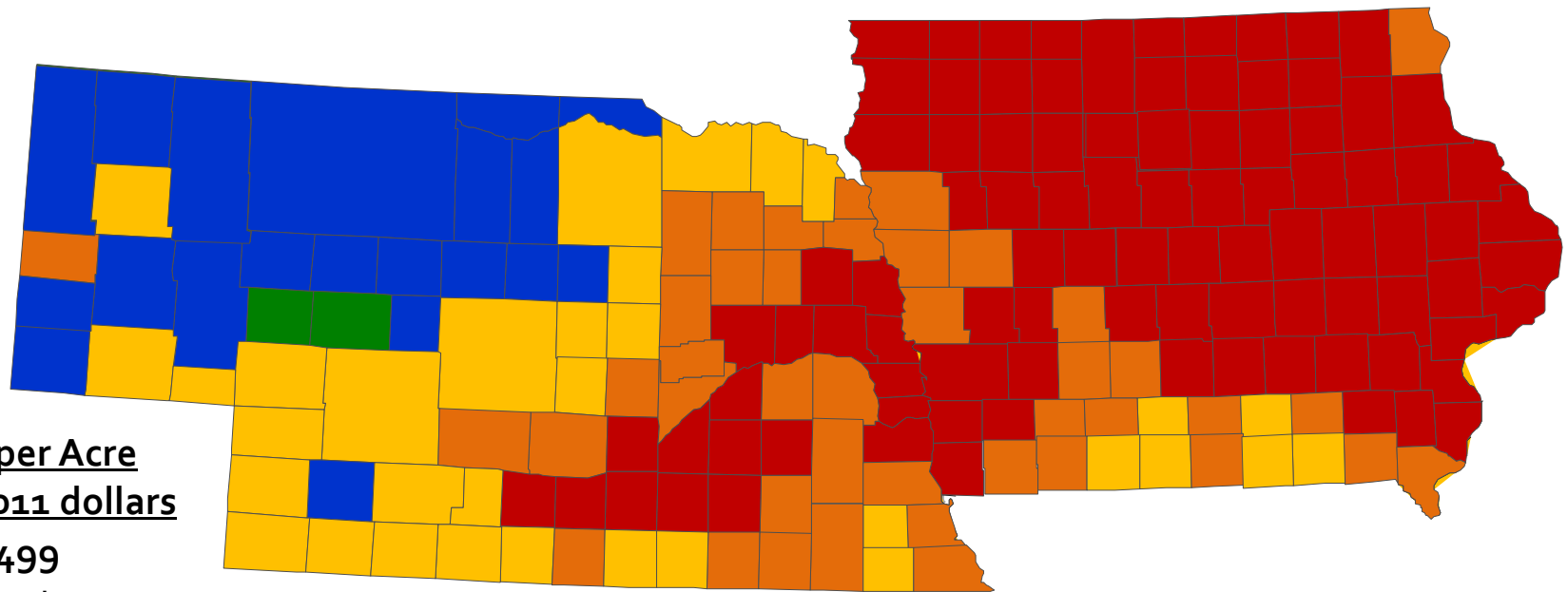
- 0 - \$499
- \$500 - \$999
- \$1000 - \$1999
- \$2000 - \$2999
- \$3000 and up

Source: USDA



Higher interest rates and a trade restrictions begin to cool land values.

Nebraska and Iowa Farm Real Estate Values 1982



\$Dollars per Acre
Constant 2011 dollars

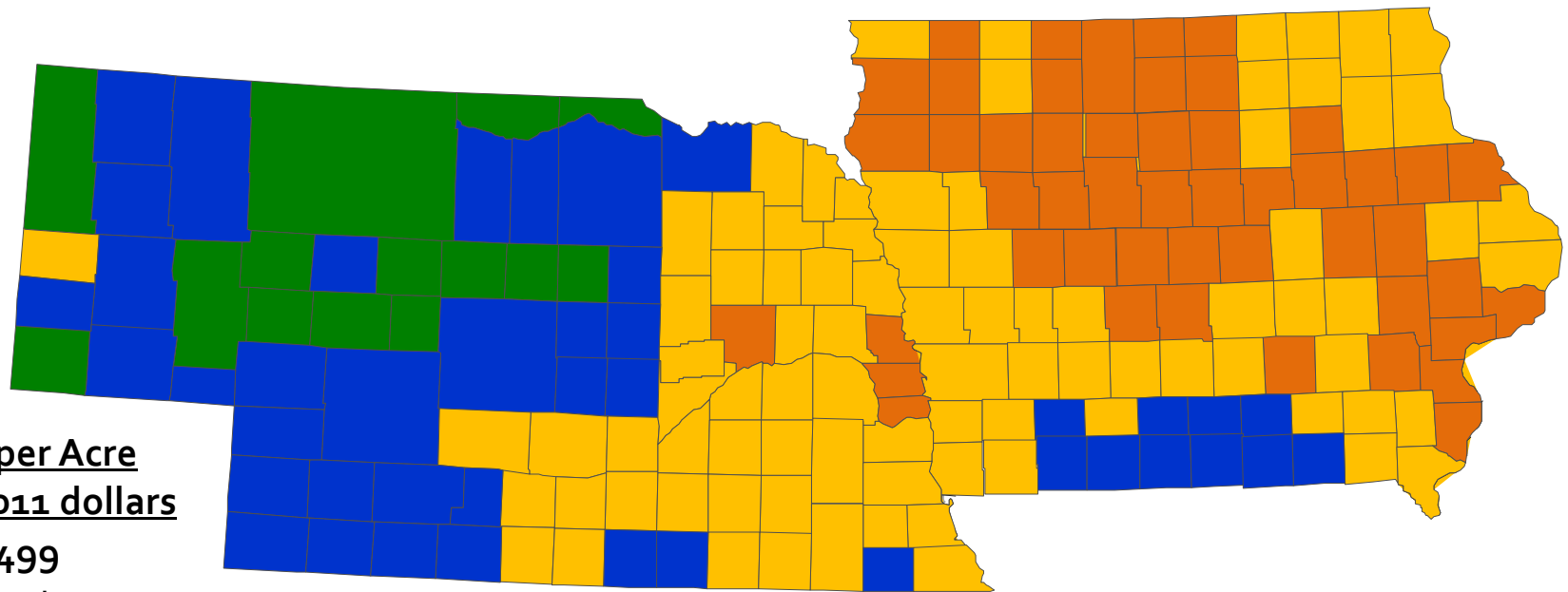
- 0 - \$499
- \$500 - \$999
- \$1000 - \$1999
- \$2000 - \$2999
- \$3000 and up

Source: USDA



At the end of the crisis land values are almost back to 1969 levels.

Nebraska and Iowa Farm Real Estate Values 1987



\$Dollars per Acre
Constant 2011 dollars

- 0 - \$499
- \$500 - \$999
- \$1000 - \$1999
- \$2000 - \$2999
- \$3000 and up

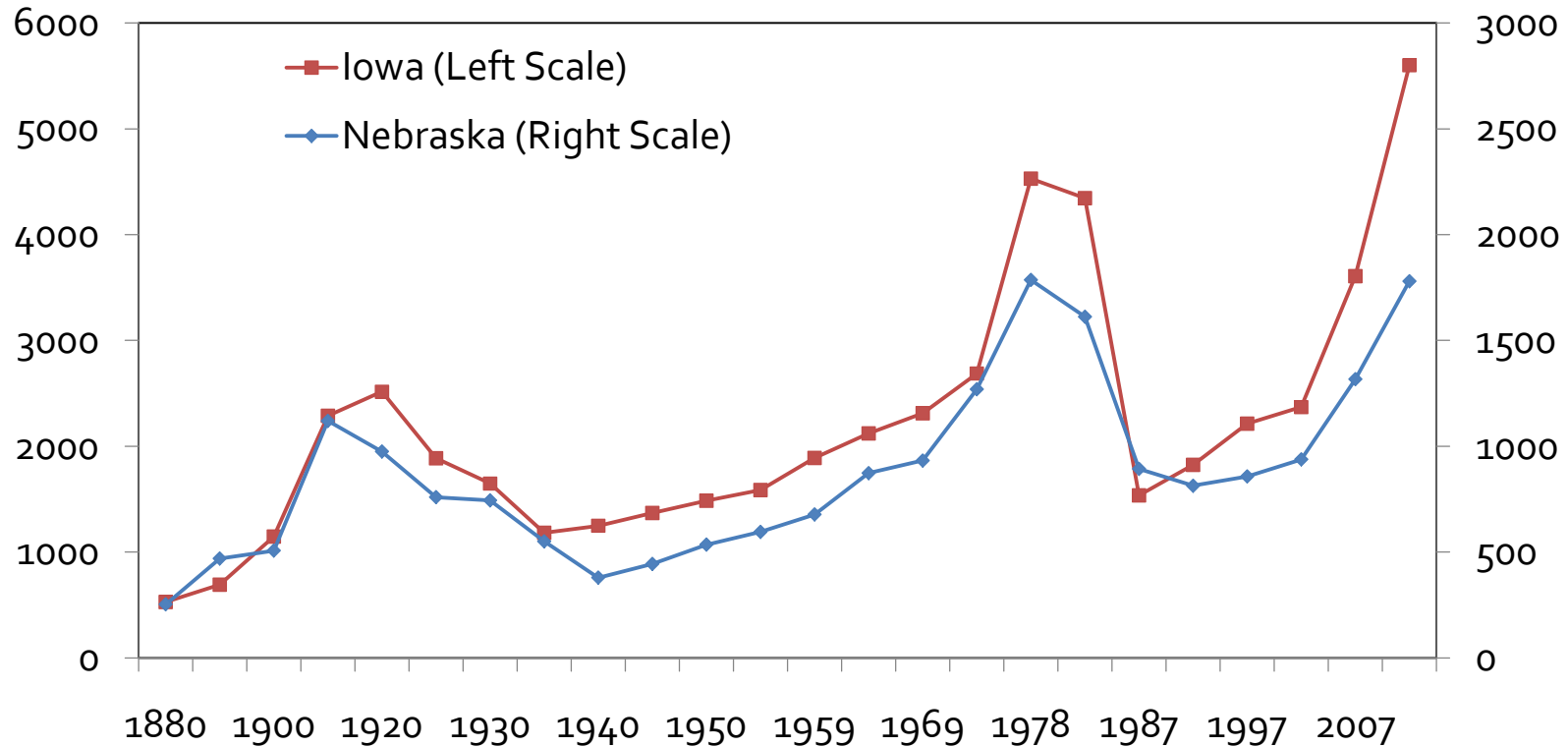
Source: USDA



Is agriculture set up for another correction?

Nebraska and Iowa Farm Real Estate Values

Dollars per acre (Constant 2011 dollars)



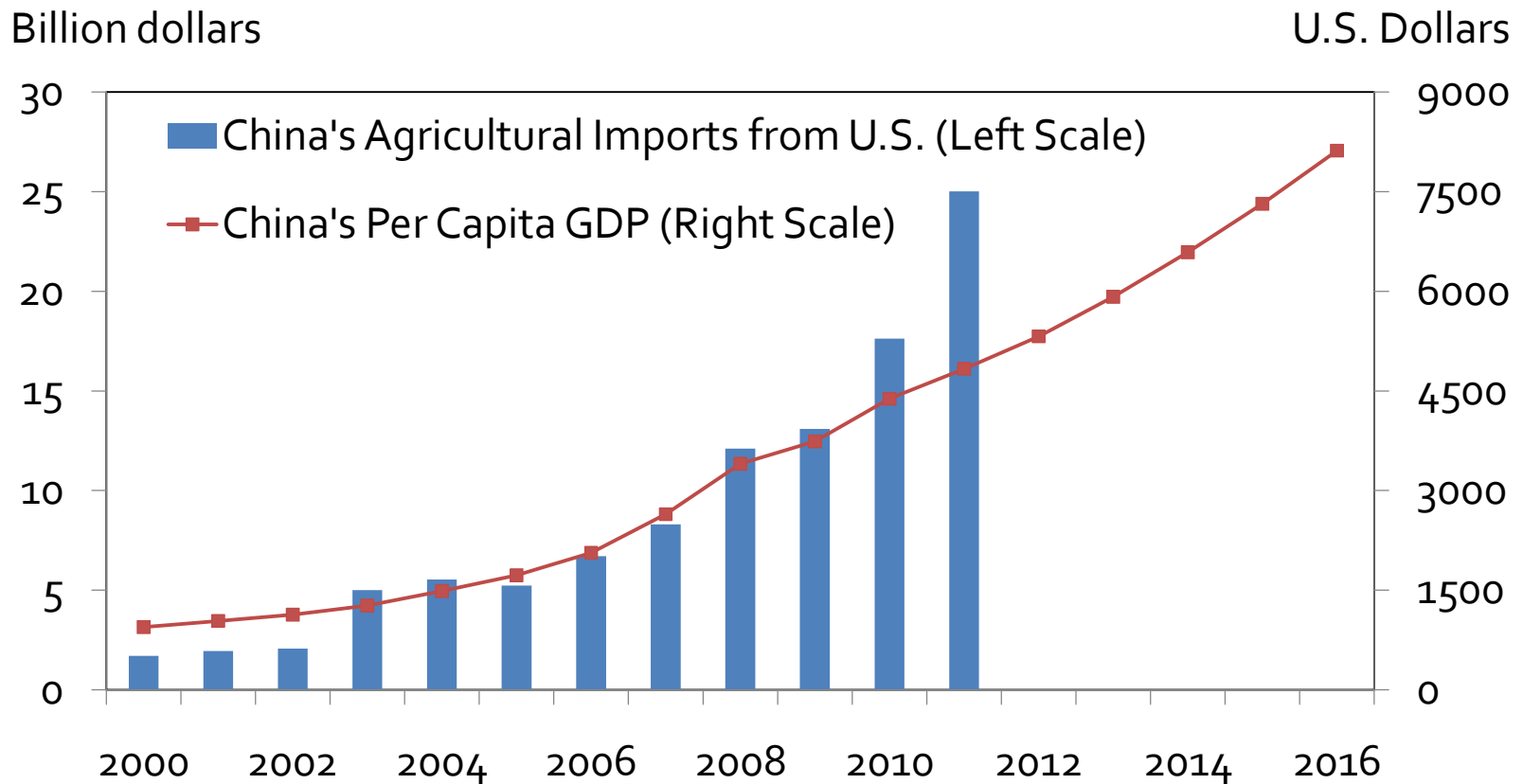
The Drivers of Farm Booms/Busts

- Demand Shocks
 - Short-term demand viewed as long-term
 - 1910s – World War I
 - 1970s – Russian grain deal
 - 2000s – Exports (China) & Ethanol
- What are the Risks?
 - Slower growth in emerging countries
 - Elimination of the RFS mandate



As the #1 U.S. export market, China's economic development will drive U.S. agricultural demand.

China's GDP Growth and Ag Imports from U.S.

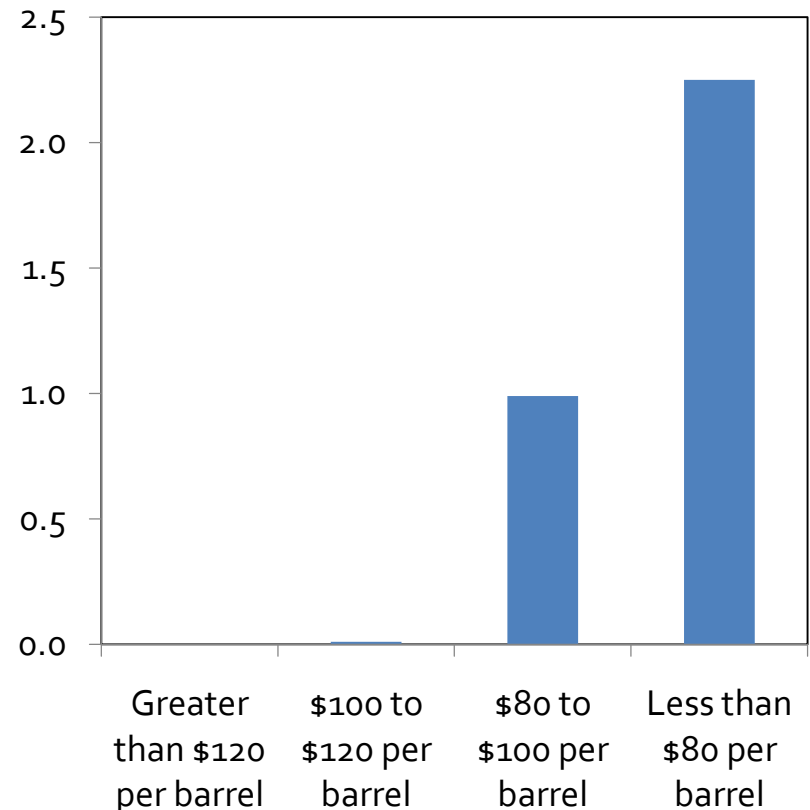


Ethanol policy is about the mandate.

- The blenders' credit is a mechanism to entice corn-based ethanol production to meet the mandate.
- Due to high sugar prices, the corn-based ethanol is price competitive and ethanol production is above the mandate.
- The subsidy does not affect profitability.
- When crude oil is less than \$100 per barrel, the mandate is needed to drive ethanol production.

Drop in Corn Price from Eliminating the Mandate

Dollars per bushel



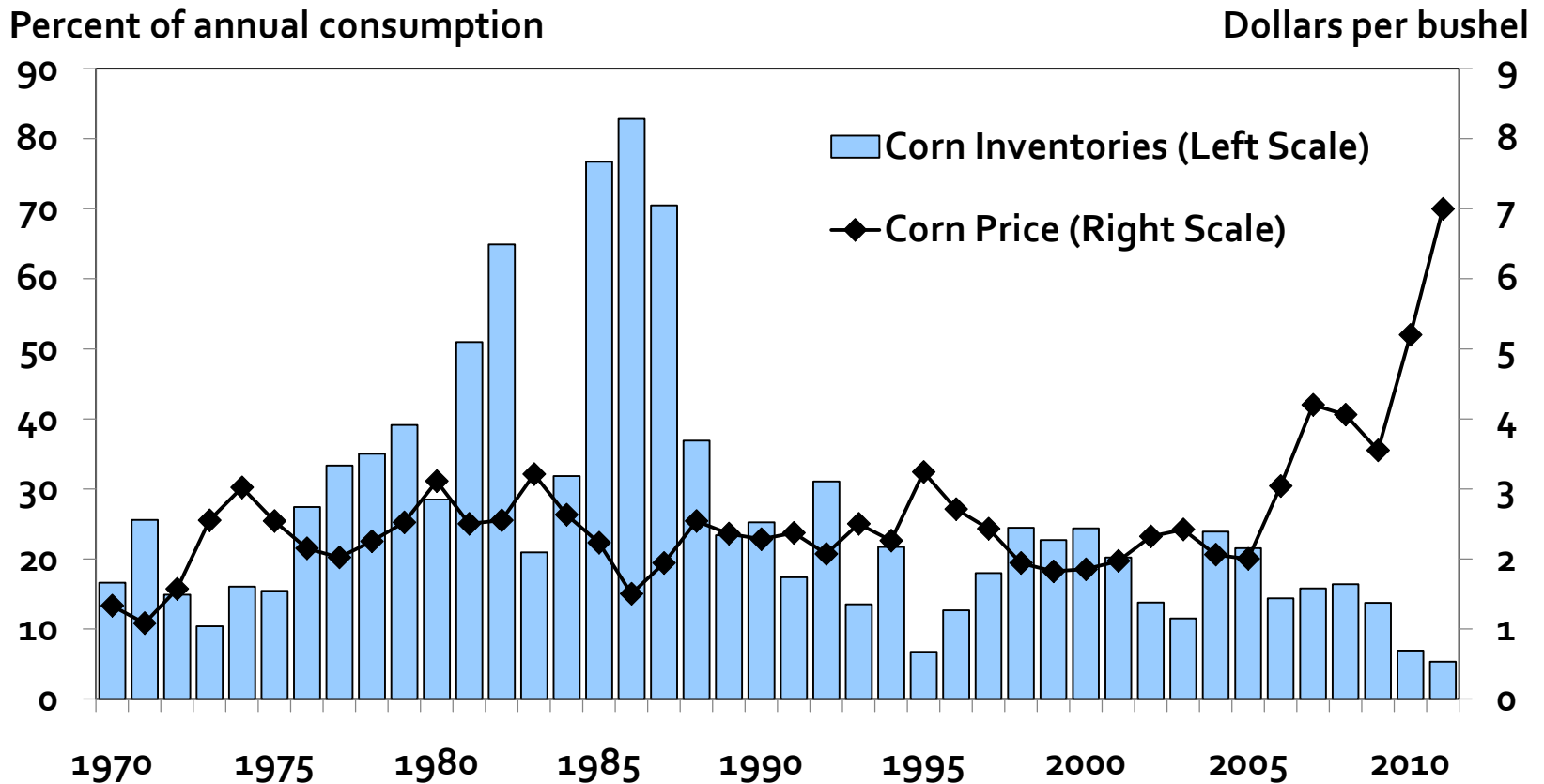
The Drivers of Farm Booms/Busts

- Supply Shocks
 - *Farmer's Produce Themselves Out of Prosperity*
 - Technological change: supply outpaces demand
 - 1920s – Tractors
 - 1970s – Green Revolution
 - 2000s – Bio-technology
- What are the Risks?
 - Can the promises of bio-tech actually be delivered?



Strong demand and tight supplies underpin high agricultural prices.

U.S. Corn Prices and Inventories



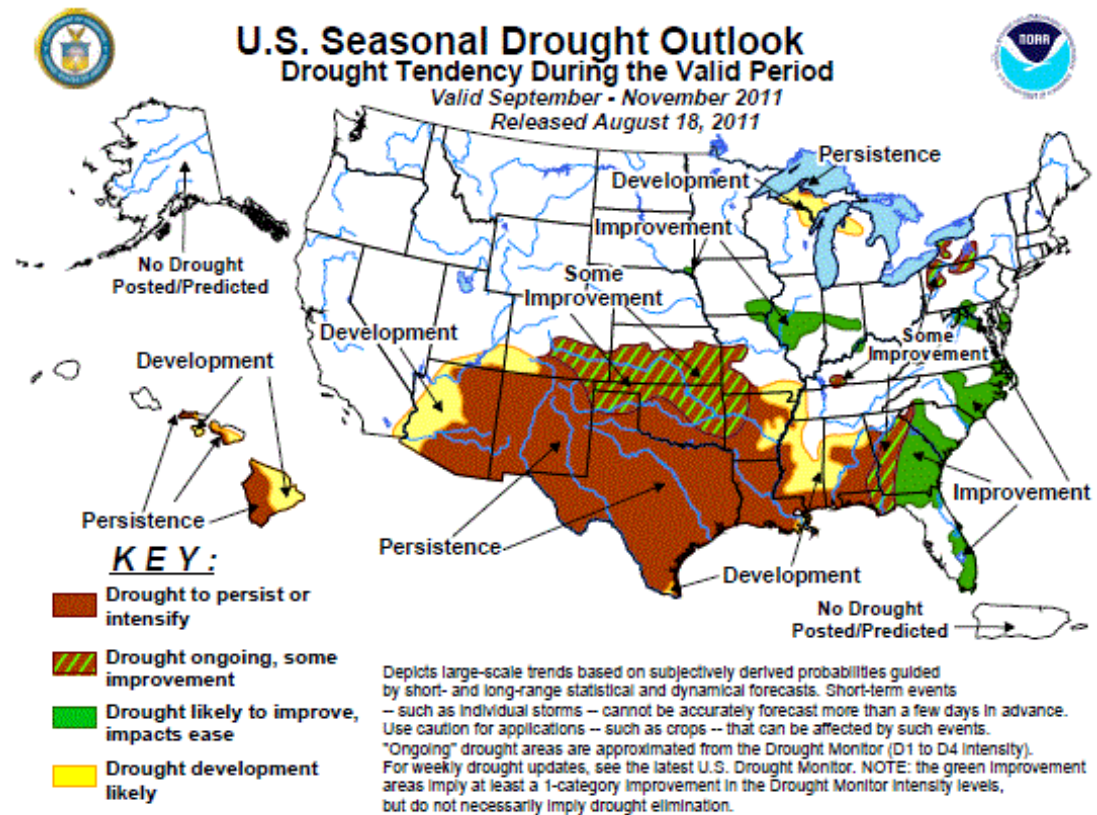
Source: USDA



How will La Nina affect U.S. weather?

During winter months, a La Nina episode tends to ...

- 1) Lead to dry conditions in southern Plains,
- 2) Intensify the Atlantic hurricane season, which will increase precipitation in the Southeast U.S.



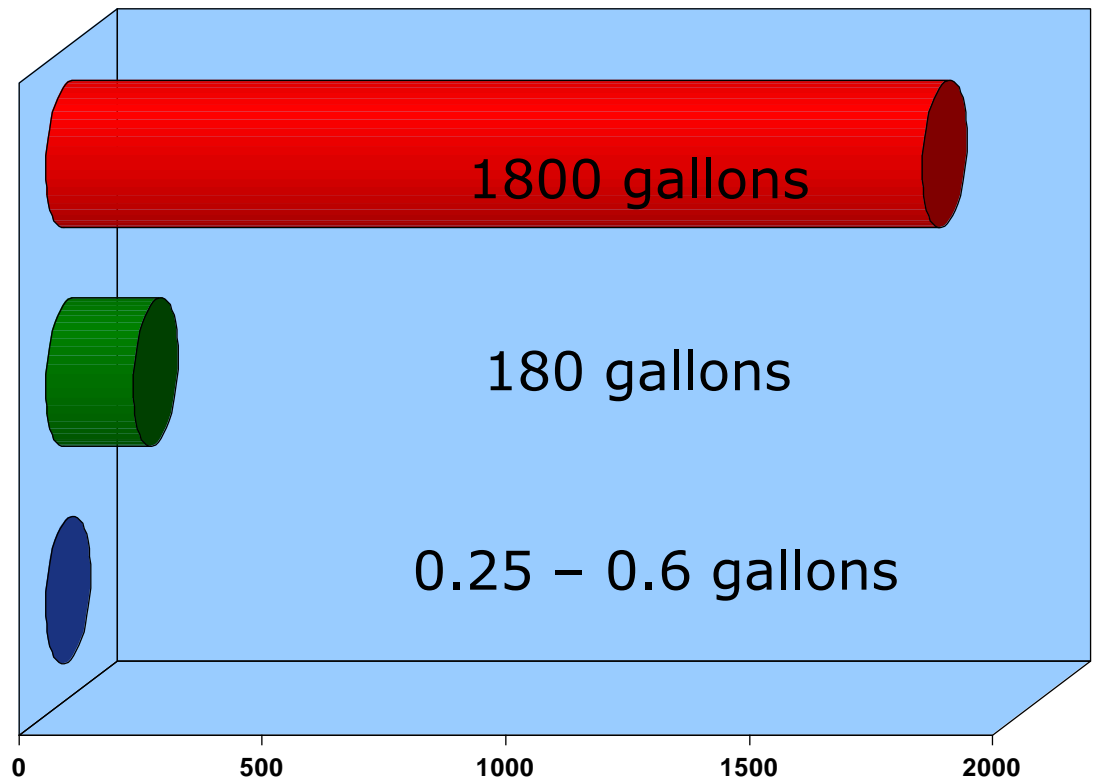
Growing Water Resource Constraints

Amount of water required for:

One pound of beef

One pound of wheat

Daily drinking requirements

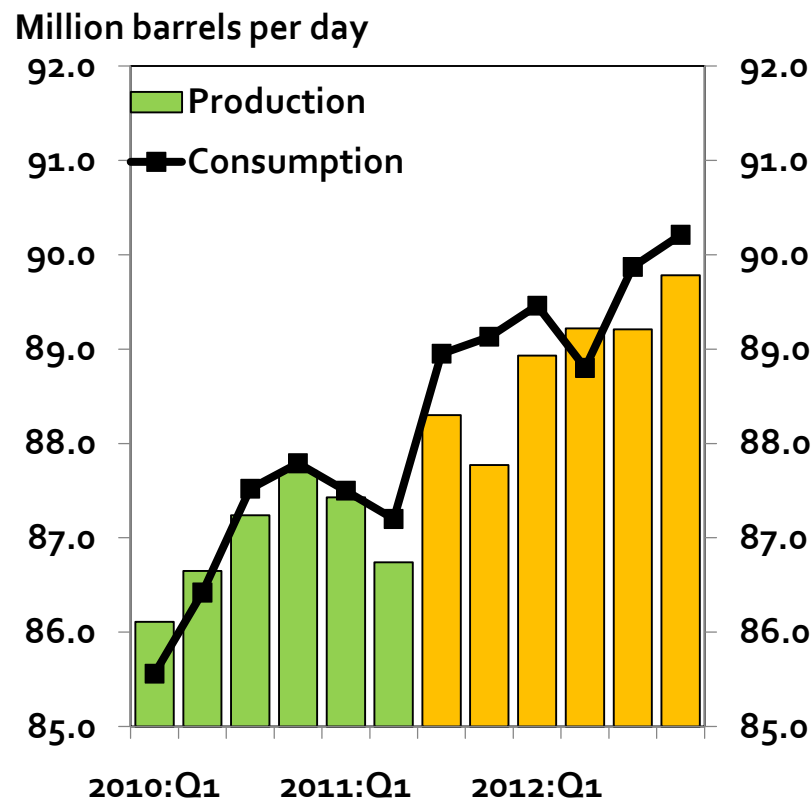
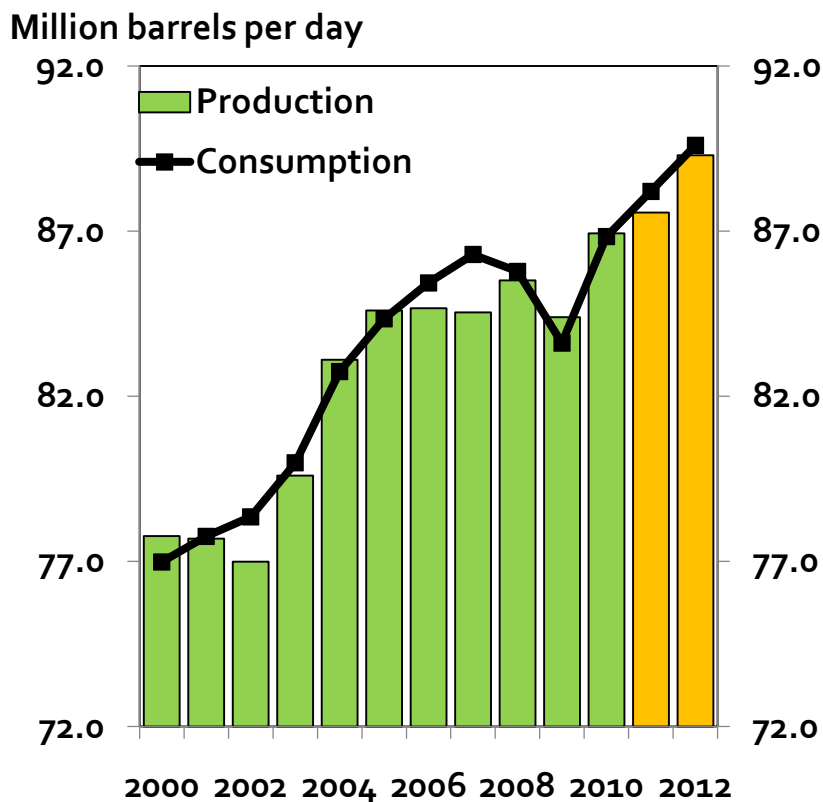


Source: UN-Water and FAO



If forecasts hold, world energy consumption could outstrip production.

World Crude Oil Production and Consumption



Source: Energy Information Administration
EIA Forecasts for 2011 and 2012 data.



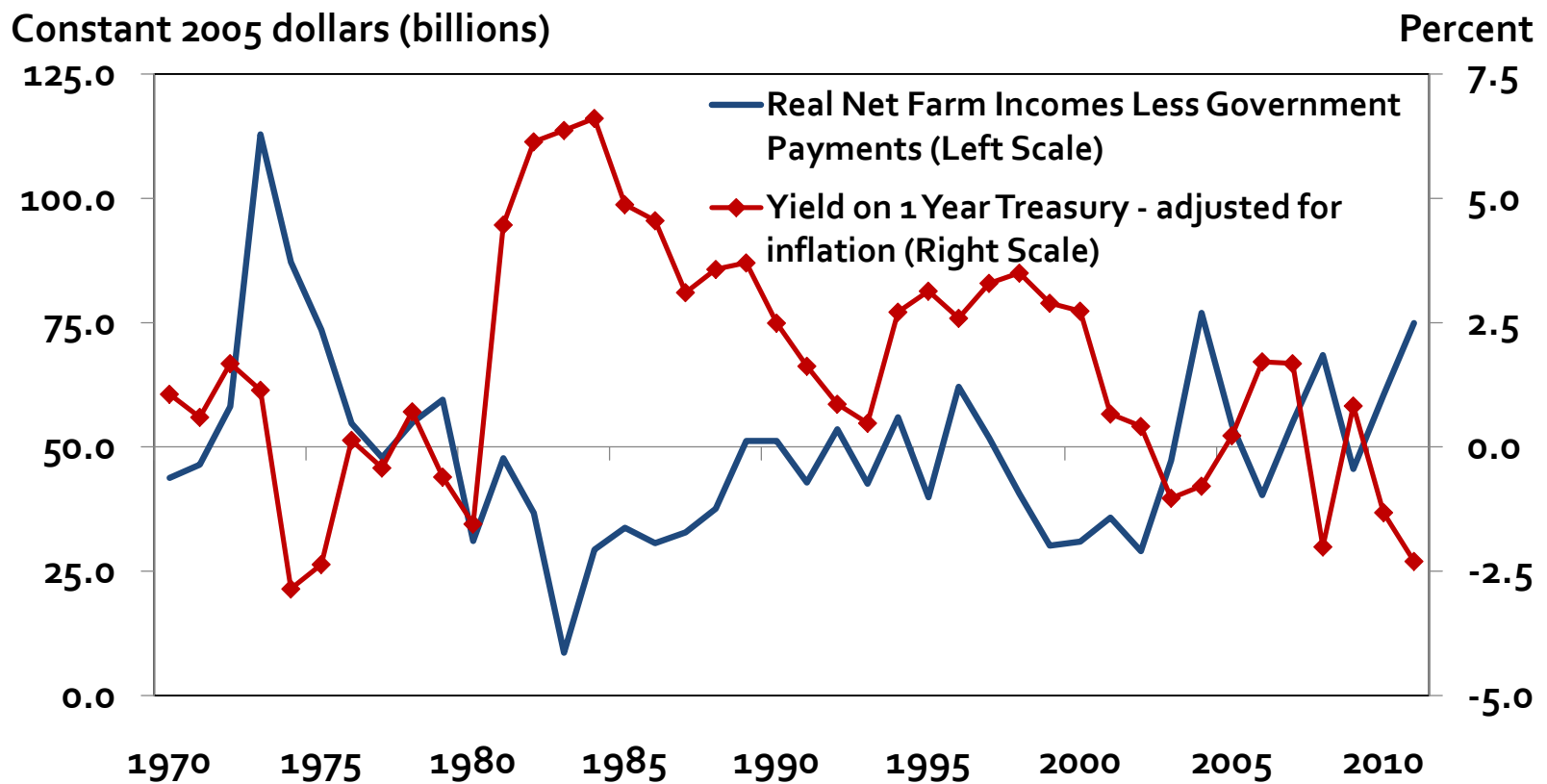
The Drivers of Farm Booms/Busts

- Interest rates
 - Interest rates shape cap rates and land values
 - Low interest rates associated with high farm incomes
 - 1970s – Low real rates and farm boom
 - 1980s – High real rates and farm bust
 - 1990s – High real rates and lower farm incomes
 - 2000s – Low real rate and higher farm incomes
 - 2010s ??



Farm incomes rise in low interest rate environments.

Farm Incomes and Interest Rates

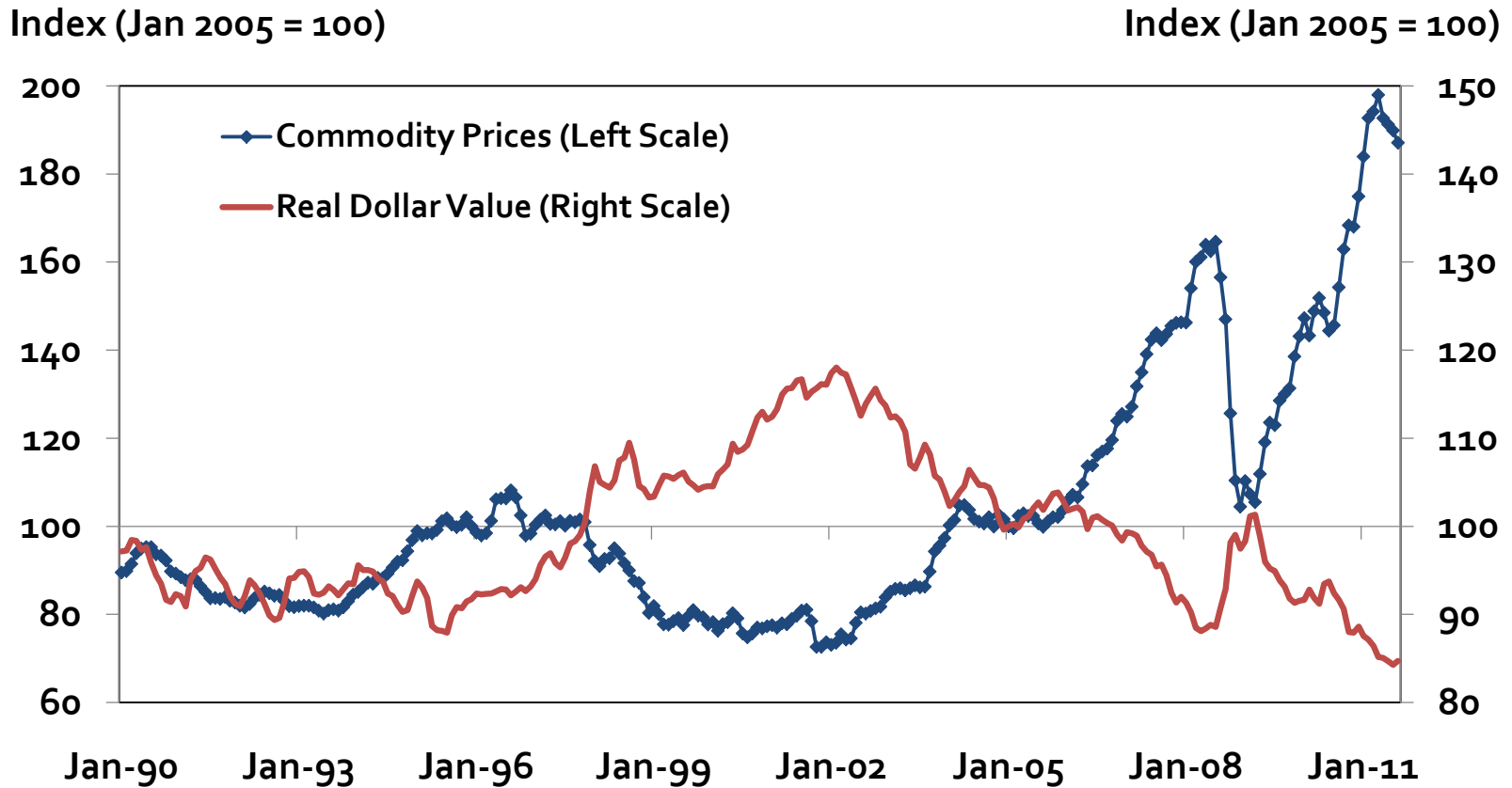


Source: Henderson and Briggeman (2011), "What are the Risks in Today's Farmland Market?" *Main Street Economist*, Issue 1.



A weak dollar supports high commodity prices.

Commodity Prices and the Value of the Dollar



Source: Commodity Research Bureau and Federal Reserve Board of Governors

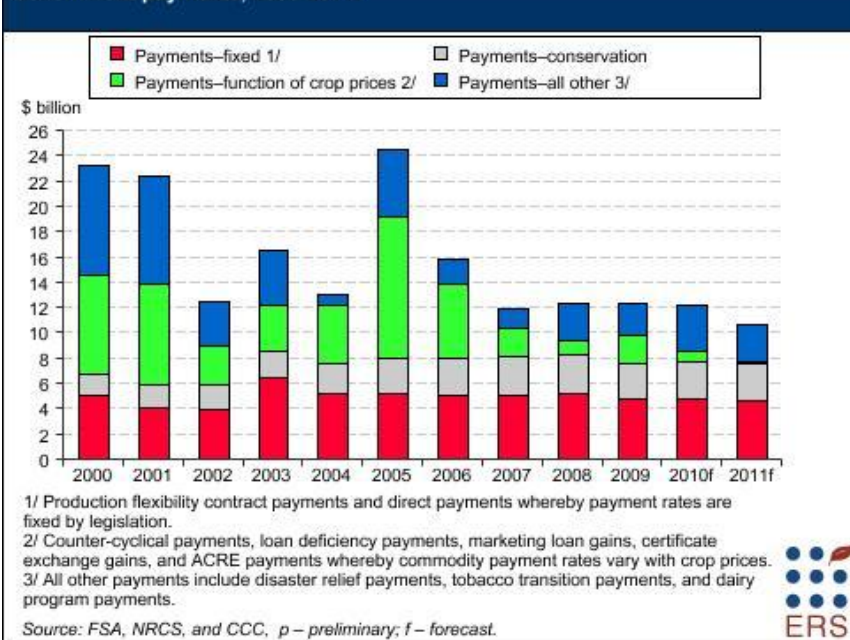


Sovereign Debt

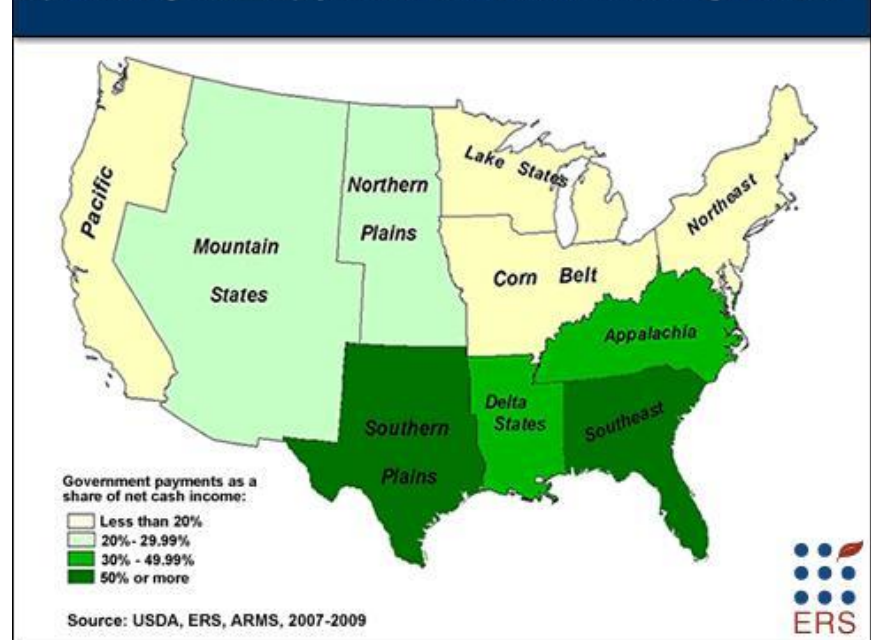
Will the Farm Bill be evolutionary or revolutionary?

- Traditionally, Farm Bills are evolutionary.
- Will federal government debt issues lead to a revolutionary Farm Bill in 2012?
- Will farmers get to keep direct payments?
- What is the safety net going forward – crop insurance?

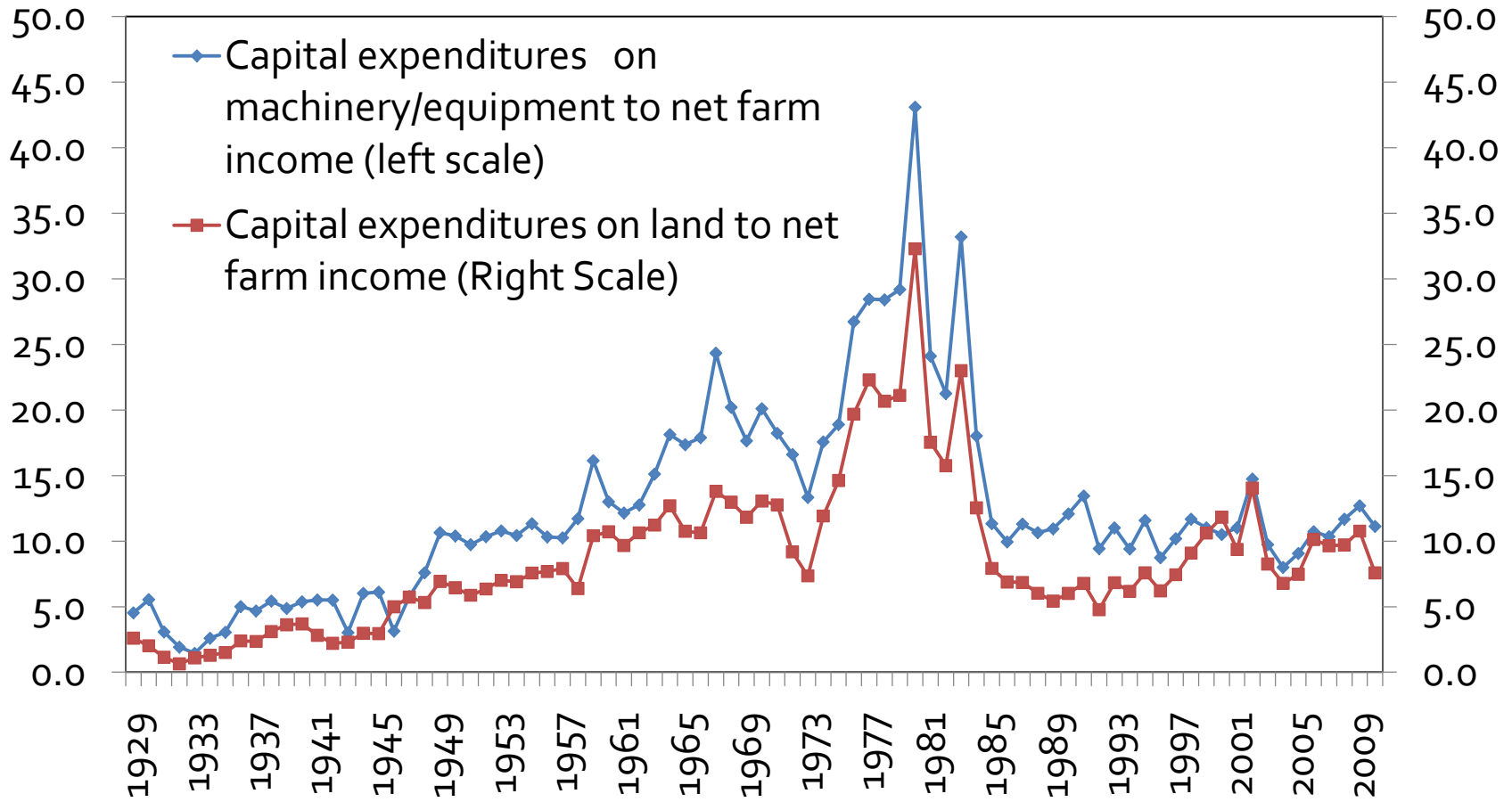
Government payments, 2000-2011f



Importance of government payments to net cash farm income, average 2007-2009



Ratio of Capital Expenditures to Net Farm Income



For More Information on The Nebraska Economy and Rural America

www.kansascityfed.org/omaha

