Agricultural Outlook
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
- $500 - $999
- $1000 - $1999
- $2000 - $2999
- $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
- $500 - $999
- $1000 - $1999
- $2000 - $2999
- $3000 and up

Source: USDA
The Great Depression pushed down farmland values further.

Nebraska and Iowa Farm Real Estate Values 1940

$\text{Dollars per Acre}$

$\text{Constant 2011 dollars}$

- 0 - $499
- $500 - $999
- $1000 - $1999
- $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

$\text{Dollars per Acre}$
Constant 2011 dollars

- 0 - $499
- $500 - $999
- $1000 - $1999
- $2000 - $2999
- $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
- $500 - $999
- $1000 - $1999
- $2000 - $2999
- $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

$\text{Dollars per Acre }$
$\text{Constant 2011 dollars}$

- $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)

- Iowa (Left Scale)
- Nebraska (Right Scale)
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.

Source: USDA

Federal Reserve Bank of Kansas City – Omaha Branch
Regional, Public, Community Affairs Division

www.kansascityfed.org/omaha
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.

*Source: Babcock (2011)*
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**

- **Percent of annual consumption**
- **Dollars per bushel**

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
1800 gallons

One pound of wheat
180 gallons

Daily drinking requirements
0.25 – 0.6 gallons

Source: UN-Water and FAO
If forecasts hold, world energy consumption could outstrip production.

### World Crude Oil Production and Consumption

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<th>Year</th>
<th>Production</th>
<th>Consumption</th>
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</tbody>
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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

Constant 2005 dollars (billions) vs. Percent

- Real Net Farm Incomes Less Government Payments (Left Scale)
- Yield on 1 Year Treasury - adjusted for inflation (Right Scale)

A weak dollar supports high commodity prices.

Commodity Prices and the Value of the Dollar

Index (Jan 2005 = 100)

Commodity Prices (Left Scale)
Real Dollar Value (Right Scale)

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**

- Payments–fixed 1/
- Payments–conservation
- Payments–function of crop prices 2/
- Payments–all other 3/

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

Source: USDA, ERS, ARNS, 2007-2009

1/ Production flexibility contract payments and direct payments whereby payment rates are fixed by legislation.
2/ Counter-cyclical payments, loan deficiency payments, marketing loan gains, certificate exchange gains, and ACRE payments whereby commodity payment rates vary with crop prices.
3/ All other payments include disaster relief payments, tobacco transition payments, and dairy program payments.

Source: FSA, NRCS, and CCC. p – preliminary; f – forecast.
Ratio of Capital Expenditures to Net Farm Income

- Capital expenditures on machinery/equipment to net farm income (left scale)
- Capital expenditures on land to net farm income (Right Scale)
For More Information on The Nebraska Economy and Rural America

www.kansascityfed.org/omaha