Agricultural Risks in a Recovering Global Economy
An elevated unemployment rate slows the recovery...

U.S. Unemployment Rate (U3)

Source: Bureau of Economic Analysis and Bureau of Labor Statistics
...but consumer spending is rising...

U.S. Monthly Retail and Food Sales

Billion dollars

Source: U.S. Census Bureau
...and food sales have improved.

U.S. Retail Sales at Grocery Stores and Restaurants

Percent change from year ago

- Food services and drinking places
- Grocery stores

Source: Census Bureau
Livestock profits have improved.

Source: USDA, Iowa State University, and California Department of Food and Agriculture
U.S. exports have strengthened and the dollar has weakened.
Manufacturing activity has strengthened.

U.S. and Tenth District Manufacturing Production Indices

Index

Dec-03  Aug-04  Apr-05  Dec-05  Aug-06  Apr-07  Dec-07  Aug-08  Apr-09  Dec-09  Aug-10  Apr-11

Source: Institute of Supply Management and Federal Reserve Bank of Kansas City
Business investment strengthens for equipment and software.

U.S. Non-residential Investment

Percent change from year ago

Source: Census Bureau
The economy is recovering from a very steep recession with stronger gains expected in 2011.

Real GDP Growth

Annualized percent change from previous quarter


Source: Bureau of Economic Analysis and Blue Chip Economic Indicators
What are the Risks for Agriculture?
Risk #1: The Best Cure for High Prices is High Prices

Farmers Always Produce Themselves Out of Prosperity

• 2011: U.S. Acres Planted to Corn Up 4.3%
• 2020: U.S. Corn Yields Up 17 Percent

How Quickly Could Farm Incomes Fall?

• 2013: Average Annual Corn Price is $4.10
• 2013: Net returns above variable costs for corn fall 40% below today’s levels.

Source: USDA
Risk #2: Have inflation risks changed?

Federal Reserve Balance Sheet: Assets

Billion Dollars

Fed Agency Debt MBS Purchases
Liquidity to Key Credit Markets
Lending to Financial Institutions
Long Term Treasury Purchases
Traditional Security Holdings

Source: Federal Reserve Bank of Cleveland
Inflation is based on money and velocity.

**Quantity Theory of Money**

\[
\text{Price} = \frac{\text{Money} \times \text{Velocity}}{\text{Quantity}}
\]

**Definition of Inflation:**

Too much money \( M \) chasing too few goods \( Q \)
Consumers' prices are rising, especially for food and energy.

Personal Consumption Expenditures Price Index

Source: Bureau of Economic Analysis
Risk #3: Soaring Global Food and Energy Prices

World Food Prices and U.S. Gasoline Prices

Index (2002 to 2004 average = 100)

Source: Food and Agricultural Organization of the United Nations and Energy Information Administration
Risk #4: Higher interest rates slow the Chinese economy.

China’s Inflation and Interest Rates

- Interest Rate on One Year Deposits (Left Scale)
- Consumer Price Inflation: 12-month (Right Scale)
Risk #5: Will the Eurozone sovereign debt problems impact U.S. agriculture?

Five-year Sovereign Credit Default Swap Spreads

Source: Bloomberg data starting 1/4/10 and ending 1/19/11. U.S. is priced to Euros.
Risk #6: Agriculture Faces Huge Interest Rate Risk.

Capitalized Land Values = \frac{\text{Expected Incomes}}{\text{Expected Discount Rates}}

Farm Incomes Rise with Lower Interest Rates

Discount Rates Fall with Lower Interest Rates

What Happens to Farmland Values Under Higher Interest Rates?
Could farmland values experience a correction?

Capitalized Revenues from Corn Production

Dollars per acre

Dollars per bushel

- Capitalized Value at 7% capitalization rate and 200 bushel yield
- Estimated Eastern Nebraska Irrigated Cropland Value

- Capitalized Revenues from Corn Production

57%

43%

29%

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

www.kansascityfed.org/omaha
Risk #7: How much debt do farmers really have?

Growth in Farm Real Estate and Non-Real Estate Debt (2009 to 2010)

Percent change from previous year

Source: USDA, Agricultural Finance Databook, Federal Farm Credit Banks
Conclusions

- Rural America fared better during the recession and recovery.
- Crop incomes are booming and farmers are buying tractors, land, and more.
- Economic growth and inflations have risen recently.
- Despite a stronger recovery, headwinds remains.
- New opportunities are emerging with stronger demand.
- Agriculture continues to face volatile markets.

*Low leverage ratios and strong working capital are the best way to manage through volatile times.*
For More Information on Agricultural and Rural Economies

www.kansascityfed.org