Regional Economic Conditions

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.
Today’s Outline

- A Stronger Recovery in Nebraska.
- A Booming Farm Economy
  - Profits rebound with robust demand and tighter supplies.
  - Farm equipment sales and land values surge.
  - Agriculture faces major interest rate risk.

- Monetary Policy is Risk Management
  - Have the Risks Changed from Deflation to Inflation?
  - It depends on velocity: spending, lending, and investment.
  - Despite improvements in the economy, risks remain.
Strong Commodity Markets Drive the Nebraska Economy
A better economic mood in Nebraska.

Unemployment Rates by County
Jan. 2010 to Dec. 2010 average

Source: Bureau of Labor Statistics
Nebraska’s private sector employment is strengthening.

Nebraska Job Growth by Sector

Percent change from year ago

Source: BLS
Nebraska’s retail activity has rebounded, especially in rural areas.

Nebraska’s Retail Jobs and Sales Growth

Percent change from year ago

Source: BLS and Nebraska Dept. of Revenue
Stronger farm incomes boost agricultural equipment sales.

U.S. Real Net Farm Income and Agricultural Equipment Sales

Percent change from previous year

Source: Association of Equipment Manufacturers and USDA
* Tractor Sales data are year-to-date through November and Net Farm Income forecast for 2010 dated November 30, 2010.
Crop Prices Spike with Resurgent Demand and Tight Supplies.

U.S. Crop Prices

Source: Commodity Research Bureau
Rising feed costs strain profit margins.

U.S. Livestock Prices and Breakeven Costs

Source: USDA and Iowa State University
Cropland values surge across the Corn Belt.

Non-irrigated Cropland Values
(Percent change 2009:Q3 to 2010:Q3)

Source: Federal Reserve District Surveys
(Chicago, Minneapolis, Kansas City, Dallas)
Land values rise faster than cash rents, pushing rent to value ratios to record lows.

**Cropland Cash Rent to Land Value Ratio**
**January 1, 2010**

- Pacific: 4.3%
- Mountain: 4.9%
- Northern Plains: 5.1%
- Southern Plains: 2.4%
- Corn Belt: 3.8%
- Delta States: 4.4%
- Lake States: 3.4%

Calculations based on USDA Land Values and Cash Rents, August 2010
Capitalized Revenues from Corn Production

Land values should equal capitalized revenues

\[
\text{Land Values} = \frac{\text{Expected Revenues}}{\text{Capitalization Rate}}
\]

Assumptions:
- Corn Price: $5.35 per bushel
- 25% of gross revenues go to land

<table>
<thead>
<tr>
<th>Yield (bushel per acre)</th>
<th>170 bushels</th>
<th>200 bushels</th>
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</thead>
<tbody>
<tr>
<td>Capitalization rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5%</td>
<td>4548</td>
<td>5350</td>
</tr>
<tr>
<td>4%</td>
<td>5684</td>
<td>6690</td>
</tr>
<tr>
<td>3%</td>
<td>7579</td>
<td>8920</td>
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</table>

Nebraska’s average yield was 164 from 2006 to 2010
U.S. average annual price $5.35 per bushel in 2010
Current land values assume historically high prices and historically low interest rates.

**Capitalized Land Revenues from Corn Production**

Dollars per acre

- 3%
- 4%
- 5%

Eastern Nebraska Irrigated Cropland
Estimated Average Value
($5300 per acre*)

**Notes:**
- Based on 210 bushel yield
- Calculations based on UNL and FRBKC data
Agriculture Faces Huge Interest Rate Risk
What happens if capitalization rates and interest rates rise?

**Capitalized Revenues from Corn Production**

<table>
<thead>
<tr>
<th>Dollars per acre</th>
<th>Dollars per bushel</th>
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<tbody>
<tr>
<td>5000</td>
<td>2</td>
</tr>
<tr>
<td>5500</td>
<td>3</td>
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<tr>
<td>6000</td>
<td>4</td>
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</tr>
<tr>
<td>8000</td>
<td>8</td>
</tr>
<tr>
<td>8500</td>
<td>9</td>
</tr>
</tbody>
</table>

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

Bar chart showing the capitalized revenues from corn production at various capitalization rates and bushel yields.
How do interest rates affect farm incomes?

**Falling interest rates ...**
- Weaken the dollar,
- Lifts exports,
- Raises commodity prices,
- Boosts farm incomes

**Rising interest rates ...**
- Strengthens the dollar,
- Shrinks exports,
- Lowers commodity prices,
- Cuts farm incomes
Monetary Policy as Risk Management
What is the Risk?

Economic Malaise
And
Deflation

Robust Job Growth
And
Inflation

U.S. Monetary Policy: A Risk Management Approach
Forecasts of economic growth weakened last summer.

Source: Bureau of Economic Analysis
Quantitative easing (QE) is designed to expand the Federal Reserve balance sheet to lower long term rates.

Federal Reserve Balance Sheet: Assets

- 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
Have the Risks Changed?
Inflation is based on money and velocity.

**Quantity Theory of Money**

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

**Definition of Inflation:**

Too much money \( M \uparrow \)

chasing \( V \uparrow \)

too few goods \( Q \downarrow \)
What Shapes Velocity?

- Spending
- Lending
- Investment
After a summer lull, consumer spending is on the rise.

U.S. Monthly Retail and Food Sales

Source: U.S. Census Bureau
U.S. food expenditures have rebounded.

U.S. Retail Sales at Grocery Stores and Restaurants

Percent change from year ago

-2.0  -1.0  0.0  1.0  2.0  3.0  4.0  5.0  6.0  7.0  8.0

Jan-07  Jul-07  Jan-08  Jul-08  Jan-09  Jul-09  Jan-10  Jul-10

Grocery Stores
Food Service and Drinking Places

Source: Census Bureau
Net exports were the drag on the U.S. economy.

Contributions to GDP

Annualized percent change

-4 -3 -2 -1 0 1 2 3 4


-4 -3 -2 -1 0 1 2 3 4

Source: Bureau of Economic Analysis
The summer export drag was caused by spending and rising imports.

Source: Bureau of Economic Analysis
U.S. agricultural exports are expected to rise.

U.S. Agricultural Exports

Constant 2005 dollars (billions)

Source: Census Bureau
With rising loan demand and easing credit standards, lending should rise.

Loan Demand at Commercial Banks

Net percent of bankers reporting stronger loan demand

- Commercial Real Estate
- C&I Loans - Large Firms
- Consumer Loans

Source: Federal Reserve Board of Governors
Business investment is beginning to rebound.

Nonresidential Fixed Investment

Percent change from year ago

Source: Bureau of Economic Analysis
What are the Headwinds?
Job openings are on the rise, will hiring follow?

Job Openings and Labor Turnover

Source: Bureau of Labor Statistics
Housing markets slump after the tax credits.

U.S. Housing Starts and Home Sales

Index (2000:Q2 = 100)

Source: U.S. Census Bureau and National Association of Realtors
Debt, Debt and More Debt

U.S. Debt Outstanding by Sector

Percent of U.S. GDP

- Nonfinancial Businesses
- Financial Businesses
- Households
- Federal Government

Source: Federal Reserve Board of Governors
Conclusions

- Nebraska’s is enjoying a stronger economy, fueled by commodity markets.
- Farm incomes are booming and farmers are buying tractors, land, and more.
- Agriculture faces major interest rate risk.
- Monetary policy is risk management.
- Inflation depends on velocity: spending, lending, and investment.

*Economic conditions and interest rates will shape agriculture’s landscape.*
For More Information on Agricultural and Rural Economies

Federal Reserve Bank of Kansas City Omaha Branch

www.kansascityfed.org/omaha

Main Street Economist
Agricultural Finance Databook
Survey of Agricultural Credit Conditions