Risks in the U.S. Crop Sector: Short-term vs. Long-term
Background on the Federal Reserve System

- Founded in 1913 with 3 core missions:
  - Promote an efficient payments system
  - Safeguard the competitiveness, safety, and soundness of the banking system
  - Conduct monetary policy
Structure of the Fed

- Board of Governors
- 12 Regional Reserve Banks (24 Branches)
- Federal Open Market Committee (FOMC)
Why does the Fed care about risks in U.S. agriculture?

- Conducting Monetary Policy
  - FOMC Regional Outlook
  - Beige Book

- Bank Supervision and Regulation
Why does the Kansas City Fed follow agriculture?

Net Farm Income per Capita
Thousand Dollars

10th District
• 18% of U.S. farm income
• 19% of corn production
• 31% of wheat production
• 21% of cattle inventories
Federal Reserve Bank of Kansas City
Resources for Information on
The Midwestern Economy and Rural America

www.kansascityfed.org/omaha
How healthy is the agricultural economy?
Farm income has been near record highs.

U.S. Real Net Farm Income

Billion Dollars (Constant 2012 Dollars)

Source: USDA
In general, leverage is historically low, liquidity historically high.

Measures of U.S. Farm Sector Debt and Liquidity

Source: USDA
But short-term risks differ from long-term risks.
Short-term: How quickly will input costs and/or cash rents adjust?

Corn Revenue and Costs

Dollars per planted acre

- Revenue (Left Scale)
- Seed & Fertilizer (Right Scale)
- Rental Rate (Right Scale)

Source: USDA
Short-term: Crop insurance price in 2014?

December Corn Futures Price

Dollars per Bushel

Source: barchart.com, Iowa State University
* Assumes yield of 165 bu/acre, corn following corn
Long-term, the risks are more complex.

1. Demand
   a) Domestic Livestock
   b) Ethanol
   c) Exports
2. Supply
   a) Global competition
3. Balance Sheet
   a) Debt
   b) Farmland Values
4. Monetary Policy (Interest Rates)
Livestock profits have turned positive, for now.

U.S. Livestock Prices and Breakeven Costs

Source: USDA and Iowa State University
But the U.S. cattle herd has been shrinking.

U.S. Cattle and Hog Inventories

Million Head

Source: USDA
Growth from ethanol appears limited.

U.S. Gasoline Consumption, Ethanol Production, and Mandates

Source: Energy Information Administration.

* 10% of gasoline consumption
** Ethanol Production is net of trade
Will export demand pick back up?

U.S. Agricultural Exports

Source: USDA
Note: 2013 agricultural exports forecast based on year-to-date 2013 annual growth rate.
* China’s share of total U.S. agricultural exports in parentheses.
Competition for export markets is picking up.

Global Corn, Soybean, and Wheat Expansion

Acreage Index (2000 = 100) vs Percent

- U.S. Share of World Acreage (Right Scale)
- U.S. (Left Scale)
- Brazil & Argentina (Left Scale)
- China (Left Scale)
- Black Sea Region* (Left Scale)

* Black Sea Region includes Russia, Ukraine, and Kazakhstan
Source: USDA
Real estate accounts for a larger share of farm sector assets.

Farm Sector Assets and Debt

Source: USDA
How will investments and debt respond to income changes?

U.S. Farm Profits and Capital Investments per Farm

Source: USDA
Farmland values have continued rising.

Tenth District Farmland Value Gains

Percent change from the previous year

- Nonirrigated Cropland
- Irrigated Cropland
- Ranchland

Source: Federal Reserve Bank of Kansas City
Is a farmland adjustment coming?

Cropland Value-to-Cash Rent Ratios

Percent change from previous year

- Iowa Cropland
- Kansas Non-irrigated Cropland

Investors will spend $32 for every dollar of revenue.
Implies a capitalization rate of 3.1%

Source: NASS, USDA and Iowa State University
Interest rates are still expected to rise.

Appropriate Pace of Policy Firming
Target Federal Funds Rate at Year-End

Source: Federal Reserve Board, Summary of Economic Projections, September 2013
The Fed continues QE.

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 Board of Governors
Risks to monitor over the next year.

1. Farm debt and working capital.
   - Section 179 bonus depreciation set to expire.
   - YTD Farm tractor purchases 10% above last year.

2. Farmland
   - Volume of transactions, lease arrangements.

3. Global competition
   - Weather in South America has been favorable.
   - Ukraine 2013 corn production up 40% from 2012.

4. Ethanol
   - Industry response to EPA markdown.

5. Monetary Policy
   - Will long-term rates rise?

6. Farm Bill
   - Direct payments expected to be eliminated.
   - Focus on crop insurance, but does not protect against multi-year risk.

7. Trade
   - Growth in EU, China?

8. Demand for livestock products