Setting the stage: The U.S. economy continues to advance slowly.

U.S. Real GDP Growth

Percent change from year ago

Calculations based on BEA and Blue Chip Forecast September 2013
Underlying the modest growth is a shift in market performance.

- Booming sectors plateau in 2012
  - Commodities
  - Exports
  - Manufacturing

- The Wildcards
  - Investment
  - Government

- A Rebound in Household Spending
  - Housing
  - Consumer Spending
Income growth in Oklahoma is heavily reliant on commodity markets.

Difference between Per Capita Income Growth in Oklahoma and the U.S.

Calculations based on BEA data
In general, commodity prices have been falling.

Commodity Price Index

Source: Commodity Research Bureau
Crop prices have tumbled, and energy prices are expected to decline.

U.S. Commodity Prices

Dollars per barrel

- Crude Oil (Left Scale)
- Corn (Right Scale)
- Wheat (Right Scale)

Dollars per bushel

Source: Commodity Research Bureau and CME Group.

Futures prices as of October 28, 2013
Lower energy prices have led to fewer energy rigs.

Crude Oil and Natural Gas Rig Count

Source: Baker Hughes
Employment growth in Oklahoma has slowed recently.

Level of Total Nonfarm Employment
Seasonally adjusted

Index (Jan. 2008 = 100)

Source: Bureau of Labor Statistics
Recent job growth in Oklahoma has been hindered by the energy sector.

Employment Growth in Oklahoma

Percent change from previous year

Source: Bureau of Labor Statistics
Numbers in parentheses indicate industry’s share of employment in Oklahoma.
Is a transition underway in U.S. agriculture?
A bumper harvest this fall leads to expectations of lower farm income.

U.S. Corn Inventories and Net Farm Income

Source: USDA
* USDA Forecast
Crop sector profits are projected to fall in 2014.

Net Returns
(Returns less variable costs)

Dollars per acre

Source: USDA Agricultural Baseline Projections, various years
Livestock profits are projected to rise in 2014.

Feed Price Ratios

Source: USDA Agricultural Baseline Projections
Initially similar to 2012, expected harvest prices for corn have drifted lower.

December Corn Futures Price

Dollars per Bushel

Source: barchart.com, Iowa State University

* Assumes yield of 165 bu/acre, corn following corn
Livestock profit margins have begun to recover somewhat.

U.S. Livestock Prices and Breakeven Costs

Source: USDA and Iowa State University
Drought has remained a concern in the Western Plains.
Cattle herds have been shrinking, especially in drought-stricken areas.

Cattle and Hog Inventories

Million Head

- Cattle: TX, OK (Left Scale)
- Cattle: KS, NE, IA (Left Scale)
- Hogs: National (Right Scale)

Source: USDA
Beef processors have struggled to maintain profitability.

**Beef Packer Margins**

- **Dollars per Head**

**Pork Packer Margins**

- **Dollars per Head**

Source: University of Missouri
Could the transition in agriculture lead to a bust?
There are many potential risks.

- Farm Incomes
- Farmland Values
- Agricultural Exports
- Global Competition
- Energy Policy
- Farm Debt
- Interest Rates
Farm incomes are projected to drop sharply in 2014.

U.S. Real Net Farm Income

Billion Dollars (Constant 2012 Dollars)

Source: USDA
Farmland value gains have not moderated much.

Tenth District Farmland Value Gains

Percent change from the previous year

Source: Federal Reserve Bank of Kansas City
Oklahoma farmland value gains have been more modest, except for irrigated land.

Oklahoma Farmland Value Gains

Percent change from the previous year

- Nonirrigated Cropland
- Irrigated Cropland
- Ranchland

Source: Federal Reserve Bank of Kansas City
Based on KC Fed surveys, Oklahoma farmland values have doubled from 2005.

Oklahoma Farmland Values

Source: Federal Reserve Bank of Kansas City
Is farmland overvalued?

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
Will export demand from China strengthen?

U.S. Agricultural Exports

Billion Dollars

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.
**Will the U.S. lose market share?**

**Global Corn, Soybean, and Wheat Expansion**

Acreage Index (2000 = 100)  
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
What will future Renewable Energy Policy look like?

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

Billion Gallons

- Blend Wall*
- Ethanol Production**
- 2015 Mandate

Billion Gallons


Source: Energy Information Administration.
* 10% of gasoline consumption
** Ethanol Production is net of trade
What would higher interest rates mean for agriculture?

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
Debt and leverage have sparked previous busts.
How will investments and debt respond to income changes?

U.S. Farm Profits and Capital Investments per Farm

Source: USDA
Bankruptcies tend to spike when the Debt-to-Asset ratio is above 20%.

Source: USDA and Stam and Dixon, 2004
Note: Farm bankruptcy data was not available for the following years, 1982-1986 and 2003 – 2011.
What might cause the Debt-to-Asset ratio to reach 20%?

U.S. Farm Sector Debt-to-Asset Ratio
Under Alternative Debt and Asset Scenarios

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Simple analysis suggests debt may increase over the next 10 years.

U.S. Farm Debt

Baseline Returns Forecast
Actual
Returns 20% above baseline
Returns 20% below baseline

Source: USDA and author’s calculations
Conclusions

- Energy and agriculture are key sectors for the Oklahoma economy.
  - Energy activity has slowed in Oklahoma.
  - Crop prices have fallen from recent peaks.
- Agricultural commodity prices are driving a transition in U.S. agriculture.
  - Softer crop sector profits
  - Strengthening livestock profits, but cattle a concern
- In the transition, there are risks to U.S. agriculture, possibly beyond 2014.
  - Farm incomes, farmland values, export markets, global competition, ethanol, farm debt, and interest rates
For More Information on The Midwestern Economy and Rural America

www.kansascityfed.org/omaha