Agriculture’s Business Climate

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July 7, 2016

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.
Of the 12 Fed Districts, the 10th District is the most concentrated in agriculture by some measures.

Average Farm Income as a Share of Total Personal Income
Average Across Counties by Fed District

Proportion of “Farm Dependent” Counties and Agricultural Banks

Source: BEA, USDA, Ag Finance Databook and staff calculations
Outline

• A 3\textsuperscript{rd} consecutive year of a “downturn” in the ag economy.

• Supply factors at play year-to-year, but demand strength likely the long term driver.

• Recent global and macroeconomic developments have shaped the set of concerns in the ag economy.

• Financial stress among ag borrowers and ag lenders could be more pronounced in the near future.
Farm income has dropped sharply from recent highs, along with crop prices.

U.S. Real Net Farm Income

Billion dollars (constant 2015 dollars)  $/bu

Source: USDA.
Some of the recent challenges are not unique to agriculture.

Indiana Employment Growth

Percent change from previous year (3 month moving average)

Source: BLS.
Outside of agriculture, the last three years have been notable for the global economy.

- Fiscal challenges
- Monetary policy divergence
- Oil price collapse
- Exchange rate volatility
- Renewed China concerns
- Global financial market turmoil
- Grexit, Brexit, _rexit?

UNCERTAINTY
Global economic growth has been sluggish the last few years.

Global Real GDP Growth

Annual percent change

- 2013
- 2014
- 2015
- 2016 *
- 1996 - 2006 Average Annual Rate

* Forecast
Source: IMF April 2016 Update
U.S. growth has been slightly better, driven by the strength of the consumer.

**U.S. Real GDP Growth**

![Graph showing U.S. Real GDP Growth]

**Contributions to GDP Growth**

![Graph showing contributions to GDP growth]

Source: BEA, Federal Reserve Board, and Haver Analytics.

Source: BEA and Haver Analytics.
U.S. labor markets have improved steadily, but have wobbled recently.

U.S. Labor Market

Sources: Bureau of Labor Statistics and Haver Analytics.
Monetary policy remains very accommodative.

Federal Funds Target Rate

Sources: Federal Reserve Board and Haver Analytics
Inflation has been persistently low, both in the U.S. and abroad.

Source: Haver Analytics.
Despite a modest rebound, low energy prices have kept inflationary pressures subdued.
The dollar has weakened some in 2016, but the gains of recent years have kept U.S. inflation low.
The dollar has surged even more dramatically against regions competing for ag exports.
Financial markets have also been marked by episodes of significant volatility.

Stock Market Indices

- S&P 500
- S&P Europe 350
- SSE Composite

Market Volatility Index (VIX)

Sources: Standard & Poor's, Yahoo Finance, WSJ, and Haver Analytics.
The many possible outcomes of Brexit point to an ongoing environment of uncertainty.
Despite recent concerns about China, some indicators point to momentum in the Chinese economy.

**Gross Savings**

<table>
<thead>
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<th>Year</th>
<th>China</th>
<th>Germany</th>
<th>U.S.</th>
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**China Consumer Spending**

<table>
<thead>
<tr>
<th>Year</th>
<th>Expenditure on Outbound Travel</th>
<th>China Box Office Revenue</th>
<th>Passenger Vehicle Sales in China</th>
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<tbody>
<tr>
<td>2010</td>
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Sources: World Travel & Tourism Council, China Association of Automobile Manufacturers, Motion Picture Association of America, and Haver Analytics.
Summarizing Recent Economic Trends

Industries doing well:
- concentrated in the services sector.
- located in metropolitan areas.
- closely tied to the U.S. consumer.

Industries facing headwinds:
- concentrated in goods production.
- commodity-dependent.
- export-oriented.
- located in non-metro areas.
- vulnerable to global uncertainty.
In agriculture, weather plays a crucial role in determining crop prices in the short-term.

**U.S. Crop Prices and Drought**

Index (Jan. 2007 = 100)

- U.S. Crop Price Index (Left Scale)
- U.S. Drought (Right Scale)*

Sources: USDA, University of Nebraska-Lincoln and NOAA.
* Includes lower 48 states only.
And weather has been a significant factor in 2016 price expectations.

**U.S. Corn Price Expectations**

Source: Calculations based on data from barchart.com
But demand strength will be the key long-term driver.

Value of U.S. Ag Exports

U.S. Ethanol Production

Source: USDA.

* Year-to-date average through June 24, 2016.
Source: EIA.
Understanding demographic trends will be key to understanding future global demand.

Working Age Population

Sources: United Nations and Haver Analytics.
The U.S. ag economy continues to adapt to transitions in supply and demand. Implications for ag credit and financial stress?
Financing needs began rising notably in 2013, and have remained high.

Source: Federal Reserve Bank of Kansas City, Ag Finance Database
Credit conditions have gradually deteriorated.

Agricultural Credit Conditions – KC Fed District

Source: Federal Reserve Bank of Kansas City, Survey of Ag Credit Conditions
Carryover debt in the Kansas City Fed District was notably higher in 2016.

**Borrowers with an Increase in Carryover Debt**

First Quarter

Percent

Kansas and western Missouri

Mountain States **

Nebraska

Oklahoma

Percent


** Mountain States include Colorado, northern New Mexico and Wyoming, which are grouped because of limited survey responses from each state.
Farmland values have trended lower, but at a modest pace.

Changes in High Quality Farmland Values

*Percent changes are calculated using responses only from those banks reporting in both the past and the current quarters.
Source: Federal Reserve Bank of Kansas City
In the short-term, liquidity may be a more significant concern than solvency.

U.S. Farm Sector Operating Loan Volume
(Commercial Banks)

- Operating Loan Volume as a Share of Total Volume (Left Scale)
- Ratio of operating debt to net farm income (Right Scale)

U.S. Farm Sector Debt-to-Asset Ratio

Source: Federal Reserve Bank of Kansas City

Source: USDA.
How might a changing interest rate environment affect the ag economy?
Farm interest rates have increased, but only slightly.

Interest Rates on Non-Real Estate Farm Loans
Second Quarter

Source: Agricultural Finance Databook, Table A.5
Interest expenses, however, are small when compared to fluctuations in commodity prices.

U.S. Corn Producers - Interest Expenses and Price Fluctuations

Cents per Bushel

- Average Annual Interest Payment
- Average Daily Price Change
- Average Monthly Price Change

Sources: USDA, barchart.com and author’s calculations.
Concluding Points

• The U.S. ag economy faces ongoing headwinds.
  • Heightened inventories and global competition
  • Sluggish economic growth outside of the U.S.
  • Uncertain global demand
  • Reduced prices
  • Tighter profit margins
  • Heightened financial stress
  • Regional economic impacts

• Businesses who have recognized these trends and positioned themselves appropriately will find opportunities.
Questions?

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