

Economic and Agricultural Outlook



FEDERAL RESERVE BANK *of* KANSAS CITY

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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

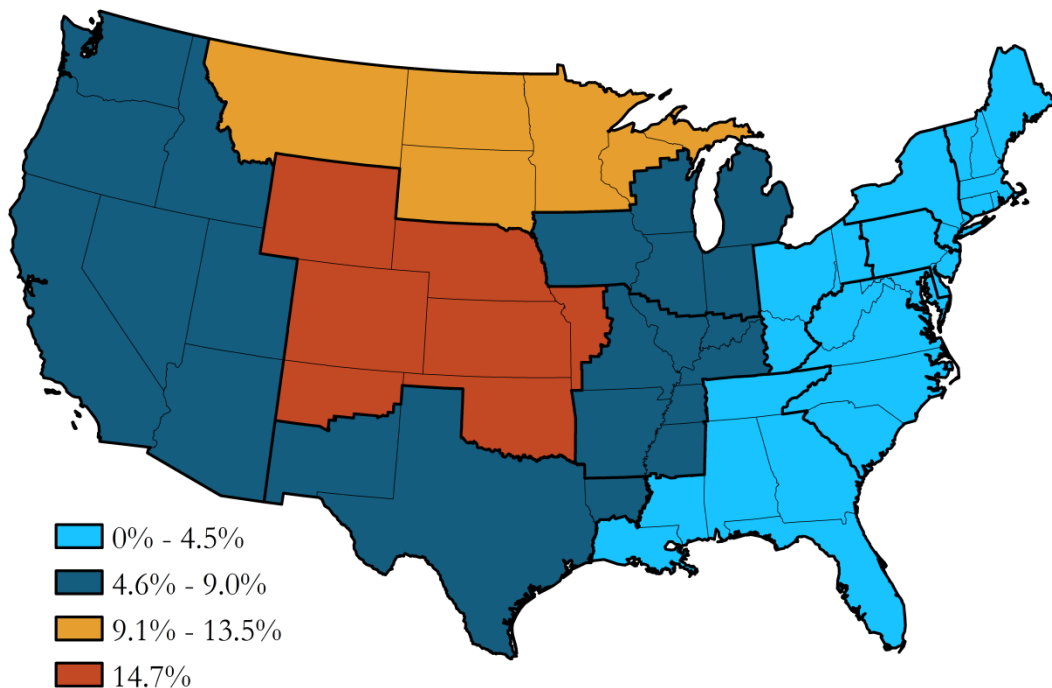
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Of the 12 Fed Districts, the 10th District is the most concentrated in agriculture by some measures.

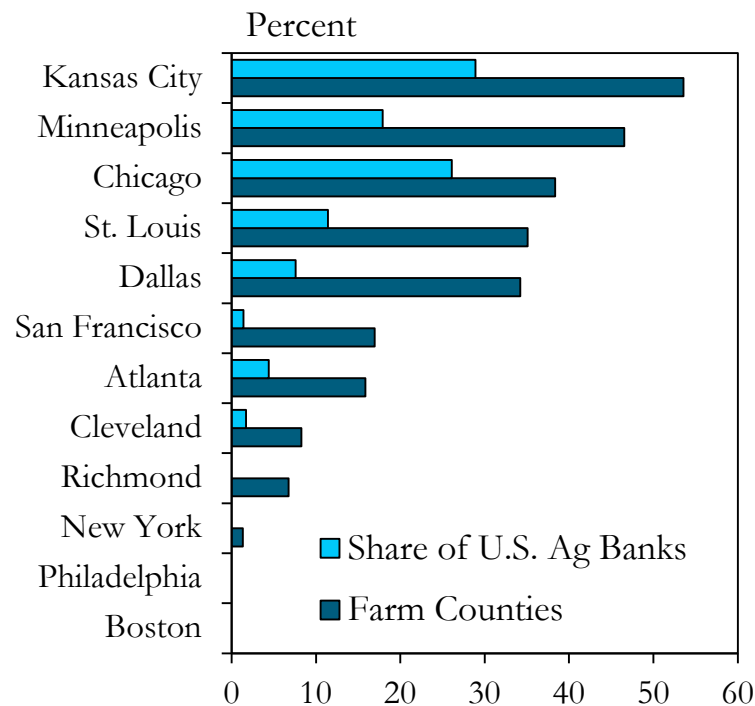
Average Farm Income as a Share of Total Personal Income

Average Across Counties by Fed District



Source: BEA.

Proportion of “Farm Dependent” Counties and Agricultural Banks



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



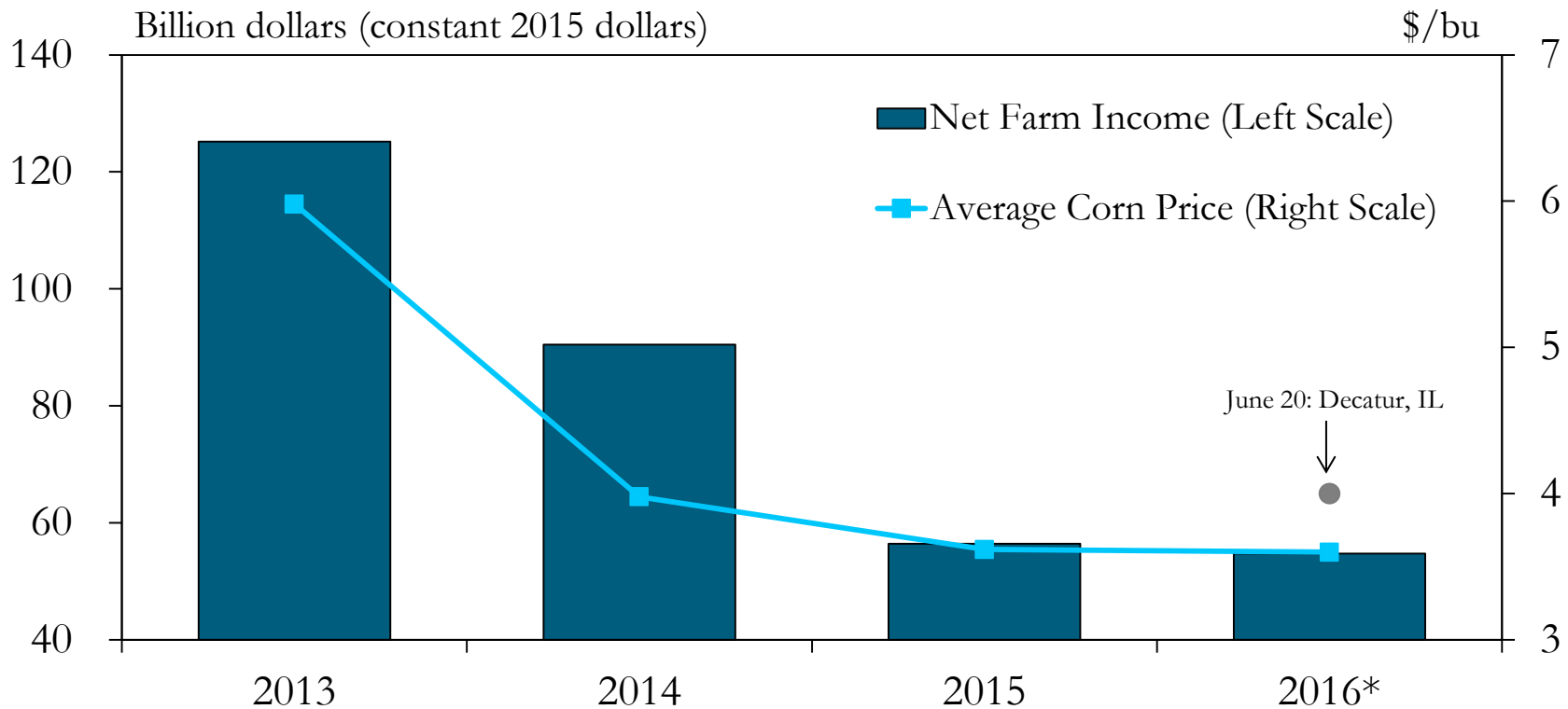
Outline

- A 3rd 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



Source: USDA.

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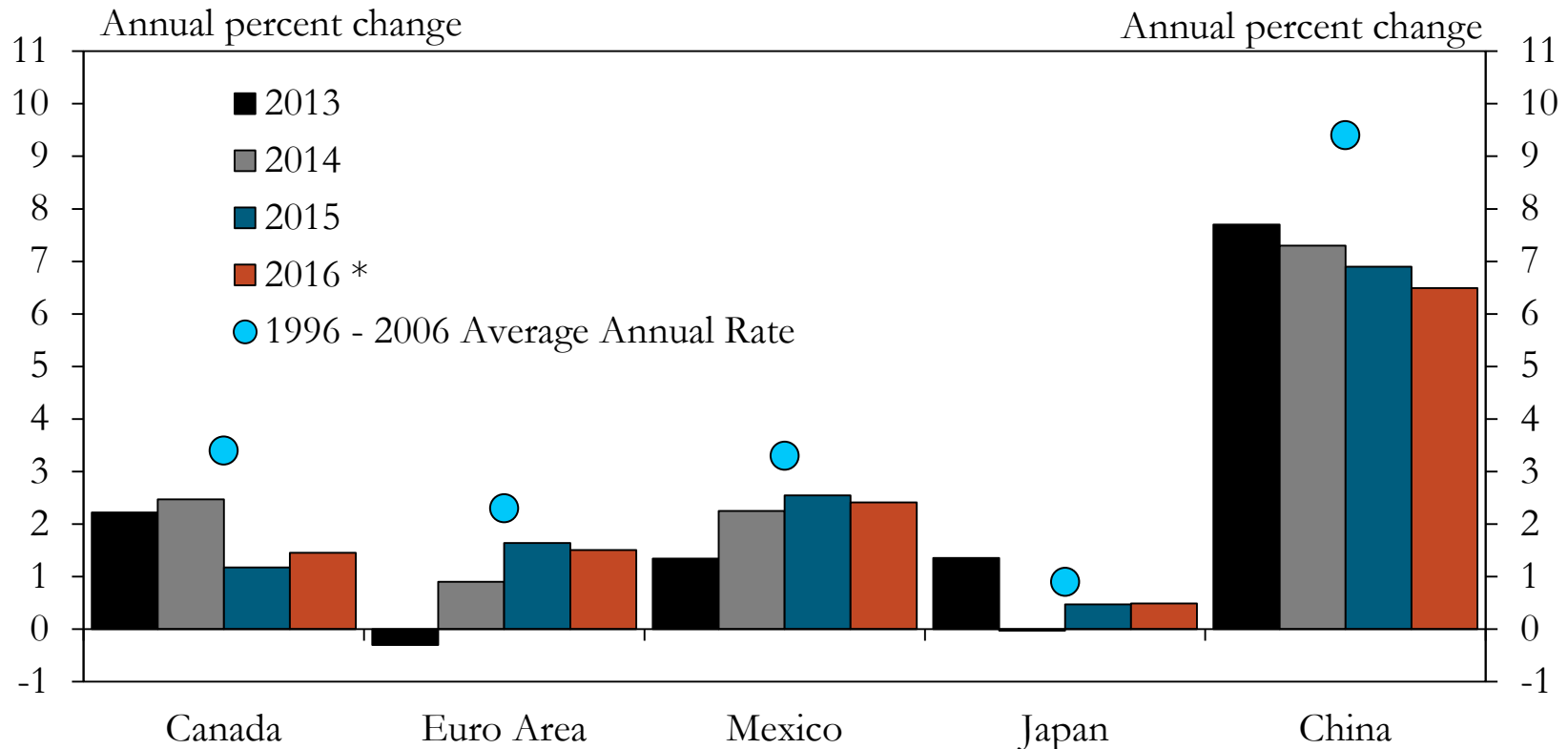
Outside of agriculture, the last three years have also been notable for the global economy.

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



Global economic growth has been sluggish the last few years.

Global Real GDP Growth



* Forecast

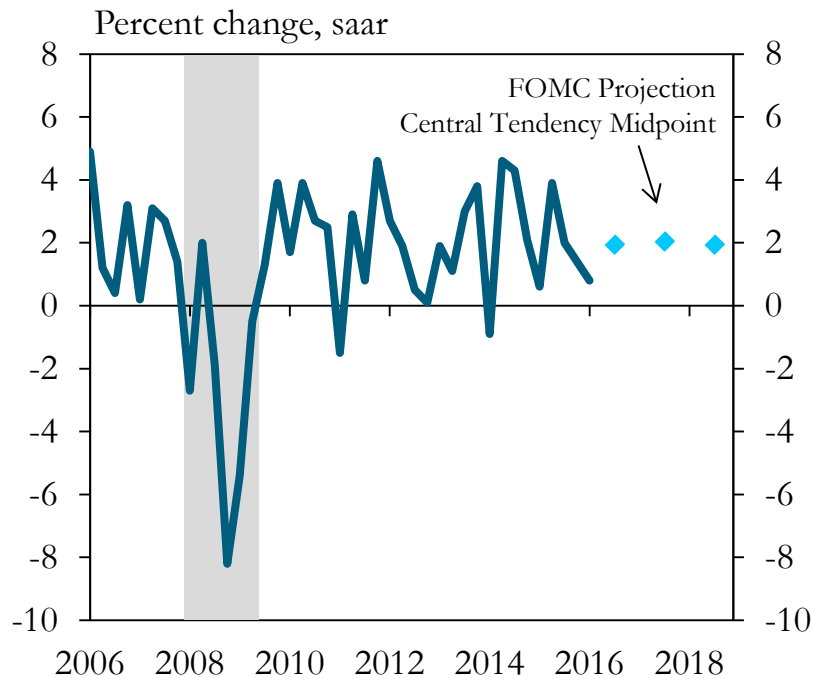
Source: IMF April 2016 Update

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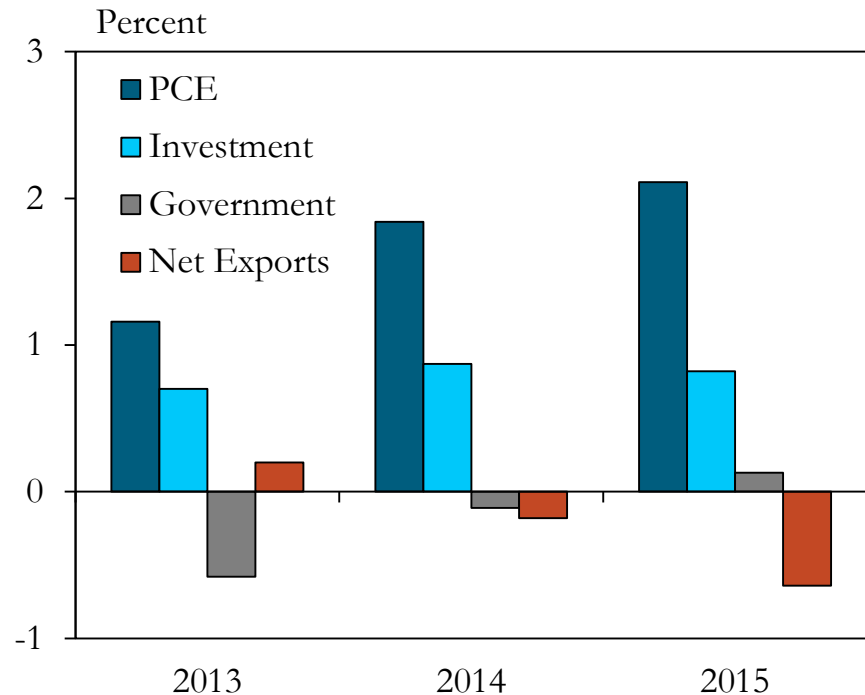
U.S. growth has been slightly better,
driven by the strength of the consumer.

U.S. Real GDP Growth



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

Contributions to GDP Growth

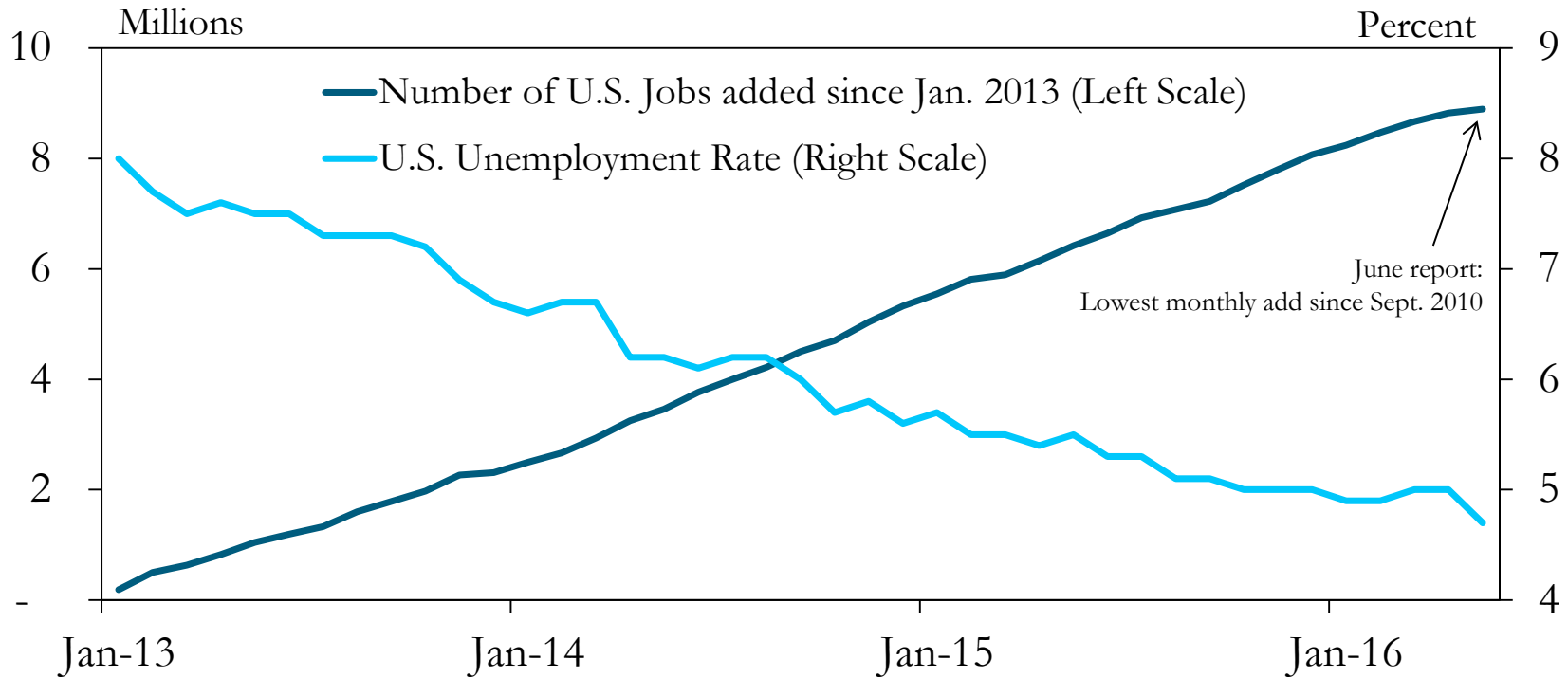


Source: BEA and Haver Analytics.



U.S. labor markets have improved steadily,
but have wobbled recently.

U.S. Labor Market



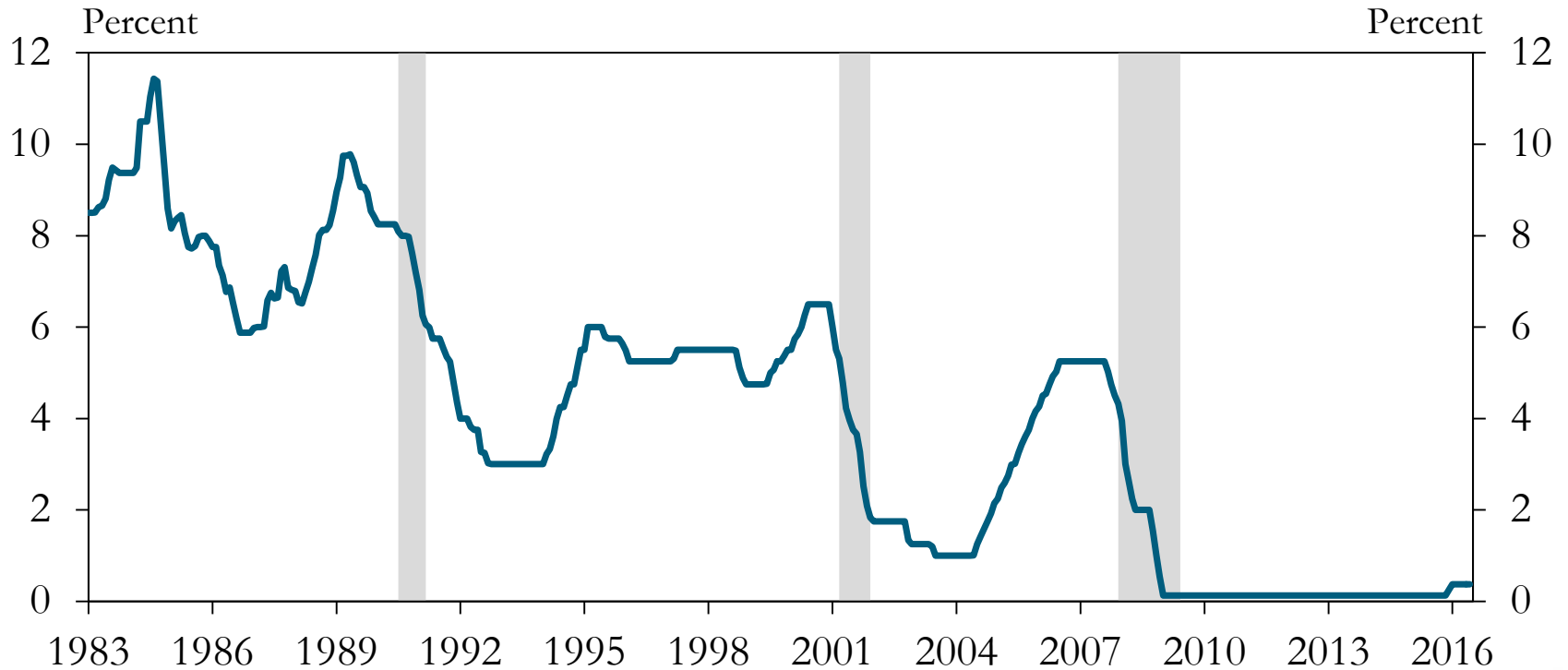
Sources: Bureau of Labor Statistics and Haver Analytics.

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Monetary policy remains very accommodative.

Federal Funds Target Rate



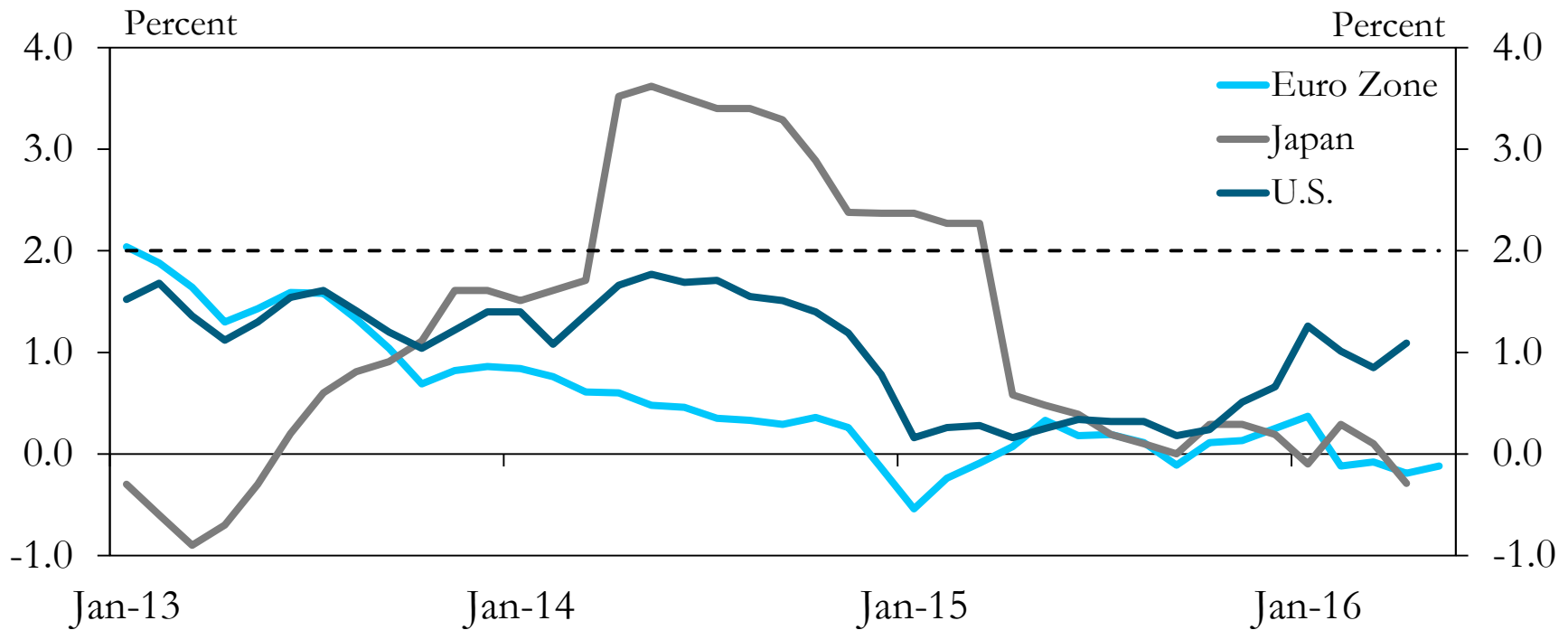
Sources: Federal Reserve Board and Haver Analytics

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Inflation has been persistently low,
both in the U.S. and abroad.

Inflation Indexes

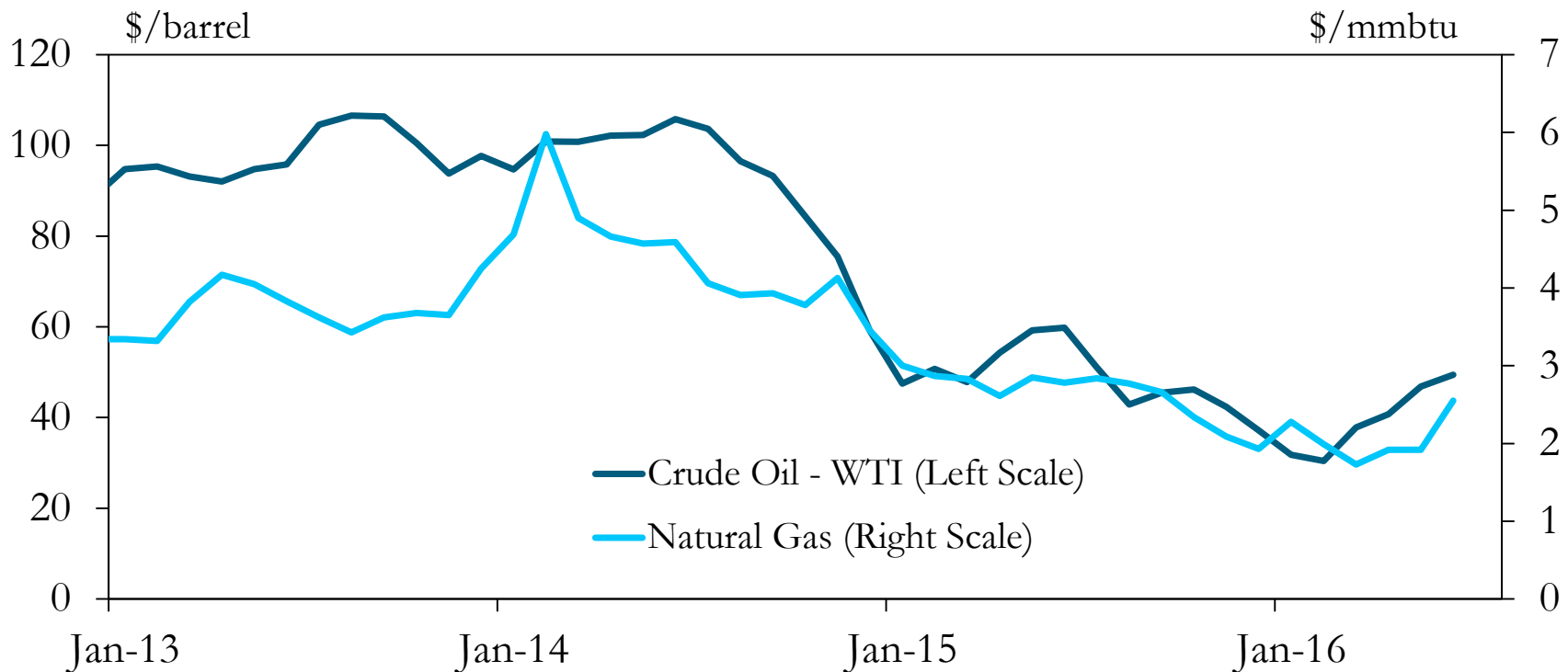


Source: Haver Analytics.



Despite a modest rebound, low energy prices have kept inflationary pressures subdued.

U.S. Energy Prices



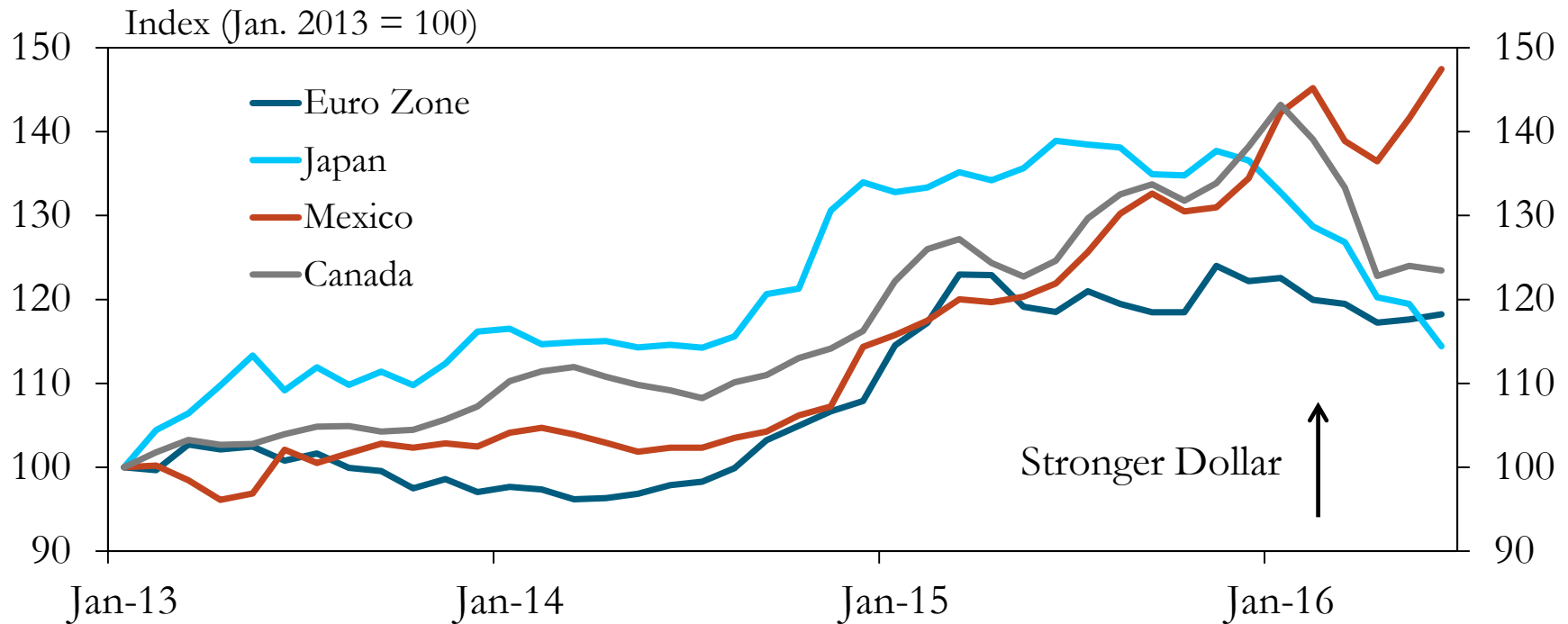
Sources: EIA and Haver Analytics.

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The dollar has weakened some in 2016, but the gains of recent years have kept U.S. inflation low.

Currency Exchange Rates



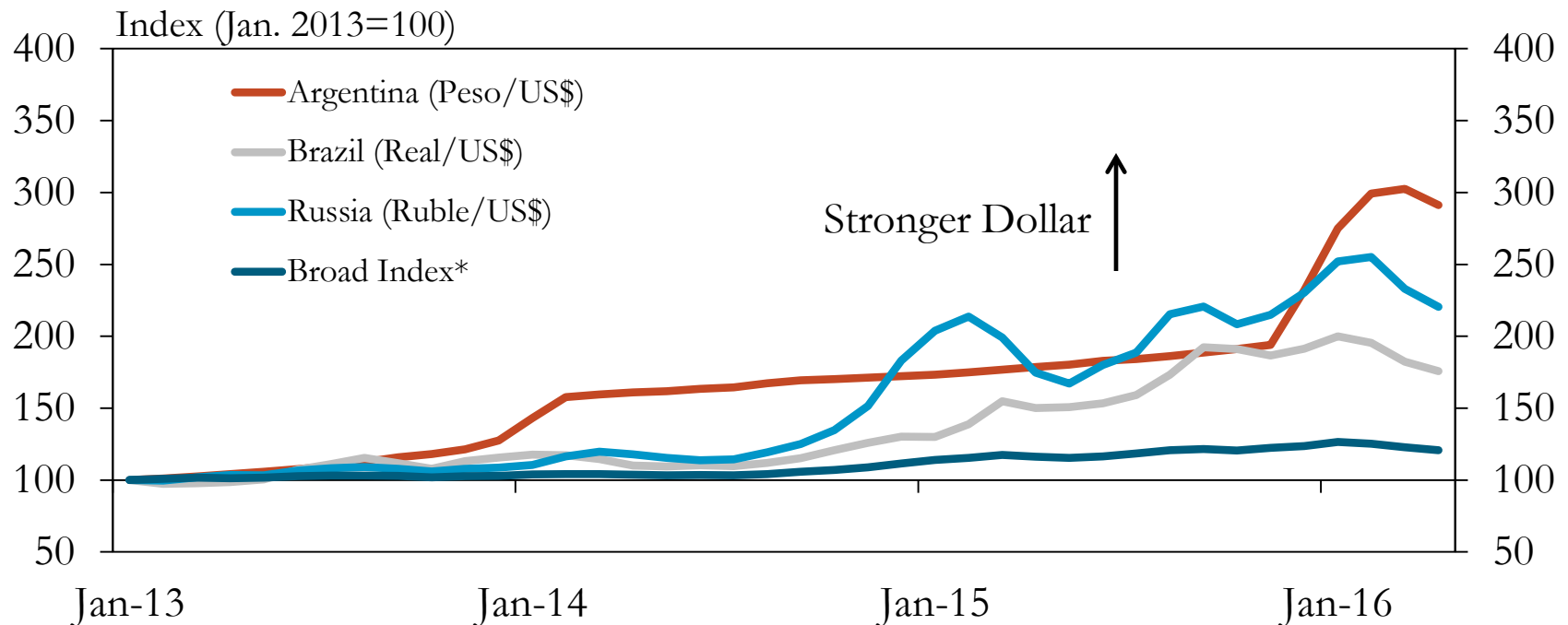
Sources: Federal Reserve Board and Haver Analytics.

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The dollar has surged even more dramatically against regions competing for ag exports.

Currency Exchange Rates

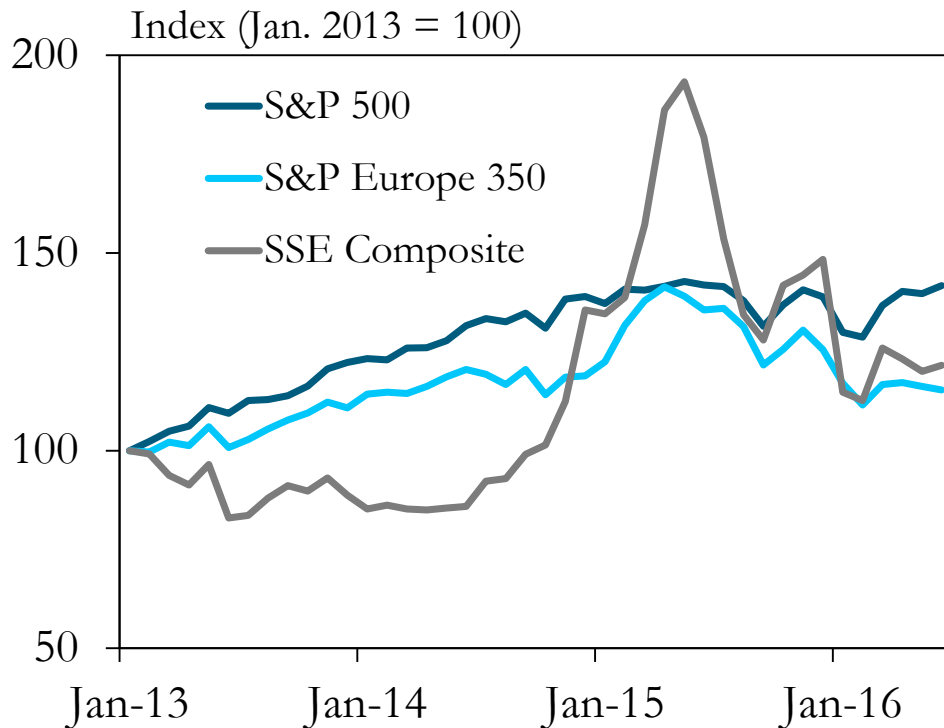


*Nominal broad trade-weighted exchange value of the U.S. dollar
Sources: FRB, IMF and Haver Analytics.

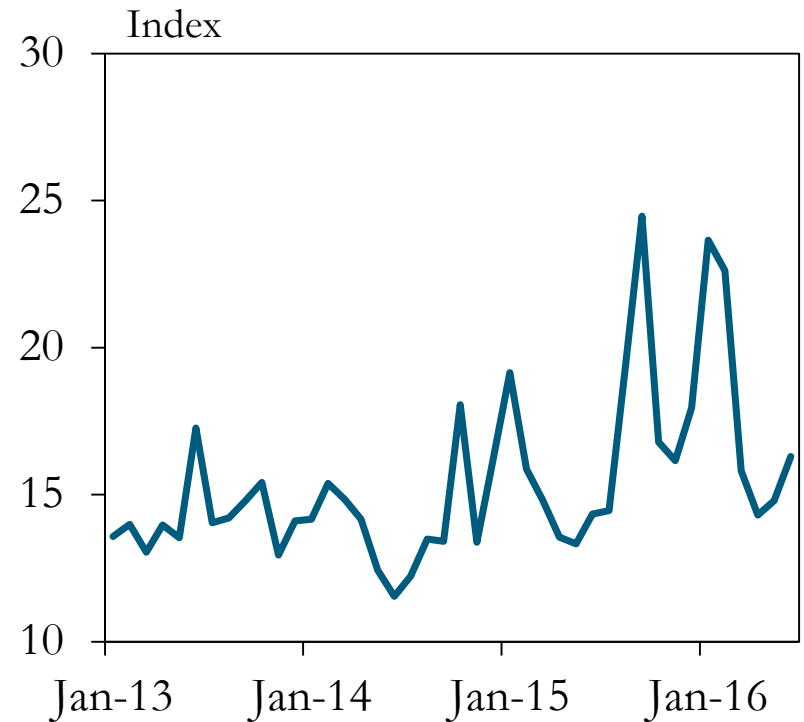


Financial markets have also been marked by episodes of significant volatility.

Stock Market Indices



Market Volatility Index (VIX)

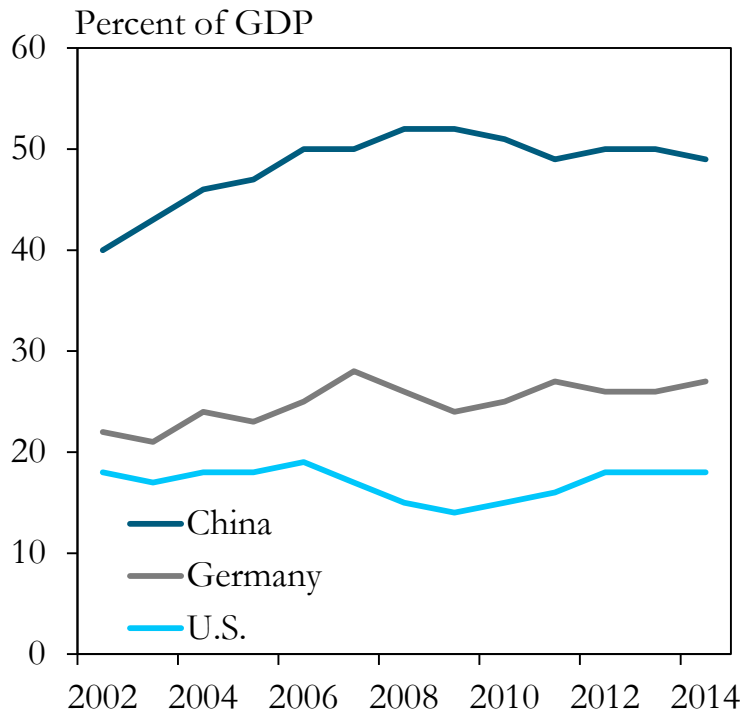


Sources: Standard & Poor's, Yahoo Finance, WSJ, and Haver Analytics.



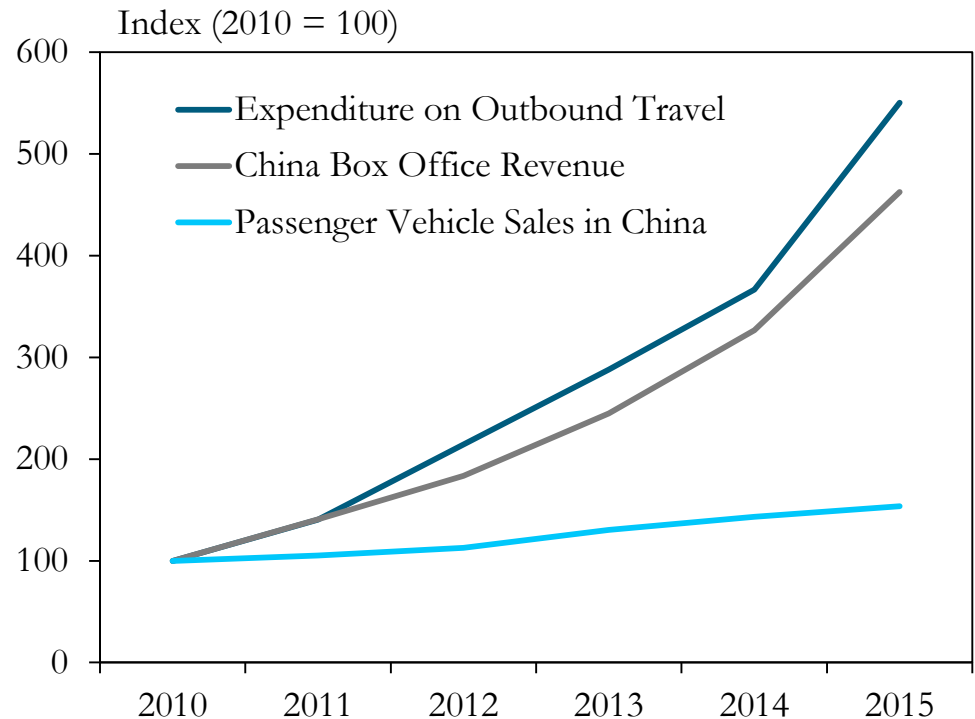
Despite recent concerns about China, some indicators point to momentum in the Chinese economy.

Gross Savings



Source: World Bank.

China Consumer Spending

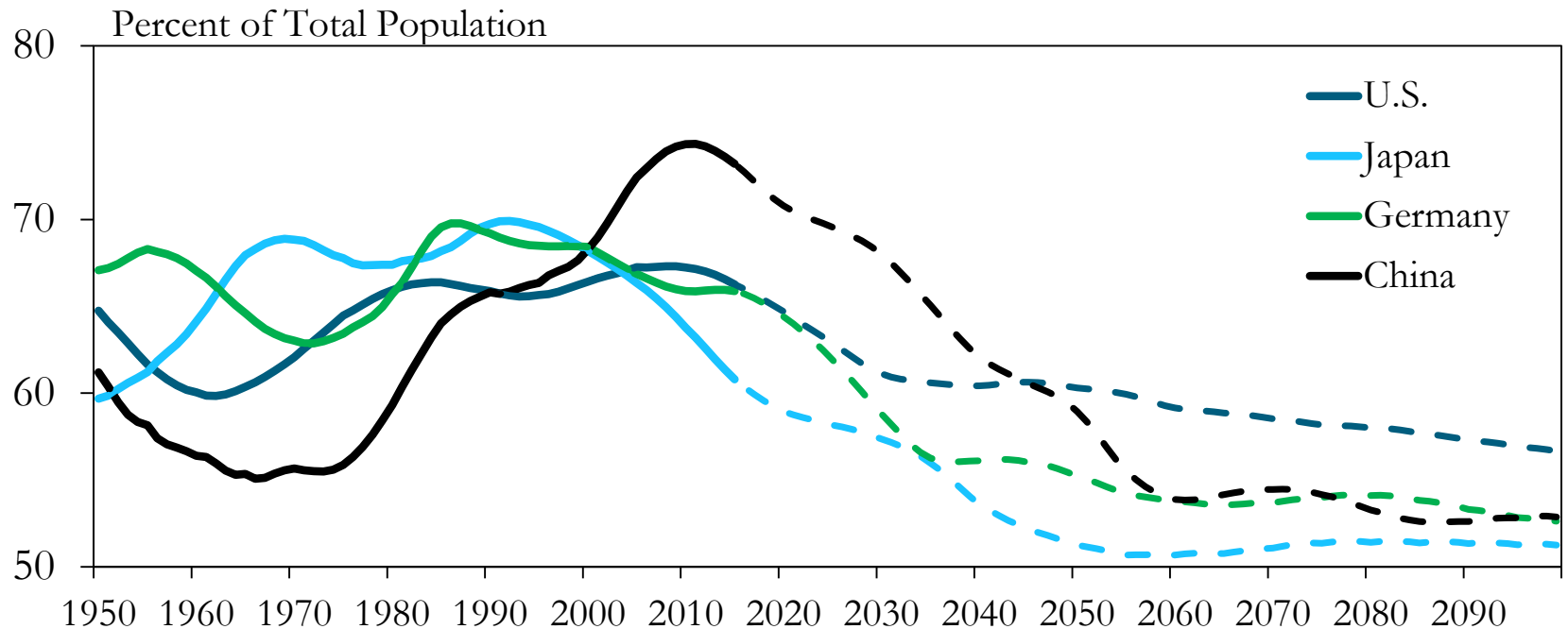


Sources: World Travel & Tourism Council, China Association of Automobile Manufacturers, Motion Picture Association of America, and Haver Analytics.



Understanding demographic trends will be key to understanding future global demand.

Working Age Population

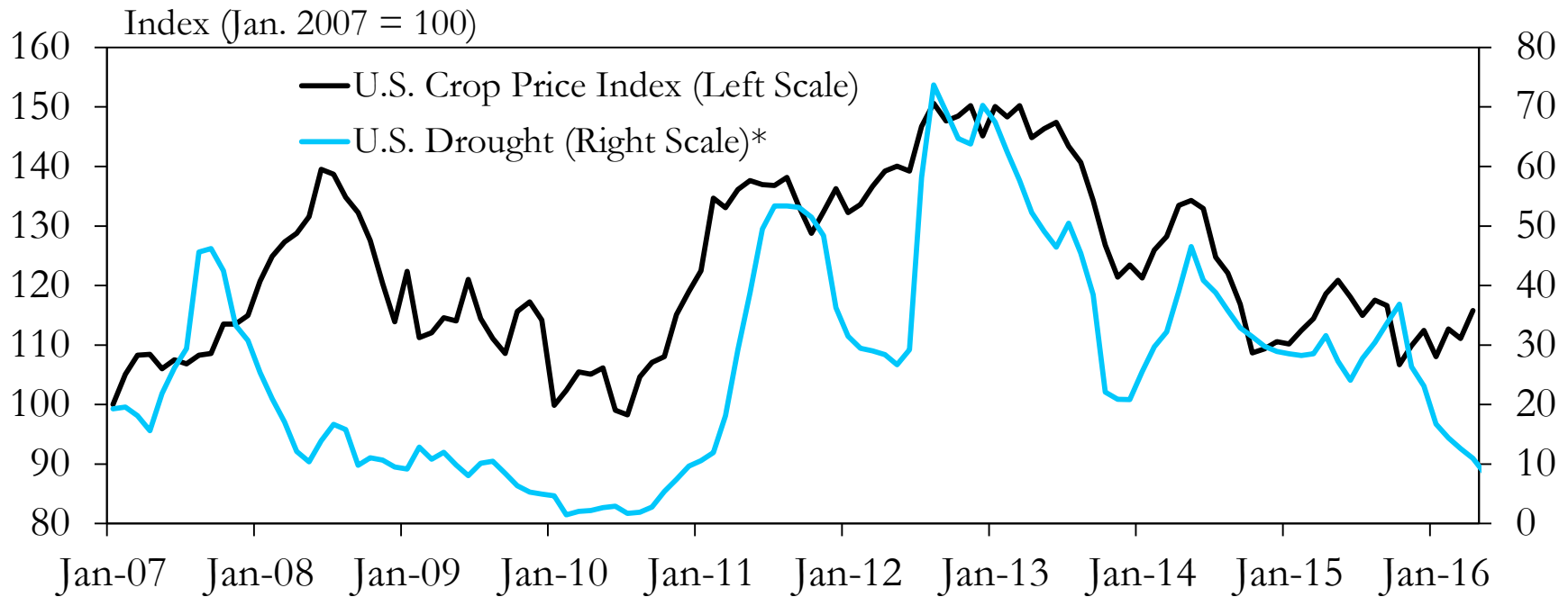


Sources: United Nations and Haver Analytics.



In agriculture, weather plays a crucial role in determining crop prices in the short-term.

U.S. Crop Prices and Drought



Sources: USDA, University of Nebraska-Lincoln and NOAA.

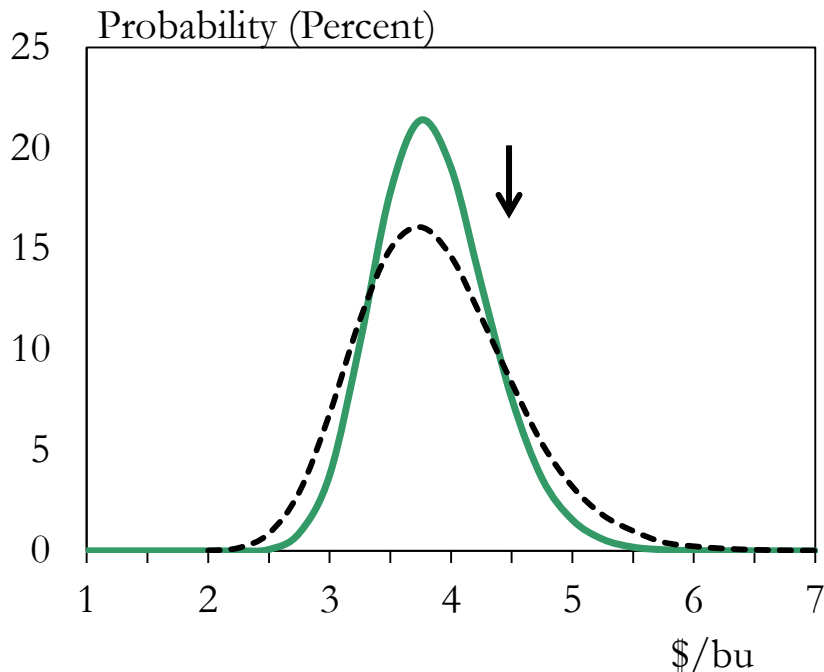
* Includes lower 48 states only.



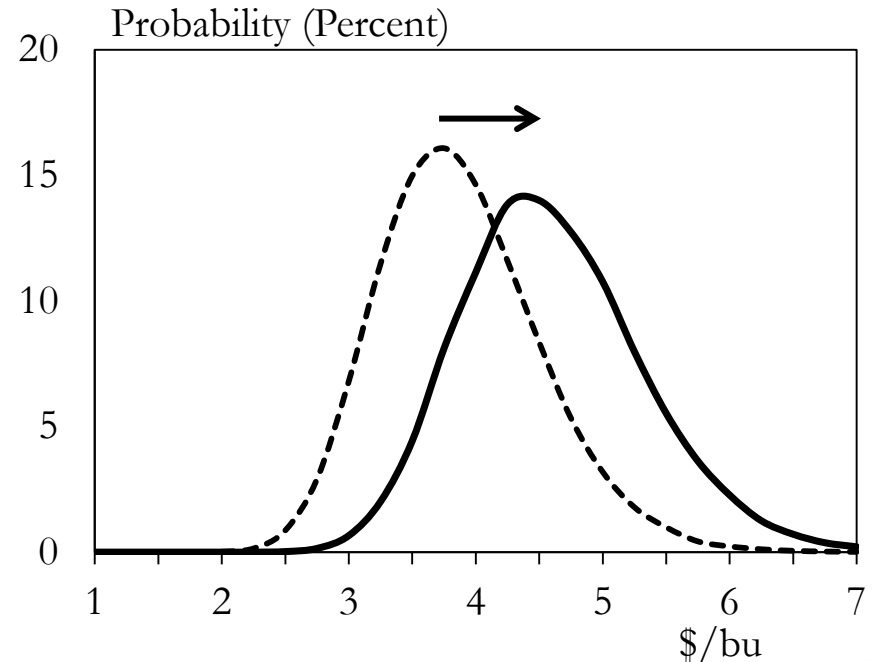
Markets appear to be focusing on 2016 weather.

U.S. Corn Price Expectations

— December Corn Price Expectations: June, 2015
- - - December Corn Price Expectations: April, 2016



- - - December Corn Price Expectations: April, 2016
— December Corn Price Expectations: June, 2016



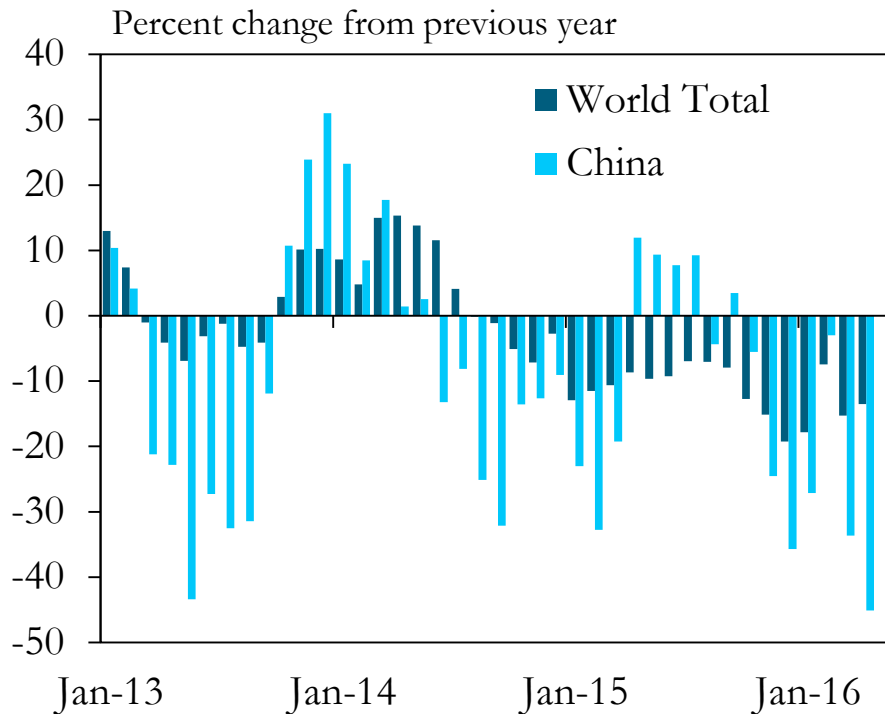
Source: Calculations based on data from barchart.com

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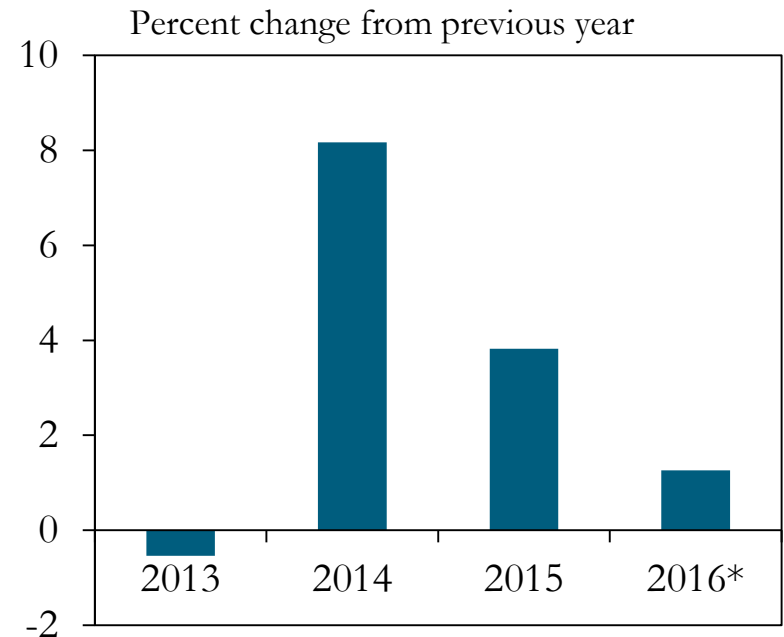
But demand strength will be the key
long-term driver.

U.S. Ag Exports



Source: USDA.

U.S. Ethanol Production



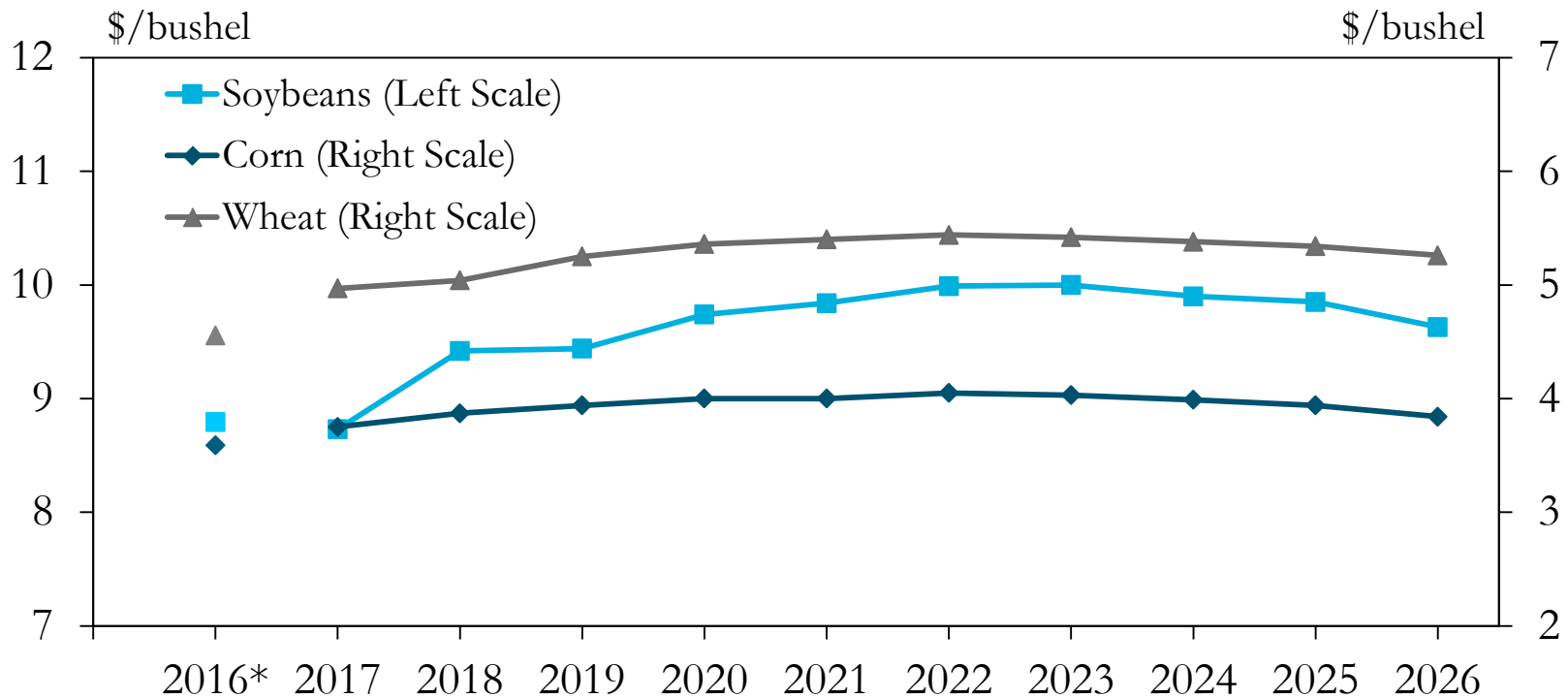
* Year-to-date average through June 10, 2016.

Source: EIA.



An unexpected demand shock may be needed to envision a higher path of growth for crop prices.

Long-term Crop Price Projections



Sources: University of Missouri: FAPRI, *Wall Street Journal* and Haver Analytics

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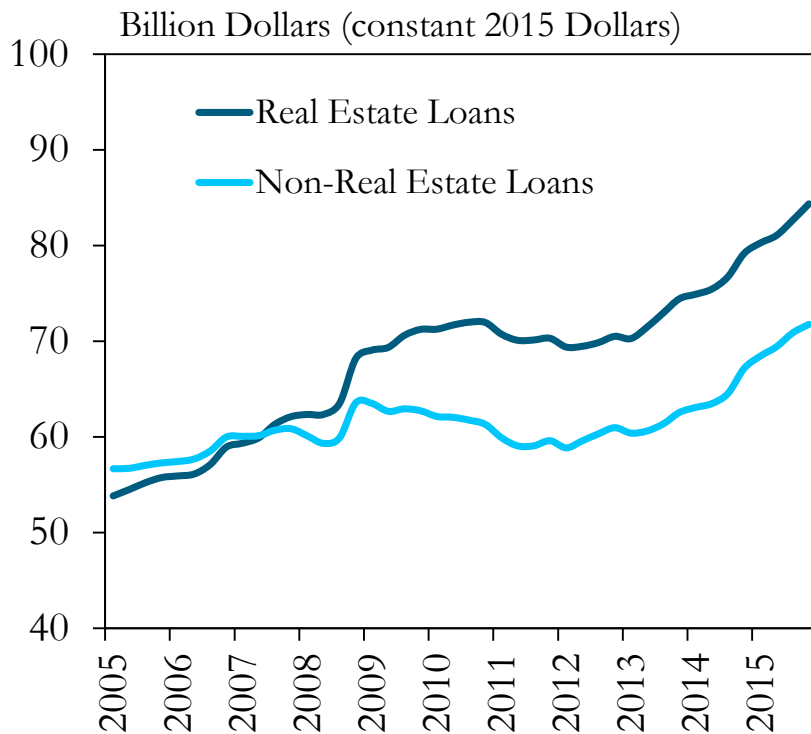


*The downturn in the U.S. ag economy
has persisted for 3 years.
Implications for credit markets?*

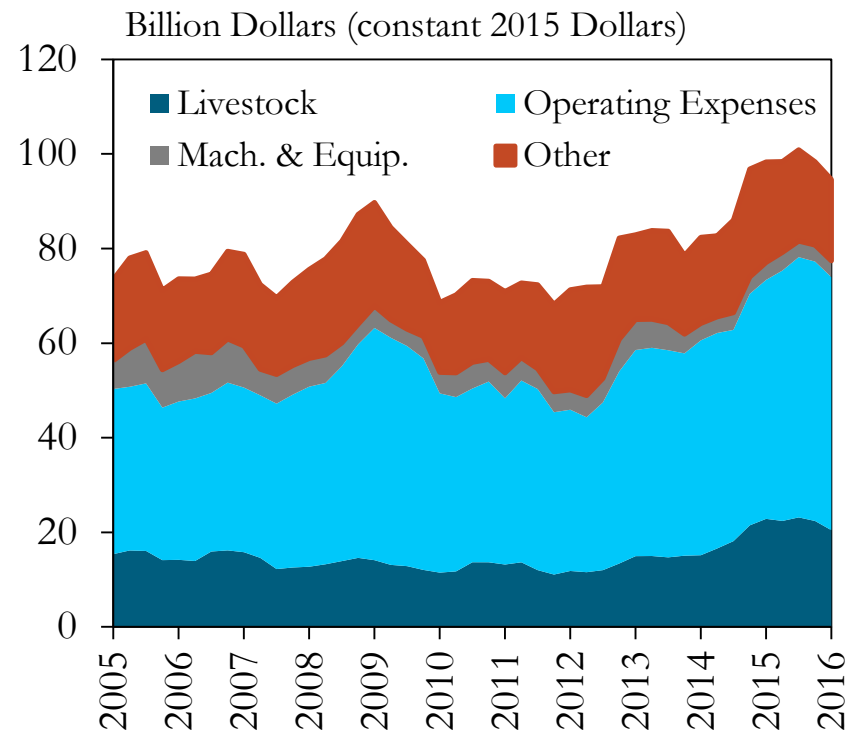


Financing needs began rising notably in 2013, and have remained high.

Total US Farm Debt



Composition of Non-Real Estate Farm Debt



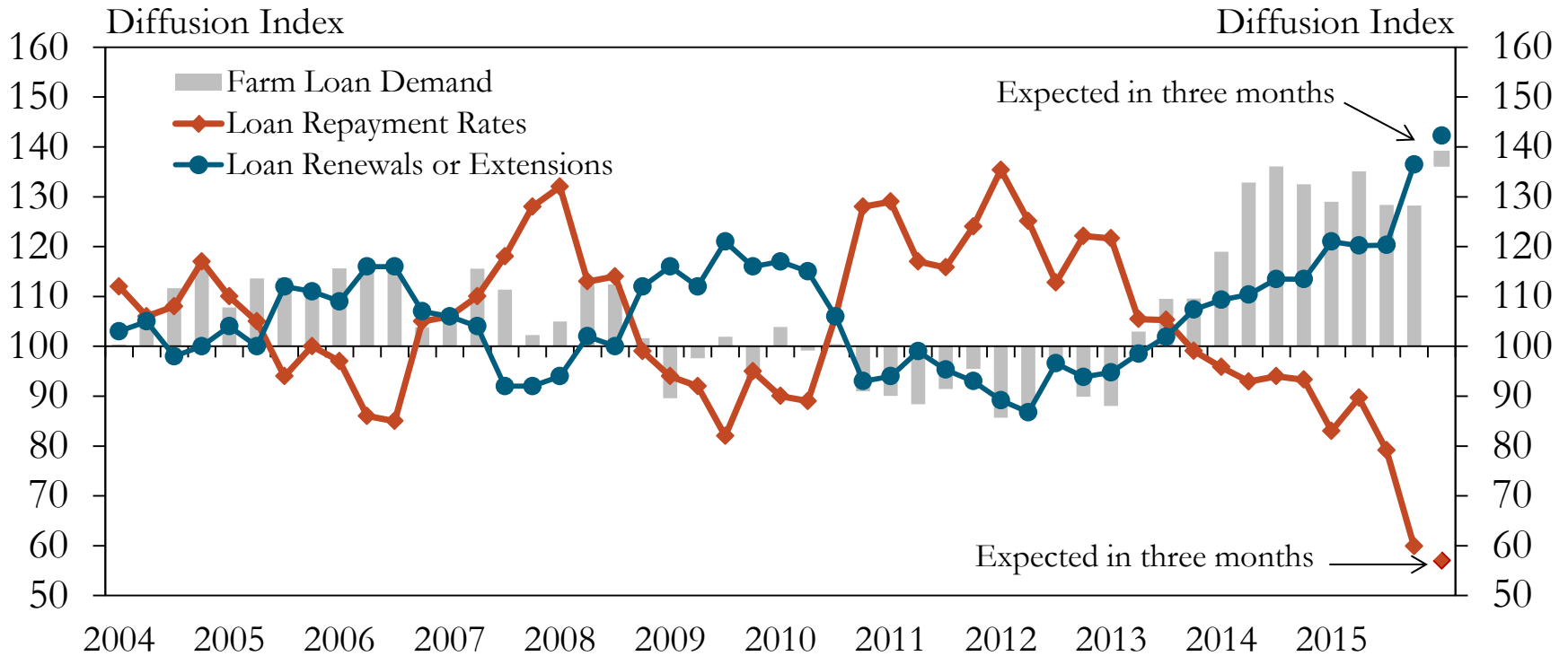
Source: Federal Reserve Bank of Kansas City, Ag Finance Database

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Credit conditions have gradually deteriorated.

Tenth District Credit Conditions 2015, Fourth Quarter



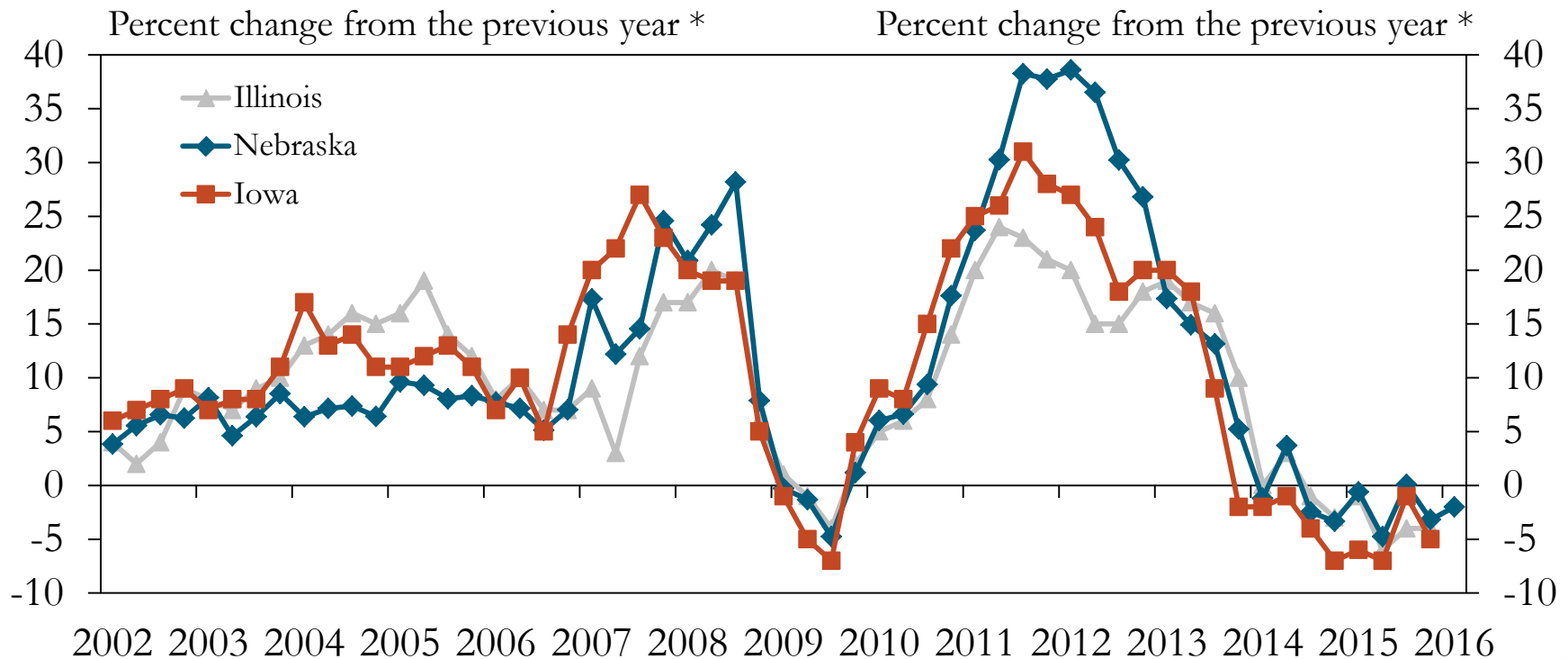
Source: Federal Reserve Bank of Kansas City, Survey of Ag Credit Conditions

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Farmland values have also declined, but only 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.

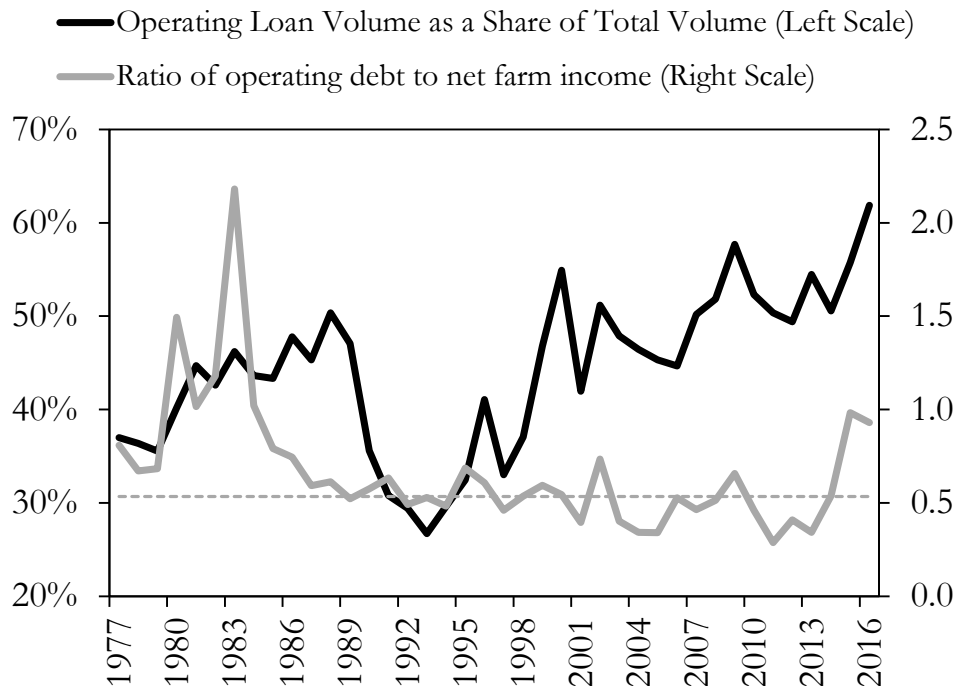
Source: Federal Reserve Bank of Kansas City

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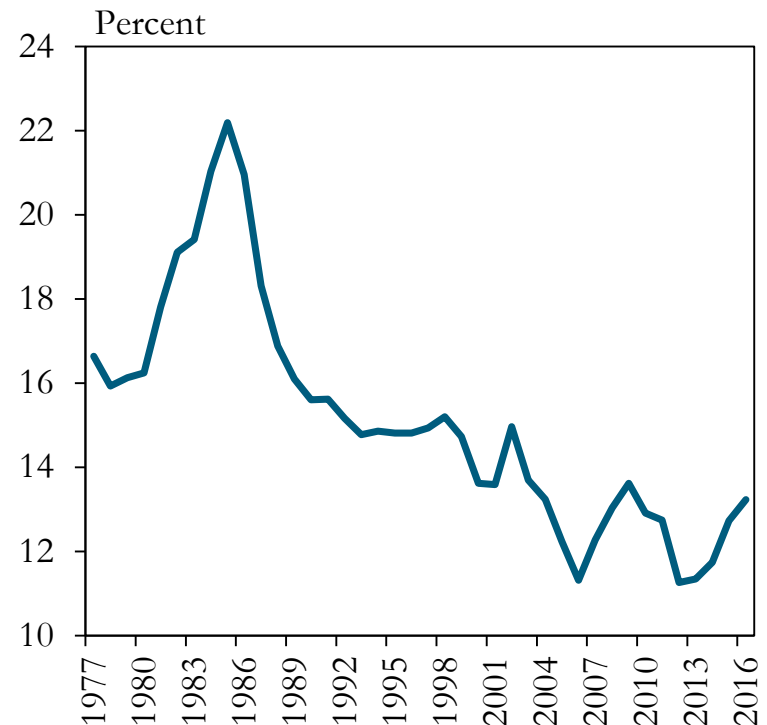
In the short-term, liquidity may be a more significant concern than solvency.

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



Source: Federal Reserve Bank of Kansas City

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



Source: USDA.

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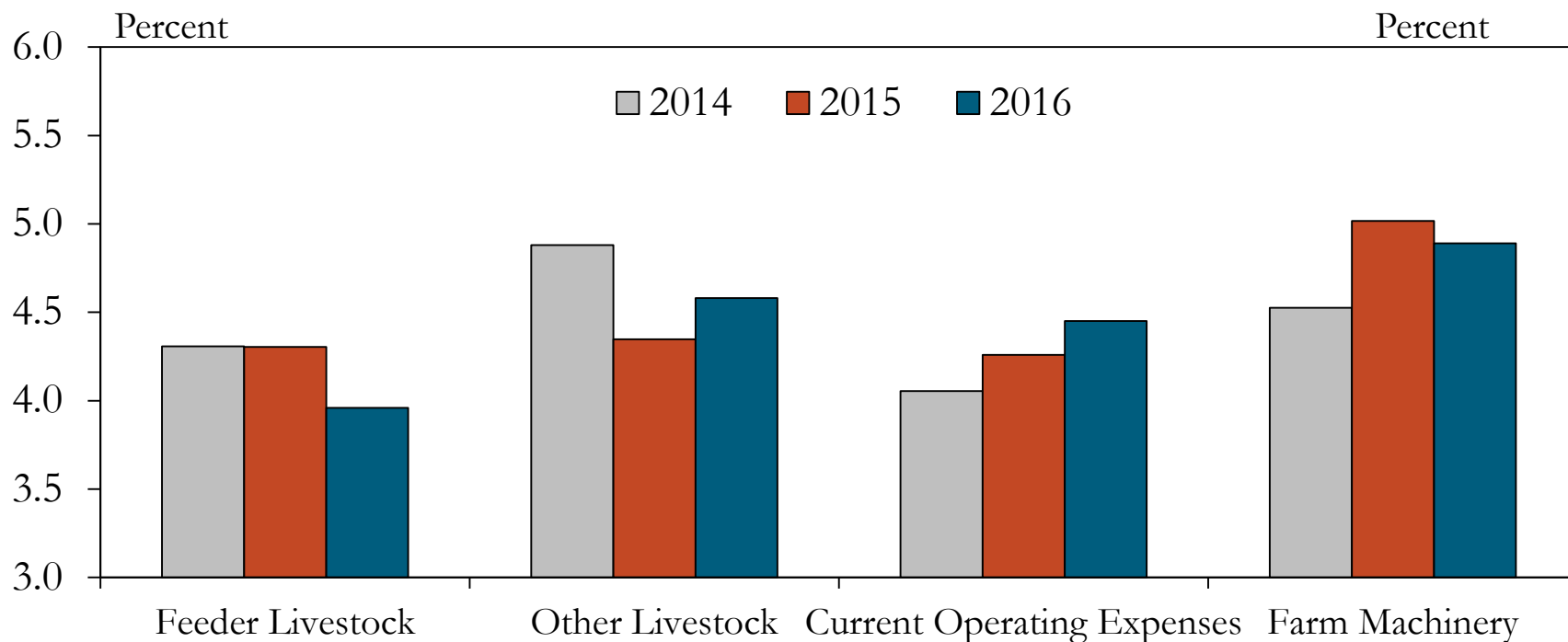
How might a changing interest rate environment affect the ag economy?



Farm interest rates have increased, but only slightly.

Interest Rates on Non-Real Estate Farm Loans

First Quarter



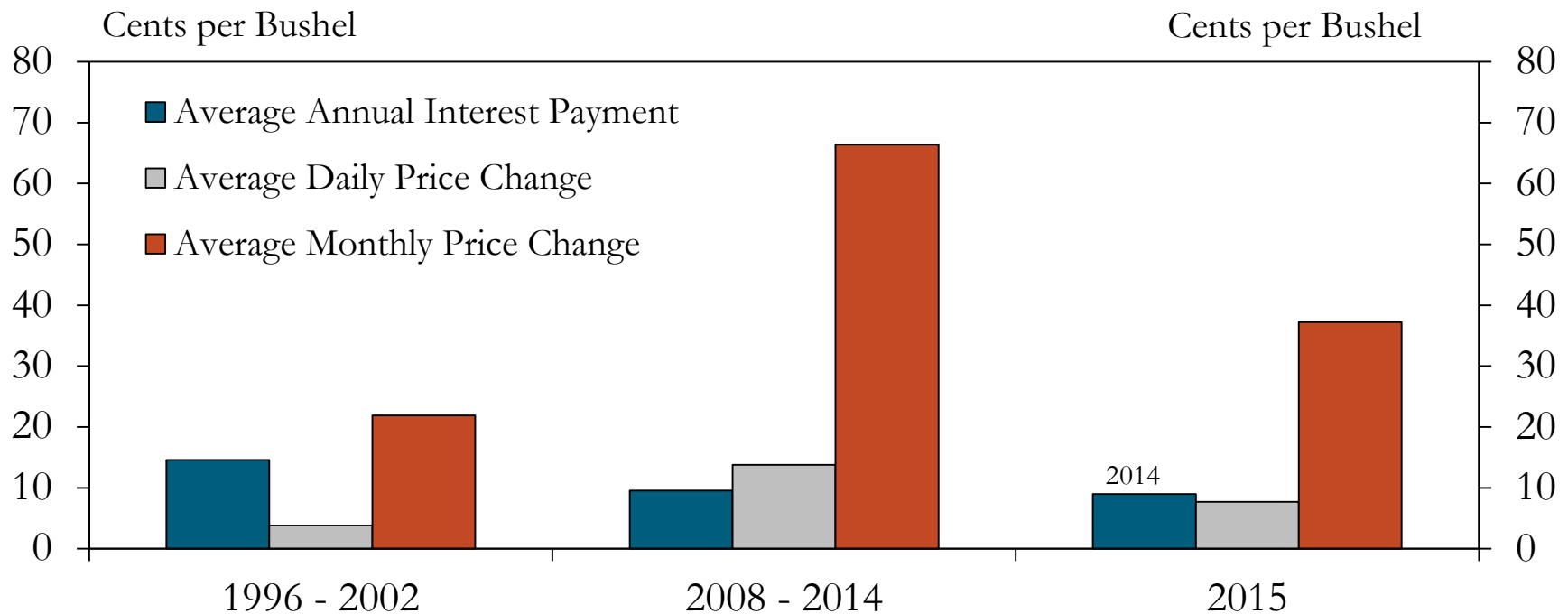
Source: Agricultural Finance Databook, Table A.5

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Interest expenses, however, are small when compared to fluctuations in commodity prices.

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



Sources: USDA, barchart.com and author's calculations.



Concluding Points

- Farm income has continued to weaken with low commodity prices.
 - Supply-side headwinds: strong U.S. and global production.
 - Demand-side headwinds: ethanol blend wall, export markets and China.
 - Biofuel exports may be a longer-term boost.
- Effects of the downturn in the farm economy:
 - Tightening credit conditions.
 - Pressure on cash rents and farmland values.
 - Consolidation (opportunities for some).
 - Accelerating decline in rural, agricultural areas.



Questions?

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