
Agriculture and the Economy: A View from the Chicago Fed

**March 3, 2016
Riverside, Iowa**

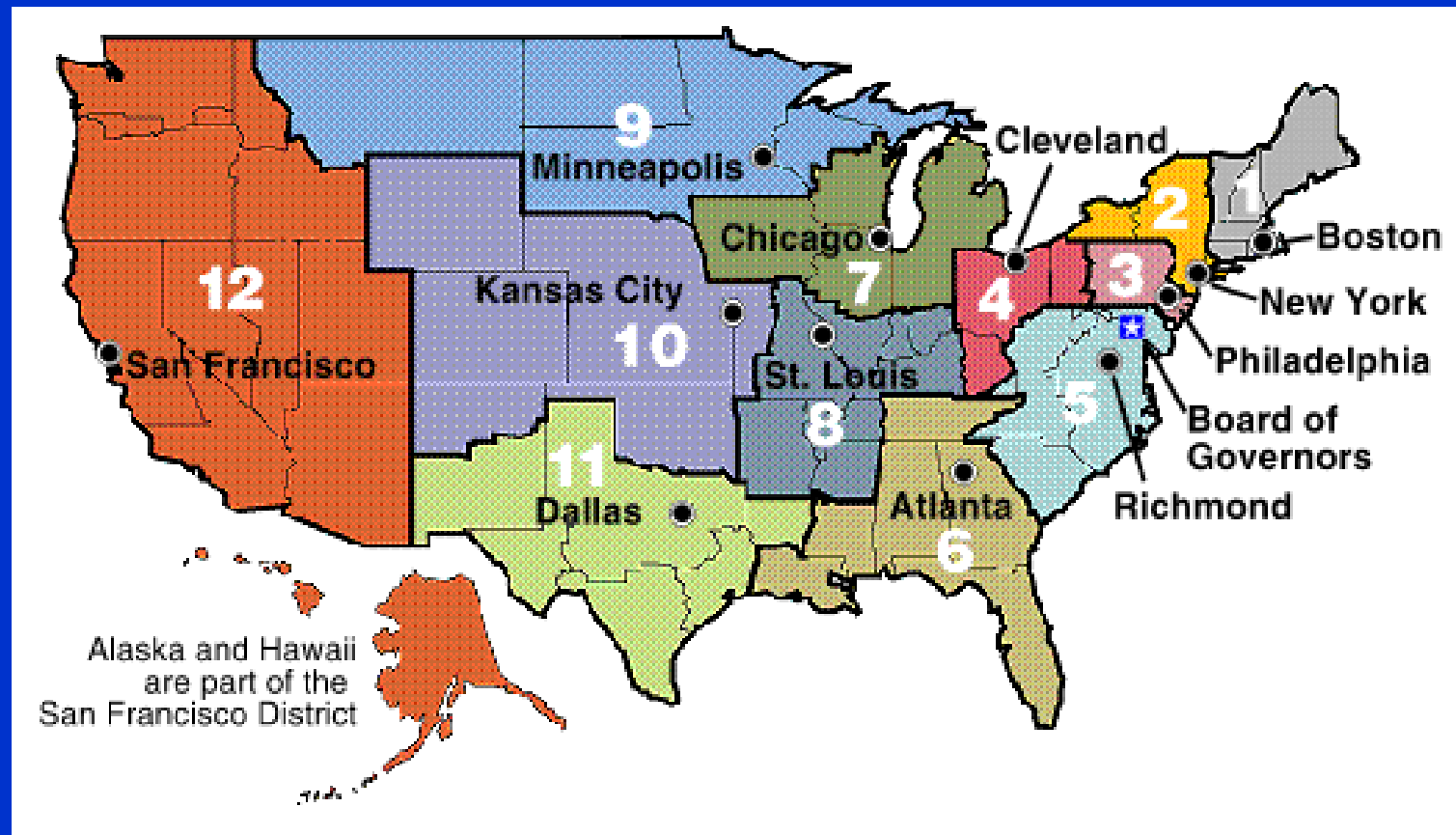
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Federal Reserve System

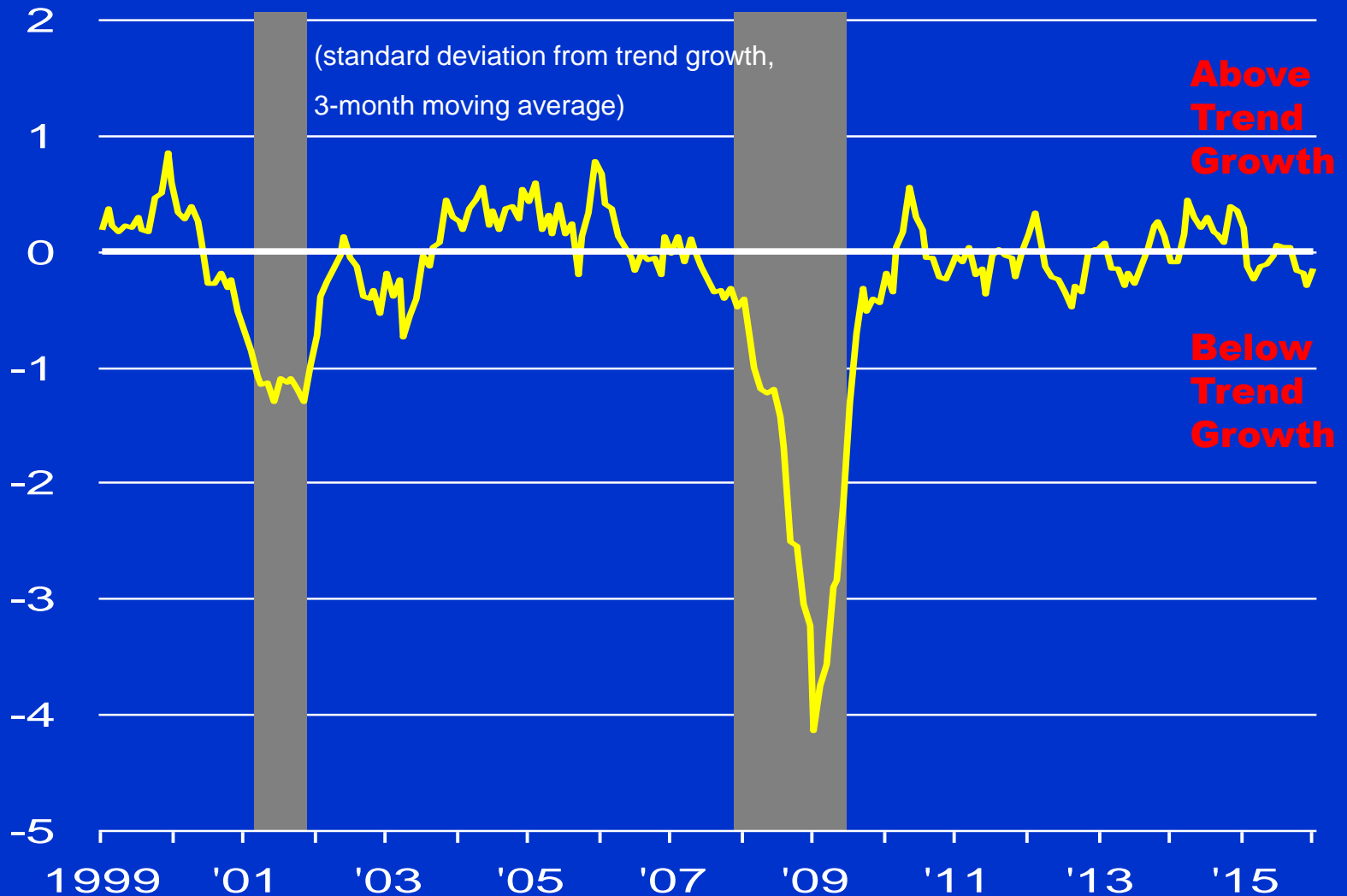
- **Twelve District Banks**
- **Board of Governors**
- **Federal Open Market Committee (FOMC)**

- **Functions of the Fed**
 - **Monetary policy**
 - **Commercial bank regulator**
 - **Provides banking services for U.S. government**
 - **Electronic funds transfer**
 - **Currency distribution**

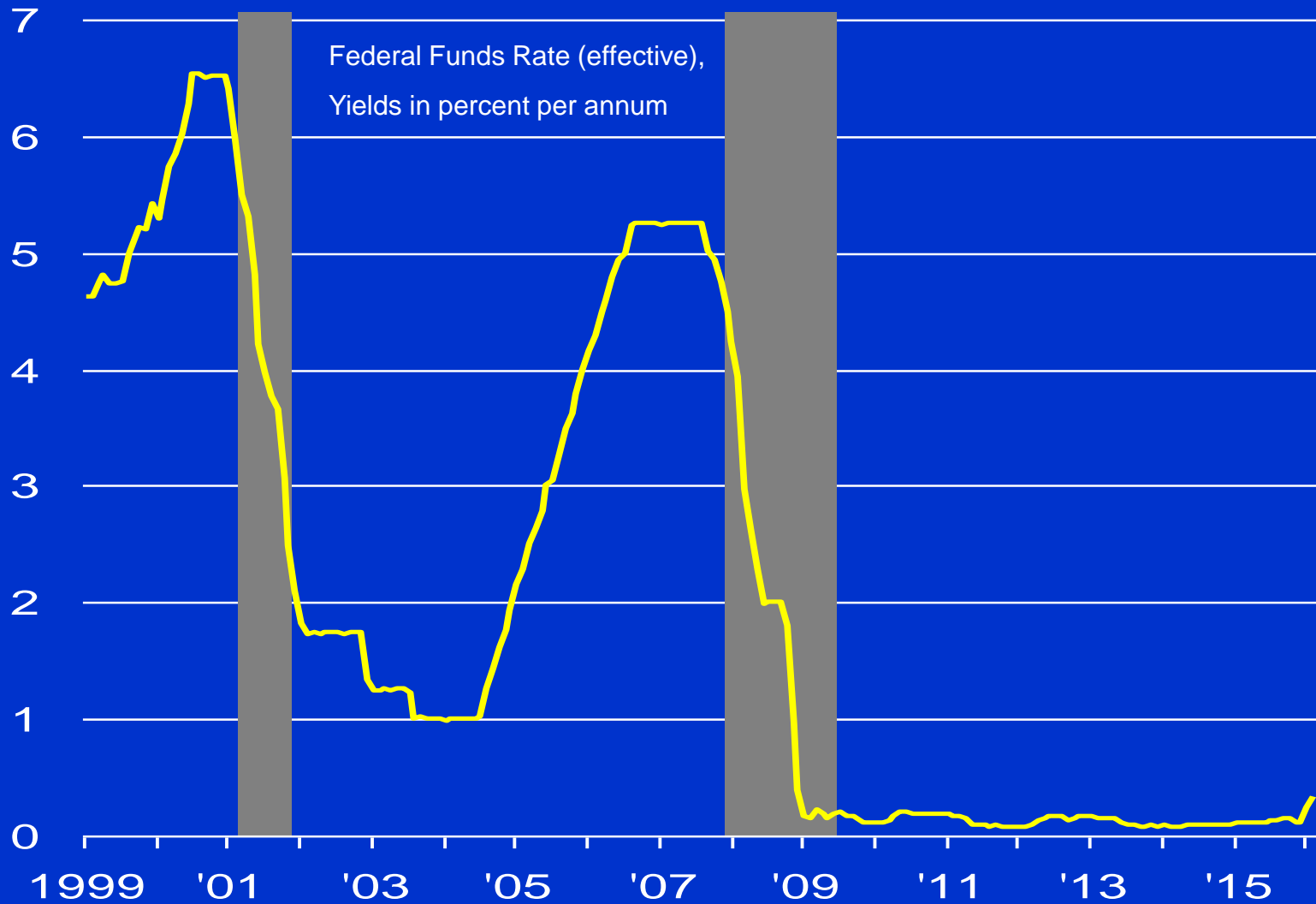
Federal Reserve System



Chicago Fed National Activity Index shows hesitant growth since 2009



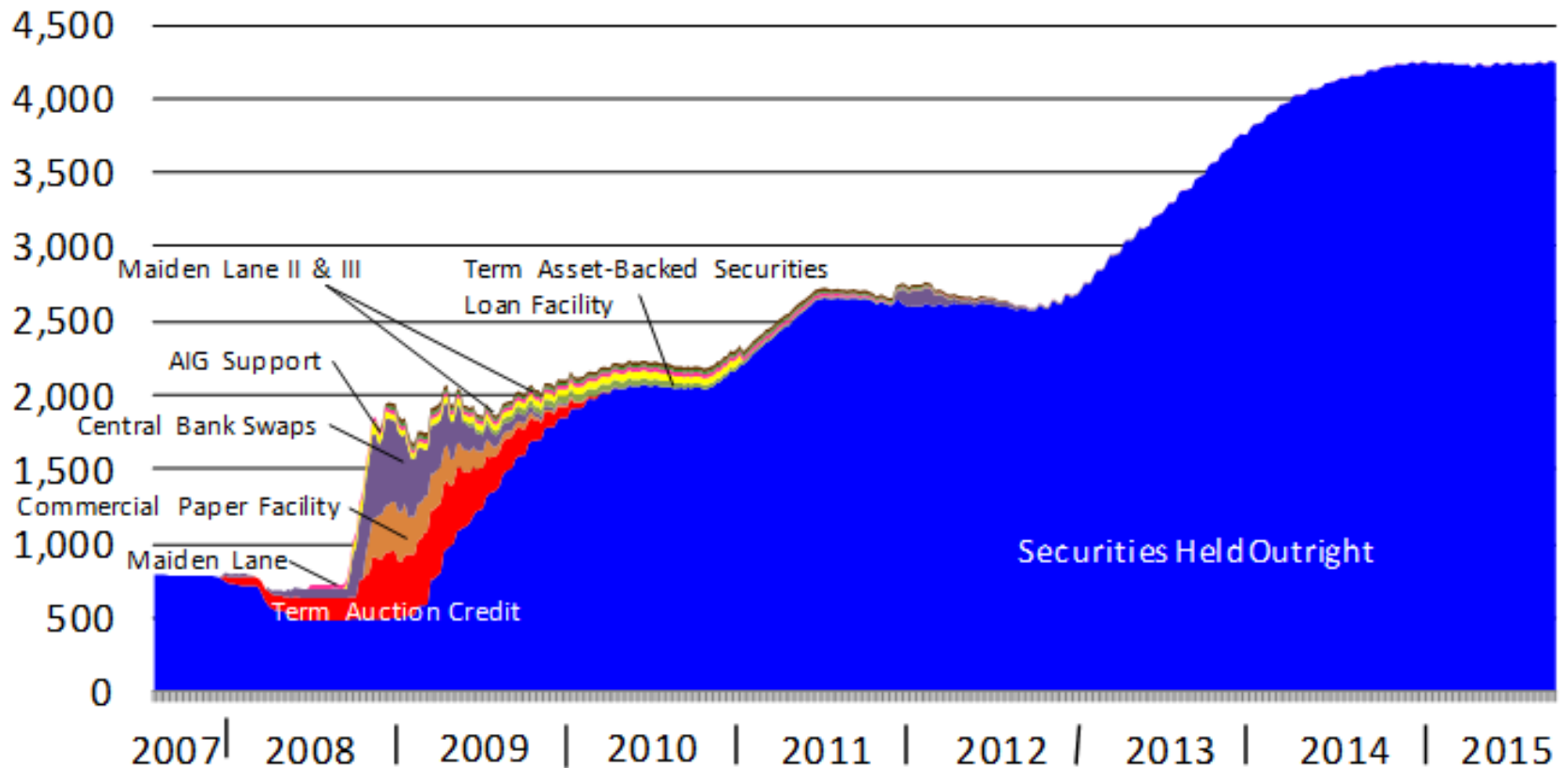
In December 2016, the FOMC raised the Fed Funds rate target to a range from 0.25% to 0.50%



Quantitative easing was necessary

Assets of the Federal Reserve

Billions of dollars

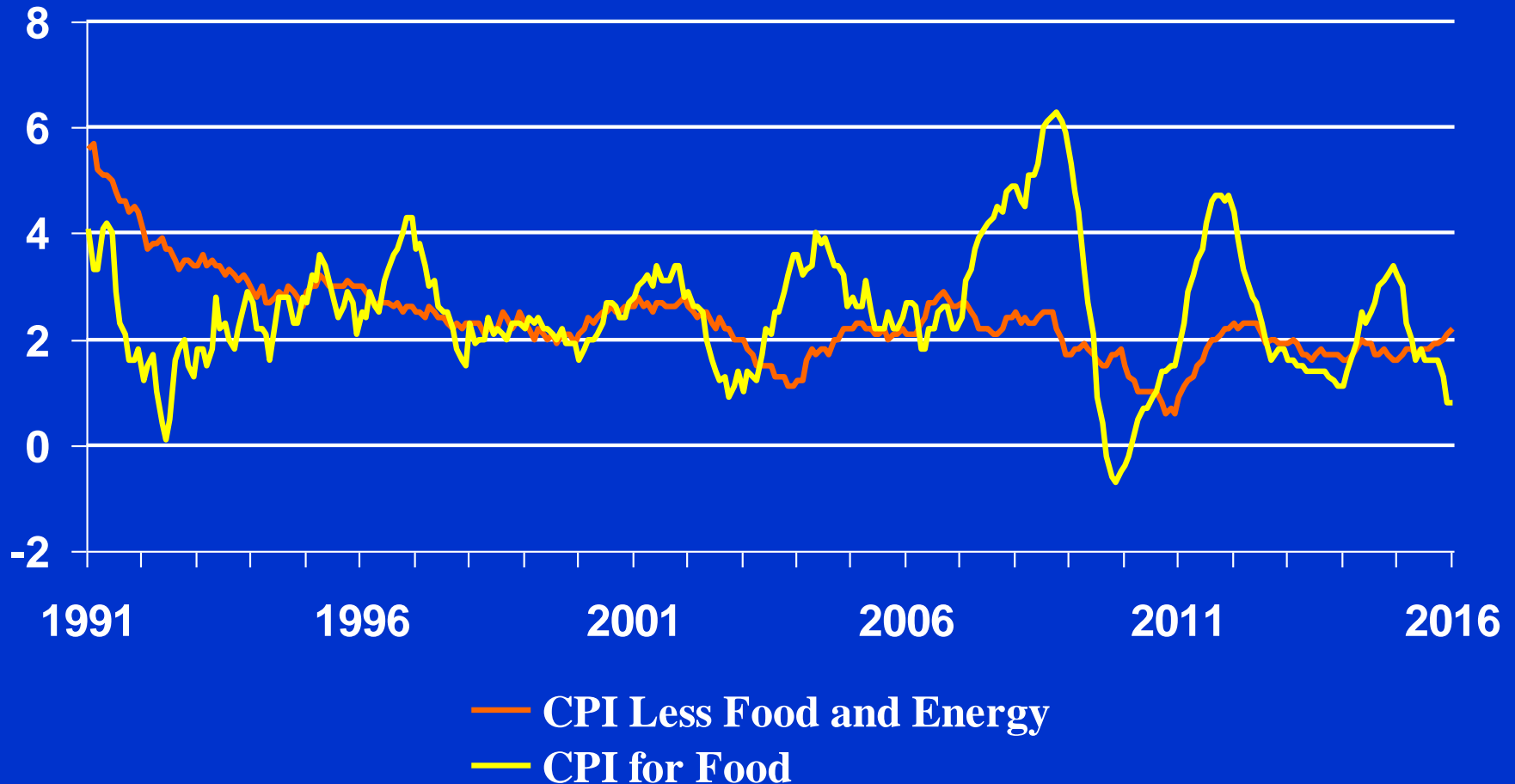


Recent Monetary Policy Actions

- Tapering of asset purchases began in December 2013
- No additional asset purchases after November 2014, while continuing to reinvest assets as they mature
- Raised the range of Fed Funds Rate by 0.25% points and indicated future increases would be gradual
- The FOMC will monitor economic conditions to tailor future actions to meet objectives of maximum employment and 2% inflation

Food price increases now below core inflation (less food and energy)

(Consumer Price Index, percent change from year ago)

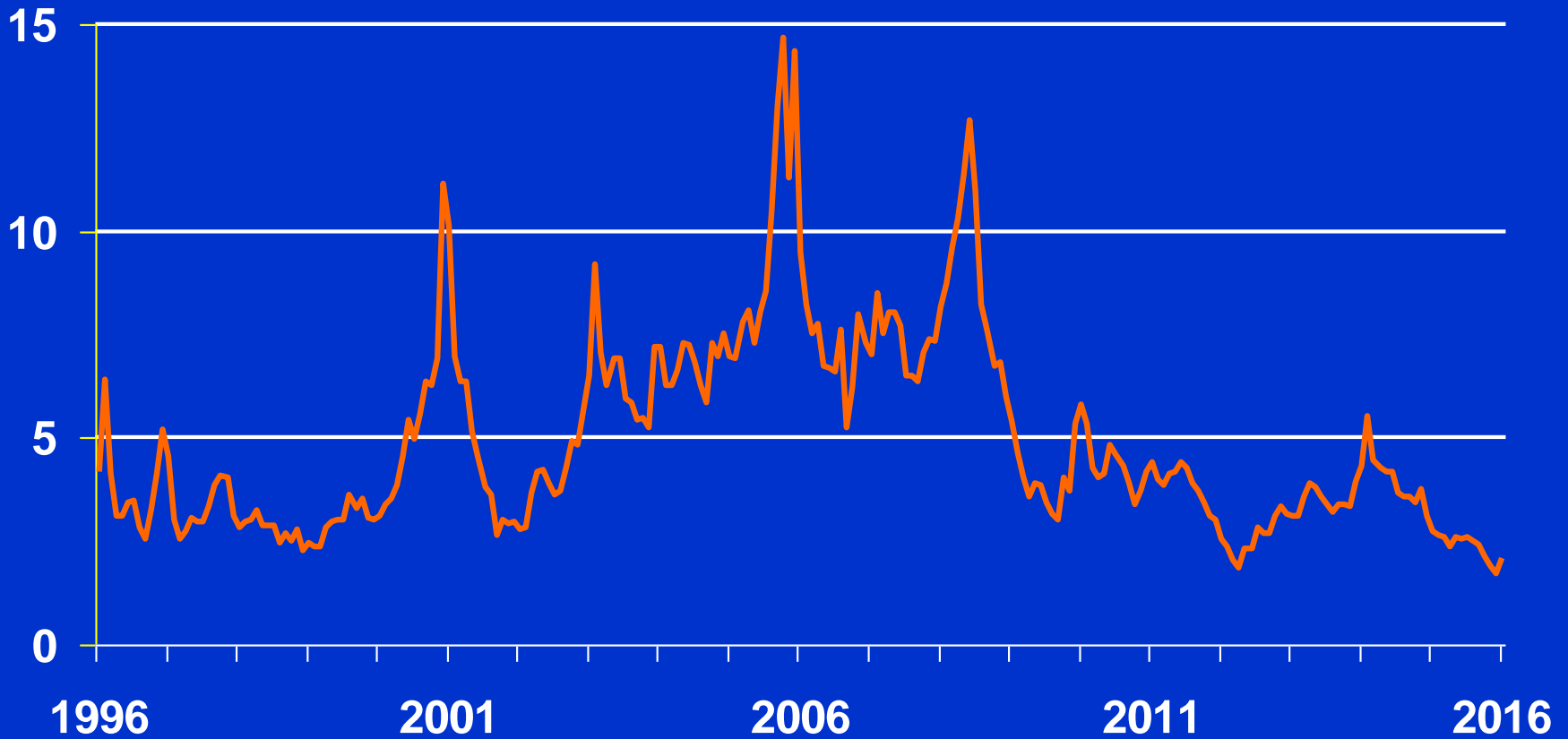


**Oil prices plummeted and lower
gas prices boosted consumer saving/spending**
(2010 \$/barrel)

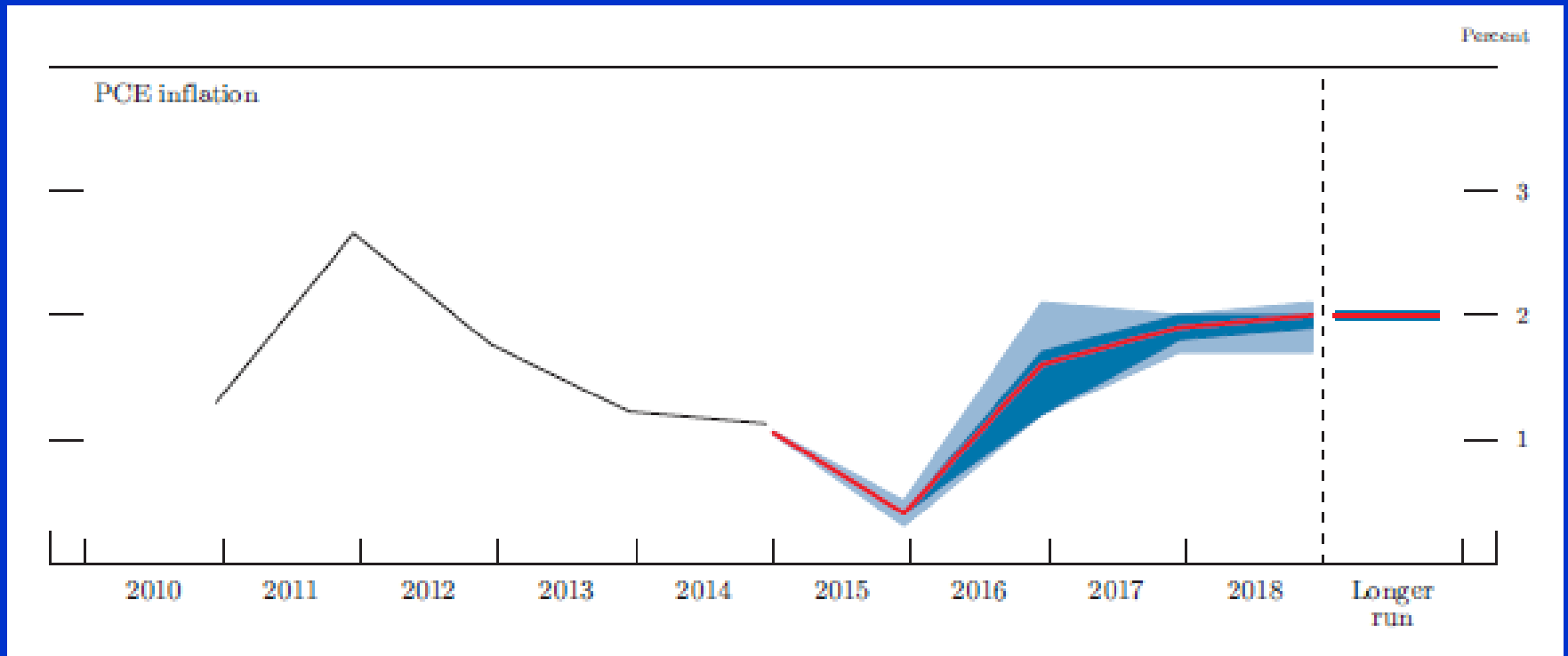


Natural gas prices are low too

Real Natural Gas Price
{2010 \$/mmbtu}

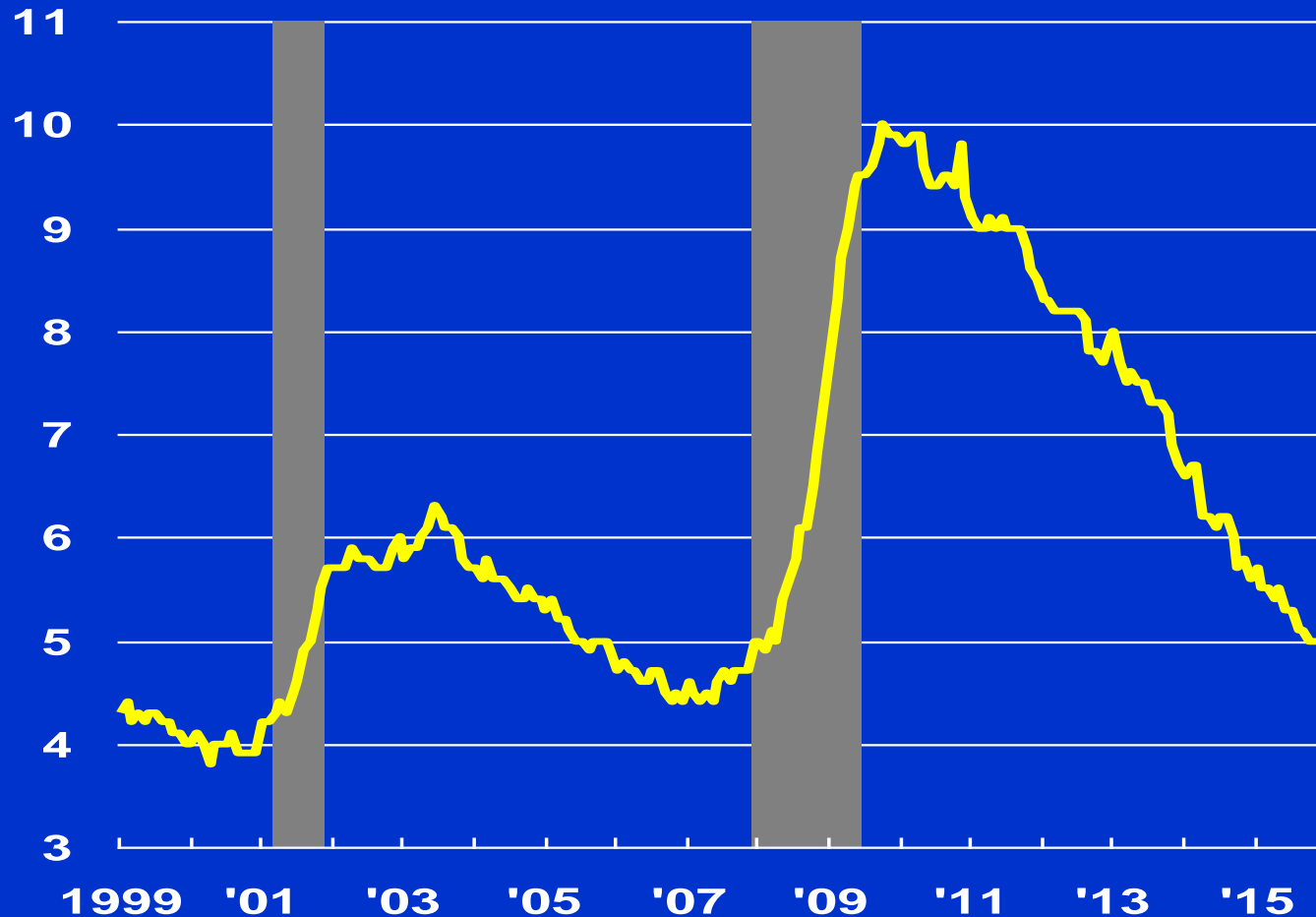


The FOMC anticipates that PCE inflation will reach two percent by 2018

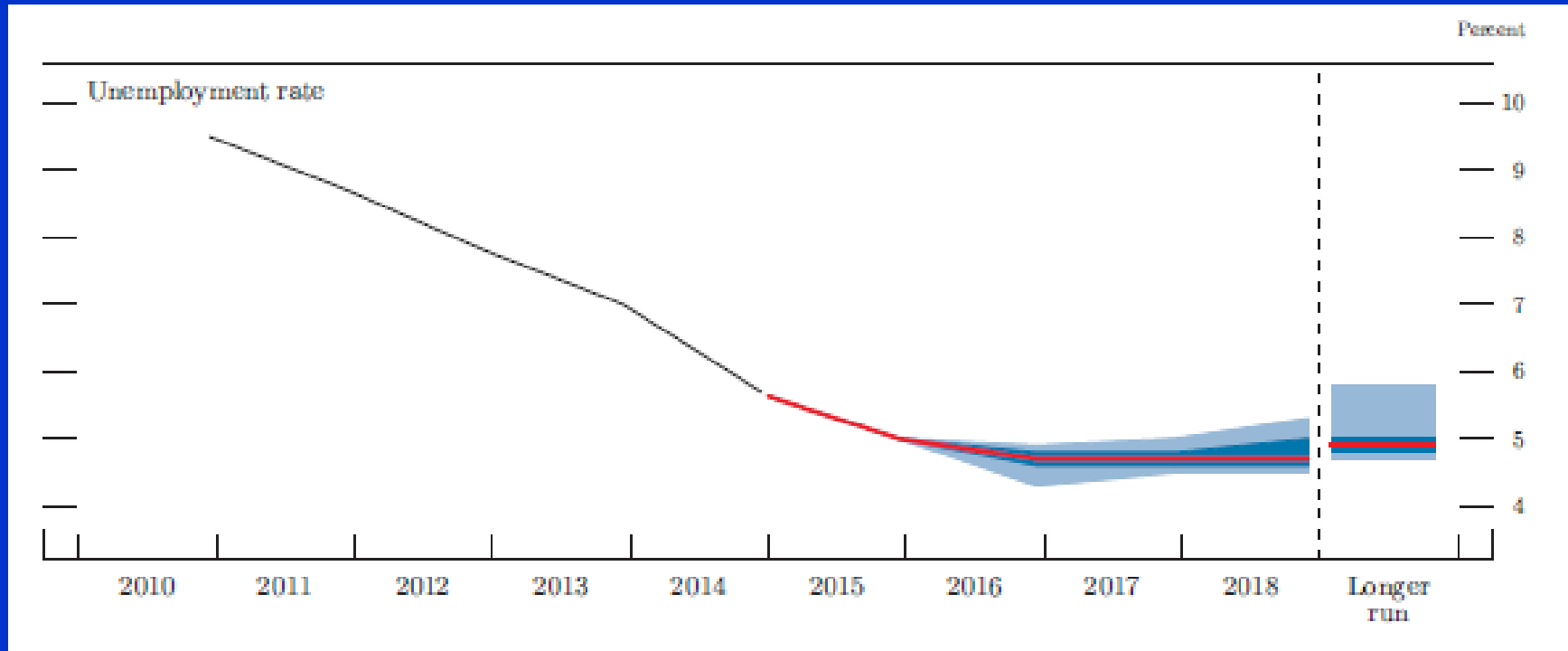


Unemployment has fallen from its peak

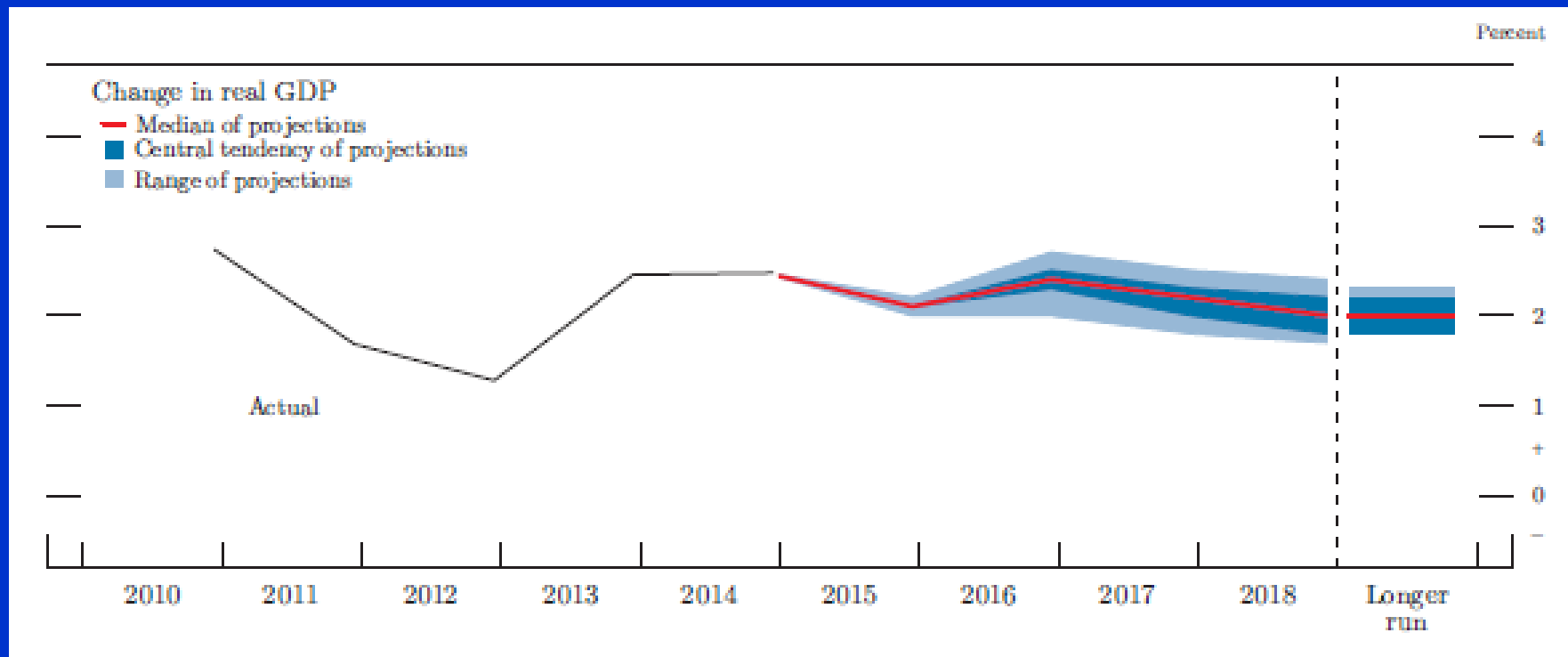
(civilian unemployment rate, percent SA)



The FOMC forecasts that the unemployment rate will be at the natural rate by the end of 2016



The FOMC expects GDP to grow above its trend in 2016



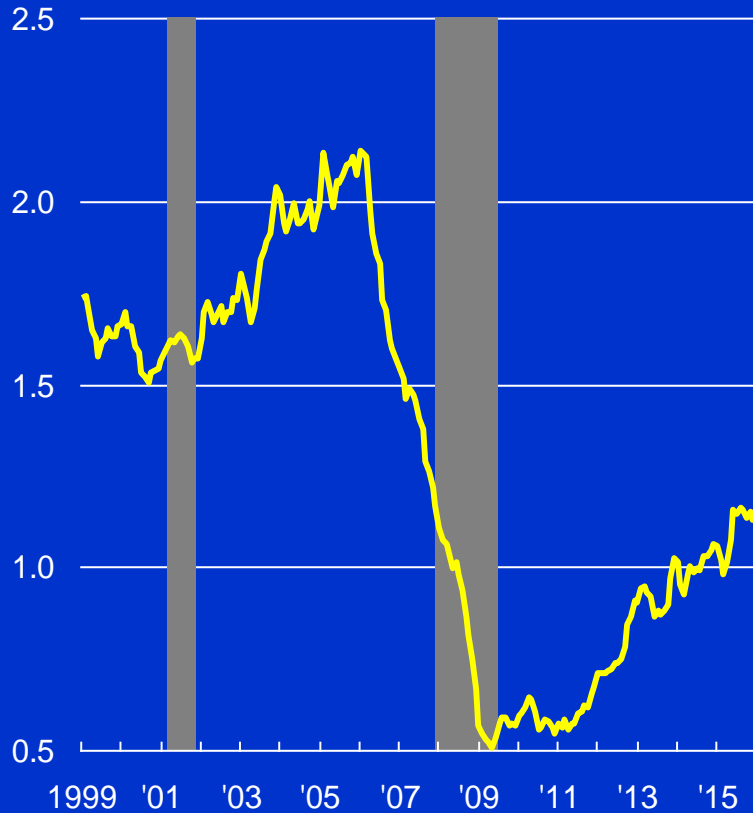
Contributions to real GDP growth of 1.0% in the 4th quarter of 2015

- Consumption 1.4%
- Residential Investment 0.3%
- Business Investment -0.2%
- Inventories -0.1%
- Government 0.0%
- Net Exports -0.3%

Housing market tanked and moving up from bottom

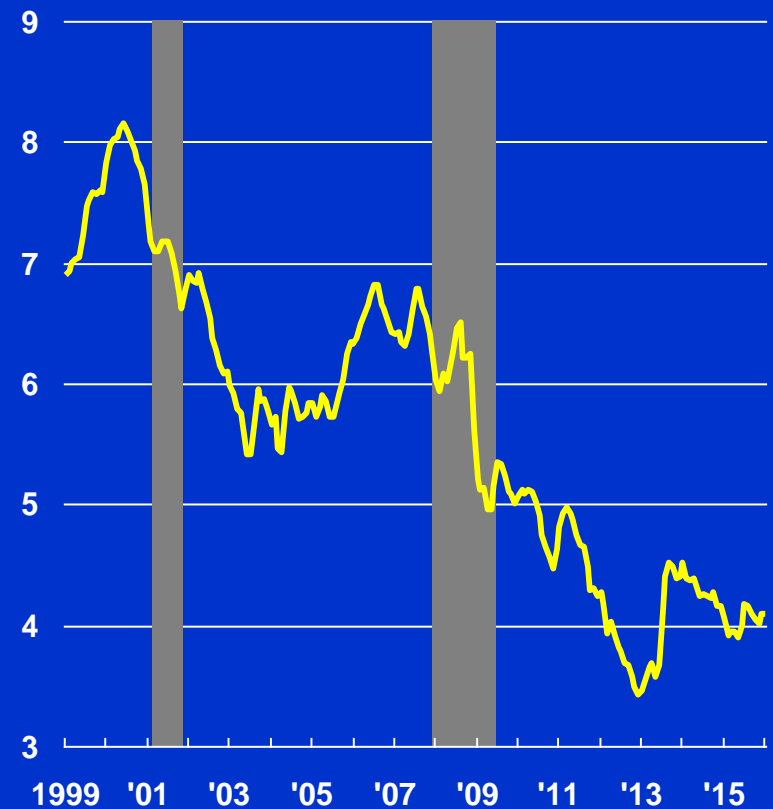
Housing starts

(millions of units, 3-month moving average, SAAR)



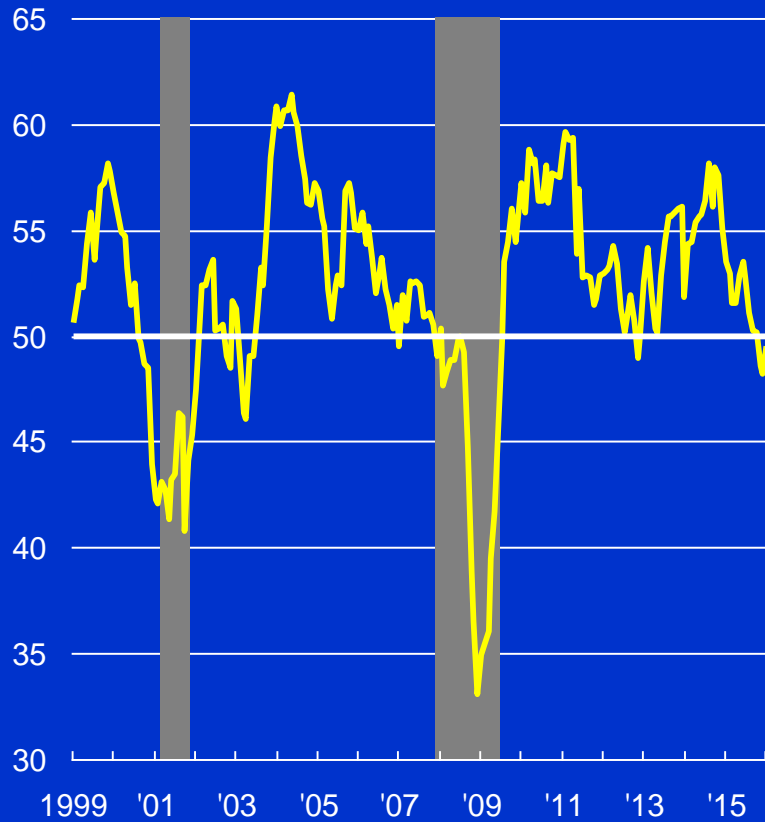
Home mortgage rate

(percent, effective rate for all loans closed)



Manufacturing is moving sideways; orders for capital goods moving up again

ISM purchasing managers index
(net percent reporting increase)



Nondefense capital goods ex. aircraft
(orders in millions of dollars, 3-month moving average)



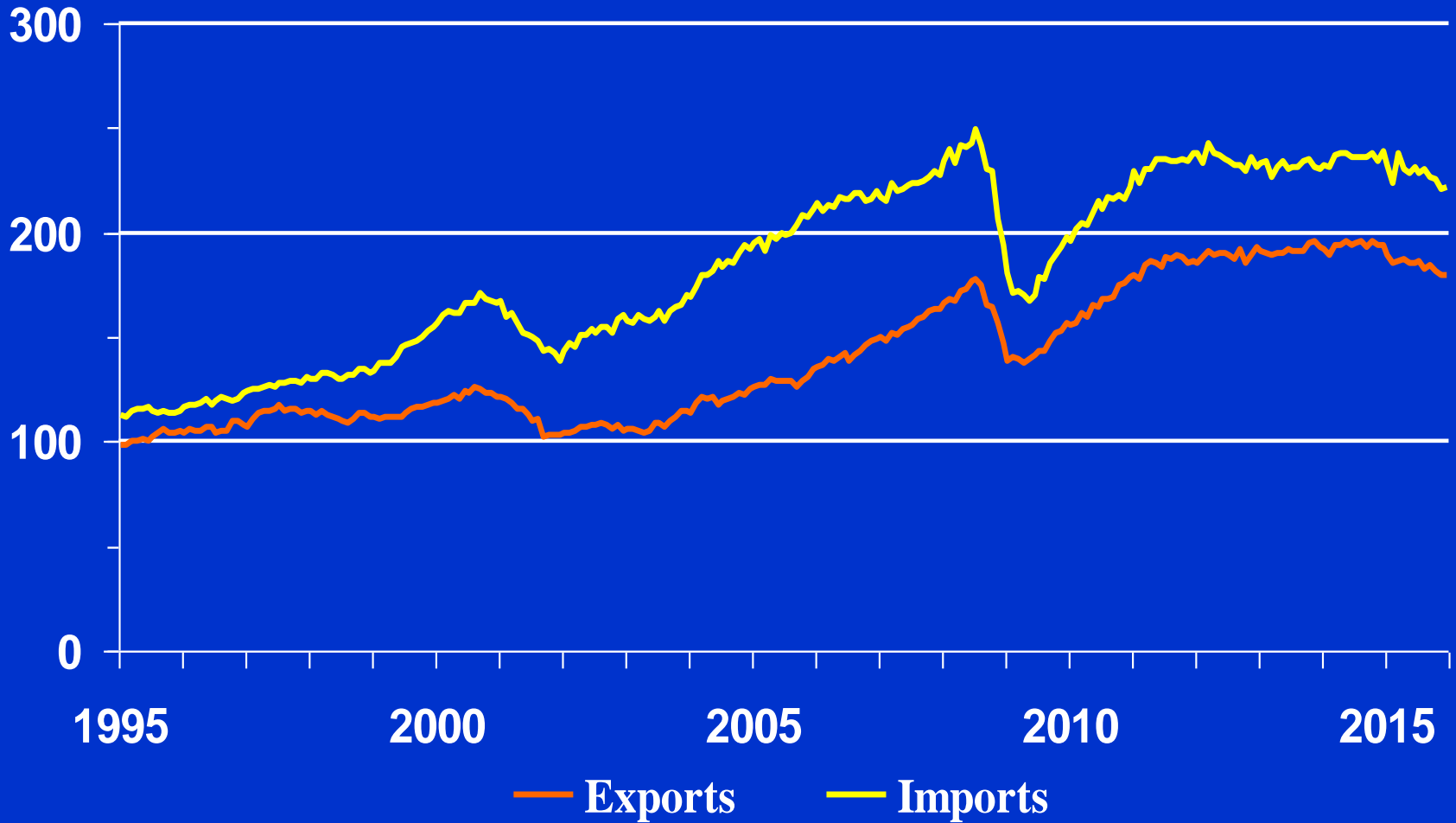
The dollar's exchange value peaked in 2002, before falling below earlier range and rallying

(Real Broad Trade-Weighted Exchange Value of the US\$)
{March 1973=100}



U.S. exports lower than in recent years

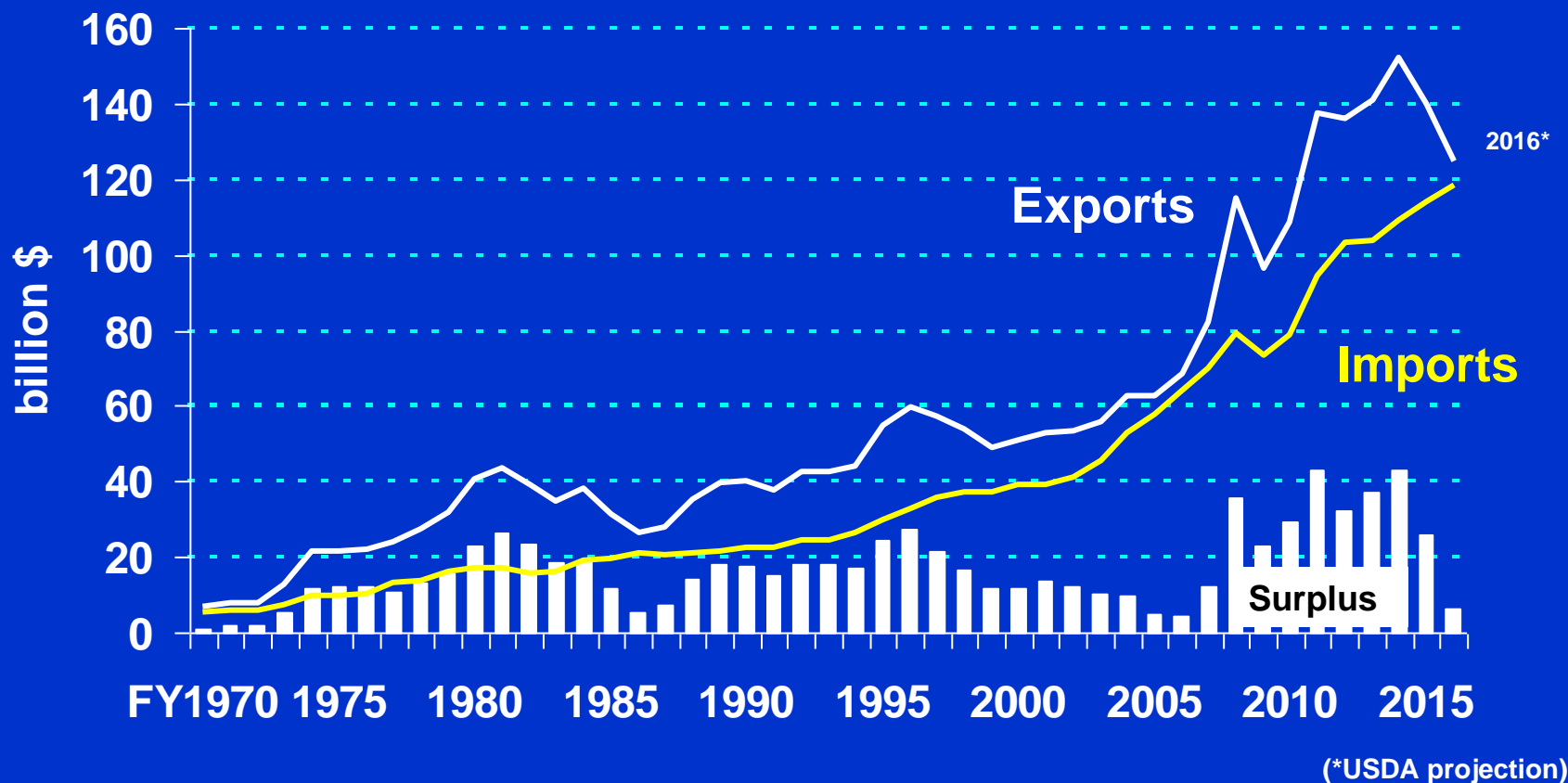
(billions of 2015\$, SA)



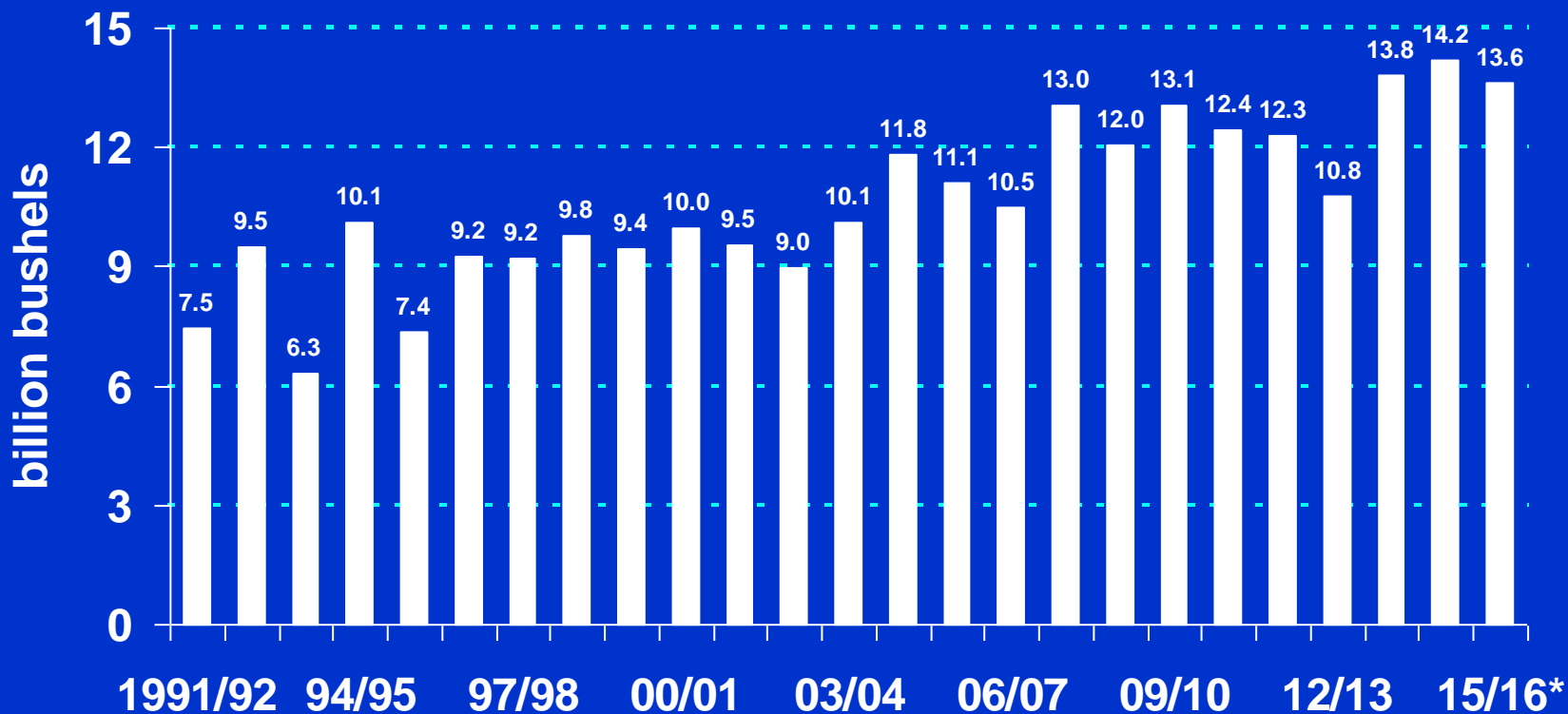
Why is the Chicago Fed interested in Agriculture?

- **Important portion of District economy**
 - Wide geographic impact
 - “Backbone” of economy
- **Leading farm states**
- **Manufacturing of food and bioproducts**
 - Jobs
 - Income
- **Impact on commercial banks**
- **Response to stakeholders**

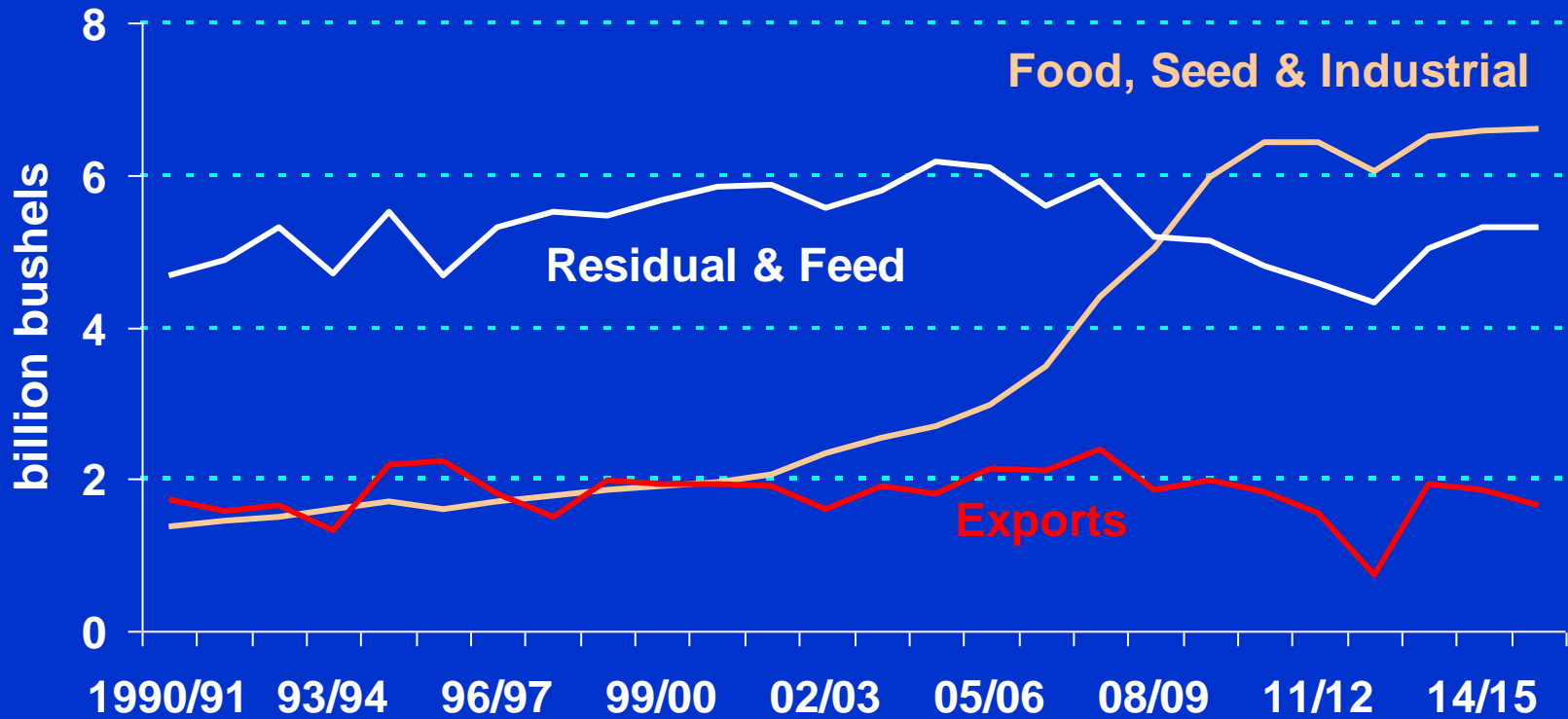
Value of agricultural exports expected to slide in 2016



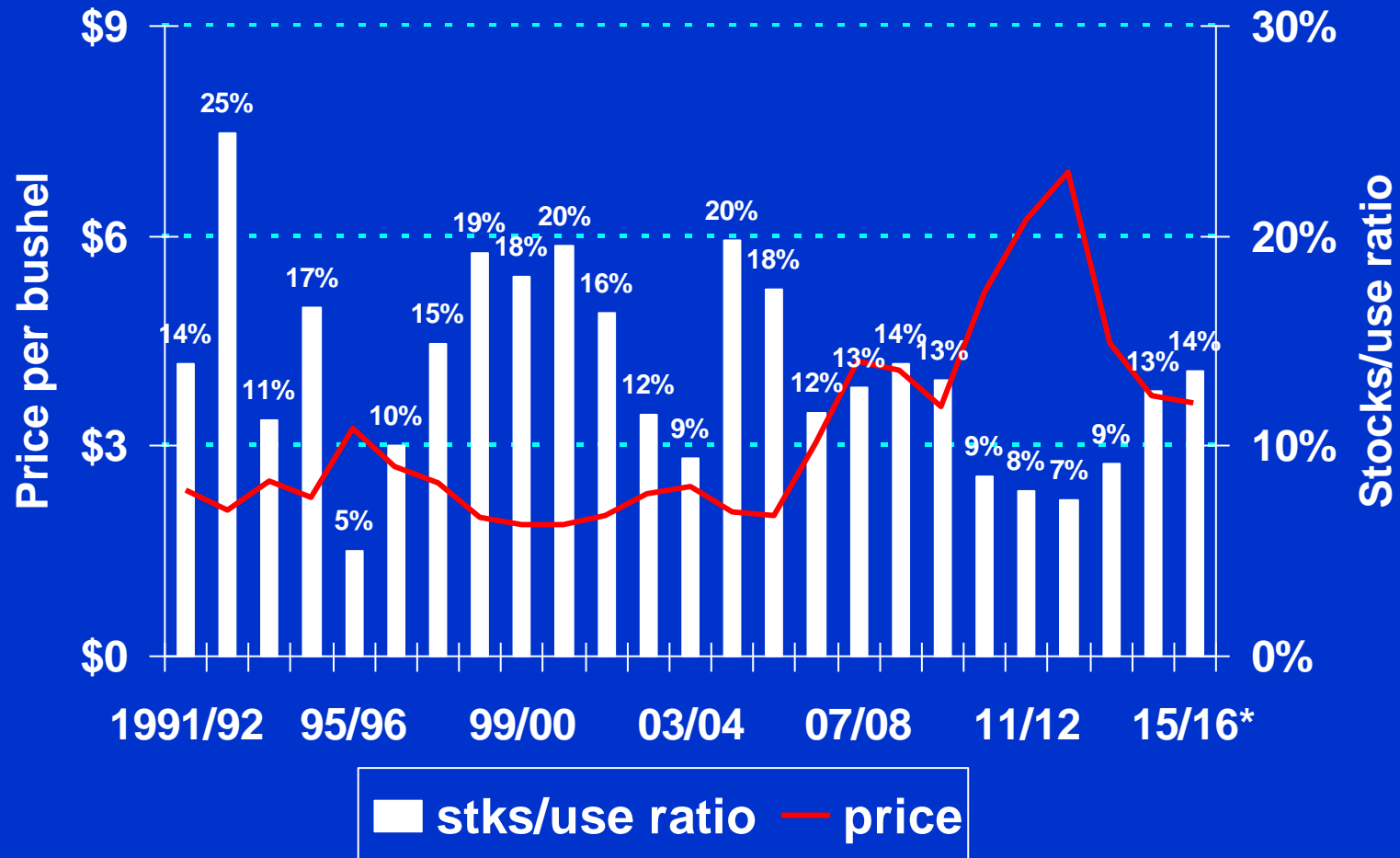
Corn production forecast: 3rd highest on record



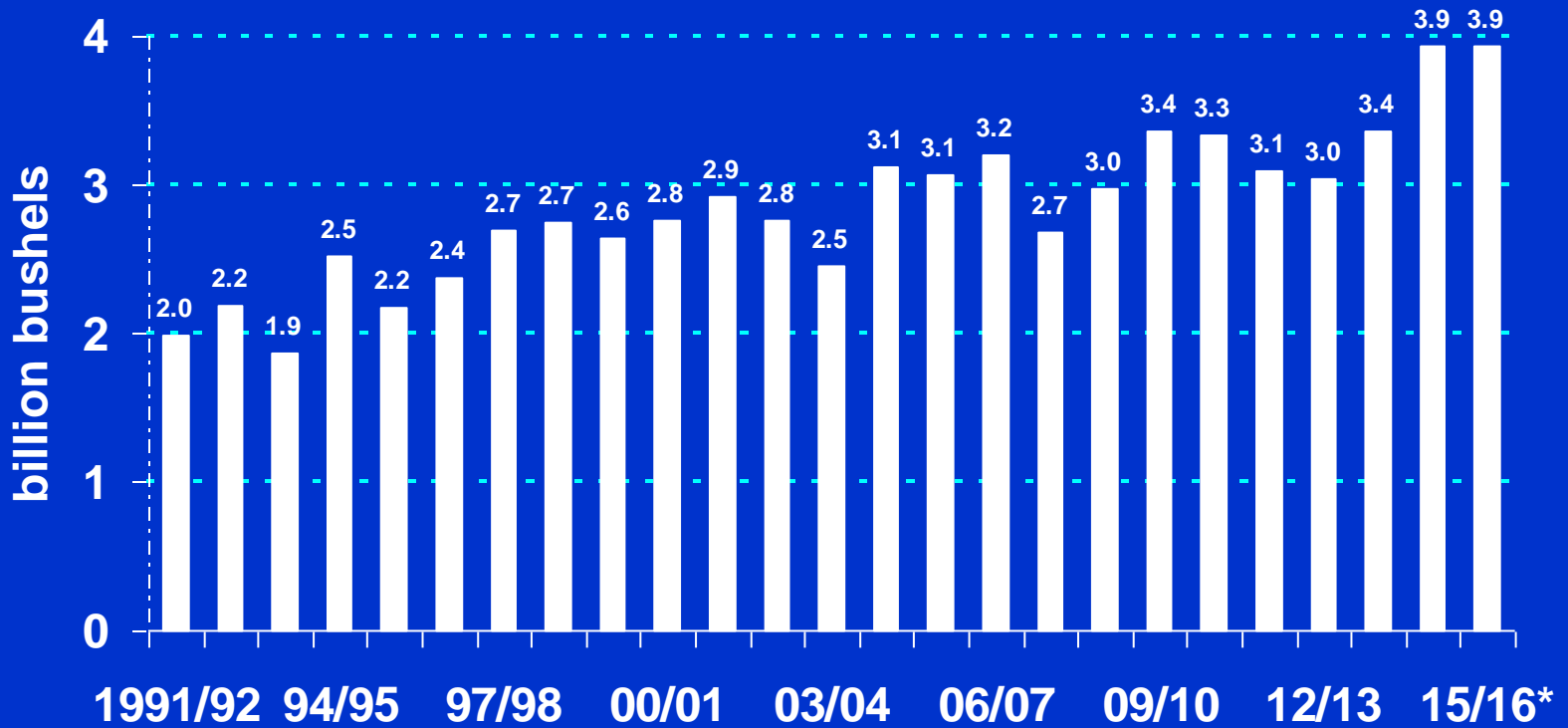
Growth in industrial demand (especially for ethanol production) surpassed feed demand for corn



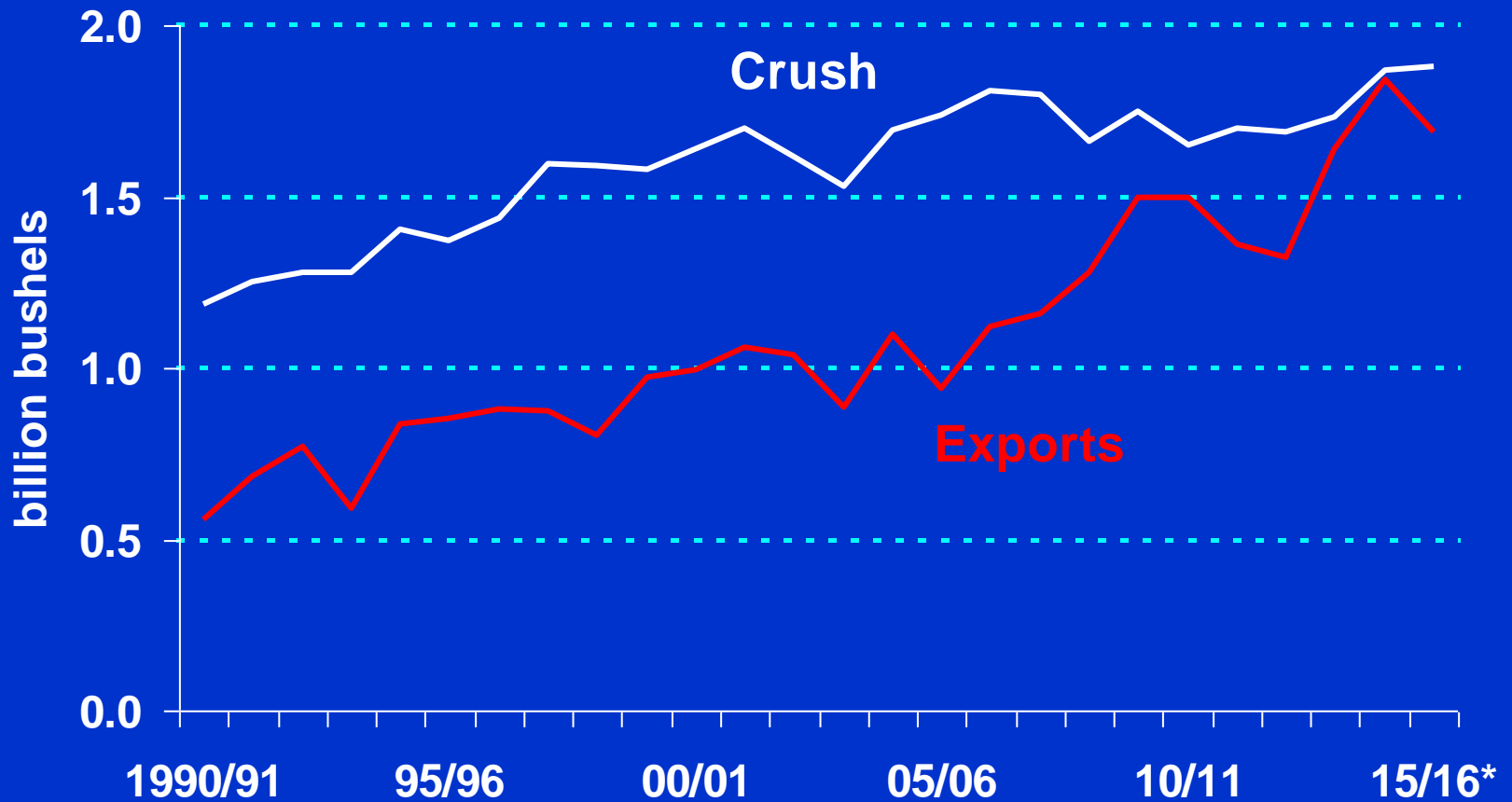
Corn prices expected to be down a bit from 2014/15



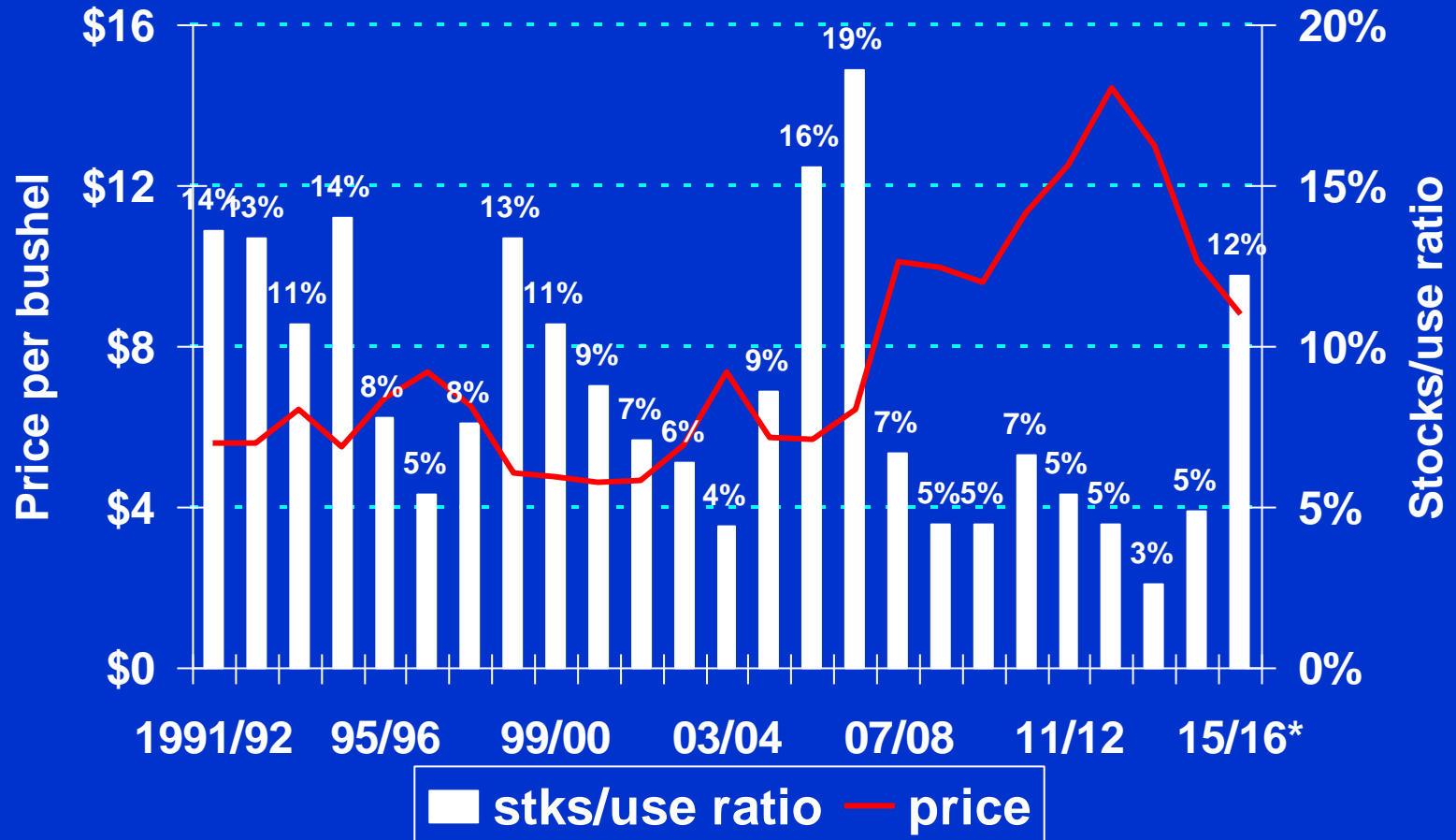
Soybean production narrowly set a new record...



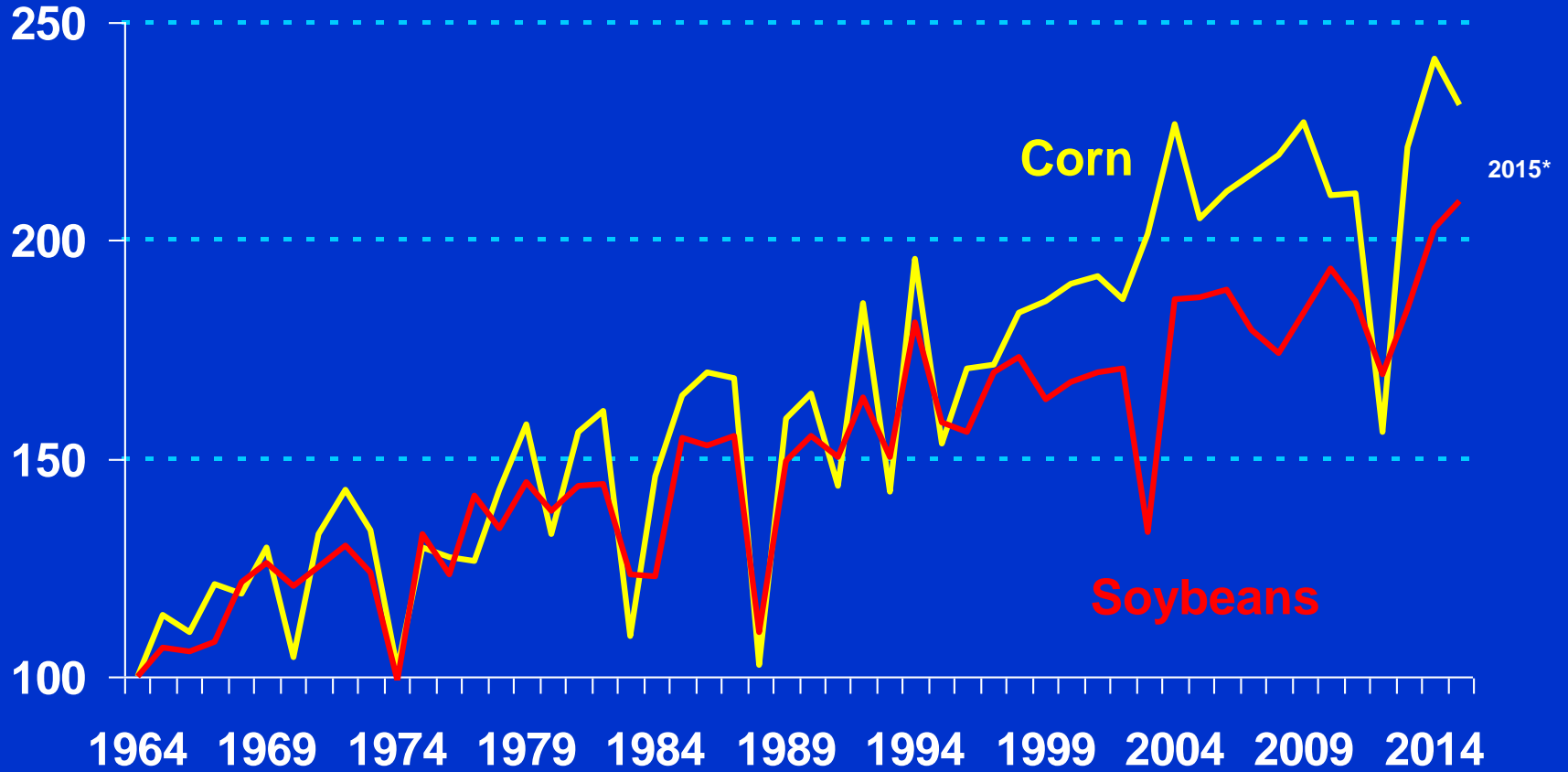
Crushings are rising again while soybean exports eased recently



Soybean prices moving lower as stocks are up more in 2015/16



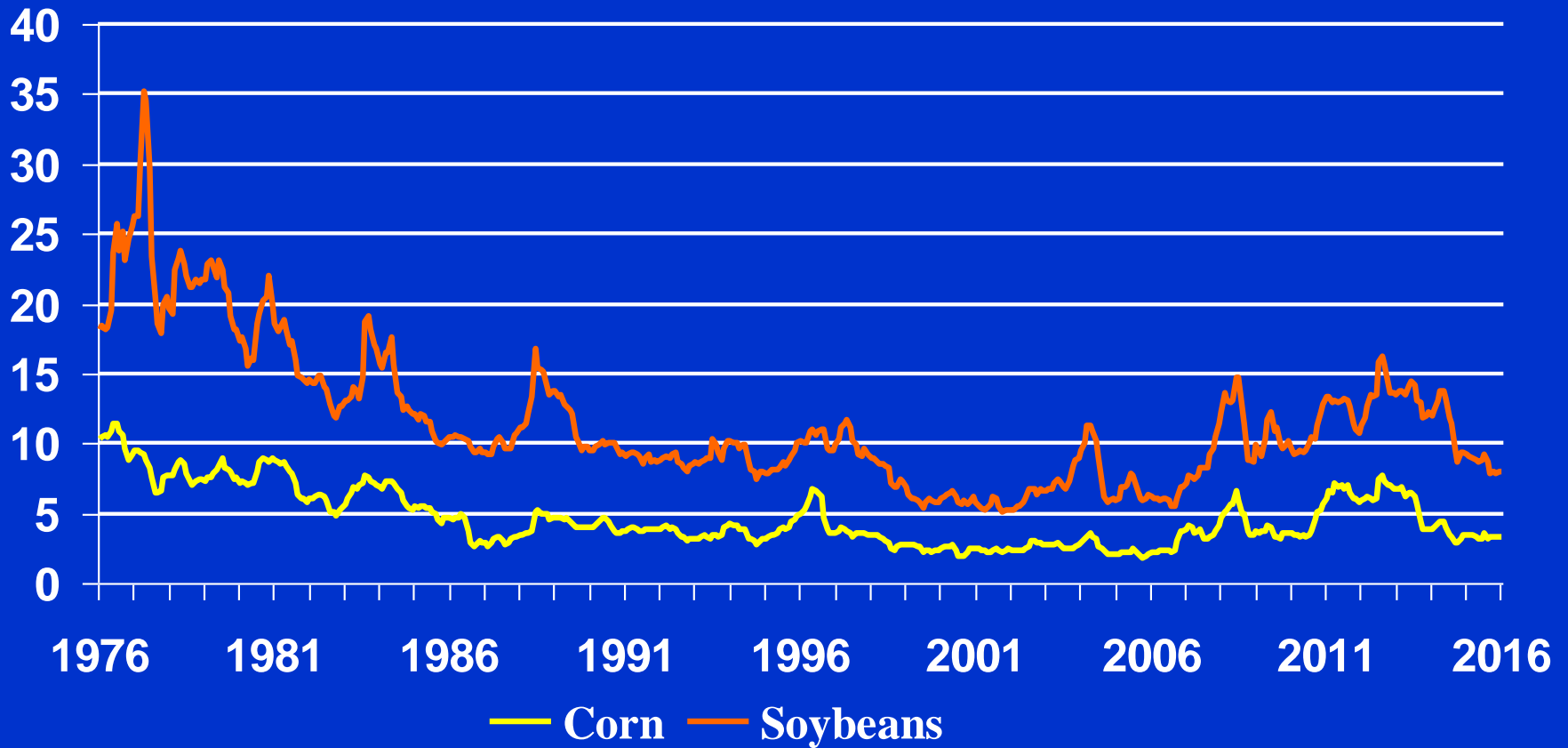
7th District Crop Yield Indexes (1964=100)



(*USDA projection)

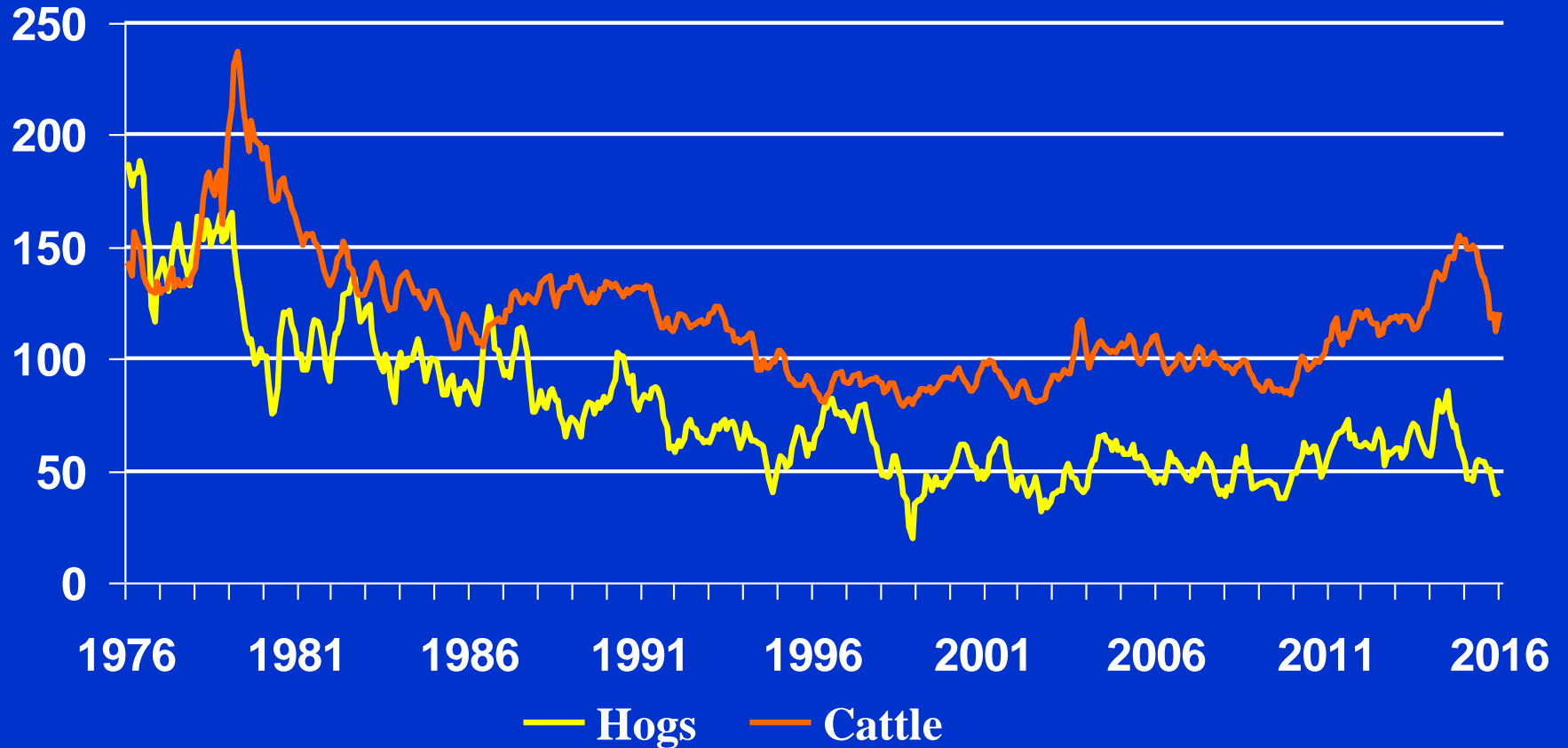
Real Cash Crop Prices

(\$/bushel, adjusted by CPI-U for January 2010)



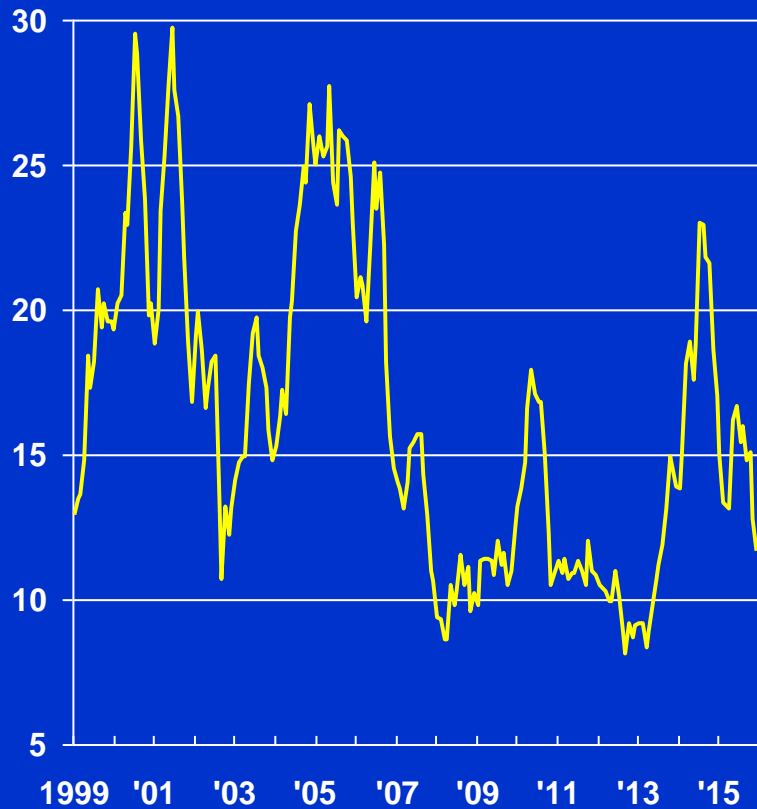
Real USDA Livestock Prices

(\$/hundredweight, adjusted by CPI-U for January 2010)

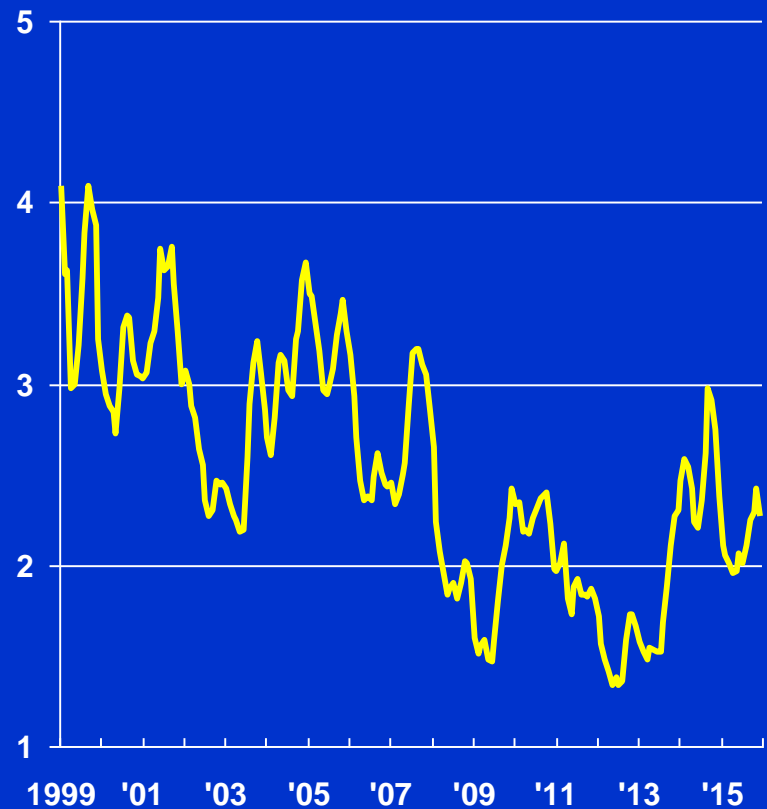


Hog and Dairy Profitability Measures

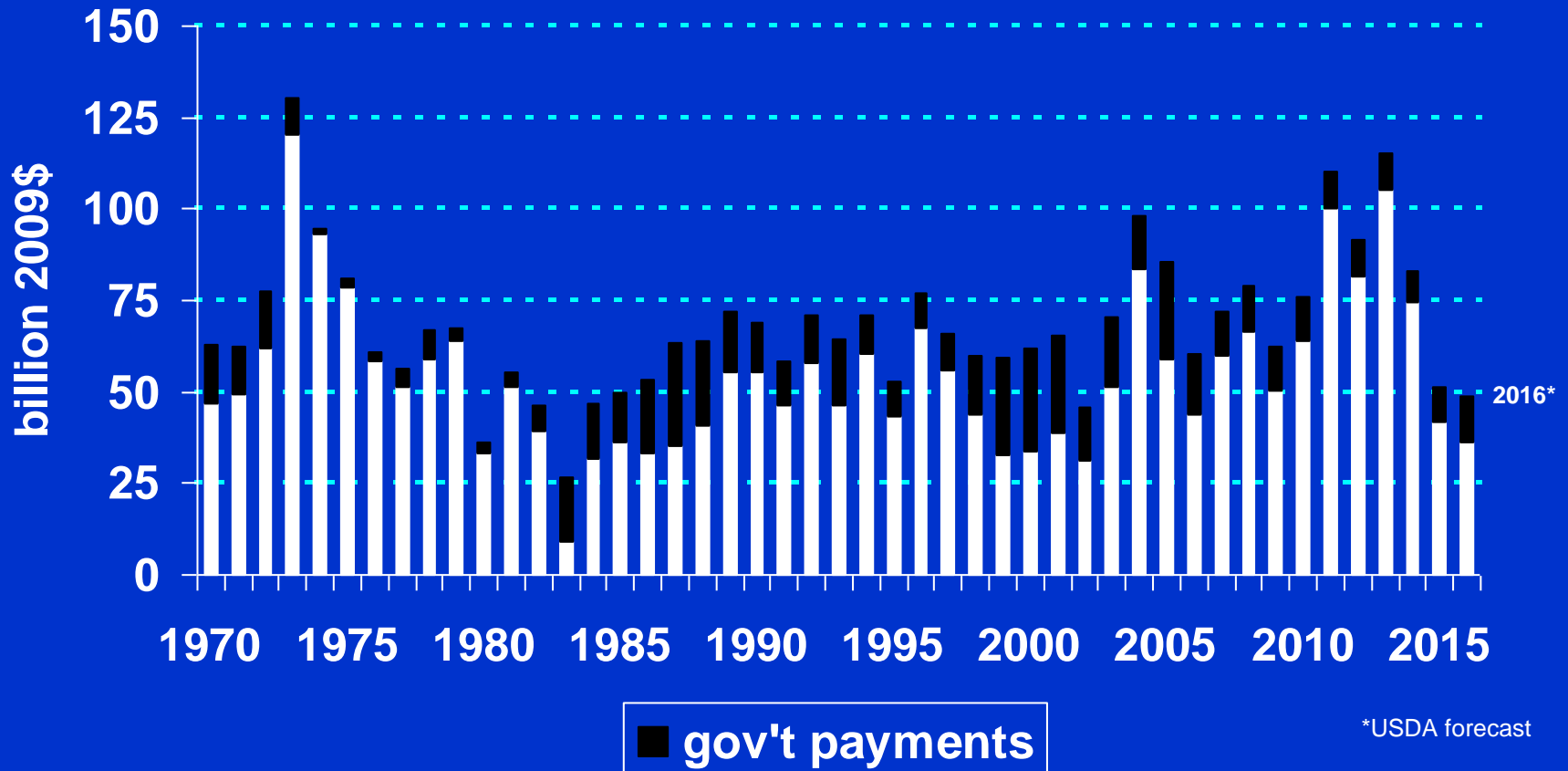
Hog-corn price ratio



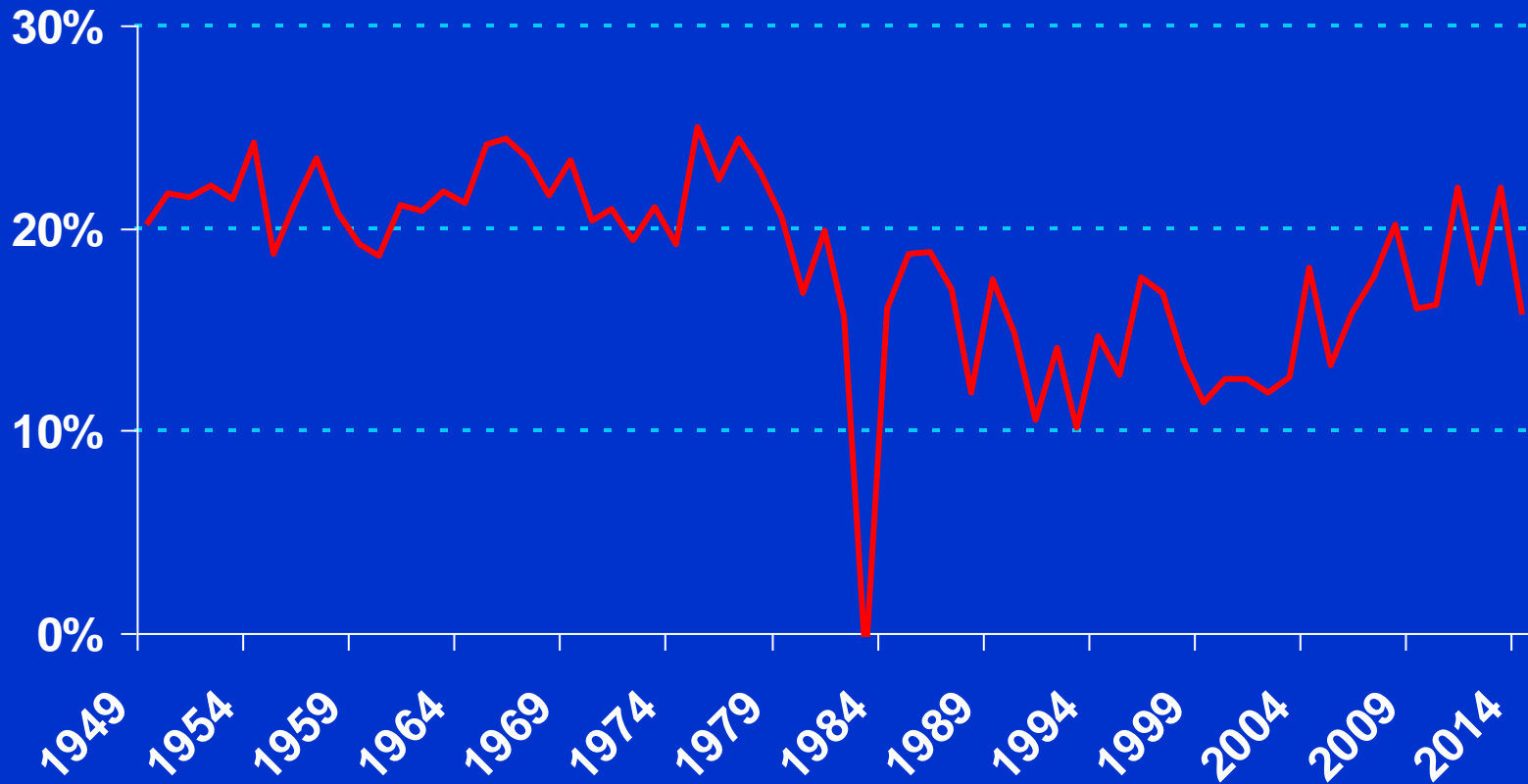
Milk-feed price ratio



Real net farm income boosted by direct government payments to farmers, but varies by farm and region

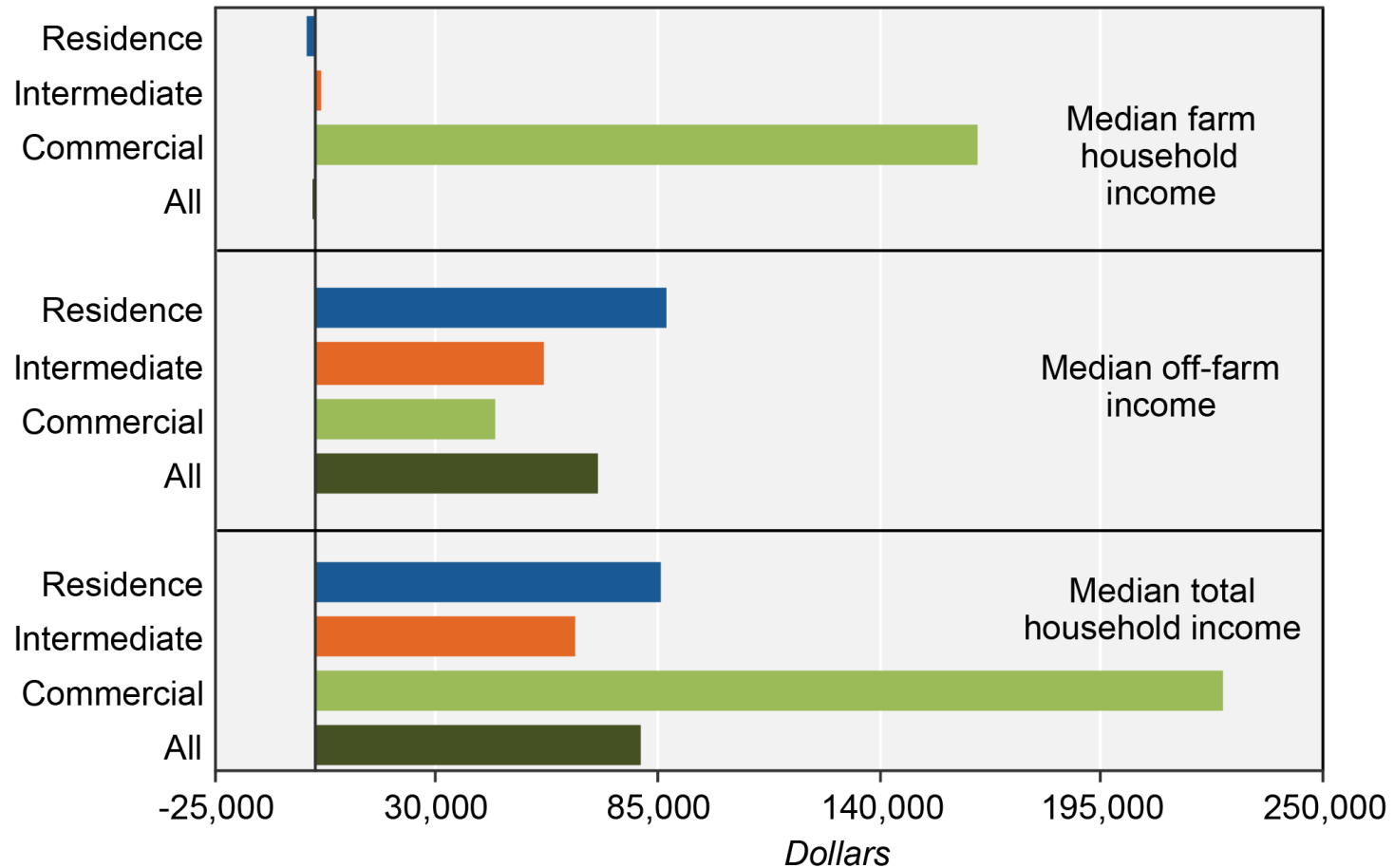


7G Share of Net Farm Income (% of U.S. total)



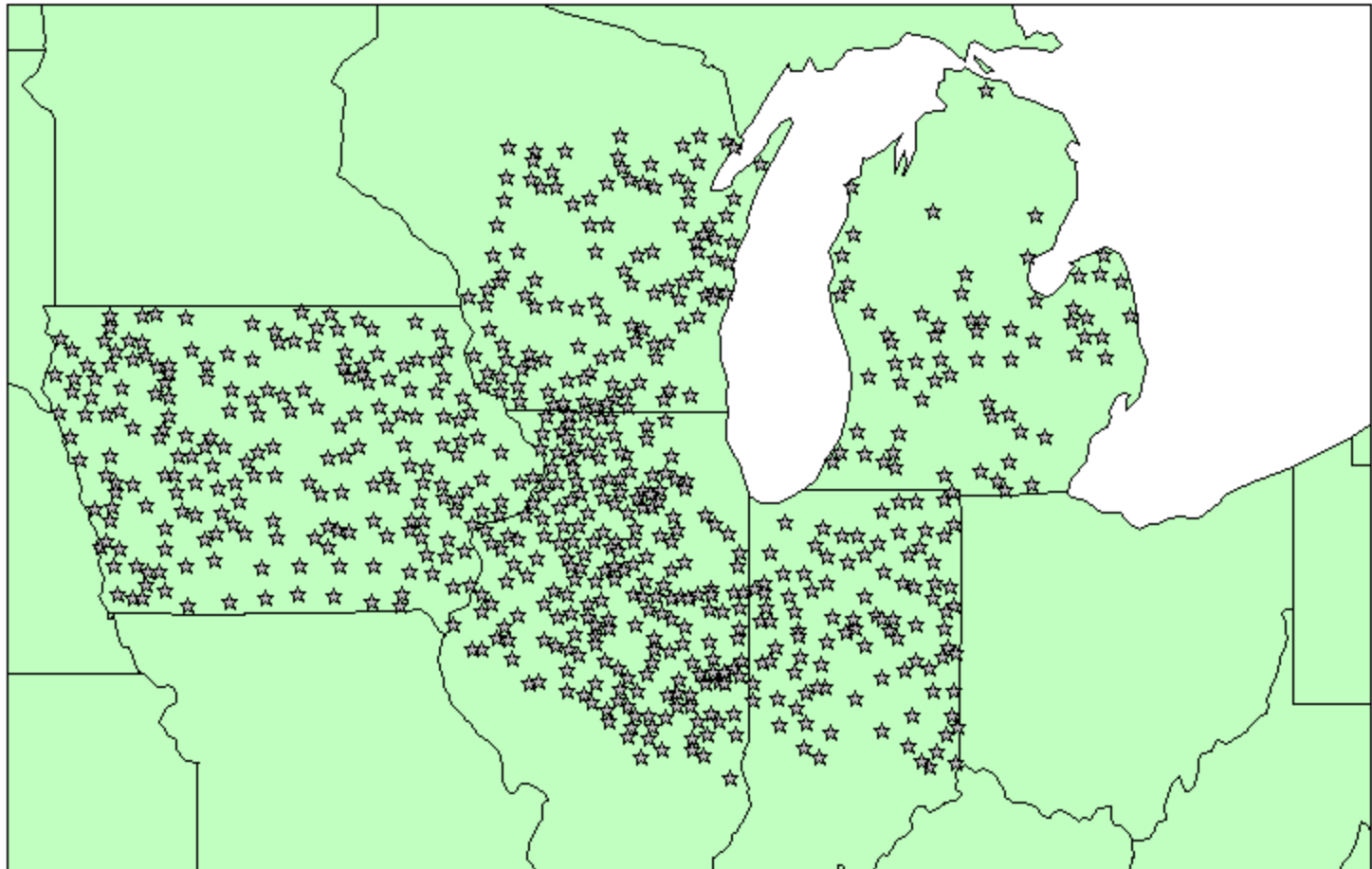
Commercial farms generate income, while the median farm loses money

Median farm income, median off-farm income, and median total income of farm operator households, by farm type, 2014

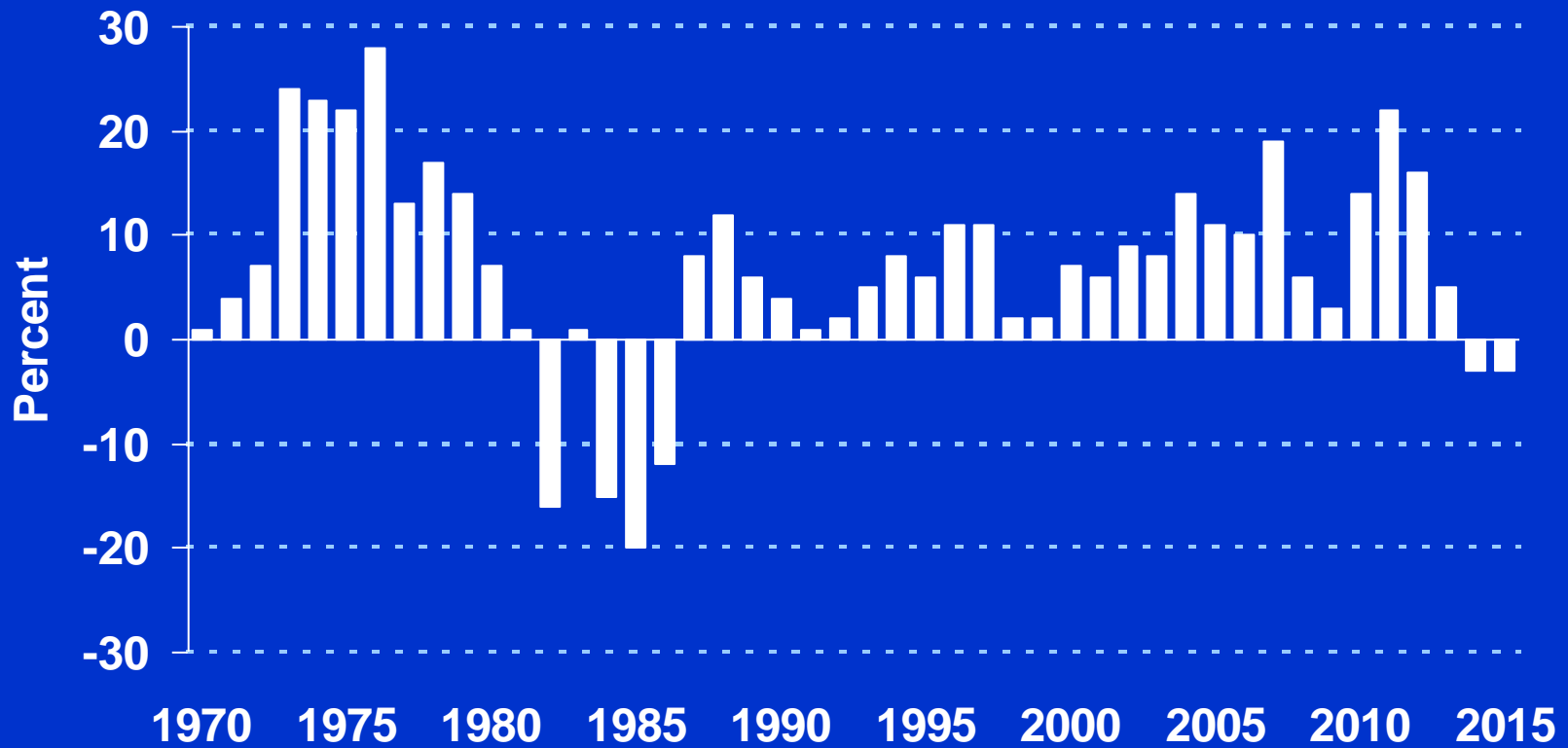


Source: USDA, Economic Research Service and National Agricultural Statistics Service, Agricultural Resource Management Survey. Data as of November 24, 2015.

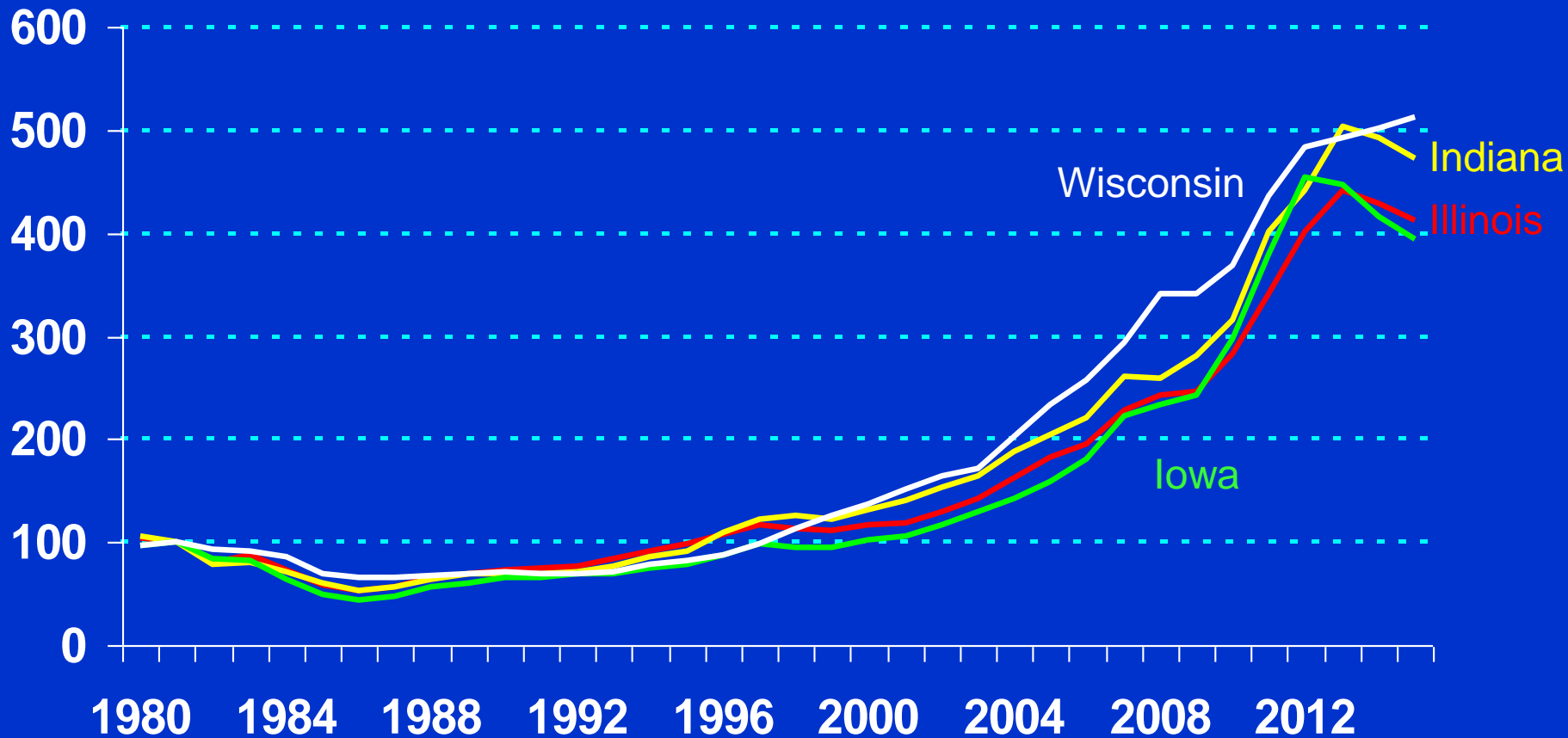
Banks in 7th District Land Value and Credit Conditions Survey



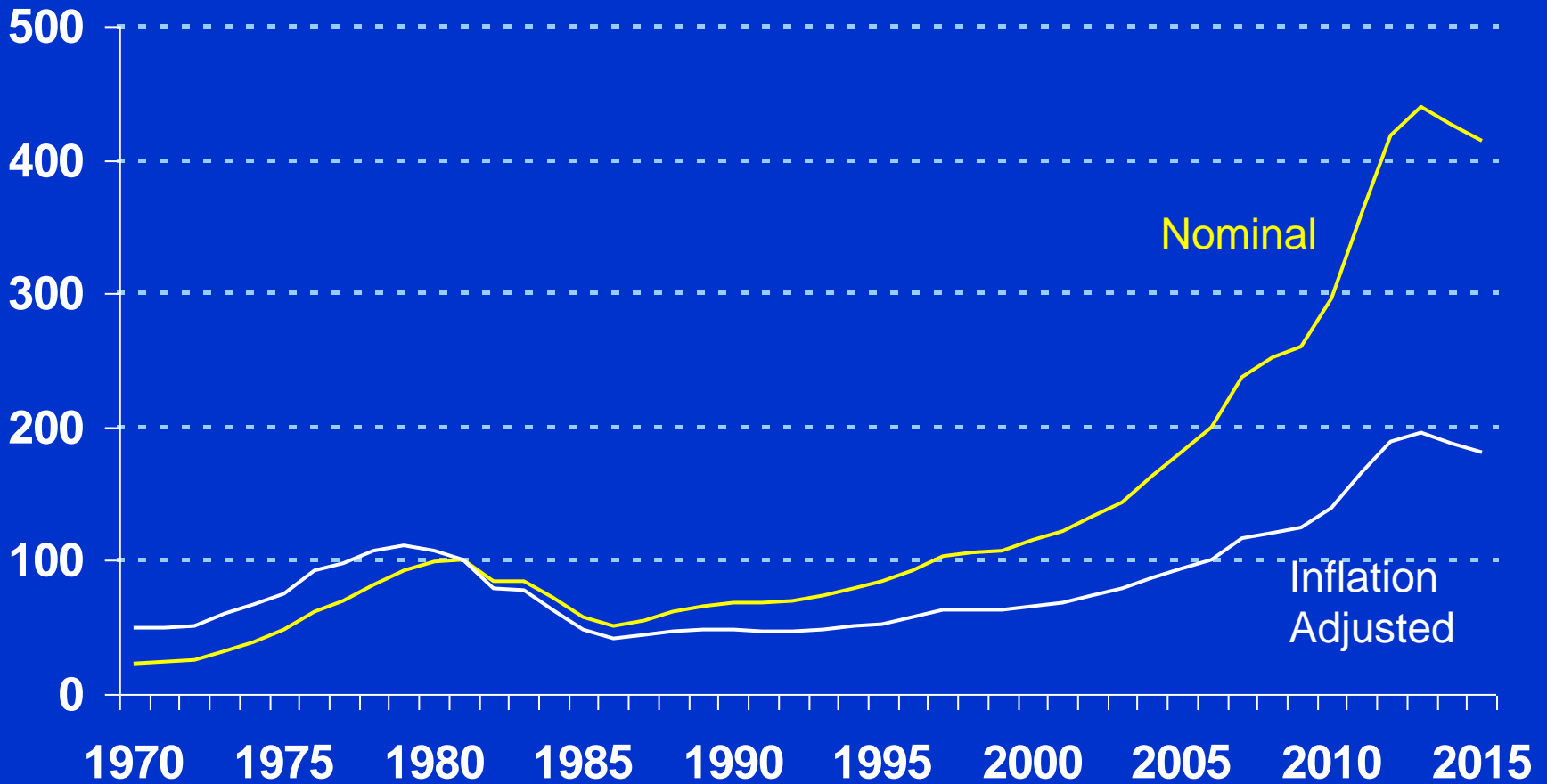
Annual change in farmland values in Seventh Federal Reserve District



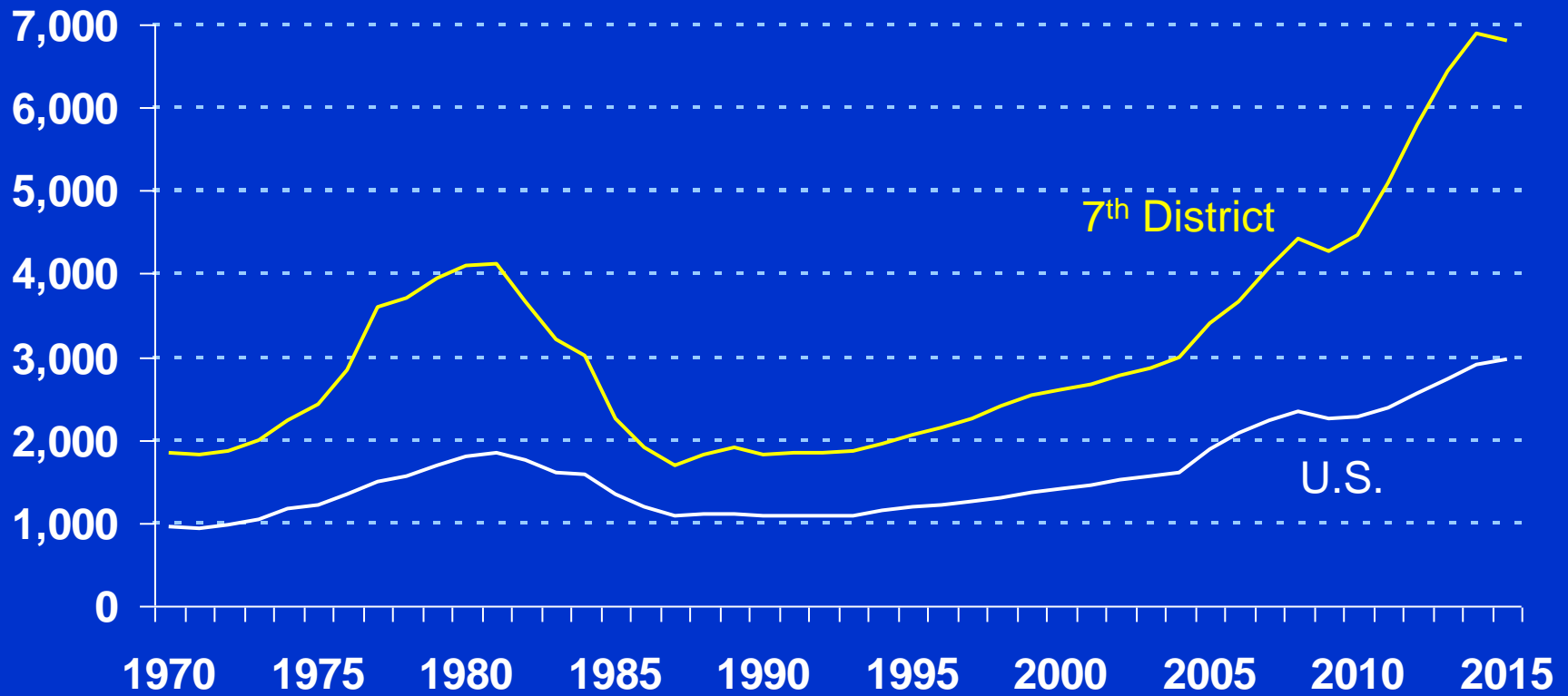
*Farmland Value Indexes
for Seventh District States
(1981=100)*



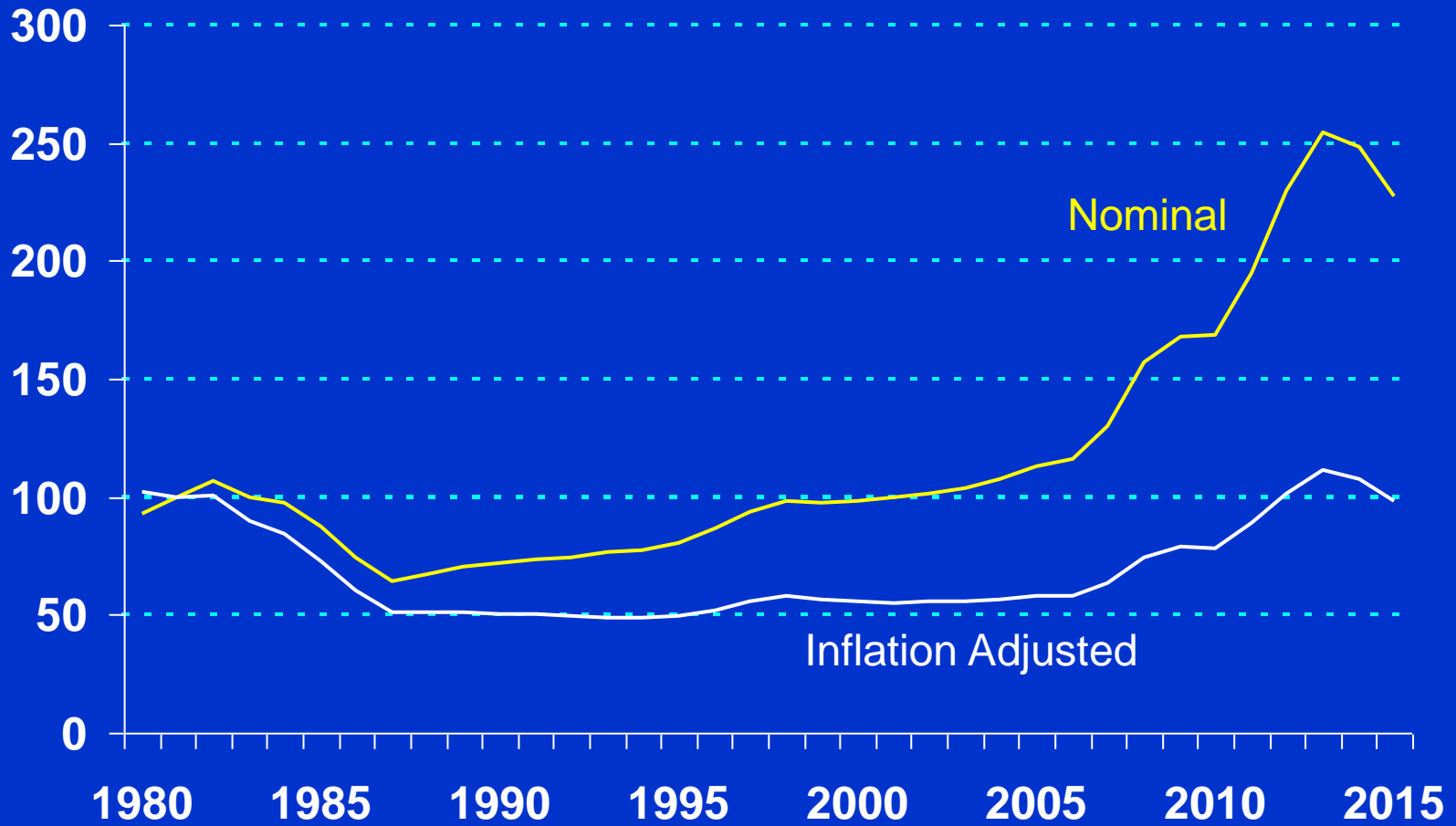
Index of Seventh District farmland values (1981=100)



***Farmland values in 2013 dollars for the U.S. and
for the Seventh Federal Reserve District
(weighted by acres from USDA data)***



Index of Seventh District Cash Rents Nominal vs. Inflation Adjusted (1981=100)



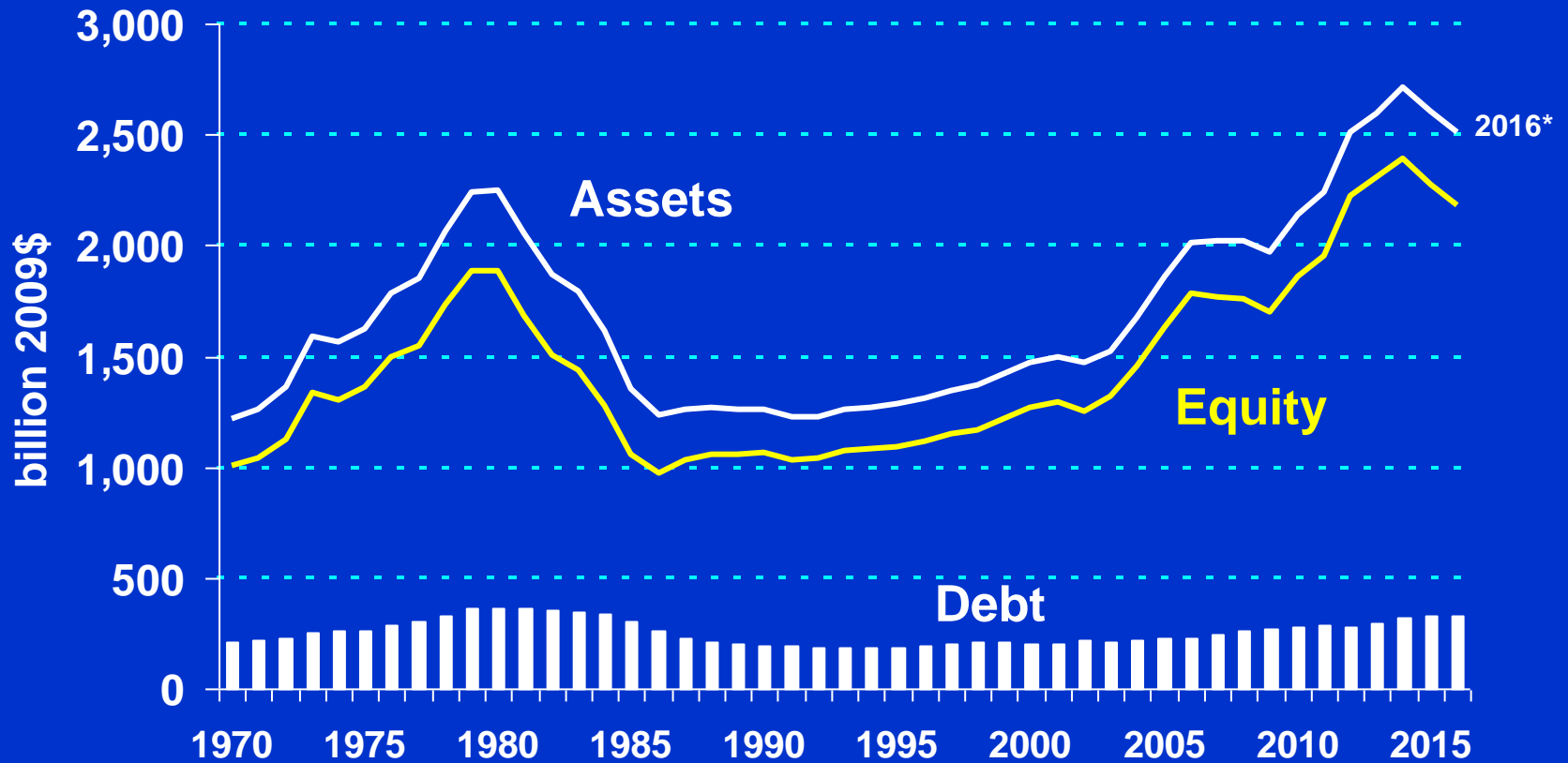
Supporting factors for farmland values?

- 1. Stream of farm income lower (at least in short term)**
- 2. Productivity and yield trends**
- 3. Mix of investors has broadened
(more diversifiers; recreational buyers returning)**
- 4. Off-farm income growth is important**
- 5. Government payments are up, but insurance programs provide less protection**
- 6. Relatively low interest rates for agriculture**
- 7. Limited availability of farmland**
- 8. Opportunism**

Where do farmland values go next?

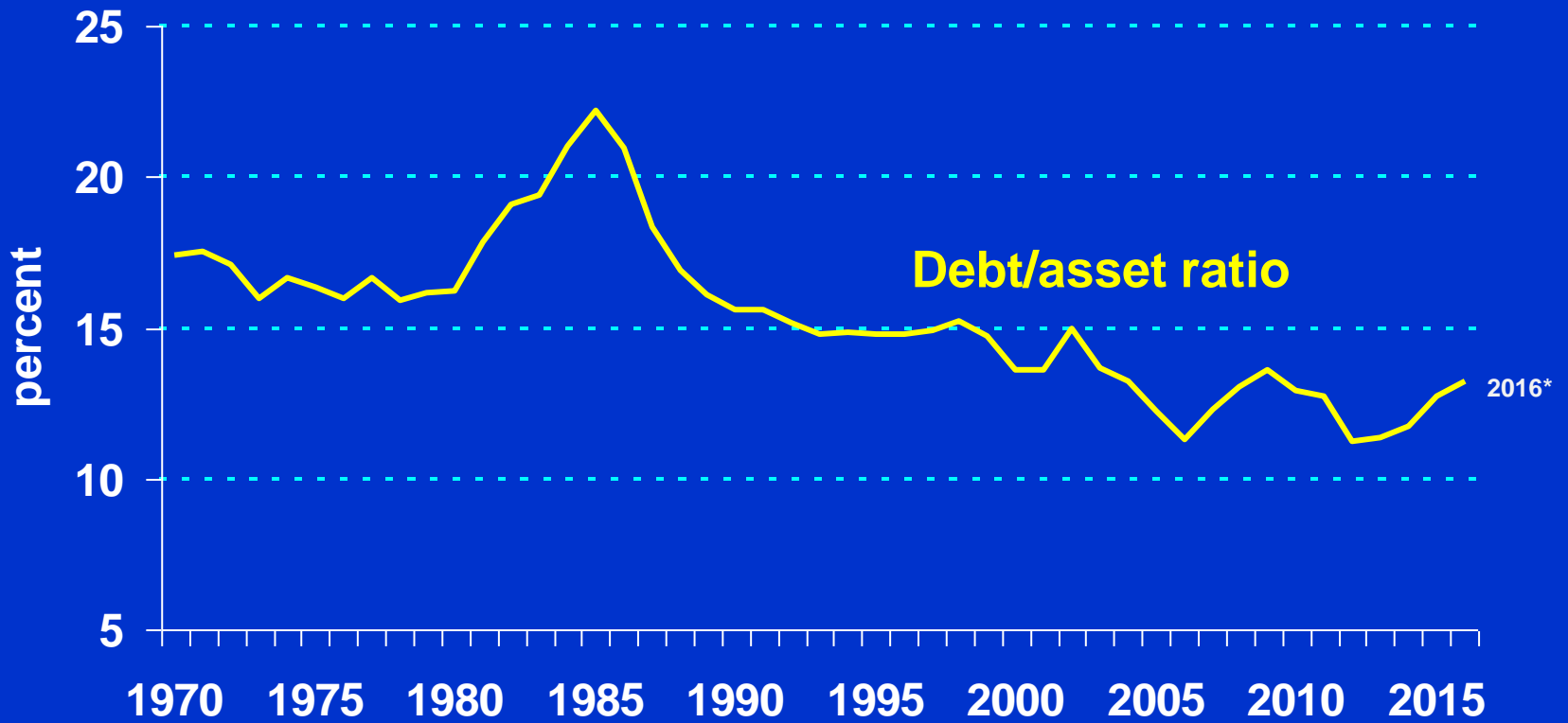
- **Supply of farmland (limited)**
- **Demand for farmland (not as strong)**
- **Farmland values increased rapidly**
- **Uncertain future, but it's not the 1980's**
- **Fundamentals mixed on the direction of farmland values, but remain positive for the longer term**

Real farm sector assets and equity at levels above prior peak



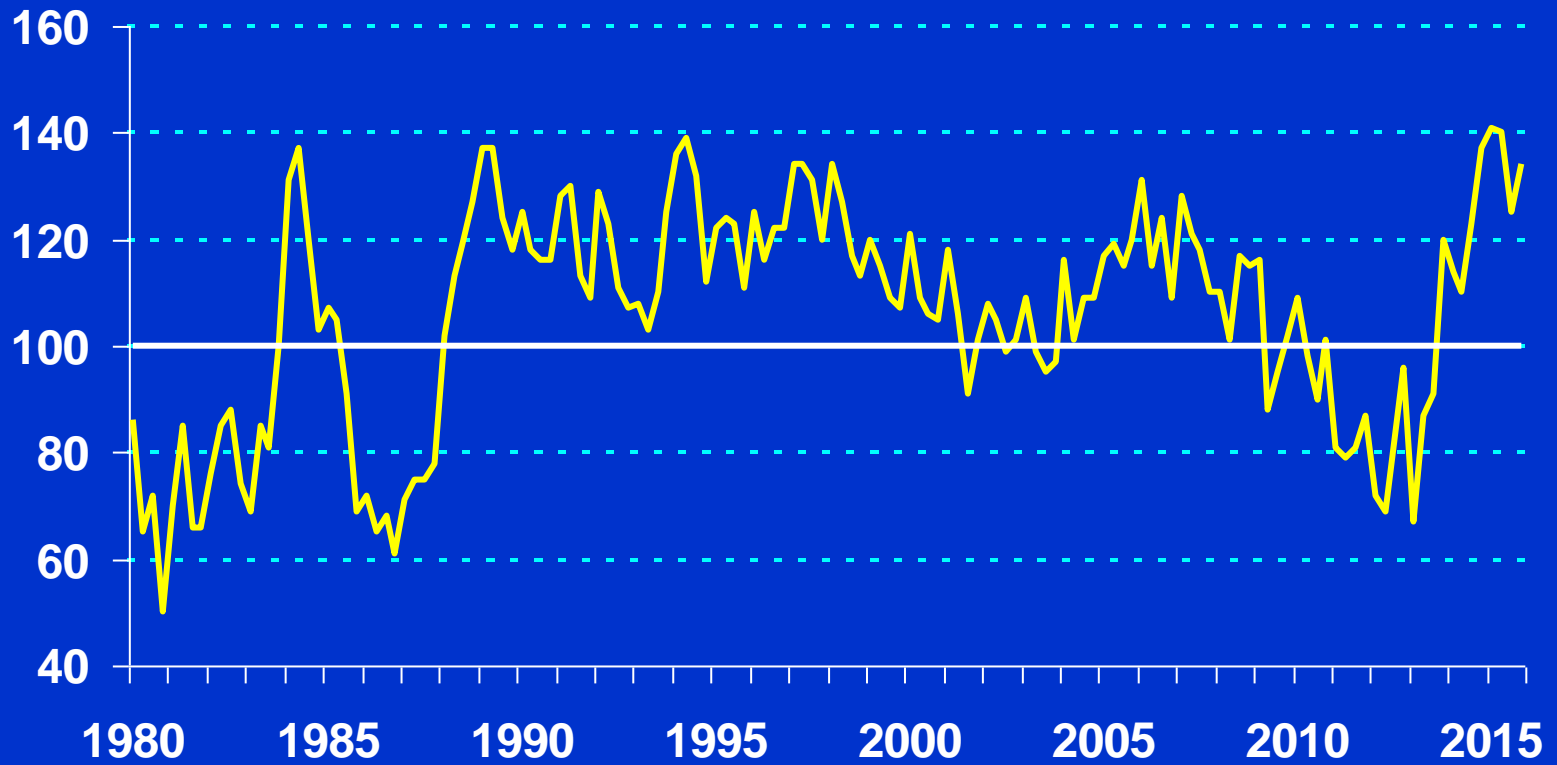
*USDA forecast

Farm financial ratios improved following the '80s crisis

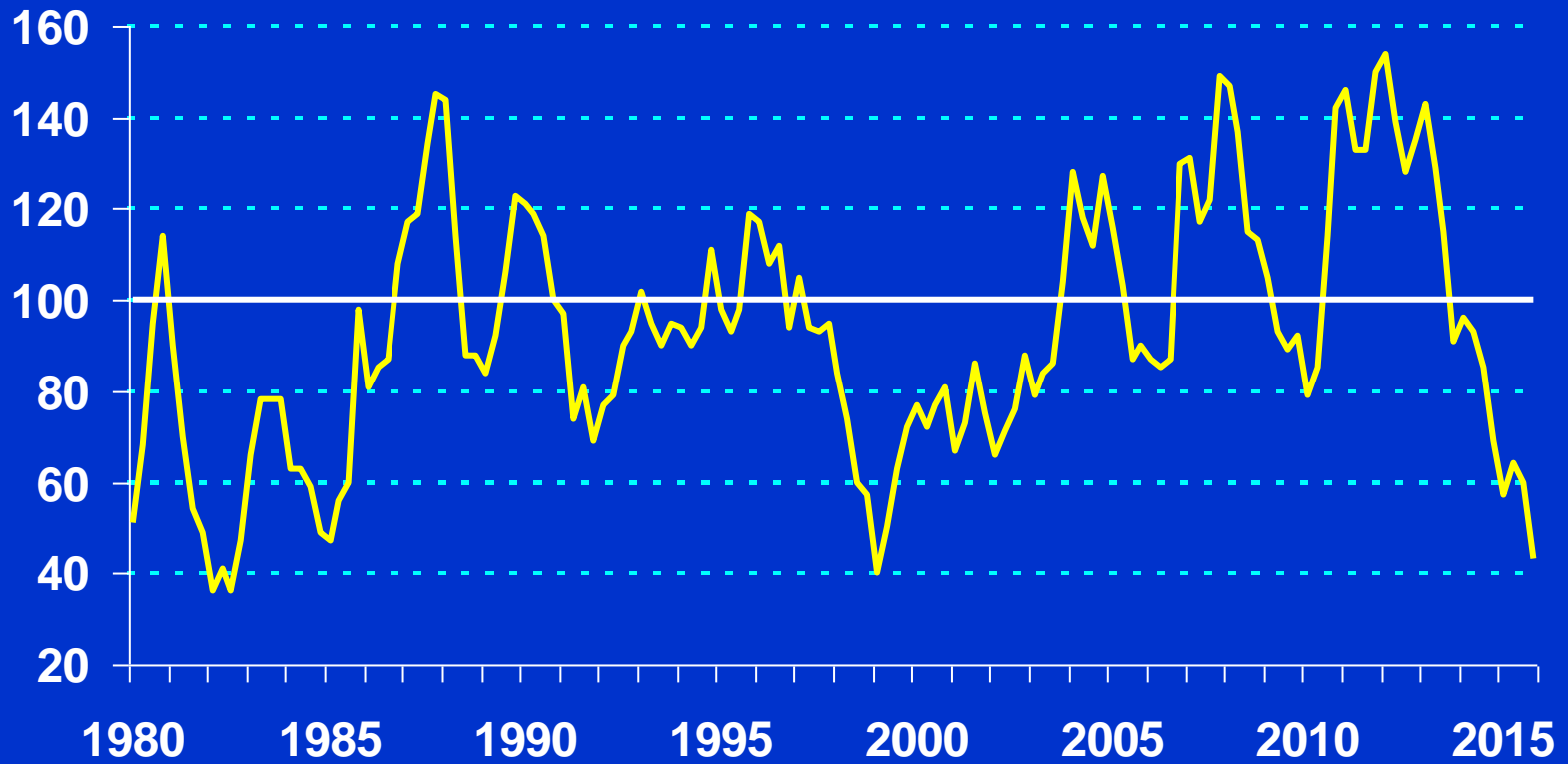


*USDA forecast

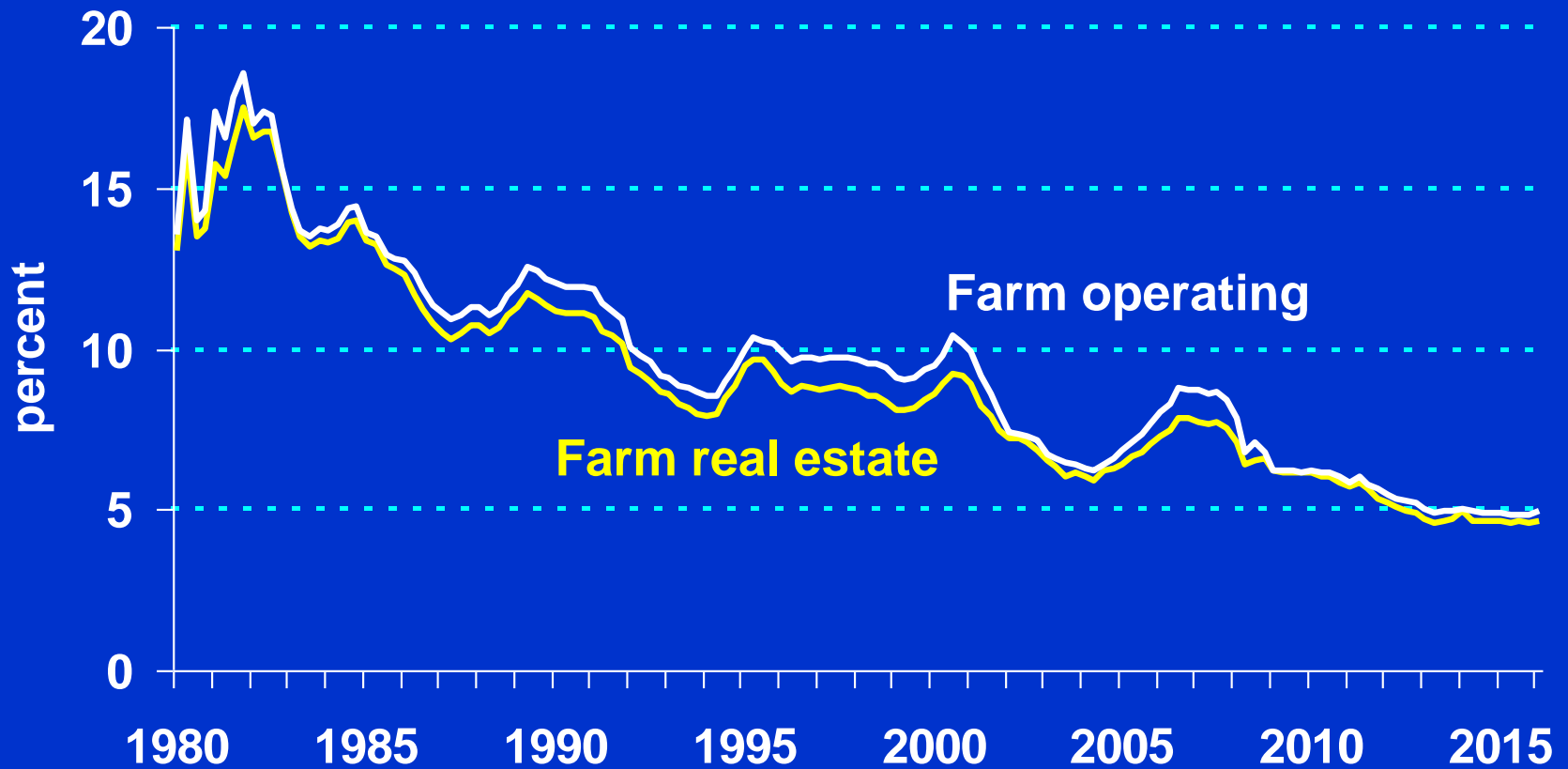
Index of agricultural loan demand for the Seventh Federal Reserve District (excluding real estate)



Index of agricultural loan repayment rates for the Seventh Federal Reserve District



Interest rates charged on new farm loans in the Seventh Federal Reserve District



Summary

- The outlook is for the U.S. economy to expand at a pace somewhat above trend in 2016
- Employment is expected to rise moderately with the unemployment rate edging lower
- Slackness in the economy will lead to a relatively low inflation rate, rising toward 2%
- Growth in manufacturing output should resume
- Housing turned the corner, but still has far to go
- Net exports remain a wild card given world conditions

Impacts on Agriculture

- Solid U.S. economic growth boosting demand at restaurants and for animal products
- Weak world economic growth and stronger value of the dollar holding back U.S. agricultural exports
- Plentiful grain and oilseed supplies pushing down prices and feed costs for animal agriculture, but livestock prices down too
- Stubborn input costs counter low interest rates
- Lower levels of farm income; farmland values adjusting
- Strong past decade for agriculture tempers downturn

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