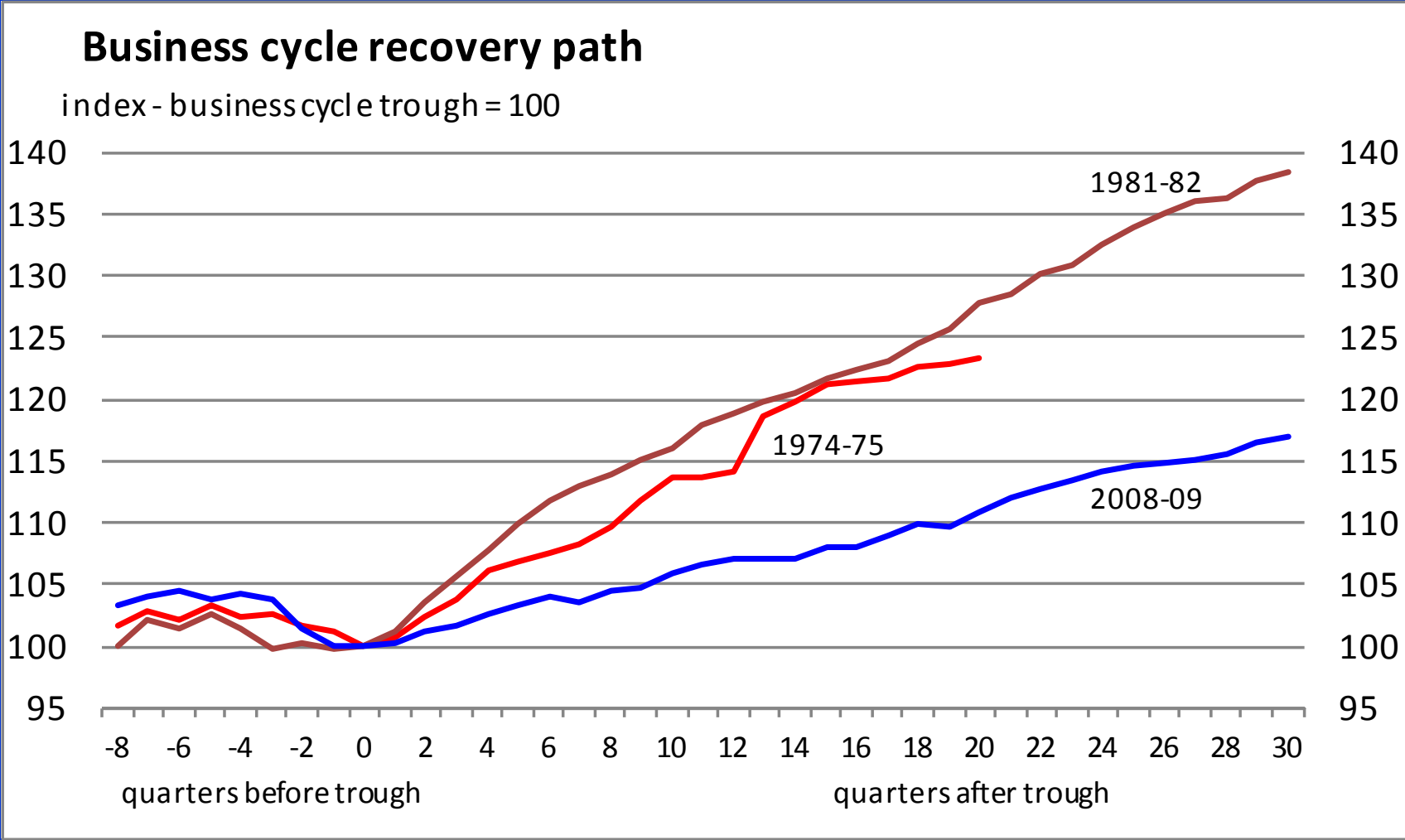

A Perspective on Monetary Policy

March 23, 2017
Bloomington, IL

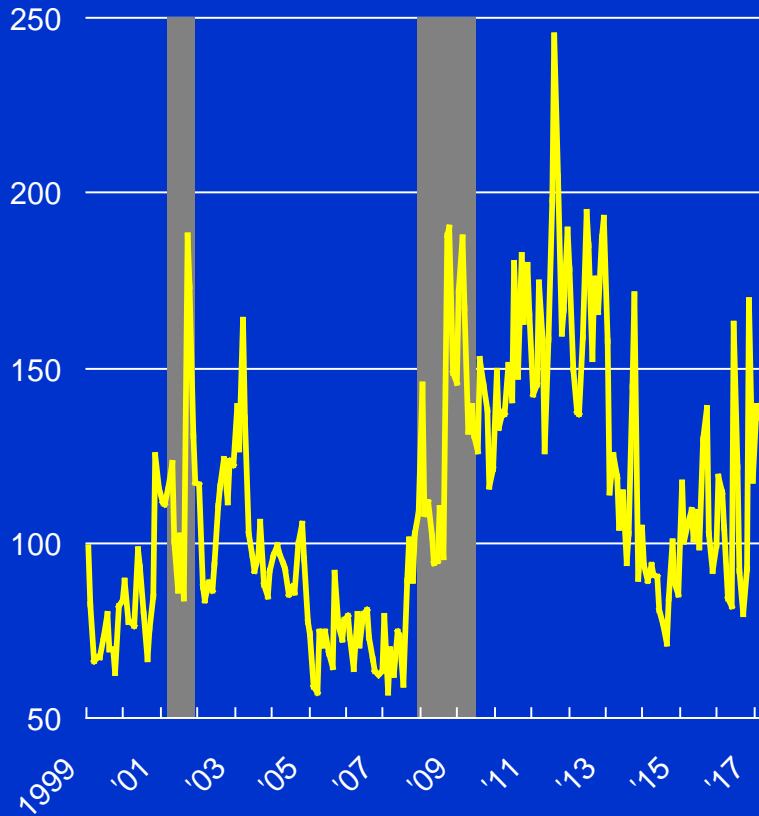
David Oppedahl
Senior Business Economist
312-322-6122
david.oppedahl@chi.frb.org

The path of this recovery has been below past deep recession recovery cycles

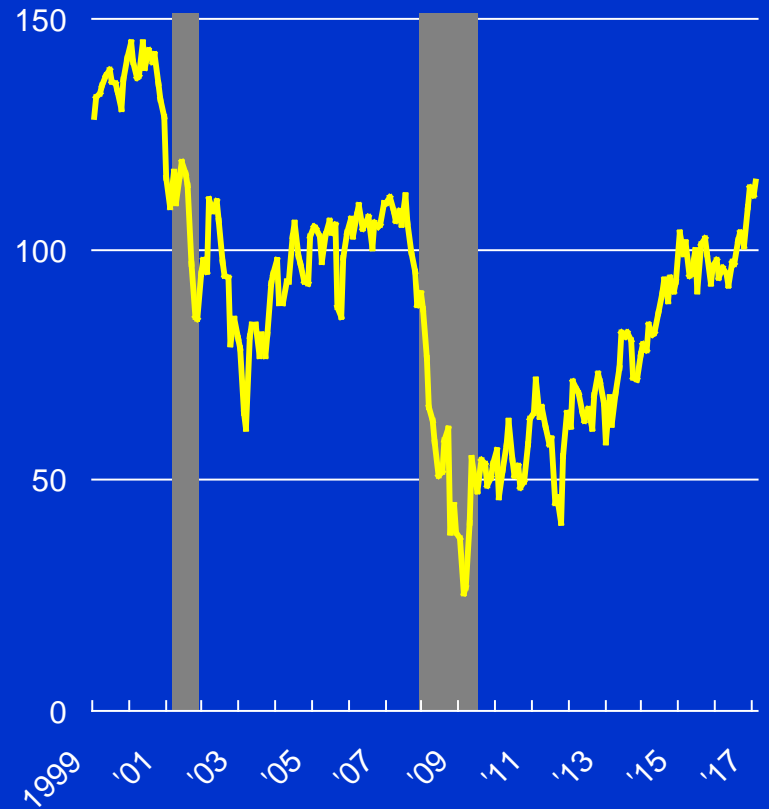


Confidence rising as uncertainty persists

Economic Policy Uncertainty Index



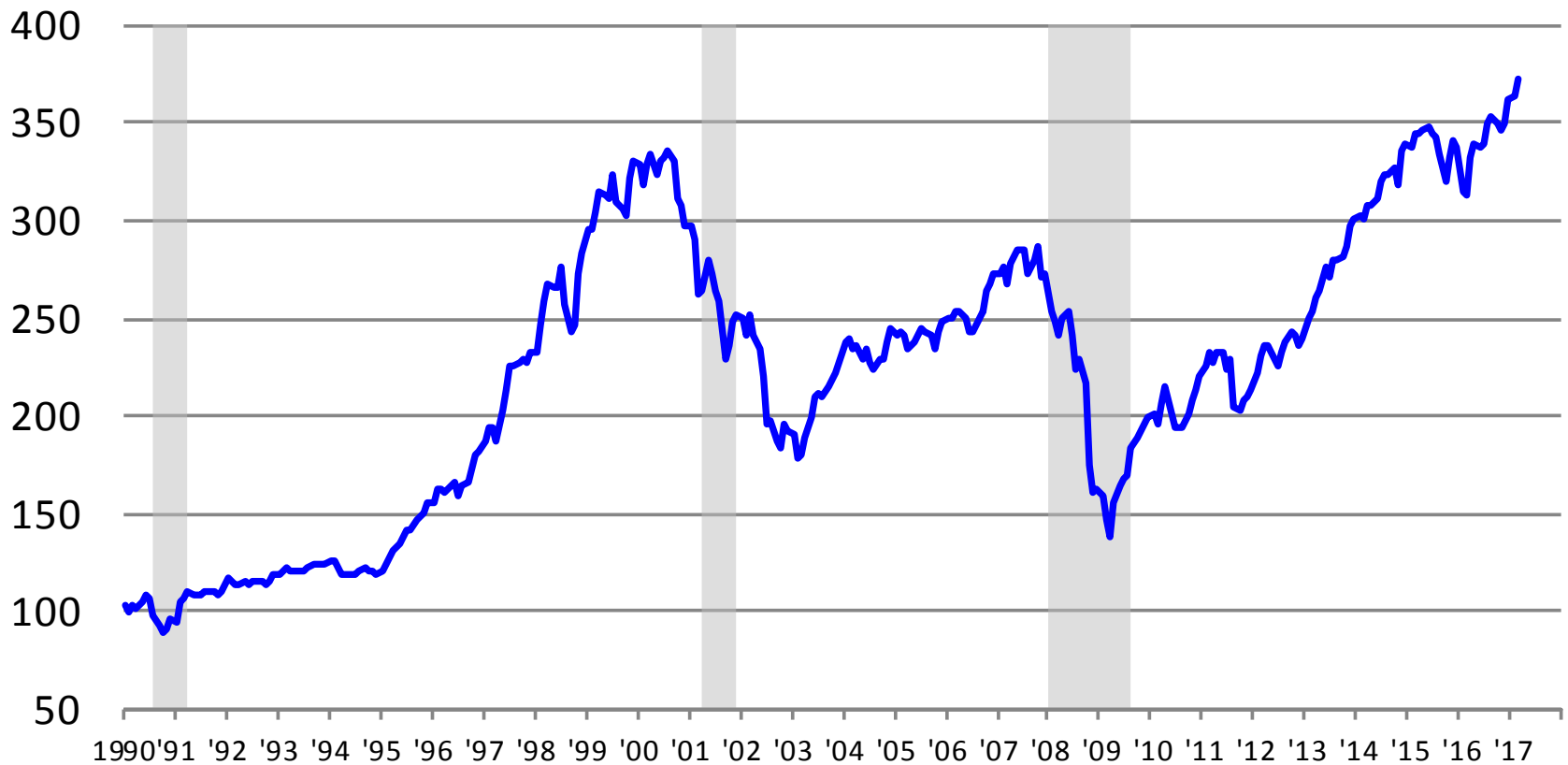
Consumer Confidence (Conf. Board)



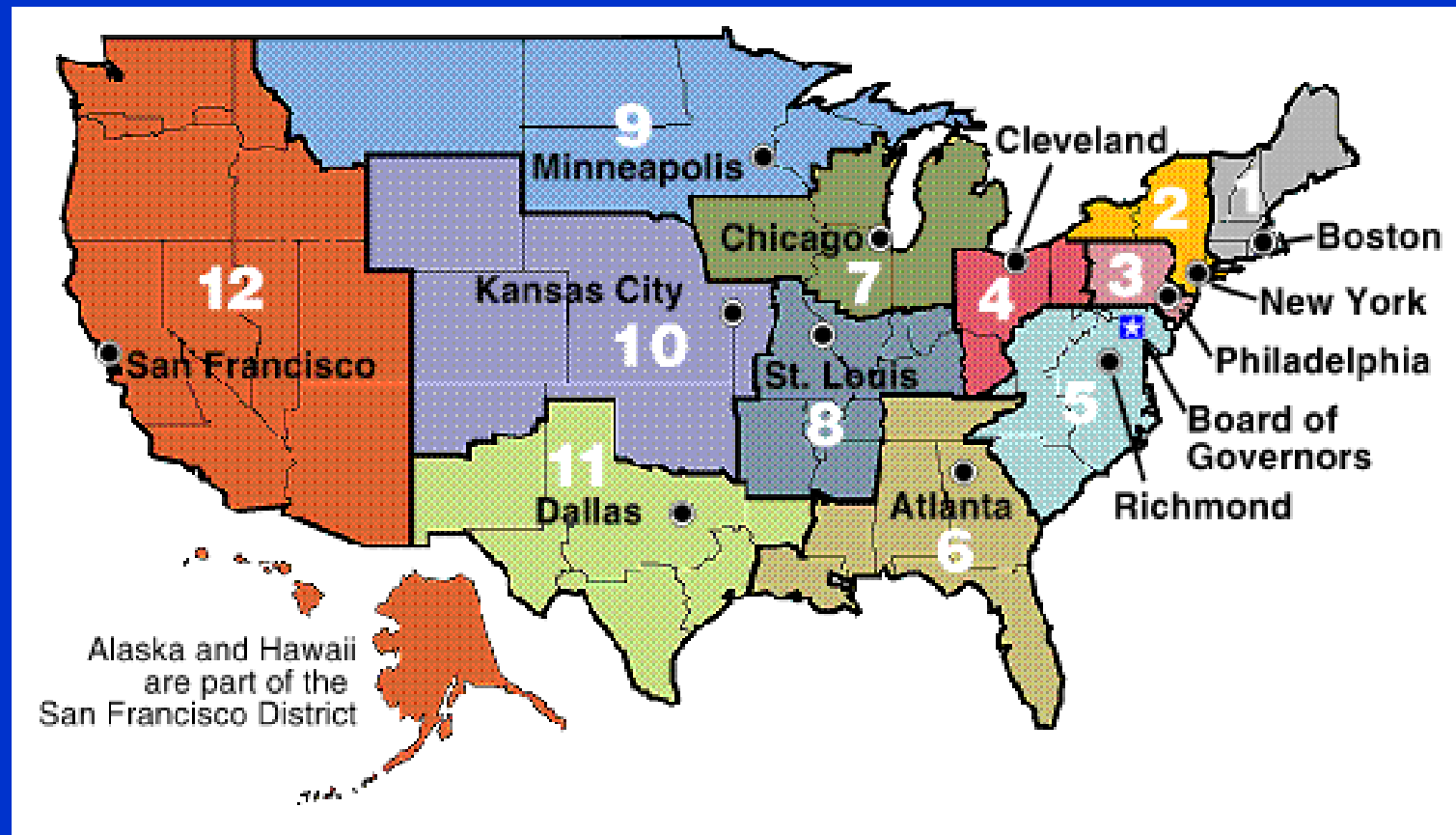
Record stock markets

Real S&P 500 stock index

Index: 1990 = 100



Federal Reserve System



How does the Fed affect agriculture?

- Interest rates
- Price level (inflation)
- National income (GDP)
- Exchange rates (indirectly)

What is the Federal Reserve System?

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

- **Functions of the Fed**
 - **Monetary policy**
 - **Regulator of financial institutions**
 - **Provides banking services for U.S. government**
 - **Electronic funds transfer & financial services**
 - **Protect credit rights of consumers**

Board of Governors of the Federal Reserve System



Janet L. Yellen
Chair



Stanley Fischer
Vice Chair



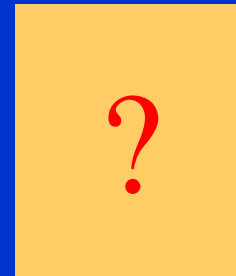
Daniel K. Tarullo



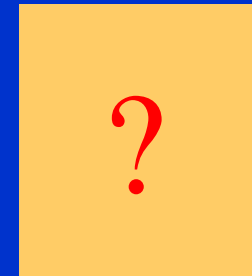
Jerome Powell



Lael Brainard



Vacant



Vacant

Presidents of the Federal Reserve Banks



Eric S. Rosengren

First District - Boston



William C. Dudley

Second District - New York



Patrick T. Harker

Third District - Philadelphia



Loretta J. Mester

Fourth District - Cleveland



Jeffrey M. Lacker

Fifth District - Richmond



Interim President

Sixth District - Atlanta



Charles L. Evans

Seventh District - Chicago



James B. Bullard

Eighth District - St. Louis



Neel Kashkari

Ninth District - Minneapolis



Esther George

Tenth District - Kansas City



Robert S. Kaplan

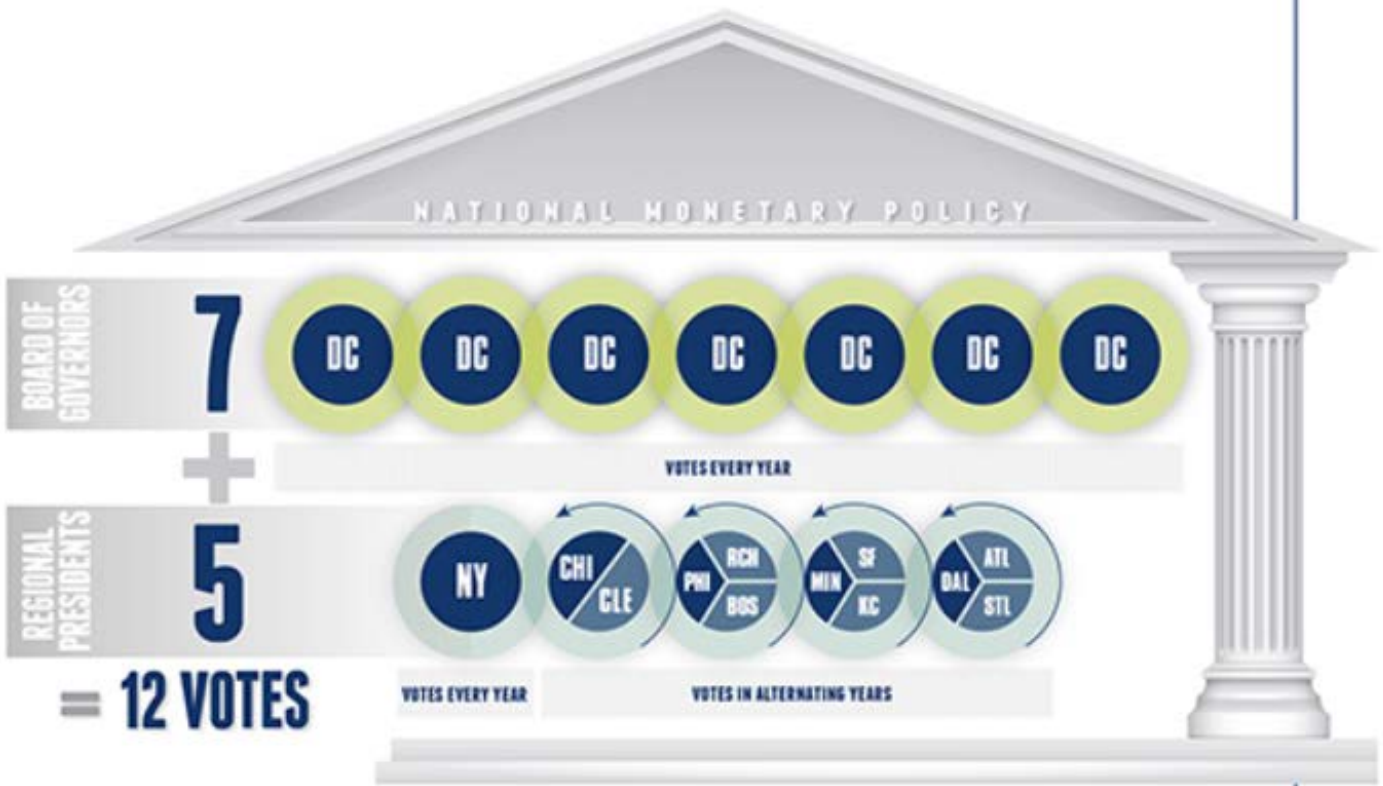
Eleventh District - Dallas



John C. Williams

Twelfth District - San Francisco

HOW DOES THE FOMC VOTE?



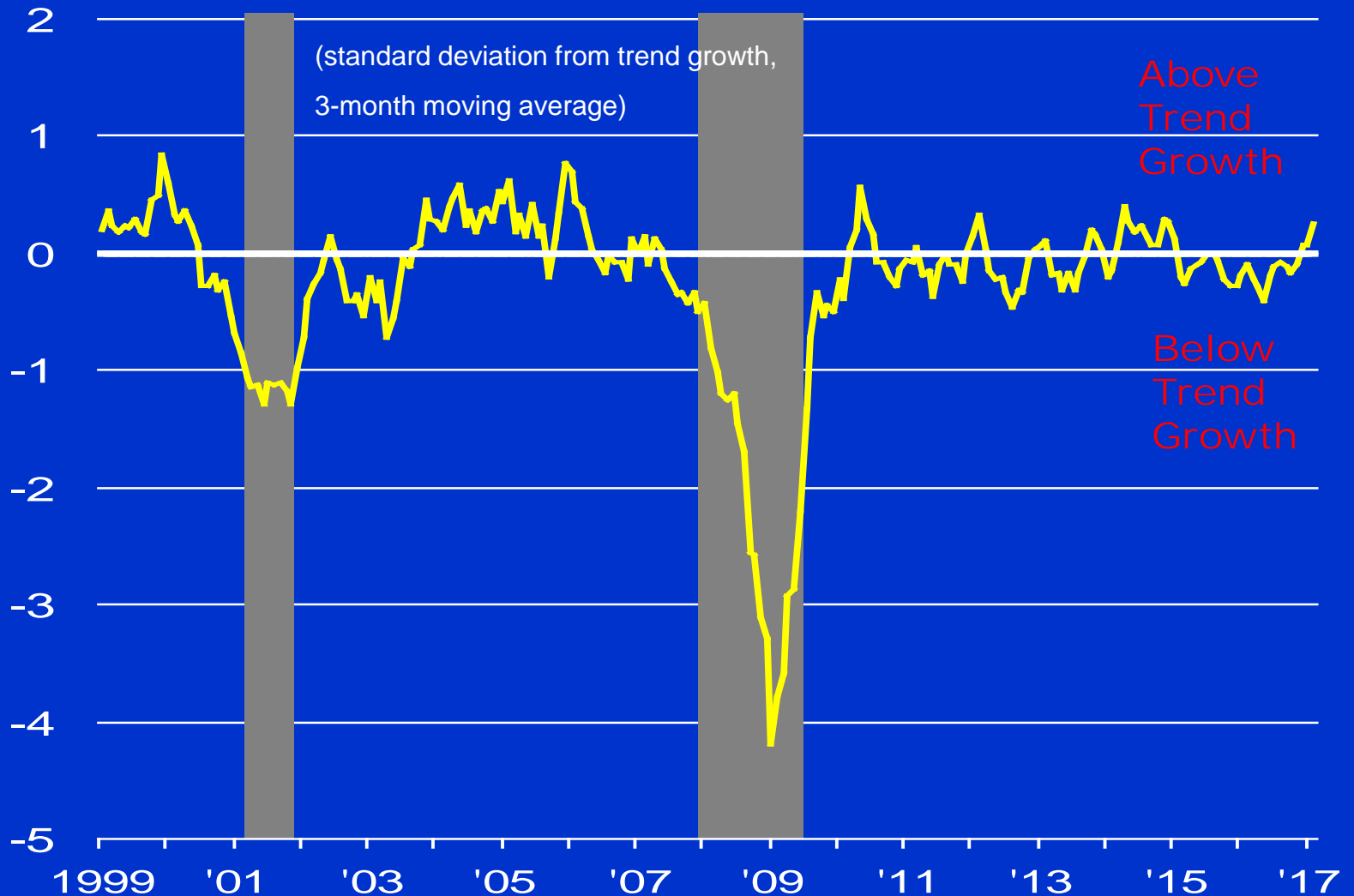
PREPARED BY THE FEDERAL RESERVE BANK OF CHICAGO
WWW.FEDERALRESERVE.GOV/FOMC

BOARD OF GOVERNORS 
REGIONAL PRESIDENTS 

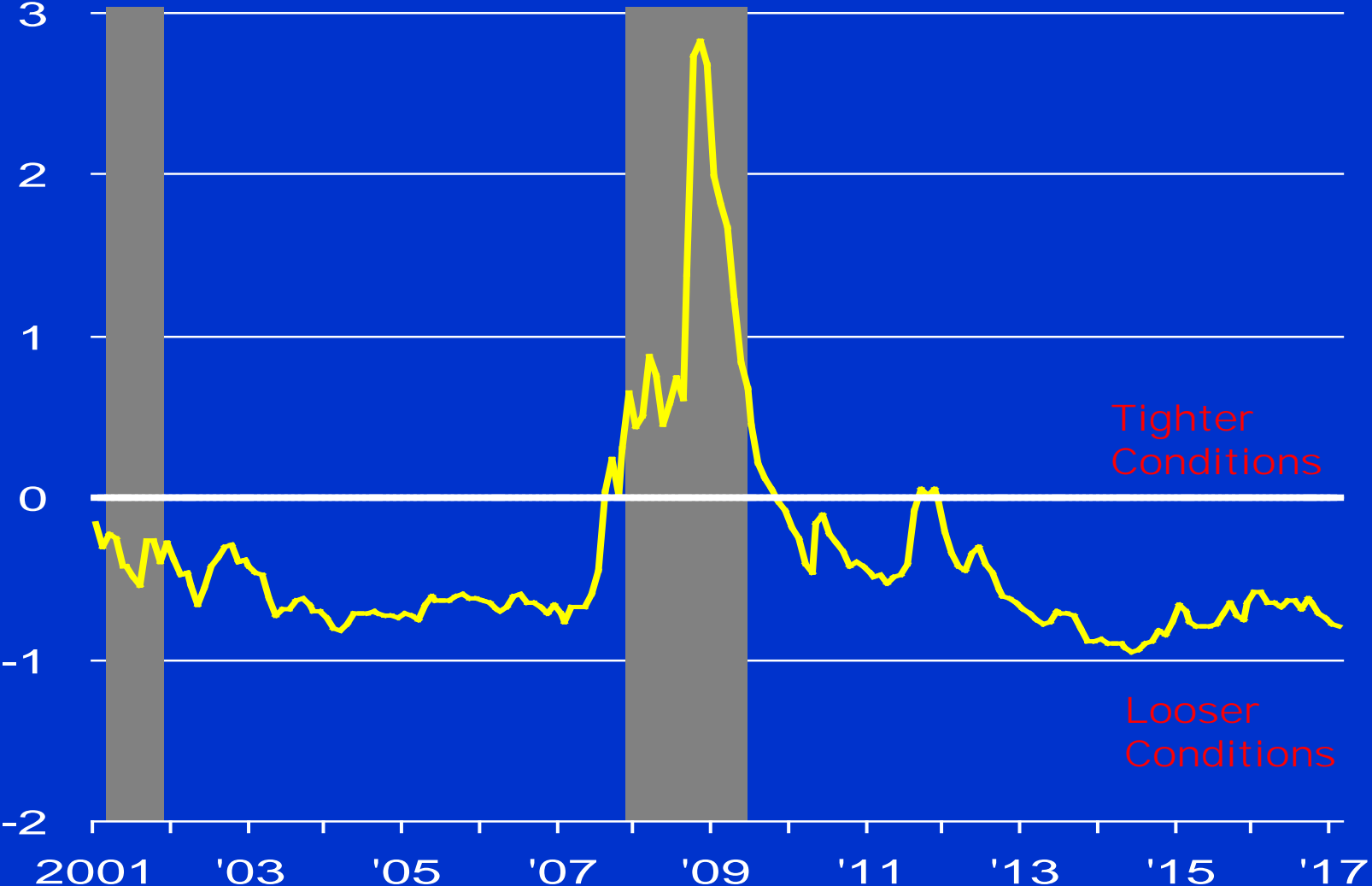
Goals of Monetary Policy

- **Price stability -- low and stable inflation**
- **Low unemployment**
- **Economic growth**
- **Moderate interest rates**

Chicago Fed National Activity Index shows hesitant growth since 2009



Chicago Fed National Financial Conditions Index



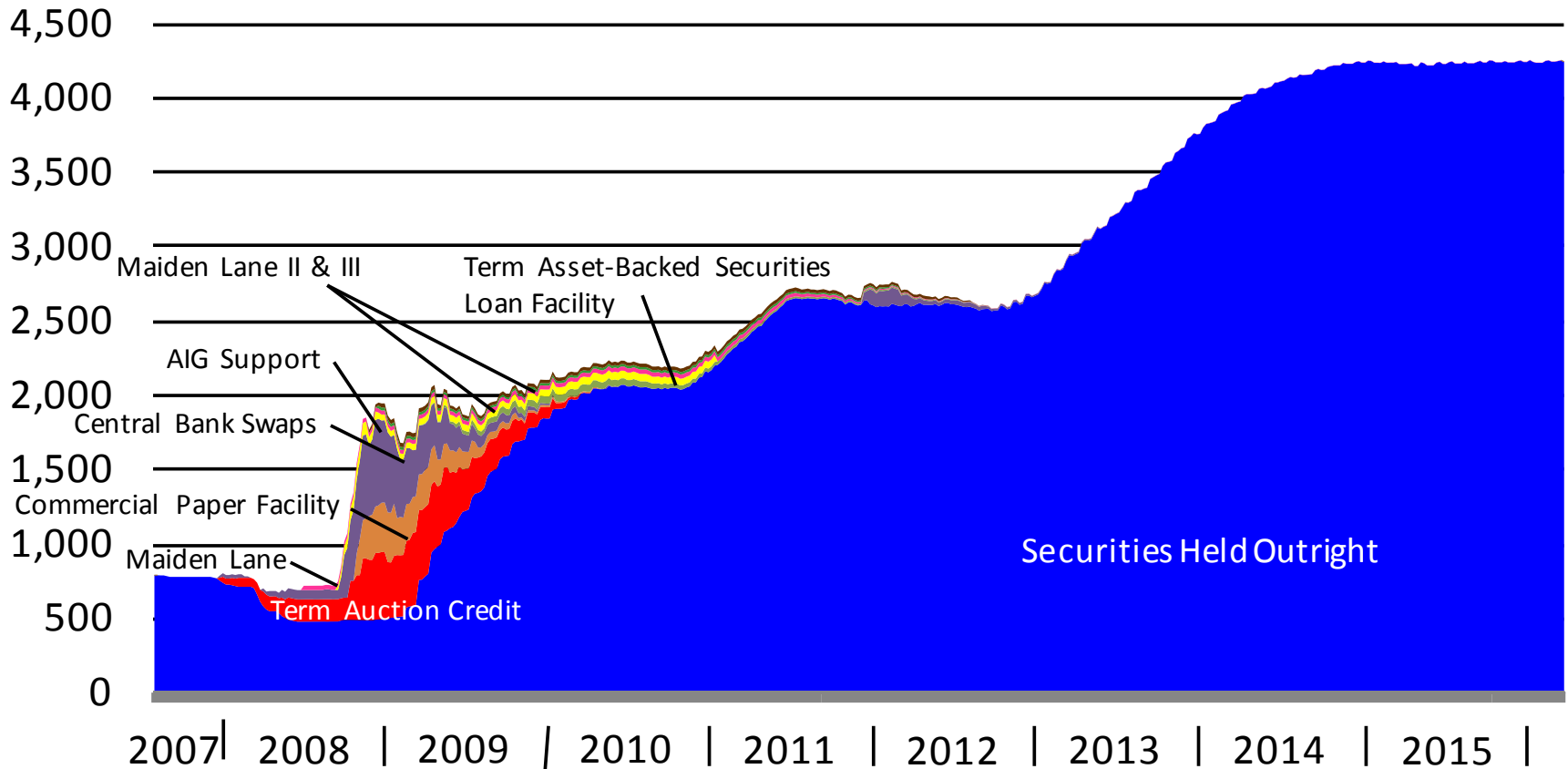
Tighter
Conditions

Looser
Conditions

Quantitative easing was necessary

Assets of the Federal Reserve

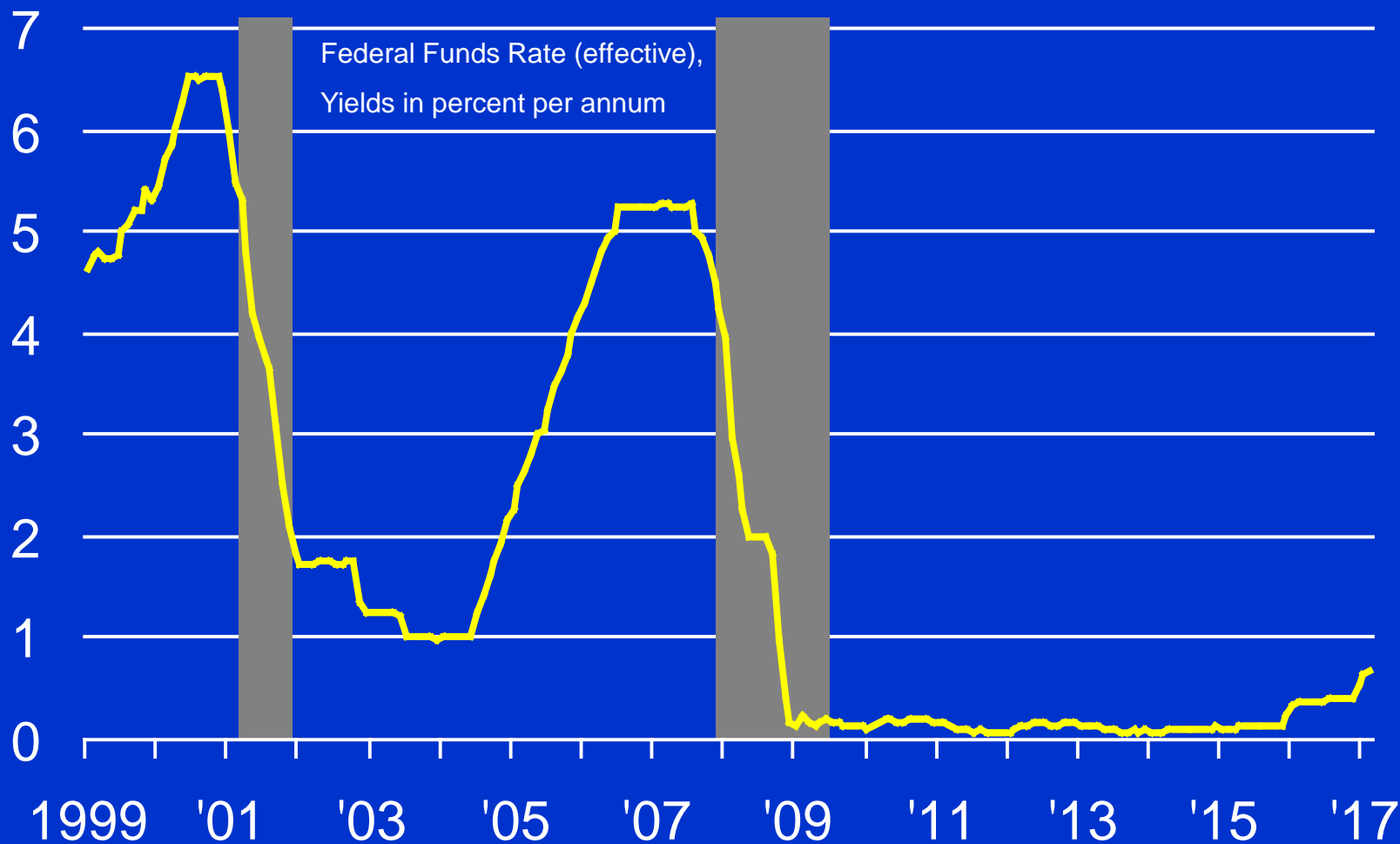
Billions of dollars



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
- In December of 2015 & 2016 and March 2017, raised the range of the Fed Funds Rate by 0.25% points
- The FOMC will monitor economic conditions to tailor future actions to meet objectives of maximum employment and 2% inflation

In March 2017, the FOMC raised the Fed Funds rate target to a range from 0.75% to 1.00%



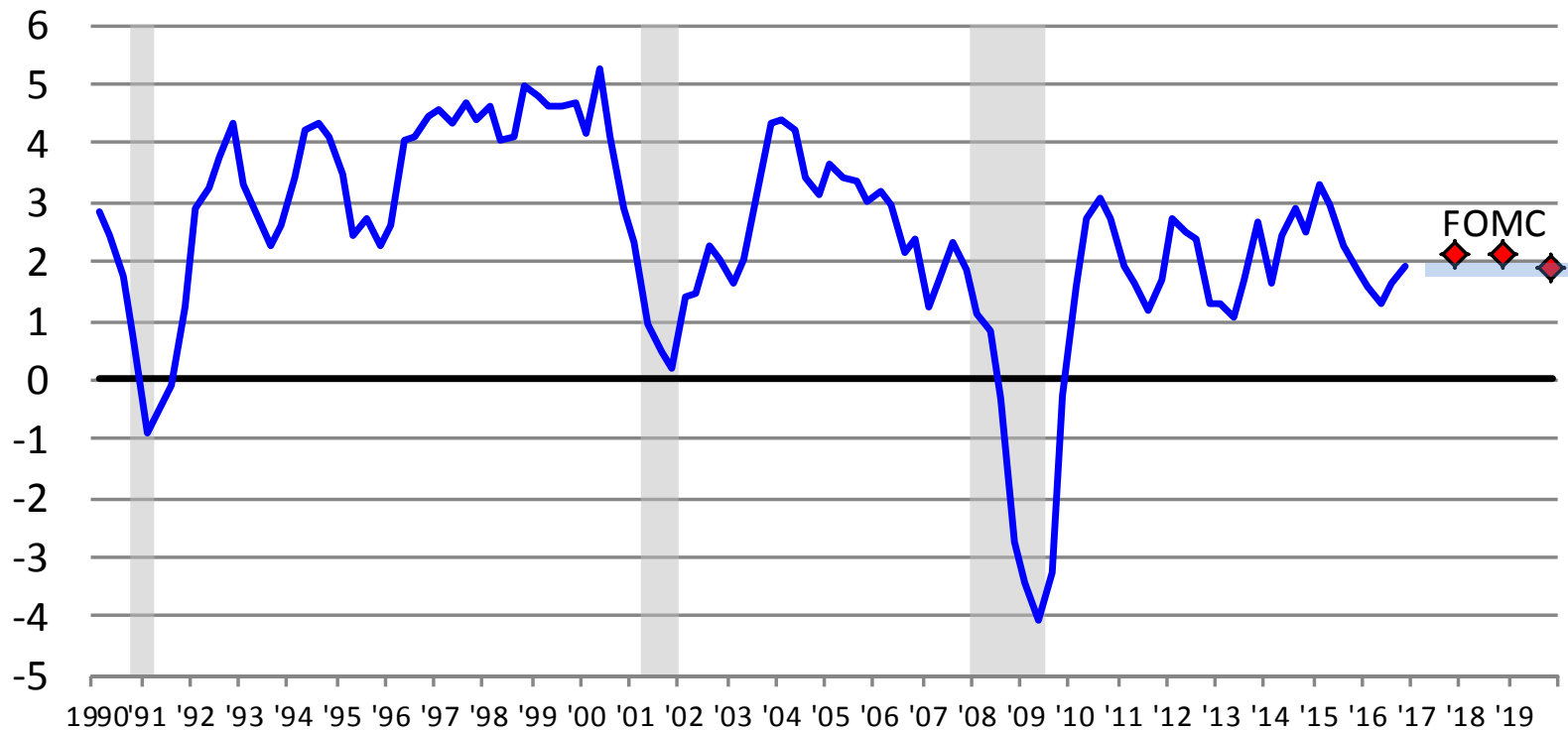
Contributions to real GDP growth of 1.9% in the 4th quarter of 2016

- Consumption 2.0%
- Residential Investment 0.4%
- Business Investment 0.2%
- Inventories 0.9%
- Government 0.1%
- Net Exports -1.7%

The FOMC consensus outlook has output rising at about its trend over the next few years

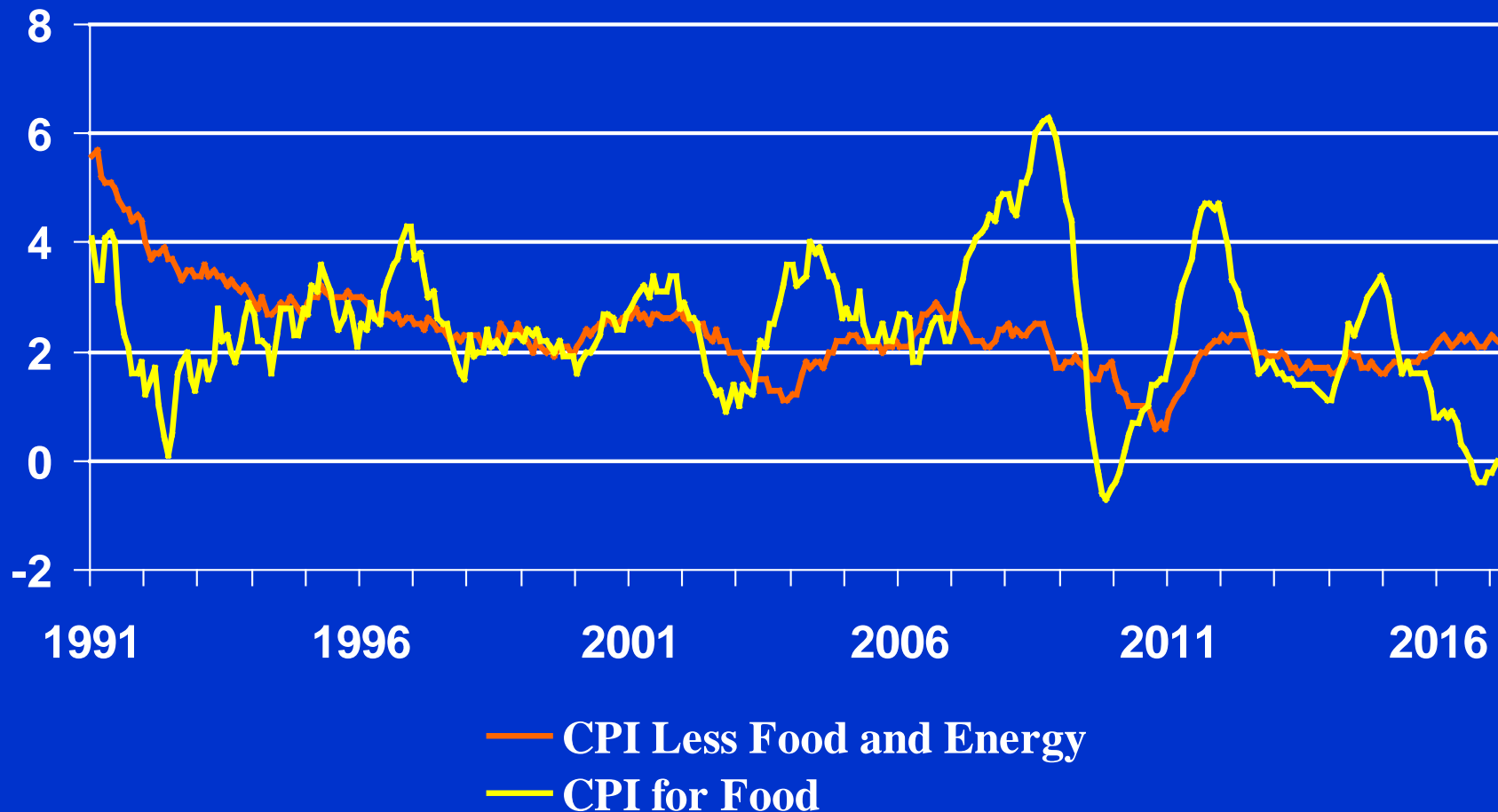
Real gross domestic product

percent change from a year earlier



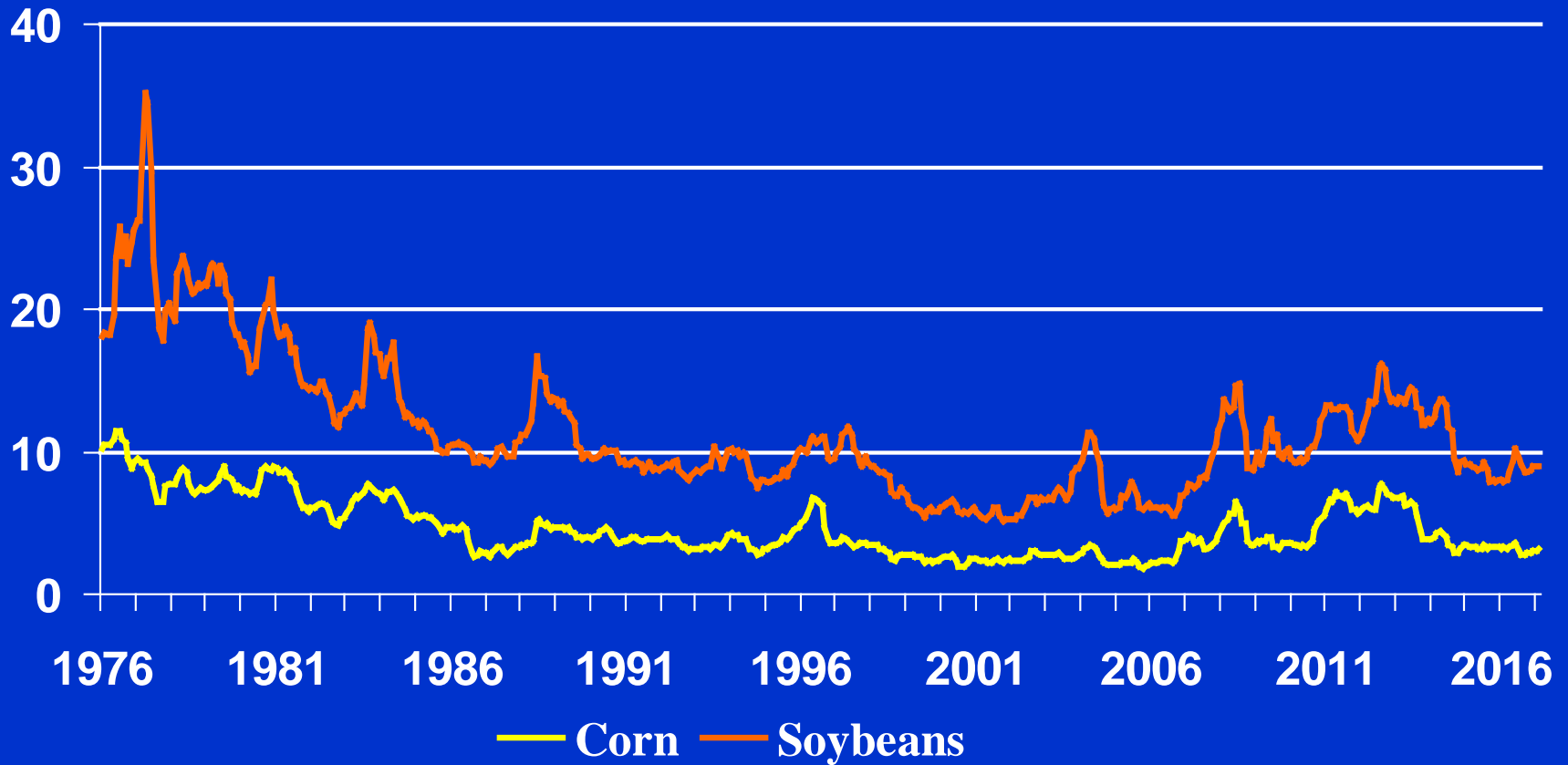
Food price changes now well below core inflation (less food and energy)

(Consumer Price Index, percent change from year ago)



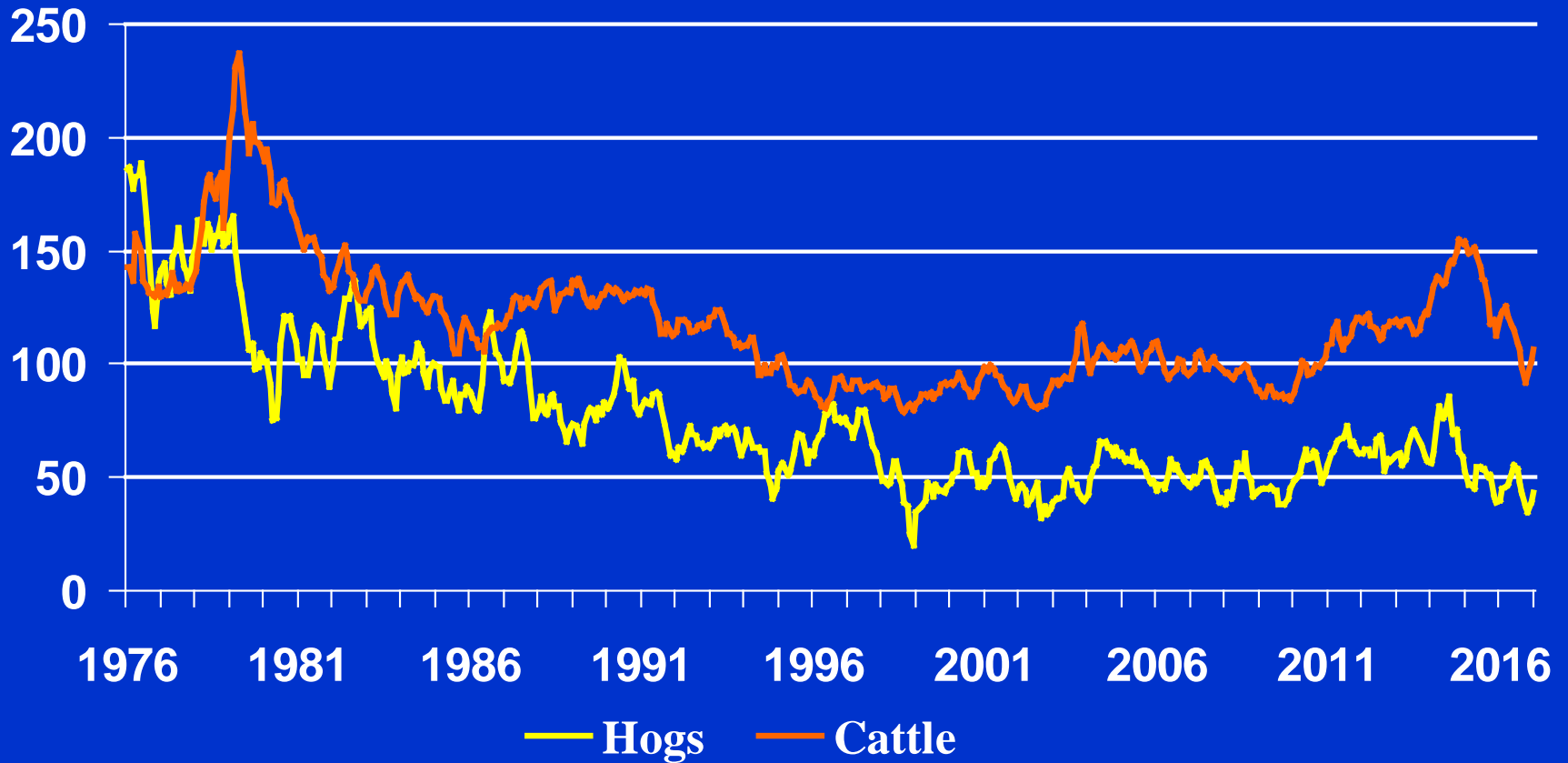
Real Cash Crop Prices

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



Real USDA Livestock Prices

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



Oil prices plummeted and lower gas prices boosted consumer saving/spending

(2010 \$/barrel)



Natural gas prices have moderated

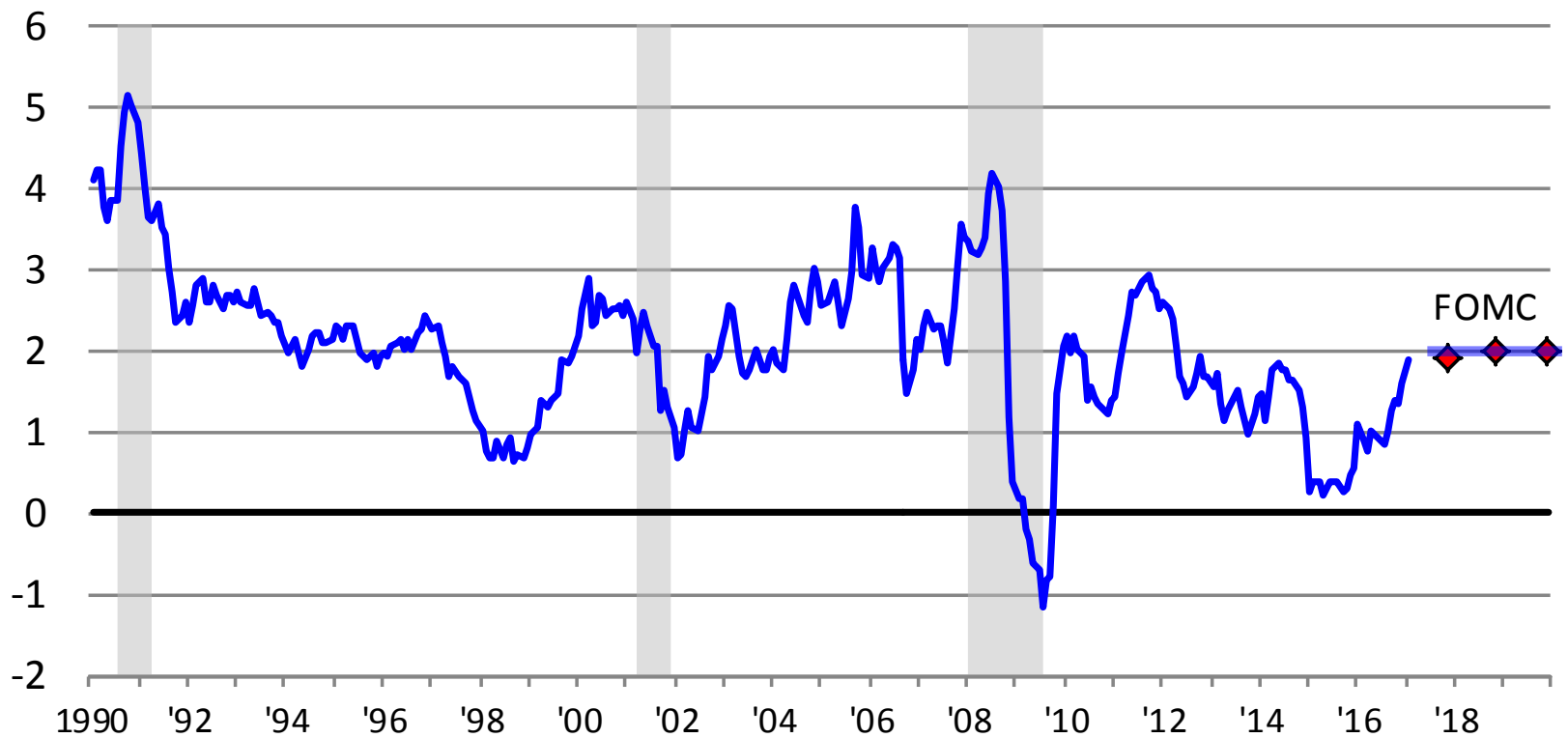
Real Natural Gas Price
{2010 \$/mmbtu}



Even including the volatile food and energy components, inflation remains contained

Personal consumption expenditure - chain price index

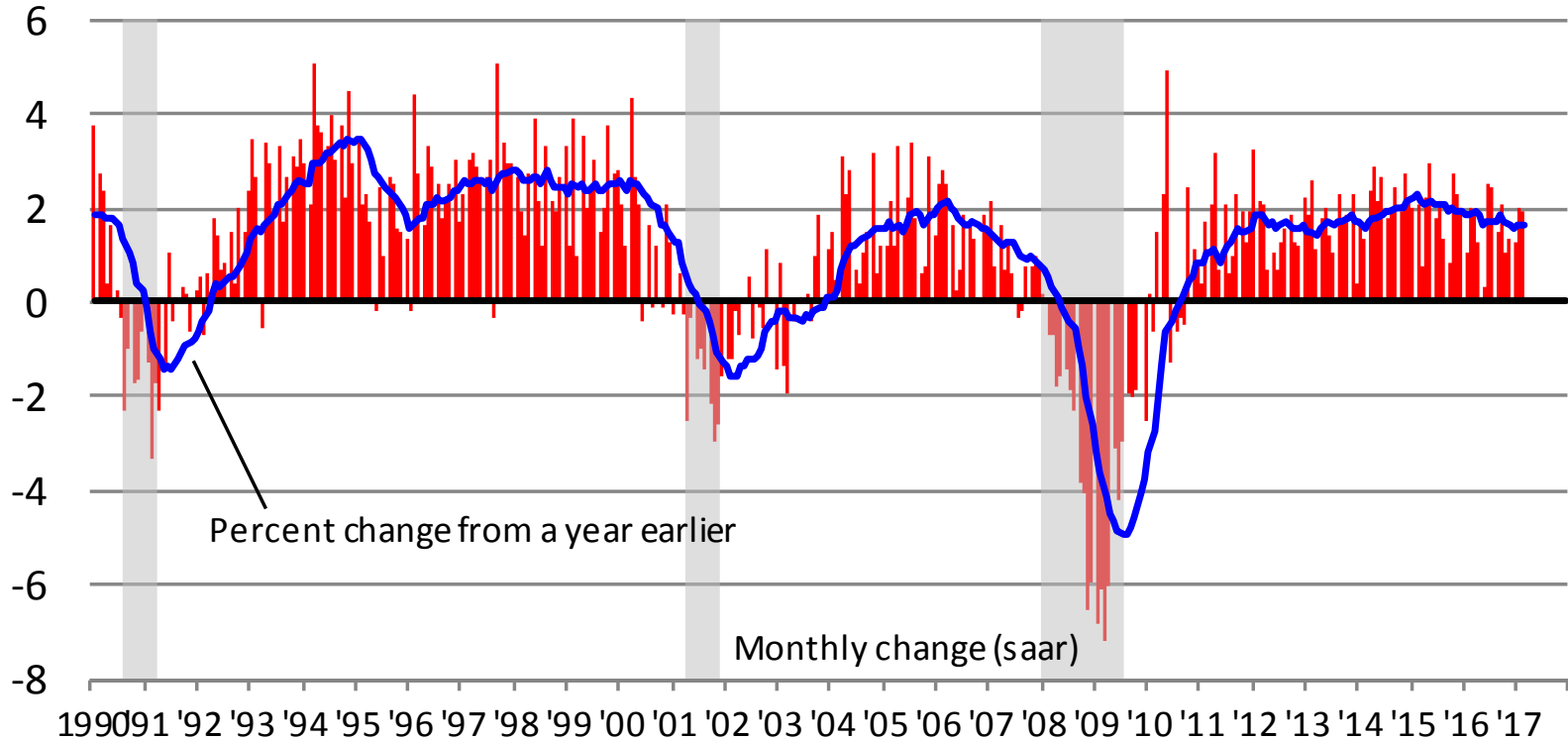
percent change from a year earlier



Employment fell by over 8.7 million jobs between December 2007 and February 2010, and finally recovered all the lost jobs in May 2014

Total employment

percent



Alternative measures of unemployment

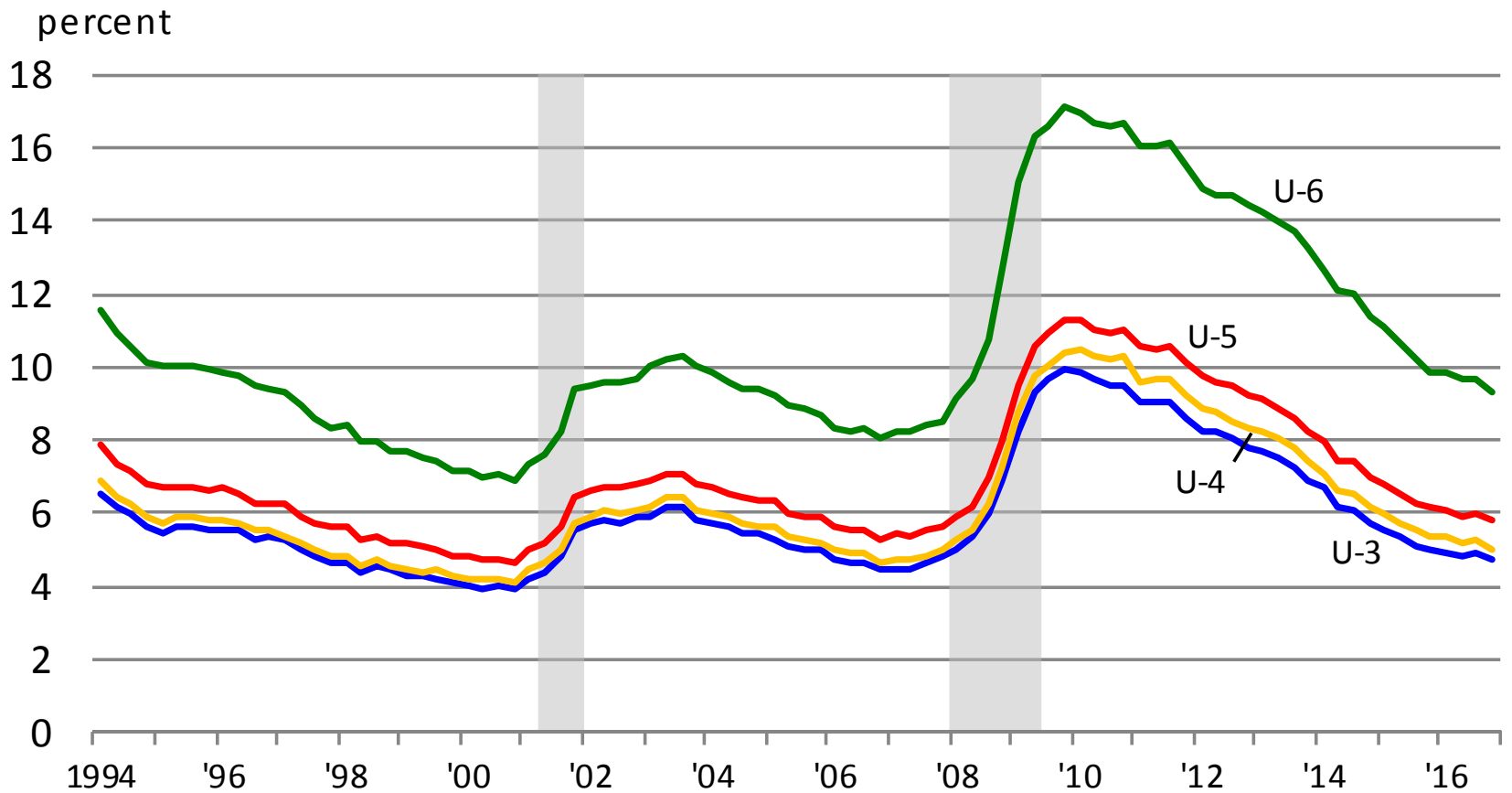
Measure and Description		February 2017 Rate
U-1	Persons unemployed fifteen weeks or longer, as a percent of the civilian labor force (includes only very long-term unemployed)	1.8
U-2	Job losers and persons who have completed temporary jobs, as a percent of the civilian labor force (excludes job leavers)	2.3
U-3	Total unemployed, as a percent of the civilian labor force (official unemployment rate)	4.7
U-4	Total unemployed, plus discouraged workers, as a percent of the civilian labor force plus discouraged workers	5.0
U-5	Total unemployed plus all marginally attached workers, as a percent of the civilian labor force plus all marginally attached workers	5.7
U-6	Total unemployed, plus all marginally attached workers, plus total employed part-time for economic reasons, as a percent of the civilian labor force plus all marginally attached workers	9.2

Note: The Bureau of Labor Statistics defines terms as follows:

- *Marginally attached workers* are persons who currently are neither working nor looking for work but indicate that they want and are available for a job and have looked for work sometime in the recent past.
- *Discouraged workers* are marginally attached workers who have given a job-market-related reason for not currently looking for a job.
- *Persons employed part-time for economic reasons* are those who want and are available for full-time work but have had to settle for a part-time schedule.

Still high including discouraged workers and part-time employment for economic reasons

Unemployment rate



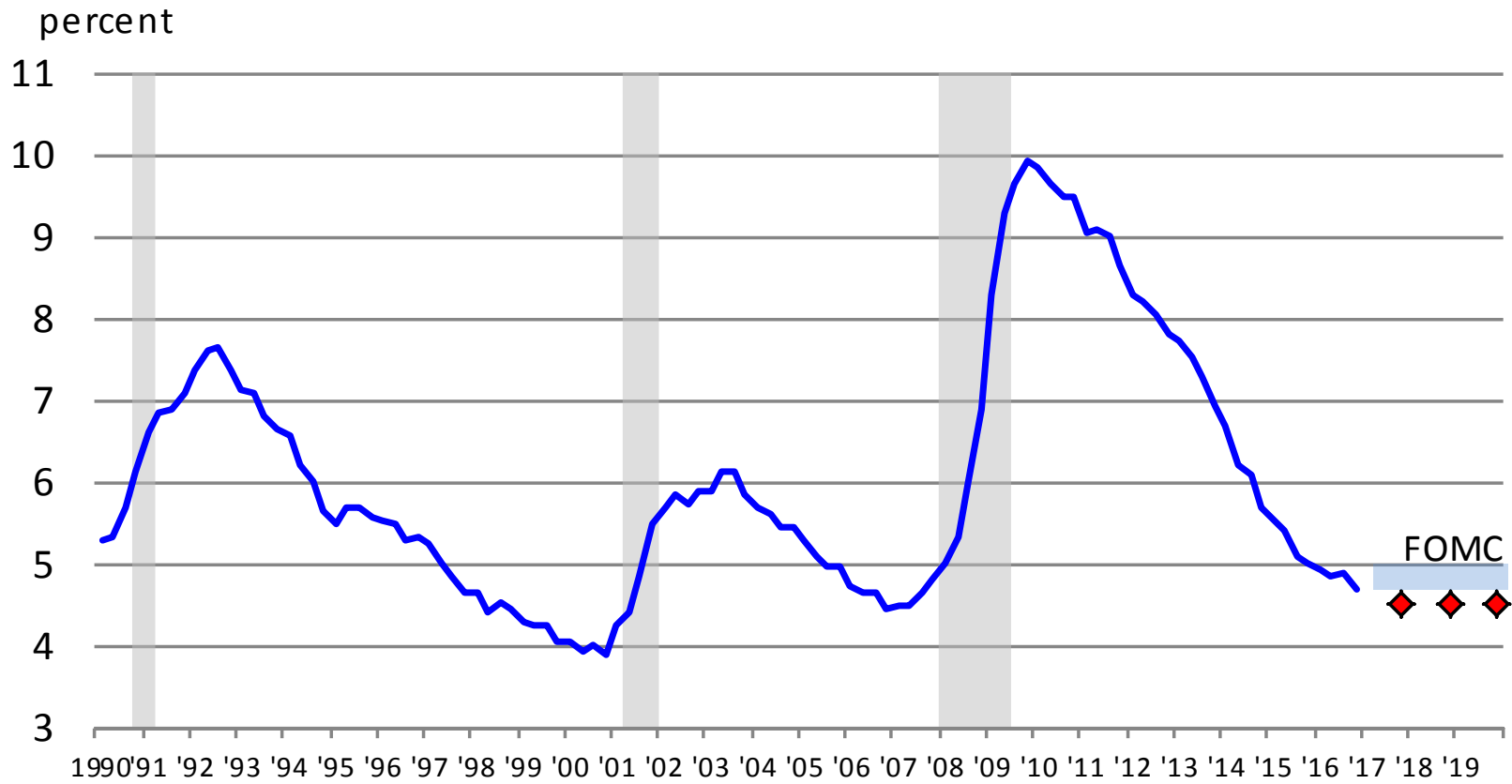
The share of those unemployed more than 6 months remains significantly high

Unemployed for 27 weeks or more



The FOMC forecasts that the unemployment rate will be under the natural rate through 2019

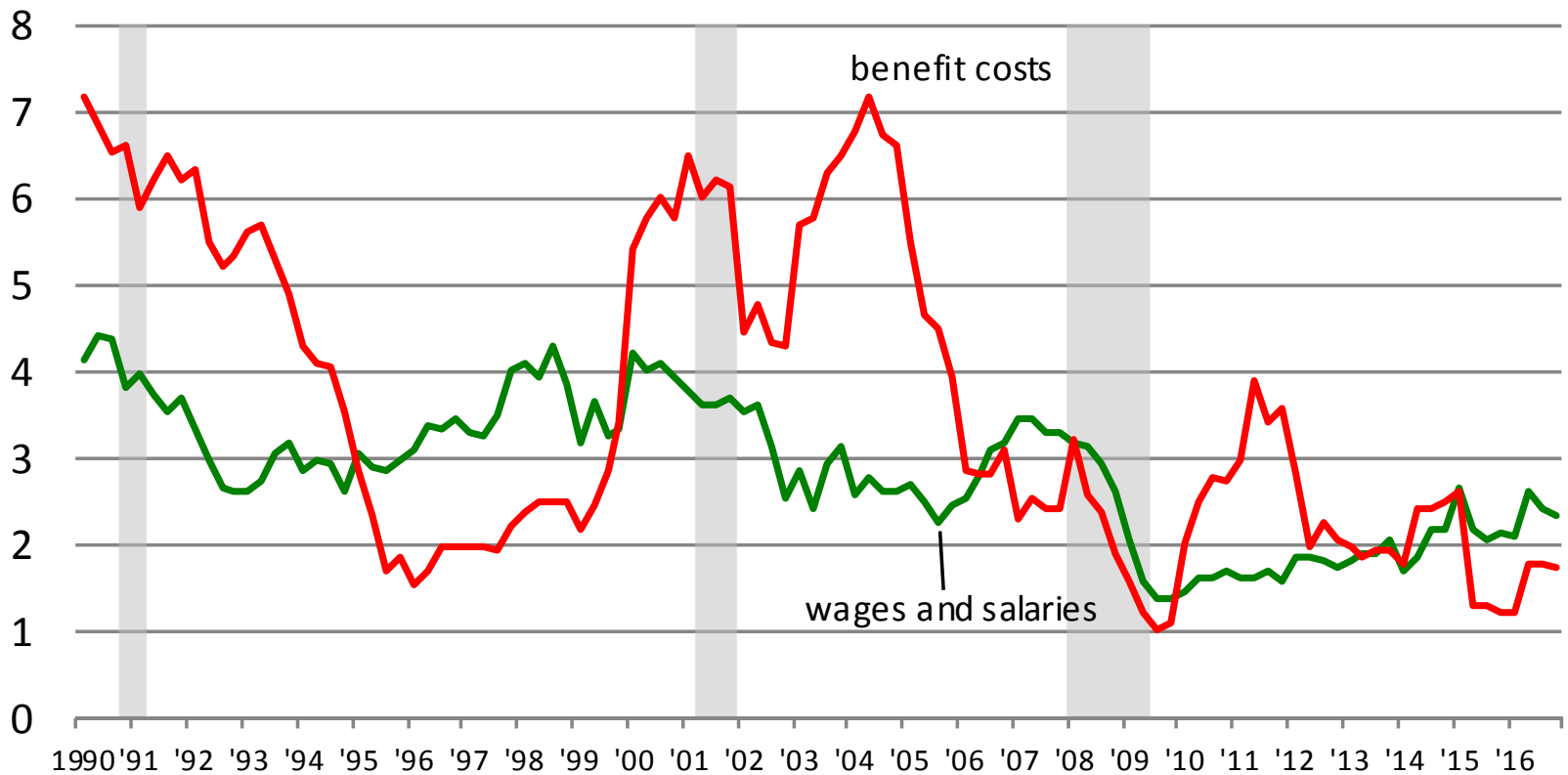
Unemployment rate



Wages and benefit cost increases remain low

Employment cost index

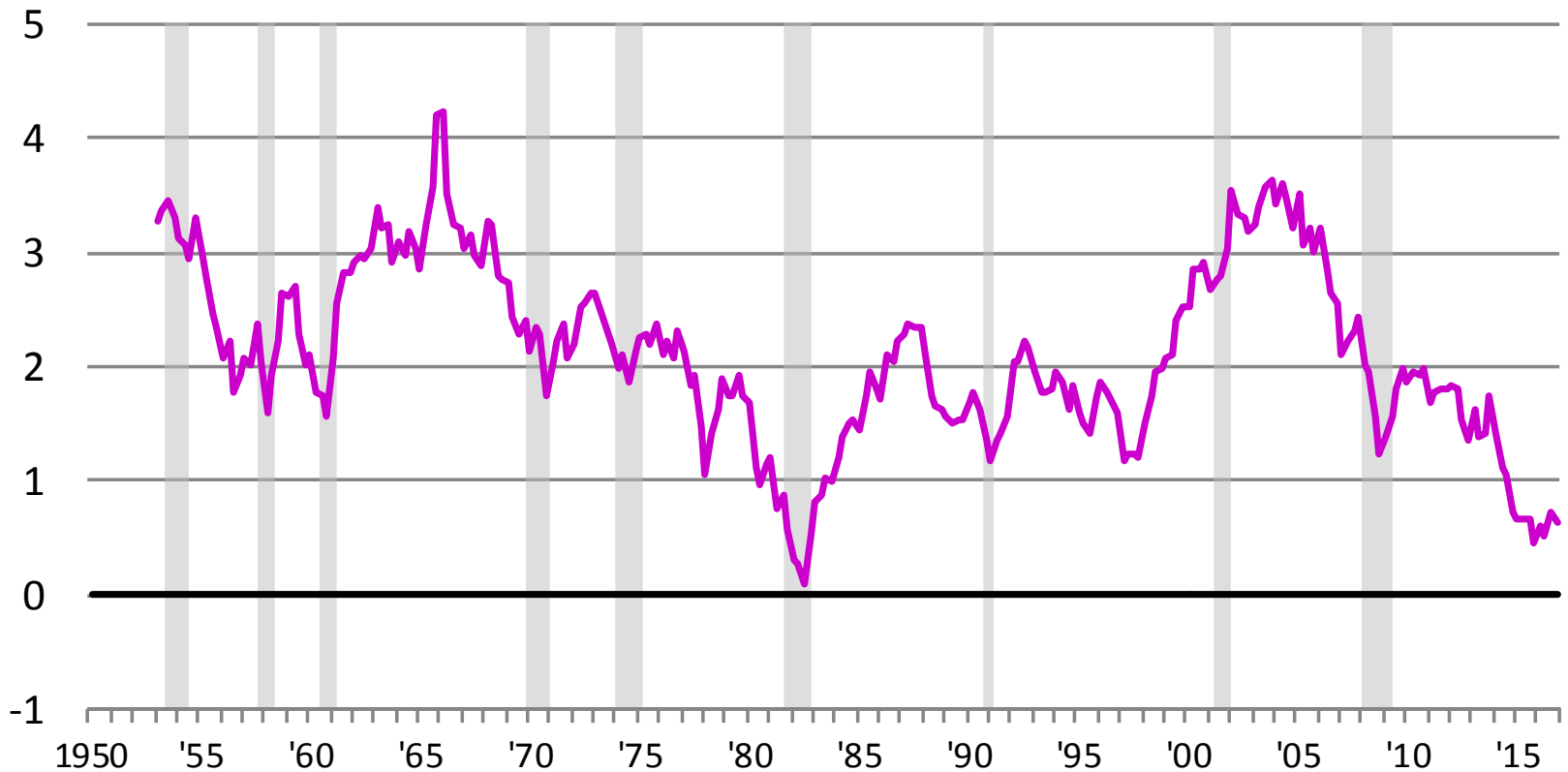
percent change from year ago



Stronger productivity after the recession, but weak results recently

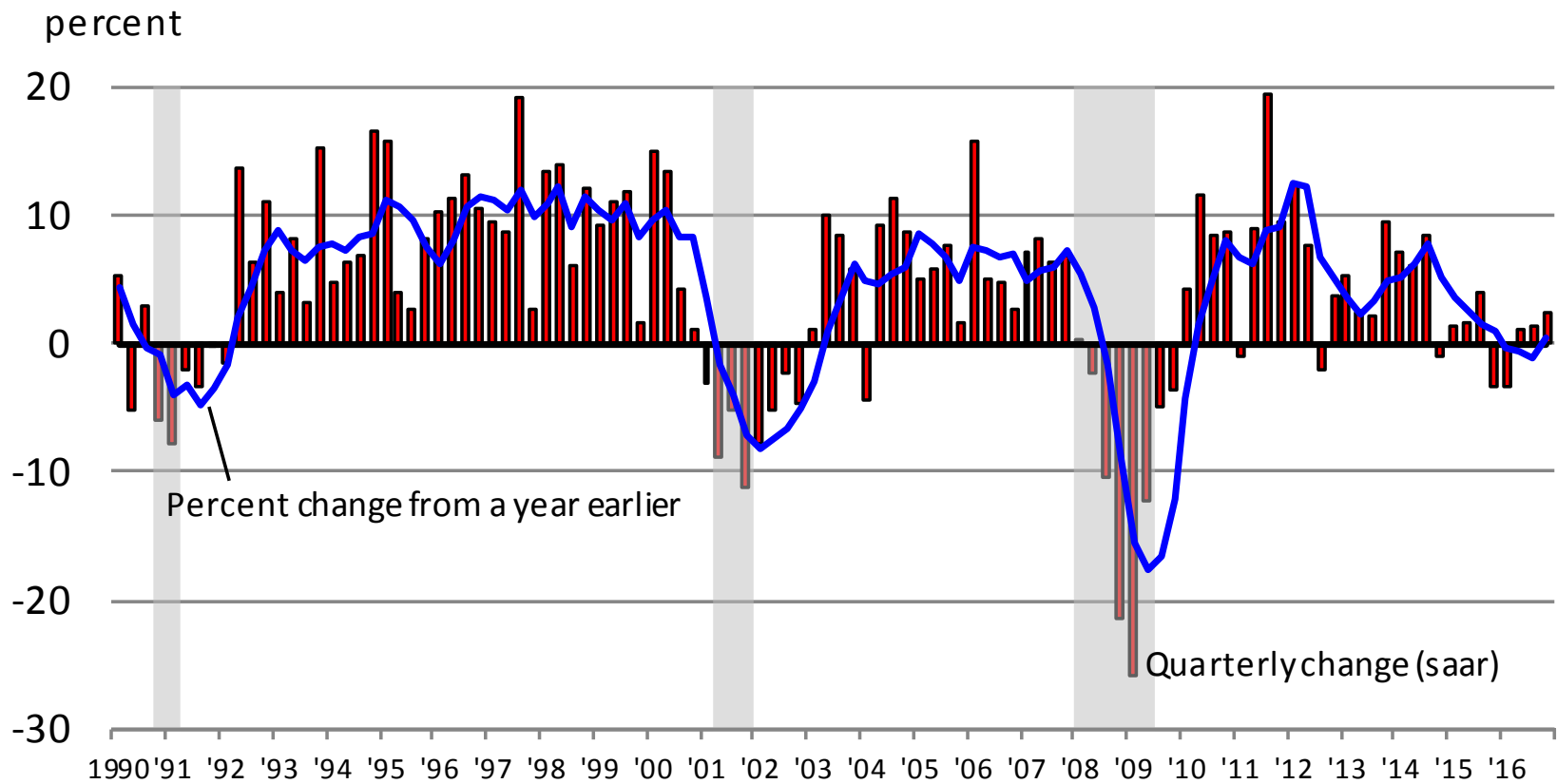
Productivity

percent change (20-qtr rate)



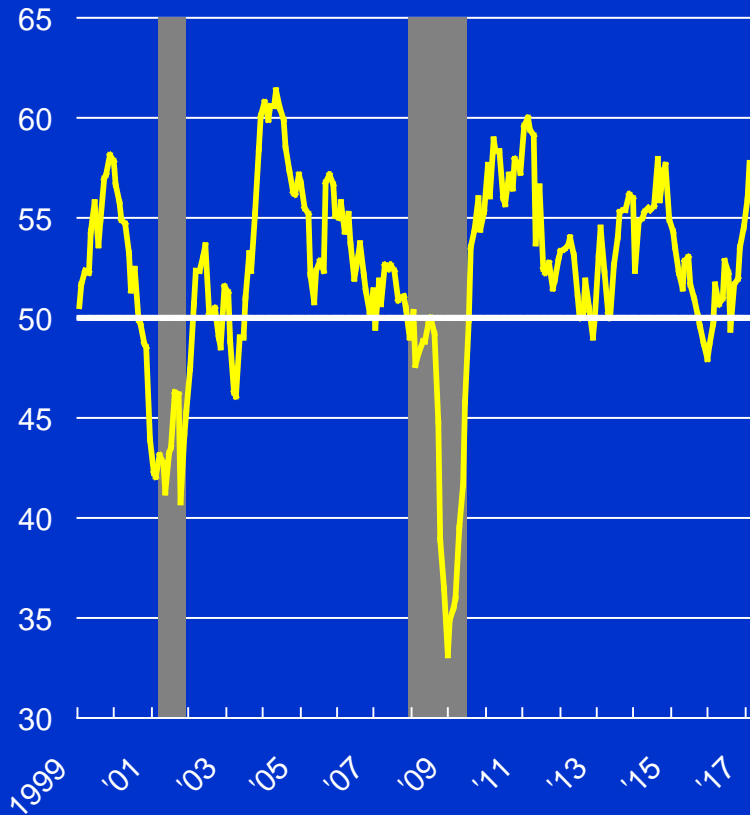
Poor business investment explains much of the lower productivity levels

Real private nonresidential fixed investment

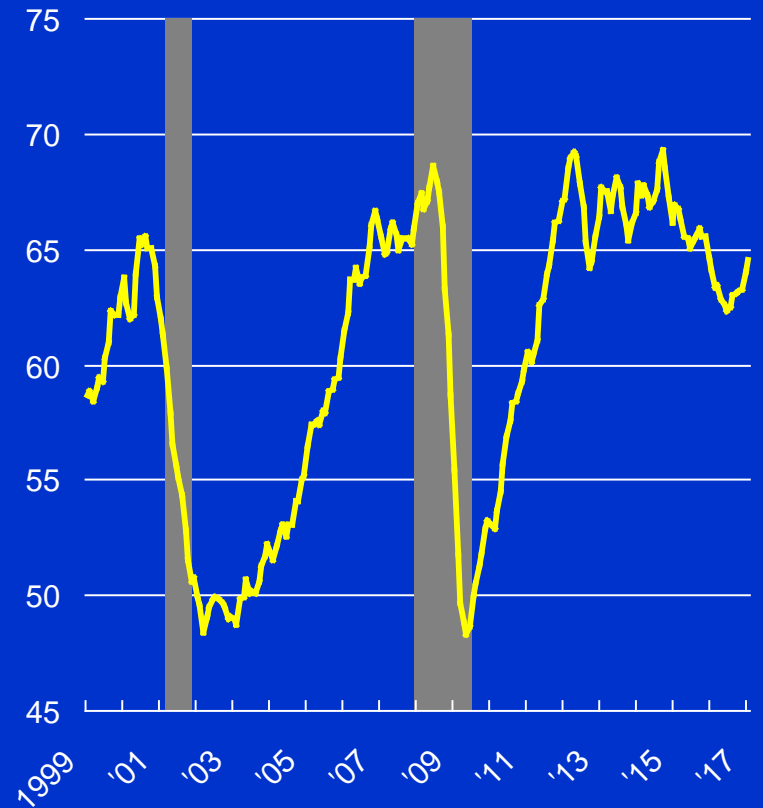


Manufacturing is growing again; orders for capital goods moving up

ISM purchasing managers index
(net percent reporting increase)

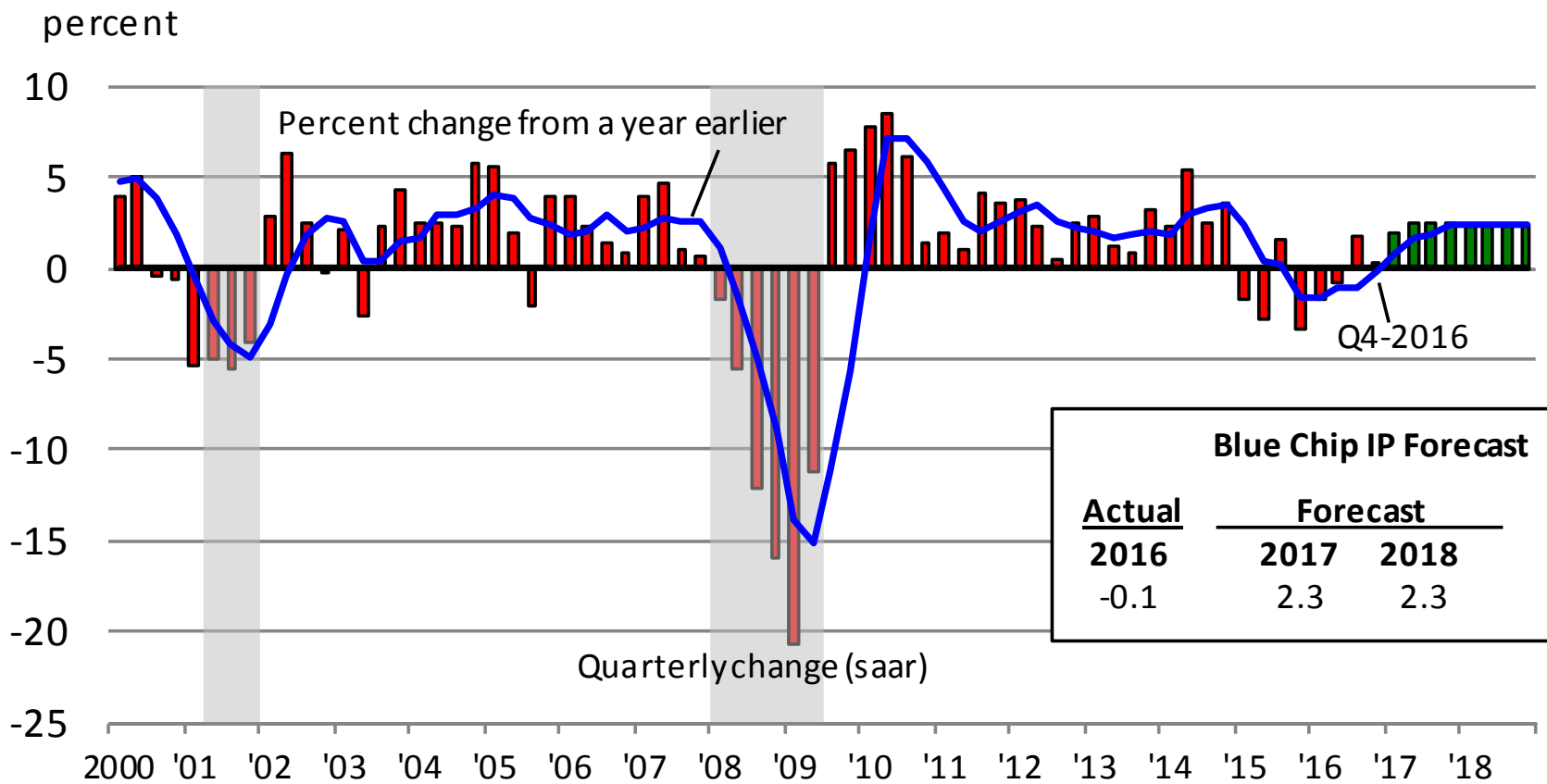


Nondefense capital goods ex. aircraft
(orders in millions of dollars, 3-month moving average)



Industrial production is forecast to improve, yet remain below its historic rate of growth

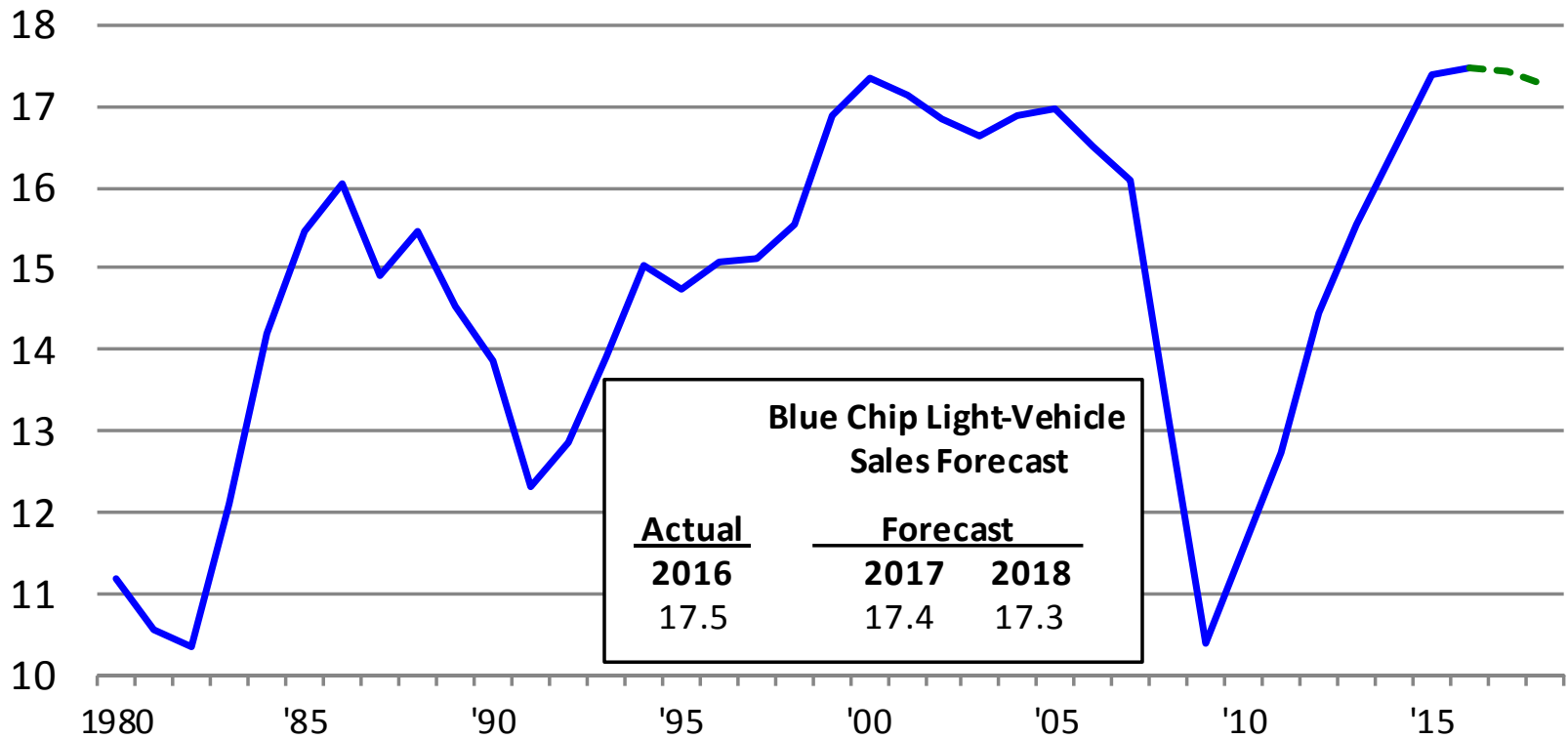
Total industrial production



Vehicle sales are anticipated to edge lower

Vehicle sales

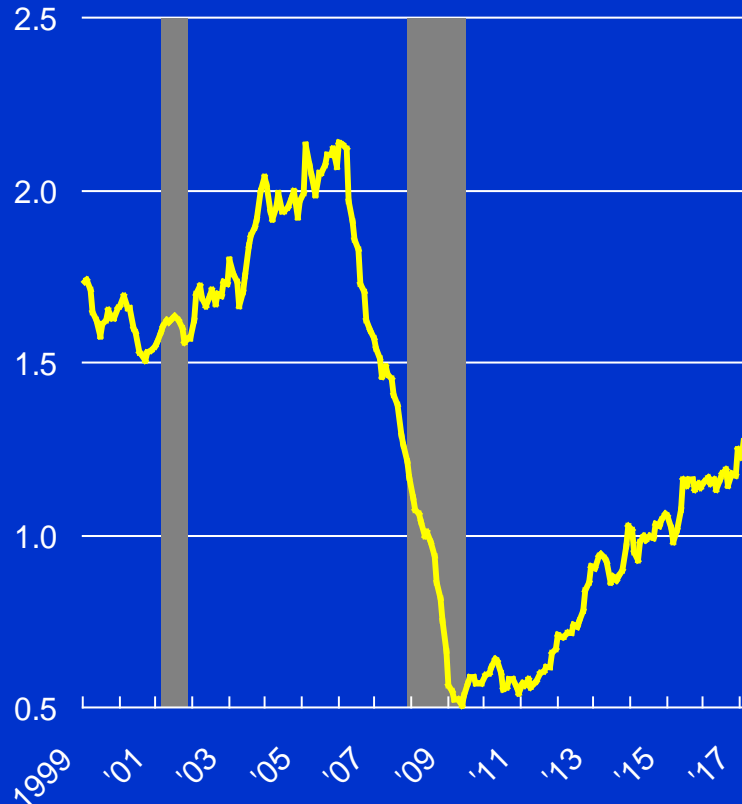
millions of units



Housing market tanked, moving up slowly

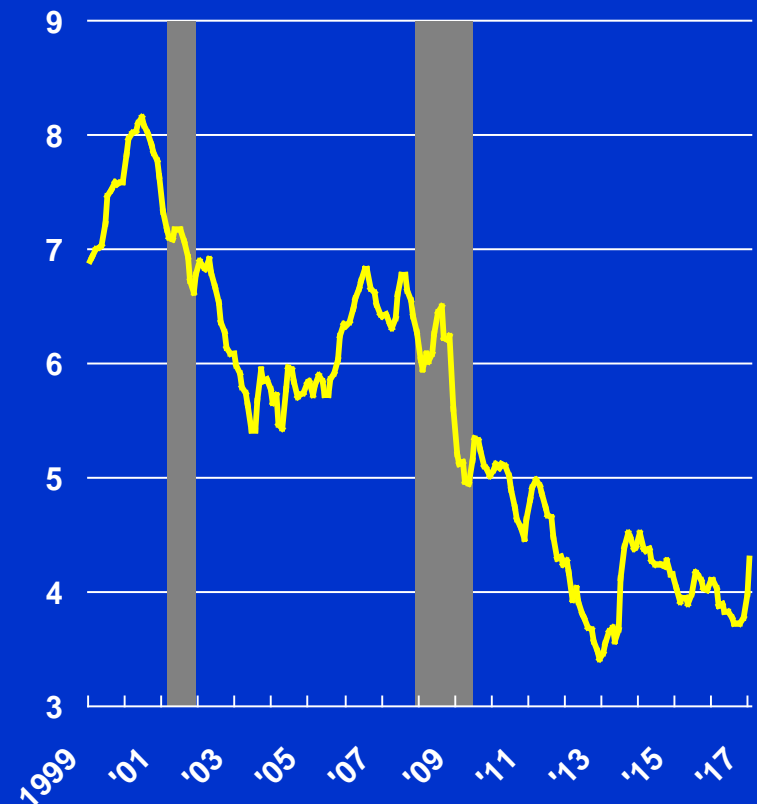
Housing starts

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



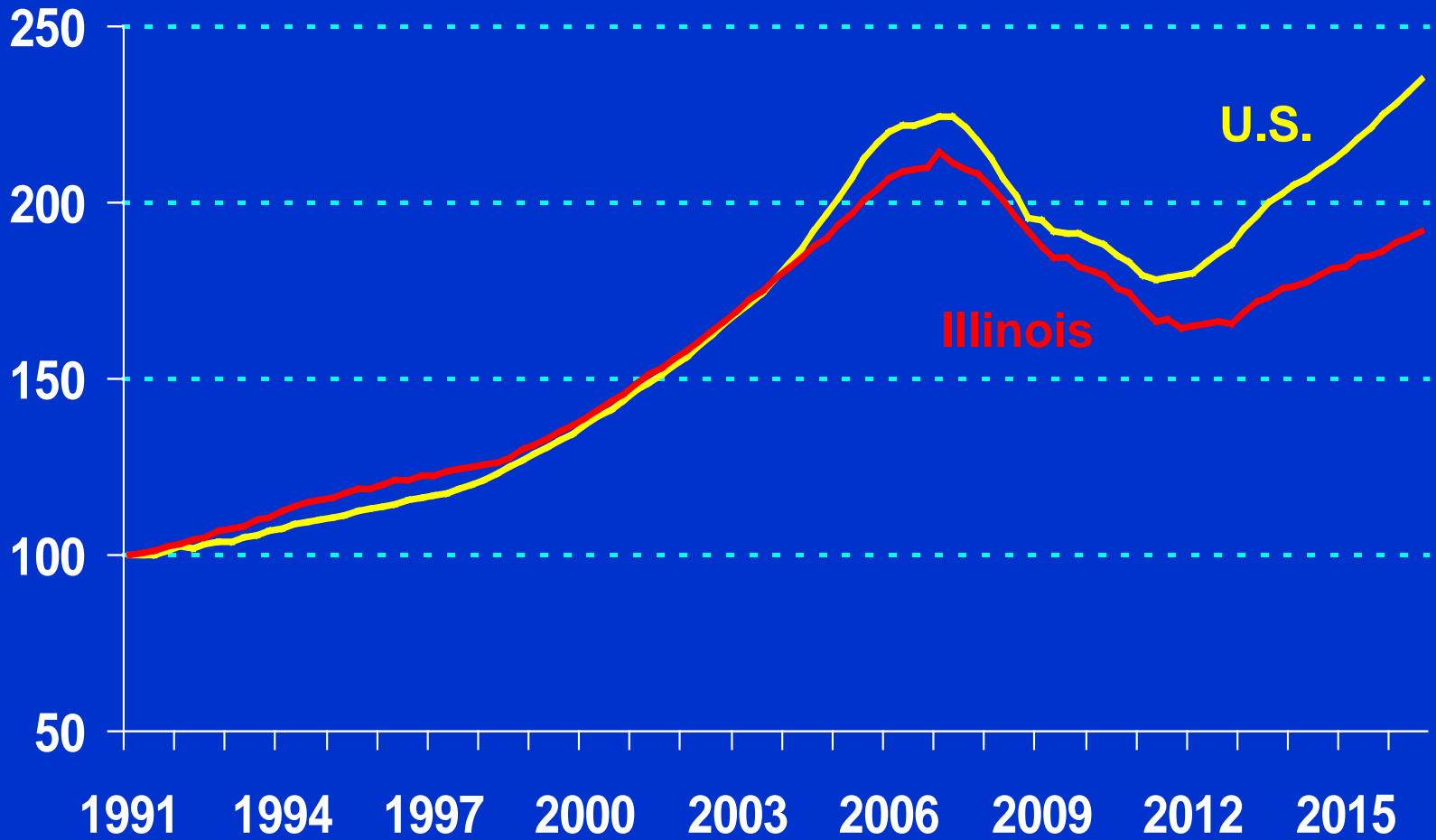
Home mortgage rate

(percent, effective rate for all loans closed)

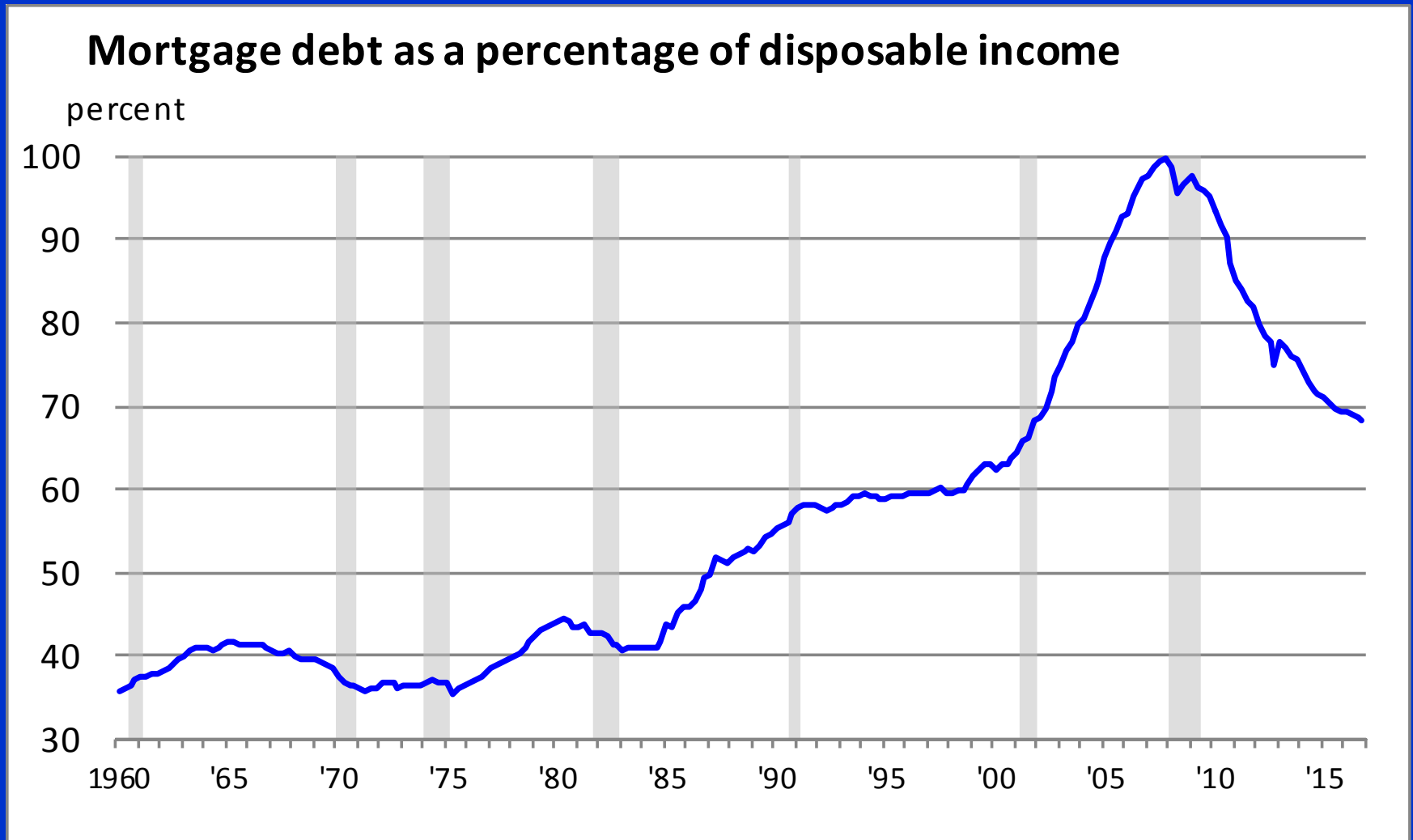


House Price Indexes

(expanded data from the Federal Housing Finance Agency)



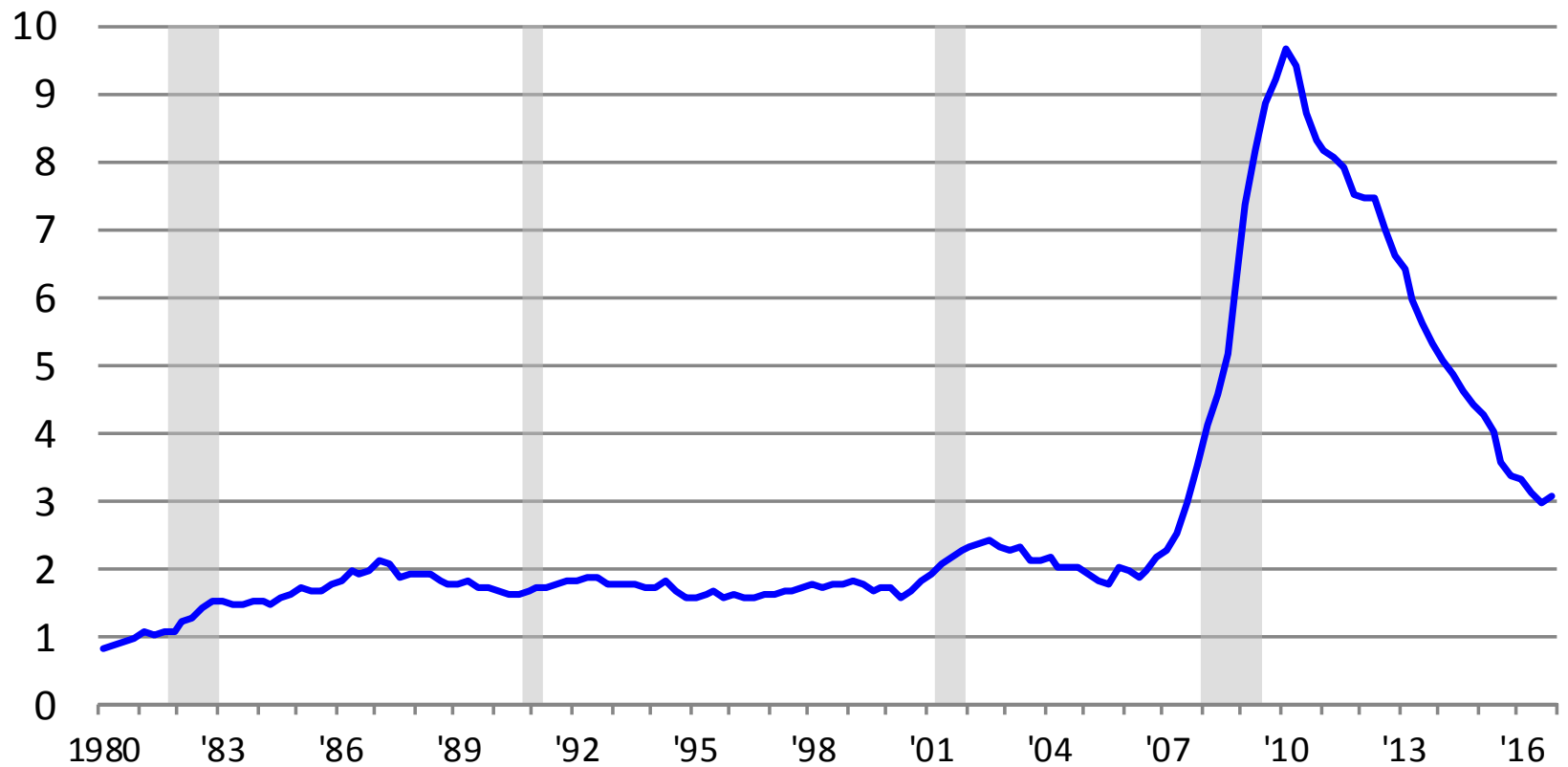
The burden of mortgages has been receding



Although improving, delinquencies on mortgages remain elevated

Delinquencies on Mortgages

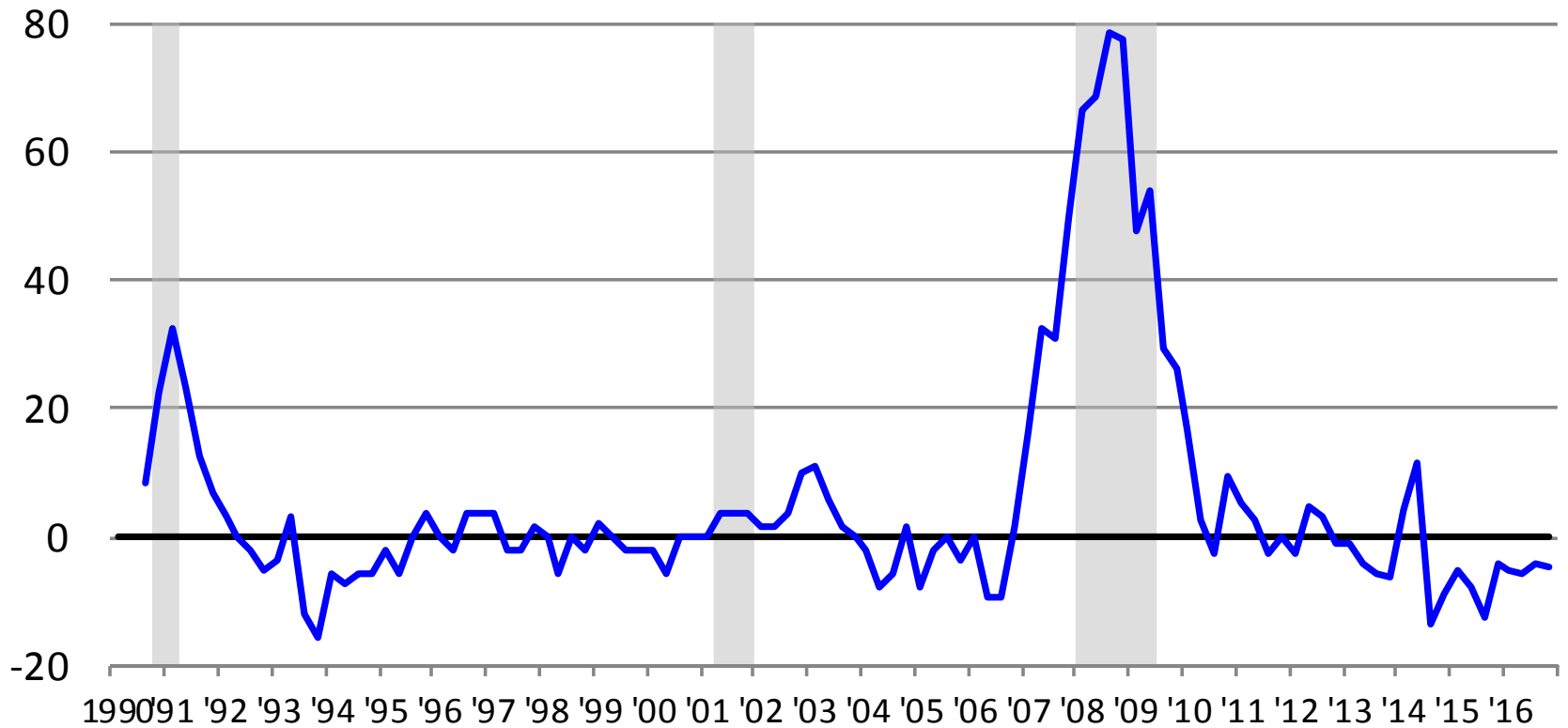
percent of loans 90 or more days past due or in foreclosure



Lending standards for mortgages have been easing recently

Senior Loan Officer Opinion Survey

net percentage of domestic respondents tightening mortgage loan standards

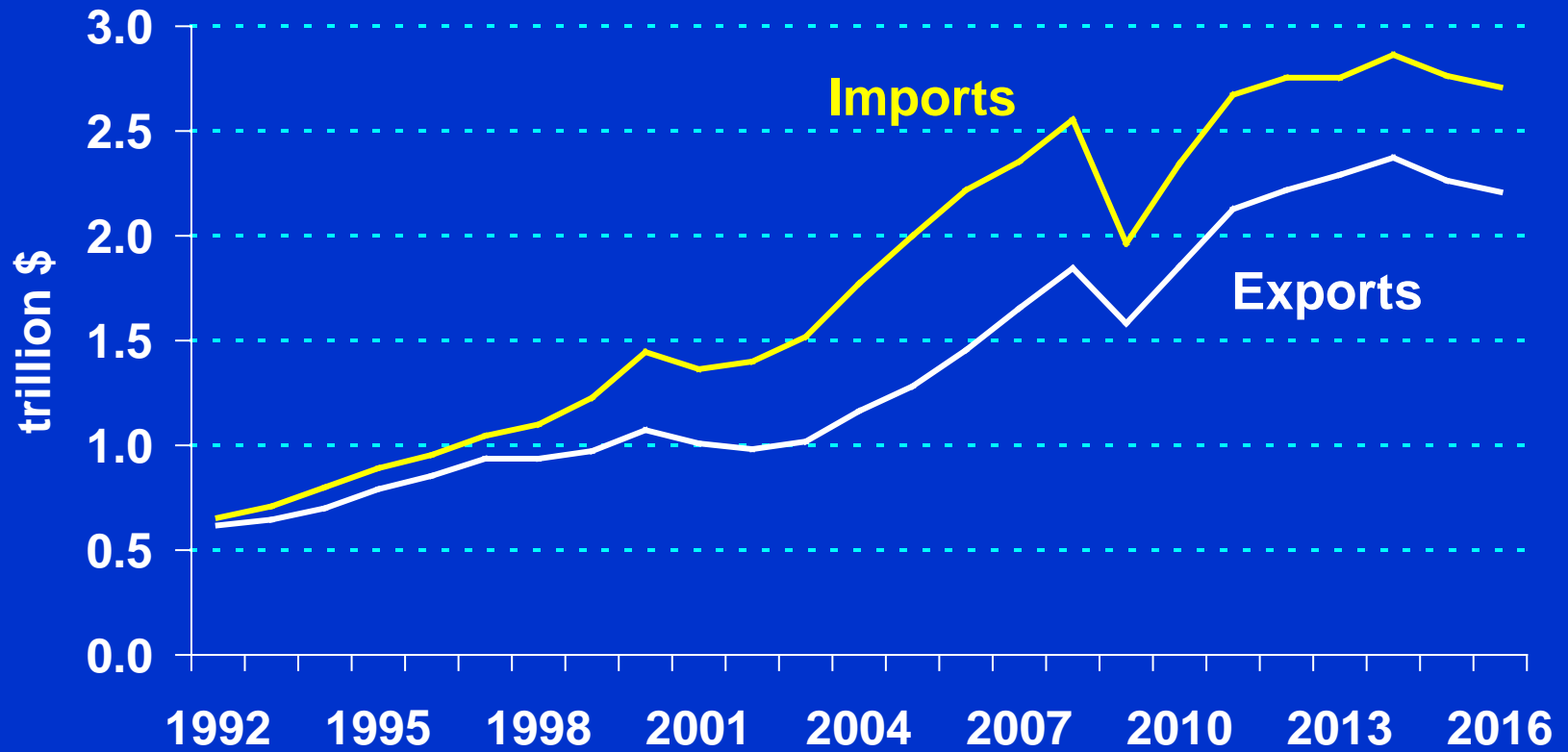


The dollar's exchange value peaked in 2002, before falling below earlier range and rallying

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



U.S. exports and imports decreased in 2016



Value of agricultural exports expected to slide in 2016 and rebound in 2017



(*USDA projection)

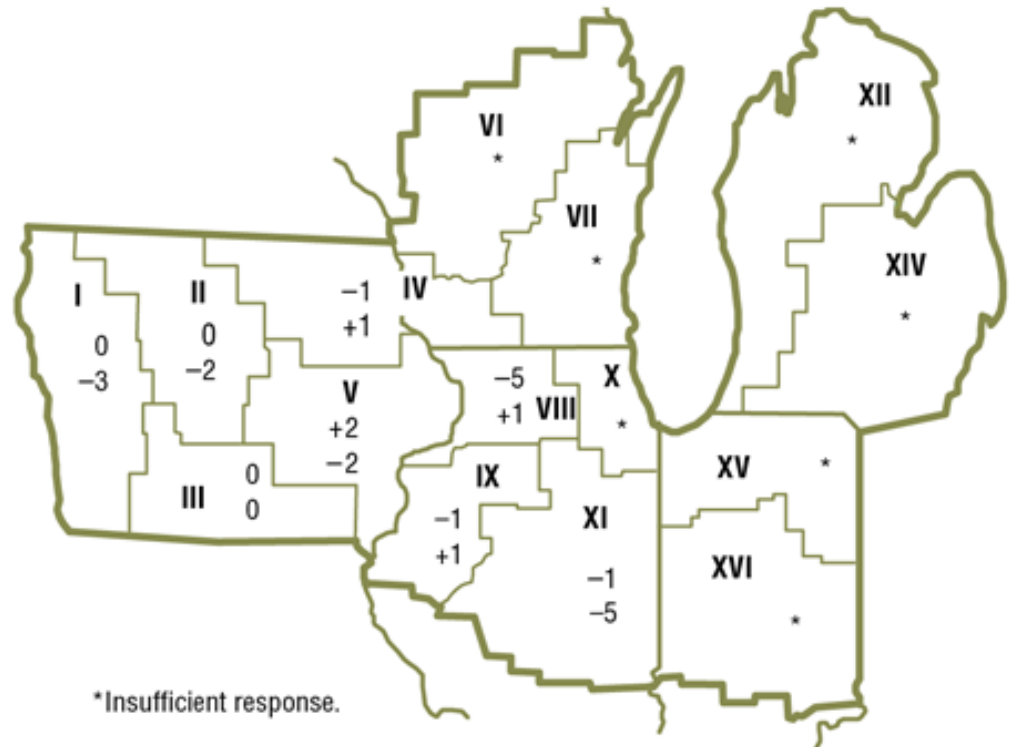
Survey results for January 2017

Percent change in dollar value of "good" farmland

Top: October 1, 2016 to January 1, 2017

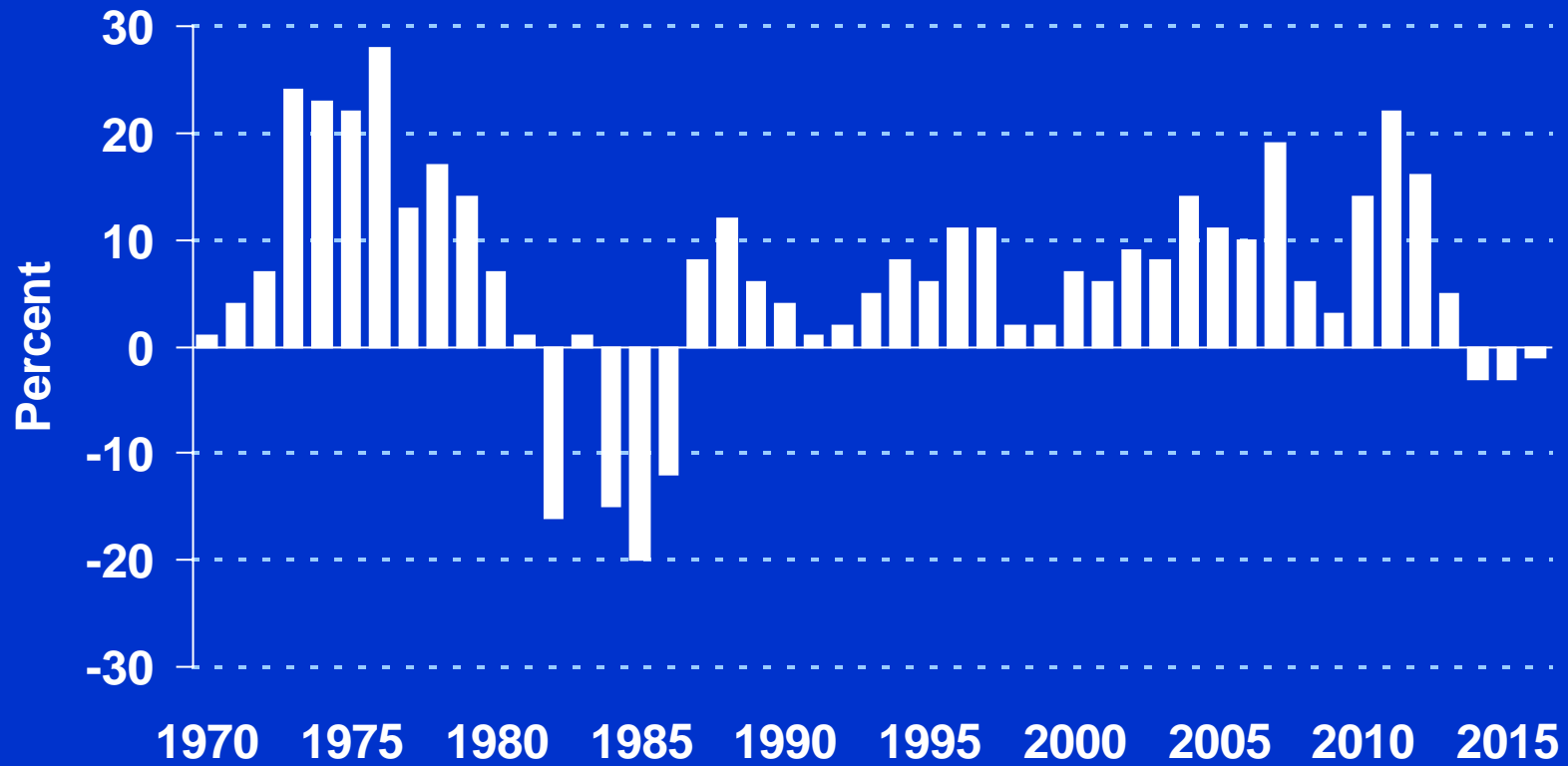
Bottom: January 1, 2016 to January 1, 2017

	<u>October 1, 2016 to January 1, 2017</u>	<u>January 1, 2016 to January 1, 2017</u>
Illinois	-1	-2
Indiana	-2	+2
Iowa	0	-2
Michigan	-1	-8
Wisconsin	-2	+3
Seventh District	-1	-1

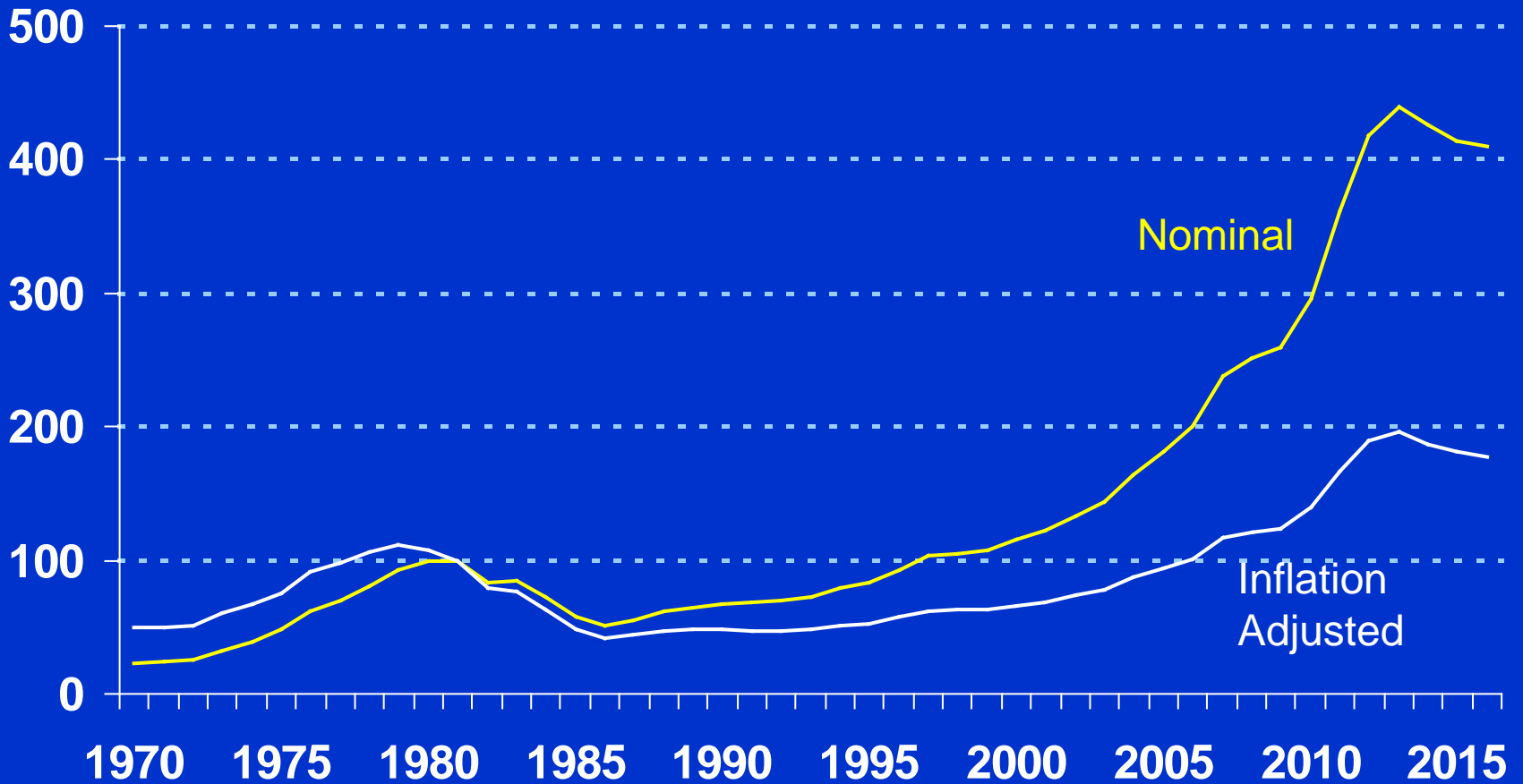


*Insufficient response.

Annual change in farmland values in Seventh Federal Reserve District



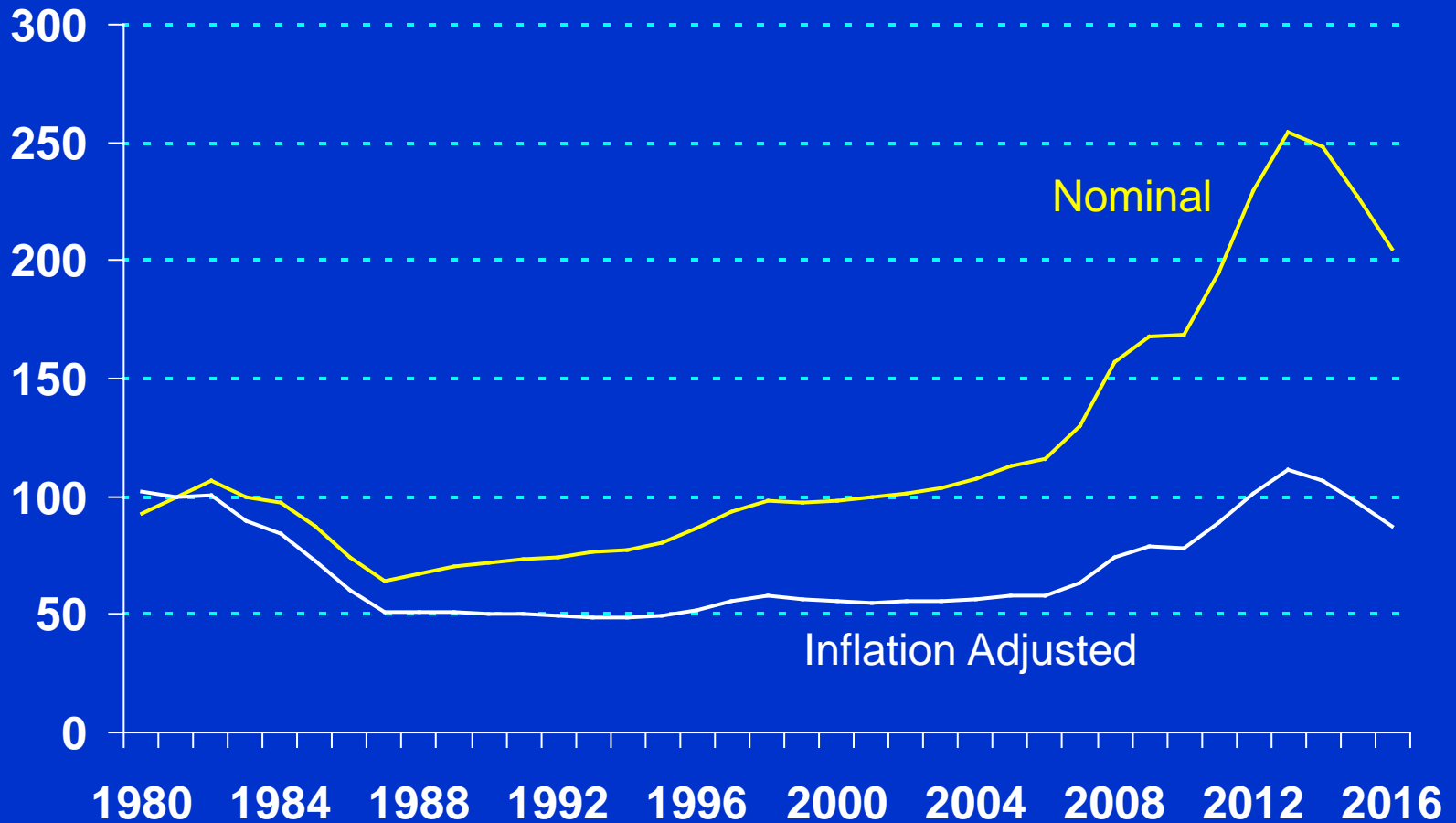
Index of Seventh District farmland values (1981=100)



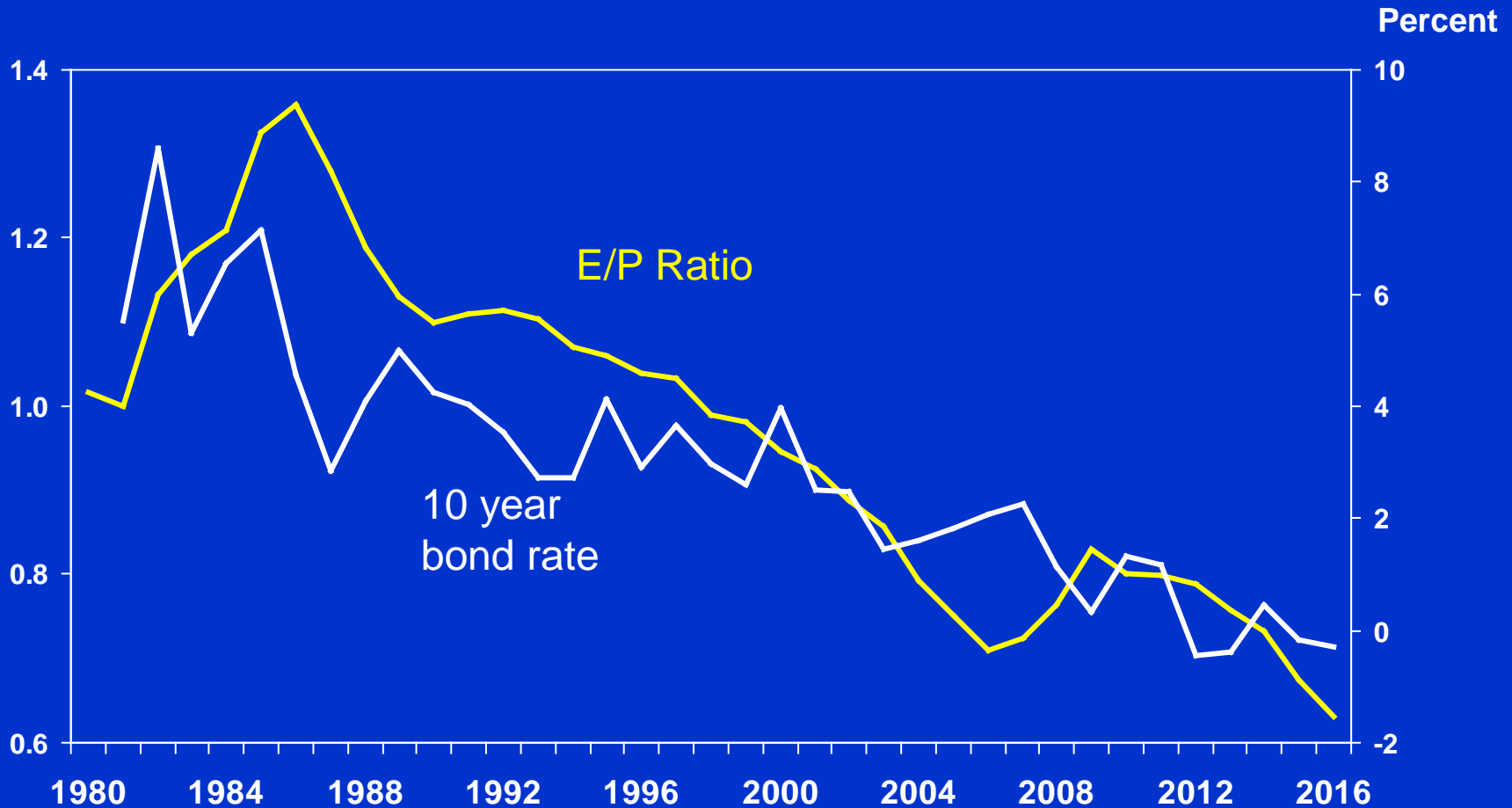
Supporting factors for farmland values?

- 1. Long-term stream of farm income**
- 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 lower and insurance programs provide less protection**
- 6. Relatively low interest rates for agriculture**
- 7. Limited availability of farmland**
- 8. Opportunism**

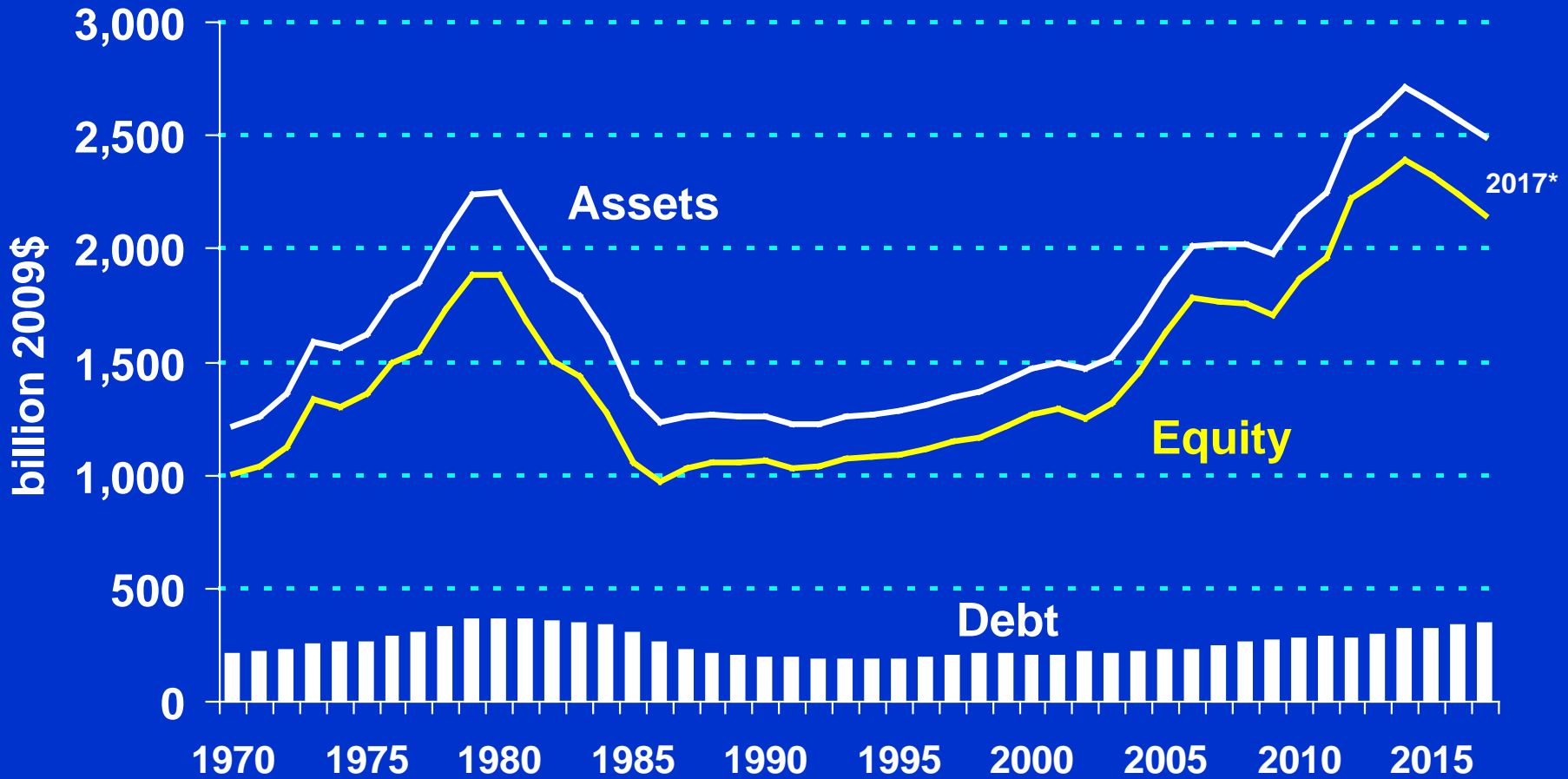
Index of Seventh District Cash Rents Nominal vs. Inflation Adjusted (1981=100)



7th District Earnings to Price Ratio (left axis, 1981=1.0) vs. Real Return on 10 Year Treasury Bonds



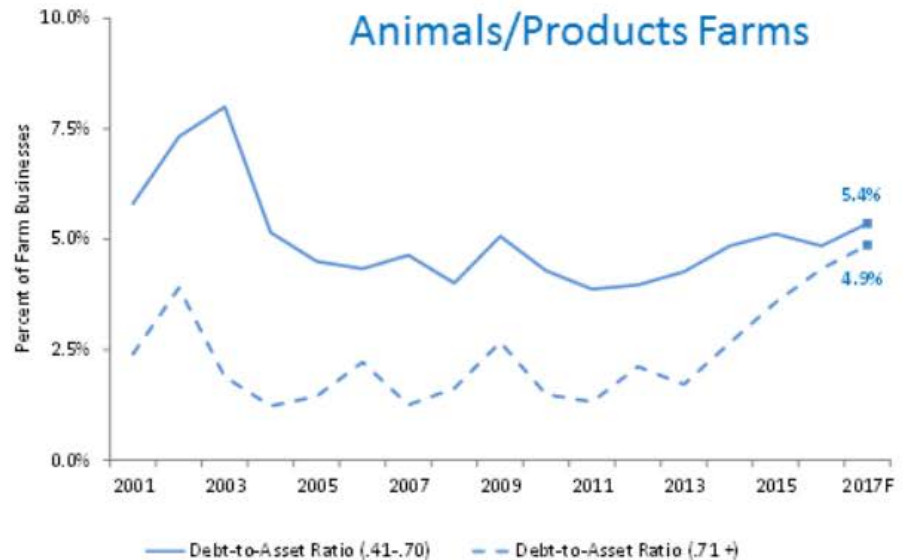
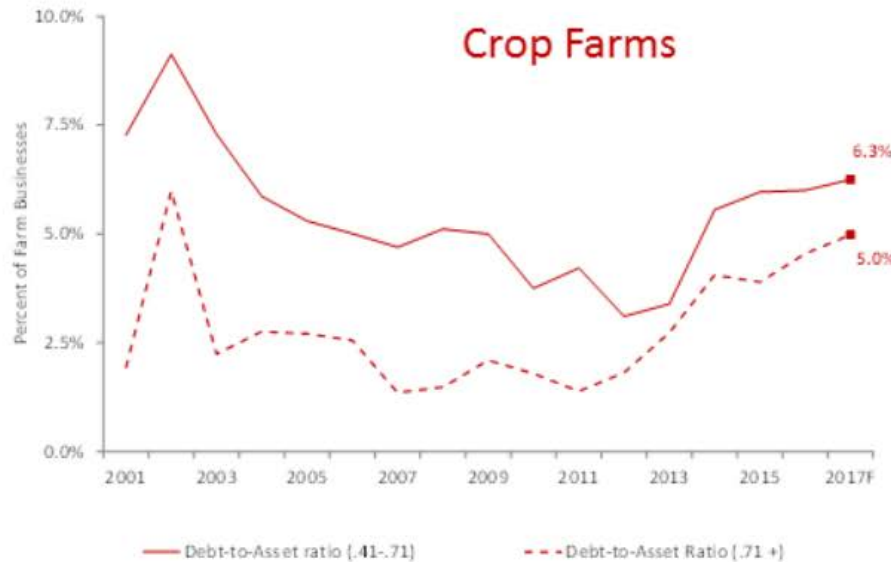
Real farm sector assets and equity still at levels above prior peak



*USDA forecast

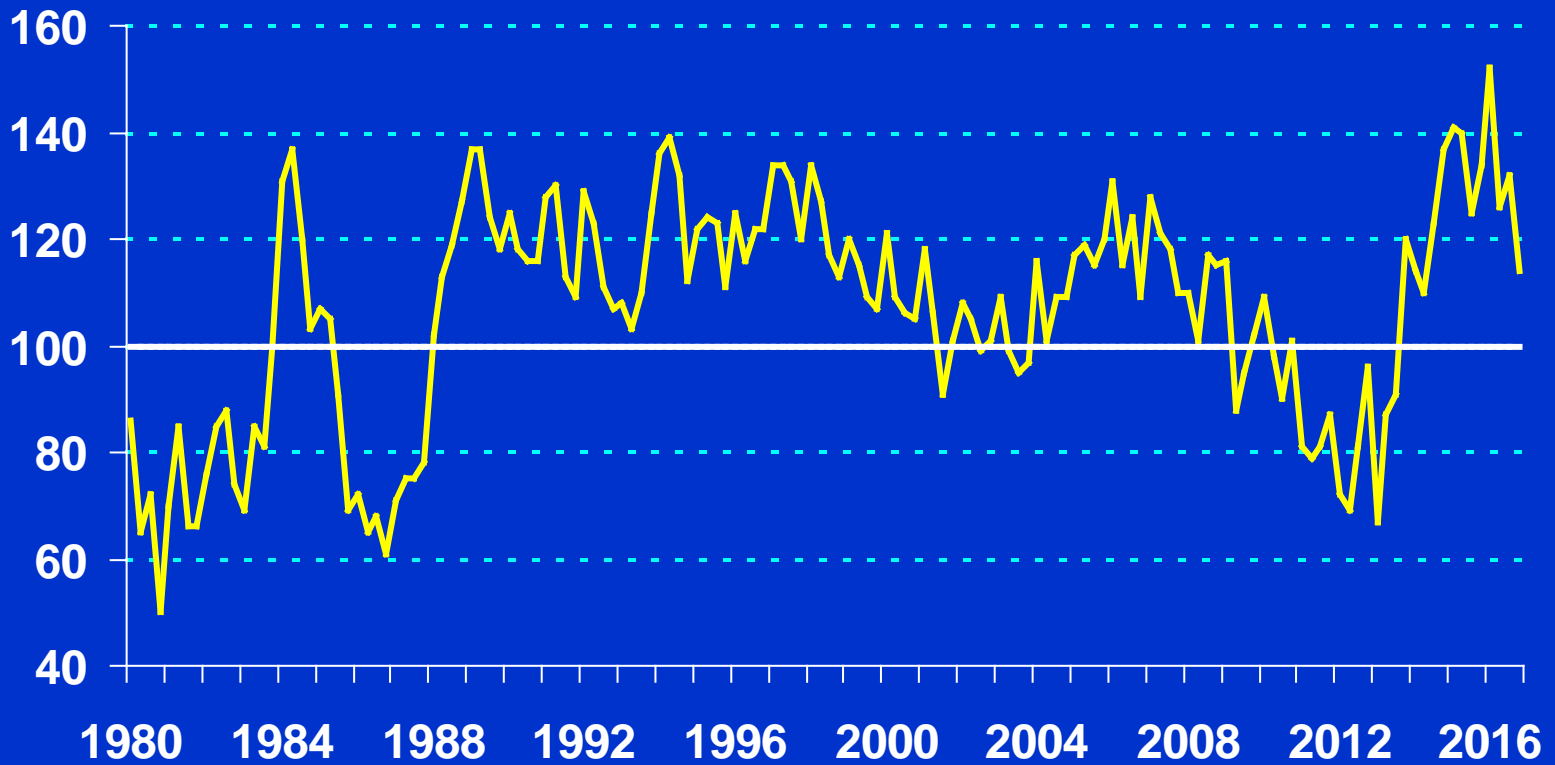
Share of highly leveraged farm businesses increasing since 2013

- Shares of farms with high and very high leverage levels has increased as net farm incomes have fallen.
- With exception of Animals/Products farms with 0.71+ debt to asset, share is below 2002 peak

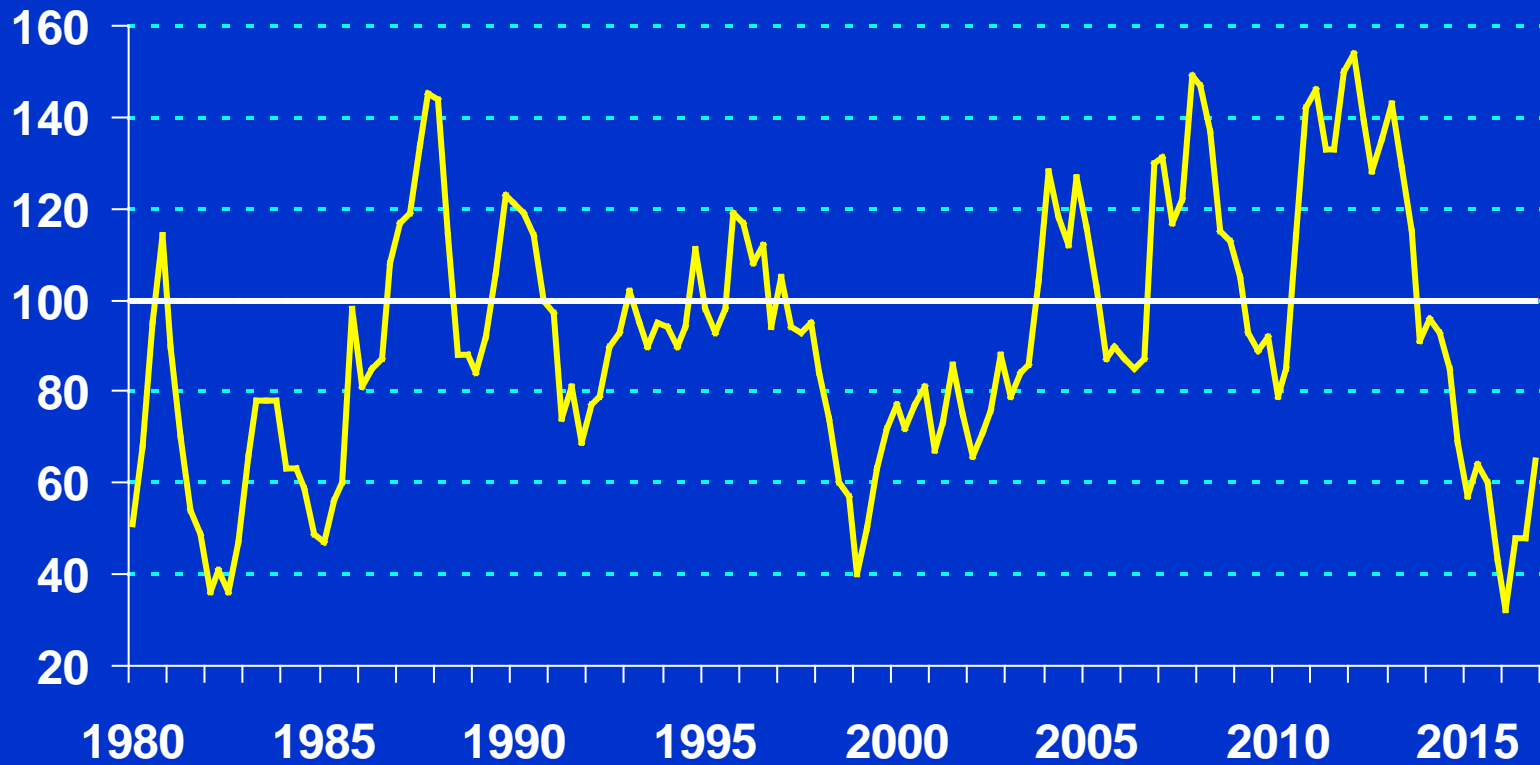


The partial budget forecast model is based on the 2015 Agricultural Resource Management Survey (ARMS) using parameters from the sector forecasts. The model is static and does not account for changes in crop rotation, weather, and other location-based production impacts that occurred after the base year. Data as of February 7, 2017. Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.

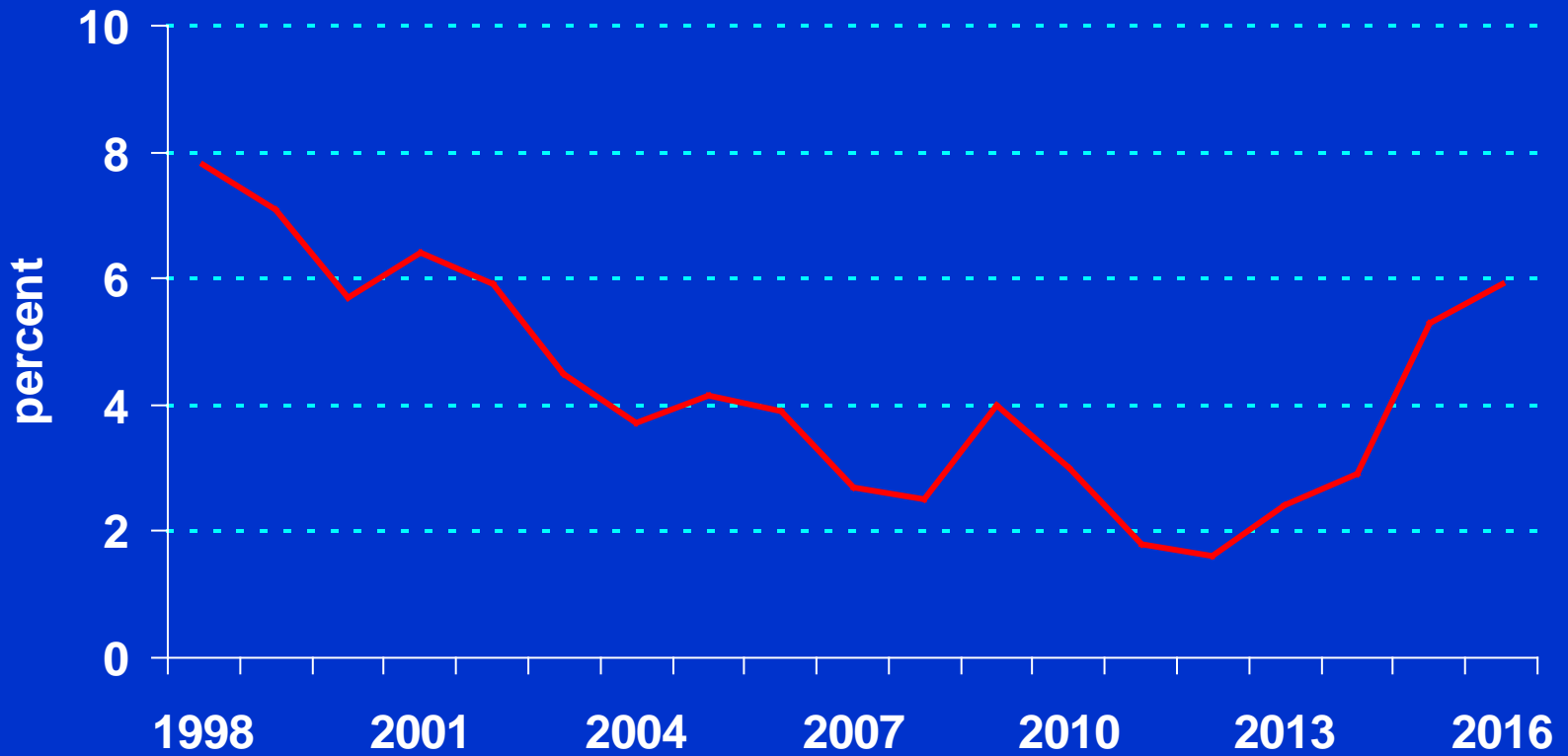
Index of agricultural loan demand for the Seventh Federal Reserve District (excluding real estate)



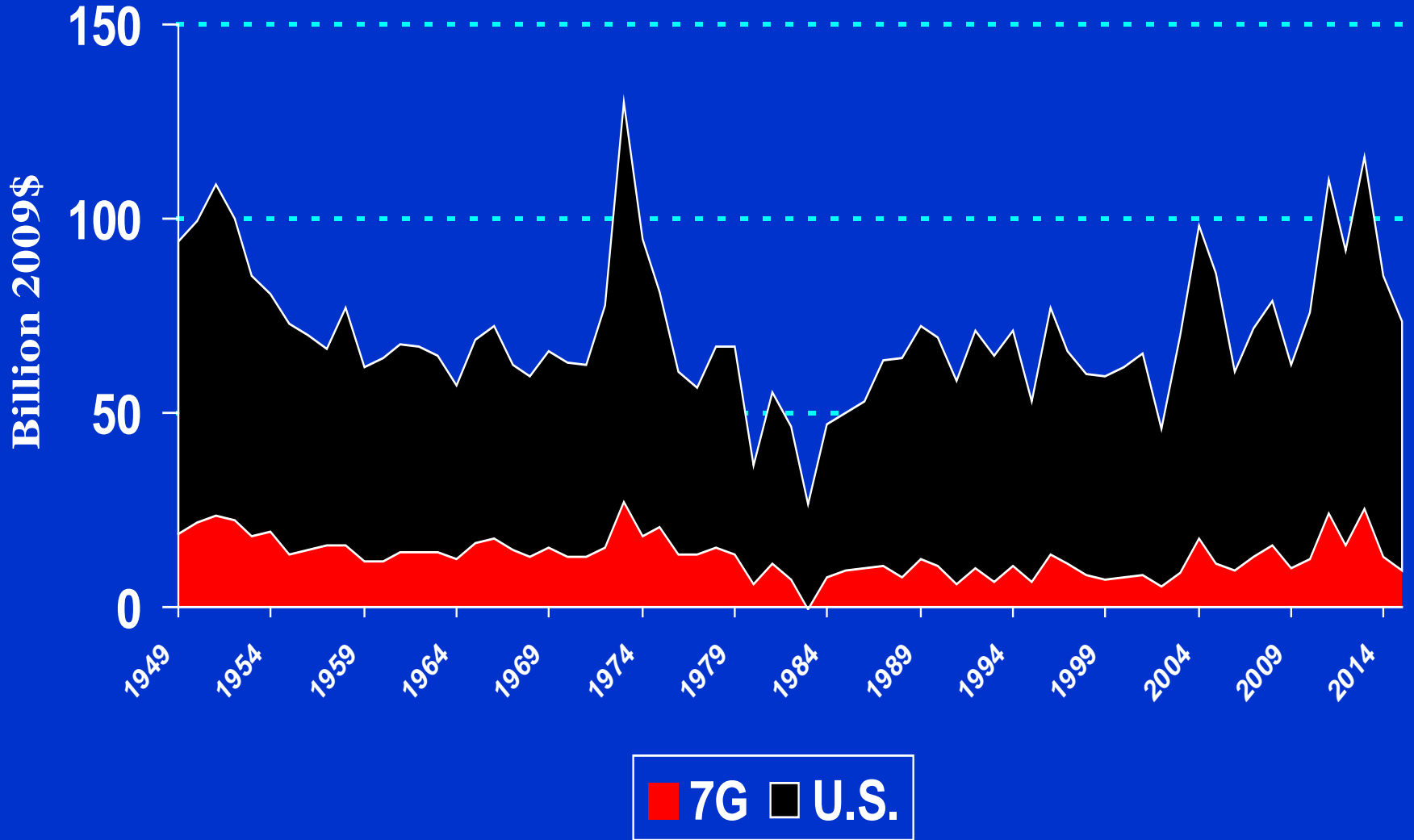
Index of agricultural loan repayment rates for the Seventh Federal Reserve District



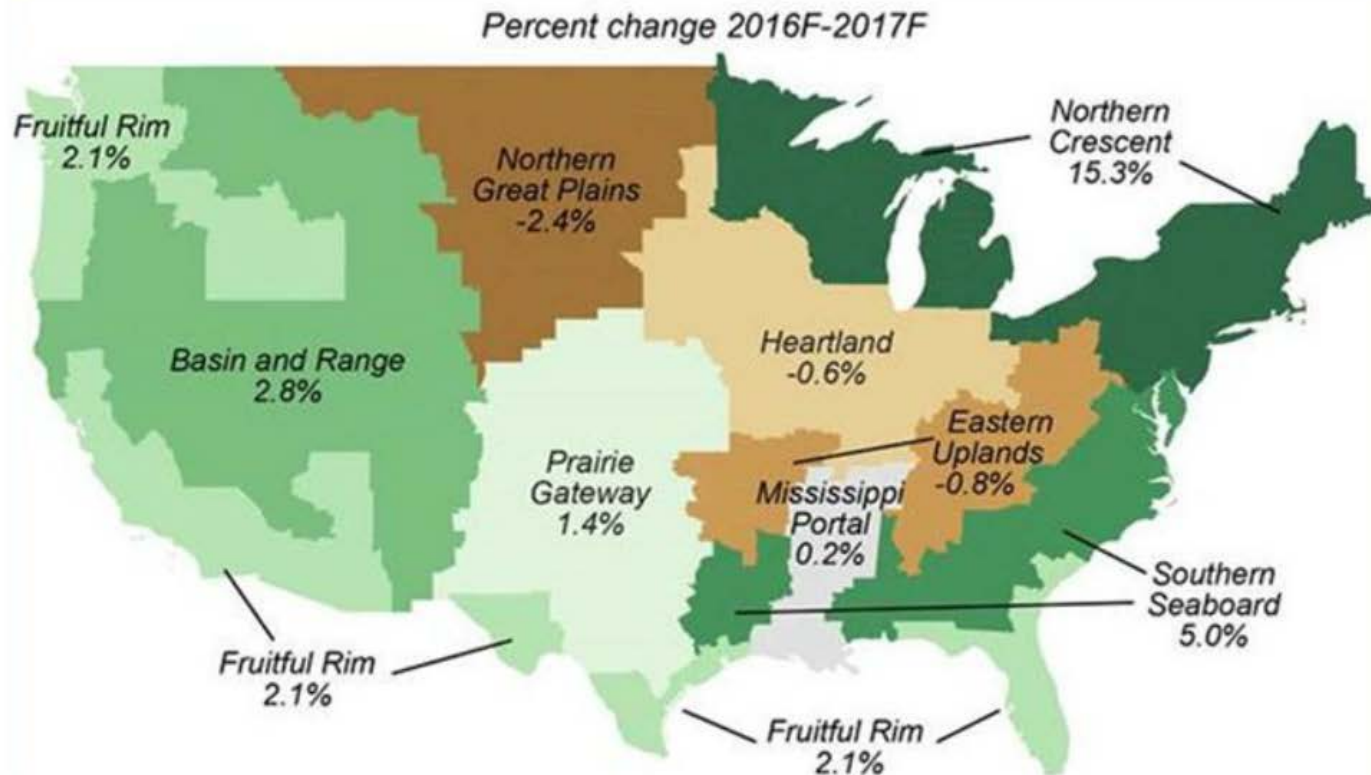
Farm loan volume with “major” or “severe” repayment problems in Seventh Federal Reserve District (fourth quarter of year)



Real Net Farm Income

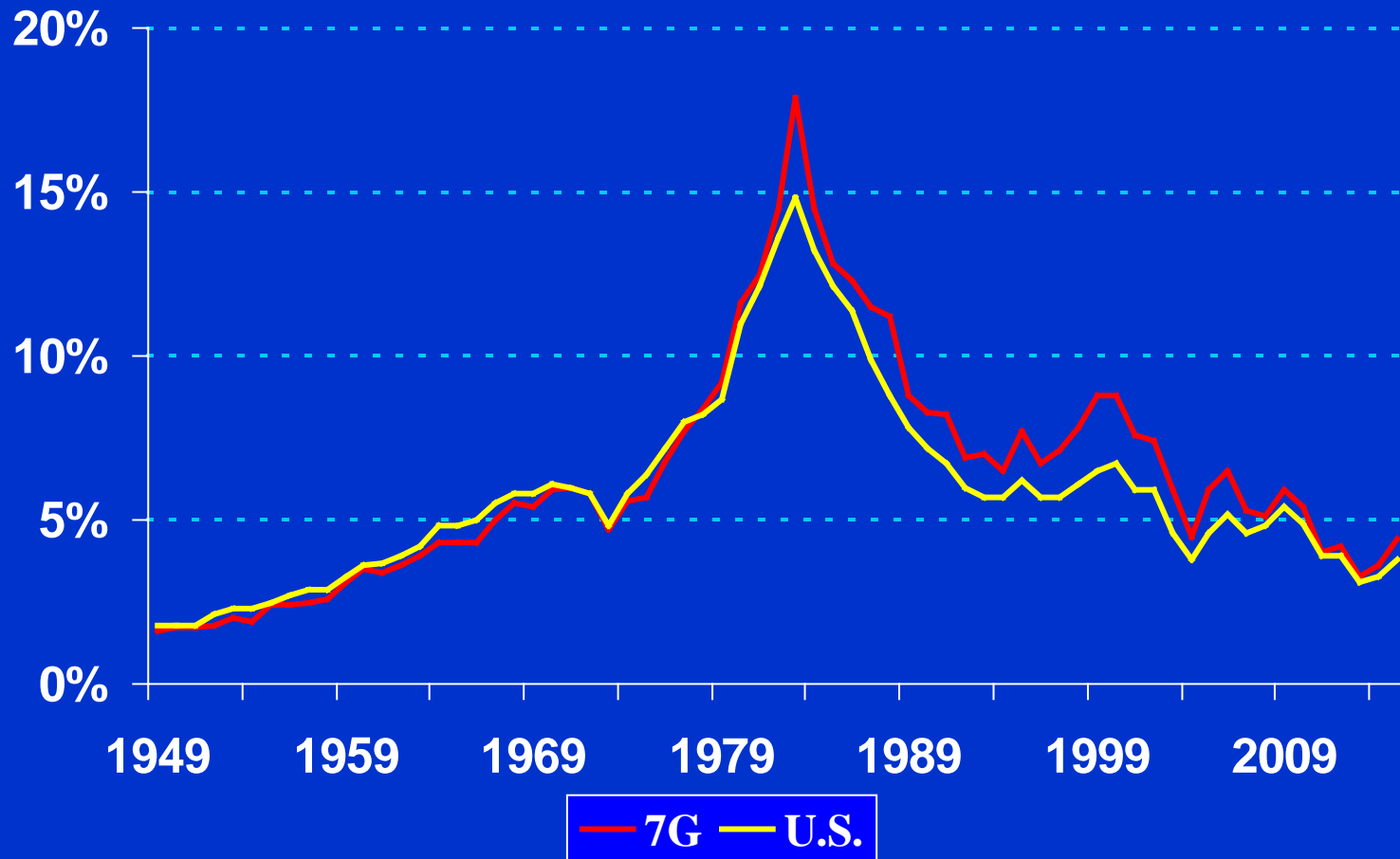


Net Cash Income for farm businesses largely up in dairy/cotton regions, down in cattle/calf regions

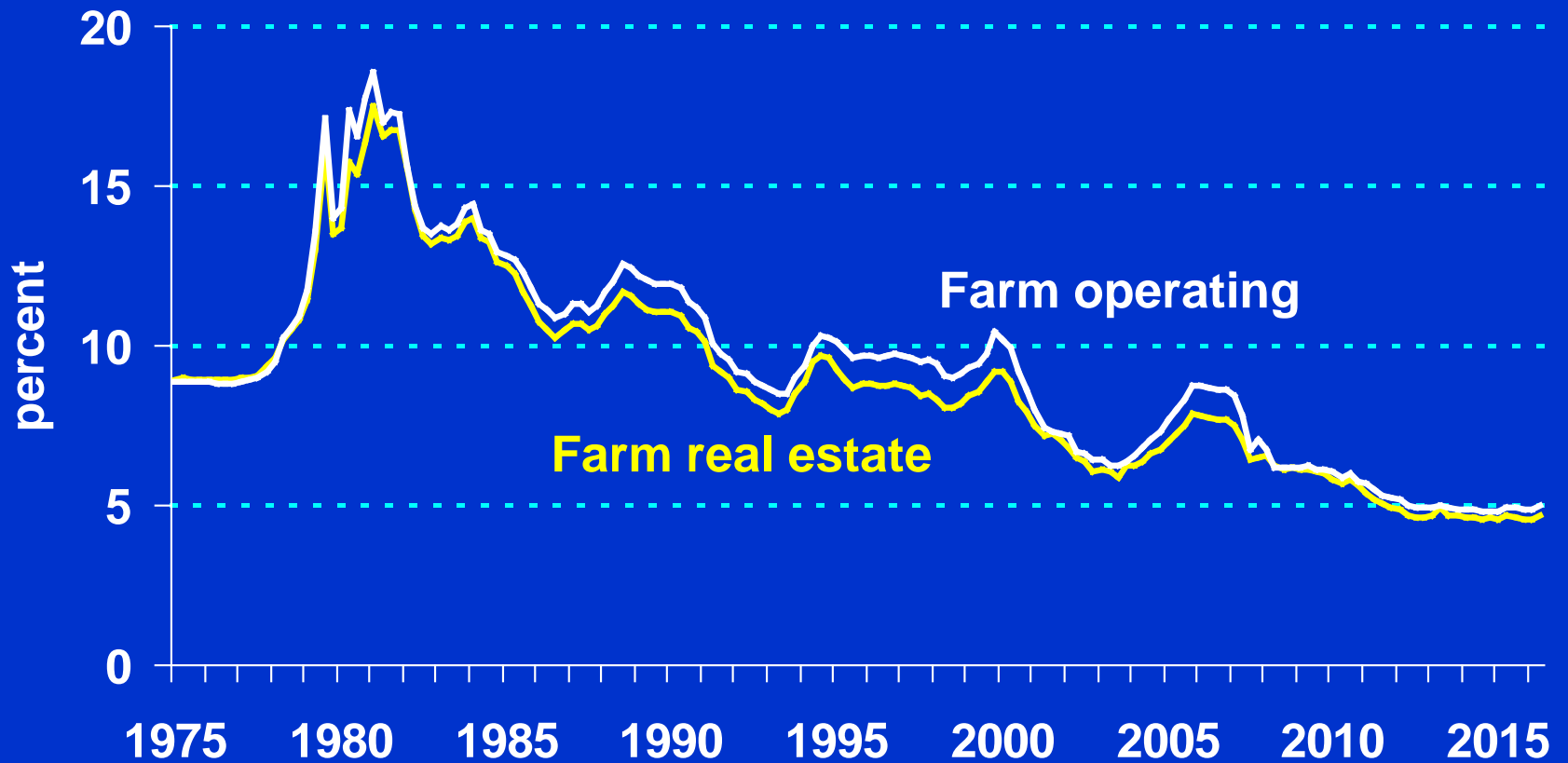


The partial budget forecast model is based on the 2015 Agricultural Resource Management Survey (ARMS) using parameters from the sector forecasts. The model is static and does not account for changes in crop rotation, weather, and other location-based production impacts that occurred after the base year. Data as of February 7, 2017. Source: USDA, Economic Research Service, Farm Income and Wealth Statistics

Interest Expenses as Share of Agricultural Value of Production (% of total)



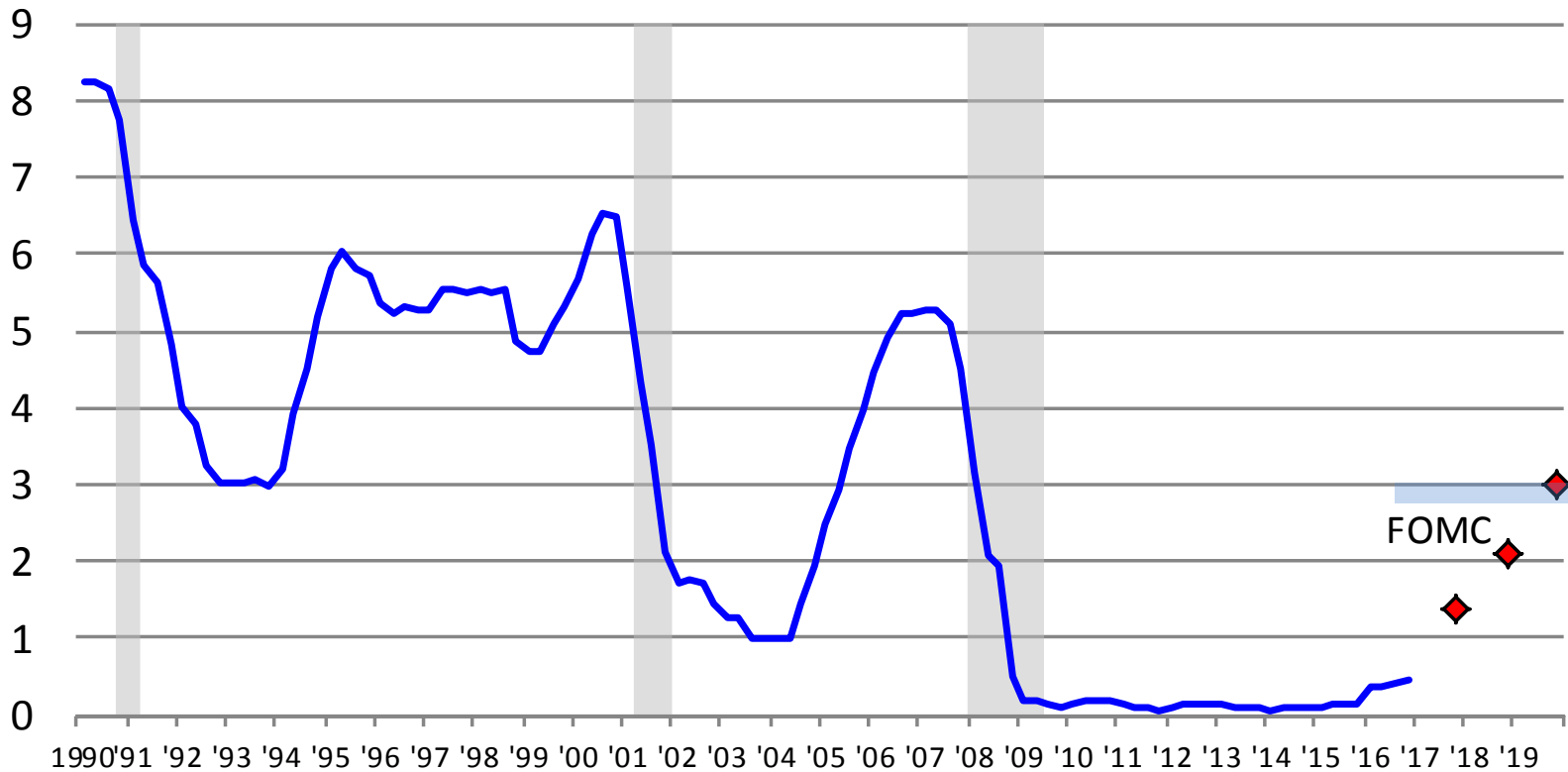
Interest rates charged on new farm loans in the Seventh Federal Reserve District



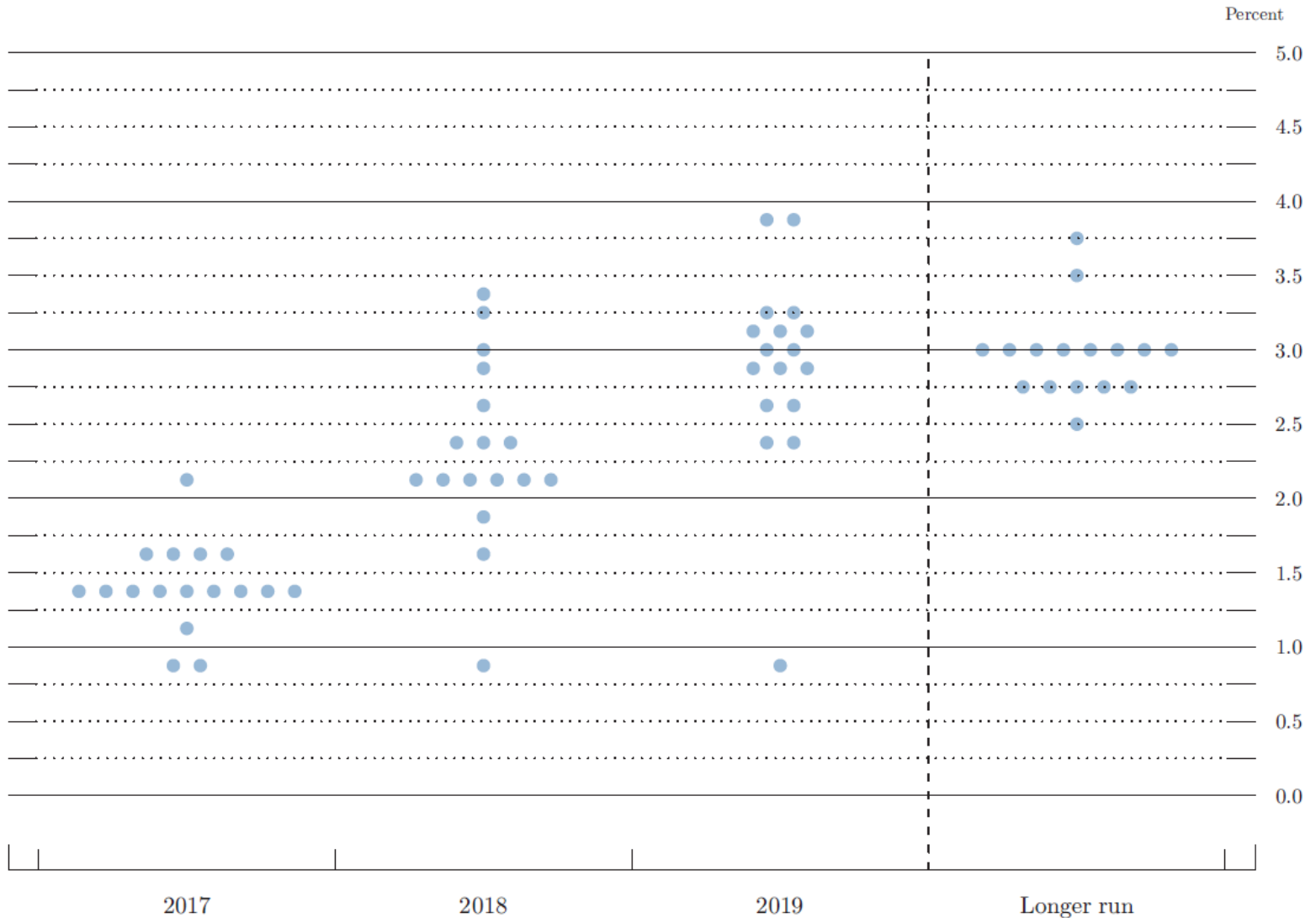
The Federal Funds Rate is forecast to move up

Target Federal Funds Rate

percent



The Federal Funds Rate is anticipated to reach the neutral rate by the end of 2019



Summary

- The outlook is for the U.S. economy to expand at a pace around trend through 2019
- Employment growth is expected to slow with the unemployment rate edging lower
- Shrinking slack in the economy will help the inflation rate gradually rise toward 2%
- Growth in manufacturing sector should continue
- Housing turned the corner, but still has far to go
- Net exports remain a wild card given world conditions

Impacts on Agriculture

- U.S. economic growth boosting demand at restaurants and for animal products
- Subpar 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
- Some give on input costs but rising interest rates (still low)
- Lower levels of farm income; farmland values adjusting
- Strong past decade for agriculture tempers downturn

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