

### **Prefatory Note**

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Class II FOMC – Restricted (FR)

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# Report to the FOMC on Economic Conditions and Monetary Policy



## Book A

### Economic and Financial Conditions: Current Situation and Outlook

March 11, 2015

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Prepared for the Federal Open Market Committee  
by the staff of the Board of Governors of the Federal Reserve System

## Revisions to the Staff Projection since the Previous SEP

The FOMC most recently published its Summary of Economic Projections, or SEP, following the December 2014 FOMC meeting. The table below compares the staff's current economic projection with the one we presented in the December Tealbook.

Since the December projection, we have revised down, on net, our forecast for real GDP growth over the next three years, primarily reflecting the effects of a higher projected path for the foreign exchange value of the dollar. We also have slightly lowered our assumed path for potential GDP growth over both the medium- and longer-term portions of the projection period. Altogether, these revisions leave our projection for the GDP gap next year and in 2017 somewhat weaker than in the December forecast. The unemployment rate has declined a bit more than we expected in December and is projected to average 5.2 percent over the second half of this year, equal to the staff's estimate of its natural rate. By the end of the medium-term projection, the unemployment rate is revised up just a touch to 5.0 percent, still  $\frac{1}{4}$  percentage point below its natural rate.

The staff's projections for both headline and core PCE inflation have been revised down in the near term, partly reflecting recent soft readings for core inflation; on net, consumer energy prices have declined only a little more than we had expected in December. Given our assumptions that longer-run inflation expectations will remain stable over the medium term and that declines in energy prices and core import prices will be transitory, our forecasts for headline and core inflation after this year are little changed. We continue to project that inflation will run below the Committee's 2 percent objective through 2017.

Staff Economic Projections Compared with the December Tealbook

Variable	2014	2015		2015	2016	2017	Longer run
		H1	H2				
Real GDP <sup>1</sup>	2.4	2.2	2.3	2.2	2.3	2.0	1.9
December Tealbook	2.2	2.4	2.7	2.5	2.7	2.2	2.0
Unemployment rate <sup>2</sup>	5.7	5.3	5.2	5.2	5.1	5.0	5.2
December Tealbook	5.7	5.4	5.2	5.2	5.0	4.9	5.2
PCE inflation <sup>1</sup>	1.1	-.3	1.6	.6	1.7	1.9	2.0
December Tealbook	1.2	.4	1.6	1.0	1.7	1.8	2.0
Core PCE inflation <sup>1</sup>	1.4	1.1	1.5	1.3	1.6	1.8	n.a.
December Tealbook	1.6	1.5	1.5	1.5	1.6	1.8	n.a.
Federal funds rate <sup>2</sup>	.10	.16	.66	.66	1.75	2.67	3.50
December Tealbook	.13	.42	.98	.98	2.05	3.03	3.75
Memo:							
Federal funds rate,							
end of period	.13	.20	.76	.76	1.84	2.73	3.50
December Tealbook	.13	.52	1.07	1.07	2.14	3.09	3.75
GDP gap <sup>2,3</sup>	-1.0	-.7	-.4	-.4	.2	.5	n.a.
December Tealbook	-1.3	-1.0	-.6	-.6	.4	.8	n.a.

1. Percent change from final quarter of preceding period to final quarter of period indicated.

2. Percent, final quarter of period indicated.

3. Percent difference between actual and potential. A negative number indicates that the economy is operating below potential.

n.a. Not available.

As discussed in the box “Changes to Longer-Run Interest Rates,” we adjusted downward our assumptions about long-run equilibrium interest rates. Specifically, we lowered our assumed longer-run nominal value of the federal funds rate by  $\frac{1}{4}$  percentage point, to  $3\frac{1}{2}$  percent. By design, we insulated our projection of real economic activity from being boosted by this adjustment. With the downward revision to our assumption for longer-run equilibrium interest rates and relatively small changes in our projections for the GDP gap and inflation, the medium-term path for the federal funds rate in the current projection is only a bit more than  $\frac{1}{4}$  percentage point lower than in December.

Because FOMC participants are providing additional information about their expectations of the economic conditions that will exist at the time they anticipate it will first become appropriate to increase the target range for the federal funds rate, we include the table below providing quarterly information from the staff projection. In the second quarter of this year—the quarter when our baseline projection assumes liftoff of the federal funds rate will occur—we forecast the unemployment rate to average 5.3 percent and the trailing four-quarter change in real GDP to be 2.8 percent.<sup>1</sup> We project the trailing four-quarter change in core PCE inflation to be 1.1 percent, and the four-quarter change in headline PCE prices to be flat because of the declines in energy prices. (We do not anticipate that the recent decreases in energy prices will fall out of the four-quarter change in headline inflation until early next year.)

**Staff Economic Projections Compared with the December Tealbook, Quarterly**

Variable	2015				2016			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<i>Four-quarter percent change</i>								
Real GDP	3.3	2.8	2.2	2.2	2.4	2.3	2.3	2.3
December Tealbook	3.3	2.8	2.4	2.5	2.6	2.7	2.8	2.7
PCE inflation	.3	.0	.1	.6	1.5	1.6	1.6	1.7
December Tealbook	.7	.5	.6	1.0	1.6	1.6	1.6	1.7
Core PCE inflation	1.3	1.1	1.2	1.3	1.5	1.5	1.6	1.6
December Tealbook	1.6	1.5	1.5	1.5	1.5	1.6	1.6	1.6
<i>Percent</i>								
Unemployment rate	5.5	5.3	5.2	5.2	5.1	5.1	5.1	5.1
December Tealbook	5.5	5.4	5.3	5.2	5.2	5.1	5.1	5.0
Federal funds rate	.13	.16	.40	.66	.95	1.23	1.50	1.75
December Tealbook	.13	.42	.71	.98	1.25	1.52	1.79	2.05
Memo								
Federal funds rate, end of period	.13	.20	.49	.76	1.05	1.33	1.59	1.84
December Tealbook	.13	.52	.80	1.07	1.34	1.61	1.88	2.14

<sup>1</sup> Because the data are published with a lag, some of the data pertaining to the second quarter will not be available until after the quarter has ended.

## Comparing the Staff Projection with Other Forecasts

The staff forecasts of real GDP growth and inflation are, on balance, a little lower than the most recent Survey of Professional Forecasters (SPF) median and Blue Chip Consensus outlooks. Meanwhile, the staff's forecast of the unemployment rate is in line with those surveys in 2015 but a little higher than the Blue Chip in 2016.

### Comparison of Tealbook and Outside Forecasts

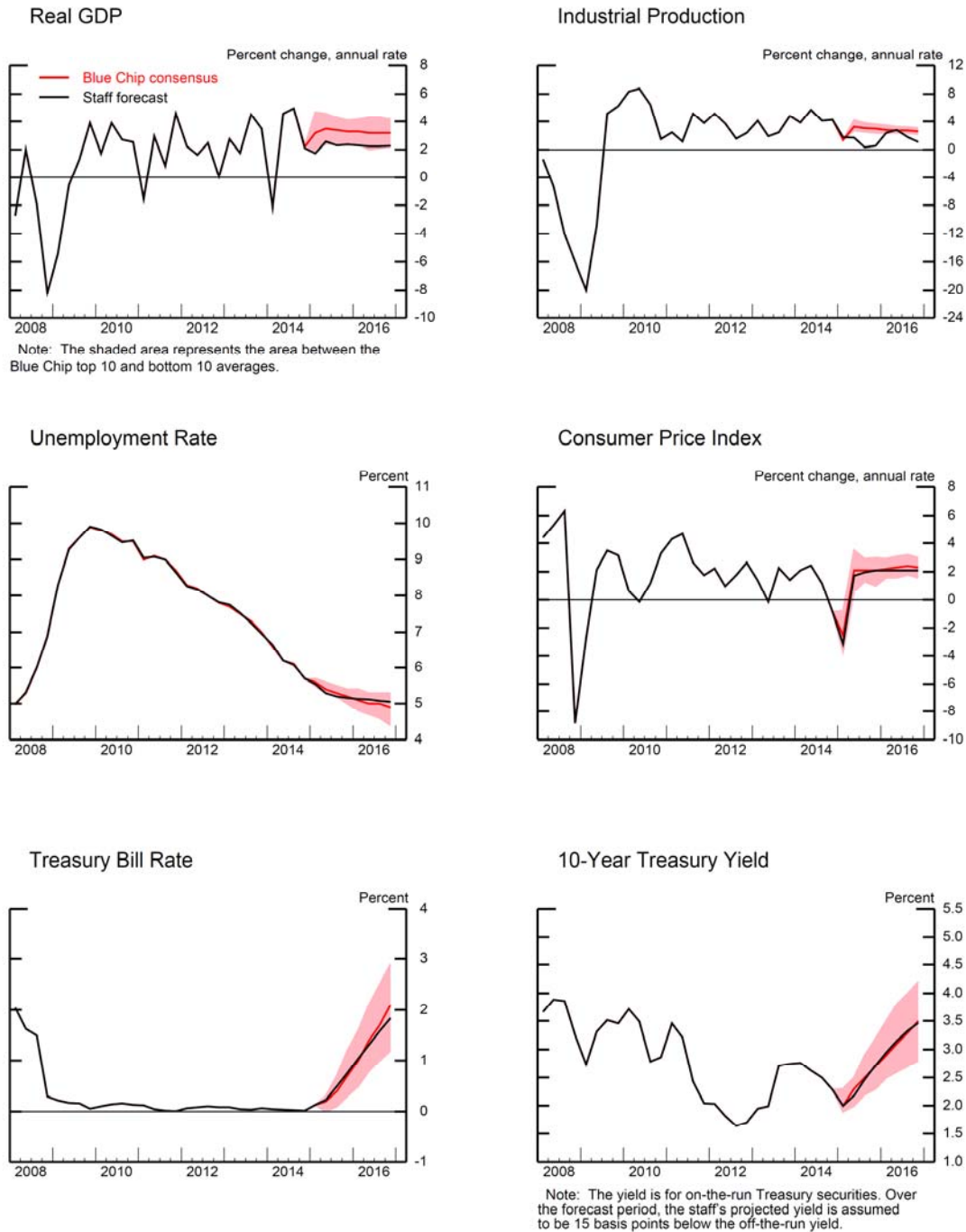
	2015	2016
<b>GDP (Q4/Q4 percent change)</b>		
March Tealbook	2.2	2.3
Blue Chip (3/10/15)	2.8	2.8
SPF median (2/13/15)	2.8	n.a.
<b>Unemployment rate (Q4 level)</b>		
March Tealbook	5.2	5.1
Blue Chip (3/10/15)	5.2	4.9
SPF median (2/13/15)	5.2	n.a.
<b>Consumer price inflation (Q4/Q4 percent change)</b>		
March Tealbook	0.6	2.1
Blue Chip (3/10/15)	0.9	2.3
SPF median (2/13/15)	1.1	2.1
<b>PCE price inflation (Q4/Q4 percent change)</b>		
March Tealbook	0.6	1.7
SPF median (2/13/15)	1.1	1.9
<b>Core PCE price inflation (Q4/Q4 percent change)</b>		
March Tealbook	1.3	1.6
SPF median (2/13/15)	1.4	1.7

Note: SPF is the Survey of Professional Forecasters. Blue Chip does not provide results for PCE price inflation. The Blue Chip Consensus contains about 50 panelists, and the SPF about 40. Roughly 20 panelists contribute to both surveys.

n.a. Not available.

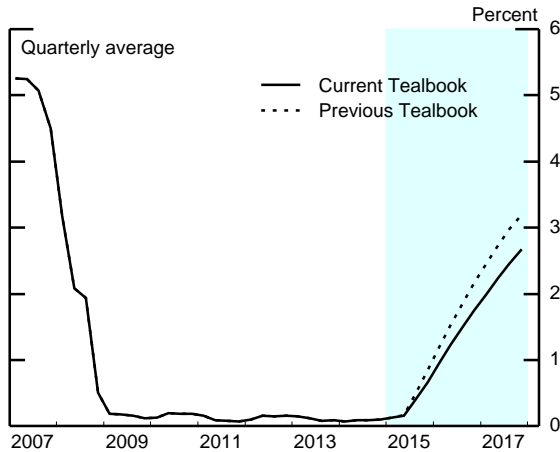
Source: Blue Chip Economic Indicators; Federal Reserve Bank of Philadelphia.

### Tealbook Forecast Compared with Blue Chip (Blue Chip survey released March 10, 2015)

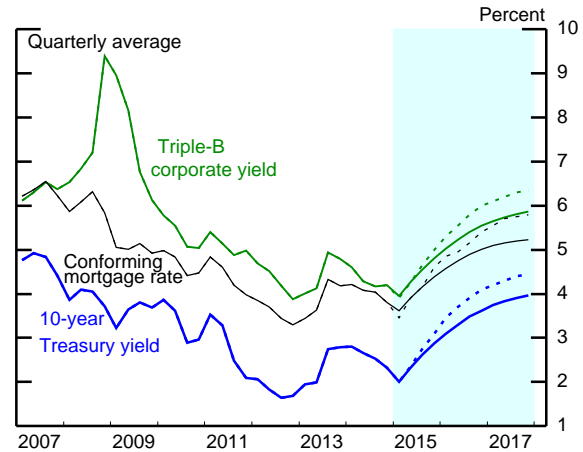


## Key Background Factors underlying the Baseline Staff Projection

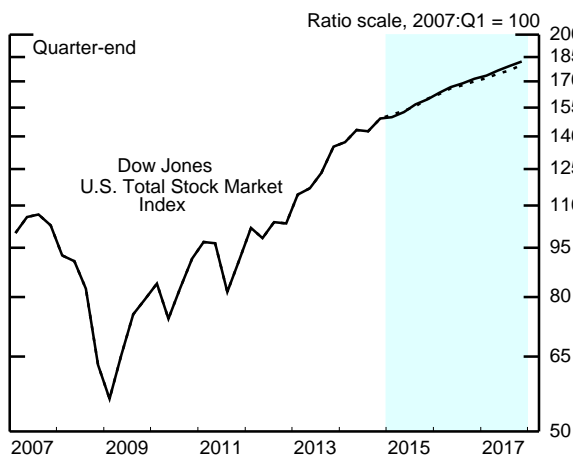
Federal Funds Rate



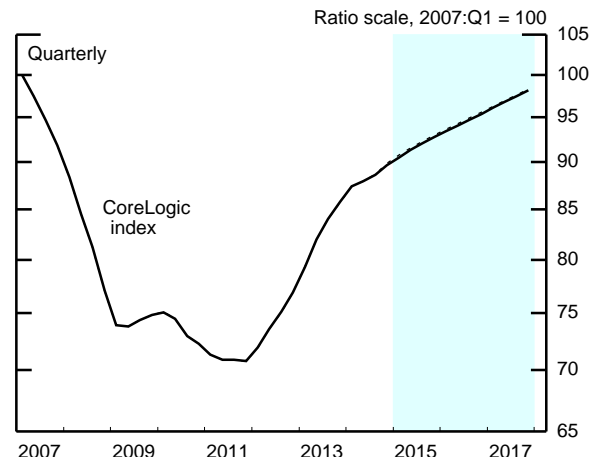
Long-Term Interest Rates



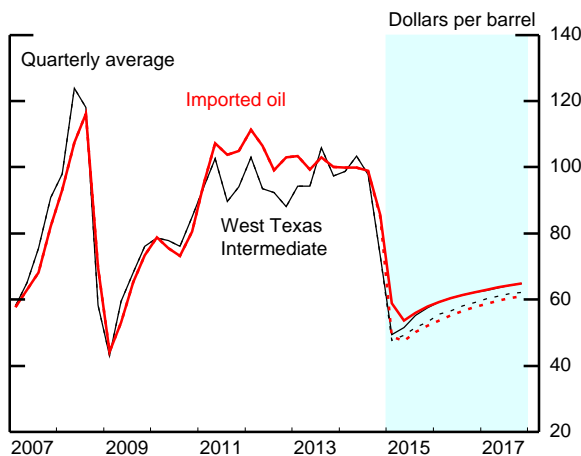
Equity Prices



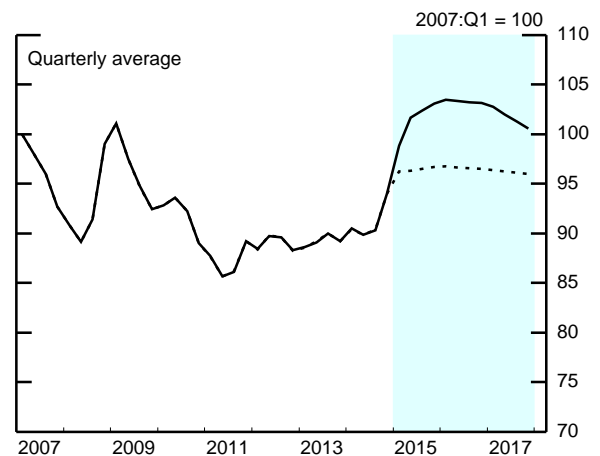
House Prices



Crude Oil Prices



Broad Real Dollar



# **Summary of the Near-Term Outlook** (Percent change at annual rate except as noted)

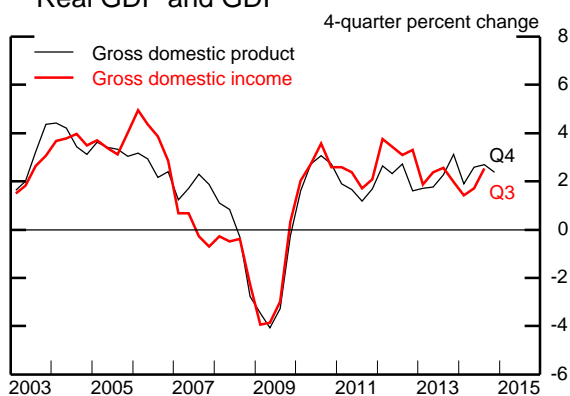
Measure	2014:Q4		2015:Q1		2015:Q2	
	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook
<b>Real GDP</b>	<b>2.6</b>	<b>2.1</b>	<b>2.8</b>	<b>1.7</b>	<b>2.7</b>	<b>2.6</b>
Private domestic final purchases	3.7	4.3	3.9	3.0	4.1	4.1
Personal consumption expenditures	3.8	4.2	4.1	3.5	4.4	4.4
Residential investment	3.7	4.5	7.2	1.4	11.1	8.5
Nonres. private fixed investment	3.5	4.4	1.9	.7	.8	1.5
Government purchases	-3.9	-2.0	.5	-.8	.1	.1
<i>Contributions to change in real GDP</i>						
Inventory investment <sup>1</sup>	.8	-.1	-.2	.1	.1	.1
Net exports <sup>1</sup>	-.6	-1.0	-.3	-.7	-.8	-1.0
<b>Unemployment rate<sup>2</sup></b>	<b>5.7</b>	<b>5.7</b>	<b>5.4</b>	<b>5.5</b>	<b>5.3</b>	<b>5.3</b>
<b>PCE chain price index</b>	<b>-.5</b>	<b>-.4</b>	<b>-2.5</b>	<b>-2.0</b>	<b>1.1</b>	<b>1.3</b>
Ex. food and energy	1.1	1.1	1.1	.8	1.3	1.4

1. Percentage points.

2. Percent.

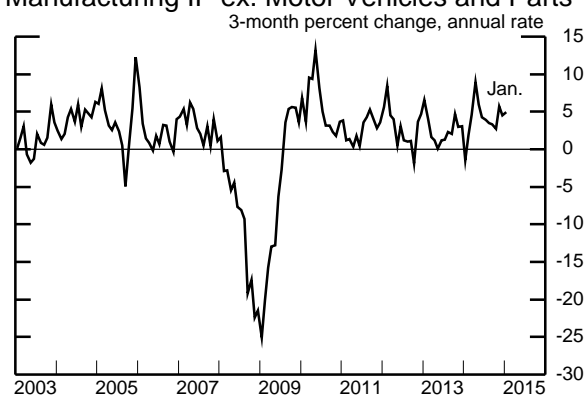
## **Recent Nonfinancial Developments (1)**

**Real GDP and GDI**



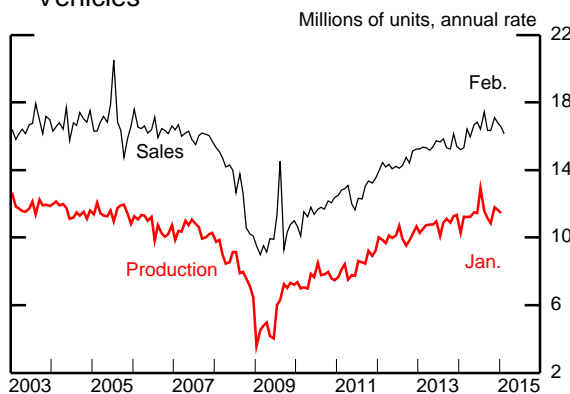
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

**Manufacturing IP ex. Motor Vehicles and Parts**



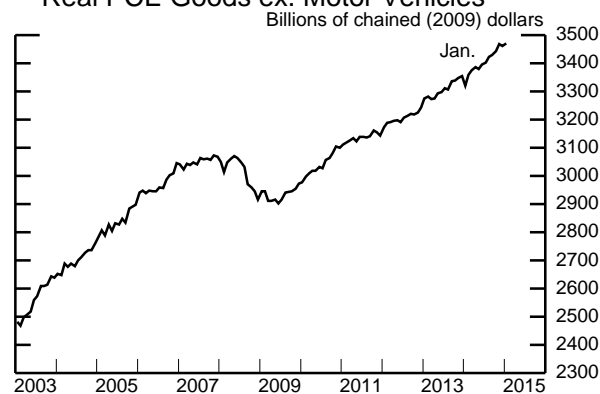
Source: Federal Reserve Board, G.17 Statistical Release, "Industrial Production and Capacity Utilization."

**Sales and Production of Light Motor Vehicles**



Source: Ward's Communications.

**Real PCE Goods ex. Motor Vehicles**



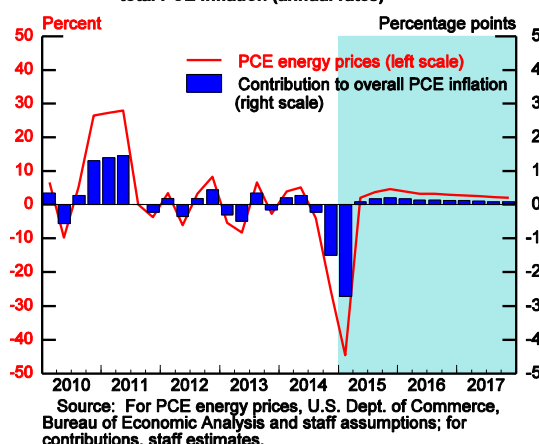
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.



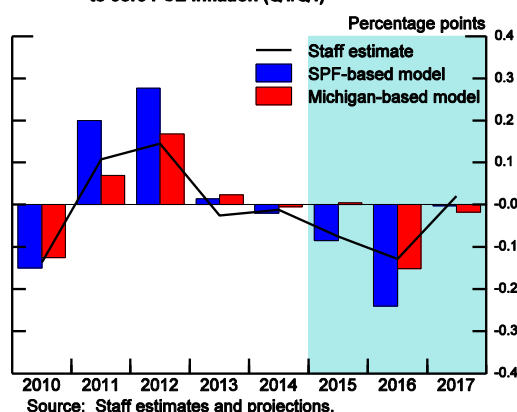
shows the estimated contribution of energy price changes to core inflation from two of our Phillips curve models along with the staff's judgmental estimate. The contributions plotted as red bars in the figure come from a model where inflation expectations are proxied by long-run inflation expectations from the Michigan survey; the blue bars report contributions from a model where expectations are proxied by the 10-year forecast of PCE inflation from the Survey of Professional Forecasters, or SPF. The magnitude and timing of the response of core inflation to energy price movements is only slightly different in these two models, and the staff's judgmental estimate, shown by the black line, is similar to both models' estimates.<sup>2</sup> Changes in energy prices are estimated to have had little effect on core inflation in 2013 and 2014, but the drop in energy prices since the middle of last year is projected to hold down core inflation slightly this year and by one-tenth to two-tenths of a percentage point in 2016. In 2017, the energy price effect on core inflation is roughly neutral.

All of the estimates presented here—like the staff's inflation projection as a whole—are based on the assumption that inflation expectations remain stable. While survey-based measures have moved relatively little in recent years, market-based measures of inflation compensation have declined notably, on net, since the middle of last year. If the energy price declines since June were to bring about a reduction in the inflation expectations that are relevant for price-setting behavior, then energy pass-through likely would be larger and more persistent than the staff assumes and would produce additional downward pressure on our medium-term inflation forecast. However, in the absence of a change in inflation expectations, estimates from our models suggest that it is unlikely that the drop in energy prices to date poses a significant downside risk to our medium-term forecast of PCE inflation.

**Figure 1. Energy price inflation and contribution to total PCE inflation (annual rates)**



**Figure 2. Contribution of energy price pass-through to core PCE inflation (Q4/Q4)**

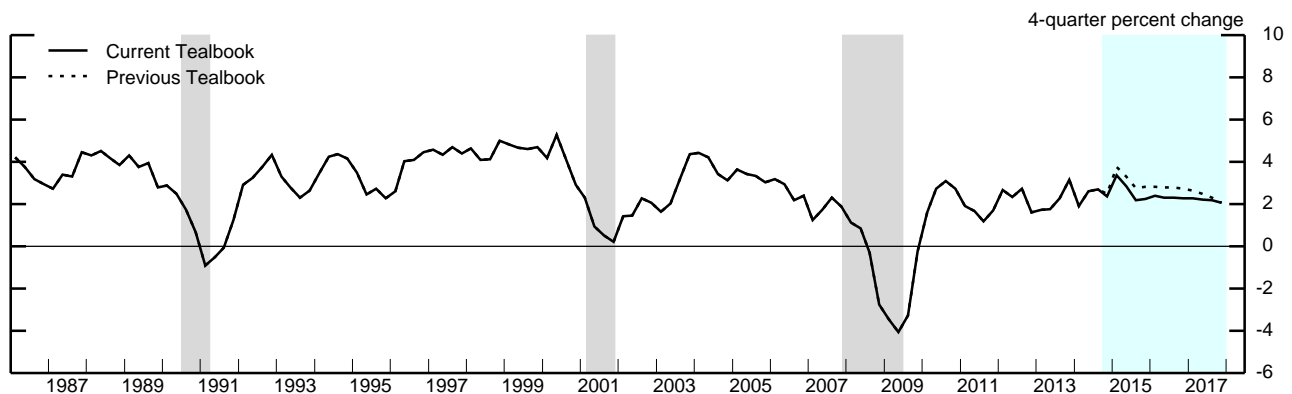


<sup>2</sup> These differences greatly understate the uncertainty around estimates of the energy pass-through because they do not incorporate, for example, model specification and parameter uncertainty or uncertainty about the staff energy price forecast.

**Projections of Real GDP and Related Components**  
(Percent change at annual rate from final quarter  
of preceding period except as noted)

Measure	2014	2015		2015	2016	2017
		H1	H2			
<b>Real GDP</b>	<b>2.4</b>	<b>2.2</b>	<b>2.3</b>	<b>2.2</b>	<b>2.3</b>	<b>2.0</b>
Previous Tealbook	2.5	2.8	2.8	2.8	2.7	2.0
Final sales	2.3	2.1	2.5	2.3	2.3	2.2
Previous Tealbook	2.2	2.9	2.8	2.8	2.8	2.4
Personal consumption expenditures	2.8	3.9	3.9	3.9	3.2	2.6
Previous Tealbook	2.7	4.2	4.0	4.1	3.4	2.7
Residential investment	2.7	4.9	13.7	9.2	9.7	5.1
Previous Tealbook	2.5	9.1	13.0	11.0	9.2	4.1
Nonresidential structures	6.5	-8.8	-3.6	-6.2	1.5	.7
Previous Tealbook	6.0	-8.1	-3.0	-5.6	2.4	1.2
Equipment and intangibles	6.0	4.1	4.1	4.1	4.0	2.5
Previous Tealbook	5.9	4.3	5.3	4.8	4.2	2.7
Federal purchases	.2	-2.8	-1.8	-2.3	-1.3	-.9
Previous Tealbook	-.8	-1.5	-2.1	-1.8	-1.3	-1.1
State and local purchases	1.2	1.2	1.7	1.5	2.0	2.2
Previous Tealbook	1.0	1.4	1.7	1.6	2.0	2.2
Exports	2.4	-.3	.0	-.1	.7	2.9
Previous Tealbook	1.9	2.1	2.0	2.0	2.5	3.6
Imports	5.5	5.3	6.8	6.1	6.2	3.8
Previous Tealbook	4.5	5.3	7.2	6.3	5.4	4.0
Contributions to change in real GDP (percentage points)						
Inventory change	.0	.1	-.1	.0	.0	-.2
Previous Tealbook	.3	-.1	.1	.0	.0	-.3
Net exports	-.6	-.9	-1.0	-1.0	-.9	-.3
Previous Tealbook	-.5	-.5	-.8	-.7	-.5	-.2

### Real GDP

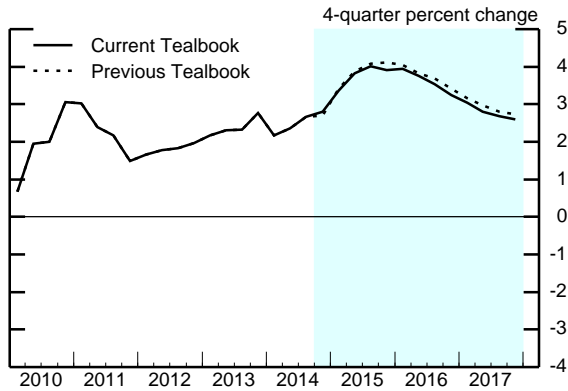


Note: The gray shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research.

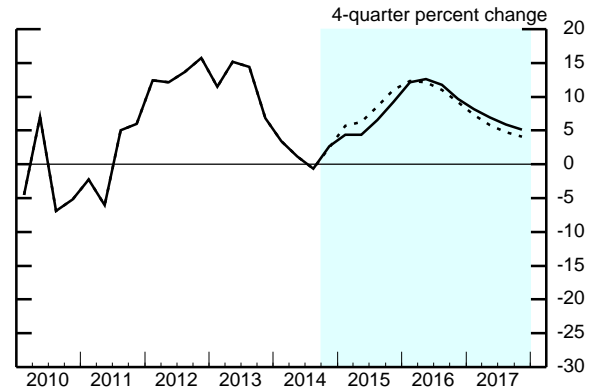
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

## Components of Final Demand

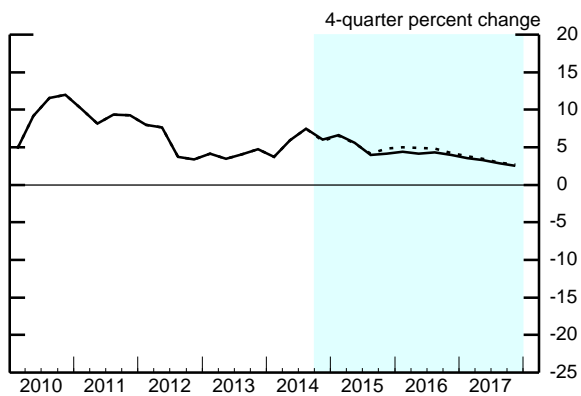
Personal Consumption Expenditures



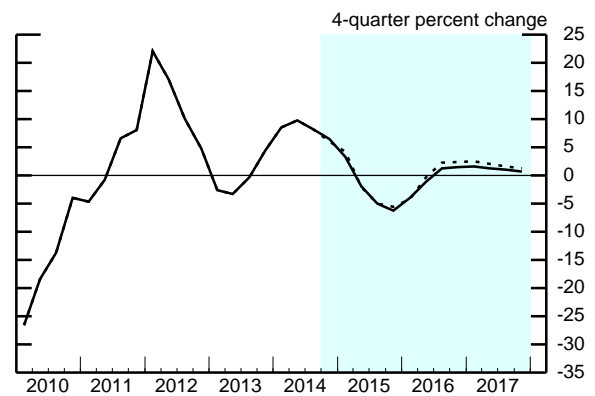
Residential Investment



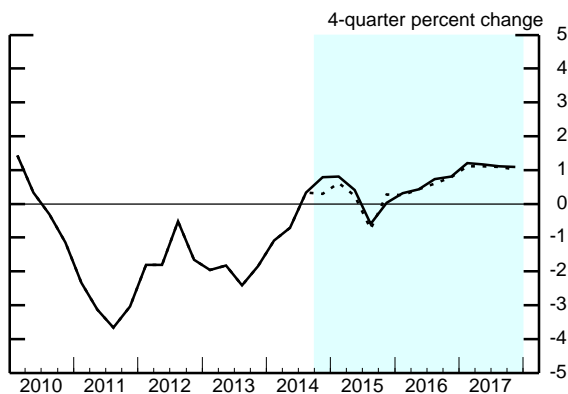
Equipment and Intangibles



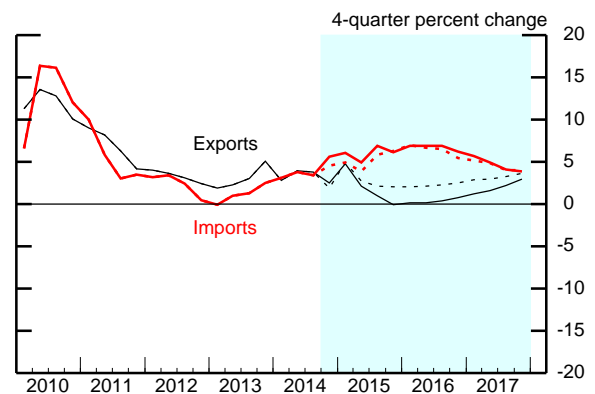
Nonresidential Structures



Government Consumption & Investment



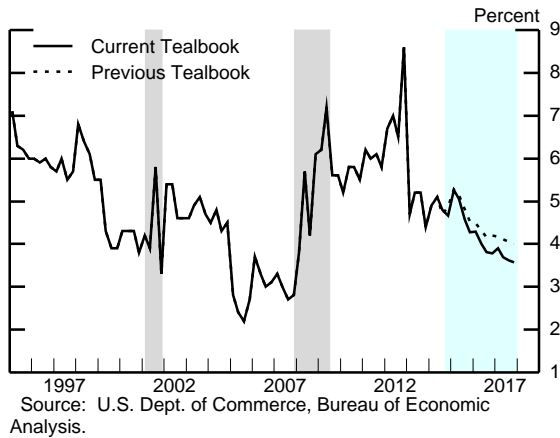
Exports and Imports



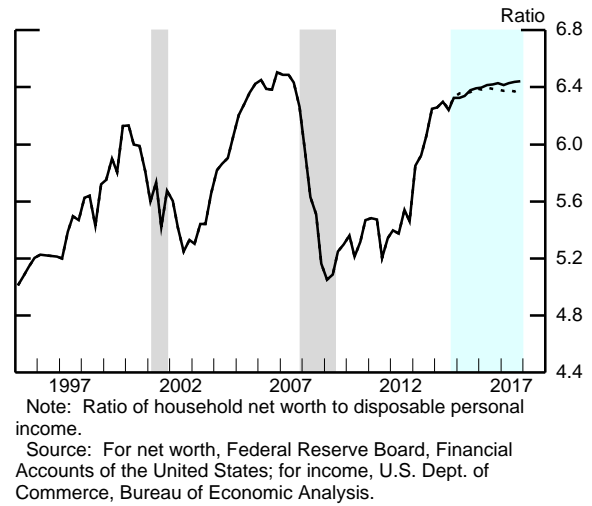
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

## Aspects of the Medium-Term Projection

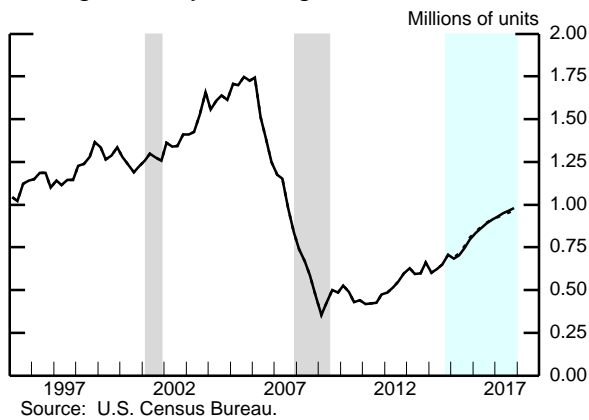
Personal Saving Rate



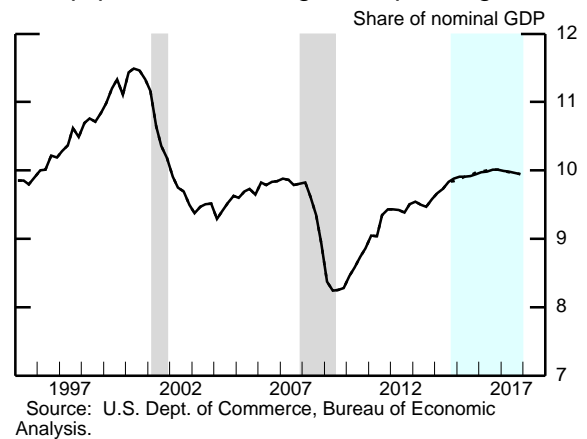
Wealth-to-Income Ratio



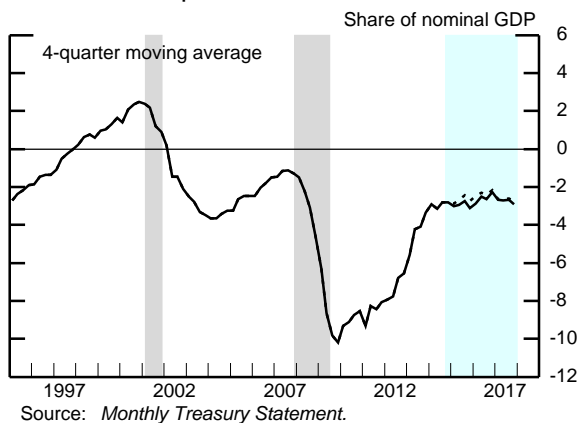
Single-Family Housing Starts



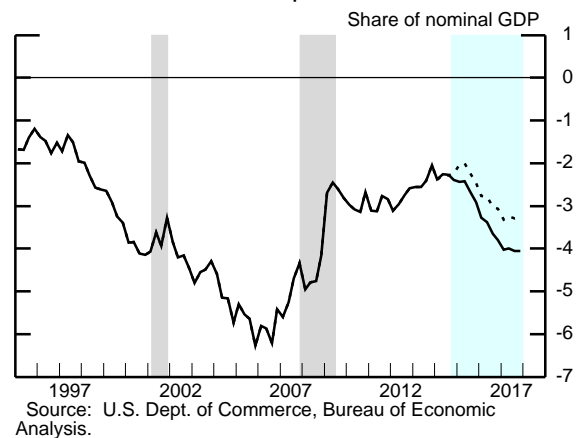
Equipment and Intangibles Spending



Federal Surplus/Deficit



Current Account Surplus/Deficit



Note: The gray shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research.

**Decomposition of Potential GDP**  
(Percent change, Q4 to Q4, except as noted)

Measure	1974-95	1996-2000	2001-07	2008-10	2011-13	2014	2015	2016	2017
Potential real GDP	3.1	3.4	2.6	1.7	1.6	.5	1.6	1.7	1.7
Previous Tealbook	3.1	3.4	2.6	1.7	1.6	.8	1.7	1.8	1.8
<i>Selected contributions</i> <sup>1</sup>									
Structural labor productivity <sup>2</sup>	1.6	2.9	2.8	1.5	1.2	.5	1.5	1.6	1.6
Previous Tealbook	1.6	2.9	2.8	1.5	1.2	.8	1.7	1.7	1.7
Capital deepening	.7	1.5	.9	.4	.4	.6	.7	.8	.8
Multifactor productivity	.7	1.1	1.6	.9	.7	-.2	.7	.7	.7
Structural hours	1.5	1.0	.7	.2	.7	.7	.3	.3	.3
Previous Tealbook	1.5	1.0	.7	.2	.7	.7	.3	.3	.3
Labor force participation	.4	.0	-.3	-.4	-.5	-.5	-.5	-.5	-.5
Previous Tealbook	.4	.0	-.3	-.4	-.5	-.5	-.5	-.5	-.5
Memo:									
GDP gap <sup>3</sup>	-1.8	2.5	.9	-4.4	-2.8	-1.0	-.4	.2	.5
Previous Tealbook	-1.8	2.5	.9	-4.4	-2.8	-1.2	-.1	.8	1.0

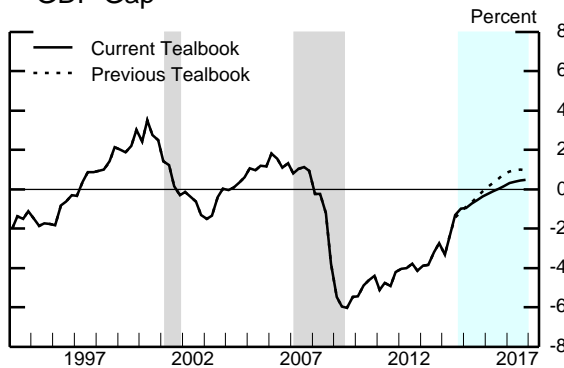
Note: For multiyear periods, the percent change is the annual average from Q4 of the year preceding the first year shown to Q4 of the last year shown.

1. Percentage points.

2. Total business sector.

3. Percent difference between actual and potential GDP in the final quarter of the period indicated. A negative number indicates that the economy is operating below potential.

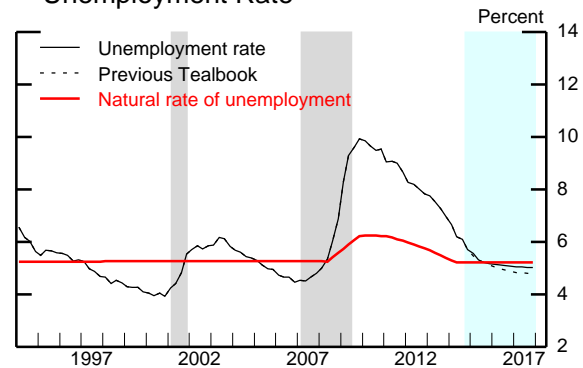
**GDP Gap**



Note: The GDP gap is the percent difference between actual and potential GDP; a negative number indicates that the economy is operating below potential.

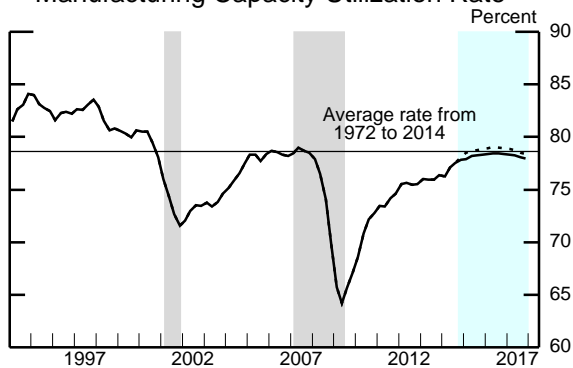
Source: U.S. Department of Commerce, Bureau of Economic Analysis; staff assumptions.

**Unemployment Rate**



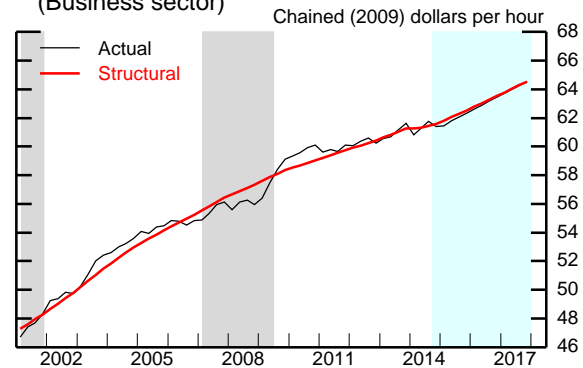
Source: U.S. Department of Labor, Bureau of Labor Statistics; staff assumptions.

**Manufacturing Capacity Utilization Rate**



Source: Federal Reserve Board, G.17 Statistical Release, "Industrial Production and Capacity Utilization."

**Structural and Actual Labor Productivity (Business sector)**



Source: U.S. Department of Labor, Bureau of Labor Statistics; U.S. Department of Commerce, Bureau of Economic Analysis; staff assumptions.

Note: The gray shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research.

**The Outlook for the Labor Market**

Measure	2014	2015		2015	2016	2017
		H1	H2			
Output per hour, business <sup>1</sup>	-.4	1.3	1.8	1.6	1.7	1.7
Previous Tealbook	-.4	2.2	2.1	2.2	1.7	1.7
Nonfarm private employment <sup>2</sup>	254	253	208	230	165	123
Previous Tealbook	238	218	215	216	216	132
Labor force participation rate <sup>3</sup>	62.8	62.8	62.7	62.7	62.6	62.4
Previous Tealbook	62.8	62.7	62.6	62.6	62.6	62.5
Civilian unemployment rate <sup>3</sup>	5.7	5.3	5.2	5.2	5.1	5.0
Previous Tealbook	5.7	5.3	5.1	5.1	4.9	4.8

1. Percent change from final quarter of preceding period at annual rate.

2. Thousands, average monthly changes.

3. Percent, average for the final quarter in the period.

Source: U.S. Department of Labor, Bureau of Labor Statistics; staff assumptions.

**Inflation Projections**

(Percent change at annual rate from final quarter of preceding period)

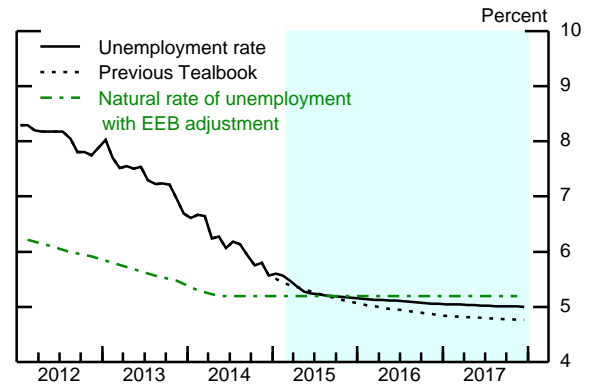
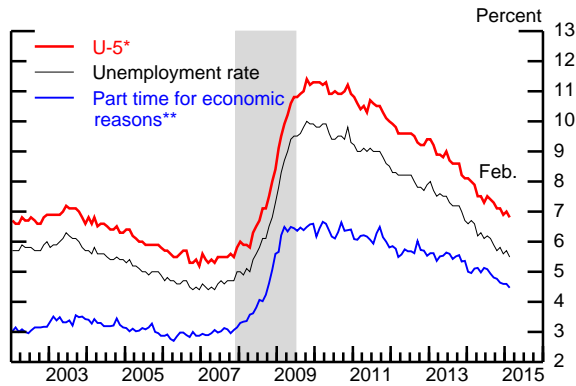
Measure	2014	2015		2015	2016	2017
		H1	H2			
PCE chain-weighted price index	1.1	-.3	1.6	.6	1.7	1.9
Previous Tealbook	1.1	-.7	1.8	.5	1.7	1.9
Food and beverages	2.8	.4	1.2	.8	1.6	1.9
Previous Tealbook	2.8	1.1	1.1	1.1	1.6	1.9
Energy	-6.1	-24.9	4.3	-11.5	3.3	2.4
Previous Tealbook	-6.4	-34.6	9.1	-15.5	4.7	3.0
Excluding food and energy	1.4	1.1	1.5	1.3	1.6	1.8
Previous Tealbook	1.4	1.2	1.5	1.4	1.6	1.8
Prices of core goods imports <sup>1</sup>	.6	-4.2	-.7	-2.4	1.1	1.7
Previous Tealbook	.5	-2.9	.6	-1.2	1.2	1.3

1. Core goods imports exclude computers, semiconductors, oil, and natural gas.

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

## Labor Market Developments and Outlook (1)

### Measures of Labor Underutilization



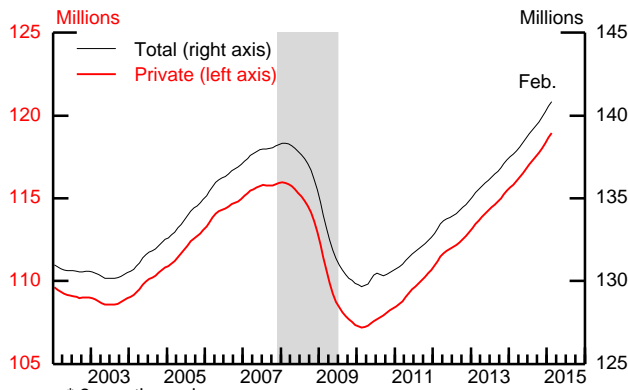
\* U-5 measures total unemployed persons plus all marginally attached to the labor force, as a percent of the labor force plus persons marginally attached to the labor force.

\*\* Percent of Current Population Survey employment.

EEB Extended and emergency unemployment benefits.

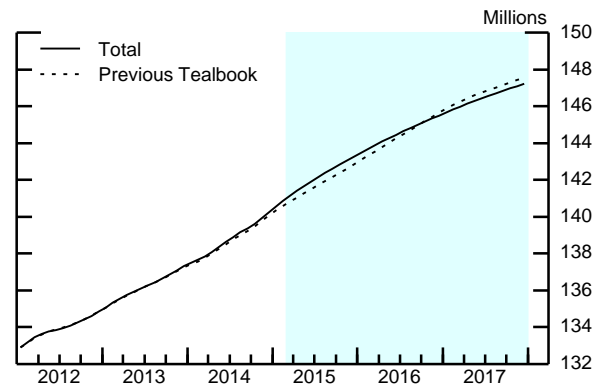
Source: U.S. Department of Labor, Bureau of Labor Statistics.

### Level of Payroll Employment\*

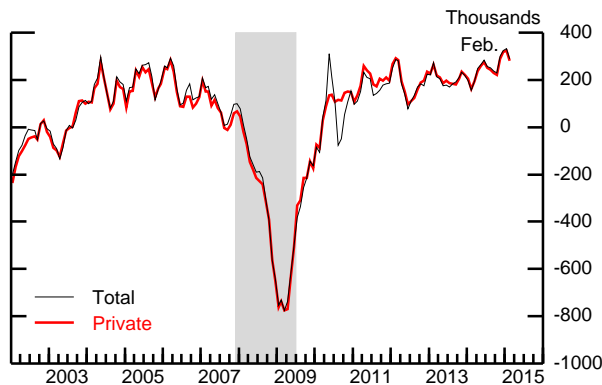


\* 3-month moving averages.

Source: U.S. Department of Labor, Bureau of Labor Statistics.

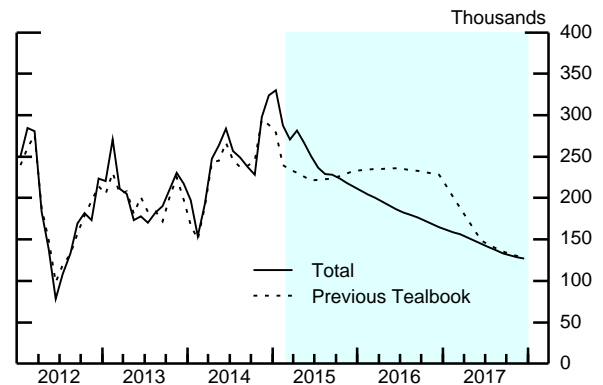


### Change in Payroll Employment\*



\* 3-month moving averages.

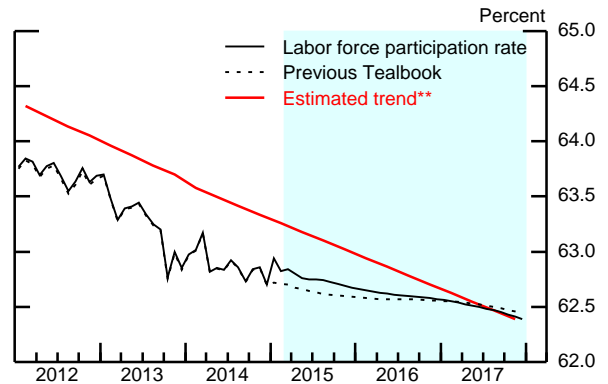
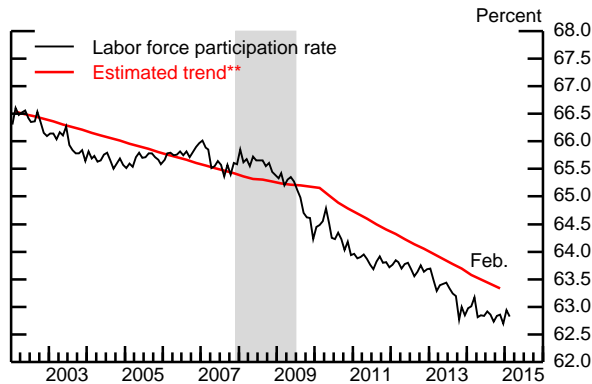
Source: U.S. Department of Labor, Bureau of Labor Statistics.



Note: The gray shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research.

## Labor Market Developments and Outlook (2)

Labor Force Participation Rate\*

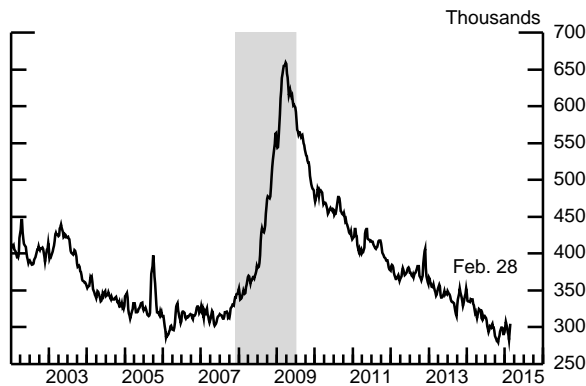


\* Published data adjusted by staff to account for changes in population weights.

\*\* Includes staff estimate of the effect of extended and emergency unemployment benefits.

Source: U.S. Department of Labor, Bureau of Labor Statistics; staff assumptions.

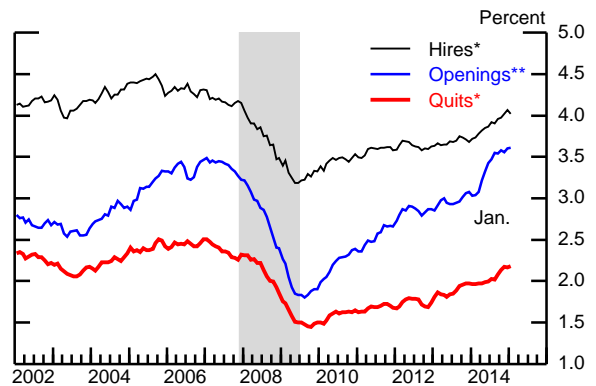
Initial Unemployment Insurance Claims\*



\* 4-week moving average.

Source: U.S. Department of Labor, Employment and Training Administration.

Private Hires, Quits, and Job Openings

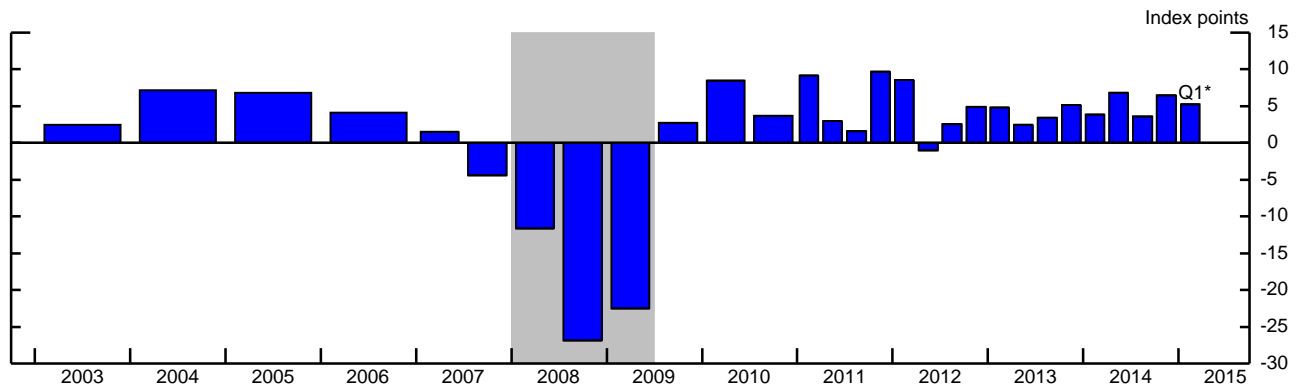


\* Percent of private nonfarm payroll employment, 3-month moving average.

\*\* Percent of private nonfarm payroll employment plus unfilled jobs, 3-month moving average.

Source: Job Openings and Labor Turnover Survey.

Average Monthly Change in Labor Market Conditions Index



\* Value shown for Q1 is an average of February and January data.

Note: Labor market conditions index estimated by staff.

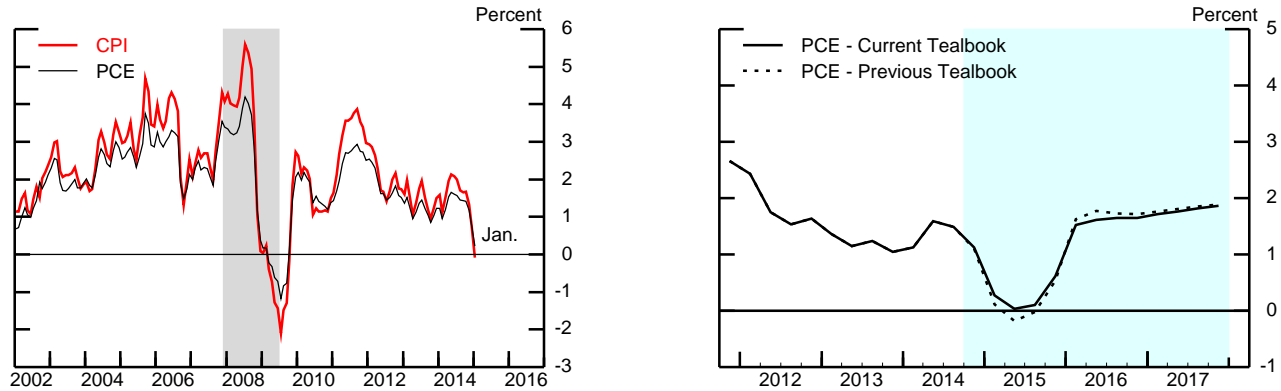
Note: The gray shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research.



## Inflation Developments and Outlook (1)

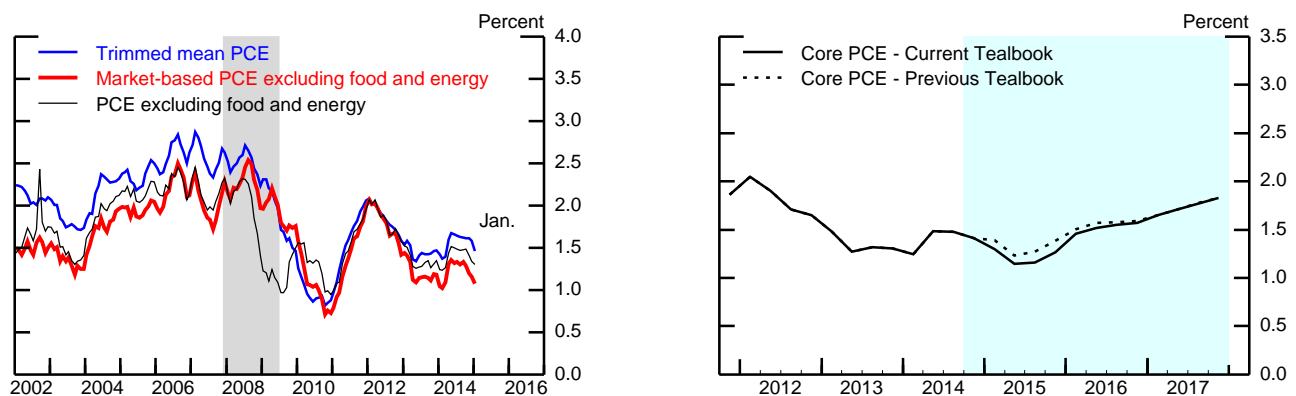
(Percent change from year-earlier period)

### Headline Consumer Price Inflation



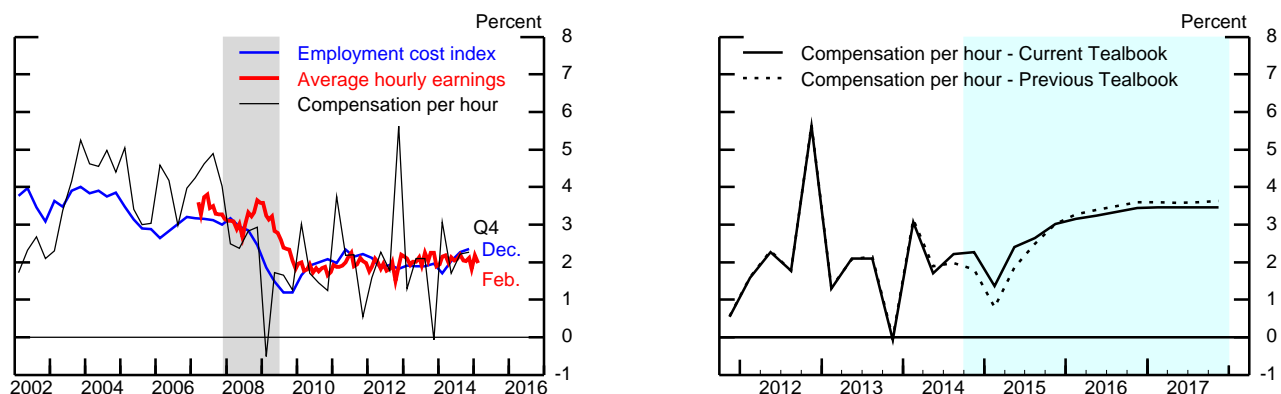
Source: For CPI, U.S. Department of Labor, Bureau of Labor Statistics; for PCE, U.S. Department of Commerce, Bureau of Economic Analysis.

### Measures of Underlying PCE Price Inflation



Source: For trimmed mean PCE, Federal Reserve Bank of Dallas; otherwise, U.S. Department of Commerce, Bureau of Economic Analysis.

### Labor Cost Growth



Note: Compensation per hour is for the business sector. Average hourly earnings are for the private nonfarm sector. The employment cost index is for the private sector.

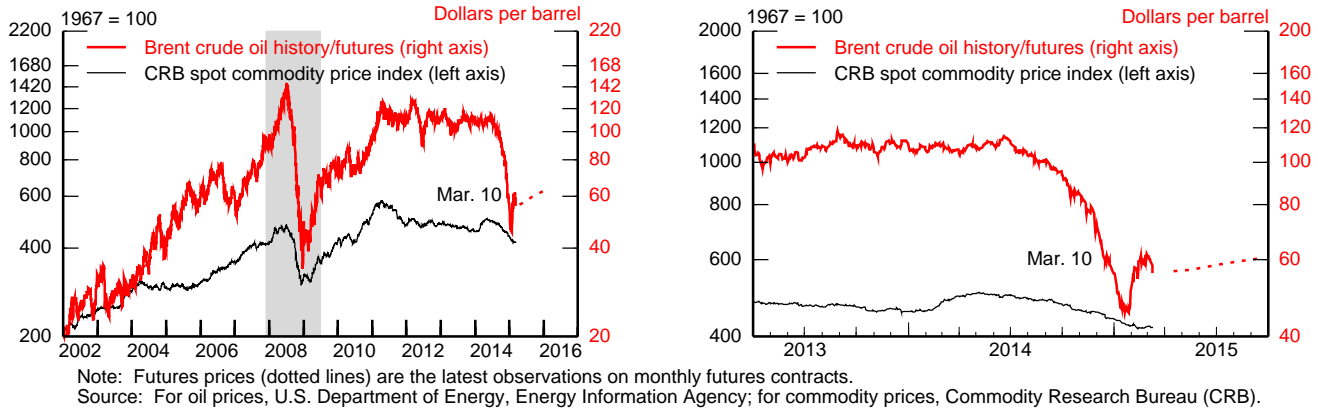
Source: U.S. Department of Labor, Bureau of Labor Statistics.

Note: The gray shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research.

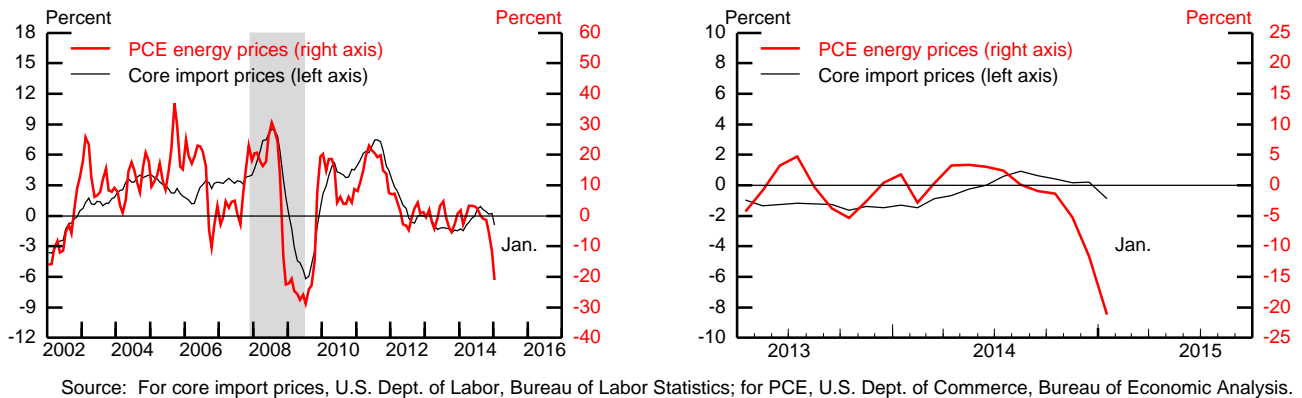
## Inflation Developments and Outlook (2)

(Percent change from year-earlier period, except as noted)

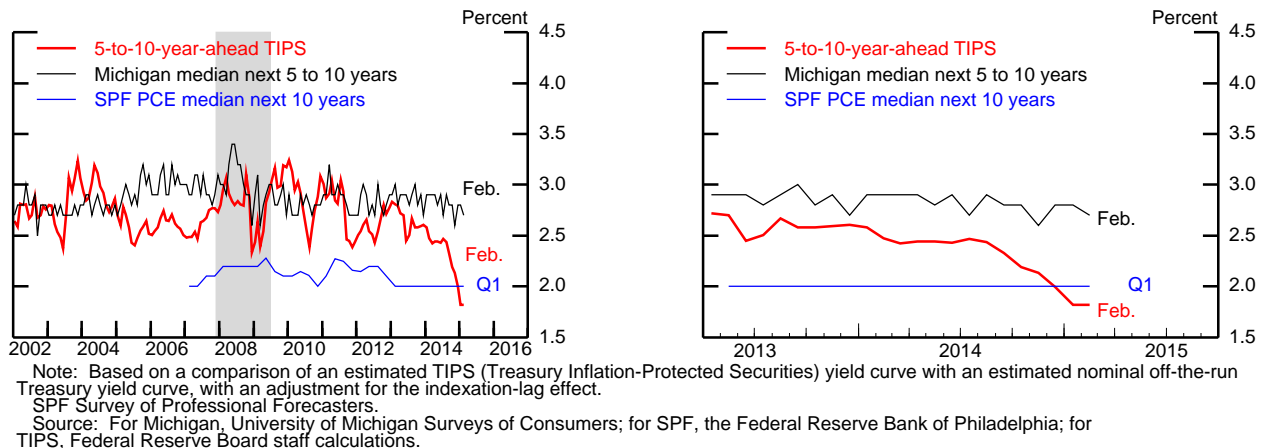
### Commodity and Oil Price Levels



### Energy and Import Price Inflation



### Long-Term Inflation Expectations



Note: The gray shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research.

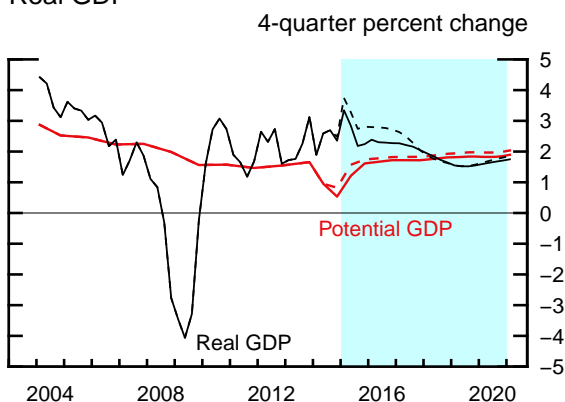
## The Long-Term Outlook

(Percent change, Q4 to Q4, except as noted)

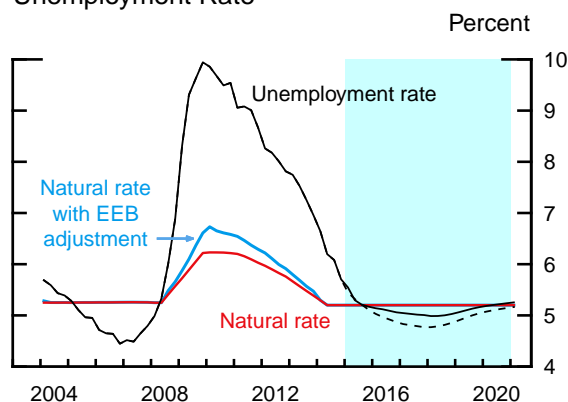
Measure	2014	2015	2016	2017	2018	2019	Longer run
Real GDP	2.4	2.2	2.3	2.0	1.6	1.5	1.9
Previous Tealbook	2.5	2.8	2.7	2.0	1.6	1.6	2.0
Civilian unemployment rate <sup>1</sup>	5.7	5.2	5.1	5.0	5.0	5.2	5.2
Previous Tealbook	5.7	5.1	4.9	4.8	4.9	5.0	5.2
PCE prices, total	1.1	.6	1.7	1.9	1.9	2.0	2.0
Previous Tealbook	1.1	.5	1.7	1.9	1.9	2.0	2.0
Core PCE prices	1.4	1.3	1.6	1.8	1.9	2.0	2.0
Previous Tealbook	1.4	1.4	1.6	1.8	1.9	2.0	2.0
Federal funds rate <sup>1</sup>	.1	.7	1.8	2.7	3.2	3.3	3.5
Previous Tealbook	.1	.8	2.2	3.2	3.7	3.9	3.8
10-year Treasury yield <sup>1</sup>	2.3	2.9	3.6	4.0	4.1	4.2	4.3
Previous Tealbook	2.3	3.1	4.1	4.4	4.6	4.6	4.6

1. Percent, average for the final quarter of the period.

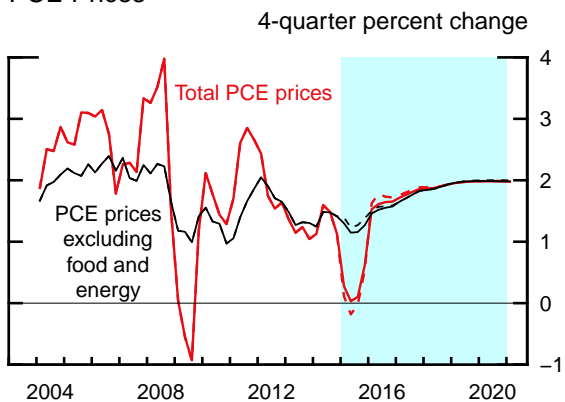
Real GDP



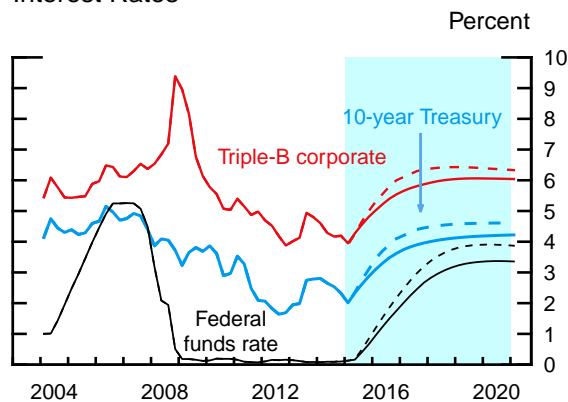
Unemployment Rate



PCE Prices



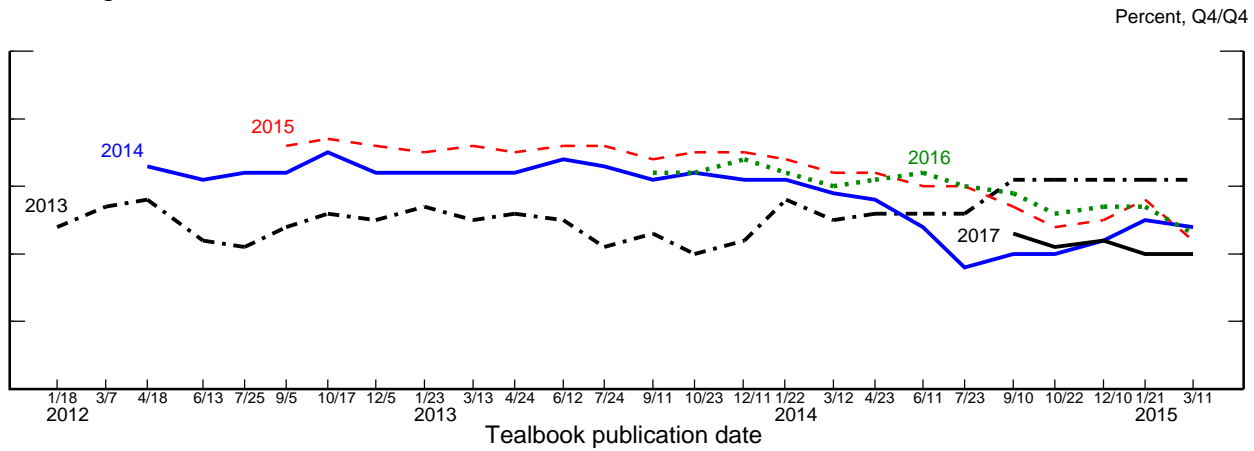
Interest Rates



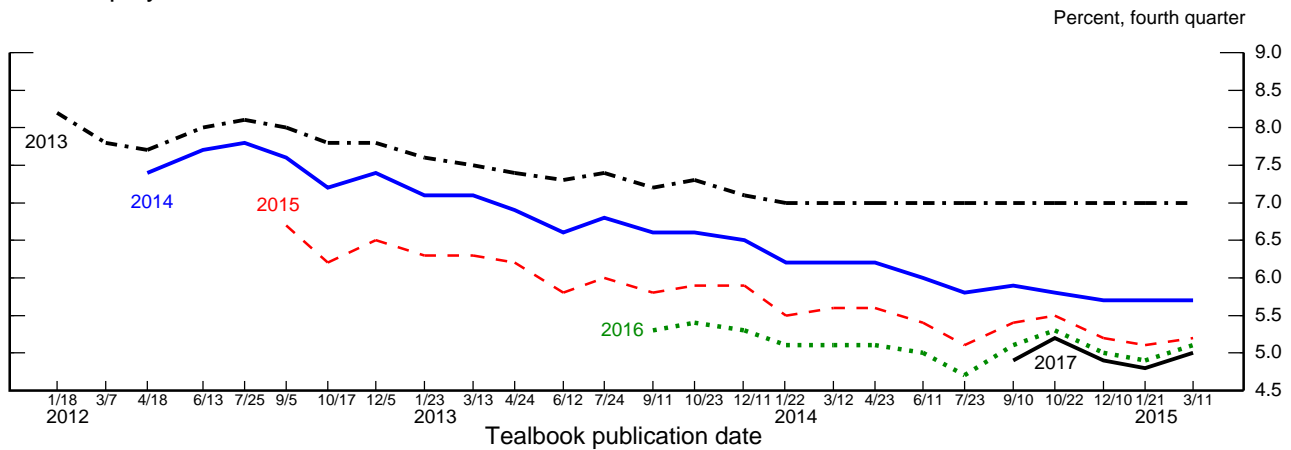
Note: In each panel, shading represents the projection period, and dashed lines are the previous Tealbook.

## Evolution of the Staff Forecast

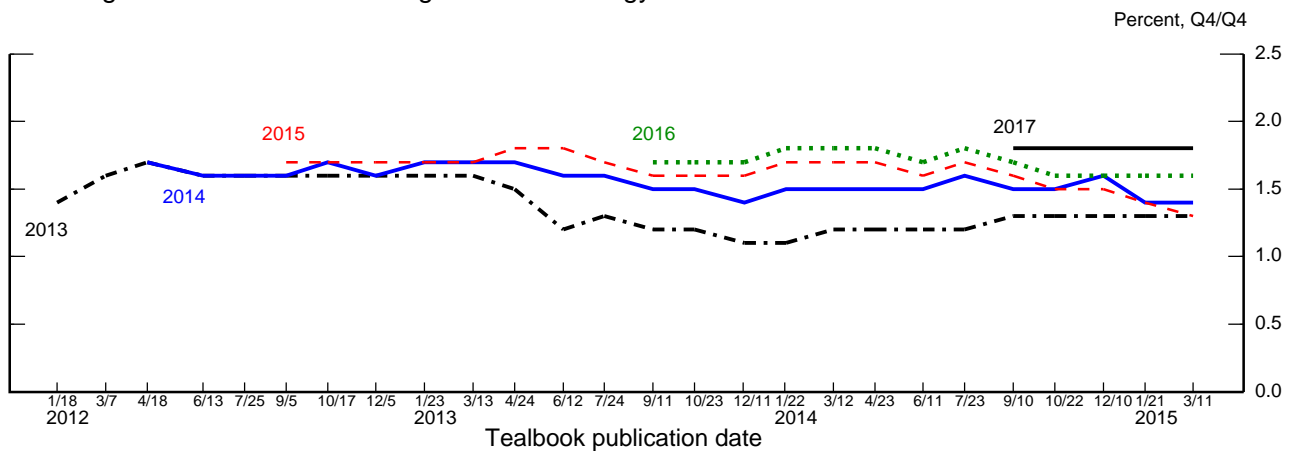
Change in Real GDP



Unemployment Rate



Change in PCE Prices excluding Food and Energy



## The Foreign GDP Outlook

### Real GDP\*

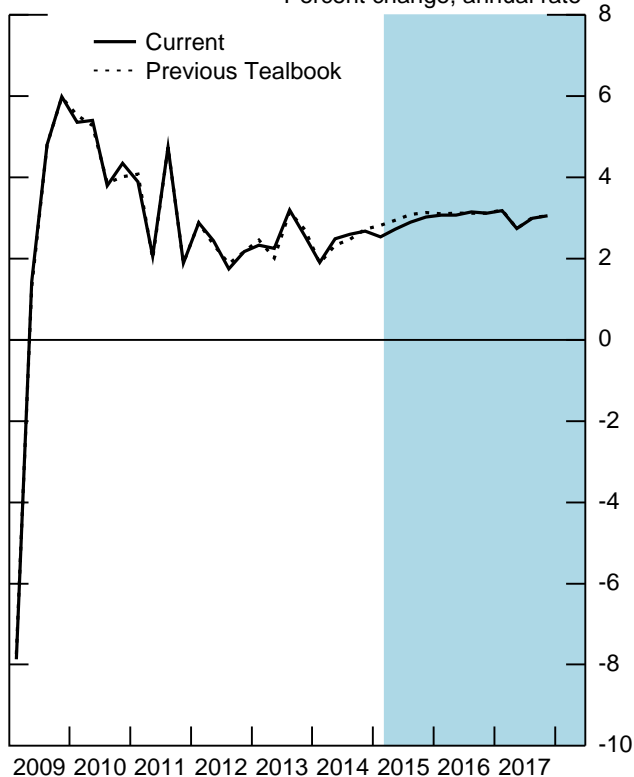
Percent change, annual rate

	2014			2015			2016	2017
	H1	Q3	Q4	Q1	Q2	H2		
<b>1. Total Foreign</b>	<b>2.2</b>	<b>2.6</b>	<b>2.7</b>	<b>2.5</b>	<b>2.7</b>	<b>3.0</b>	<b>3.1</b>	<b>3.0</b>
<i>Previous Tealbook</i>	2.1	2.5	2.7	2.8	3.0	3.1	3.1	3.0
<b>2. Advanced Foreign Economies</b>	<b>1.6</b>	<b>1.7</b>	<b>2.0</b>	<b>1.7</b>	<b>1.9</b>	<b>2.2</b>	<b>2.2</b>	<b>2.0</b>
<i>Previous Tealbook</i>	1.6	1.6	2.0	2.0	2.2	2.3	2.2	2.0
3. Canada	2.4	3.2	2.4	1.5	2.0	2.4	2.5	2.1
4. Euro Area	0.7	0.7	1.3	1.7	1.7	1.9	2.1	2.3
5. Japan	-0.8	-2.6	1.5	2.0	1.6	1.5	1.3	-0.2
6. United Kingdom	2.9	2.6	2.2	2.6	2.6	2.6	2.5	2.3
<b>7. Emerging Market Economies</b>	<b>2.8</b>	<b>3.5</b>	<b>3.3</b>	<b>3.3</b>	<b>3.5</b>	<b>3.7</b>	<b>4.0</b>	<b>4.0</b>
<i>Previous Tealbook</i>	2.6	3.4	3.4	3.6	3.7	3.9	4.1	4.0
8. China	7.0	8.1	7.0	7.1	7.1	7.0	6.9	6.7
9. Emerging Asia ex. China	3.0	4.1	4.0	4.2	4.4	4.5	4.5	4.2
10. Mexico	2.8	2.1	2.7	2.9	3.2	3.3	3.1	3.2
11. Brazil	-1.6	0.3	0.2	-0.5	-0.8	0.5	1.9	2.3

\* GDP aggregates weighted by shares of U.S. merchandise exports.

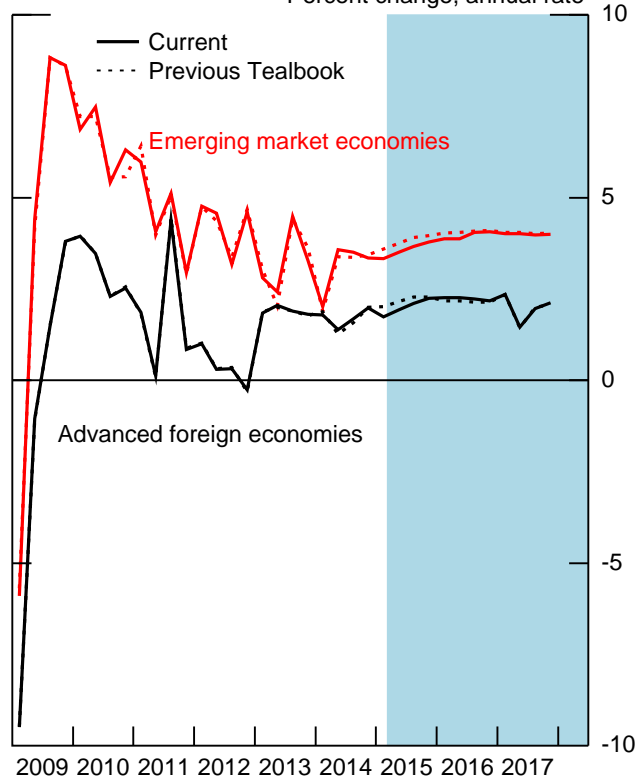
### Total Foreign GDP

Percent change, annual rate



### Foreign GDP

Percent change, annual rate



## The Foreign Inflation Outlook

### Consumer Prices\*

Percent change, annual rate

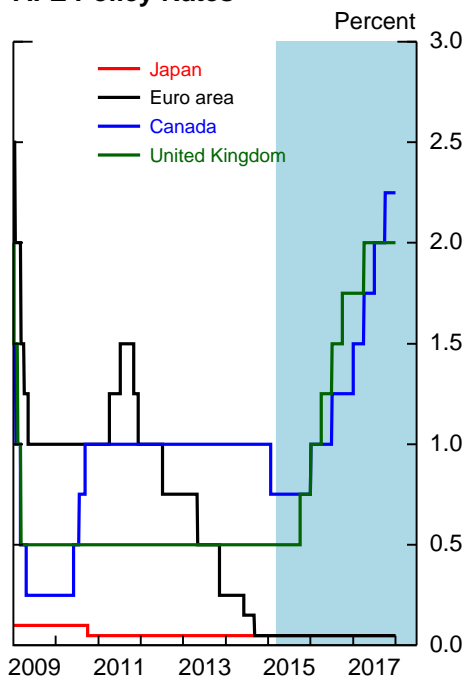
	2014			2015			2016	2017
	H1	Q3	Q4	Q1	Q2	H2		
<b>1. Total Foreign</b>	<b>2.5</b>	<b>2.0</b>	<b>1.1</b>	<b>-0.0</b>	<b>2.1</b>	<b>2.3</b>	<b>2.5</b>	<b>2.6</b>
<i>Previous Tealbook</i>	2.5	2.1	1.1	0.9	2.1	2.4	2.5	2.7
<b>2. Advanced Foreign Economies</b>	<b>2.2</b>	<b>0.9</b>	<b>-0.4</b>	<b>-0.7</b>	<b>1.1</b>	<b>1.4</b>	<b>1.6</b>	<b>2.0</b>
<i>Previous Tealbook</i>	2.2	1.1	-0.6	-1.3	0.9	1.4	1.6	2.0
3. Canada	3.2	1.2	-0.0	-0.1	1.7	1.7	1.8	2.0
4. Euro Area	0.4	0.5	-0.6	-1.7	0.9	1.4	1.6	1.7
5. Japan	4.9	1.2	-0.6	0.1	0.7	0.9	1.2	2.8
6. United Kingdom	1.5	1.4	-0.8	-0.6	1.7	1.7	1.8	2.0
<b>7. Emerging Market Economies</b>	<b>2.8</b>	<b>2.9</b>	<b>2.3</b>	<b>0.5</b>	<b>2.8</b>	<b>3.1</b>	<b>3.1</b>	<b>3.1</b>
<i>Previous Tealbook</i>	2.8	2.9	2.4	2.6	3.0	3.2	3.3	3.3
8. China	1.4	2.2	1.0	-0.6	1.9	2.4	2.5	2.5
9. Emerging Asia ex. China	3.0	2.1	1.3	0.2	2.8	3.2	3.2	3.4
10. Mexico	4.1	4.4	4.2	0.5	3.1	3.4	3.3	3.3
11. Brazil	7.0	6.2	6.0	10.5	8.6	5.4	5.4	5.4

\* CPI aggregates weighted by shares of U.S. non-oil imports.

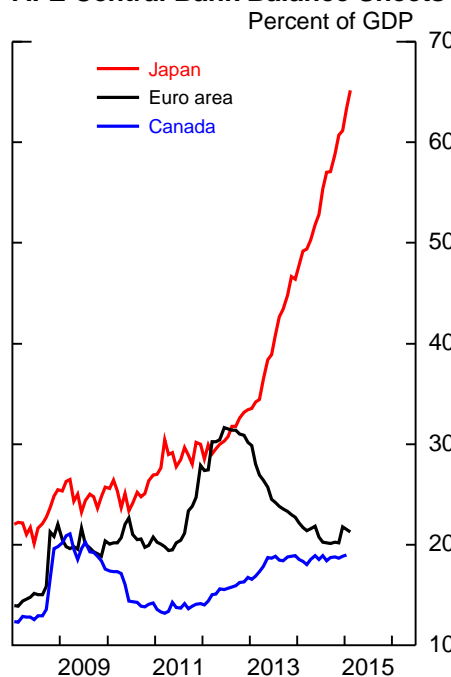
Int'l Econ Devel &amp; Outlook

## Foreign Monetary Policy

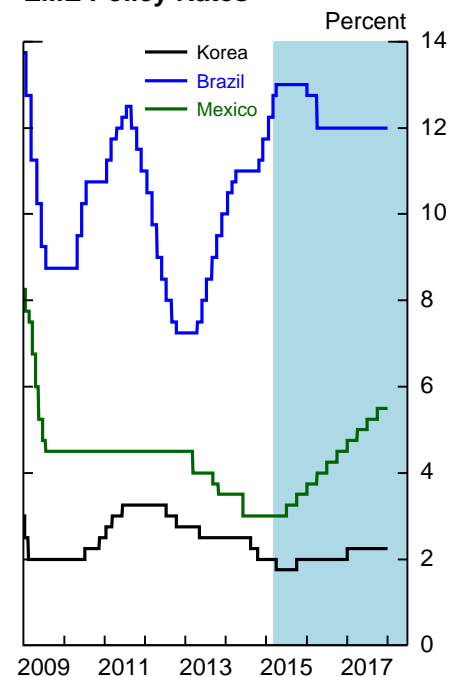
### AFE Policy Rates



### AFE Central Bank Balance Sheets

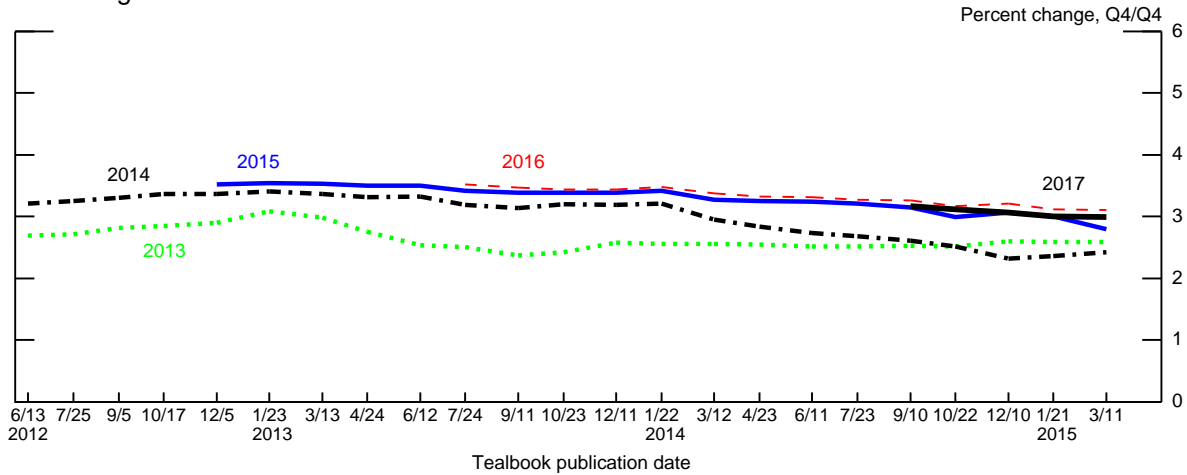


### EME Policy Rates

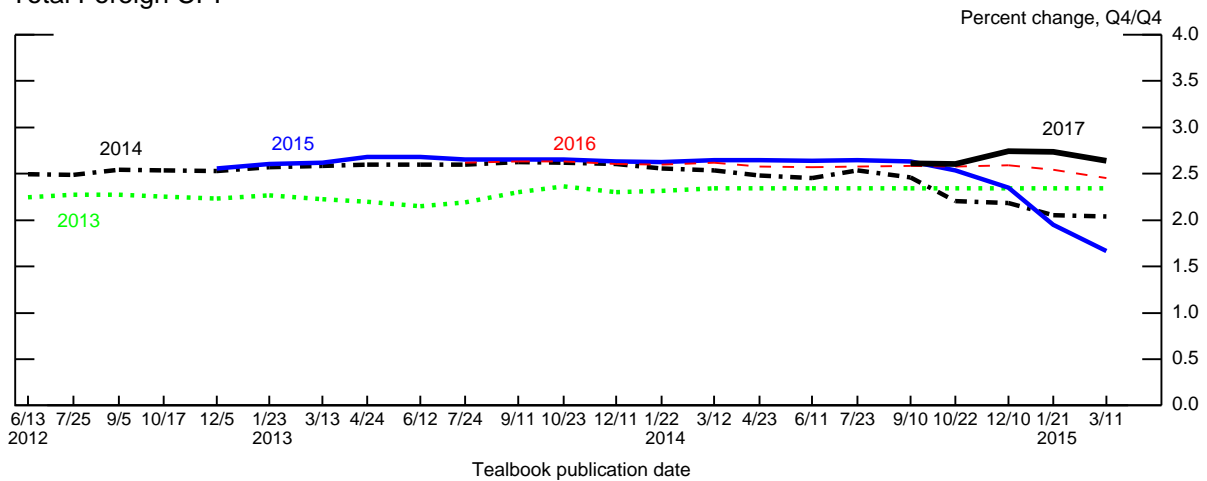


## Evolution of Staff's International Forecast

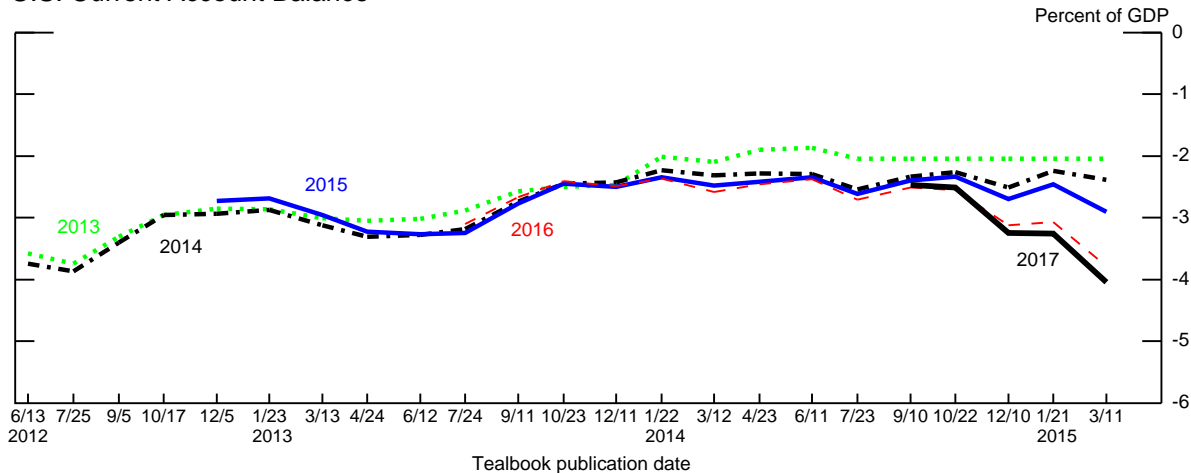
Total Foreign GDP



Total Foreign CPI

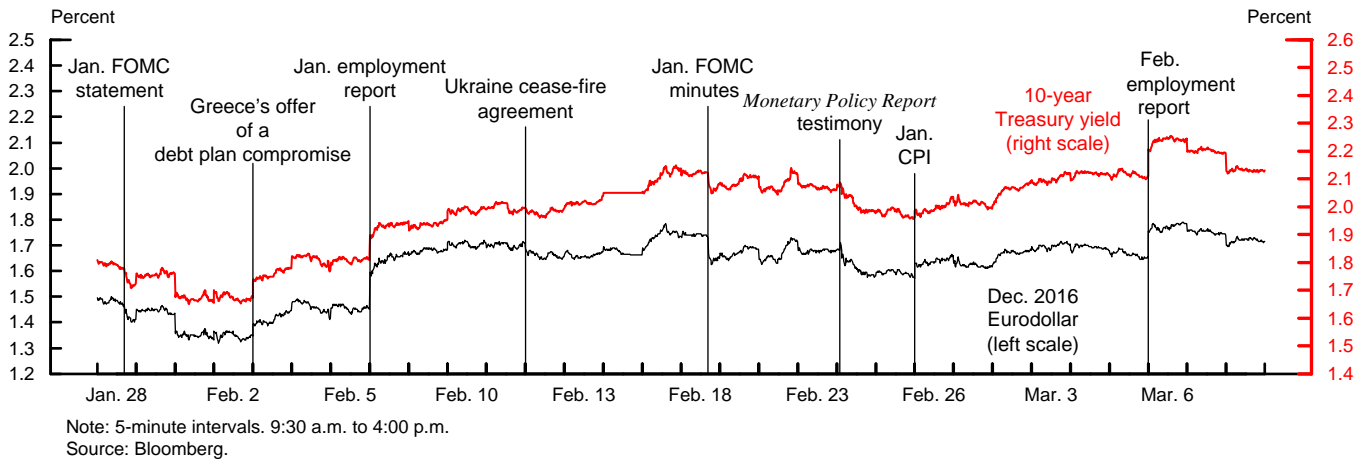


U.S. Current Account Balance

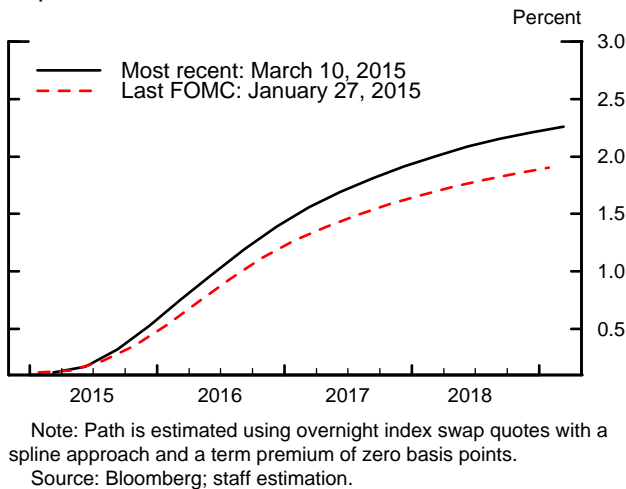


## Treasury Yields and Policy Expectations

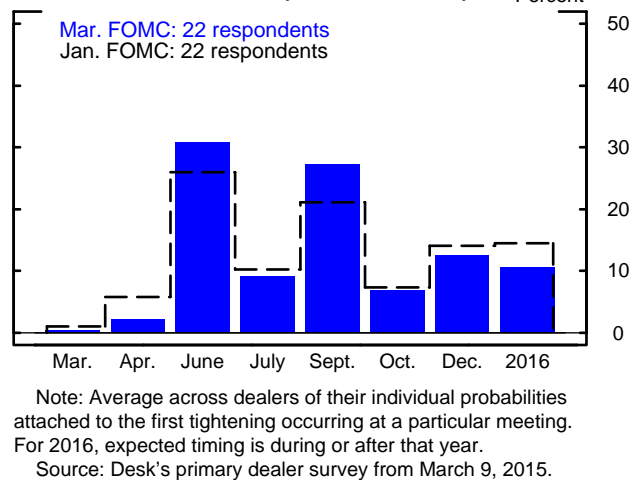
### Selected Interest Rates



### Implied Federal Funds Rate



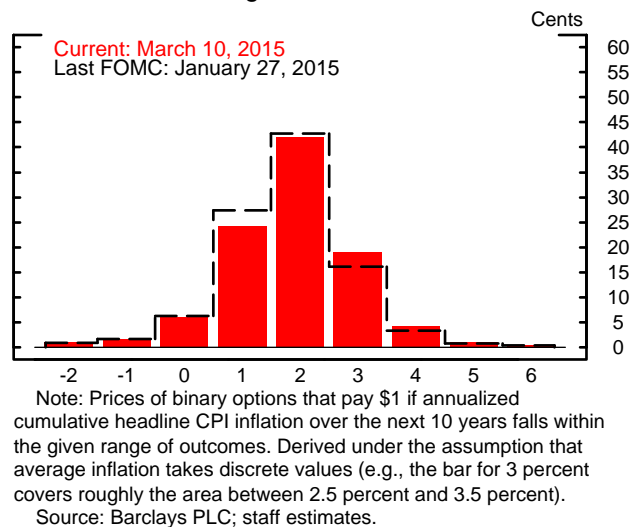
### Distribution of Expected Timing of First Rate Increase from the Desk's Primary Dealer Survey



### Inflation Compensation



### Cost of Insurance against Inflation Outcomes





**Alternative Scenarios**

(Percent change, annual rate, from end of preceding period except as noted)

Measure and scenario	2015		2016	2017	2018-19
	H1	H2			
<i>Real GDP</i>					
Extended Tealbook baseline	2.2	2.3	2.3	2.0	1.6
Lower long-run equilibrium funds rate	2.2	2.3	2.1	1.8	1.5
Lower long-term inflation expectations	2.1	2.4	2.3	2.1	1.7
Room to grow	2.3	2.7	2.9	3.2	2.9
Faster growth with higher inflation	2.6	3.6	3.4	2.0	1.3
Greek exit with severe spillovers	1.6	.3	1.0	2.1	2.1
Faster foreign growth	2.2	2.5	2.7	2.3	1.4
<i>Unemployment rate<sup>1</sup></i>					
Extended Tealbook baseline	5.3	5.2	5.1	5.0	5.2
Lower long-run equilibrium funds rate	5.3	5.2	5.2	5.2	5.4
Lower long-term inflation expectations	5.3	5.2	5.1	5.0	5.0
Room to grow	5.3	5.1	4.9	4.6	4.0
Faster growth with higher inflation	5.2	4.8	4.4	4.4	4.9
Greek exit with severe spillovers	5.4	5.5	6.1	6.1	5.9
Faster foreign growth	5.3	5.1	4.8	4.6	4.9
<i>Total PCE prices</i>					
Extended Tealbook baseline	-.3	1.6	1.7	1.9	2.0
Lower long-run equilibrium funds rate	-.3	1.6	1.6	1.8	1.9
Lower long-term inflation expectations	-.4	1.3	1.2	1.3	1.5
Room to grow	-.4	1.4	1.4	1.6	1.7
Faster growth with higher inflation	-.3	1.7	2.0	2.3	2.3
Greek exit with severe spillovers	-.5	.7	.7	1.3	1.7
Faster foreign growth	-.2	1.9	2.2	2.2	2.0
<i>Core PCE prices</i>					
Extended Tealbook baseline	1.1	1.5	1.6	1.8	2.0
Lower long-run equilibrium funds rate	1.1	1.5	1.6	1.8	1.9
Lower long-term inflation expectations	1.0	1.2	1.1	1.3	1.5
Room to grow	1.0	1.3	1.3	1.6	1.7
Faster growth with higher inflation	1.1	1.7	2.0	2.3	2.3
Greek exit with severe spillovers	1.0	.9	.8	1.3	1.7
Faster foreign growth	1.1	1.7	1.9	2.1	2.1
<i>Federal funds rate<sup>1</sup></i>					
Extended Tealbook baseline	.2	.7	1.8	2.7	3.3
Lower long-run equilibrium funds rate	.2	.6	1.6	2.1	2.1
Lower long-term inflation expectations	.2	.6	1.5	2.2	2.9
Room to grow	.1	.1	.5	1.3	2.7
Faster growth with higher inflation	.2	.9	2.8	4.3	4.9
Greek exit with severe spillovers	.2	.5	.6	.9	2.2
Faster foreign growth	.2	.7	2.0	3.3	3.9

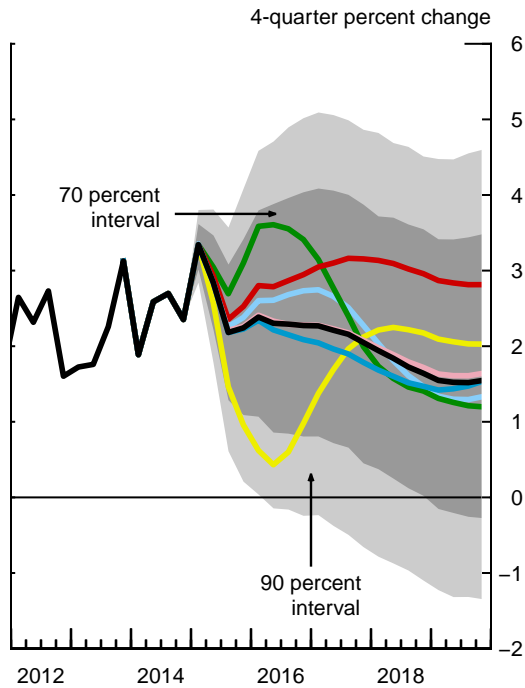
1. Percent, average for the final quarter of the period.

## Forecast Confidence Intervals and Alternative Scenarios

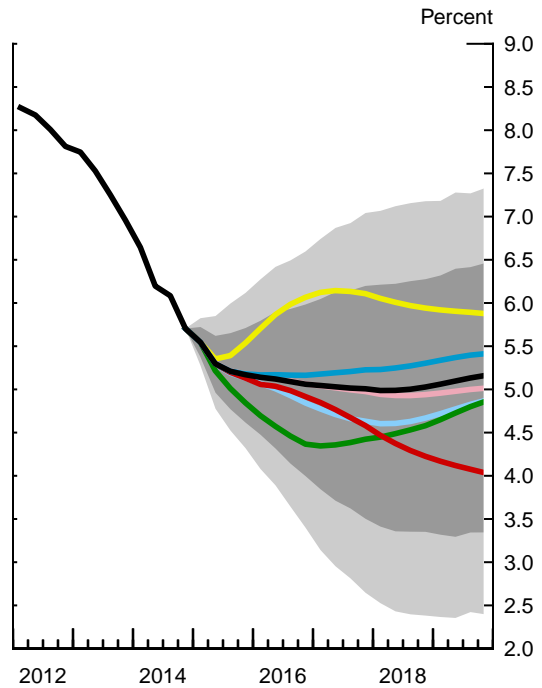
Confidence Intervals Based on FRB/US Stochastic Simulations

- Extended Tealbook baseline
- Room to grow
- Greek exit with severe spillovers
- Lower long-run equilibrium funds rate
- Faster growth with higher inflation
- Faster foreign growth
- Lower long-term inflation expectations

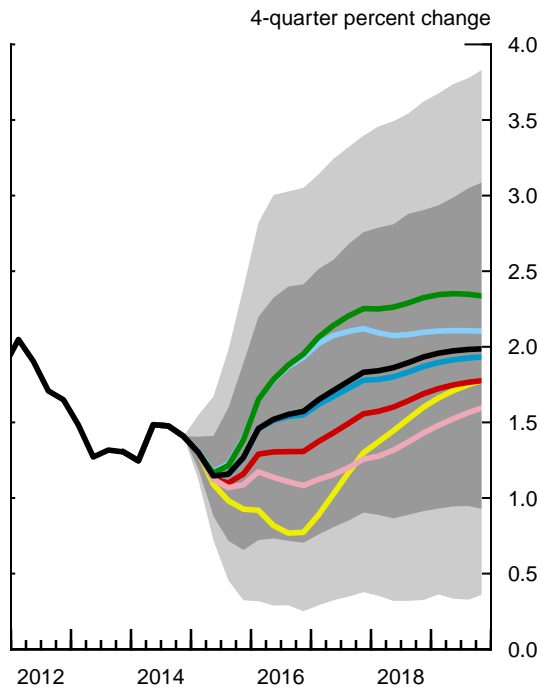
Real GDP



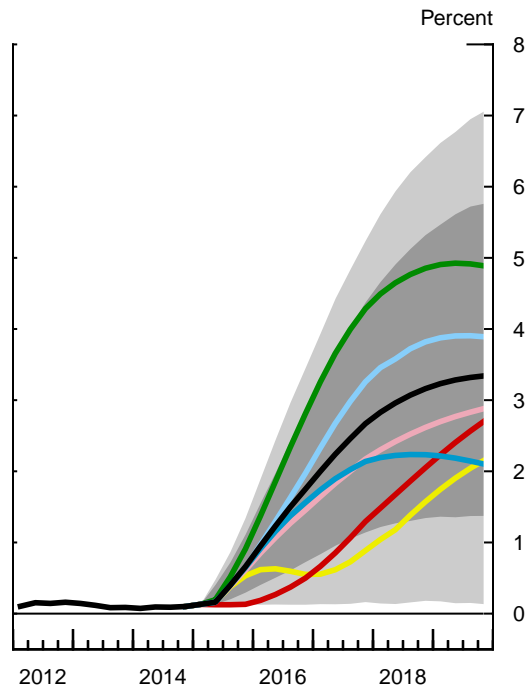
Unemployment Rate



PCE Prices excluding Food and Energy



Federal Funds Rate



**Selected Tealbook Projections and 70 Percent Confidence Intervals Derived  
from Historical Tealbook Forecast Errors and FRB/US Simulations**

Measure	2015	2016	2017	2018	2019
<i>Real GDP</i> (percent change, Q4 to Q4)					
Projection	2.2	2.3	2.0	1.6	1.5
Confidence interval					
Tealbook forecast errors	.7–3.7	.5–4.0	...	...	...
FRB/US stochastic simulations	1.1–3.4	.8–4.0	.5–3.9	.0–3.5	-.3–3.5
<i>Civilian unemployment rate</i> (percent, Q4)					
Projection	5.2	5.1	5.0	5.0	5.2
Confidence interval					
Tealbook forecast errors	4.6–5.8	4.1–6.1	...	...	...
FRB/US stochastic simulations	4.6–5.7	4.0–6.0	3.5–6.2	3.4–6.3	3.3–6.5
<i>PCE prices, total</i> (percent change, Q4 to Q4)					
Projection	.6	1.7	1.9	1.9	2.0
Confidence interval					
Tealbook forecast errors	-.3–1.6	.6–2.7	...	...	...
FRB/US stochastic simulations	-.1–1.4	.7–2.7	.8–3.0	.8–3.0	.8–3.2
<i>PCE prices excluding food and energy</i> (percent change, Q4 to Q4)					
Projection	1.3	1.6	1.8	1.9	2.0
Confidence interval					
Tealbook forecast errors	.7–1.8	.8–2.3	...	...	...
FRB/US stochastic simulations	.7–1.9	.7–2.4	.9–2.8	.9–2.9	.9–3.1
<i>Federal funds rate</i> (percent, Q4)					
Projection	.7	1.8	2.7	3.2	3.3
Confidence interval					
FRB/US stochastic simulations	.3–1.1	.7–2.8	1.1–4.4	1.3–5.3	1.4–5.8

Note: Shocks underlying FRB/US stochastic simulations are randomly drawn from the 1969–2013 set of model equation residuals.

Intervals derived from Tealbook forecast errors are based on projections made from 1979 to 2013, except for PCE prices excluding food and energy, where the sample is 1981–2013.

... Not applicable. The Tealbook forecast horizon has typically extended about 2 years.

**Alternative Models**  
(Percent change, Q4 to Q4, except as noted)

Measure and projection	2015		2016		2017	
	December Tealbook	Current Tealbook	December Tealbook	Current Tealbook	December Tealbook	Current Tealbook
<i>Real GDP</i>						
Staff	2.5	2.2	2.7	2.3	2.2	2.0
FRB/US	3.1	2.8	2.5	2.5	1.9	2.2
EDO	3.2	2.7	2.7	2.5	2.6	2.5
<i>Unemployment rate</i> <sup>1</sup>						
Staff	5.2	5.2	5.0	5.1	4.9	5.0
FRB/US	5.3	5.3	5.2	5.2	5.3	5.3
EDO	5.9	5.7	5.9	5.8	5.9	5.9
<i>Total PCE prices</i>						
Staff	1.0	.6	1.7	1.7	1.8	1.9
FRB/US	1.2	.7	1.6	1.7	1.5	1.5
EDO	1.6	.7	1.8	1.8	1.9	2.0
<i>Core PCE prices</i>						
Staff	1.5	1.3	1.6	1.6	1.8	1.8
FRB/US	1.7	1.3	1.6	1.6	1.5	1.5
EDO	1.6	1.4	1.8	1.8	1.9	2.0
<i>Federal funds rate</i> <sup>1</sup>						
Staff	1.0	.7	2.1	1.8	3.0	2.7
FRB/US	1.0	.9	2.1	1.6	3.0	1.8
EDO	1.5	1.4	2.4	2.4	2.9	2.9

1. Percent, average for Q4.

**Assessment of Key Macroeconomic Risks (1)****Probability of Inflation Events**

(4 quarters ahead—2016:Q1)

Probability that the 4-quarter change in total PCE prices will be ...	Staff	FRB/US	EDO	BVAR
<i>Greater than 3 percent</i>				
Current Tealbook	.05	.05	.11	.00
Previous Tealbook	.01	.01	.09	.03
<i>Less than 1 percent</i>				
Current Tealbook	.26	.22	.28	.65
Previous Tealbook	.74	.67	.32	.27

**Probability of Unemployment Events**

(4 quarters ahead—2016:Q1)

Probability that the unemployment rate will ...	Staff	FRB/US	EDO	BVAR
<i>Increase by 1 percentage point</i>				
Current Tealbook	.02	.02	.23	.00
Previous Tealbook	.02	.01	.20	.01
<i>Decrease by 1 percentage point</i>				
Current Tealbook	.18	.17	.04	.53
Previous Tealbook	.26	.27	.05	.38

**Probability of Near-Term Recession**

Probability that real GDP declines in each of 2015:Q2 and 2015:Q3	Staff	FRB/US	EDO	BVAR	Factor Model
Current Tealbook	.04	.02	.02	.01	.13
Previous Tealbook	.03	.02	.01	.02	.08

Note: "Staff" represents Tealbook forecast errors applied to the Tealbook baseline; baselines for FRB/US, BVAR, EDO, and the factor model are generated by those models themselves, up to the current-quarter estimate. Data for the current quarter are taken from the staff estimate for the second Tealbook in each quarter; if the second Tealbook for the current quarter has not yet been published, the preceding quarter is taken as the latest historical observation.

**Changes in GDP, Prices, and Unemployment**  
(Percent, annual rate except as noted)

Interval	Nominal GDP		Real GDP		PCE price index		Core PCE price index		Unemployment rate <sup>1</sup>	
	01/21/15	03/11/15	01/21/15	03/11/15	01/21/15	03/11/15	01/21/15	03/11/15	01/21/15	03/11/15
<i>Quarterly</i>										
2014:Q1	-8	-8	-2.1	-2.1	1.4	1.4	1.2	1.2	6.6	6.6
Q2	6.8	6.8	4.6	4.6	2.3	2.3	2.0	2.0	6.2	6.2
Q3	6.4	6.4	5.0	5.0	1.2	1.2	1.4	1.4	6.1	6.1
Q4	3.2	2.1	2.6	2.1	-5	-4	1.1	1.1	5.7	5.7
2015:Q1	3.4	1.7	2.8	1.7	-2.5	-2.0	1.1	.8	5.4	5.5
Q2	4.2	4.8	2.7	2.6	1.1	1.3	1.3	1.4	5.3	5.3
Q3	4.6	3.9	2.8	2.3	1.9	1.5	1.5	1.4	5.2	5.2
Q4	4.7	4.1	2.9	2.4	1.7	1.6	1.5	1.5	5.1	5.2
2016:Q1	4.7	4.2	2.8	2.3	1.8	1.6	1.6	1.5	5.0	5.1
Q2	4.5	4.0	2.7	2.2	1.7	1.7	1.6	1.6	5.0	5.1
Q3	4.5	4.0	2.7	2.3	1.7	1.7	1.6	1.6	4.9	5.1
Q4	4.5	4.0	2.7	2.3	1.7	1.7	1.6	1.6	4.9	5.1
<i>Two-quarter<sup>2</sup></i>										
2014:Q2	2.9	2.9	1.2	1.2	1.9	1.9	1.6	1.6	-8	-8
Q4	4.8	4.3	3.8	3.5	.4	.4	1.2	1.2	-5	-5
2015:Q2	3.8	3.3	2.8	2.2	-7	-3	1.2	1.1	-4	-4
Q4	4.6	4.0	2.8	2.3	1.8	1.6	1.5	1.5	-2	-1
2016:Q2	4.6	4.1	2.7	2.3	1.7	1.7	1.6	1.6	-1	-1
Q4	4.5	4.0	2.7	2.3	1.7	1.7	1.6	1.6	-1	.0
<i>Four-quarter<sup>3</sup></i>										
2013:Q4	4.6	4.6	3.1	3.1	1.0	1.0	1.3	1.3	-8	-8
2014:Q4	3.9	3.6	2.5	2.4	1.1	1.1	1.4	1.4	-1.3	-1.3
2015:Q4	4.2	3.6	2.8	2.2	.5	.6	1.4	1.3	-6	-5
2016:Q4	4.6	4.1	2.7	2.3	1.7	1.7	1.6	1.6	-2	-1
2017:Q4	4.0	3.9	2.0	2.0	1.9	1.9	1.8	1.8	-1	-1
<i>Annual</i>										
2013	3.7	3.7	2.2	2.2	1.2	1.2	1.3	1.3	7.4	7.4
2014	3.9	3.9	2.4	2.4	1.3	1.3	1.4	1.4	6.2	6.2
2015	4.3	3.7	3.1	2.6	.1	.3	1.3	1.2	5.3	5.3
2016	4.6	4.1	2.8	2.3	1.7	1.6	1.6	1.5	4.9	5.1
2017	4.3	4.0	2.4	2.2	1.8	1.8	1.7	1.7	4.8	5.0

1. Level, except for two-quarter and four-quarter intervals.
2. Percent change from two quarters earlier; for unemployment rate, change is in percentage points.
3. Percent change from four quarters earlier; for unemployment rate, change is in percentage points.

Greensheets

Changes in Real Gross Domestic Product and Related Items  
(Percent, annual rate except as noted)

Item	2014			2015				2016				2014 <sup>1</sup>	2015 <sup>1</sup>	2016 <sup>1</sup>	2017 <sup>1</sup>
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Real GDP <i>Previous Tealbook</i>	4.6 4.6	5.0 5.0	2.1 2.6	1.7 2.8	2.6 2.7	2.3 2.8	2.4 2.9	2.3 2.3	2.2 2.7	2.3 2.7	2.3 2.7	2.4 2.5	2.2 2.8	2.3 2.7	2.0 2.0
Final sales <i>Previous Tealbook</i>	3.2 3.2	5.0 5.0	2.2 1.8	1.6 3.1	2.5 2.7	2.3 2.7	2.7 2.9	2.4 2.2	2.4 2.9	2.2 2.7	2.1 2.6	2.3 2.2	2.3 2.8	2.3 2.8	2.2 2.4
Priv. dom. final purch. <i>Previous Tealbook</i>	3.8 3.8	4.1 4.1	4.3 3.7	3.0 3.9	4.1 4.1	3.8 4.0	4.3 4.5	4.0 4.2	3.9 3.9	3.4 3.7	2.9 3.0	3.3 3.2	3.8 4.1	3.5 3.7	2.6 2.7
Personal cons. expend. <i>Previous Tealbook</i>	2.5 2.5	3.2 3.2	4.2 3.8	3.5 4.1	4.4 4.4	3.9 4.0	3.8 3.9	3.6 3.8	3.6 3.5	3.1 3.4	2.7 2.8	2.8 2.7	3.9 4.1	3.2 3.4	2.6 2.7
Durables	14.1	9.2	6.0	1.7	7.9	7.7	8.0	6.9	6.9	6.2	5.5	8.0	6.3	6.4	4.2
Nondurables	2.2	2.5	3.8	2.4	5.0	3.3	3.3	2.7	3.0	2.5	2.4	2.1	3.5	2.6	2.4
Services	.9	2.5	4.1	4.1	3.6	3.6	3.4	3.4	3.3	2.7	2.4	2.2	3.7	2.9	2.4
Residential investment <i>Previous Tealbook</i>	8.8 8.8	3.2 3.2	4.5 3.7	1.4 7.2	8.5 11.1	12.2 12.7	15.2 13.3	12.6 12.4	10.6 10.2	8.8 8.2	6.9 6.1	2.7 2.5	9.2 11.0	9.7 9.2	5.1 4.1
Nonres. priv. fixed invest. <i>Previous Tealbook</i>	9.7 9.7	8.9 8.9	4.4 3.5	.7 1.9	1.5 .8	1.1 2.0	3.8 5.1	3.7 4.0	3.5 4.2	3.7 3.9	3.0 3.2	6.1 5.9	1.8 2.4	3.5 3.8	2.1 2.3
Equipment & intangibles <i>Previous Tealbook</i>	8.9 8.9	10.1 10.1	4.0 3.4	3.7 3.7	4.6 4.8	3.6 4.6	4.7 6.1	4.5 4.6	3.8 4.4	4.2 4.3	3.4 3.5	6.0 5.9	4.1 4.8	4.0 4.2	2.5 2.7
Nonres. structures <i>Previous Tealbook</i>	12.6 12.6	4.8 4.8	5.9 3.9	-8.8 -4.0	-8.8 -12.1	-7.5 -7.3	.4 1.5	.5 1.7	2.3 3.2	1.8 2.7	1.3 2.0	6.5 6.0	-6.2 -5.6	1.5 2.4	.7 1.2
Net exports <sup>2</sup> <i>Previous Tealbook</i> <sup>2</sup>	-460 -460	-431 -431	-470 -456	-499 -468	-541 -501	-585 -535	-630 -574	-677 -607	-721 -631	-764 -662	-787 -667	-452 -449	-564 -520	-737 -642	-827 -699
Exports	11.1	4.5	4.5	-8	.2	.1	.0	.2	.4	.9	1.4	2.4	-1	.7	2.9
Imports	11.3	-9	10.1	4.0	6.7	6.9	6.8	7.1	6.8	6.9	4.2	5.5	6.1	6.2	3.8
Gov't. cons. & invest. <i>Previous Tealbook</i>	1.7 1.7	4.4 4.4	-2.0 -3.9	-8 .5	.1 .1	.3 .4	.5 .1	.4 .4	.5 .9	1.6 1.0	.7 .9	.8 .3	.0 .3	.8 .8	1.1 1.0
Federal	-9	9.9	-7.5	-3.6	-2.0	-1.9	-1.6	-2.1	-1.8	.8	-1.9	.2	-2.3	-1.3	-9
Defense	.9	16.0	-12.4	-3.4	-2.0	-2.1	-1.5	-3.3	-2.9	1.2	-3.0	-4	-2.2	-2.1	-1.5
Nondefense	-3.8	.4	1.4	-4.1	-1.9	-1.6	-1.9	.0	.1	.1	.1	1.1	-2.4	.1	.1
State & local	3.4	1.1	1.6	1.0	1.4	1.7	1.7	1.8	2.0	2.1	2.2	1.2	1.5	2.0	2.2
Change in priv. inventories <sup>2</sup> <i>Previous Tealbook</i> <sup>2</sup>	85 85	82 82	78 112	82 104	87 107	89 111	78 111	76 108	71 100	73 102	79 104	70 79	84 108	75 103	69 87

1. Change from fourth quarter of previous year to fourth quarter of year indicated.

2. Billions of chained (2009) dollars.

**Changes in Real Gross Domestic Product and Related Items**  
(Change from fourth quarter of previous year to fourth quarter of year indicated, unless otherwise noted)

Item	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Real GDP <i>Previous Tealbook</i>	-2.8 -2.8	-2 -2	2.7 2.7	1.7 1.7	1.6 1.6	3.1 3.1	2.4 2.5	2.2 2.8	2.3 2.7	2.0 2.0
Final sales <i>Previous Tealbook</i>	-2.1 -2.1	-4 -4	2.0 2.0	1.5 1.5	2.1 2.1	2.6 2.6	2.3 2.2	2.3 2.8	2.3 2.8	2.2 2.4
Priv. dom. final purch. <i>Previous Tealbook</i>	-4.1 -4.1	-2.4 -2.4	3.5 3.5	2.6 2.6	2.6 2.6	3.2 3.2	3.3 3.2	3.8 4.1	3.5 3.7	2.6 2.7
Personal cons. expend. <i>Previous Tealbook</i>	-2.0 -2.0	-2 -2	3.1 3.1	1.5 1.5	2.0 2.0	2.8 2.8	2.8 2.7	3.9 4.1	3.2 3.4	2.6 2.7
Durables	-12.9	2.5	9.3	4.8	7.5	5.9	8.0	6.3	6.4	4.2
Nondurables	-2.7	-2	3.3	.4	1.0	2.5	2.1	3.5	2.6	2.4
Services	.3	-8	2.0	1.4	1.5	2.4	2.2	3.7	2.9	2.4
Residential investment <i>Previous Tealbook</i>	-24.3 -24.3	-10.8 -10.8	-5.2 -5.2	6.0 6.0	15.8 15.8	6.9 6.9	2.7 2.5	9.2 11.0	9.7 9.2	5.1 4.1
Nonres. priv. fixed invest. <i>Previous Tealbook</i>	-8.9 -8.9	-12.2 -12.2	8.1 8.1	9.0 9.0	3.7 3.7	4.7 4.7	6.1 5.9	1.8 2.4	3.5 3.8	2.1 2.3
Equipment & intangibles <i>Previous Tealbook</i>	-11.8 -11.8	-6.0 -6.0	12.0 12.0	9.2 9.2	3.3 3.3	4.8 4.8	6.0 5.9	4.1 4.8	4.0 4.2	2.5 2.7
Nonres. structures <i>Previous Tealbook</i>	-1.2 -1.2	-27.1 -27.1	-4.0 -4.0	8.0 8.0	4.8 4.8	4.4 4.4	6.5 6.0	-6.2 -5.6	1.5 2.4	.7 1.2
Net exports <sup>1</sup> <i>Previous Tealbook</i> <sup>1</sup>	-558 -558	-395 -395	-459 -459	-459 -459	-452 -452	-420 -420	-452 -449	-564 -520	-737 -642	-827 -699
Exports	-2.8	.8	10.1	4.2	2.4	5.1	2.4	-1	.7	2.9
Imports	-6.0	-6.2	12.0	3.5	.4	2.5	5.5	6.1	6.2	3.8
Gov't. cons. & invest. <i>Previous Tealbook</i>	3.3 3.3	2.3 2.3	-1.1 -1.1	-3.0 -3.0	-1.7 -1.7	-1.9 -1.9	.8 .3	.0 .3	.8 .8	1.1 1.0
Federal	8.4	3.9	3.2	-4.0	-2.6	-6.3	.2	-2.3	-1.3	-.9
Defense	9.4	3.6	2.0	-4.1	-4.9	-6.1	-.4	-2.2	-2.1	-1.5
Nondefense	6.5	4.6	5.5	-3.9	1.4	-6.6	1.1	-2.4	.1	.1
State & local	.2	1.3	-4.0	-2.3	-1.0	1.2	1.2	1.5	2.0	2.2
Change in priv. inventories <sup>1</sup> <i>Previous Tealbook</i> <sup>1</sup>	-34 -34	-148 -148	58 58	38 38	57 57	64 64	70 79	84 108	75 103	69 87

1. Billions of chained (2009) dollars.



## Greensheets

**Contributions to Changes in Real Gross Domestic Product**  
(Percentage points, annual rate except as noted)

Item	2014			2015				2016				2014 <sup>1</sup>	2015 <sup>1</sup>	2016 <sup>1</sup>	2017 <sup>1</sup>
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Real GDP <i>Previous Tealbook</i>	4.6 4.6	5.0 5.0	2.1 2.6	1.7 2.8	2.6 2.7	2.3 2.8	2.4 2.9	2.3 2.8	2.2 2.7	2.3 2.7	2.3 2.7	2.4 2.5	2.2 2.8	2.3 2.7	2.0 2.0
Final sales <i>Previous Tealbook</i>	3.2	5.0	2.2	1.6	2.5	2.2	2.6	2.4	2.4	2.2	2.1	2.3	2.2	2.3	2.2
Priv. dom. final purch. <i>Previous Tealbook</i>	3.2	5.0	1.8	3.0	2.7	2.7	2.9	2.8	2.9	2.7	2.6	2.2	2.8	2.8	2.3
	3.2	3.5	3.5	2.5	3.4	3.2	3.6	3.4	3.3	2.9	2.5	2.7	3.2	3.0	2.3
	3.2	3.5	3.1	3.3	3.4	3.4	3.7	3.5	3.3	3.1	2.6	2.6	3.5	3.1	2.3
Personal cons. expend. <i>Previous Tealbook</i>	1.8	2.2	2.8	2.4	3.0	2.7	2.6	2.5	2.5	2.1	1.9	1.9	2.7	2.2	1.8
Durables	1.8	2.2	2.6	2.8	3.0	2.7	2.7	2.6	2.4	2.4	2.0	1.8	2.8	2.3	1.9
Nondurables	1.0	.7	.4	.1	.6	.6	.6	.5	.5	.5	.4	.6	.5	.5	.3
Services	.3	.4	.6	.4	.7	.5	.5	.4	.4	.4	.4	.3	.5	.4	.4
	.4	1.2	1.8	1.9	1.7	1.6	1.6	1.6	1.5	1.3	1.1	1.0	1.7	1.4	1.2
Residential investment <i>Previous Tealbook</i>	.3	.1	.1	.0	.3	.4	.5	.4	.4	.3	.3	.1	.3	.3	.2
Nonres. priv. fixed invest. <i>Previous Tealbook</i>	.3	.1	.1	.2	.4	.4	.4	.4	.4	.3	.2	.1	.4	.3	.2
Equipment & intangibles <i>Previous Tealbook</i>	1.2	1.1	.6	.1	.2	.1	.5	.5	.4	.5	.4	.8	.2	.4	.3
Nonres. structures <i>Previous Tealbook</i>	1.2	1.1	.4	.2	.1	.2	.6	.5	.5	.5	.4	.7	.3	.5	.3
	.8	1.0	.4	.4	.5	.3	.5	.4	.4	.4	.3	.6	.4	.4	.2
	.8	1.0	.3	.4	.5	.5	.6	.4	.4	.4	.4	.6	.5	.4	.3
	.4	.1	.2	-.3	-.3	-.2	.0	.0	.1	.0	.0	.2	-.2	.0	.0
	.4	.1	.1	-.1	-.4	-.2	.0	.0	.1	.1	.1	.2	-.2	.1	.0
Net exports <i>Previous Tealbook</i>	-.3	.8	-1.0	-.7	-1.0	-1.0	-1.0	-1.1	-1.0	-1.0	-.5	-.6	-1.0	-.9	-.3
Exports	-.3	.8	-.6	-.3	-.8	-.8	-.9	-.7	-.5	-.7	-.1	-.5	-.7	-.5	-.2
Imports	1.4	.6	.6	-.1	.0	.0	.0	.0	.1	.1	.2	.3	.0	.1	.4
	-1.8	.2	-1.6	-.6	-1.0	-1.0	-1.0	-1.1	-1.1	-1.1	-.7	-.9	-1.0	-1.0	-.6
Gov't. cons. & invest. <i>Previous Tealbook</i>	.3	.8	-.4	-.1	.0	.1	.1	.1	.1	.3	.1	.1	.0	.1	.2
Federal	.3	.8	-.7	.1	.0	.1	.0	.1	.2	.2	.2	.1	.0	.1	.2
Defense	-.1	.7	-.5	-.3	-.1	-.1	-.1	-.1	-.1	.0	-.1	.0	-.2	-.1	-.1
Nondefense	.0	.7	-.6	-.1	-.1	-.1	-.1	-.1	-.1	.0	-.1	.0	-.1	-.1	-.1
State & local	-.1	.0	.0	-.1	.0	.0	.0	.0	.0	.0	.0	.0	-.1	.0	.0
	.4	.1	.2	.1	.2	.2	.2	.2	.2	.2	.2	.1	.2	.2	.2
Change in priv. inventories <i>Previous Tealbook</i>	1.4	.0	-.1	.1	.1	.1	-.3	-.1	-.1	.0	.2	.0	.0	.0	-.2
	1.4	.0	.8	-.2	.1	.1	.0	-.1	-.2	.0	.1	.3	.0	.0	-.3

1. Change from fourth quarter of previous year to fourth quarter of year indicated.

**Changes in Prices and Costs**  
(Percent, annual rate except as noted)

Item	2014			2015				2016				2015 <sup>1</sup>	2016 <sup>1</sup>	2017 <sup>1</sup>
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
GDP chain-wt. price index <i>Previous Tealbook</i>	2.1 2.1	1.4 1.4	.1 .6	-.1 .6	2.2 1.4	1.6 1.8	1.7 1.7	1.9 1.9	1.7 1.8	1.7 1.7	1.7 1.8	1.2 1.4	1.4 1.4	1.7 1.8
PCE chain-wt. price index <i>Previous Tealbook</i>	2.3 2.3	1.2 1.2	-.4 -.5	-2.0 -2.5	1.3 1.1	1.5 1.9	1.6 1.7	1.6 1.8	1.7 1.7	1.7 1.7	1.7 1.7	1.1 1.1	.6 .5	1.7 1.7
Energy <i>Previous Tealbook</i>	5.2 5.2	-4.0 -4.0	-26.0 -27.0	-44.7 -56.1	2.0 -2.5	3.8 11.1	4.7 7.2	3.9 5.7	3.3 4.7	3.2 4.5	3.0 3.9	-6.1 -6.4	-11.5 -15.5	3.3 4.7
Food <i>Previous Tealbook</i>	4.5 4.5	3.1 3.1	2.1 2.1	.2 1.6	.7 .6	1.1 1.0	1.3 1.3	1.4 1.5	1.5 1.6	1.7 1.7	1.7 1.7	2.8 2.8	.8 1.1	1.6 1.6
Ex. food & energy <i>Previous Tealbook</i>	2.0 2.0	1.4 1.4	1.1 1.1	.8 1.1	1.4 1.3	1.4 1.5	1.5 1.5	1.5 1.6	1.6 1.6	1.6 1.6	1.6 1.6	1.4 1.4	1.3 1.4	1.6 1.6
Ex. food & energy, market based <i>Previous Tealbook</i>	1.8 1.8	1.4 1.4	.6 .6	.5 1.0	1.3 1.3	1.4 1.5	1.5 1.5	1.5 1.6	1.6 1.6	1.6 1.6	1.6 1.6	1.2 1.2	1.2 1.4	1.6 1.6
CPI <i>Previous Tealbook</i>	2.4 3.0	1.2 1.1	-.9 -1.2	-3.1 -4.2	1.7 1.6	2.0 2.4	2.1 2.2	2.1 2.2	2.1 2.2	2.1 2.2	2.1 2.2	1.2 1.2	.6 .5	2.1 2.2
Ex. food & energy <i>Previous Tealbook</i>	2.2 2.5	1.4 1.3	1.5 1.4	1.5 1.4	1.8 2.0	1.9 2.0	2.0 2.0	2.0 2.0	2.0 2.0	2.0 2.1	2.1 2.1	1.7 1.7	1.8 1.8	2.0 2.0
ECL, hourly compensation <sup>2</sup> <i>Previous Tealbook</i> <sup>2</sup>	3.4 3.4	2.7 2.7	2.3 2.4	2.6 2.6	2.6 2.6	2.6 2.5	2.6 2.5	2.9 3.0	2.9 3.0	2.9 3.0	2.9 3.0	2.3 2.4	2.6 2.6	2.9 3.0
Business sector														
Output per hour <i>Previous Tealbook</i>	2.9 2.9	3.3 3.2	-2.4 -2.3	.2 2.3	2.4 2.1	1.8 2.0	1.9 2.3	1.8 1.7	1.7 1.6	1.7 1.7	1.7 1.8	-.4 -.4	1.6 2.2	1.7 1.7
Compensation per hour <i>Previous Tealbook</i>	-1.1 -1.1	2.1 .6	1.6 1.0	2.9 2.8	3.1 3.1	3.1 3.1	3.1 3.1	3.4 3.8	3.4 3.6	3.4 3.6	3.4 3.5	2.3 1.8	3.0 3.0	3.4 3.6
Unit labor costs <i>Previous Tealbook</i>	-3.9 -3.9	-1.2 -2.5	4.1 3.4	2.7 .4	.6 1.0	1.3 1.1	1.1 .8	1.6 2.0	1.7 1.9	1.7 1.8	1.7 1.7	2.7 2.2	1.4 .8	1.7 1.8
Core goods imports chain-wt. price index <sup>3</sup> <i>Previous Tealbook</i> <sup>3</sup>	.2 .2	.5 .5	-.8 -1.2	-4.0 -3.3	-4.3 -2.5	-1.5 .4	.1 .8	.7 1.1	1.1 1.2	1.3 1.2	1.3 1.2	.6 .5	-2.4 -1.2	1.1 1.2

1. Change from fourth quarter of previous year to fourth quarter of year indicated.

2. Private-industry workers.

3. Core goods imports exclude computers, semiconductors, oil, and natural gas.

## Greensheets

## Changes in Prices and Costs

(Change from fourth quarter of previous year to fourth quarter of year indicated, unless otherwise noted)

Item	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
GDP chain-wt. price index <i>Previous Tealbook</i>	1.9 1.9	.4 .4	1.8 1.8	1.9 1.9	1.8 1.8	1.4 1.4	1.2 1.4	1.4 1.4	1.7 1.8	1.9 2.0
PCE chain-wt. price index <i>Previous Tealbook</i>	1.5 1.5	1.2 1.2	1.3 1.3	2.7 2.7	1.6 1.6	1.0 1.0	1.1 1.1	.6 .5	1.7 1.7	1.9 1.9
Energy <i>Previous Tealbook</i>	-8.2 -8.2	2.3 2.3	6.4 6.4	12.0 12.0	2.1 2.1	-2.6 -2.6	-6.1 -6.4	-11.5 -15.5	3.3 4.7	2.4 3.0
Food <i>Previous Tealbook</i>	6.9 6.9	-1.8 -1.8	1.3 1.3	5.1 5.1	1.2 1.2	.7 .7	2.8 2.8	.8 1.1	1.6 1.6	1.9 1.9
Ex. food & energy <i>Previous Tealbook</i>	1.6 1.6	1.4 1.4	1.0 1.0	1.9 1.9	1.6 1.6	1.3 1.3	1.4 1.4	1.3 1.4	1.6 1.6	1.8 1.8
Ex. food & energy, market based <i>Previous Tealbook</i>	2.2 2.2	1.8 1.8	.7 .7	1.9 1.9	1.5 1.5	1.2 1.2	1.2 1.2	1.2 1.4	1.6 1.6	1.8 1.8
CPI <i>Previous Tealbook</i>	1.6 1.6	1.5 1.5	1.2 1.2	3.3 3.3	1.9 1.9	1.2 1.2	1.2 1.2	.6 .5	2.1 2.2	2.2 2.2
Ex. food & energy <i>Previous Tealbook</i>	2.0 2.0	1.8 1.8	.6 .6	2.2 2.2	1.9 1.9	1.7 1.7	1.7 1.7	1.8 1.8	2.0 2.0	2.2 2.2
ECL, hourly compensation <sup>1</sup> <i>Previous Tealbook</i> <sup>1</sup>	2.4 2.4	1.2 1.2	2.1 2.1	2.2 2.2	1.8 1.8	2.0 2.0	2.3 2.4	2.6 2.6	2.9 3.0	3.0 3.1
Business sector Output per hour <i>Previous Tealbook</i>	-2 -2	5.6 5.6	1.7 1.7	.0 .0	.2 .3	2.3 2.4	-4 -4	1.6 2.2	1.7 1.7	1.7 1.7
Compensation per hour <i>Previous Tealbook</i>	2.9 2.9	1.3 1.3	1.2 1.2	.6 .6	5.6 5.7	-1 .0	2.3 1.8	3.0 3.0	3.4 3.6	3.5 3.6
Unit labor costs <i>Previous Tealbook</i>	3.2 3.2	-4.2 -4.2	-4 -4	.6 .6	5.4 5.4	-2.3 -2.3	2.7 2.2	1.4 .8	1.7 1.8	1.7 1.9
Core goods imports chain-wt. price index <sup>2</sup> <i>Previous Tealbook</i> <sup>2</sup>	3.9 3.9	-1.9 -1.9	2.3 2.3	4.3 4.3	.2 .2	-1.0 -1.0	.6 .5	-2.4 -1.2	1.1 1.2	1.7 1.3

1. Private-industry workers.

2. Core goods imports exclude computers, semiconductors, oil, and natural gas.

Other Macroeconomic Indicators

Item	2014				2015				2016				2014 <sup>1</sup>	2015 <sup>1</sup>	2016 <sup>1</sup>	2017 <sup>1</sup>
	Q2	Q3	Q4		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
<i>Employment and production</i>																
Nonfarm payroll employment <sup>2</sup>	.8	.7	.9		.9	.8	.7	.7	.6	.6	.5	.5	2.9	3.0	2.2	1.7
Unemployment rate <sup>3</sup>	6.2	6.1	5.7		5.5	5.3	5.2	5.2	5.1	5.1	5.1	5.1	5.7	5.2	5.1	5.0
<i>Previous Tealbook<sup>3</sup></i>	6.2	6.1	5.7		5.4	5.3	5.2	5.1	5.0	5.0	4.9	4.9	5.7	5.1	4.9	4.8
Natural rate of unemployment <sup>3</sup>	5.2	5.2	5.2		5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
<i>Previous Tealbook<sup>3</sup></i>	5.2	5.2	5.2		5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
GDP gap <sup>4</sup>	-2.3	-1.3	-1.0		-1.0	-7	-6	-4	-2	-1	.0	.2	-1.0	-4	.2	.5
<i>Previous Tealbook<sup>4</sup></i>	-2.3	-1.5	-1.2		-9	-7	-4	-1	.1	.3	.5	.8	-1.2	-1	.8	1.0
Industrial production <sup>5</sup>	5.7	4.1	4.3		1.8	1.7	.4	.6	2.4	2.8	1.8	1.1	4.5	1.1	2.0	1.4
<i>Previous Tealbook<sup>5</sup></i>	5.7	4.1	5.6		4.5	.9	1.1	1.1	3.0	3.2	2.5	1.4	4.8	1.9	2.5	1.5
Manufacturing industr. prod. <sup>5</sup>	7.0	4.4	3.8		2.1	3.3	1.9	1.9	2.1	2.3	1.8	1.6	4.1	2.3	1.9	1.4
<i>Previous Tealbook<sup>5</sup></i>	7.0	4.3	5.2		4.5	3.0	2.6	2.8	2.7	2.6	2.1	1.8	4.5	3.2	2.3	1.5
Capacity utilization rate - mfg. <sup>3</sup>	77.1	77.5	77.8		77.9	78.2	78.3	78.3	78.4	78.5	78.4	78.4	77.8	78.3	78.4	78.0
<i>Previous Tealbook<sup>3</sup></i>	77.1	77.5	78.1		78.5	78.7	78.8	78.9	79.0	79.0	79.0	78.9	78.1	78.9	78.9	78.4
Housing starts <sup>6</sup>	1.0	1.0	1.1		1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.0	1.1	1.3	1.5
Light motor vehicle sales <sup>6</sup>	16.5	16.7	16.7		16.5	16.9	16.8	16.7	16.7	16.6	16.6	16.5	16.4	16.7	16.6	16.5
<i>Income and saving</i>																
Nominal GDP <sup>5</sup>	6.8	6.4	2.1		1.7	4.8	3.9	4.1	4.2	4.0	4.0	4.0	3.6	3.6	4.1	3.9
Real disposable pers. income <sup>5</sup>	3.1	2.4	3.7		6.1	3.4	1.9	2.5	3.6	2.4	2.2	2.6	3.1	3.5	2.7	2.4
<i>Previous Tealbook<sup>5</sup></i>	3.1	2.0	4.4		6.0	3.8	2.5	2.7	3.6	2.8	2.7	3.0	3.2	3.7	3.0	2.5
Personal saving rate <sup>3</sup>	5.1	4.8	4.7		5.3	5.1	4.6	4.3	4.3	4.0	3.8	3.8	4.7	4.3	3.8	3.6
<i>Previous Tealbook<sup>3</sup></i>	5.1	4.7	4.9		5.3	5.1	4.8	4.5	4.5	4.3	4.2	4.2	4.9	4.5	4.2	4.0
Corporate profits <sup>7</sup>	38.3	12.8	-5.3		-26.6	17.0	1.4	-2	-3.2	-2.4	2.4	2.8	-1	-3.4	-2	-4
Profit share of GNP <sup>3</sup>	12.0	12.2	11.9		11.0	11.4	11.3	11.2	11.0	10.8	10.8	10.7	11.9	11.2	10.7	10.3
Net federal saving <sup>8</sup>	-599	-611	-567		-559	-585	-589	-572	-615	-590	-610	-629	-584	-576	-611	-681
Net state & local saving <sup>8</sup>	-227	-217	-218		-198	-191	-196	-194	-187	-187	-186	-187	-226	-195	-187	-188
Gross national saving rate <sup>3</sup>	17.9	18.1	18.0		18.0	17.9	17.5	17.4	17.1	17.0	16.9	16.8	18.0	17.4	16.8	16.5
Net national saving rate <sup>3</sup>	2.9	3.1	3.2		3.1	3.0	2.5	2.3	2.0	1.8	1.6	1.5	3.2	2.3	1.5	.9

1. Change from fourth quarter of previous year to fourth quarter of year indicated, unless otherwise indicated.

2. Change, millions.

3. Percent; annual values are for the fourth quarter of the year indicated.

4. Percent difference between actual and potential GDP; a negative number indicates that the economy is operating below potential. Annual values are for the fourth quarter of the year indicated.

5. Percent change, annual rate.

6. Level, millions; annual values are annual averages.

7. Percent change, annual rate, with inventory valuation and capital consumption adjustments.

8. Billions of dollars; annual values are annual averages.

Greensheets

Other Macroeconomic Indicators

(Change from fourth quarter of previous year to fourth quarter of year indicated, unless otherwise noted)

Item	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<i>Employment and production</i>										
Nonfarm payroll employment <sup>1</sup>	-2.8	-5.6	.8	2.0	2.2	2.5	2.9	3.0	2.2	1.7
Unemployment rate <sup>2</sup>	6.9	9.9	9.5	8.7	7.8	7.0	5.7	5.2	5.1	5.0
<i>Previous Tealbook<sup>2</sup></i>	6.9	9.9	9.5	8.7	7.8	7.0	5.7	5.1	4.9	4.8
Natural rate of unemployment <sup>2</sup>	5.6	6.2	6.2	6.0	5.8	5.4	5.2	5.2	5.2	5.2
<i>Previous Tealbook<sup>2</sup></i>	5.6	6.2	6.2	6.0	5.8	5.4	5.2	5.2	5.2	5.2
GDP gap <sup>3</sup>	-3.8	-5.5	-4.4	-4.2	-4.1	-2.8	-1.0	-4	.2	.5
<i>Previous Tealbook<sup>3</sup></i>	-3.8	-5.5	-4.4	-4.2	-4.1	-2.8	-1.2	-1	.8	1.0
Industrial production <sup>4</sup>	-8.9	-5.5	6.2	3.2	3.2	3.3	4.5	1.1	2.0	1.4
<i>Previous Tealbook<sup>4</sup></i>	-8.9	-5.5	6.2	3.2	3.2	3.3	4.8	1.9	2.5	1.5
Manufacturing industr. prod. <sup>4</sup>	-11.6	-6.1	6.4	3.1	3.5	2.9	4.1	2.3	1.9	1.4
<i>Previous Tealbook<sup>4</sup></i>	-11.6	-6.1	6.4	3.1	3.5	2.9	4.5	3.2	2.3	1.5
Capacity utilization rate - mfg. <sup>2</sup>	70.0	67.1	72.7	74.6	75.5	76.4	77.8	78.3	78.4	78.0
<i>Previous Tealbook<sup>2</sup></i>	70.0	67.1	72.7	74.6	75.5	76.4	78.1	78.9	78.9	78.4
Housing starts <sup>5</sup>	.9	.6	.6	.6	.8	.9	1.0	1.1	1.3	1.5
Light motor vehicle sales <sup>5</sup>	13.1	10.4	11.5	12.7	14.4	15.5	16.4	16.7	16.6	16.5
<i>Income and saving</i>										
Nominal GDP <sup>4</sup>	-9	.1	4.6	3.6	3.5	4.6	3.6	3.6	4.1	3.9
Real disposable pers. income <sup>4</sup>	1.1	-7	2.6	1.7	5.0	-1.9	3.1	3.5	2.7	2.4
<i>Previous Tealbook<sup>4</sup></i>	1.1	-7	2.6	1.7	5.0	-1.9	3.2	3.7	3.0	2.5
Personal saving rate <sup>2</sup>	6.1	5.6	5.5	5.8	8.6	4.4	4.7	4.3	3.8	3.6
<i>Previous Tealbook<sup>2</sup></i>	6.1	5.6	5.5	5.8	8.6	4.4	4.9	4.5	4.2	4.0
Corporate profits <sup>6</sup>	-30.8	53.7	18.0	6.8	3.8	4.7	-1	-3.4	-2	-4
Profit share of GNP <sup>2</sup>	6.9	10.6	12.0	12.3	12.4	12.4	11.9	11.2	10.7	10.3
Net federal saving <sup>7</sup>	-634	-1,249	-1,329	-1,244	-1,079	-649	-584	-576	-611	-681
Net state & local saving <sup>7</sup>	-165	-272	-237	-216	-233	-225	-226	-195	-187	-188
Gross national saving rate <sup>2</sup>	14.9	14.6	15.2	16.1	17.8	17.9	18.0	17.4	16.8	16.5
Net national saving rate <sup>2</sup>	-1.6	-1.7	-4	.8	2.8	3.0	3.2	2.3	1.5	.9

1. Change, millions.

2. Percent; values are for the fourth quarter of the year indicated.

3. Percent difference between actual and potential GDP; a negative number indicates that the economy is operating below potential.

Values are for the fourth quarter of the year indicated.

4. Percent change.

5. Level, millions; values are annual averages.

6. Percent change, with inventory valuation and capital consumption adjustments.

7. Billions of dollars; values are annual averages.

**Staff Projections of Federal Sector Accounts and Related Items**  
(Billions of dollars except as noted)

Item	Fiscal year				2014				2015				2016			
	2014	2015	2016	2017	Q1 <sup>a</sup>	Q2 <sup>a</sup>	Q3 <sup>a</sup>	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Unified budget</b>																
Receipts	3,021	3,209	3,397	3,539	656	938	760	739	664	999	807	748	714	1,075	860	794
Outlays	3,506	3,699	3,889	4,060	897	890	877	916	946	942	895	998	954	958	979	978
Surplus/deficit	-485	-491	-492	-521	-241	47	-117	-177	-282	56	-88	-250	-241	117	-119	-184
<i>Previous Tealbook</i>	-483	-437	-454	-514	-241	47	-117	-177	-258	75	-77	-236	-216	100	-102	-194
Means of financing:																
Borrowing	798	447	612	641	262	-46	211	240	172	-11	46	280	271	-87	149	214
Cash decrease	-70	88	0	0	20	3	-19	-65	122	-41	72	0	0	0	0	0
Other <sup>1</sup>	-243	-45	-120	-120	-42	-4	-75	1	-16	-4	-30	-30	-30	-30	-30	-30
Cash operating balance, end of period	158	70	70	70	142	139	158	223	101	142	70	70	70	70	70	70
<b>NIPA federal sector</b>																
Receipts	3,267	3,390	3,562	3,715	3,243	3,277	3,342	3,333	3,340	3,423	3,465	3,503	3,543	3,579	3,622	3,663
Expenditures	3,844	3,965	4,157	4,379	3,803	3,875	3,953	3,900	3,898	4,007	4,054	4,074	4,157	4,167	4,231	4,291
Consumption expenditures	963	957	960	975	957	956	988	960	959	956	954	953	960	960	965	965
Defense	617	612	613	619	610	610	641	613	613	612	611	611	614	612	615	613
Nondefense	346	345	347	356	347	345	347	347	346	345	343	342	347	348	350	351
Other spending	2,882	3,007	3,197	3,404	2,846	2,920	2,965	2,940	2,940	3,051	3,099	3,121	3,196	3,207	3,266	3,327
Current account surplus	-577	-574	-596	-664	-560	-599	-611	-567	-558	-584	-589	-571	-614	-589	-608	-628
Gross investment	256	253	248	247	251	255	254	256	253	252	251	250	248	247	248	247
Gross saving less gross investment <sup>2</sup>	-561	-548	-558	-618	-539	-580	-589	-546	-533	-556	-558	-538	-577	-549	-568	-584
<b>Fiscal indicators</b>																
High-employment (HEB) surplus/deficit <sup>3</sup>	-404.2	-501.5	-556.5	-645.4	-342.8	-427.0	-488.7	-471.3	-477.5	-522.2	-535.2	-527.3	-569.4	-550.2	-579.2	-604.6
Change in HEB, percent of potential GDP	-1.0	.5	.2	.4	-1	.5	.3	-1	.0	.2	.0	-1	.2	-1	.1	.1
Fiscal impetus (FI), percent of GDP <sup>4</sup>	-1	.2	.3	.3	-6	.0	.7	-4	-2	.2	.3	.3	.1	.2	.4	.2
<i>Previous Tealbook</i>	-2	.2	.2	.2	-6	.0	.7	-8	.0	.2	.3	.2	.1	.2	.3	.3
Federal purchases	.0	-2	-1	-1	.0	-1	.7	-5	-3	-1	-1	-1	-1	-1	.0	-1
State and local purchases	.1	.2	.2	.2	-1	.4	.1	.2	.1	.2	.2	.2	.2	.2	.2	.2
Taxes and transfers	-2	.2	.1	.1	-4	-3	-1	-1	.0	.2	.2	.2	.1	.1	.1	.1

1. Other means of financing include checks issued less checks paid, accrued items, and changes in other financial assets and liabilities.

2. Gross saving is the current account surplus plus consumption of fixed capital of the general government as well as government enterprises.

3. HEB is gross saving less gross investment (NIPA) of the federal government in current dollars, with cyclically sensitive receipts and outlays adjusted to the staff's measure of potential output and the natural rate of unemployment. The sign on Change in HEB, as a percent of nominal potential GDP, is reversed. Quarterly figures for change in HEB are not at annual rates.

4. Fiscal impetus measures the contribution to growth of real GDP from fiscal policy actions at the general government level (excluding multiplier effects). It equals the sum of the direct contributions to real GDP growth from changes in federal purchases and state and local purchases, plus the estimated contribution from real consumption and investment that is induced by discretionary policy changes in transfers and taxes.

a. Actual.

Greensheets

**Foreign Real GDP and Consumer Prices: Selected Countries**  
(Quarterly percent changes at an annual rate)

Measure and country	2014				2015				Projected			
	2014				2015				Projected			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Real GDP<sup>1</sup></b>												
Total foreign	1.9	2.5	2.6	2.7	2.5	2.7	2.9	3.0	3.1	3.1	3.1	3.1
<i>Previous Tealbook</i>	1.9	2.3	2.5	2.7	2.8	3.0	3.1	3.1	3.1	3.1	3.1	3.1
Advanced foreign economies	1.8	1.4	1.7	2.0	1.7	1.9	2.1	2.3	2.3	2.3	2.2	2.2
Canada	1.0	3.8	3.2	2.4	1.5	2.0	2.3	2.6	2.6	2.6	2.5	2.3
Japan	5.1	-6.4	-2.6	1.5	2.0	1.6	1.5	1.5	1.4	1.3	1.3	1.4
United Kingdom	2.7	3.0	2.6	2.2	2.6	2.6	2.6	2.5	2.5	2.5	2.4	2.4
Euro area	1.1	.3	.7	1.3	1.7	1.7	1.9	2.0	2.1	2.1	2.1	2.1
Germany	3.1	-.3	.3	2.8	1.8	1.8	2.0	2.0	2.2	2.2	2.3	2.3
Emerging market economies	2.0	3.6	3.5	3.3	3.3	3.5	3.7	3.8	3.9	3.9	4.1	4.1
Asia	4.0	4.9	5.6	5.1	5.3	5.4	5.4	5.4	5.4	5.4	5.4	5.4
Korea	3.8	2.0	3.7	1.5	3.8	4.0	4.3	4.3	4.2	4.2	4.2	4.2
China	6.4	7.6	8.1	7.0	7.1	7.1	7.0	7.0	7.0	7.0	6.9	6.9
Latin America	.1	2.8	1.9	1.8	1.9	2.1	2.4	2.5	2.6	2.6	2.9	2.9
Mexico	1.4	4.2	2.1	2.7	2.9	3.2	3.3	3.3	3.1	3.1	3.2	3.2
Brazil	-.7	-2.4	.3	.2	-.5	-.8	.1	1.0	1.8	1.8	2.0	2.0
<b>Consumer prices<sup>2</sup></b>												
Total foreign	2.1	3.0	2.0	1.1	.0	2.1	2.2	2.4	2.4	2.4	2.5	2.5
<i>Previous Tealbook</i>	2.0	3.1	2.1	1.1	.9	2.1	2.4	2.5	2.5	2.5	2.6	2.6
Advanced foreign economies	1.3	3.1	.9	-.4	-.7	1.1	1.3	1.5	1.5	1.6	1.6	1.7
Canada	3.2	3.3	1.2	.0	-.1	1.7	1.7	1.8	1.8	1.8	1.9	1.9
Japan	.7	9.3	1.2	-.6	.1	.7	.9	1.0	1.1	1.2	1.3	1.4
United Kingdom	1.4	1.7	1.4	-.8	-.6	1.7	1.7	1.8	1.8	1.8	1.8	1.9
Euro area	.4	.4	.5	-.6	-.7	.9	1.2	1.5	1.6	1.6	1.6	1.6
Germany	.4	.3	1.7	-.6	-.6	1.3	1.5	1.6	1.7	1.7	1.7	1.8
Emerging market economies	2.6	2.9	2.9	2.3	.5	2.8	3.0	3.1	3.1	3.1	3.1	3.1
Asia	1.5	2.4	2.1	1.1	-.3	2.2	2.5	2.8	2.8	2.8	2.8	2.8
Korea	1.4	2.2	.6	-.2	.1	1.8	2.4	2.9	3.1	3.2	3.2	3.2
China	.8	2.0	2.2	1.0	-.6	1.9	2.2	2.5	2.5	2.5	2.5	2.5
Latin America	5.3	4.3	4.9	4.8	1.8	4.0	3.9	4.0	3.8	3.8	3.8	3.8
Mexico	4.8	3.3	4.4	4.2	.5	3.1	3.3	3.4	3.3	3.3	3.3	3.3
Brazil	6.5	7.4	6.2	6.0	10.5	8.6	5.5	5.2	5.3	5.4	5.4	5.4

<sup>1</sup> Foreign GDP aggregates calculated using shares of U.S. exports.

<sup>2</sup> Foreign CPI aggregates calculated using shares of U.S. non-oil imports.

**Foreign Real GDP and Consumer Prices: Selected Countries**  
(Percent change, Q4 to Q4)

Measure and country	2009	2010	2011	2012	2013	-----Projected-----				
						2014	2015	2016	2017	
<b>Real GDP<sup>1</sup></b>										
Total foreign	.9	4.7	3.1	2.3	2.6	2.4	2.8	3.1	3.0	3.0
<i>Previous Tealbook</i>	.9	4.7	3.2	2.3	2.6	2.4	3.0	3.1	3.0	3.0
Advanced foreign economies	-1.4	3.1	1.8	.3	1.9	1.7	2.0	2.2	2.0	2.0
Canada	-1.4	3.6	3.0	1.0	2.7	2.6	2.1	2.5	2.1	2.1
Japan	-.6	3.5	.3	.0	2.3	-.7	1.7	1.3	1.3	-.2
United Kingdom	-1.5	2.2	1.5	.4	2.4	2.7	2.6	2.5	2.3	2.3
Euro area	-2.3	2.3	.6	-1.0	.4	.9	1.8	2.1	2.3	2.3
Germany	-3.0	4.4	2.4	.1	1.1	1.5	1.9	2.2	2.3	2.3
Emerging market economies	3.8	6.5	4.5	4.3	3.3	3.1	3.6	4.0	4.0	4.0
Asia	7.8	8.0	5.0	5.7	5.1	4.9	5.4	5.4	5.2	5.2
Korea	4.9	6.1	3.0	2.1	3.6	2.8	4.1	4.2	3.9	3.9
China	11.4	9.7	8.7	7.8	7.5	7.3	7.0	6.9	6.7	6.7
Latin America	.0	4.7	4.0	3.3	1.5	1.6	2.2	2.8	3.0	3.0
Mexico	-1.2	4.5	4.2	3.4	1.0	2.6	3.2	3.1	3.2	3.2
Brazil	5.3	5.3	1.3	1.8	2.2	-.7	-.1	1.9	2.3	2.3
<b>Consumer prices<sup>2</sup></b>										
Total foreign	1.2	3.2	3.4	2.3	2.3	2.0	1.7	2.5	2.6	2.6
<i>Previous Tealbook</i>	1.2	3.2	3.4	2.3	2.3	2.1	1.9	2.5	2.7	2.7
Advanced foreign economies	.2	1.7	2.2	1.3	1.0	1.2	.8	1.6	2.0	2.0
Canada	.8	2.2	2.7	1.0	1.0	1.9	1.3	1.8	2.0	2.0
Japan	-2.0	-.3	-.3	-.2	1.4	2.5	.7	1.2	2.8	2.8
United Kingdom	2.2	3.4	4.6	2.6	2.1	.9	1.1	1.8	2.0	2.0
Euro area	.4	2.0	2.9	2.3	.8	.2	.5	1.6	1.7	1.7
Germany	.3	1.6	2.6	2.0	1.3	.4	.7	1.7	1.8	1.8
Emerging market economies	2.0	4.3	4.3	3.1	3.4	2.7	2.4	3.1	3.1	3.1
Asia	1.2	4.3	4.5	2.6	3.1	1.8	1.8	2.8	2.9	2.9
Korea	2.4	3.2	3.9	1.7	1.1	1.0	1.8	3.2	3.2	3.2
China	.6	4.6	4.6	2.1	2.9	1.5	1.5	2.5	2.5	2.5
Latin America	3.9	4.4	4.0	4.3	4.0	4.8	3.4	3.8	3.7	3.7
Mexico	4.0	4.3	3.5	4.1	3.7	4.2	2.6	3.3	3.3	3.3
Brazil	4.3	5.6	6.7	5.6	5.9	6.5	7.4	5.4	5.4	5.4

<sup>1</sup> Foreign GDP aggregates calculated using shares of U.S. exports.

<sup>2</sup> Foreign CPI aggregates calculated using shares of U.S. non-oil imports.



## Greensheets

## U.S. Current Account

## Quarterly Data

	2014				2015				Projected-----			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<i>Billions of dollars, s.a.a.r.</i>												
<b>U.S. current account balance</b>	<b>-404.4</b>	<b>-389.7</b>	<b>-399.5</b>	<b>-422.1</b>	<b>-433.6</b>	<b>-434.0</b>	<b>-484.9</b>	<b>-533.7</b>	<b>-606.7</b>	<b>-630.9</b>	<b>-690.3</b>	<b>-723.6</b>
<i>Previous Tealbook</i>	-408.5	-393.7	-401.0	-398.1	-363.4	-362.3	-410.2	-455.4	-518.1	-525.8	-576.0	-593.1
Current account as percent of GDP	-2.4	-2.2	-2.3	-2.4	-2.4	-2.4	-2.7	-2.9	-3.3	-3.4	-3.7	-3.8
<i>Previous Tealbook</i>	-2.4	-2.3	-2.3	-2.2	-2.0	-2.0	-2.2	-2.5	-2.8	-2.8	-3.0	-3.1
Net goods & services	-494.1	-520.9	-495.8	-508.1	-487.3	-485.4	-528.2	-577.0	-629.7	-669.8	-720.3	-750.9
Investment income, net	218.2	228.4	245.1	241.1	207.7	186.7	181.2	178.7	177.0	174.2	167.8	162.7
Direct, net	292.8	292.7	311.6	306.1	278.0	260.2	264.9	274.7	288.0	302.2	314.9	329.6
Portfolio, net	-74.6	-64.3	-66.4	-65.0	-70.4	-73.5	-83.7	-96.0	-111.0	-127.9	-147.0	-166.9
Other income and transfers, net	-128.5	-97.2	-148.8	-155.1	-154.0	-135.3	-137.9	-135.5	-154.0	-135.3	-137.9	-135.5

## Annual Data

	Projected-----									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	
<i>Billions of dollars</i>										
<b>U.S. current account balance</b>	<b>-380.8</b>	<b>-443.9</b>	<b>-459.3</b>	<b>-460.8</b>	<b>-400.3</b>	<b>-403.9</b>	<b>-471.5</b>	<b>-662.9</b>	<b>-788.2</b>	
<i>Previous Tealbook</i>	-380.8	-443.9	-459.3	-460.8	-400.3	-400.3	-397.8	-553.3	-650.6	
Current account as percent of GDP	-2.6	-3.0	-3.0	-2.9	-2.4	-2.3	-2.6	-3.5	-4.0	
<i>Previous Tealbook</i>	-2.6	-3.0	-3.0	-2.9	-2.4	-2.3	-2.2	-2.9	-3.3	
Net goods & services	-383.8	-494.7	-548.6	-537.6	-476.4	-504.7	-519.5	-692.7	-805.3	
Investment income, net	132.3	185.7	229.0	211.4	208.5	233.2	188.6	170.5	157.7	
Direct, net	257.7	288.0	298.6	281.6	290.9	300.8	269.5	308.7	378.6	
Portfolio, net	-125.4	-102.3	-69.5	-70.2	-82.3	-67.6	-80.9	-138.2	-220.8	
Other income and transfers, net	-129.3	-135.0	-139.8	-134.6	-132.4	-132.4	-140.7	-140.7	-140.7	

## Abbreviations

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ABS	asset-backed securities
AFE	advanced foreign economy
BHC	bank holding company
BOC	Bank of Canada
CDS	credit default swaps
CLO	collateralized loan obligation
CMBS	commercial mortgage-backed securities
CPI	consumer price index
CRE	commercial real estate
Desk	Open Market Desk
DNB	Danish National Bank
DSGE	dynamic stochastic general equilibrium
ECB	European Central Bank
EFF	Extended Fund Facility
EME	emerging market economy
FOMC	Federal Open Market Committee; also, the Committee
FRB	Federal Reserve Board
GC	general collateral
GDP	gross domestic product
IMF	International Monetary Fund
JOLTS	Job Openings and Labor Turnover Survey
MBS	mortgage-backed securities
OIS	overnight index swap
ON RRP	overnight reverse repurchase agreement
PCE	personal consumption expenditures
PMI	purchasing managers index
PRISM	Philadelphia Research Intertemporal Stochastic Model
QE	quantitative easing

repo	repurchase agreement
RRP	reverse repurchase agreement
SNB	Swiss National Bank
SOMA	System Open Market Account
S&P	Standard & Poor's
SPF	Survey of Professional Forecasters
TDF	Term Deposit Facility
TIPS	Treasury Inflation-Protected Securities

Class I FOMC – Restricted Controlled (FR)

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# Report to the FOMC on Economic Conditions and Monetary Policy



## Book B Monetary Policy: Strategies and Alternatives

March 12, 2015

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Prepared for the Federal Open Market Committee  
by the staff of the Board of Governors of the Federal Reserve System

## Policy Rules and the Staff Projection

### Near-Term Prescriptions of Selected Policy Rules

	<u>2015Q2</u>	<u>2015Q3</u>
Taylor (1993) rule	<b>1.85</b>	<b>1.95</b>
<i>Previous Tealbook</i>	2.02	2.20
Taylor (1999) rule	<b>1.49</b>	<b>1.67</b>
<i>Previous Tealbook</i>	1.69	2.00
Inertial Taylor (1999) rule	<b>0.33</b>	<b>0.53</b>
<i>Previous Tealbook outlook</i>	0.36	0.61
First-difference rule	<b>0.22</b>	<b>0.29</b>
<i>Previous Tealbook outlook</i>	0.38	0.66

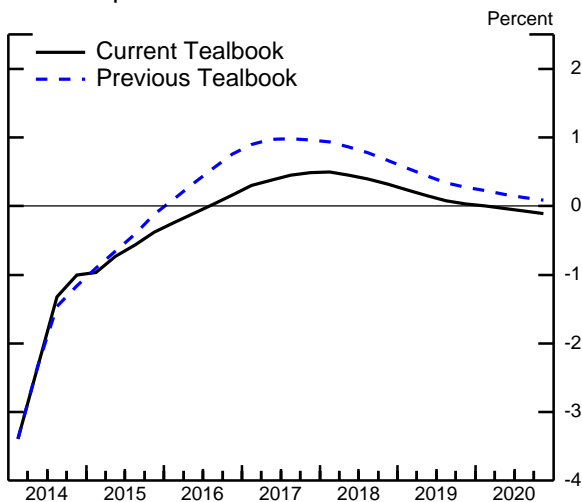
### Memo: Equilibrium and Actual Real Federal Funds Rates

	<i>Current Tealbook</i>	<i>Previous Tealbook</i>
Tealbook-consistent FRB/US $r^*$ estimate	-0.82	-0.56
Actual real federal funds rate	-1.27	-1.28

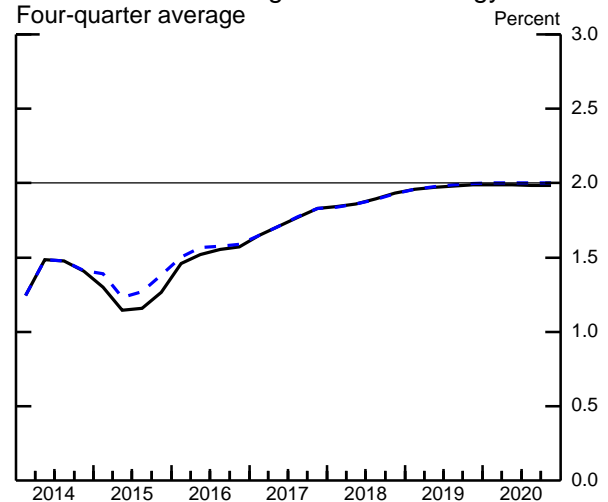
Note: The lines denoted "Previous Tealbook outlook" report rule prescriptions based on the previous Tealbook's staff outlook using the current rule specifications, which have intercept terms that have been adjusted, where applicable, to reflect the staff's downward revision to the longer-run real federal funds rate. Rules that have the lagged policy rate as a right-hand-side variable jump off from the average value of the policy rate thus far in the current quarter.

## Key Elements of the Staff Projection

GDP Gap

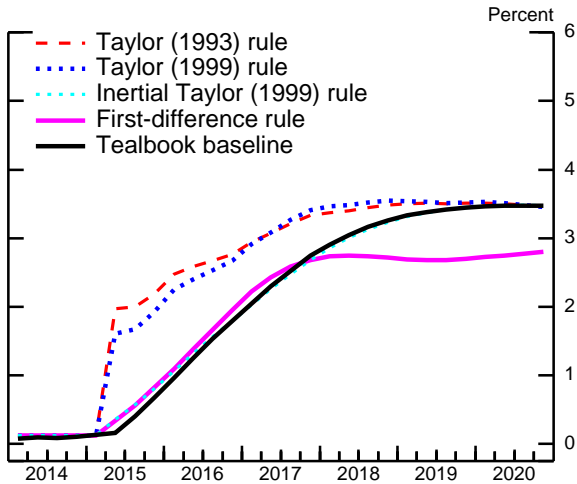


PCE Prices Excluding Food and Energy  
Four-quarter average

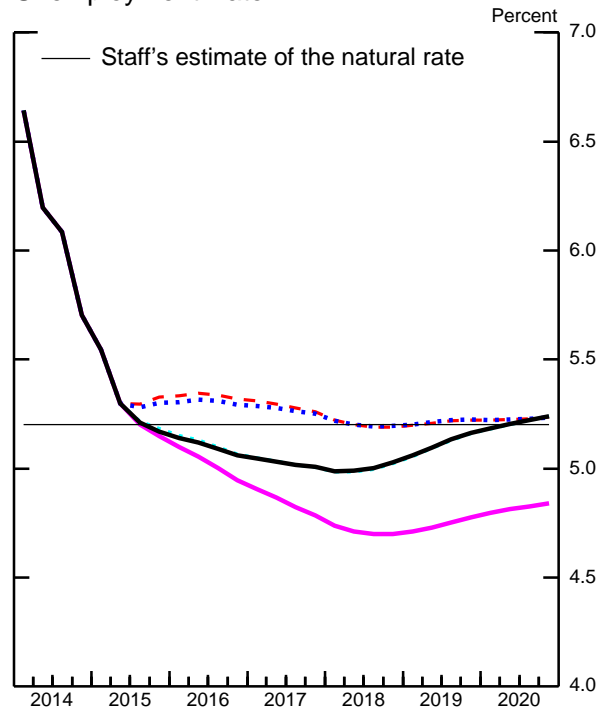


## Policy Rule Simulations

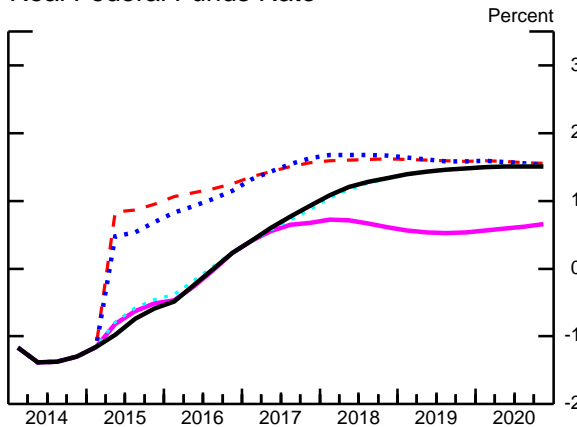
Effective Nominal Federal Funds Rate



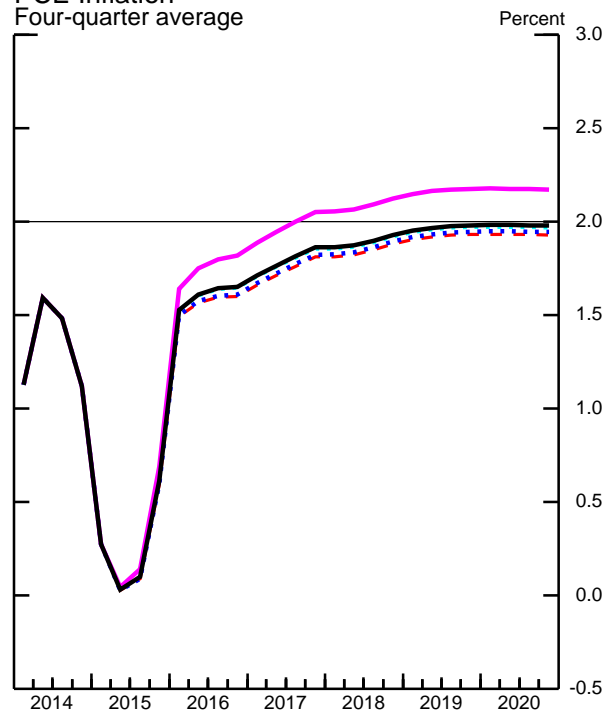
Unemployment Rate



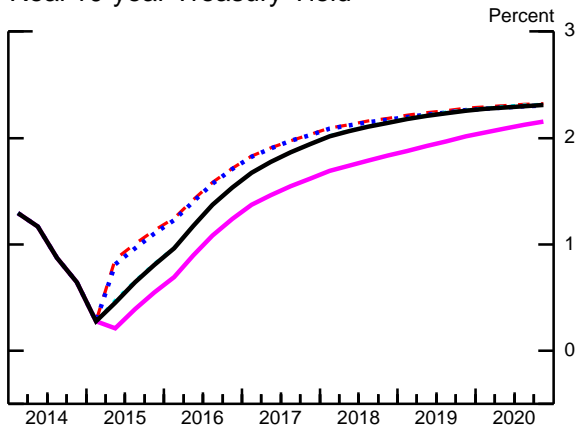
Real Federal Funds Rate



PCE Inflation  
Four-quarter average



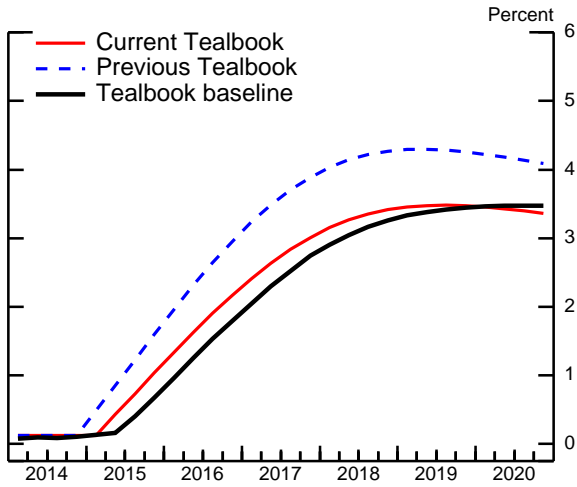
Real 10-year Treasury Yield



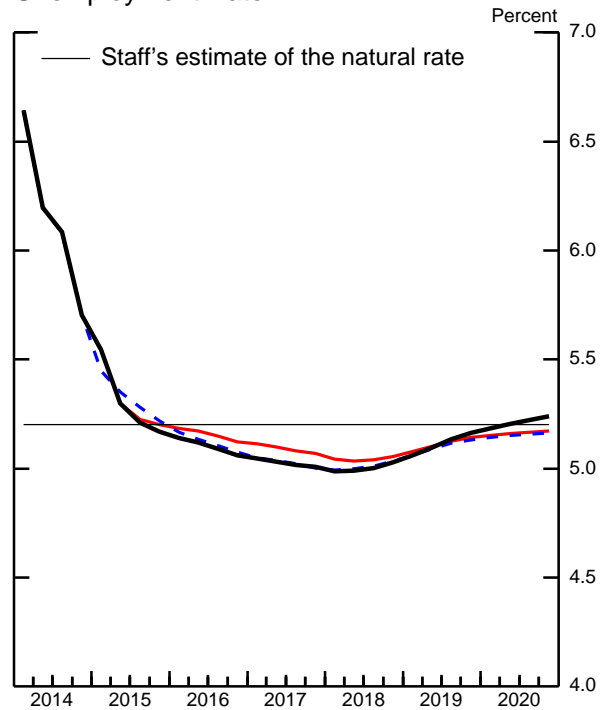
Note: The policy rule simulations in this exhibit are based on rules that respond to core inflation. This choice of rule specification was made in light of the tendency for current and near-term core inflation rates to outperform headline inflation rates as predictors of the medium-term behavior of headline inflation.

## Optimal Control Policy under Commitment

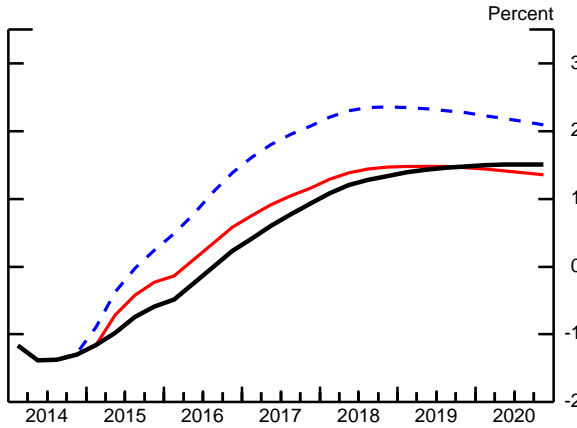
Effective Nominal Federal Funds Rate



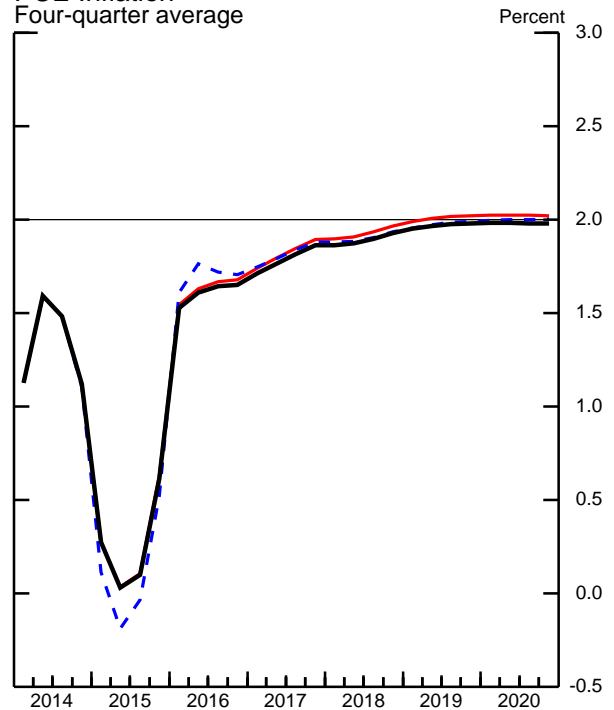
Unemployment Rate



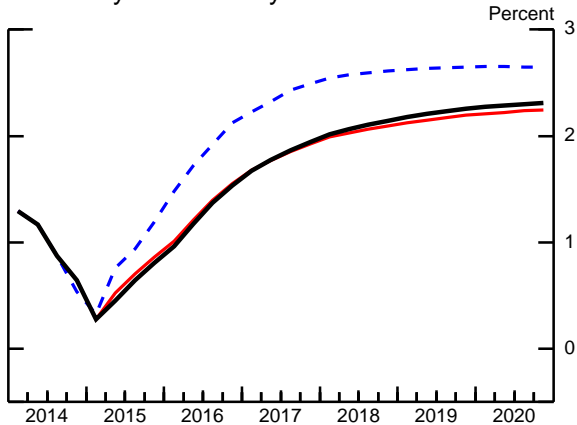
Real Federal Funds Rate



PCE Inflation  
Four-quarter average

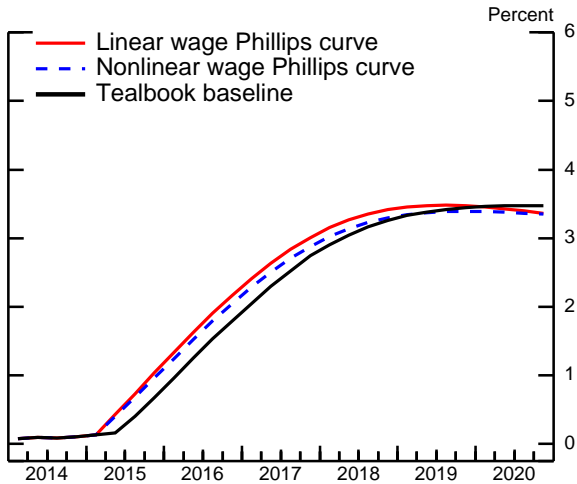


Real 10-year Treasury Yield

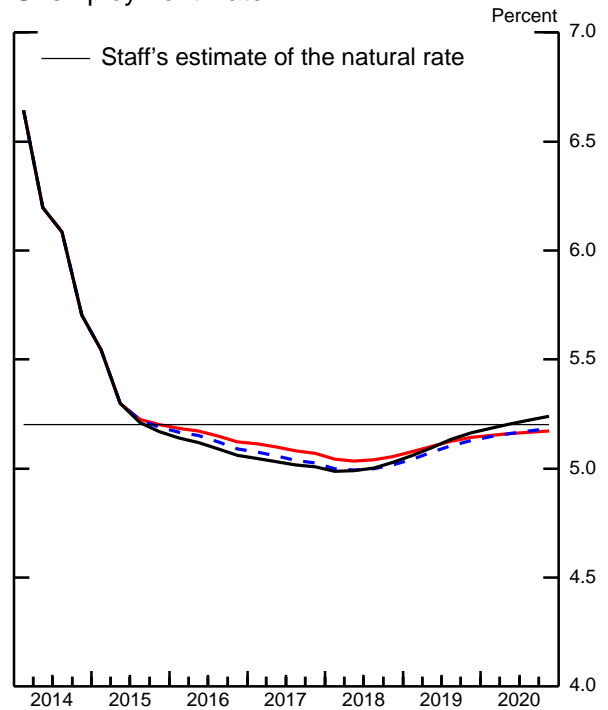


## Optimal Control with a Nonlinear Wage Phillips Curve

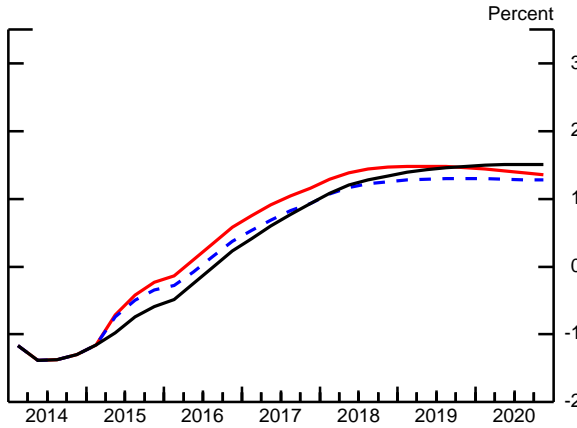
Effective Nominal Federal Funds Rate



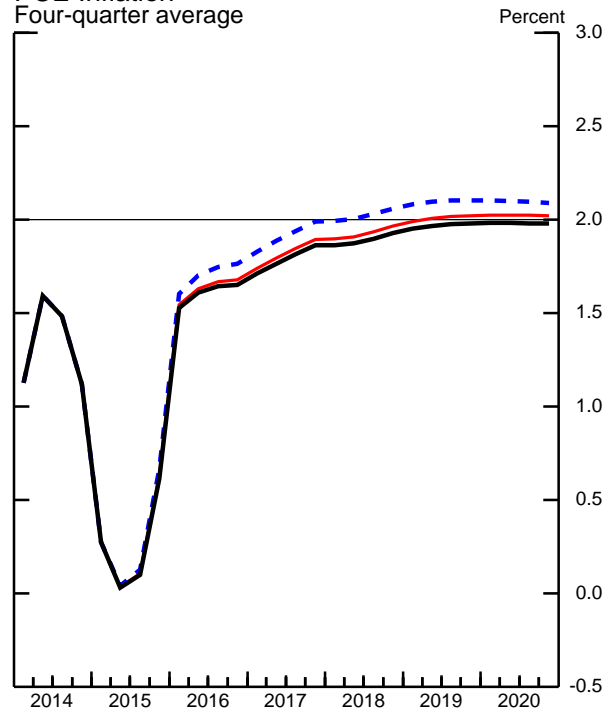
Unemployment Rate



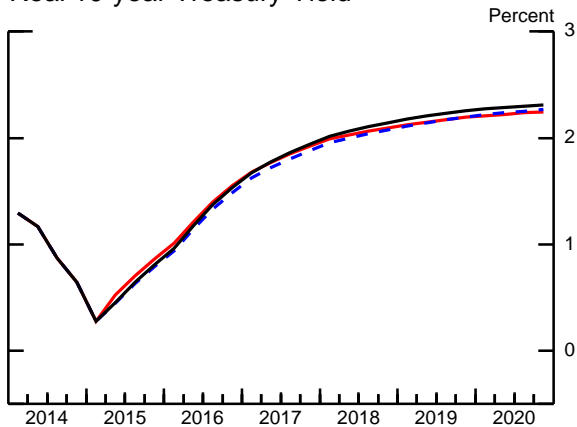
Real Federal Funds Rate



PCE Inflation  
Four-quarter average



Real 10-year Treasury Yield



Note: The nonlinear wage Phillips curve assumes that wage inflation is four times as responsive to the unemployment rate gap when the unemployment rate is below the staff's estimate of the natural rate than when it is above.



**Outcomes under Alternative Policies**

(Percent change, annual rate, from end of preceding period except as noted)

Measure and policy	2015		2016	2017	2018	2019
	H1	H2				
<i>Real GDP</i>						
Extended Tealbook baseline <sup>1</sup>	2.2	2.3	2.3	2.0	1.6	1.5
Taylor (1993)	2.2	1.9	2.0	2.1	1.8	1.7
Taylor (1999)	2.2	1.9	2.0	2.0	1.8	1.7
Inertial Taylor (1999)	2.2	2.3	2.3	2.1	1.6	1.5
First-difference	2.2	2.5	2.5	2.3	1.9	1.7
Optimal control	2.2	2.2	2.2	2.1	1.7	1.6
<i>Unemployment rate<sup>2</sup></i>						
Extended Tealbook baseline <sup>1</sup>	5.3	5.2	5.1	5.0	5.0	5.2
Taylor (1993)	5.3	5.3	5.3	5.3	5.2	5.2
Taylor (1999)	5.3	5.3	5.3	5.3	5.2	5.2
Inertial Taylor (1999)	5.3	5.2	5.1	5.0	5.0	5.2
First-difference	5.3	5.1	4.9	4.8	4.7	4.8
Optimal control	5.3	5.2	5.1	5.1	5.1	5.1
<i>Total PCE prices</i>						
Extended Tealbook baseline <sup>1</sup>	-0.3	1.6	1.7	1.9	1.9	2.0
Taylor (1993)	-0.3	1.5	1.6	1.8	1.9	1.9
Taylor (1999)	-0.3	1.5	1.6	1.8	1.9	1.9
Inertial Taylor (1999)	-0.3	1.6	1.6	1.9	1.9	2.0
First-difference	-0.3	1.7	1.8	2.1	2.1	2.2
Optimal control	-0.3	1.6	1.7	1.9	2.0	2.0
<i>Core PCE prices</i>						
Extended Tealbook baseline <sup>1</sup>	1.1	1.5	1.6	1.8	1.9	2.0
Taylor (1993)	1.1	1.4	1.5	1.8	1.9	1.9
Taylor (1999)	1.1	1.4	1.5	1.8	1.9	2.0
Inertial Taylor (1999)	1.1	1.5	1.6	1.8	1.9	2.0
First-difference	1.1	1.6	1.7	2.0	2.1	2.2
Optimal control	1.1	1.5	1.6	1.9	2.0	2.0
<i>Effective nominal federal funds rate<sup>2</sup></i>						
Extended Tealbook baseline <sup>1</sup>	0.2	0.7	1.8	2.7	3.3	3.4
Taylor (1993)	2.0	2.2	2.8	3.3	3.5	3.5
Taylor (1999)	1.6	1.9	2.7	3.4	3.5	3.5
Inertial Taylor (1999)	0.4	0.8	1.8	2.7	3.2	3.4
First-difference	0.3	0.8	2.0	2.7	2.7	2.7
Optimal control	0.4	1.0	2.2	3.0	3.4	3.5

1. In the Tealbook baseline, the federal funds rate first departs from an effective lower bound of 12½ basis points in the second quarter of 2015. Thereafter, the federal funds rate follows the prescriptions of the inertial Taylor (1999) rule.

2. Percent, average for the final quarter of the period.

**Outcomes under Alternative Policies, Quarterly**

(Four-quarter percentage change, except as noted)

Measure and policy	2015				2016			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<i>Real GDP</i>								
Extended Tealbook baseline <sup>1</sup>	3.5	3.0	2.5	2.7	2.8	2.7	2.7	2.6
Taylor (1993)	3.5	3.0	2.3	2.4	2.4	2.3	2.4	2.3
Taylor (1999)	3.5	3.0	2.3	2.5	2.5	2.3	2.4	2.3
Inertial Taylor (1999)	3.5	3.0	2.5	2.7	2.8	2.7	2.7	2.6
First-difference	3.5	3.0	2.5	2.7	2.8	2.8	2.8	2.7
Optimal control	3.7	3.2	2.6	2.7	2.6	2.6	2.6	2.6
<i>Unemployment rate<sup>2</sup></i>								
Extended Tealbook baseline <sup>1</sup>	5.5	5.4	5.3	5.2	5.1	5.1	5.0	5.0
Taylor (1993)	5.5	5.4	5.4	5.4	5.3	5.3	5.3	5.2
Taylor (1999)	5.5	5.4	5.4	5.3	5.3	5.3	5.3	5.2
Inertial Taylor (1999)	5.5	5.4	5.3	5.2	5.1	5.1	5.0	5.0
First-difference	5.5	5.4	5.3	5.2	5.1	5.1	5.0	5.0
Optimal control	5.4	5.3	5.3	5.2	5.1	5.1	5.1	5.0
<i>Total PCE prices</i>								
Extended Tealbook baseline <sup>1</sup>	0.3	0.1	0.2	0.7	1.6	1.7	1.7	1.7
Taylor (1993)	0.3	0.1	0.2	0.7	1.6	1.7	1.7	1.7
Taylor (1999)	0.3	0.1	0.2	0.7	1.6	1.7	1.7	1.7
Inertial Taylor (1999)	0.3	0.1	0.2	0.8	1.7	1.7	1.8	1.8
First-difference	0.3	0.1	0.2	0.8	1.8	1.9	1.9	1.9
Optimal control	0.1	-0.1	0.0	0.6	1.8	1.9	1.9	1.9
<i>Core PCE prices</i>								
Extended Tealbook baseline <sup>1</sup>	1.3	1.2	1.2	1.4	1.6	1.6	1.6	1.6
Taylor (1993)	1.3	1.2	1.2	1.3	1.5	1.6	1.6	1.6
Taylor (1999)	1.3	1.2	1.2	1.3	1.5	1.6	1.6	1.6
Inertial Taylor (1999)	1.3	1.2	1.2	1.4	1.6	1.6	1.7	1.7
First-difference	1.3	1.2	1.3	1.5	1.7	1.8	1.8	1.8
Optimal control	1.4	1.3	1.3	1.5	1.6	1.7	1.7	1.8
<i>Effective nominal federal funds rate<sup>2</sup></i>								
Extended Tealbook baseline <sup>1</sup>	0.1	0.2	0.5	0.9	1.2	1.6	1.9	2.2
Taylor (1993)	0.1	2.2	2.3	2.6	2.9	3.0	3.1	3.2
Taylor (1999)	0.1	1.7	1.9	2.3	2.7	2.9	3.0	3.2
Inertial Taylor (1999)	0.1	0.4	0.6	0.9	1.3	1.6	1.9	2.2
First-difference	0.1	0.5	0.9	1.3	1.6	2.0	2.4	2.7
Optimal control	0.4	0.8	1.1	1.4	1.8	2.1	2.4	2.8

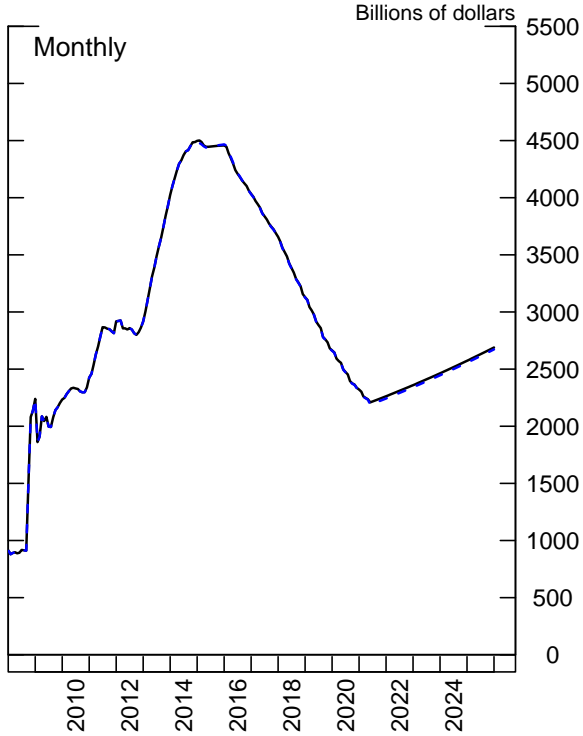
1. In the Tealbook baseline, the federal funds rate first departs from an effective lower bound of 12½ basis points in the second quarter of 2015. Thereafter, the federal funds rate follows the prescriptions of the inertial Taylor (1999) rule.

2. Percent, average for the quarter.

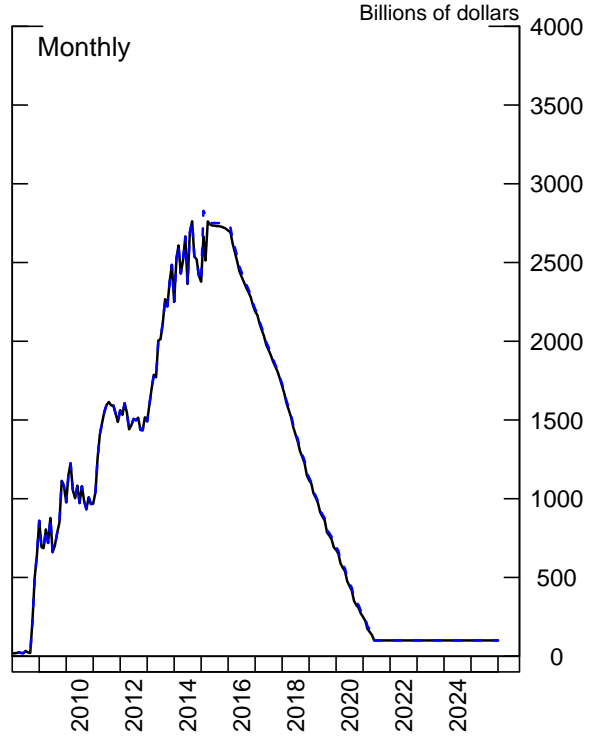
# Total Assets and Selected Balance Sheet Items

— March Tealbook — January Tealbook

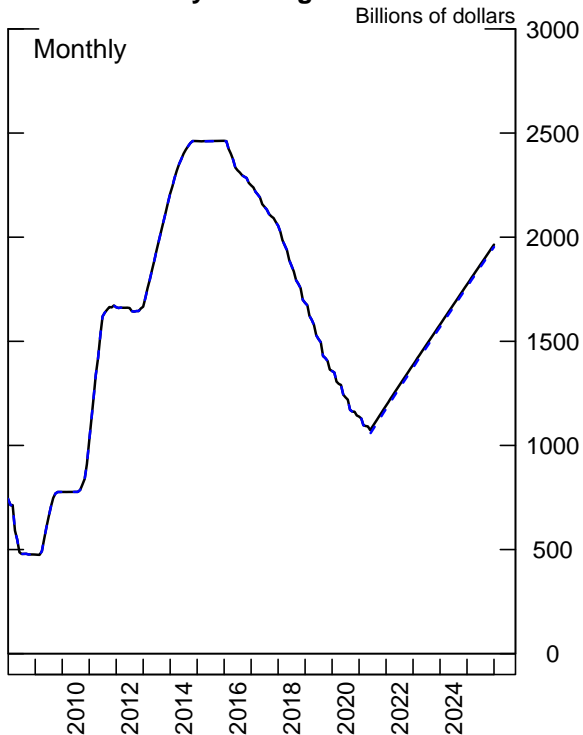
## Total Assets



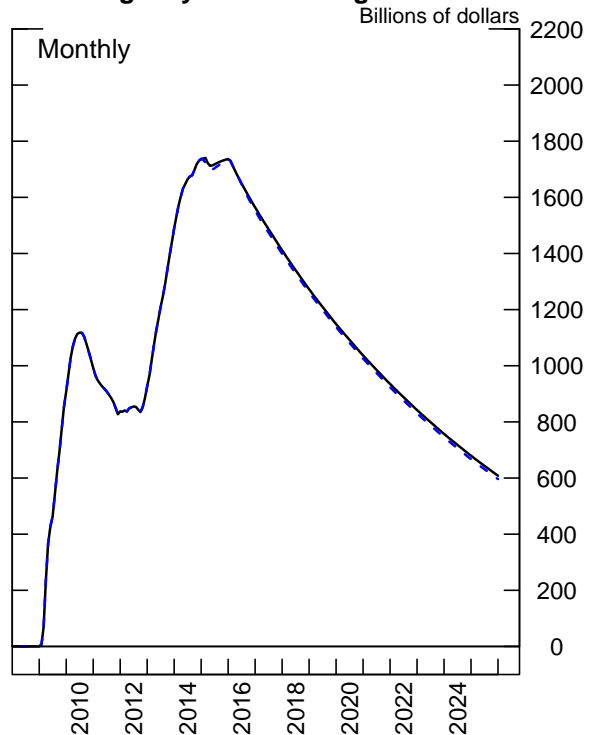
## Reserve Balances



## SOMA Treasury Holdings



## SOMA Agency MBS Holdings



Projections

**Federal Reserve Balance Sheet**  
**End-of-Year Projections -- March Tealbook**  
 (Billions of dollars)

	Feb 28, 2015	2015	2017	2019	2021	2023	2025
Total assets	4,488	4,458	3,658	2,664	2,262	2,463	2,689
Selected assets							
Loans and other credit extensions*	2	0	0	0	0	0	0
Securities held outright	4,237	4,232	3,471	2,508	2,128	2,340	2,575
U.S. Treasury securities	2,460	2,463	2,056	1,357	1,191	1,580	1,964
Agency debt securities	37	33	4	2	2	2	2
Agency mortgage-backed securities	1,740	1,737	1,412	1,149	935	757	608
Unamortized premiums	204	191	148	115	91	79	69
Unamortized discounts	-18	-17	-13	-11	-8	-7	-6
Total other assets	42	44	44	44	44	44	44
Total liabilities	4,430	4,398	3,586	2,573	2,147	2,318	2,505
Selected liabilities							
Federal Reserve notes in circulation	1,307	1,375	1,550	1,678	1,827	1,997	2,185
Reverse repurchase agreements	340	235	235	135	135	135	135
Deposits with Federal Reserve Banks	2,776	2,783	1,796	756	180	180	180
Reserve balances held by depository institutions	2,513	2,703	1,716	675	100	100	100
U.S. Treasury, General Account	35	75	75	75	75	75	75
Other deposits	228	5	5	5	5	5	5
Interest on Federal Reserve Notes due to U.S. Treasury	2	0	0	0	0	0	0
Total capital	58	60	72	91	115	145	184

Projections

Source: Federal Reserve H.4.1 statistical releases and staff calculations.

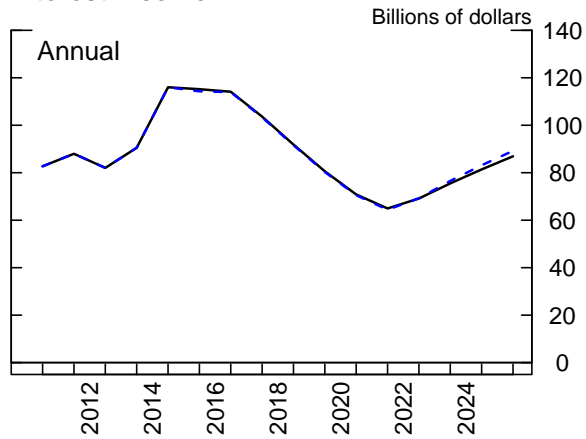
Note: Components may not sum to totals due to rounding.

\*Loans and other credit extensions includes primary, secondary, and seasonal credit; central bank liquidity swaps; and net portfolio holdings of Maiden Lane LLC.

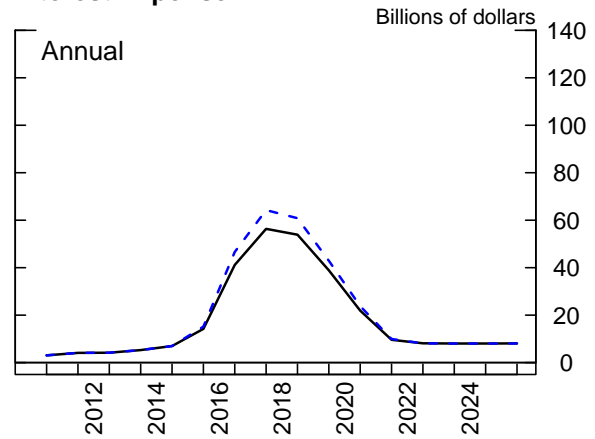
## Income Projections

— March Tealbook    - - - January Tealbook

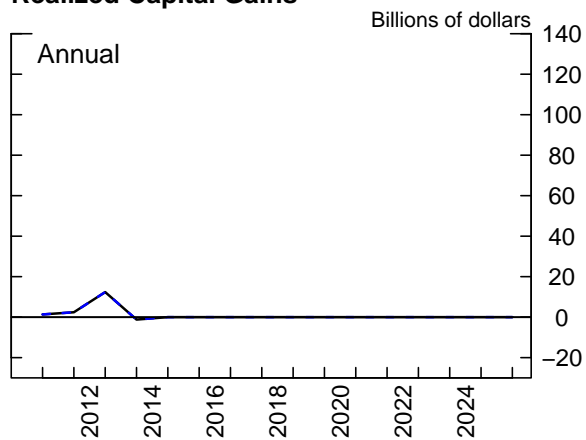
### Interest Income



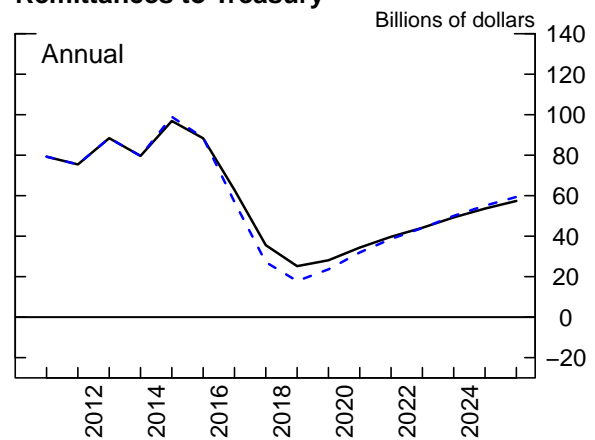
### Interest Expense



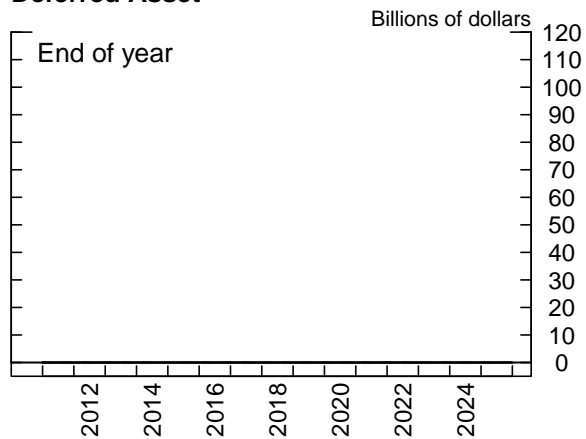
### Realized Capital Gains



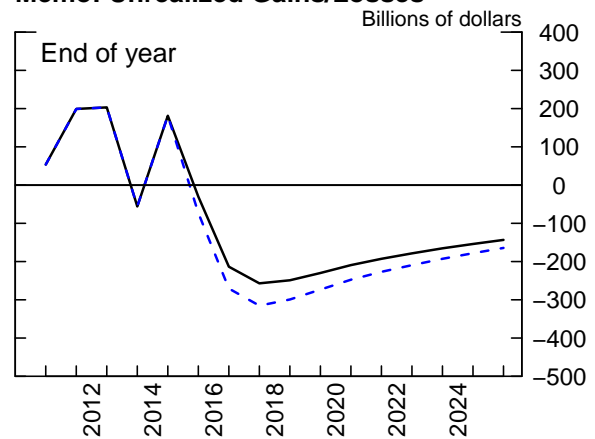
### Remittances to Treasury



### Deferred Asset



### Memo: Unrealized Gains/Losses



Projections

**Projections for the 10-Year Treasury Term Premium Effect**  
(Basis Points)

Date	March Tealbook	January Tealbook
Quarterly Averages		
2015:Q1	-113	-112
Q2	-108	-107
Q3	-103	-102
Q4	-98	-97
2016:Q1	-94	-92
Q2	-89	-88
Q3	-85	-83
Q4	-81	-79
2017:Q4	-66	-64
2018:Q4	-54	-53
2019:Q4	-45	-44
2020:Q4	-38	-36
2021:Q4	-32	-31
2022:Q4	-28	-26
2023:Q4	-23	-21
2024:Q4	-18	-17
2025:Q4	-13	-12

**Projections for the Monetary Base**  
(Percent change, annual rate; not seasonally adjusted)

Date	March Tealbook	January Tealbook
<i>Quarterly</i>		
2015:Q1	1.7	36.3
Q2	13.3	4.2
Q3	0.2	0.7
Q4	0.4	1.1
2016:Q1	-4.3	-3.7
Q2	-13.9	-13.1
Q3	-11.0	-10.8
Q4	-9.1	-9.0
<i>Annual</i>		
2017	-10.3	-9.7
2018	-15.6	-14.5
2019	-14.4	-13.2
2020	-14.9	-13.4
2021	-5.5	-5.6
2022	4.2	3.8
2023	4.3	3.9
2024	4.3	3.9
2025	4.3	3.9

Note: For years, Q4 to Q4; for quarters, calculated from corresponding average levels.

M2 Monetary Aggregate Projections (Percent change, annual rate; seasonally adjusted)*		
<i>Quarterly</i>		
2015:	Q1	8.0
	Q2	2.9
	Q3	-3.6
	Q4	-2.8
2016:	Q1	-1.4
	Q2	0.0
	Q3	0.6
	Q4	0.9
2017:	Q1	1.5
	Q2	1.9
	Q3	2.1
	Q4	2.2
<i>Annual</i>		
	2015	1.1
	2016	0.0
	2017	2.0

Note: This forecast is consistent with nominal GDP and interest rates in the Tealbook forecast. Actual data through March 2, 2015; projections thereafter.

\* Quarterly growth rates are computed from quarter averages. Annual growth rates are calculated using the change from fourth quarter of previous year to fourth quarter of year indicated.



## Abbreviations

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ABS	asset-backed securities
BEA	Bureau of Economic Analysis, Department of Commerce
BHC	bank holding company
CDS	credit default swaps
C&I	commercial and industrial
CLO	collateralized loan obligation
CMBS	commercial mortgage-backed securities
CPI	consumer price index
CRE	commercial real estate
Desk	Open Market Desk
ECB	European Central Bank
EME	emerging market economy
FDIC	Federal Deposit Insurance Corporation
FOMC	Federal Open Market Committee; also, the Committee
GCF	general collateral finance
GDI	gross domestic income
GDP	gross domestic product
LIBOR	London interbank offered rate
MBS	mortgage-backed securities
NIPA	national income and product accounts
OIS	overnight index swap
ON RRP	overnight reverse repurchase agreement
PCE	personal consumption expenditures
repo	repurchase agreement
RMBS	residential mortgage-backed securities
RRP	reverse repurchase agreement
SCOOS	Senior Credit Officer Opinion Survey on Dealer Financing Terms

SEP	Summary of Economic Projections
SFA	Supplemental Financing Account
SLOOS	Senior Loan Officer Opinion Survey on Bank Lending Practices
SOMA	System Open Market Account
TBA	to be announced (for example, TBA market)
TGA	U.S. Treasury's General Account
TIPS	Treasury inflation-protected securities
TPE	Term premium effects