

Prefatory Note

The attached document represents the most complete and accurate version available based on original files from the FOMC Secretariat at the Board of Governors of the Federal Reserve System.

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Class II FOMC – Restricted (FR)

Report to the FOMC on Economic Conditions and Monetary Policy



Book A Economic and Financial Conditions: Current Situation and Outlook

July 22, 2015

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

Comparing the Staff Projection with Other Forecasts

The staff's projection for real GDP growth is somewhat lower than the most recent Blue Chip Consensus outlook (from early this month) and the median projection from the Survey of Professional Forecasters (from mid-May). The staff's forecast of the unemployment rate is a little higher than those of the outside forecasters; the staff's inflation projection is a bit lower.

Comparison of Tealbook and Outside Forecasts

	2015	2016
GDP (Q4/Q4 percent change)		
July Tealbook	1.5	2.3
Blue Chip (7/10/15)	2.2	2.7
SPF median (5/15/15)	2.2	n.a.
Unemployment rate (Q4 level)		
July Tealbook	5.2	5.2
Blue Chip (7/10/15)	5.1	4.8
SPF median (5/15/15)	5.2	n.a.
Consumer price inflation (Q4/Q4 percent change)		
July Tealbook	.4	2.1
Blue Chip (7/10/15)	.9	2.3
SPF median (5/15/15)	.7	2.1
PCE price inflation (Q4/Q4 percent change)		
July Tealbook	.3	1.6
SPF median (5/15/15)	.8	1.9
Core PCE price inflation (Q4/Q4 percent change)		
July Tealbook	1.3	1.5
SPF median (5/15/15)	1.4	1.7

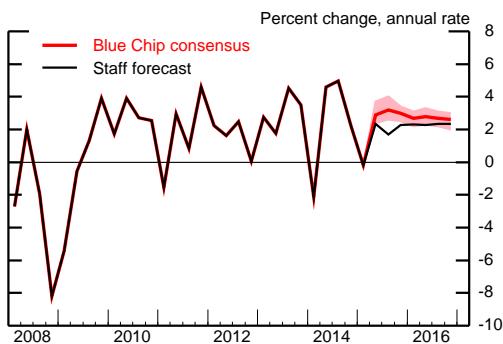
Note: SPF is the Survey of Professional Forecasters. Blue Chip does not provide results for PCE price inflation. The Blue Chip Consensus contains about 50 panelists, and the SPF about 40. Roughly 20 panelists contribute to both surveys.

n.a. Not available.

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

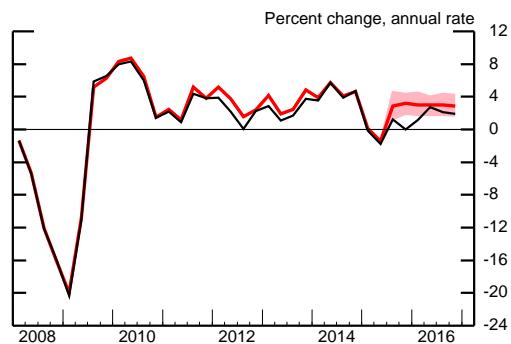
Tealbook Forecast Compared with Blue Chip
 (Blue Chip survey released July 10, 2015)

Real GDP



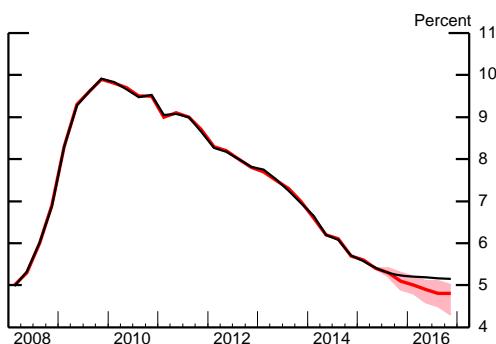
Note: The shaded area represents the area between the Blue Chip top 10 and bottom 10 averages.

Industrial Production

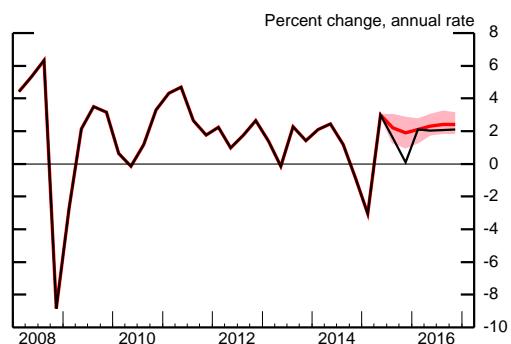


Note: Historical revisions to the IP data were published after the latest Blue Chip survey.

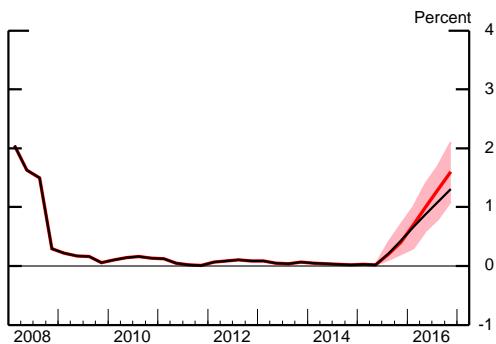
Unemployment Rate



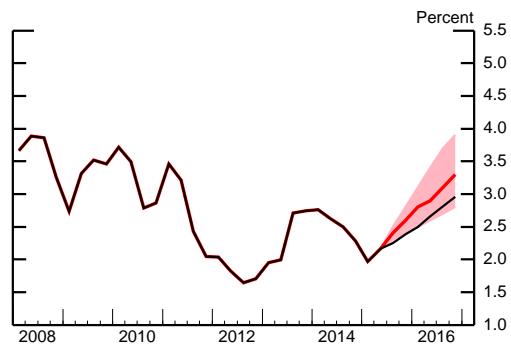
Consumer Price Index



Treasury Bill Rate



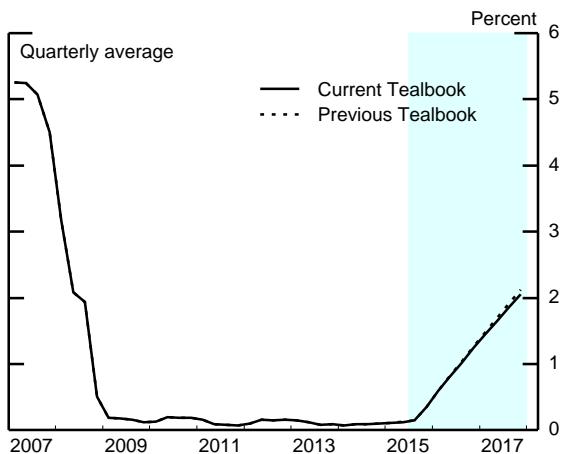
10-Year Treasury Yield



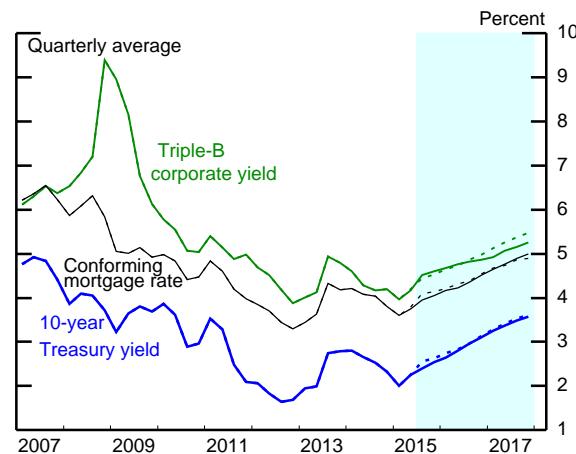
Note: The yield is for on-the-run Treasury securities. Over the forecast period, the staff's projected yield is assumed to be 15 basis points below the off-the-run yield.

Key Background Factors underlying the Baseline Staff Projection

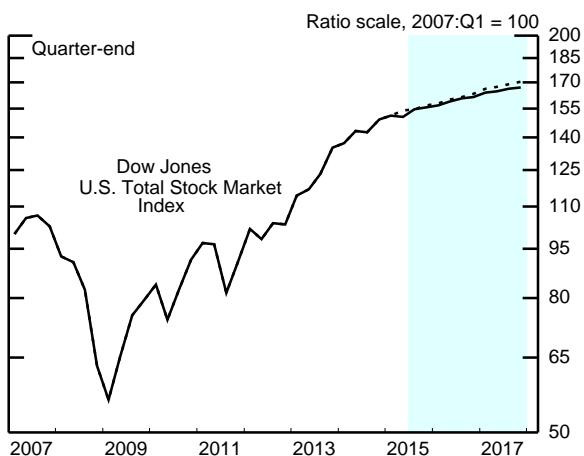
Federal Funds Rate



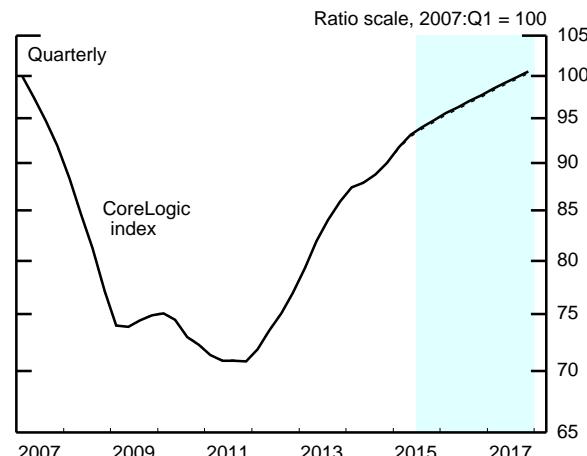
Long-Term Interest Rates



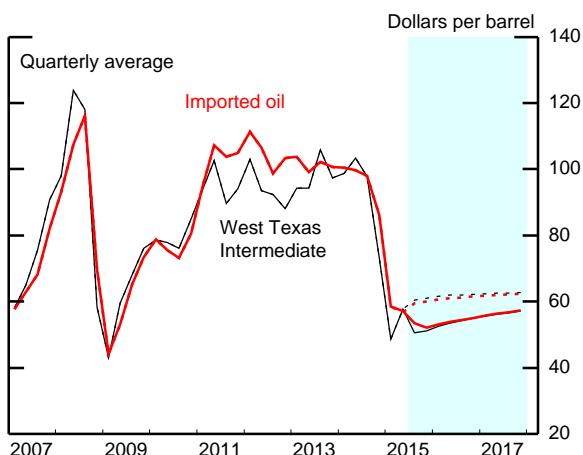
Equity Prices



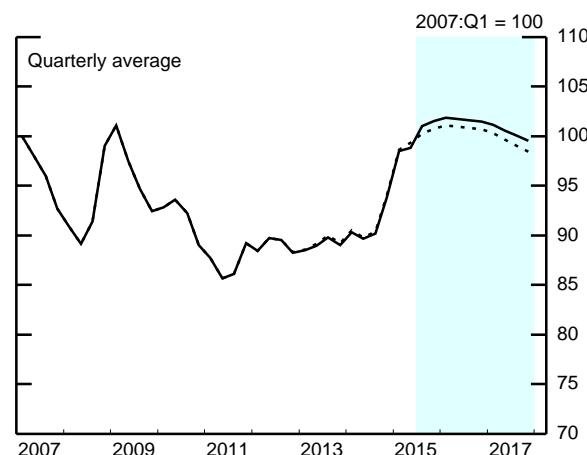
House Prices



Crude Oil Prices



Broad Real Dollar



Federal Reserve System Nowcasts of 2015:Q2 Real GDP Growth
 (Percent change at annual rate from previous quarter)

Federal Reserve entity	Type of model	Nowcast as of July 21, 2015
Federal Reserve Bank New York	<ul style="list-style-type: none"> Factor-augmented autoregressions Factor-augmented autoregressions (financials only) New dynamic factor model 	1.9 2.0 2.1
Cleveland	<ul style="list-style-type: none"> Bayesian regressions with stochastic volatility Tracking model 	2.4 1.7
Atlanta	<ul style="list-style-type: none"> Tracking model combined with Bayesian vector autoregressions (VARs), dynamic factor models, and factor-augmented autoregressions (known as GDPNow) 	2.4
Chicago	<ul style="list-style-type: none"> Dynamic factor models Bayesian VARs 	2.1 3.1
St. Louis	<ul style="list-style-type: none"> Dynamic factor models News index model Let-the-data-decide regressions 	2.6 3.8 2.6
Minneapolis	Bayesian VARs	1.6
Kansas City	Judgmental tracking model	2.0
Board of Governors	<ul style="list-style-type: none"> Board staff's forecast (judgmental tracking model)¹ Dynamic factor models 	2.4 2.0
Memo: Median of Federal Reserve System nowcasts		2.1

1. The July Tealbook forecast, which incorporates data received after July 21, is also 2.4 percent.

Summary of the Near-Term Outlook

(Percent change at annual rate except as noted)

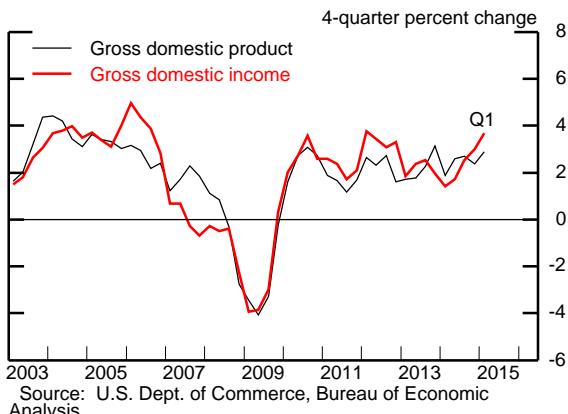
Measure	2015:Q2		2015:Q3		2015:H2	
	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook
Real GDP	2.5	2.4	1.9	1.7	2.1	2.0
Private domestic final purchases	2.8	3.0	3.3	3.0	3.5	3.2
Personal consumption expenditures	2.8	2.8	3.4	2.9	3.4	3.1
Residential investment	11.3	8.4	6.8	5.8	6.5	5.4
Nonres. private fixed investment	1.0	2.5	2.0	2.6	2.8	2.9
Government purchases	1.3	1.1	.3	.2	.4	.4
<i>Contributions to change in real GDP</i>						
Inventory investment ¹	.1	-.1	-.1	-.1	-.2	.0
Net exports ¹	-.2	-.2	-.9	-.8	-.7	-.7
Unemployment rate²	5.5	5.4	5.4	5.3	5.3	5.2
PCE chain price index	1.9	2.0	1.4	1.2	1.3	.7
Ex. food and energy	1.6	1.7	1.5	1.4	1.4	1.4

1. Percentage points.

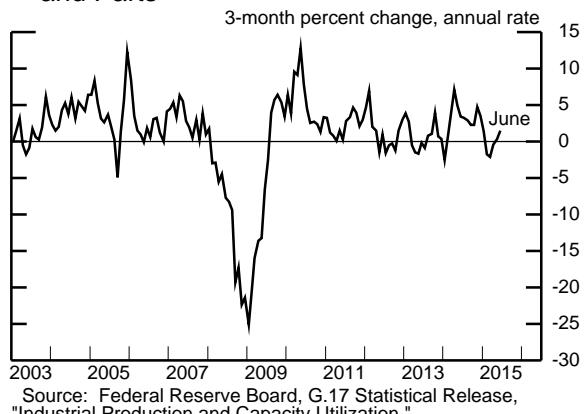
2. Percent; 2015:Q4 values are used for 2015:H2.

Recent Nonfinancial Developments (1)

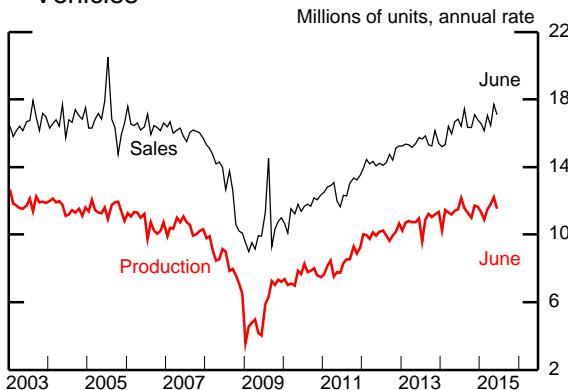
Real GDP and GDI



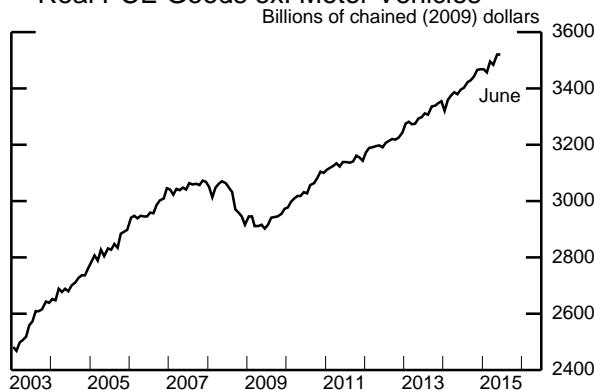
Manufacturing IP ex. Motor Vehicles and Parts



Sales and Production of Light Motor Vehicles

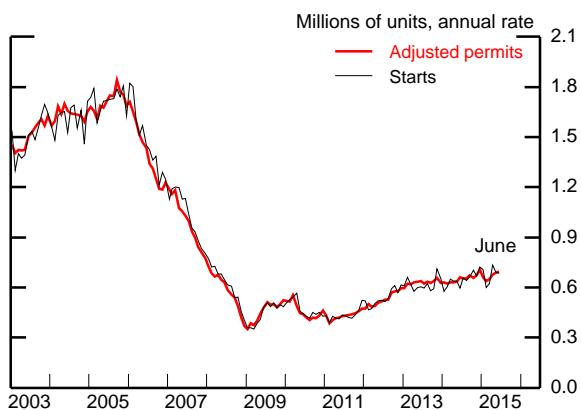


Real PCE Goods ex. Motor Vehicles



Recent Nonfinancial Developments (2)

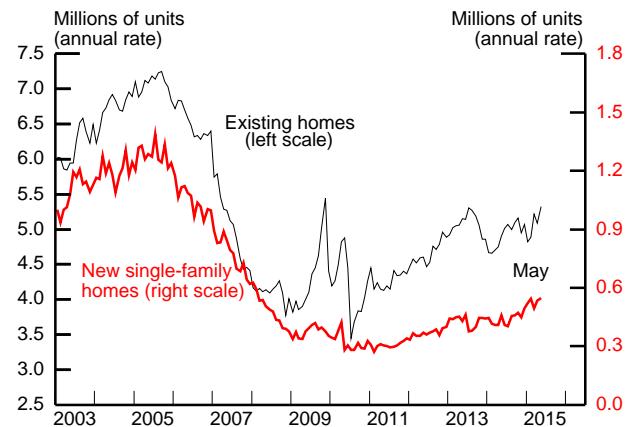
Single-Family Housing Starts and Permits



Note: Adjusted permits equal permit issuance plus total starts outside of permit-issuing areas.

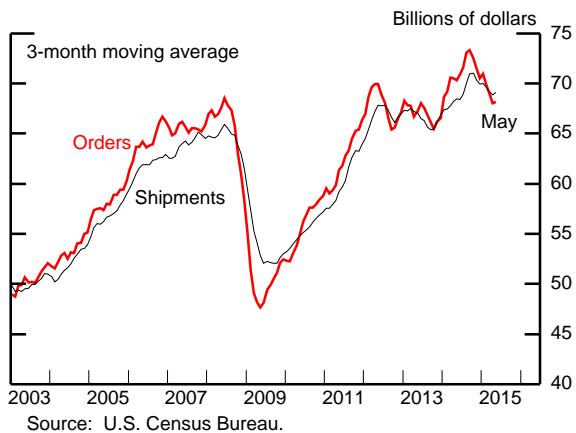
Source: U.S. Census Bureau.

Home Sales



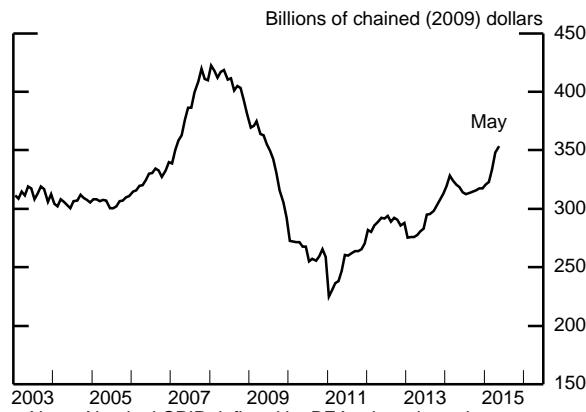
Source: For existing, National Association of Realtors; for new, U.S. Census Bureau.

Nondefense Capital Goods ex. Aircraft



Source: U.S. Census Bureau.

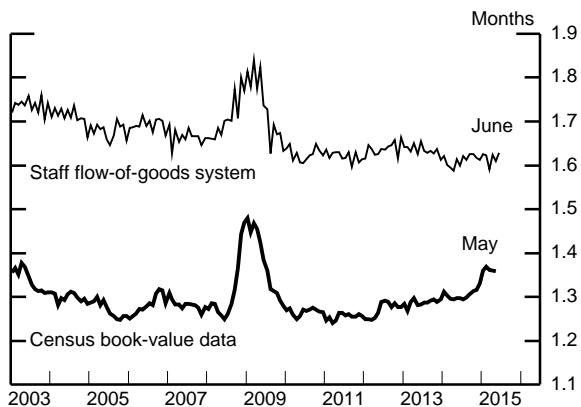
Nonresidential Construction Put in Place



Note: Nominal CPIP deflated by BEA prices through 2015:Q1 and by the staff's estimated deflator thereafter.

Source: U.S. Census Bureau.

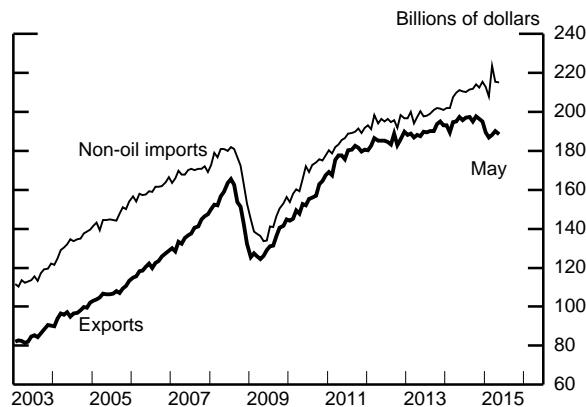
Inventory Ratios



Note: Flow-of-goods system inventories include manufacturing and mining industries and are relative to consumption. Census data cover manufacturing and trade, and inventories are relative to sales.

Source: U.S. Census Bureau; staff calculations.

Exports and Non-oil Imports



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

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	.6	1.5	1.6	1.6
Previous Tealbook	3.1	3.4	2.6	1.7	1.6	.5	1.6	1.7	1.7
<i>Selected contributions</i> ¹									
Structural labor productivity ²	1.6	2.9	2.8	1.5	1.2	.5	1.3	1.4	1.4
Previous Tealbook	1.6	2.9	2.8	1.5	1.2	.5	1.5	1.6	1.6
Capital deepening	.7	1.5	.9	.5	.4	.6	.7	.8	.8
Multifactor productivity	.7	1.1	1.6	.9	.7	-.2	.5	.5	.5
Structural hours	1.5	1.0	.7	.2	.7	.8	.5	.4	.4
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 ³	-1.8	2.5	.9	-4.4	-2.8	-1.0	-1.0	-.4	.1
Previous Tealbook	-1.8	2.5	.9	-4.4	-2.8	-1.0	-1.0	-.4	.1

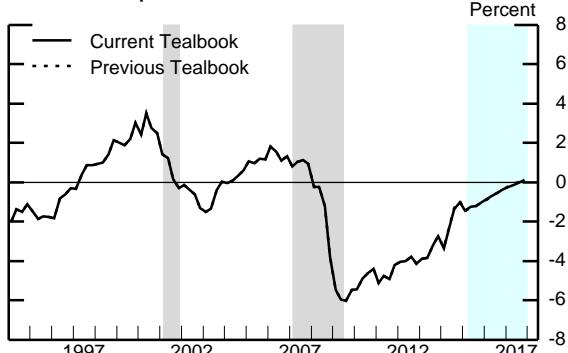
Note: For multiyear periods, the percent change is the annual average from Q4 of the year preceding the first year shown to Q4 of the last year shown.

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.

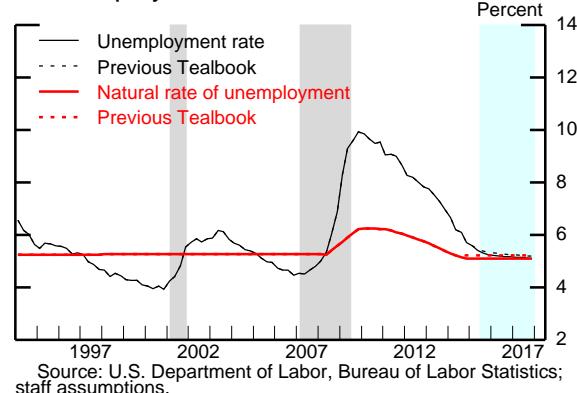
GDP Gap



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

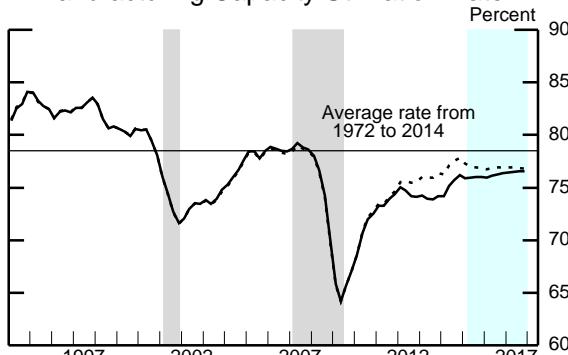
Source: U.S. Department of Commerce, Bureau of Economic Analysis; staff assumptions.

Unemployment Rate



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

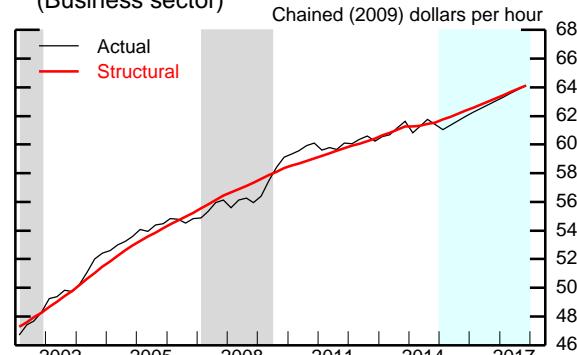
Manufacturing Capacity Utilization Rate



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

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

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.

late 2012, when they already accounted for one-fourth of the PC market. Because tablet PCs are largely imported, this delay likely led to an understatement of import price declines.

Quality-adjustment bias. When a new model enters the PPI or IPI samples, the BLS adjusts the item's price to account for the estimated value of any new or improved features. These adjustments are intended to provide an “apples to apples” comparison with similar models already in the index. However, in the case of imports, often too little detailed information is provided by survey respondents to allow for a proper adjustment. Consequently, the IPI tends to fall more slowly as new waves of imported goods are treated as more expensive than the imports they succeed rather than as more feature rich. The recent sharp shift toward imports has likely further slowed the pace of declines in the investment price index (as shown in figure 2).

The magnitudes of these biases are unknown, but if the five-year average inflation rate for high-tech capital had held steady at the rate observed in 2009, as shown in figure 3, overall real nonresidential private fixed investment would have been 2½ percent higher. The greater high-tech capital deepening would be equivalent to 0.3 percent on the level of structural productivity at the end of 2014 and would raise its growth rate 0.1 to 0.2 percentage point per year between 2015 and 2017 (see the crosshatching in figure 1).

The outlook for MFP is more uncertain. Because the measurement difficulties are centered on imports, overall labor productivity has been largely unaffected by these biases, and greater capital accumulation in recent years would have been offset by an overstatement of measured MFP growth. Extrapolating forward, that may imply weaker future MFP growth as well. On the other hand, MFP growth has historically been positively correlated with earlier gains in capital deepening. (For example, Paul David famously noted that the transition from the steam engine to the electric dynamo spawned decades of process renovation, as shop floors were reengineered to take full advantage of the new technology.) This positive correlation suggests that structural productivity growth could be boosted by higher trend MFP growth as investments in business processes and other intangible capital are undertaken to complement investments in high-tech capital.

Figure 2. Computer equipment price index

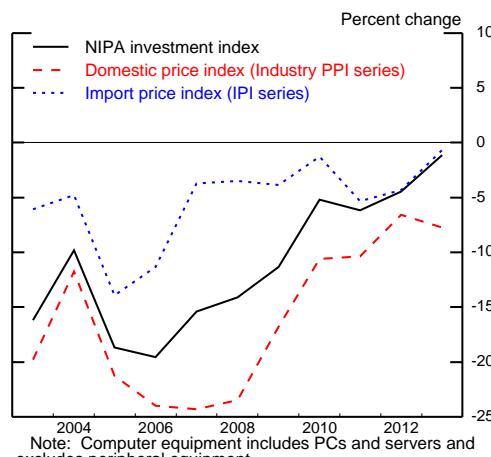
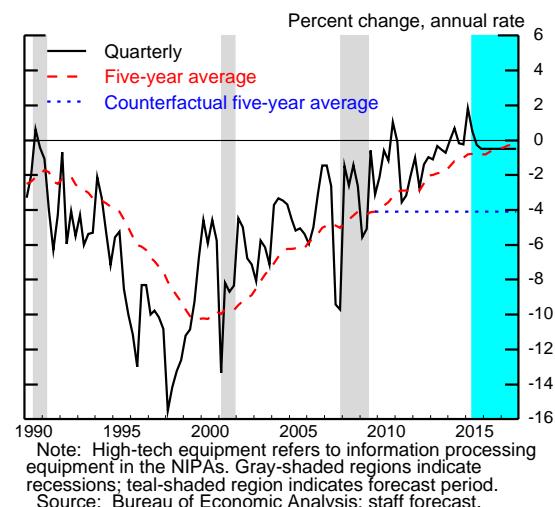


Figure 3. High-tech equipment prices

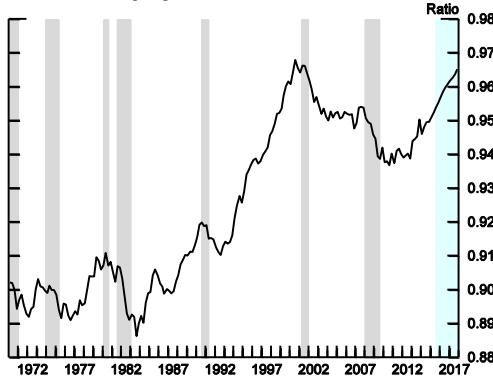


Employment and Unemployment in the Staff Projection

In the current staff projection, payroll employment gains are expected to average 165,000 per month through the end of 2017. During this same period, we project that the unemployment rate will edge down only 0.2 percentage point to 5.1 percent. These two projections may appear at odds, as the pace of payroll gains may seem to point to a considerably steeper decline in the unemployment rate. Here we highlight two aspects of the staff's labor market outlook that help reconcile the healthy pace of payroll gains with the nearly flat unemployment rate projection. First, as shown in figure 1, we project payroll employment to rise faster over the forecast period than employment as measured in the current population survey (CPS), similar to the pattern observed in most previous periods of economic expansion. Second, we expect that, as the labor market tightens, the labor force participation rate will move back towards its (declining) trend over the projection period, which will attenuate the decline in the unemployment rate.

As shown in figure 1, the ratio of payroll employment to CPS employment has been trending upward over time and tends to be pro-cyclical. Several factors help explain the movements in payroll employment relative to CPS employment. The payroll survey is limited to nonfarm wage and salary jobs, which have been rising as a share of total employment, while groups outside the scope of the payroll survey have seen their shares declining; these groups include self-employed individuals, private household workers, and farm workers. Other factors contributing to the rise in payroll employment relative to CPS employment during expansions include increases in short-duration jobs, which are less likely to be reported to the CPS, and decreases in "off the books" jobs, which are not captured by the payroll survey. Finally, the CPS counts employed individuals, while the payroll survey counts jobs; implicitly, our forecast assumes an increase in multiple job holding that could be associated with a reduction in CPS respondents reporting themselves as working part time for economic reasons.

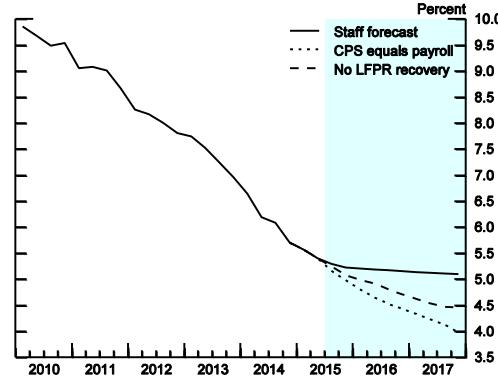
Figure 1: Ratio of Payroll Employment to CPS Employment



Note: CPS employment is adjusted in history for revisions to population controls and changes to survey design. Gray shaded regions represent recessions as defined by the NBER. Teal shaded region represents staff forecast.

Source: Bureau of Labor Statistics, Department of Labor and staff forecast.

Figure 2: Counterfactual Unemployment Rates

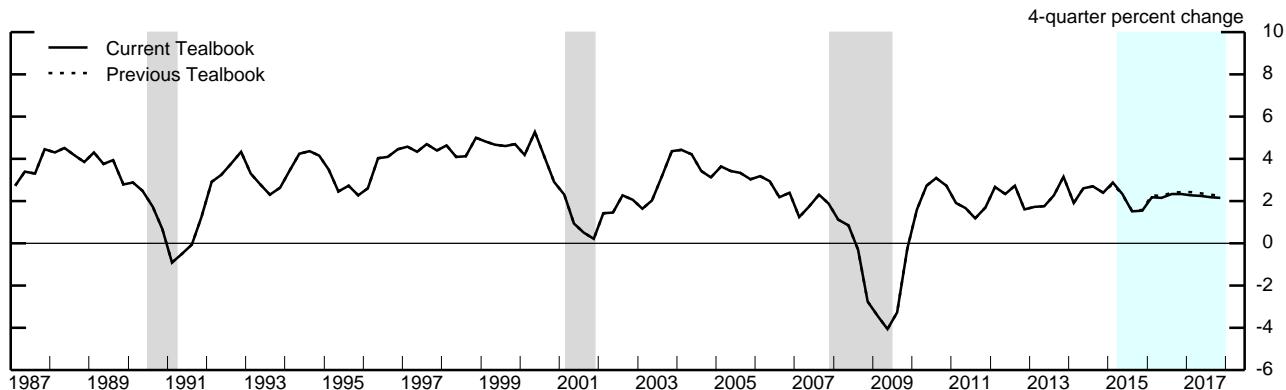


Note: "CPS equals payroll" shows a counterfactual projection for the unemployment rate assuming that CPS employment increases at the same rate as payroll employment. "No LFPR recovery" shows a counterfactual projection for the unemployment rate assuming no cyclical rebound in the labor force participation rate. Teal shaded region represents staff forecast.

Source: Bureau of Labor Statistics, Department of Labor and staff 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		
Real GDP	2.4	1.5	1.1	2.0	2.3	2.1
Previous Tealbook	2.4	1.6	1.0	2.1	2.4	2.2
Final sales	2.4	1.5	.9	2.0	2.4	2.5
Previous Tealbook	2.4	1.5	.8	2.3	2.6	2.6
Personal consumption expenditures	2.9	2.8	2.5	3.1	3.3	2.7
Previous Tealbook	2.9	2.9	2.3	3.4	3.3	2.7
Residential investment	2.5	6.4	7.4	5.4	11.6	6.9
Previous Tealbook	2.5	7.6	8.8	6.5	12.0	8.0
Nonresidential structures	6.5	-5.5	-11.8	1.3	.8	1.4
Previous Tealbook	6.5	-7.3	-13.8	-.3	.2	.3
Equipment and intangibles	6.1	3.6	4.0	3.3	4.2	3.3
Previous Tealbook	6.1	3.4	3.0	3.7	4.6	3.6
Federal purchases	.2	-.8	-.5	-1.0	-1.1	-1.0
Previous Tealbook	.2	-1.1	-.8	-1.4	-1.2	-.8
State and local purchases	1.2	1.0	.7	1.3	1.6	1.9
Previous Tealbook	1.2	1.3	1.0	1.5	2.0	2.2
Exports	2.4	-.3	-1.5	.9	1.1	3.0
Previous Tealbook	2.4	-.1	-1.5	1.3	1.3	3.2
Imports	5.6	5.5	5.5	5.5	6.0	3.7
Previous Tealbook	5.6	5.5	5.2	5.8	5.7	3.7
Contributions to change in real GDP (percentage points)						
Inventory change	.0	.1	.2	.0	-.1	-.3
Previous Tealbook	.0	.0	.2	-.2	-.1	-.3
Net exports	-.6	-.9	-1.1	-.7	-.8	-.2
Previous Tealbook	-.6	-.9	-1.0	-.7	-.8	-.2

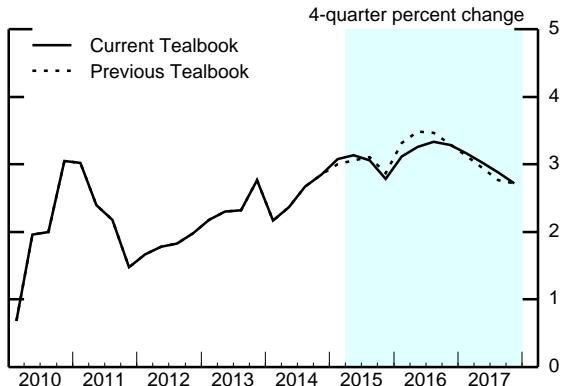
Real GDP

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

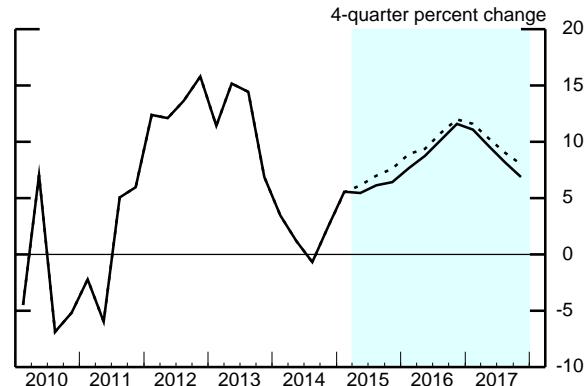
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Components of Final Demand

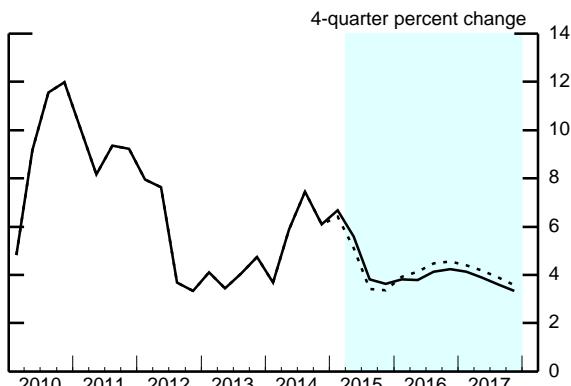
Personal Consumption Expenditures



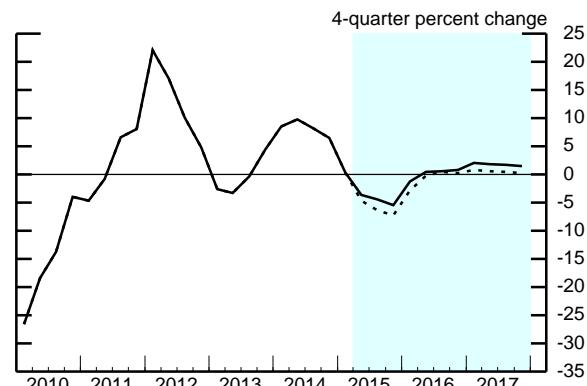
Residential Investment



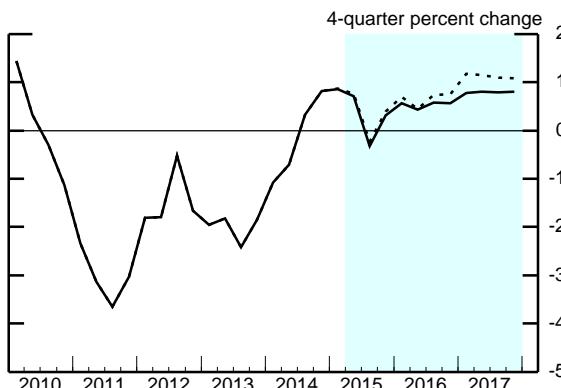
Equipment and Intangibles



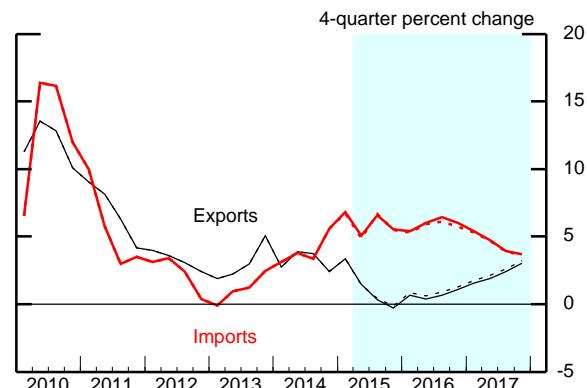
Nonresidential Structures



Government Consumption & Investment

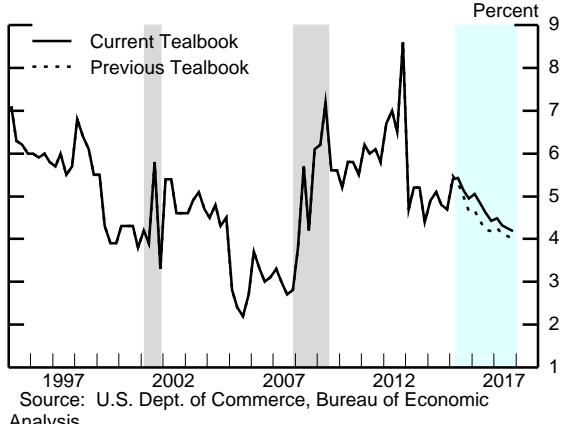


Exports and Imports

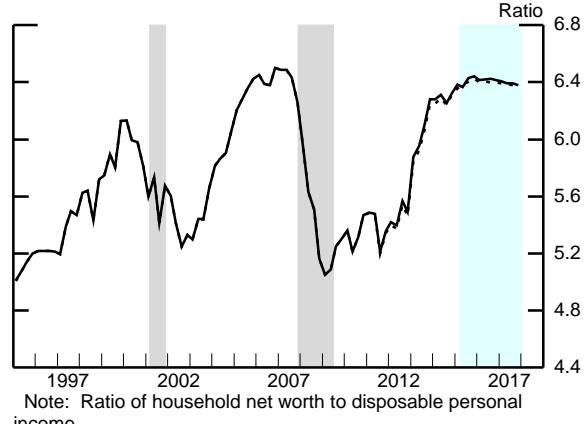


Aspects of the Medium-Term Projection

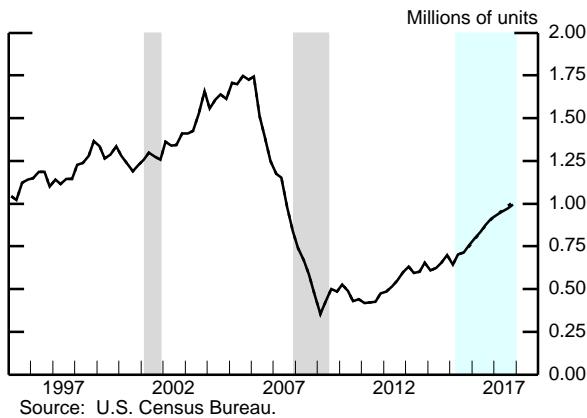
Personal Saving Rate



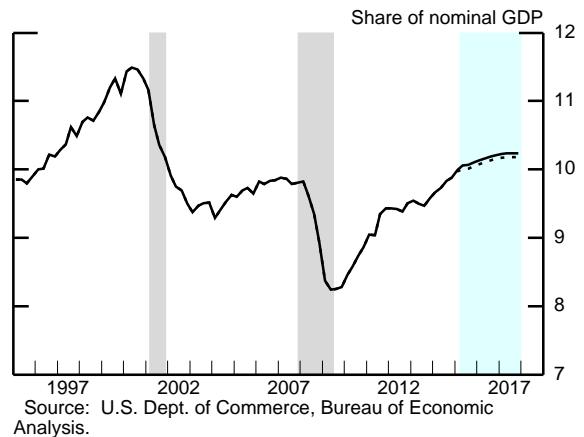
Wealth-to-Income Ratio



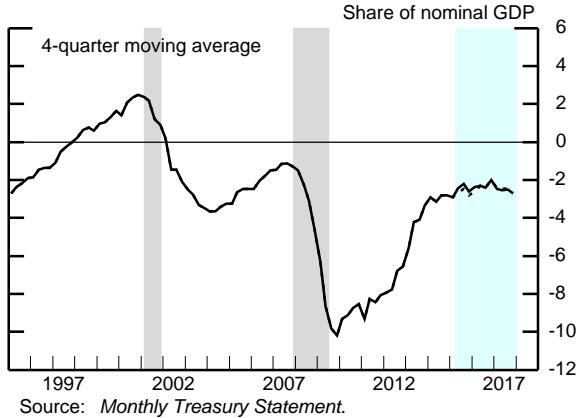
Single-Family Housing Starts



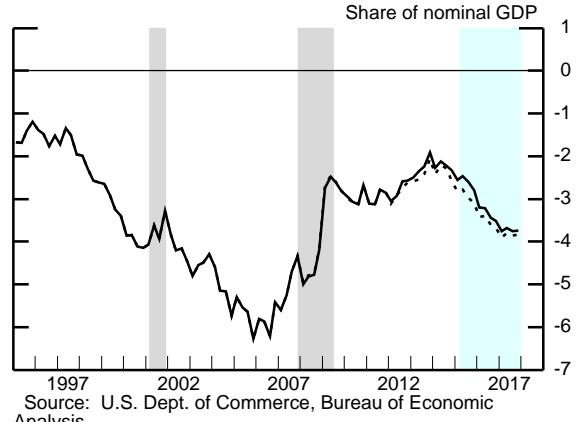
Equipment and Intangibles Spending



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.

The Outlook for the Labor Market

Measure	2014	2015	2015		2016	2017
			H1	H2		
Output per hour, business ¹ Previous Tealbook	-.4 -.4	1.0 1.1	-.1 -.3	2.1 2.6	1.7 1.9	1.7 1.9
Nonfarm private employment ² Previous Tealbook	254 254	205 206	207 210	203 202	160 160	125 122
Labor force participation rate ³ Previous Tealbook	62.8 62.8	62.7 62.7	62.8 62.8	62.7 62.7	62.6 62.6	62.4 62.4
Civilian unemployment rate ³ Previous Tealbook	5.7 5.7	5.2 5.3	5.4 5.5	5.2 5.3	5.2 5.2	5.1 5.2

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)

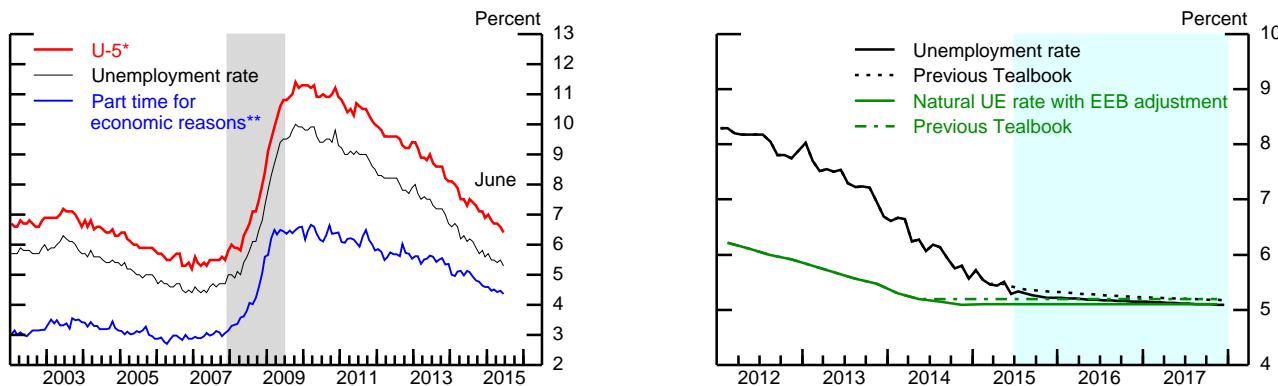
Measure	2014	2015	2015		2016	2017
			H1	H2		
PCE chain-weighted price index Previous Tealbook	1.1 1.1	.3 .6	.0 -.1	.7 1.3	1.6 1.6	1.7 1.8
Food and beverages Previous Tealbook	2.8 2.8	.3 .3	-.6 -.6	1.2 1.1	1.8 1.6	2.0 1.9
Energy Previous Tealbook	-6.1 -6.1	-16.4 -11.3	-19.9 -19.9	-12.7 -1.7	3.3 2.3	2.3 1.3
Excluding food and energy Previous Tealbook	1.4 1.4	1.3 1.3	1.2 1.2	1.4 1.4	1.5 1.6	1.7 1.8
Prices of core goods imports ¹ Previous Tealbook	.6 .6	-2.3 -2.3	-3.7 -4.2	-.8 -.4	.9 1.0	1.4 1.5

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



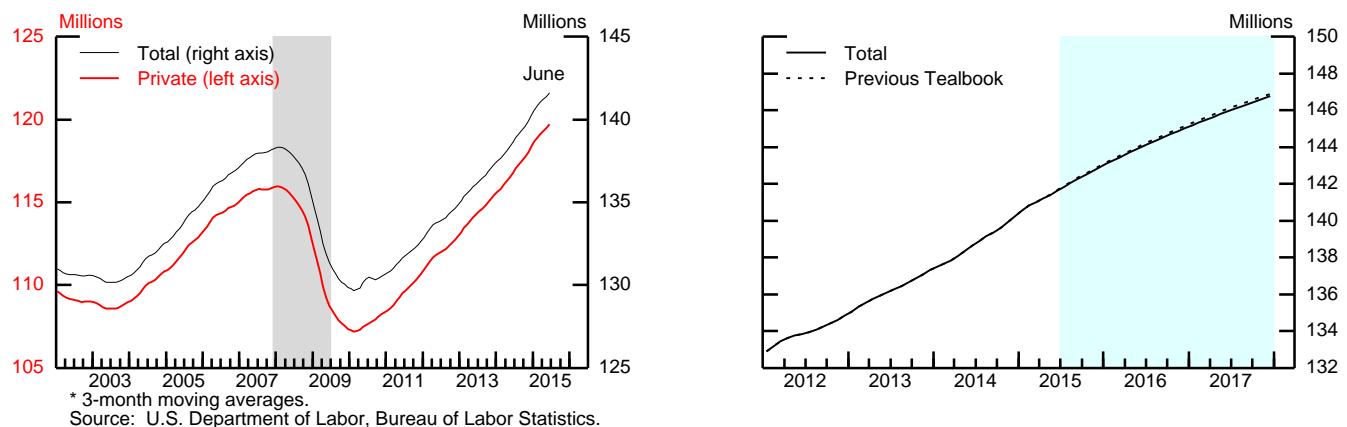
* U-5 measures total unemployed persons plus all marginally attached to the labor force, as a percent of the labor force plus persons marginally attached to the labor force.

** Percent of Current Population Survey employment.

EEB Extended and emergency unemployment benefits.

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

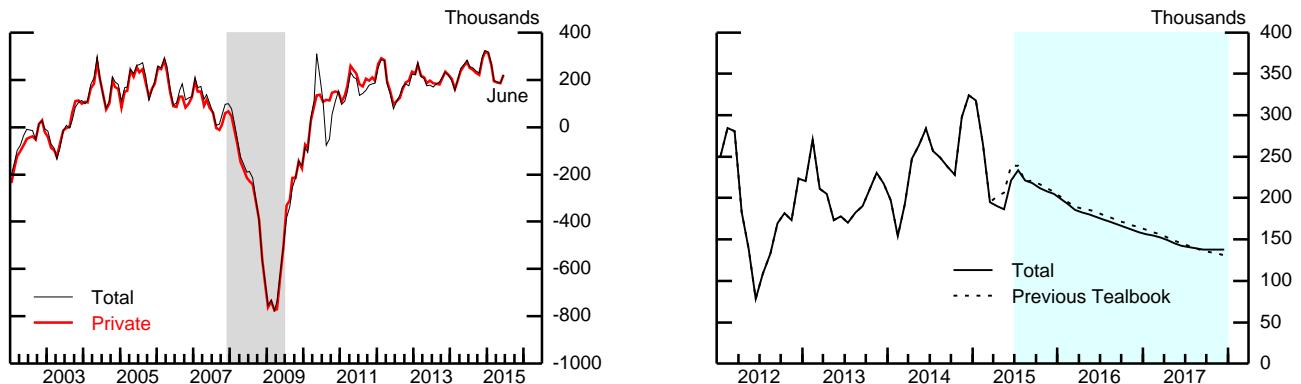
Level of Payroll Employment*



* 3-month moving averages.

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

Change in Payroll Employment*



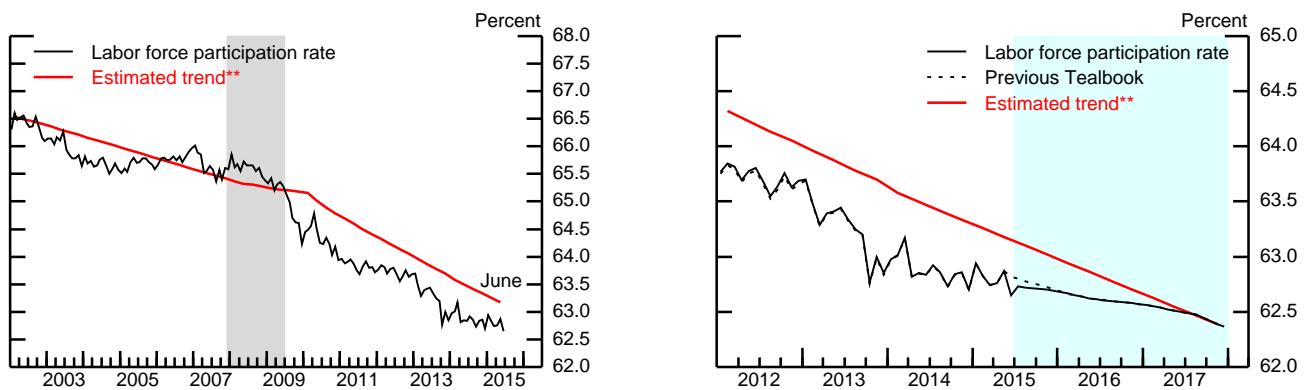
* 3-month moving averages.

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*

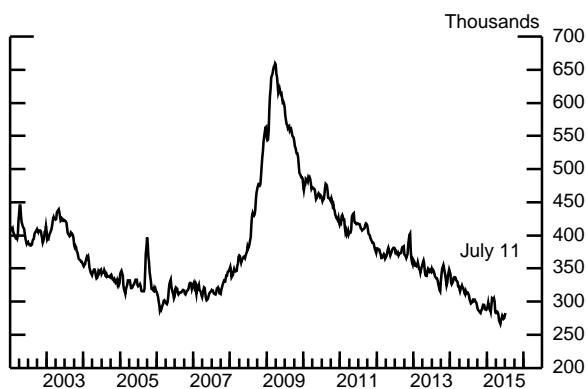


* Published data adjusted by staff to account for changes in population weights.

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

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

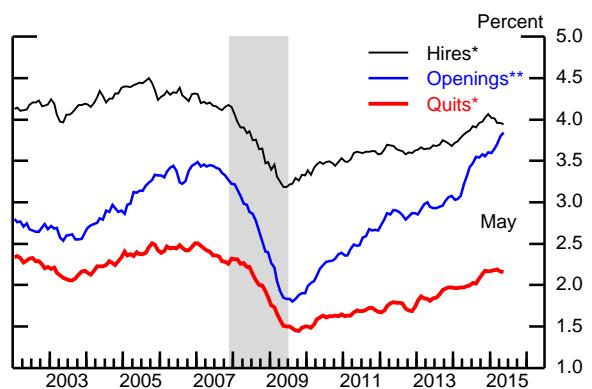
Initial Unemployment Insurance Claims*



* 4-week moving average.

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

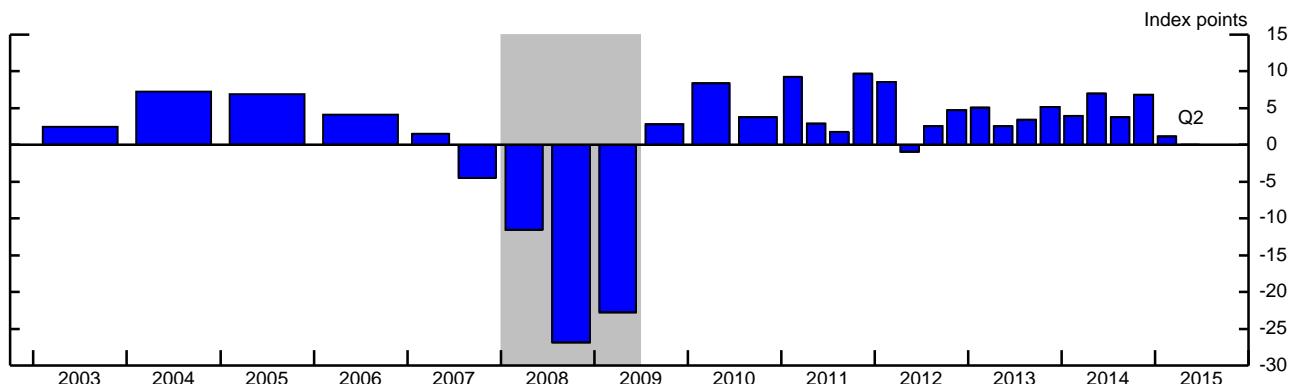
Private Hires, Quits, and Job Openings



* 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



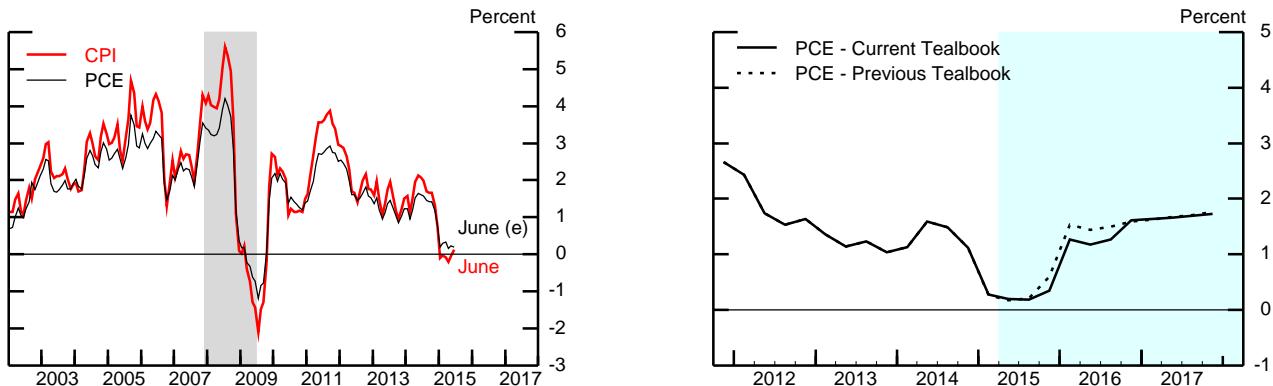
Note: Labor market conditions index estimated by staff.

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)

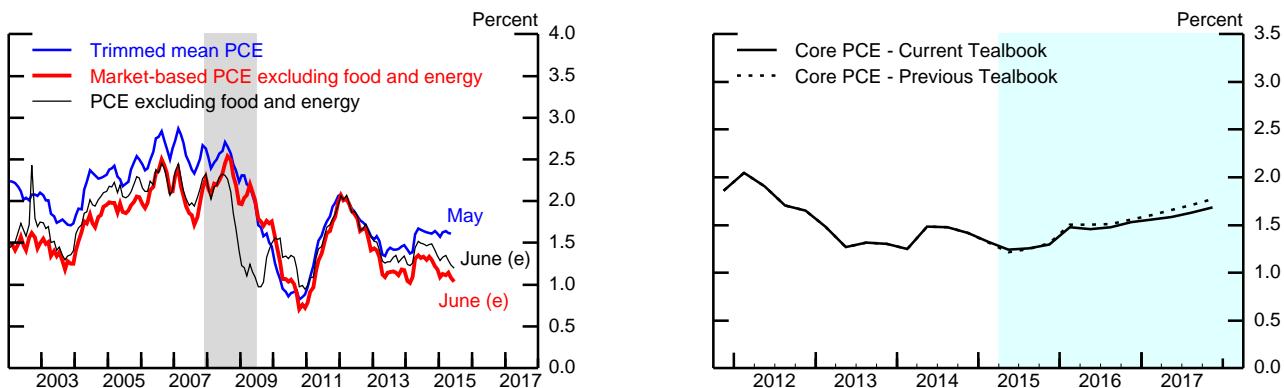
Headline Consumer Price Inflation



Note: PCE prices from April to June 2015 are staff estimates (e).

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

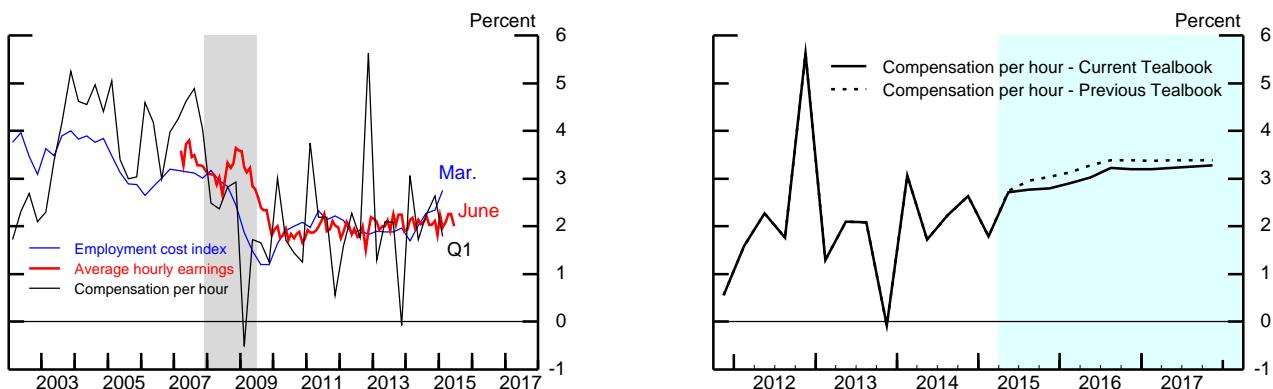
Measures of Underlying PCE Price Inflation



Note: Core PCE prices from April to June 2015 are staff estimates (e).

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.

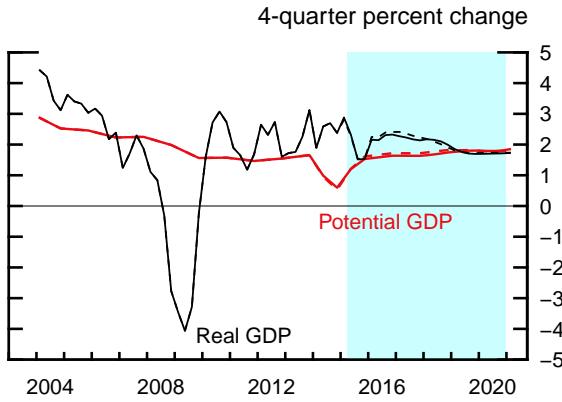
The Long-Term Outlook

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

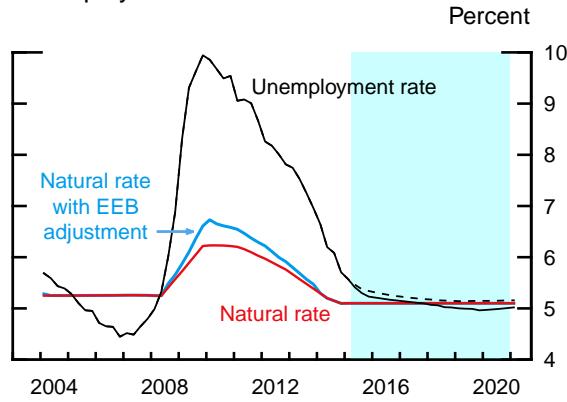
Measure	2015	2016	2017	2018	2019	Longer run
Real GDP Previous Tealbook	1.5 1.6	2.3 2.4	2.1 2.2	2.0 1.9	1.7 1.7	1.9 1.9
Civilian unemployment rate ¹ Previous Tealbook	5.2 5.3	5.2 5.2	5.1 5.2	5.0 5.1	5.0 5.1	5.1 5.2
PCE prices, total Previous Tealbook	.3 .6	1.6 1.6	1.7 1.8	1.8 1.9	1.9 2.0	2.0 2.0
Core PCE prices Previous Tealbook	1.3 1.3	1.5 1.6	1.7 1.8	1.8 1.9	1.9 2.0	2.0 2.0
Federal funds rate ¹ Previous Tealbook	.4 .4	1.2 1.3	2.1 2.1	2.7 2.8	3.1 3.2	3.5 3.5
10-year Treasury yield ¹ Previous Tealbook	2.5 2.6	3.1 3.1	3.6 3.6	3.9 3.9	4.1 4.1	4.3 4.3

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

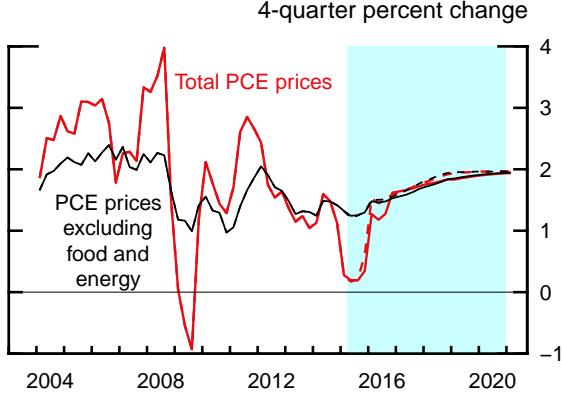
Real GDP



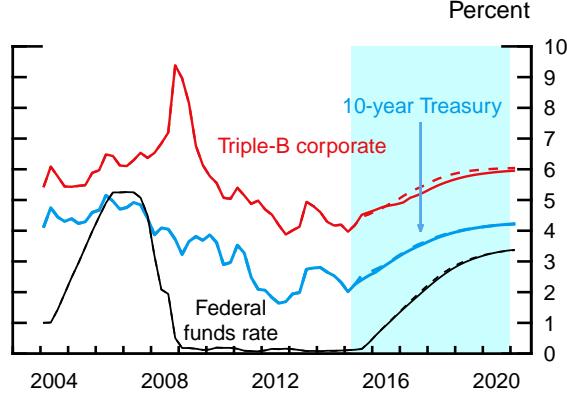
Unemployment Rate



PCE Prices



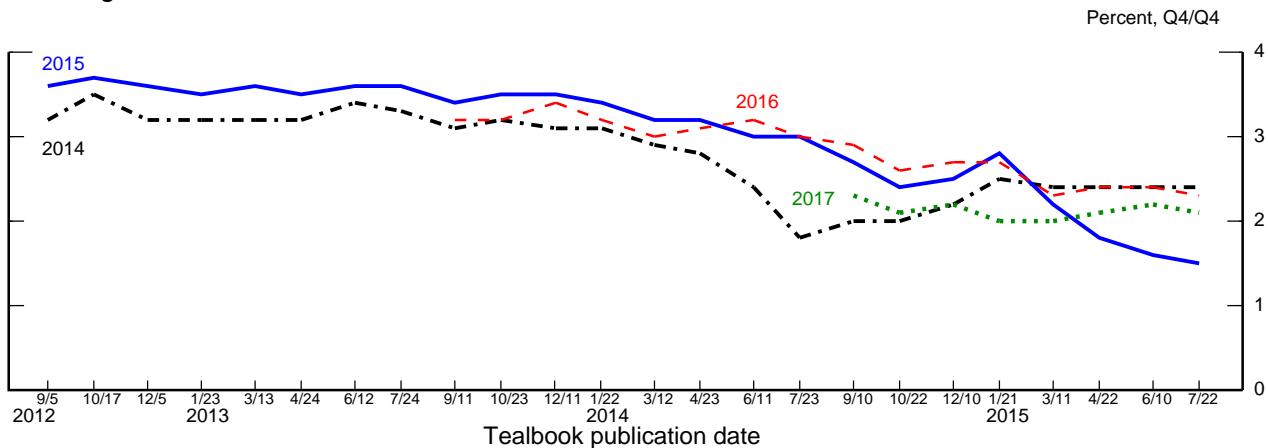
Interest Rates



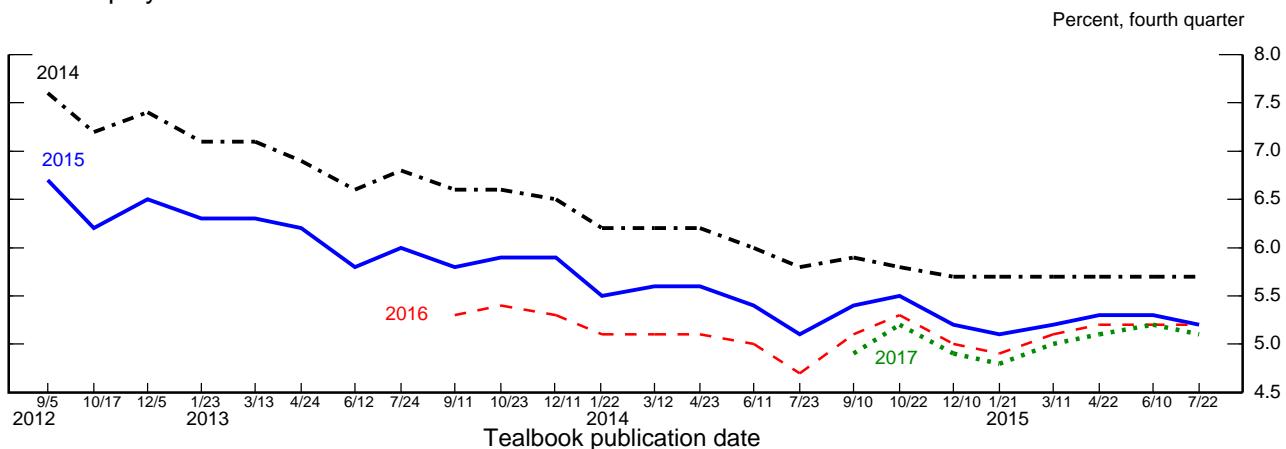
Note: In each panel, shading represents the projection period, and dashed lines are the previous Tealbook.

Evolution of the Staff Forecast

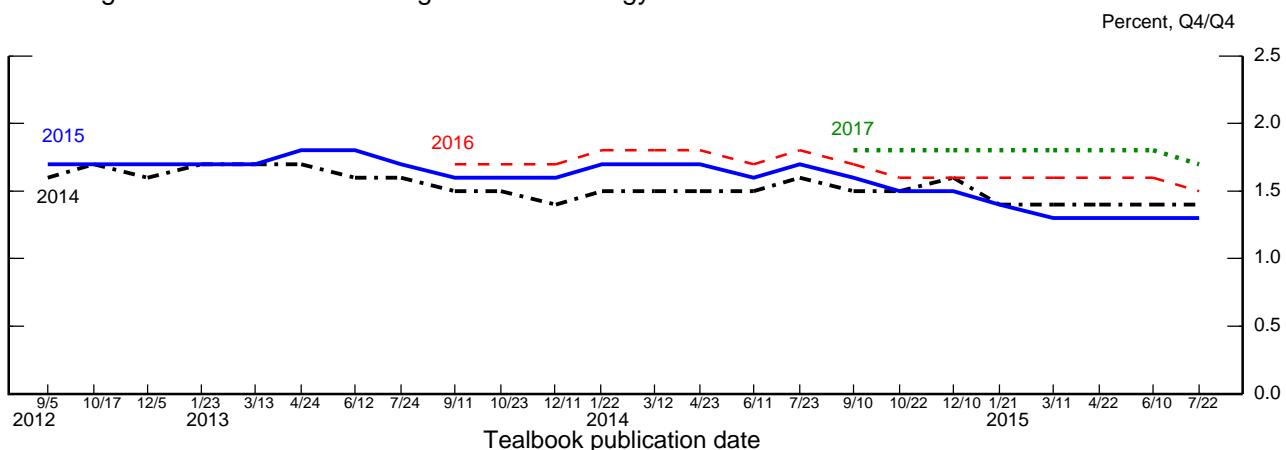
Change in Real GDP



Unemployment Rate



Change in PCE Prices excluding Food and Energy



The Foreign GDP Outlook

Real GDP*

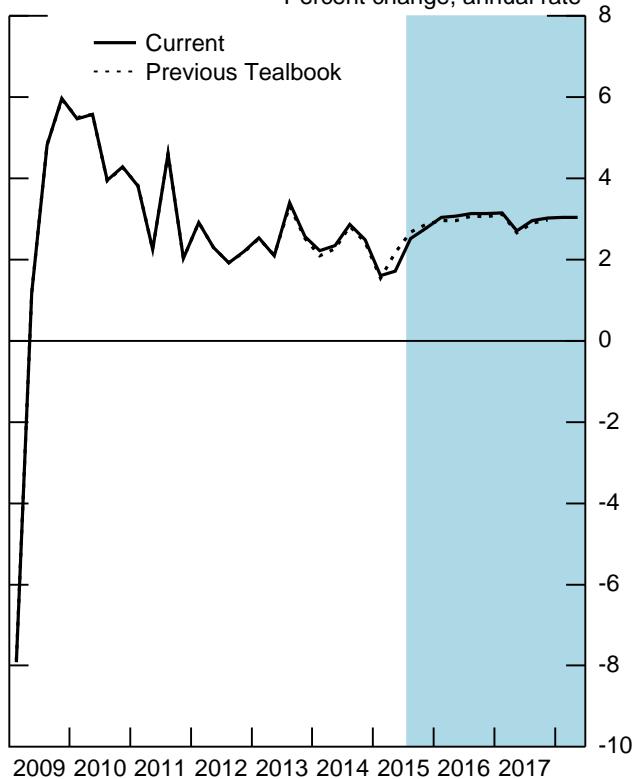
Percent change, annual rate

	2014		2015				2016	2017
	H1	H2	Q1	Q2	Q3	Q4		
1. Total Foreign	2.3	2.7	1.6	1.7	2.5	2.8	3.1	3.0
<i>Previous Tealbook</i>	2.2	2.6	1.6	2.2	2.7	2.9	3.0	2.9
2. Advanced Foreign Economies	1.5	1.9	0.8	0.7	1.8	2.1	2.3	1.9
<i>Previous Tealbook</i>	1.5	1.8	0.9	1.6	1.8	2.1	2.2	1.9
3. Canada	2.2	2.7	-0.6	-0.2	2.0	2.4	2.5	2.1
4. Euro Area	0.7	1.1	1.5	1.6	1.4	1.8	2.1	2.2
5. Japan	-1.4	-0.4	3.9	0.5	1.5	1.4	1.3	-0.3
6. United Kingdom	3.6	3.1	1.5	2.4	2.5	2.5	2.8	2.4
7. Emerging Market Economies	3.0	3.5	2.4	2.7	3.2	3.5	3.9	3.9
<i>Previous Tealbook</i>	2.9	3.4	2.2	2.8	3.5	3.6	3.8	3.9
8. China	7.0	7.6	5.1	7.8	7.2	6.8	6.6	6.5
9. Emerging Asia ex. China	3.3	3.6	3.4	2.9	3.7	4.1	4.4	4.2
10. Mexico	2.8	2.4	1.6	2.3	2.9	3.0	3.1	3.1
11. Brazil	-1.4	0.8	-0.6	-4.2	-1.1	0.4	1.6	2.3

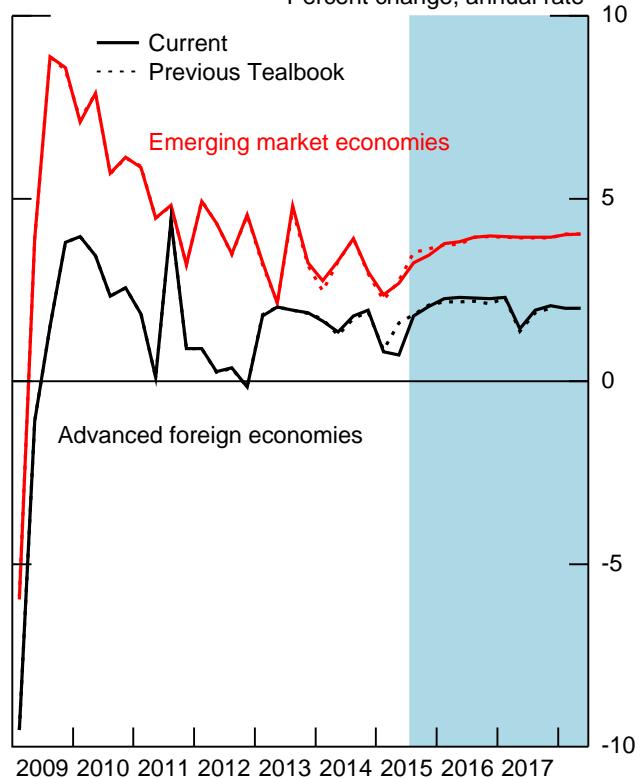
* GDP aggregates weighted by shares of U.S. merchandise exports.

Total Foreign GDP

Percent change, annual rate

**Foreign GDP**

Percent change, annual rate



The Foreign Inflation Outlook

Consumer Prices*

Percent change, annual rate

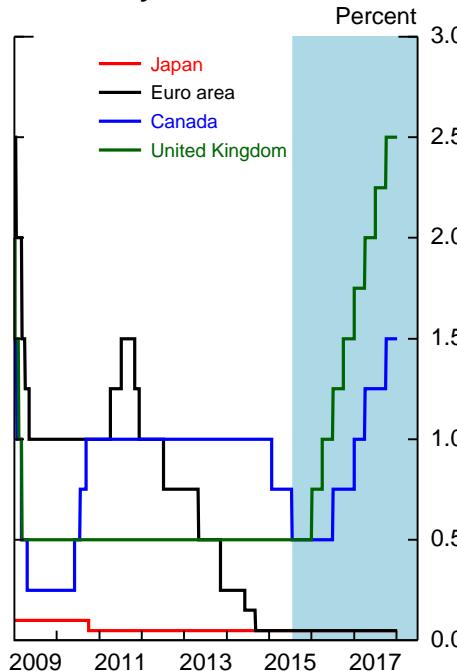
	2014		2015				2016	2017
	H1	H2	Q1	Q2	Q3	Q4		
1. Total Foreign	2.5	1.6	-0.1	2.6	2.2	2.2	2.4	2.6
<i>Previous Tealbook</i>	2.5	1.5	-0.1	2.1	2.2	2.4	2.4	2.6
2. Advanced Foreign Economies	2.2	0.2	-0.9	1.9	1.0	1.3	1.5	2.0
<i>Previous Tealbook</i>	2.2	0.2	-0.8	1.4	1.3	1.4	1.6	2.0
3. Canada	3.2	0.6	-0.2	2.5	1.4	1.8	1.8	2.0
4. Euro Area	0.4	-0.1	-1.5	2.5	1.1	1.3	1.5	1.7
5. Japan	4.9	0.3	-0.3	1.0	0.2	0.5	1.0	2.6
6. United Kingdom	1.6	0.3	-1.7	1.1	1.5	1.6	1.8	2.0
7. Emerging Market Economies	2.7	2.6	0.4	3.1	3.1	2.9	3.1	3.1
<i>Previous Tealbook</i>	2.7	2.6	0.5	2.6	3.0	3.1	3.1	3.1
8. China	1.4	1.6	-0.4	2.6	2.5	2.2	2.5	2.5
9. Emerging Asia ex. China	2.8	1.7	-0.2	3.1	3.0	3.1	3.2	3.3
10. Mexico	4.1	4.3	0.3	2.8	3.1	3.3	3.3	3.3
11. Brazil	7.0	6.1	11.1	10.8	7.9	5.7	5.6	5.4

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

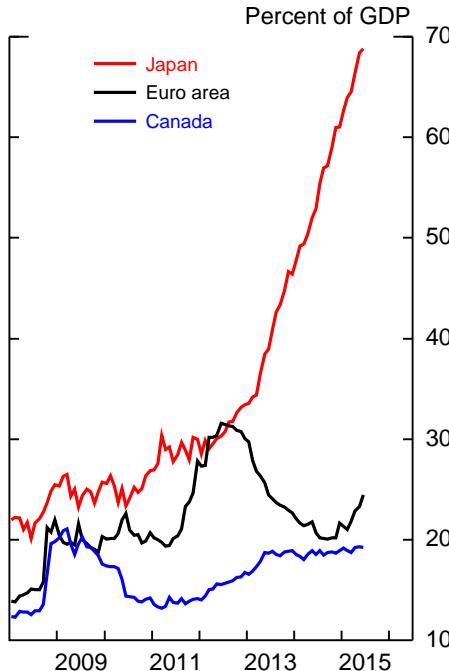
Int'l Econ Devel & Outlook

Foreign Monetary Policy

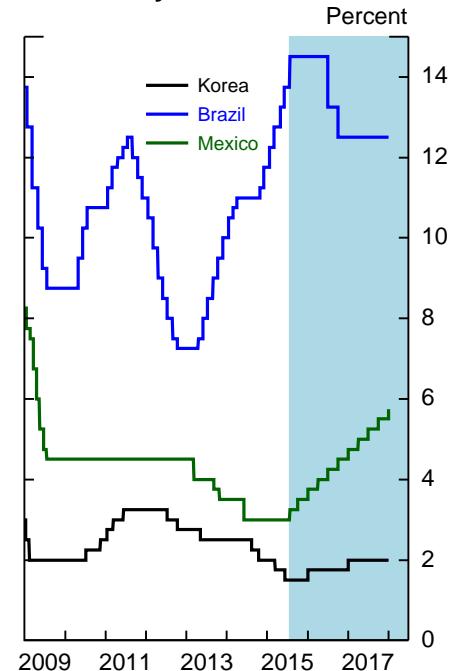
AFE Policy Rates



AFE Central Bank Balance Sheets

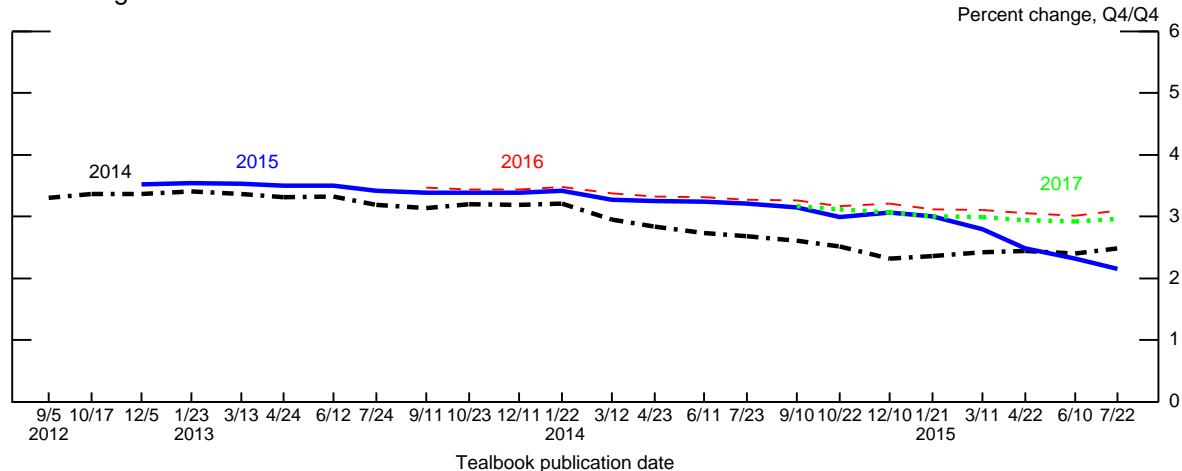


EME Policy Rates

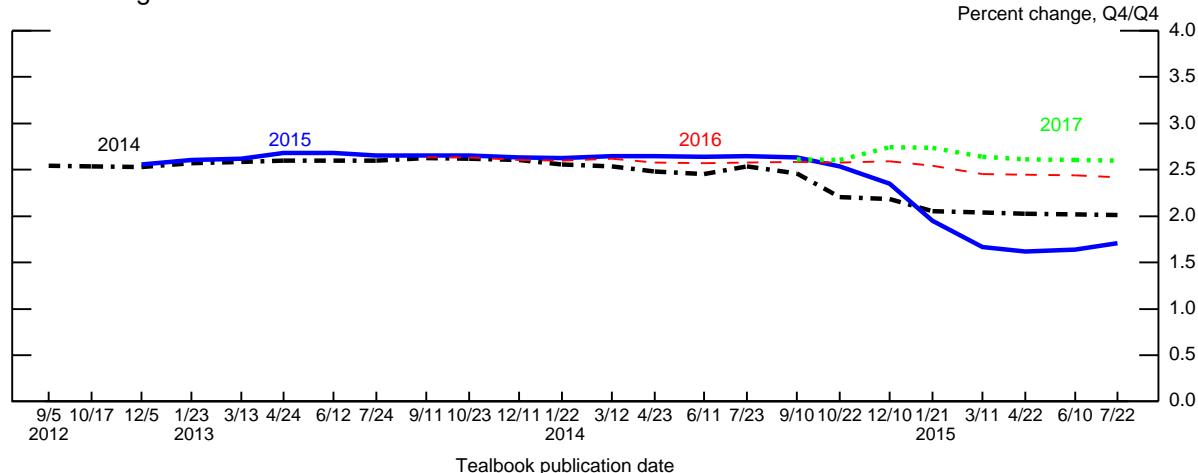


Evolution of Staff's International Forecast

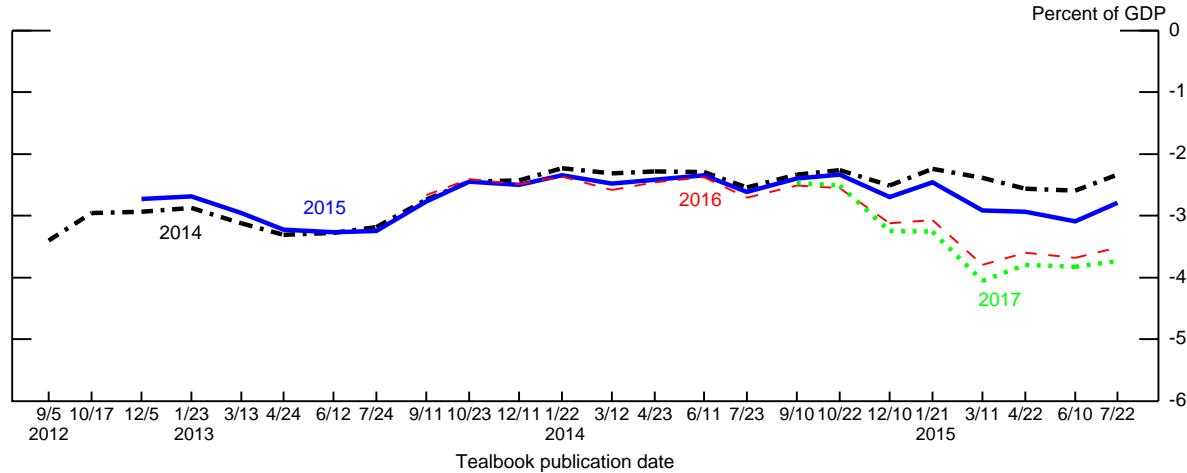
Total Foreign GDP



Total Foreign CPI

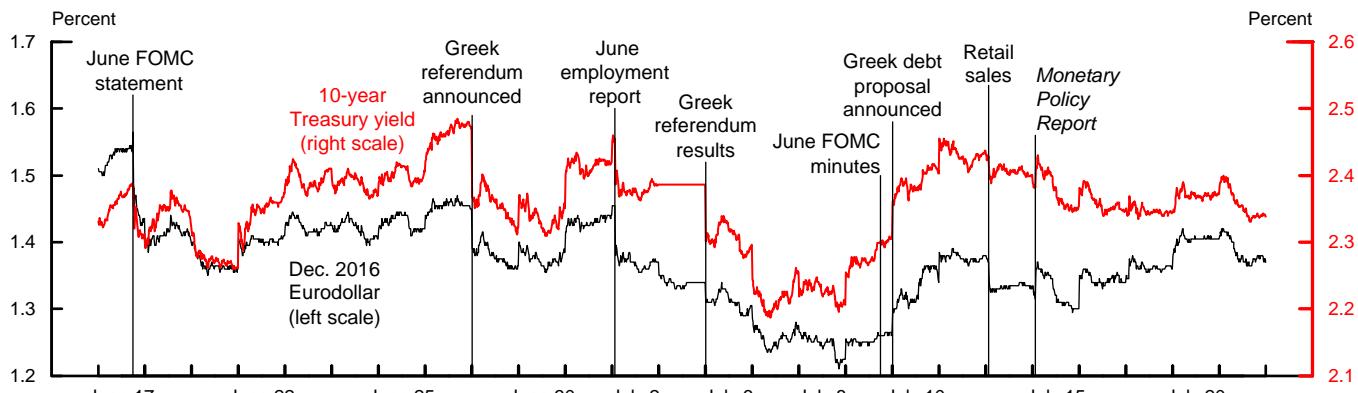


U.S. Current Account Balance



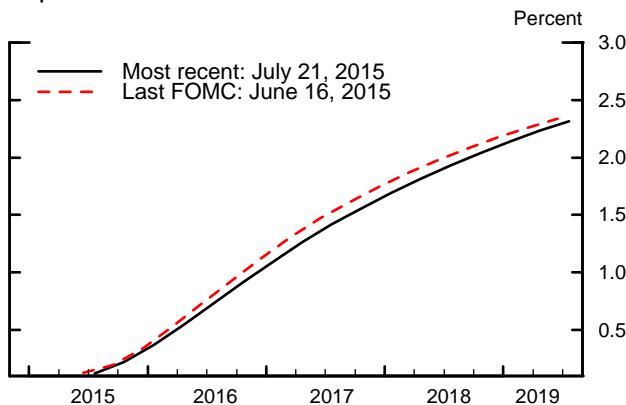
Policy Expectations and Treasury Yields

Selected Interest Rates



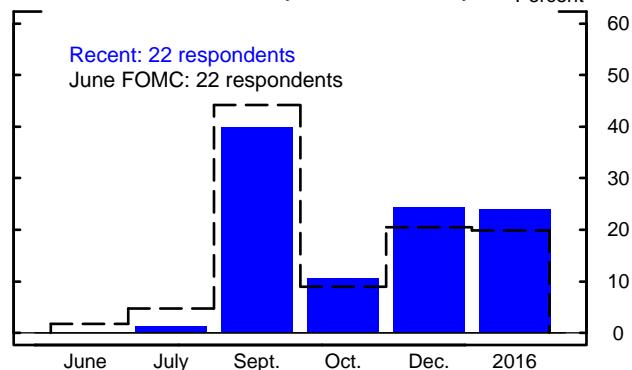
Note: 5-minute intervals. 8:00 a.m. to 4:00 p.m.
Source: Bloomberg.

Implied Federal Funds Rate



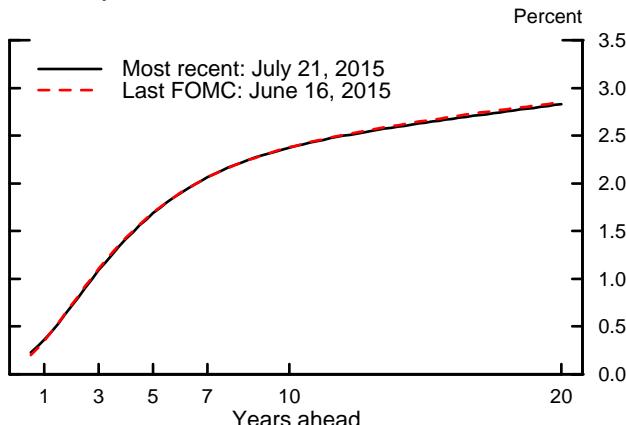
Note: Path is estimated using overnight index swap quotes with a spline approach and a term premium of zero basis points.
Source: Bloomberg; staff estimates.

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



Note: Average across dealers of their individual probabilities attached to the first tightening occurring at a particular meeting. For 2016, expected timing is during or after that year.
Source: Desk's primary dealer survey from July 20, 2015.

Treasury Yield Curve



Note: Smoothed yield curve estimated from off-the-run Treasury coupon securities. Yields shown are those on notional par Treasury securities with semiannual coupons.
Source: Federal Reserve Board.

Inflation Compensation



Note: Estimates based on smoothed nominal and inflation-indexed Treasury yield curves.

* Adjusted for lagged indexation of Treasury Inflation-Protected Securities (carry effect).

Source: Barclays PLC; Federal Reserve Bank of New York; staff estimates.

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	1.1	2.0	2.3	2.1	1.8
Weaker labor prod., slower output growth	1.1	1.3	1.9	1.7	1.5
Weaker labor prod., stronger labor market	1.1	2.0	2.2	1.9	1.4
Faster growth with higher inflation	1.1	3.2	3.8	2.2	1.5
Adverse credit shock with high leverage	1.1	2.0	-.2	3.8	2.4
Greek exit with sizable spillovers	1.1	1.8	1.5	1.8	2.0
China-driven EME slump with stronger dollar	1.1	1.6	1.3	2.1	2.2
<i>Unemployment rate¹</i>					
Extended Tealbook baseline	5.4	5.2	5.2	5.1	5.0
Weaker labor prod., slower output growth	5.4	5.2	5.2	5.1	5.0
Weaker labor prod., stronger labor market	5.4	5.0	4.7	4.5	4.4
Faster growth with higher inflation	5.4	5.0	4.4	4.4	4.6
Adverse credit shock with high leverage	5.4	5.2	6.1	5.4	4.8
Greek exit with sizable spillovers	5.4	5.2	5.5	5.6	5.4
China-driven EME slump with stronger dollar	5.4	5.3	5.6	5.7	5.4
<i>Total PCE prices</i>					
Extended Tealbook baseline	.0	.7	1.6	1.7	1.9
Weaker labor prod., slower output growth	.0	.7	1.8	1.9	1.9
Weaker labor prod., stronger labor market	.0	.8	1.8	1.9	2.1
Faster growth with higher inflation	.0	1.5	1.9	2.2	2.3
Adverse credit shock with high leverage	.0	.7	1.6	1.7	1.9
Greek exit with sizable spillovers	.0	.5	.9	1.2	1.6
China-driven EME slump with stronger dollar	.0	-.1	.6	1.5	1.9
<i>Core PCE prices</i>					
Extended Tealbook baseline	1.2	1.4	1.5	1.7	1.9
Weaker labor prod., slower output growth	1.2	1.4	1.7	1.8	2.0
Weaker labor prod., stronger labor market	1.2	1.4	1.7	1.9	2.1
Faster growth with higher inflation	1.2	1.5	1.9	2.2	2.3
Adverse credit shock with high leverage	1.2	1.4	1.6	1.7	1.9
Greek exit with sizable spillovers	1.2	1.2	1.0	1.2	1.6
China-driven EME slump with stronger dollar	1.2	1.1	.9	1.4	1.8
<i>Federal funds rate¹</i>					
Extended Tealbook baseline	.1	.4	1.2	2.1	3.1
Weaker labor prod., slower output growth	.1	.4	1.3	2.2	3.2
Weaker labor prod., stronger labor market	.1	.4	1.7	2.9	4.3
Faster growth with higher inflation	.1	.5	2.3	3.8	4.9
Adverse credit shock with high leverage	.1	.4	.4	1.0	3.1
Greek exit with sizable spillovers	.1	.4	.8	.9	2.2
China-driven EME slump with stronger dollar	.1	.4	.7	1.0	2.5

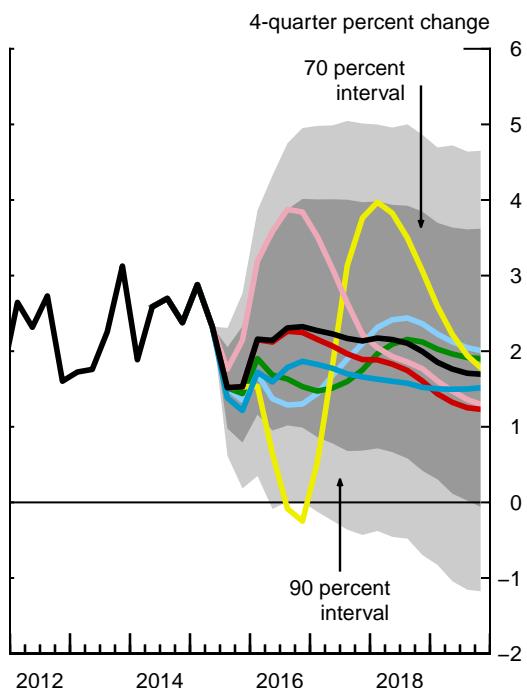
1. Percent, average for the final quarter of the period.

Forecast Confidence Intervals and Alternative Scenarios

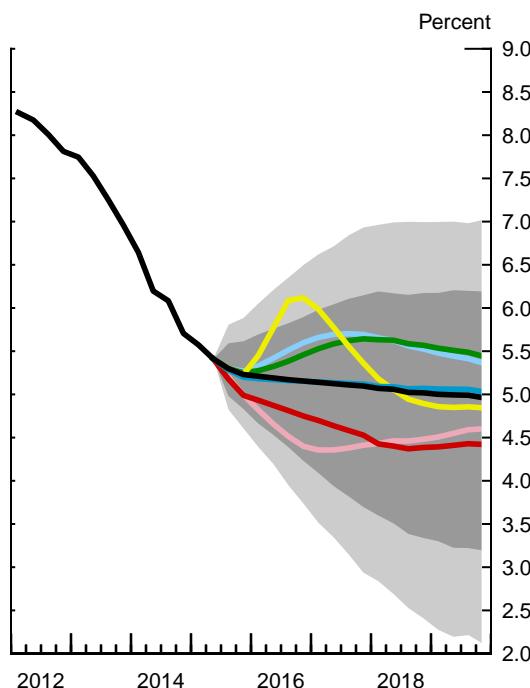
Confidence Intervals Based on FRB/US Stochastic Simulations

- | | | |
|---|--|---|
| ■ Extended Tealbook baseline
■ Weaker labor prod., slower output growth
■ Weaker labor prod., stronger labor market | ■ Faster growth with higher inflation
■ Adverse credit shock with high leverage | ■ Greek exit with sizable spillovers
■ China–driven EME slump with stronger dollar |
|---|--|---|

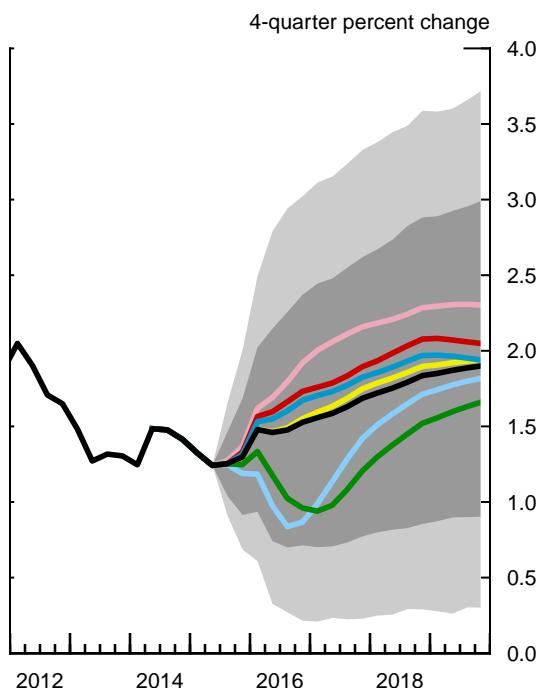
Real GDP



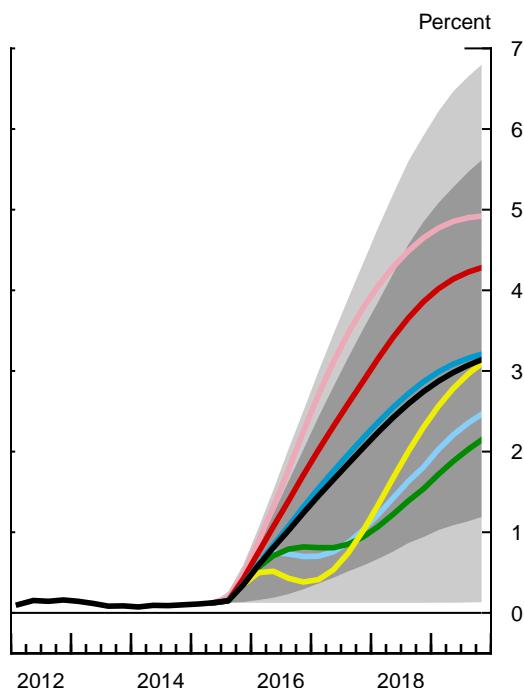
Unemployment Rate



PCE Prices excluding Food and Energy



Federal Funds Rate



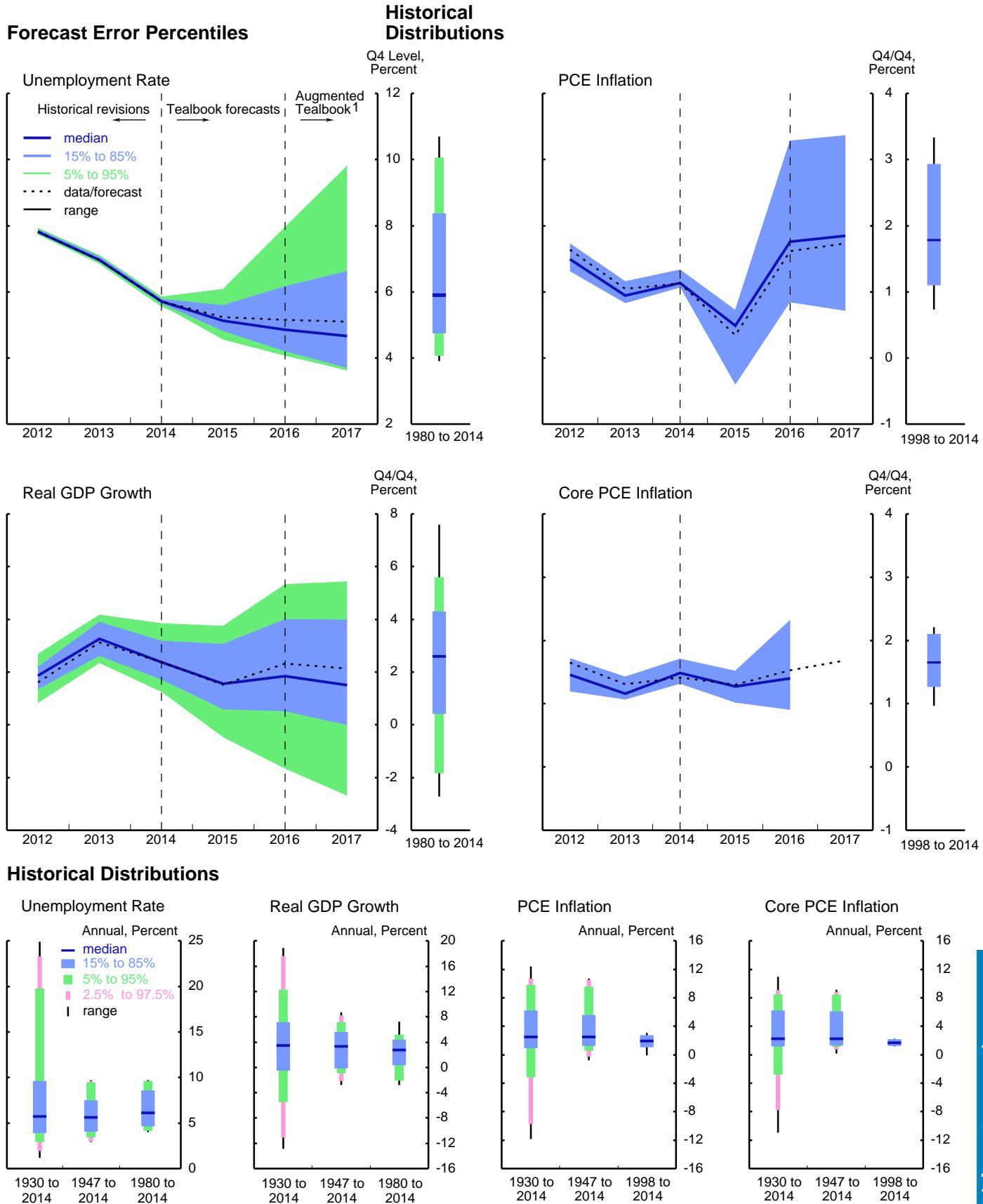
**Selected Tealbook Projections and 70 Percent Confidence Intervals Derived
from Historical Tealbook Forecast Errors and FRB/US Simulations**

Measure	2015	2016	2017	2018	2019
<i>Real GDP</i> <i>(percent change, Q4 to Q4)</i>					
Projection	1.5	2.3	2.1	2.0	1.7
Confidence interval					
Tealbook forecast errors	.5–3.1	.5–4.0	-.1–4.0
FRB/US stochastic simulations	.8–2.3	1.0–4.0	.7–4.0	.4–3.8	-.1–3.6
<i>Civilian unemployment rate</i> <i>(percent, Q4)</i>					
Projection	5.2	5.2	5.1	5.0	5.0
Confidence interval					
Tealbook forecast errors	4.8–5.6	4.2–6.2	3.6–6.6
FRB/US stochastic simulations	4.8–5.6	4.2–5.9	3.7–6.1	3.3–6.2	3.2–6.2
<i>PCE prices, total</i> <i>(percent change, Q4 to Q4)</i>					
Projection	.3	1.6	1.7	1.8	1.9
Confidence interval					
Tealbook forecast errors	-.4–.7	.8–3.3	.7–3.4
FRB/US stochastic simulations	-.1–.9	.7–2.6	.7–2.8	.8–3.0	.8–3.0
<i>PCE prices excluding</i> <i>food and energy</i> <i>(percent change, Q4 to Q4)</i>					
Projection	1.3	1.5	1.7	1.8	1.9
Confidence interval					
Tealbook forecast errors	1.0–1.5	.9–2.3
FRB/US stochastic simulations	.9–1.7	.7–2.4	.8–2.6	.9–2.9	.9–3.0
<i>Federal funds rate</i> <i>(percent, Q4)</i>					
Projection	.4	1.2	2.1	2.7	3.1
Confidence interval					
FRB/US stochastic simulations	.1–.5	.3–2.0	.6–3.5	.9–4.8	1.2–5.6

Note: Shocks underlying FRB/US stochastic simulations are randomly drawn from the 1969–2014 set of model equation residuals. Intervals derived from Tealbook forecast errors are based on projections made from 1980 to 2014 for real GDP and unemployment and from 1998 to 2014 for PCE prices. The intervals for real GDP, unemployment, and total PCE prices are extended into 2017 using information from the Blue Chip survey and forecasts from the CBO and CEA.

... Not applicable.

Prediction Intervals Derived from Historical Tealbook Forecast Errors



Note: See the technical note in the appendix for more information on this exhibit.

1. Augmented Tealbook prediction intervals use 1- and 2-year-ahead forecast errors from Blue Chip, CBO, and CEA to extend the Tealbook prediction intervals through 2017.

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

(4 quarters ahead—2016:Q2)

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	.03	.04	.13	.08
Previous Tealbook	.04	.07	.14	.08
<i>Less than 1 percent</i>				
Current Tealbook	.42	.28	.24	.15
Previous Tealbook	.29	.19	.22	.16

Probability of Unemployment Events

(4 quarters ahead—2016:Q2)

Probability that the unemployment rate will ...	Staff	FRB/US	EDO	BVAR
<i>Increase by 1 percentage point</i>				
Current Tealbook	.04	.04	.27	.01
Previous Tealbook	.05	.04	.25	.01
<i>Decrease by 1 percentage point</i>				
Current Tealbook	.11	.04	.03	.37
Previous Tealbook	.10	.04	.04	.35

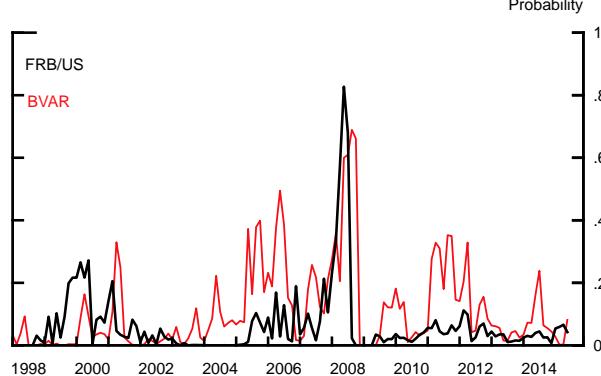
Probability of Near-Term Recession

Probability that real GDP declines in each of 2015:Q3 and 2015:Q4	Staff	FRB/US	EDO	BVAR	Factor Model
Current Tealbook	.05	.02	.03	.03	.17
Previous Tealbook	.04	.03	.03	.03	.41

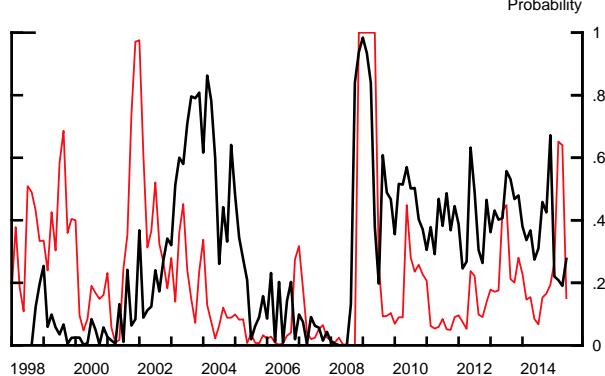
Note: "Staff" represents Tealbook forecast errors applied to the Tealbook baseline; baselines for FRB/US, BVAR, EDO, and the factor model are generated by those models themselves, up to the current-quarter estimate. Data for the current quarter are taken from the staff estimate for the second Tealbook 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.

Assessment of Key Macroeconomic Risks (2)

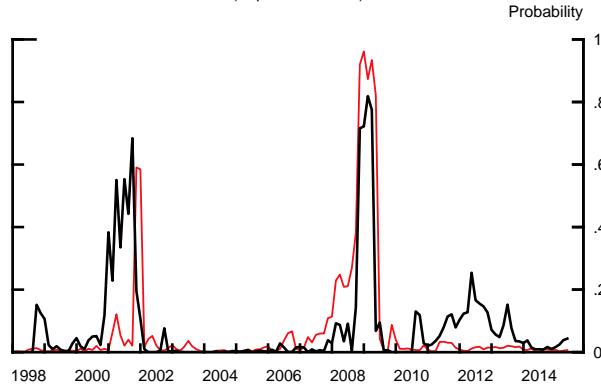
Probability that Total PCE Inflation Is above 3 Percent
(4 quarters ahead)



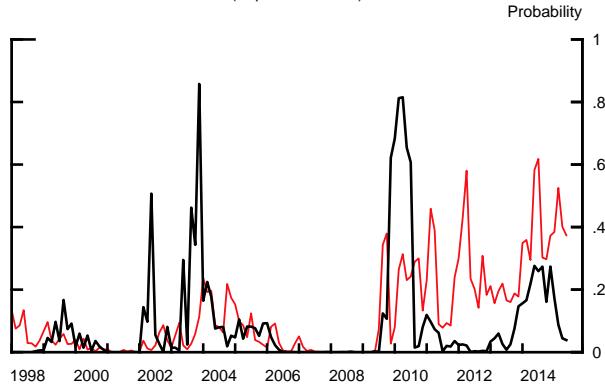
Probability that Total PCE Inflation Is below 1 Percent
(4 quarters ahead)



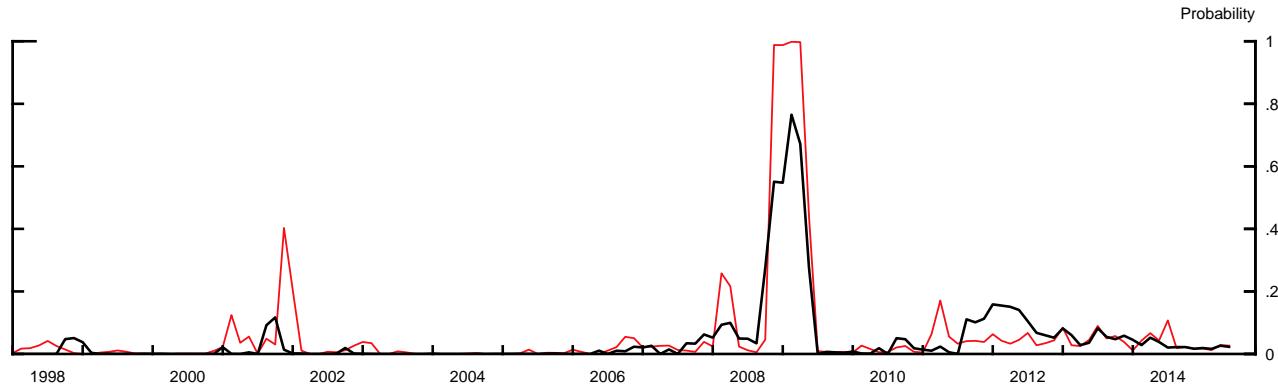
Probability that the Unemployment Rate Increases 1 ppt
(4 quarters ahead)



Probability that the Unemployment Rate Decreases 1 ppt
(4 quarters ahead)



Probability that Real GDP Declines in Each of the Next Two Quarters



Note: See notes on facing page. Recession and inflation probabilities for FRB/US and the BVAR are real-time estimates. See Robert J. Tetlow and Brian Ironside (2007), "Real-Time Model Uncertainty in the United States: The Fed, 1996–2003," *Journal of Money, Credit and Banking*, vol. 39 (October), pp. 1533–61.

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

	Nominal GDP		Real GDP		PCE price index		Core PCE price index		Unemployment rate ¹	
Interval	06/10/15	07/22/15	06/10/15	07/22/15	06/10/15	07/22/15	06/10/15	07/22/15	06/10/15	07/22/15
<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	2.4	2.4	2.2	2.2	-.4	-.4	1.1	1.1	5.7	5.7
2015:Q1	-.6	-.2	-.5	-.2	-2.0	-2.0	.8	.8	5.6	5.6
Q2	5.0	4.7	2.5	2.4	1.9	2.0	1.6	1.7	5.5	5.4
Q3	3.0	3.4	1.9	1.7	1.4	1.2	1.5	1.4	5.4	5.3
Q4	3.6	2.7	2.3	2.3	1.2	.2	1.3	1.3	5.3	5.2
2016:Q1	4.2	4.2	2.3	2.3	1.6	1.7	1.6	1.6	5.3	5.2
Q2	4.1	4.0	2.5	2.5	1.6	1.6	1.6	1.6	5.3	5.2
Q3	4.2	4.0	2.5	2.3	1.6	1.6	1.5	1.5	5.3	5.2
Q4	4.0	4.0	2.4	2.3	1.6	1.6	1.5	1.5	5.2	5.2
<i>Two-quarter²</i>										
2014:Q2	2.9	2.9	1.2	1.2	1.9	1.9	1.6	1.6	-.8	-.8
Q4	4.4	4.4	3.6	3.6	.4	.4	1.2	1.2	-.5	-.5
2015:Q2	2.2	2.2	1.0	1.0	-.1	-.1	1.2	1.2	-.2	-.3
Q4	3.3	3.0	2.1	2.0	1.3	.7	1.4	1.4	-.2	-.2
2016:Q2	4.2	4.1	2.4	2.3	1.6	1.7	1.6	1.6	.0	.0
Q4	4.1	4.0	2.4	2.3	1.6	1.6	1.5	1.5	-.1	-.1
<i>Four-quarter³</i>										
2013:Q4	4.6	4.6	3.1	3.1	1.0	1.0	1.3	1.3	-.8	-.8
2014:Q4	3.7	3.7	2.4	2.4	1.1	1.1	1.4	1.4	-1.3	-1.3
2015:Q4	2.7	2.6	1.6	1.5	.6	.3	1.3	1.3	-.4	-.5
2016:Q4	4.1	4.1	2.4	2.3	1.6	1.6	1.5	1.5	.0	.0
2017:Q4	4.1	4.0	2.2	2.1	1.8	1.7	1.8	1.7	.0	-.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	3.0	3.1	2.0	2.1	.3	.3	1.3	1.3	5.4	5.4
2016	4.0	3.8	2.3	2.2	1.5	1.5	1.5	1.5	5.3	5.2
2017	4.1	4.0	2.3	2.2	1.7	1.7	1.7	1.7	5.2	5.1

- 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			2017 ¹					
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2014 ¹	2015 ¹	2016 ¹	2017 ¹
Real GDP <i>Previous Tealbook</i>	4.6 4.6	5.0 5.0	2.2 2.2	-.2 -.5	2.4 2.5	1.7 1.9	2.3 2.3	2.3 2.3	2.3 2.5	2.3 2.4	2.4 2.4	1.5 1.6	2.3 2.4	2.1 2.2	
Final sales <i>Previous Tealbook</i>	3.2 3.2	5.0 5.0	2.3 2.3	-.6 -.9	2.5 2.4	1.8 2.0	2.3 2.6	1.8 2.2	2.6 2.7	2.4 2.7	2.4 2.4	1.5 1.5	2.4 2.6	2.5 2.6	
Priv. dom. final purch. <i>Previous Tealbook</i>	3.8 3.8	4.1 4.1	4.5 4.5	1.6 1.3	3.0 2.8	3.0 3.3	3.4 3.6	3.6 3.9	3.8 3.9	3.5 3.8	3.5 3.3	3.3 3.3	2.7 2.7	2.9 3.0	
Personal cons. expend. <i>Previous Tealbook</i>	2.5 2.5	3.2 3.2	4.4 4.4	2.1 1.8	2.8 3.4	2.9 3.5	3.3 3.6	3.4 3.5	3.3 3.5	3.2 3.3	3.1 2.8	2.9 2.9	2.8 2.9	3.3 3.3	
Durables	14.1	9.2	6.2	1.3	10.1	6.7	7.5	7.0	6.8	6.5	5.6	8.1	6.4	6.5	4.2
Nondurables	2.2	2.5	4.1	.8	2.6	3.2	2.8	2.5	2.7	2.7	2.8	2.2	2.4	2.7	2.5
Services	.9	2.5	4.3	2.7	1.7	2.2	2.8	3.2	3.0	2.9	2.8	2.2	2.3	3.0	2.5
Residential investment <i>Previous Tealbook</i>	8.8 8.8	3.2 3.2	3.8 3.8	6.5 6.3	8.4 11.3	5.8 6.8	5.0 6.2	11.7 11.6	12.9 13.1	11.4 12.4	10.4 10.8	2.5 2.5	6.4 7.6	11.6 12.0	6.9 8.0
Nonres. priv. fixed invest. <i>Previous Tealbook</i>	9.7 9.7	8.9 8.9	4.7 4.7	-2.0 -2.8	2.5 1.0	2.6 2.0	3.1 3.6	2.6 3.3	4.0 3.9	3.8 3.8	3.6 3.6	6.2 6.2	1.5 .9	3.5 3.7	2.9 2.9
Equipment & intangibles <i>Previous Tealbook</i>	8.9 8.9	10.1 10.1	4.4 4.4	3.5 2.4	4.5 3.7	2.9 3.2	3.6 4.2	4.2 4.7	4.4 4.5	4.2 4.6	4.1 4.5	6.1 6.1	3.6 3.4	4.2 4.6	3.3 3.6
Nonres. structures <i>Previous Tealbook</i>	12.6 12.6	4.8 4.8	5.9 5.9	-18.8 -18.9	-4.3 -8.3	1.4 -2.2	1.3 1.7	-3.3 -2.1	2.5 1.6	2.0 .8	1.9 .4	6.5 6.5	-5.5 -7.3	.8 .2	1.4 .3
Net exports ² <i>Previous Tealbook</i> ²	-460 -460	-431 -431	-471 -471	-548 -546	-558 -554	-591 -617	-621 -667	-677 -667	-711 -699	-751 -738	-763 -746	-453 -453	-580 -577	-726 -712	-804 -785
Exports	11.1	4.5	4.5	-5.9	3.1	.0	1.8	-2.2	1.9	1.3	3.5	2.4	-.3	1.1	3.0
Imports	11.3	-.9	10.4	7.1	4.0	5.1	6.0	6.5	6.5	6.8	4.2	5.6	5.5	6.0	3.7
Gov't. cons. & invest. <i>Previous Tealbook</i>	1.7 1.7	4.4 4.4	-1.9 -1.9	-.6 -.6	1.1 1.3	.2 .3	.6 .5	.3 .6	.6 .3	.8 1.6	.6 .6	.8 1.4	.3 -.6	.6 .4	.8 1.1
Federal	-.9 -.9	9.9 16.0	-7.3 -12.2	0 -1.2	-1.1 -2.0	-1.4 -1.9	-.7 -.9	-1.6 -2.6	-1.1 -1.8	-.6 0.0	-1.4 0.0	.2 1.7	-.8 1.7	-.1 1.2	-1.0 1.0
Defense	-3.8 -3.4	.4 1.1	1.5 1.6	2.0 -1.0	-.5 2.4	1.2 1.4	1.4 1.5	1.5 1.6	1.6 1.7	1.7 1.7	1.7 1.7	1.0 1.2	1.6 1.6	.1 1.9	-1.7 -1.7
Nonddefense															
State & local															
Change in priv. inventories ² <i>Previous Tealbook</i> ²	85 85	82 82	80 80	100 98	95 96	92 88	112 101	101 80	80 84	71 92	95 80	71 67	95 71	98 81	50 39

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	2.7	1.7	1.6	3.1	2.4	1.5	2.3	2.1
Final sales <i>Previous Tealbook</i>	-2.1	-.4	2.0	1.5	2.1	2.6	2.4	1.5	2.4	2.5
Priv. dom. final purch. <i>Previous Tealbook</i>	-4.1	-2.4	3.5	2.6	2.6	3.2	3.3	2.7	2.6	2.6
Personal cons. expend. <i>Previous Tealbook</i>	-2.0	-.2	3.1	1.5	2.0	2.8	2.9	2.8	3.3	2.7
Durables	-12.9	2.5	9.3	4.8	7.5	5.9	8.1	6.4	6.5	4.2
Nondurables	-2.7	.2	3.3	.4	1.0	2.5	2.2	2.4	2.7	2.5
Services	.3	-.8	2.0	1.4	1.5	2.4	2.2	2.3	3.0	2.5
Residential investment <i>Previous Tealbook</i>	-24.3	-10.8	-5.2	6.0	15.8	6.9	2.5	6.4	11.6	6.9
Nonres. priv. fixed invest. <i>Previous Tealbook</i>	-8.9	-12.2	8.1	9.0	3.7	4.7	6.2	1.5	3.5	2.9
Equipment & intangibles <i>Previous Tealbook</i>	-11.8	-6.0	12.0	9.2	3.3	4.8	6.1	3.6	3.7	2.9
Nones. structures <i>Previous Tealbook</i>	-11.8	-6.0	12.0	9.2	3.3	4.8	6.1	3.4	4.2	3.3
Nones. structures <i>Previous Tealbook</i>	-1.2	-27.1	-4.0	8.0	4.8	4.4	6.5	-5.5	8	3.6
Net exports ¹ <i>Previous Tealbook</i>	-558	-395	-459	-459	-452	-420	-453	-580	-726	-804
Exports	-2.8	.8	10.1	4.2	2.4	5.1	2.4	-.3	1.1	3.0
Imports	-6.0	-6.2	12.0	3.5	.4	2.5	5.6	5.5	6.0	3.7
Gov't. cons. & invest. <i>Previous Tealbook</i>	3.3	2.3	-1.1	-3.0	-1.7	-1.9	.8	3	.6	.8
Federal	3.3	2.3	-1.1	-3.0	-1.7	-1.9	.8	4	.8	1.1
Defense	8.4	3.9	3.2	-4.0	-2.6	-6.3	.2	-.8	-1.1	-1.0
Nondefense	9.4	3.6	2.0	-4.1	-4.9	-6.1	-.3	-1.5	-1.9	-1.7
State & local	6.5	4.6	5.5	-3.9	1.4	-6.6	1.1	4	0	1
Change in priv. inventories ¹ <i>Previous Tealbook</i>	-34	-148	58	38	57	64	71	95	98	50
	-34	-148	58	38	57	64	71	95	81	39

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 ¹			2015 ¹			2016 ¹			2017 ¹		
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2014 ¹	2015 ¹	2016 ¹	2017 ¹	2014 ¹	2015 ¹	2016 ¹	2017 ¹		
Real GDP <i>Previous Tealbook</i>	4.6	5.0	2.2	-2	2.4	1.7	2.3	2.3	2.3	2.3	2.3	2.4	2.4	1.5	2.3	2.4	2.4	2.4	2.1		
Final sales <i>Previous Tealbook</i>	3.2	5.0	2.3	-.6	2.5	1.8	2.3	1.8	2.6	2.3	2.9	2.4	1.5	2.4	2.4	2.4	2.4	2.4	2.2		
Priv. dom. final purch. <i>Previous Tealbook</i>	3.2	3.5	3.7	-.9	2.4	2.0	2.5	2.2	2.6	2.6	2.7	2.4	1.5	2.5	2.5	2.6	2.6	2.6	2.6		
Personal cons. expend. <i>Previous Tealbook</i>	1.8	2.2	3.0	1.4	1.9	2.0	2.3	2.4	2.3	2.2	2.2	1.9	1.9	1.9	2.3	2.3	2.3	1.9	1.9		
Durables	1.0	.7	.5	.1	.7	.5	.6	.5	.5	.4	.4	.6	.5	.5	.5	.5	.5	.5	.3		
Nondurables	.3	.4	.6	.1	.4	.5	.4	.4	.4	.4	.4	.3	.3	.4	.4	.4	.4	.4	.2		
Services	.4	1.2	1.9	1.2	.8	1.0	1.3	1.5	1.4	1.4	1.3	1.0	1.1	1.4	1.4	1.4	1.4	1.4	1.2		
Residential investment <i>Previous Tealbook</i>	.3	.1	.1	.2	.3	.2	.2	.4	.4	.4	.4	.1	.1	.2	.4	.4	.4	.4	.3		
Nonres. priv. fixed invest. <i>Previous Tealbook</i>	1.2	1.1	.6	-.3	.3	.3	.4	.3	.5	.5	.5	.8	.8	.2	.4	.4	.4	.4	.4		
Equipment & intangibles <i>Previous Tealbook</i>	1.2	1.1	.6	-.4	.1	.3	.5	.4	.5	.5	.5	.8	.8	.1	.5	.4	.4	.4	.4		
Nonres. structures <i>Previous Tealbook</i>	.8	1.0	.4	.3	.4	.3	.4	.4	.4	.4	.4	.6	.6	.3	.5	.4	.4	.3	.3		
Net exports <i>Previous Tealbook</i>	-.3	.8	-1.0	-1.8	-2	-9	-.6	-1.2	-7	-9	-2	-6	-6	-9	-8	-8	-8	-8	-2		
Exports	1.4	.6	.6	-.8	.4	0	.2	-.3	.2	.2	.4	.3	.3	.0	.1	.4	.4	.4	.4		
Imports	-1.8	.2	-1.6	-1.1	-.6	-.8	-.9	-1.0	-1.0	-1.1	-7	-9	-9	-9	-9	-9	-9	-9	-6		
Gov't. cons. & invest. <i>Previous Tealbook</i>	.3	.8	-.4	-.1	.2	0	-.7	-1.3	-.8	-.9	-2	-6	-6	-9	-8	-8	-8	-8	-2		
Federal Defense	.3	.8	-.4	-.1	.2	0	-.1	0	-.1	0	-.1	0	-.1	0	-.1	0	-.1	0	.2		
Nondefense	-1	.7	-.5	0	-.1	-.1	0	-.1	0	0	0	0	0	0	0	0	0	0	-1		
State & local	.4	.1	.2	-.1	.3	.1	.2	.2	.2	.2	.2	.2	.2	.1	.1	.2	.1	.1	.2		
Change in priv. inventories <i>Previous Tealbook</i>	1.4	0	-.1	.5	-.1	-.1	0	.5	-.3	0	-.5	0	-.3	0	.1	-.1	-.1	-.1	-.3		
	1.4	0	-.1	.4	.1	-.1	-.2	.1	-.2	-.1	-.3	0	0	.0	0	0	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				2017 ¹			
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2014 ¹	2015 ¹	2016 ¹	2017 ¹
GDP chain-wt. price index	2.1	1.4	.1	.0	2.3	1.7	.4	1.8	1.7	1.6	1.6	1.2	1.1	1.7	1.8
<i>Previous Tealbook</i>	2.1	1.4	.1	-.1	2.5	1.1	1.2	1.9	1.7	1.6	1.6	1.2	1.2	1.7	1.8
PCE chain-wt. price index	2.3	1.2	-.4	-2.0	2.0	1.2	.2	1.7	1.6	1.6	1.6	1.1	.3	1.6	1.7
<i>Previous Tealbook</i>	2.3	1.2	-.4	-2.0	1.9	1.4	1.2	1.6	1.6	1.6	1.6	1.1	.6	1.6	1.8
Energy	5.2	-4.0	-26.0	-44.5	15.7	-3.0	-21.5	4.4	2.8	3.1	-6.1	-16.4	3.3	2.3	2.3
<i>Previous Tealbook</i>	5.2	-4.0	-26.0	-44.5	15.6	-.7	-2.8	3.2	2.3	2.1	1.6	-6.1	-11.3	2.3	1.3
Food	4.5	3.1	2.1	-.2	-1.1	1.0	1.5	1.6	1.7	1.8	1.9	2.8	.3	1.8	2.0
<i>Previous Tealbook</i>	4.5	3.1	2.1	-.2	-.9	.8	1.4	1.5	1.6	1.7	1.8	2.8	.3	1.6	1.9
Ex. food & energy	2.0	1.4	1.1	.8	1.7	1.4	1.3	1.6	1.6	1.5	1.5	1.4	1.3	1.5	1.7
<i>Previous Tealbook</i>	2.0	1.4	1.1	.8	1.6	1.5	1.3	1.6	1.6	1.5	1.5	1.4	1.3	1.6	1.8
Ex. food & energy, market based	1.8	1.4	.7	.6	1.7	1.4	1.3	1.6	1.6	1.5	1.5	1.2	1.2	1.5	1.7
<i>Previous Tealbook</i>	1.8	1.4	.7	.5	1.8	1.5	1.3	1.6	1.6	1.5	1.5	1.2	1.3	1.6	1.8
CPI	2.4	1.2	-.9	-3.1	3.0	1.6	.1	2.1	2.0	2.1	2.1	1.2	.4	2.1	2.1
<i>Previous Tealbook</i>	2.4	1.2	-.9	-3.1	3.0	1.7	1.4	2.0	2.0	2.0	2.0	1.2	.7	2.0	2.1
Ex. food & energy	2.2	1.4	1.5	1.7	2.5	1.9	1.7	2.0	2.0	2.0	2.0	1.7	2.0	2.0	2.1
<i>Previous Tealbook</i>	2.2	1.4	1.5	1.7	2.6	1.9	1.7	2.0	2.0	2.0	2.0	1.7	2.0	2.0	2.1
ECI, hourly compensation ²	3.4	2.7	2.0	3.0	2.5	2.6	2.6	2.8	2.8	2.8	2.8	2.3	2.7	2.8	2.8
<i>Previous Tealbook</i>	3.4	2.7	2.0	3.0	2.5	2.6	2.6	2.9	2.9	2.9	2.9	2.3	2.7	2.9	2.9
Business sector															
Output per hour	2.9	3.3	-2.3	-2.4	2.1	1.9	2.2	1.8	1.7	1.7	1.7	-.4	1.0	1.7	1.7
<i>Previous Tealbook</i>	2.9	3.3	-2.3	-2.8	2.3	2.2	2.9	2.0	2.0	1.9	1.8	-4	1.1	1.9	1.9
Compensation per hour	-1.0	2.1	3.1	3.1	2.6	2.3	3.2	3.5	3.1	3.1	3.1	2.6	2.8	3.2	3.3
<i>Previous Tealbook</i>	-1.0	2.1	3.1	3.1	2.7	2.9	3.4	3.5	3.3	3.4	3.4	2.6	3.0	3.4	3.4
Unit labor costs	-3.9	-1.2	5.5	5.6	.4	.3	1.0	1.7	1.4	1.4	1.4	3.0	1.8	1.4	1.5
<i>Previous Tealbook</i>	-3.9	-1.2	5.5	6.1	.4	.7	.5	1.5	1.3	1.4	1.5	3.0	1.9	1.4	1.4
Core goods imports chain-wt. price index ³	.2	.5	-.8	-4.4	-3.0	-.8	-.8	.3	.9	1.2	1.2	.6	-2.3	.9	1.4
<i>Previous Tealbook</i>	.2	.5	-.8	-4.3	-4.0	-.6	-.2	.5	1.0	1.2	1.2	.6	-2.3	1.0	1.5

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	.4	1.8	1.9	1.8	1.4	1.2	1.1	1.7	1.8
PCE chain-wt. price index <i>Previous Tealbook</i>	1.5	1.2	1.3	2.7	1.6	1.0	1.1	.3	1.6	1.7
Energy <i>Previous Tealbook</i>	-8.2	2.3	6.4	12.0	2.1	-2.6	-6.1	-16.4	3.3	2.3
Food <i>Previous Tealbook</i>	6.9	-1.8	1.3	5.1	1.2	.7	2.8	.3	1.8	2.0
Ex. food & energy <i>Previous Tealbook</i>	1.6	1.4	1.0	1.9	1.6	1.3	1.4	1.3	1.5	1.7
Ex. food & energy; market based <i>Previous Tealbook</i>	2.2	1.8	.7	1.9	1.5	1.2	1.2	1.2	1.5	1.7
CPI <i>Previous Tealbook</i>	1.6	1.5	1.2	3.3	1.9	1.2	1.2	.4	2.1	2.1
Ex. food & energy <i>Previous Tealbook</i>	2.0	1.8	.6	2.2	1.9	1.7	1.7	2.0	2.0	2.1
ECI, hourly compensation ¹ <i>Previous Tealbook</i>	2.4	1.2	2.1	2.2	1.8	2.0	2.3	2.7	2.8	2.8
Business sector										
Output per hour <i>Previous Tealbook</i>	-.2	5.6	1.7	.0	.2	2.3	-.4	1.0	1.7	1.7
Compensation per hour <i>Previous Tealbook</i>	2.9	1.3	1.2	.6	5.6	-.1	2.6	2.8	3.2	3.3
Unit labor costs <i>Previous Tealbook</i>	3.2	-4.2	-4	.6	5.6	-.1	2.6	3.0	3.4	3.4
Core goods imports chain-wt. price index ² <i>Previous Tealbook</i>	3.9	-1.9	2.3	4.3	.2	-1.0	.6	-2.3	.9	1.4
	3.9	-1.9	2.3	4.3	.2	-1.0	.6	-2.3	1.0	1.5

1. Private-industry workers.

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

Other Macroeconomic Indicators

Item	2014				2015				2016				2014 ¹	2015 ¹	2016 ¹	2017 ¹
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1				
<i>Employment and production</i>																
Nonfarm payroll employment ²	.8	.7	.9	.8	.6	.7	.6	.6	.5	.5	.5	2.9	2.7	2.1	1.7	1.7
Unemployment rate ³	6.2	6.1	5.7	5.6	5.4	5.3	5.2	5.2	5.2	5.2	5.2	5.7	5.2	5.2	5.1	5.1
<i>Previous Tealbook</i> ³	6.2	6.1	5.7	5.6	5.5	5.4	5.3	5.3	5.2	5.2	5.2	5.7	5.3	5.2	5.2	5.2
Natural rate of unemployment ³	5.2	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
<i>Previous Tealbook</i> ³	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	5.2
Employment-to-Population Ratio ³	58.9	59.0	59.2	59.3	59.4	59.4	59.4	59.4	59.4	59.4	59.4	59.2	59.4	59.4	59.2	59.2
Employment-to-Population Trend ³	60.2	60.1	60.0	60.0	59.9	59.8	59.7	59.7	59.6	59.5	59.4	60.0	59.7	59.4	59.4	59.1
GDP gap ⁴	-2.3	-1.4	-1.0	-1.5	-1.3	-1.2	-1.0	-1.0	-.9	-.7	-.5	-4	-1.0	-1.0	-4	.1
<i>Previous Tealbook</i> ⁴	-2.3	-1.3	-1.0	-1.5	-1.3	-1.2	-1.0	-1.0	-.9	-.7	-.5	-4	-1.0	-1.0	-4	.1
Industrial production ⁵	5.7	3.9	4.7	-2	-1.7	1.2	0	1.2	2.7	2.1	1.9	4.5	-2	2.0	2.0	2.0
<i>Previous Tealbook</i> ⁵	5.7	4.1	4.6	-.7	-1.8	1.3	-.5	1.2	2.6	1.8	1.7	4.6	-2	2.0	2.0	2.0
Manufacturing industr. prod. ⁵	5.9	3.8	3.4	-.7	1.5	1.7	1.2	1.4	2.5	2.3	2.2	3.4	.9	1.8	1.9	1.9
<i>Previous Tealbook</i> ⁵	7.0	4.4	3.8	-1.0	.1	1.3	1.1	1.2	2.4	2.1	2.0	4.1	.4	1.8	1.8	1.8
Capacity utilization rate - mfg. ³	75.1	75.7	76.2	75.9	75.9	76.0	76.0	76.1	76.3	76.4	76.2	76.0	76.4	76.6	76.6	76.6
<i>Previous Tealbook</i> ³	77.1	77.5	77.8	77.3	77.0	76.9	76.8	76.7	76.9	76.9	76.9	77.8	76.8	76.9	76.8	76.8
Housing starts ⁶	1.0	1.0	1.1	1.0	1.1	1.1	1.1	1.2	1.3	1.4	1.4	1.0	1.1	1.3	1.5	1.5
Light motor vehicle sales ⁶	16.5	16.7	16.7	16.6	17.1	16.9	16.8	16.8	16.8	16.8	16.8	16.4	16.8	16.8	16.7	16.7
<i>Income and saving</i>																
Nominal GDP ⁵	6.8	6.4	2.4	-.2	4.7	3.4	2.7	4.2	4.0	4.0	4.0	3.7	2.6	4.1	4.0	4.0
Real disposable pers. income ⁵	3.1	2.4	4.1	5.3	3.0	1.7	2.6	3.9	2.3	2.3	2.3	3.3	3.2	2.7	2.5	2.5
<i>Previous Tealbook</i> ⁵	3.1	2.4	4.1	5.4	2.3	2.1	2.0	3.6	2.4	2.5	2.6	3.3	2.9	2.8	2.5	2.5
Personal saving rate ³	5.1	4.8	4.7	5.4	5.4	5.1	5.0	5.1	4.8	4.6	4.4	4.7	5.0	4.4	4.2	4.2
<i>Previous Tealbook</i> ³	5.1	4.8	4.7	5.5	5.3	5.0	4.6	4.7	4.4	4.2	4.2	4.7	4.6	4.2	4.0	4.0
Corporate profits ⁷	38.3	12.8	-5.5	-19.2	16.3	4.0	-9.9	-.7	-.5	3.4	4.5	-.2	-3.1	1.6	-.1	-.1
Profit share of GNP ³	12.0	12.2	12.0	11.4	11.7	11.7	11.3	11.2	11.1	11.1	11.1	12.0	11.3	11.1	10.6	10.6
Gross national saving rate ³	17.9	18.1	18.2	18.5	18.0	17.9	17.8	17.6	17.5	17.4	17.4	18.2	17.8	17.4	17.2	17.2
Net national saving rate ³	2.9	3.1	3.2	3.4	3.1	2.9	2.8	2.5	2.4	2.2	2.1	3.2	2.8	2.1	1.6	1.6

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.

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 ¹	-2.8	-5.6	.8	2.0	2.2	2.5	2.9	2.7	2.1	1.7
Unemployment rate ²	6.9	9.9	9.5	8.7	7.8	7.0	5.7	5.2	5.2	5.1
<i>Previous Tealbook</i> ²	6.9	9.9	9.5	8.7	7.8	7.0	5.7	5.3	5.2	5.2
Natural rate of unemployment ²	5.6	6.2	6.2	6.0	5.8	5.4	5.1	5.1	5.1	5.1
<i>Previous Tealbook</i> ²	5.6	6.2	6.2	6.0	5.8	5.4	5.2	5.2	5.2	5.2
Employment-to-Population Ratio ²	61.4	58.4	58.3	58.5	58.7	58.5	59.2	59.4	59.4	59.2
Employment-to-Population Trend ²	62.0	61.3	60.9	60.6	60.3	60.2	60.0	59.7	59.4	59.1
GDP gap ³	-3.8	-5.5	-4.4	-4.2	-4.1	-2.8	-1.0	-1.0	-4	-1
<i>Previous Tealbook</i> ³	-3.8	-5.5	-4.4	-4.2	-4.1	-2.8	-1.0	-1.0	-4	-1
Industrial production ⁴	-8.9	-5.4	5.9	2.8	2.1	2.3	4.5	-2	2.0	2.0
<i>Previous Tealbook</i> ⁴	-8.9	-5.5	6.2	3.2	3.2	3.3	4.6	-4	1.8	1.9
Manufacturing industr. prod. ⁴	-11.5	-6.1	6.0	2.7	1.5	1.3	3.4	.9	2.1	1.8
<i>Previous Tealbook</i> ⁴	-11.6	-6.1	6.4	3.1	3.5	2.9	4.1	.4	1.9	1.7
Capacity utilization rate - mfg. ²	70.2	67.1	72.5	74.4	74.1	74.2	76.2	76.0	76.4	76.6
<i>Previous Tealbook</i> ²	70.0	67.1	72.7	74.6	75.5	76.4	77.8	76.8	76.9	76.8
Housing starts ⁵	.9	.6	11.5	12.7	.8	.9	1.0	1.1	1.3	1.5
Light motor vehicle sales ⁵	13.1	10.4	11.5	12.7	14.4	15.5	16.4	16.8	16.8	16.7
<i>Income and saving</i>										
Nominal GDP ⁴	-.9	.1	4.6	3.6	3.5	4.6	3.7	2.6	4.1	4.0
Real disposable pers. income ⁴	1.1	-.7	2.6	1.7	5.0	-1.9	3.3	3.2	2.7	2.5
<i>Previous Tealbook</i> ⁴	1.1	-.7	2.6	1.7	5.0	-1.9	3.3	2.9	2.8	2.5
Personal saving rate ²	6.1	5.6	5.5	5.8	8.6	4.4	4.7	5.0	4.4	4.2
<i>Previous Tealbook</i> ²	6.1	5.6	5.5	5.8	8.6	4.4	4.7	4.6	4.2	4.0
Corporate profits ⁶	-30.8	53.7	18.0	6.8	3.8	4.7	-2	-3.1	1.6	-1
Profit share of GNP ²	6.9	10.6	12.0	12.3	12.4	12.4	12.0	11.3	11.1	10.6
Gross national saving rate ²	14.9	14.6	15.2	16.1	17.8	17.9	18.2	17.8	17.4	17.2
Net national saving rate ²	-1.6	-1.7	-.4	.8	2.8	3.0	3.2	2.8	2.1	1.6

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.

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 ^a	Q2 ^a	Q3 ^a	Q4 ^a	Q1 ^a	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Unified budget																
Receipts	3,021	3,259	3,426	3,550	656	938	760	739	680	1,027	812	751	722	1,087	866	803
Outlays	3,504	3,652	3,869	4,029	897	890	877	916	943	901	892	1,003	946	950	971	983
Surplus/deficit	-482	-393	-443	-478	-241	47	-117	-177	-263	126	-80	-253	-223	138	-105	-180
<i>Previous Tealbook</i>	-482	-441	-444	-470	-241	47	-117	-177	-263	81	-82	-239	-230	130	-106	-166
Means of financing:																
Borrowing	798	323	401	596	262	-46	211	240	67	-16	32	29	353	-94	113	195
Cash decrease	-70	-51	62	2	20	3	-19	-65	123	-154	45	154	-99	-14	21	16
Other ¹	-245	122	-20	-120	-42	-4	-74	1	73	44	3	70	-30	-30	-30	-30
Cash operating balance, end of period	158	209	147	145	142	139	158	223	100	254	209	56	155	169	147	132
NIPA federal sector																
Receipts	3,267	3,436	3,566	3,703	3,243	3,277	3,342	3,349	3,418	3,471	3,508	3,522	3,539	3,579	3,625	3,669
Expenditures	3,844	3,977	4,135	4,341	3,803	3,875	3,953	3,901	3,906	4,041	4,061	4,035	4,142	4,155	4,209	4,260
Consumption expenditures	963	962	970	982	957	956	988	961	962	963	962	963	971	973	973	973
Defense	617	612	613	616	610	610	614	614	612	612	611	611	614	614	613	613
Nondefense	346	350	356	366	347	345	347	347	350	351	352	352	357	359	361	361
Other spending	2,882	3,015	3,166	3,359	2,846	2,920	2,965	2,944	3,078	3,099	3,072	3,172	3,183	3,236	3,287	3,287
Current account surplus	-577	-541	-569	-638	-560	-599	-611	-552	-488	-571	-553	-514	-603	-575	-584	-591
Gross investment	256	253	250	248	251	255	254	256	254	253	251	251	250	249	249	248
Gross saving less gross investment ²	-561	-516	-534	-595	-539	-580	-589	-532	-464	-544	-524	-482	-569	-539	-546	-551
Fiscal indicators																
High-employment (HEB) surplus/deficit ³	-403.1	-445.9	-490.1	-584.0	-342.2	-425.5	-486.4	-453.9	-386.6	-479.9	-463.3	-427.3	-519.0	-497.8	-516.2	-531.7
Change in HEB, percent of potential GDP	-1.0	.2	.2	.4	-.1	.5	.3	-.2	-.4	.5	-.1	-.2	.5	-.1	.1	.1
Fiscal impetus (FI), percent of GDP ⁴	-.1	.2	.2	.2	-.6	.0	.7	-.4	-.2	.4	.3	.3	.1	.2	.3	.2
<i>Previous Tealbook</i>	-.1	.2	.3	.3	-.6	.0	.7	-.4	-.1	.4	.3	.3	.2	.2	.4	.2
Federal purchases	.0	-1	-1	.0	-.1	-.1	.1	-.5	.0	-.1	.0	-.1	-.1	-.1	0	-1
State and local purchases	.1	.1	.2	.2	.1	.1	.4	.1	.2	.1	.3	.1	.2	.2	.2	.2
Taxes and transfers	-.2	.2	.1	.1	-.5	.1	-.3	-.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 2016			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Real GDP¹												
Total foreign	2.2	2.4	2.9	2.5	1.6	1.7	2.5	2.8	3.0	3.1	3.1	3.1
<i>Previous Tealbook</i>	2.1	2.3	2.8	2.4	1.6	2.2	2.7	2.9	3.0	3.0	3.1	3.1
Advanced foreign economies	1.7	1.4	1.8	2.0	.8	.7	1.8	2.1	2.3	2.3	2.3	2.3
Canada	1.0	3.4	3.2	2.2	-.6	-2.0	2.4	2.6	2.6	2.5	2.5	2.3
Japan	4.4	-6.8	-2.0	1.2	3.9	-.5	1.5	1.4	1.3	1.3	1.2	1.4
United Kingdom	3.6	3.7	2.9	3.4	1.5	2.4	2.5	2.5	2.8	2.8	2.8	2.8
Euro area	.9	.4	.7	1.4	1.5	1.6	1.4	1.8	1.9	2.1	2.2	2.3
Germany	3.1	-.3	.3	2.8	1.1	1.7	1.7	1.9	2.0	2.2	2.3	2.4
Emerging market economies	2.8	3.3	3.9	3.0	2.4	2.7	3.2	3.5	3.8	3.8	4.0	4.0
Asia	4.5	4.9	6.2	4.0	4.0	4.8	5.0	5.1	5.2	5.2	5.2	5.2
Korea	4.4	2.0	3.2	1.1	3.3	2.3	3.5	4.2	4.2	4.2	4.2	4.1
China	6.4	7.6	8.1	7.0	5.1	7.8	7.2	6.8	6.6	6.6	6.6	6.6
Latin America	1.2	2.1	2.1	2.1	1.1	1.0	1.8	2.1	2.6	2.6	2.9	2.9
Mexico	2.0	3.7	2.1	2.7	1.6	2.3	2.9	3.0	3.1	3.1	3.1	3.1
Brazil	2.9	-5.5	.6	1.1	-.6	-4.2	-1.1	.4	1.2	1.6	1.7	1.9
<i>Consumer prices²</i>												
Total foreign	2.0	2.9	2.0	1.1	-.1	2.6	2.2	2.2	2.4	2.4	2.4	2.5
<i>Previous Tealbook</i>	2.0	3.0	2.0	1.1	-.1	2.1	2.2	2.4	2.4	2.4	2.5	2.5
Advanced foreign economies	1.4	3.0	.8	-.4	-.9	1.9	1.0	1.3	1.4	1.5	1.6	1.6
Canada	3.2	3.3	1.2	0	-.2	2.5	1.4	1.8	1.8	1.8	1.9	1.9
Japan	.7	9.3	1.3	-.8	-.3	1.0	.2	.5	.8	1.0	1.1	1.2
United Kingdom	1.5	1.7	1.2	-.7	-1.7	1.1	1.5	1.6	1.8	1.8	1.8	1.9
Euro area	.4	.4	.4	-.5	-1.5	2.5	1.1	1.3	1.4	1.4	1.5	1.6
Germany	.4	.3	1.4	-.4	-1.7	2.3	1.4	1.4	1.5	1.6	1.7	1.8
Emerging market economies	2.5	2.9	2.9	2.3	.4	3.1	2.9	3.1	3.1	3.1	3.1	3.1
Asia	1.4	2.4	2.1	1.2	-.3	2.8	2.7	2.5	2.8	2.8	2.8	2.8
Korea	1.4	2.2	.6	-.2	-.3	2.0	2.6	2.8	3.1	3.2	3.2	3.2
China	.8	2.0	2.2	1.0	-.4	2.6	2.5	2.2	2.5	2.5	2.5	2.5
Latin America	5.3	4.3	4.9	4.8	1.6	3.9	3.9	3.9	3.8	3.8	3.8	3.8
Mexico	4.8	3.3	4.4	4.2	.3	2.8	3.1	3.3	3.3	3.3	3.3	3.3
Brazil	6.5	7.4	6.2	6.0	11.1	10.8	7.9	5.7	5.7	5.7	5.7	5.6

¹Foreign GDP aggregates calculated using shares of U.S. exports.²Foreign 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	2014	2015	2016	2017
Real GDP¹									
Total foreign	.9	4.8	3.2	2.3	2.7	2.5	2.2	3.1	3.0
<i>Previous Tealbook</i>	.9	4.8	3.2	2.3	2.6	2.4	2.3	3.0	2.9
Advanced foreign economies	-1.5	3.1	1.8	.3	1.9	1.7	1.3	2.3	1.9
Canada	-1.4	3.6	3.0	1.0	2.7	2.5	.9	2.5	2.1
Japan	-.6	3.6	.3	.0	2.3	-.9	1.8	1.3	-.3
United Kingdom	-1.5	2.2	1.5	.4	2.4	3.4	2.2	2.8	2.4
Euro area	-2.4	2.3	.6	-.9	.5	.9	1.6	2.1	2.2
Germany	-3.0	4.4	2.4	.1	1.1	1.5	1.6	2.2	2.2
Emerging market economies	3.7	6.7	4.6	4.3	3.4	3.2	2.9	3.9	3.9
Asia	7.5	8.3	4.9	5.7	5.3	4.9	4.7	5.2	5.1
Korea	4.9	6.1	2.9	2.1	3.4	2.7	3.3	4.2	3.8
China	11.4	9.7	8.7	7.8	7.5	7.3	6.7	6.6	6.5
Latin America	.0	4.7	4.2	3.4	1.5	1.9	1.5	2.7	3.0
Mexico	-1.2	4.4	4.2	3.4	1.0	2.6	2.4	3.1	3.1
Brazil	5.2	5.8	2.5	2.3	2.1	-.3	-1.4	1.6	2.3
Consumer prices ²									
Total foreign	1.2	3.2	3.4	2.3	2.3	2.0	1.7	2.4	2.6
<i>Previous Tealbook</i>	1.2	3.2	3.4	2.3	2.3	2.0	1.6	2.4	2.6
Advanced foreign economies	.2	1.7	2.2	1.3	1.0	1.2	.8	1.5	2.0
Canada	.8	2.2	2.7	1.0	1.0	1.9	1.4	1.8	2.0
Japan	-2.0	-.3	-.3	-.2	1.4	2.5	.4	1.0	2.6
United Kingdom	2.2	3.4	4.6	2.6	2.1	.9	.6	1.8	2.0
Euro area	.4	2.0	2.9	2.3	.8	.2	.8	1.5	1.7
Germany	.3	1.6	2.6	2.0	1.3	.4	.8	1.6	1.8
Emerging market economies	2.0	4.3	4.3	3.1	3.3	2.6	2.4	3.1	3.1
Asia	1.2	4.3	4.5	2.6	3.1	1.8	1.9	2.8	2.8
Korea	2.4	3.2	3.9	1.7	1.1	1.0	1.8	3.2	3.2
China	.6	4.6	4.6	2.1	2.9	1.5	1.7	2.5	2.5
Latin America	3.9	4.4	4.0	4.3	4.0	4.8	3.3	3.8	3.7
Mexico	4.0	4.3	3.5	4.1	3.7	4.2	2.4	3.3	3.3
Brazil	4.3	5.6	6.7	5.6	5.9	6.5	8.9	5.6	5.4

¹ Foreign GDP aggregates calculated using shares of U.S. exports.

² Foreign CPI aggregates calculated using shares of U.S. non-oil imports.

**U.S. Current Account
Quarterly Data**

	2014				2015				Projected 2016			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<i>Billions of dollars, s.a.a.r.</i>												
U.S. current account balance	-385.8	-368.2	-391.6	-412.6	-453.3	-440.7	-470.5	-507.2	-586.6	-596.3	-643.9	-664.0
<i>Previous Tealbook</i>	-411.5	-383.1	-403.4	-459.0	-499.4	-496.2	-535.4	-561.7	-628.4	-630.0	-676.9	-697.8
Current account as percent of GDP	-2.3	-2.1	-2.2	-2.3	-2.6	-2.5	-2.6	-2.8	-3.2	-3.2	-3.4	-3.5
<i>Previous Tealbook</i>	-2.4	-2.2	-2.3	-2.6	-2.8	-2.8	-3.0	-3.1	-3.4	-3.4	-3.6	-3.7
Net goods & services	-501.7	-514.8	-503.5	-513.3	-521.0	-508.1	-521.6	-555.5	-615.1	-642.2	-686.7	-707.3
Investment income, net	242.1	241.2	256.4	249.9	212.7	206.5	192.7	187.5	186.3	185.0	184.5	182.5
Direct, net	302.8	289.6	306.9	302.5	283.6	295.6	284.2	286.7	295.1	305.3	318.9	332.4
Portfolio, net	-60.7	-48.4	-50.4	-52.7	-71.0	-89.1	-91.5	-99.2	-108.8	-120.3	-134.4	-149.9
Other income and transfers, net	-126.2	-94.6	-144.6	-149.1	-145.0	-139.1	-141.7	-139.3	-157.8	-139.1	-141.7	-139.3
<i>Annual Data</i>												
U.S. current account balance	-384.0	-442.0	-460.4	-449.7	-376.8	-389.5	-468.0	-622.7	-723.0	-658.3	-747.6	
<i>Previous Tealbook</i>	-380.8	-443.9	-459.3	-459.9	-402.3	-414.2	-523.2	-523.2	-523.2	-658.3	-658.3	
Current account as percent of GDP	-2.7	-3.0	-3.0	-2.8	-2.2	-2.2	-2.6	-2.6	-2.6	-3.3	-3.3	-3.7
<i>Previous Tealbook</i>	-2.6	-3.0	-3.0	-2.8	-2.4	-2.4	-2.9	-2.9	-2.9	-3.5	-3.5	-3.8
Net goods & services	-383.8	-494.7	-548.6	-536.8	-478.4	-508.3	-526.6	-526.6	-526.6	-662.8	-662.8	-754.6
Investment income, net	132.3	185.7	229.0	220.8	233.6	247.4	199.9	199.9	199.9	184.6	184.6	176.1
Direct, net	257.7	288.0	298.6	290.2	301.7	300.5	287.6	287.6	287.6	312.9	312.9	371.4
Portfolio, net	-125.4	-102.3	-69.5	-69.4	-68.1	-53.1	-87.7	-87.7	-87.7	-128.3	-128.3	-195.3
Other income and transfers, net	-132.5	-133.0	-140.8	-133.7	-132.0	-128.6	-141.2	-141.2	-141.2	-144.4	-144.4	-144.4

Abbreviations

ABS	asset-backed securities
AFE	advanced foreign economy
BEA	Bureau of Economic Analysis
BOC	Bank of Canada
BOE	Bank of England
C&I	commercial and industrial
CMBS	commercial mortgage-backed securities
CPI	consumer price index
CRE	commercial real estate
Desk	Open Market Desk
DPI	disposable personal income
DSGE	dynamic stochastic general equilibrium
ECB	European Central Bank
EDO	Estimated Dynamic Optimization-based Model
EMBI	Emerging Market Bond Index
EME	emerging market economy
FOMC	Federal Open Market Committee; also, the Committee
GDP	gross domestic product
GSE	government-sponsored enterprise
M&A	mergers and acquisitions
MBS	mortgage-backed securities
MERS	Middle East Respiratory Syndrome
OIS	overnight index swap
ON RRP	overnight reverse repurchase agreement
OPEC	Organization of the Petroleum Exporting Countries
PCE	personal consumption expenditures
PMI	purchasing managers index
QE	quantitative easing

QS	quantitative surveillance
repo	repurchase agreement
RRP	reverse repurchase agreement
SEP	Summary of Economic Projections
SLOOS	Senior Loan Officer Opinion Survey on Bank Lending Practices
SNB	Swiss National Bank
SOMA	System Open Market Account
S&P	Standard & Poor's
TIPS	Treasury Inflation-Protected Securities

Class I FOMC – Restricted Controlled (FR)

Report to the FOMC on Economic Conditions and Monetary Policy



Book B Monetary Policy: Strategies and Alternatives

July 23, 2015

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 Rules¹

	<u>2015:Q3</u>	<u>2015:Q4</u>
Taylor (1993) rule	1.77	1.92
<i>Previous Tealbook</i>	1.78	1.95
Taylor (1999) rule	1.16	1.40
<i>Previous Tealbook</i>	1.18	1.44
Inertial Taylor (1999) rule	0.28	0.45
<i>Previous Tealbook outlook</i>	0.29	0.46
First-difference rule	0.13	0.20
<i>Previous Tealbook outlook</i>	0.16	0.26

Memo: Equilibrium and Actual Real Federal Funds Rates²

	Current Tealbook	<i>Current Quarter Estimate as of Previous Tealbook</i>	Previous Tealbook
Tealbook-consistent FRB/US r^* estimate	-0.06	-0.14	-0.30
Actual real federal funds rate	-1.11		-1.18

1. For rules that have a lagged policy rate as a right-hand-side variable, the lines denoted "Previous Tealbook outlook" report rule prescriptions based on the previous Tealbook's staff outlook, but jumping off from the realized value for the policy rate last quarter.

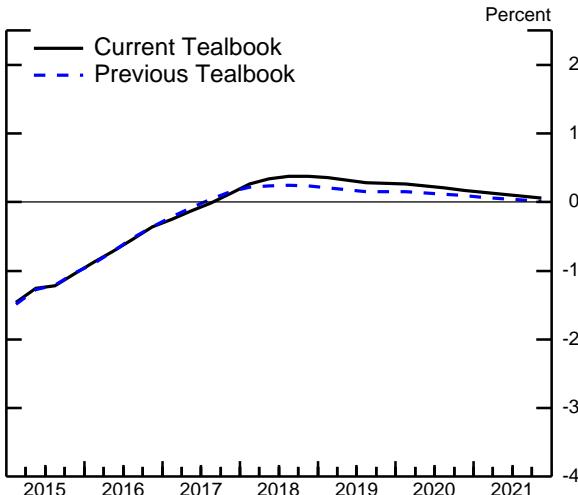
2. Estimates of r^* may change at the beginning of a quarter even when the staff outlook is unchanged because the twelve-quarter horizon covered by the calculation has rolled forward one quarter. Therefore, whenever the Tealbook is published early in the quarter, the memo includes an extra column labeled "Current Quarter Estimate as of Previous Tealbook" to facilitate comparison with the current Tealbook estimate.

Key Elements of the Staff Projection

GDP Gap

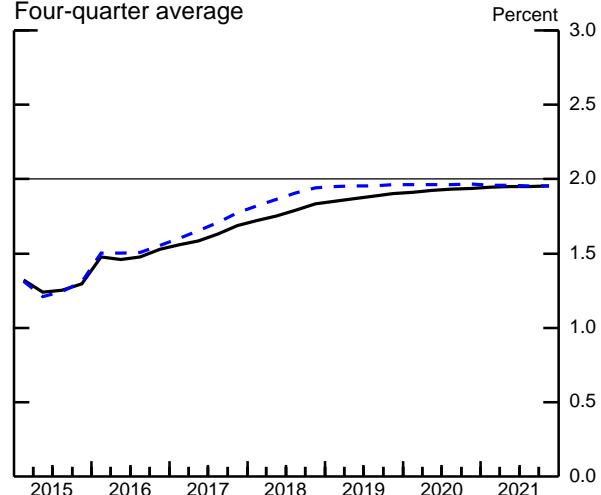
Percent

— Current Tealbook
- - - Previous Tealbook



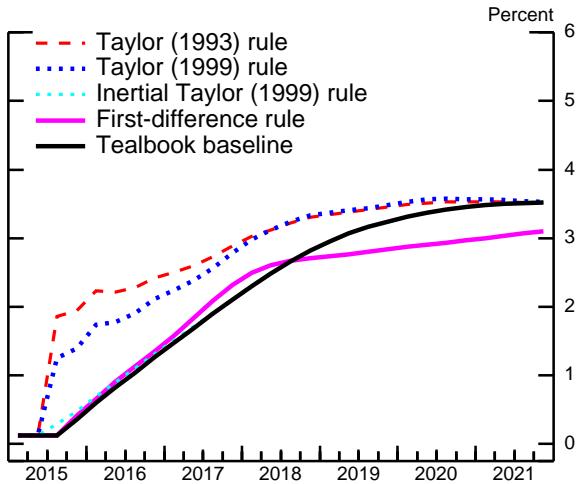
PCE Prices Excluding Food and Energy
Four-quarter average

Percent

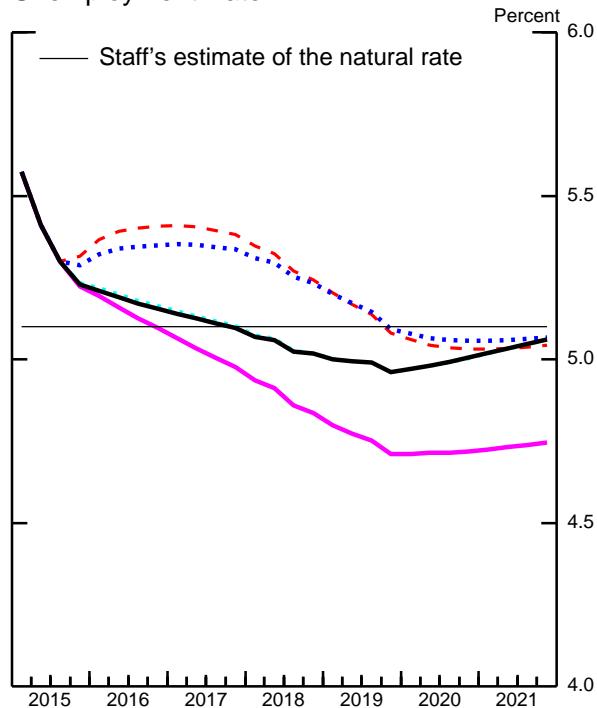


Policy Rule Simulations

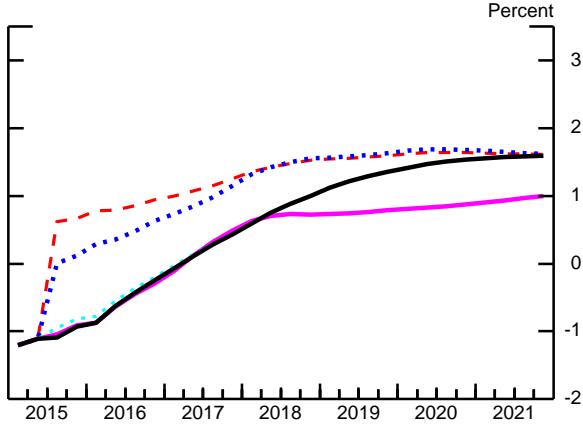
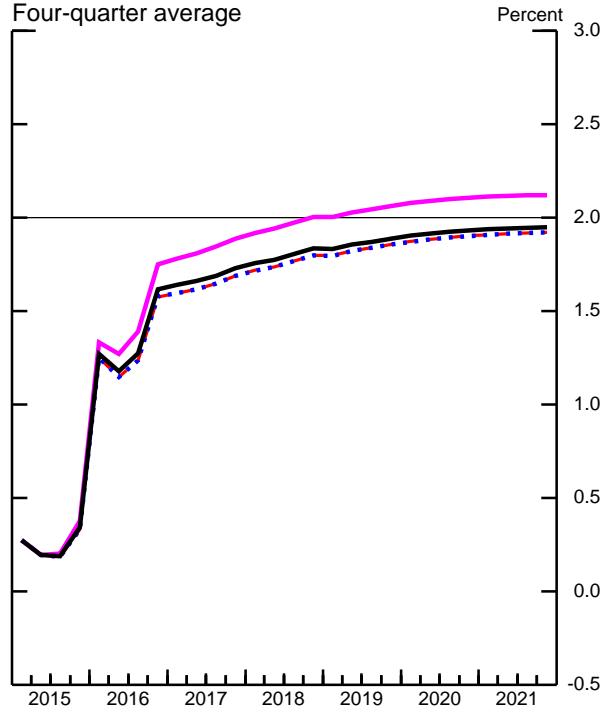
Effective Nominal Federal Funds Rate



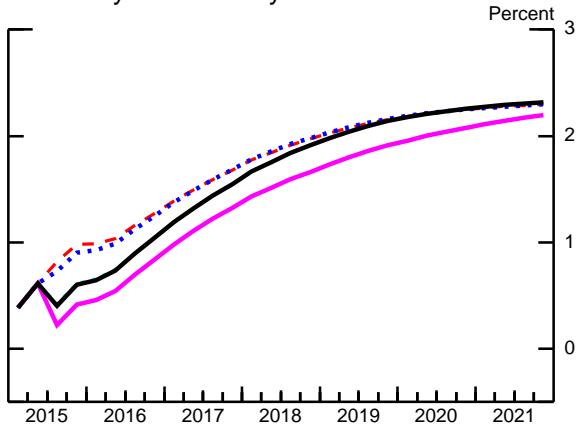
Unemployment Rate



Real Federal Funds Rate

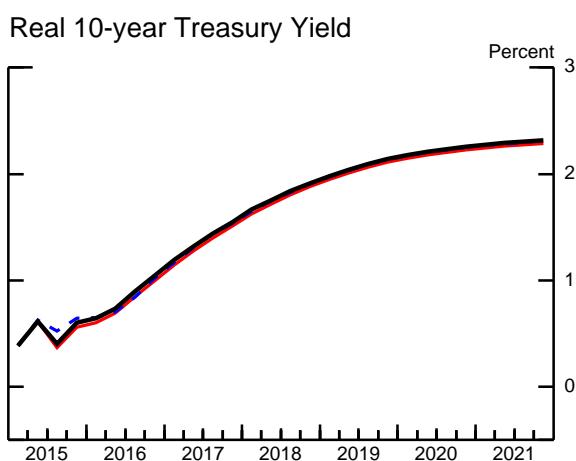
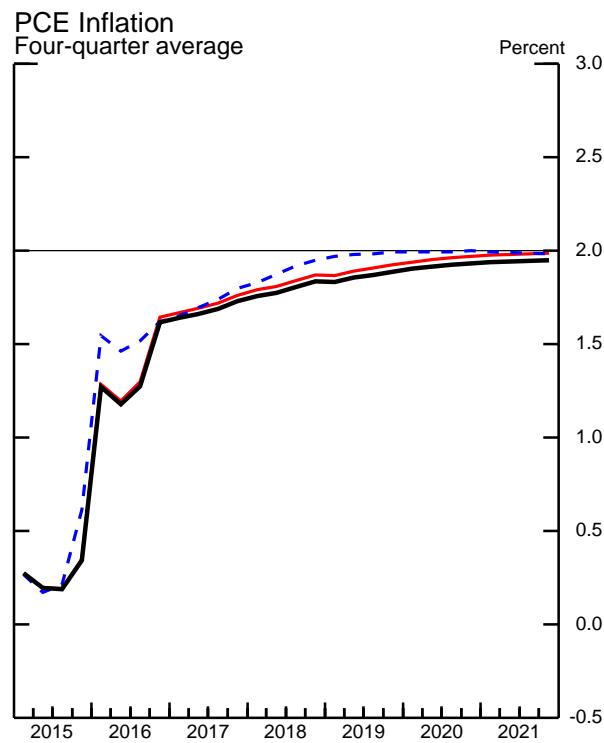
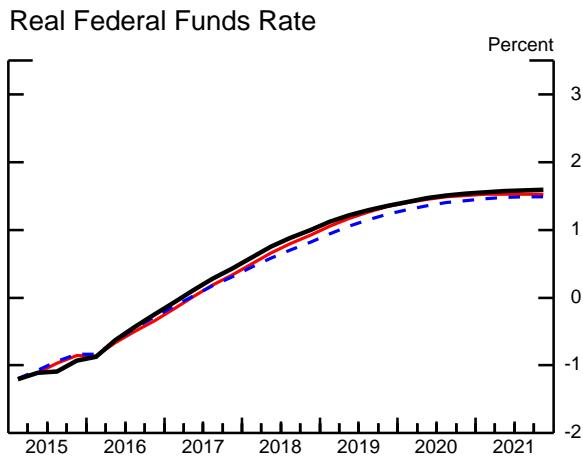
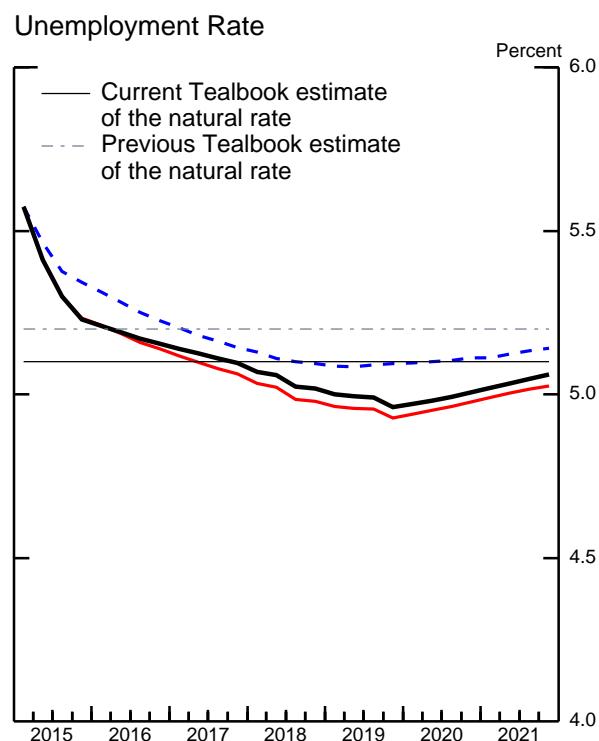
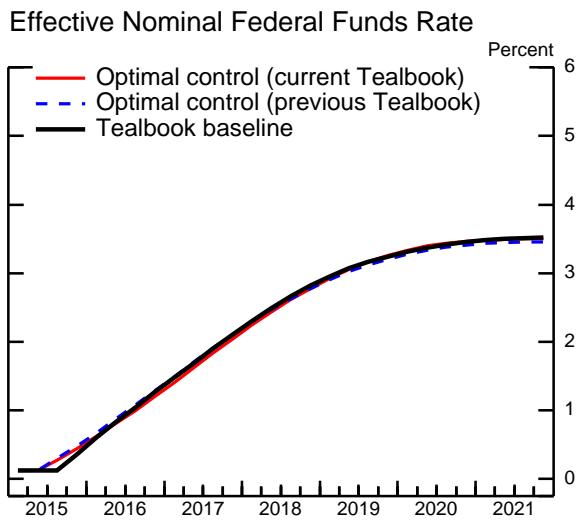
PCE Inflation
Four-quarter average

Real 10-year Treasury Yield

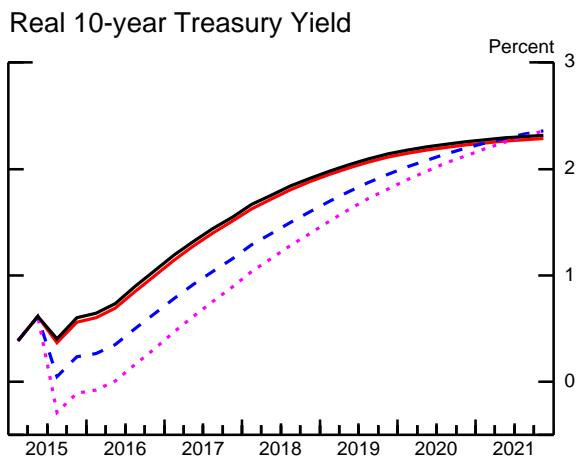
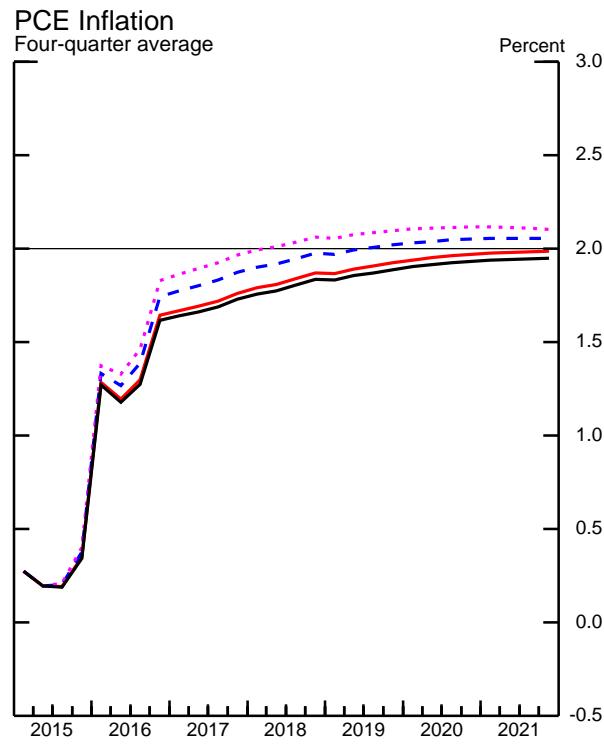
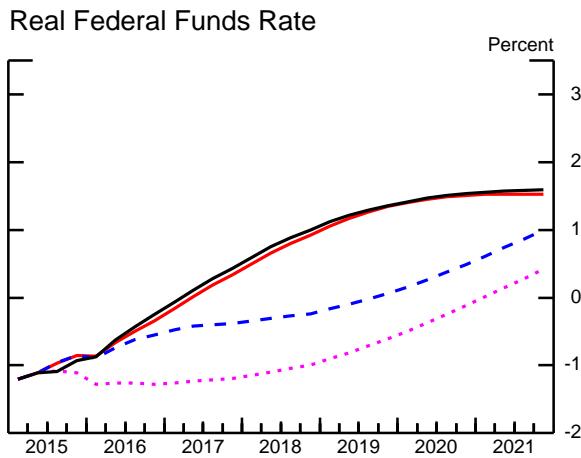
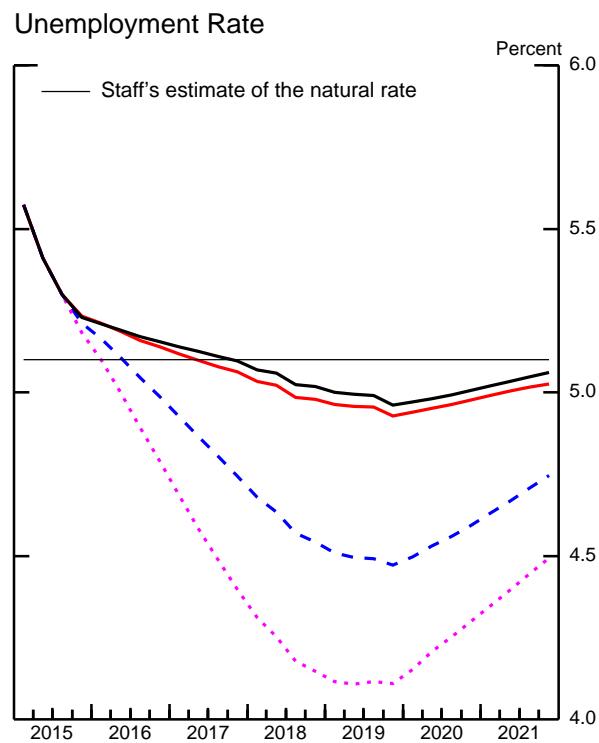
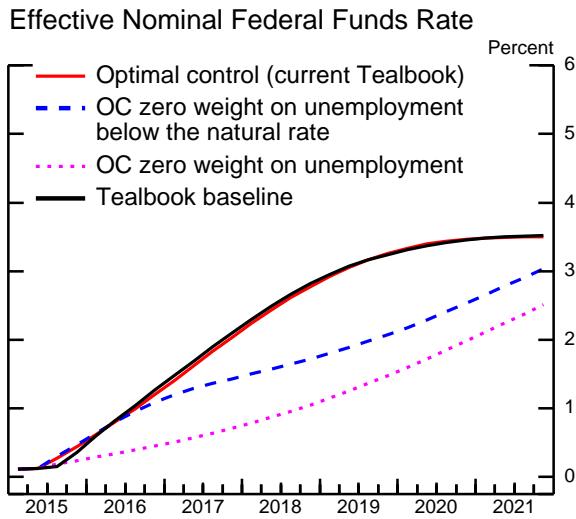


Note: The policy rule simulations in this exhibit are based on rules that respond to core inflation. This choice of rule specification was made in light of the tendency for current and near-term core inflation rates to outperform headline inflation rates as predictors of the medium-term behavior of headline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

Optimal Control Policy under Commitment



Optimal Control Policy under Commitment With Alternative Preferences for Labor Market Outcomes



Note: The lines labeled "Optimal control (current Tealbook)" correspond to the current Tealbook baseline optimal control policy under commitment, which embeds the assumption that policymakers' loss function places equal weights on squared deviations of inflation, the unemployment gap, and federal funds rate changes. The lines labeled "OC zero weight on unemployment below the natural rate" correspond to a loss function that places no weight on the unemployment gap when unemployment falls below the staff's estimate of the natural rate. The lines labeled "OC zero weight on unemployment" correspond to a loss function that places no weight on the unemployment gap.

Outcomes under Alternative Policies

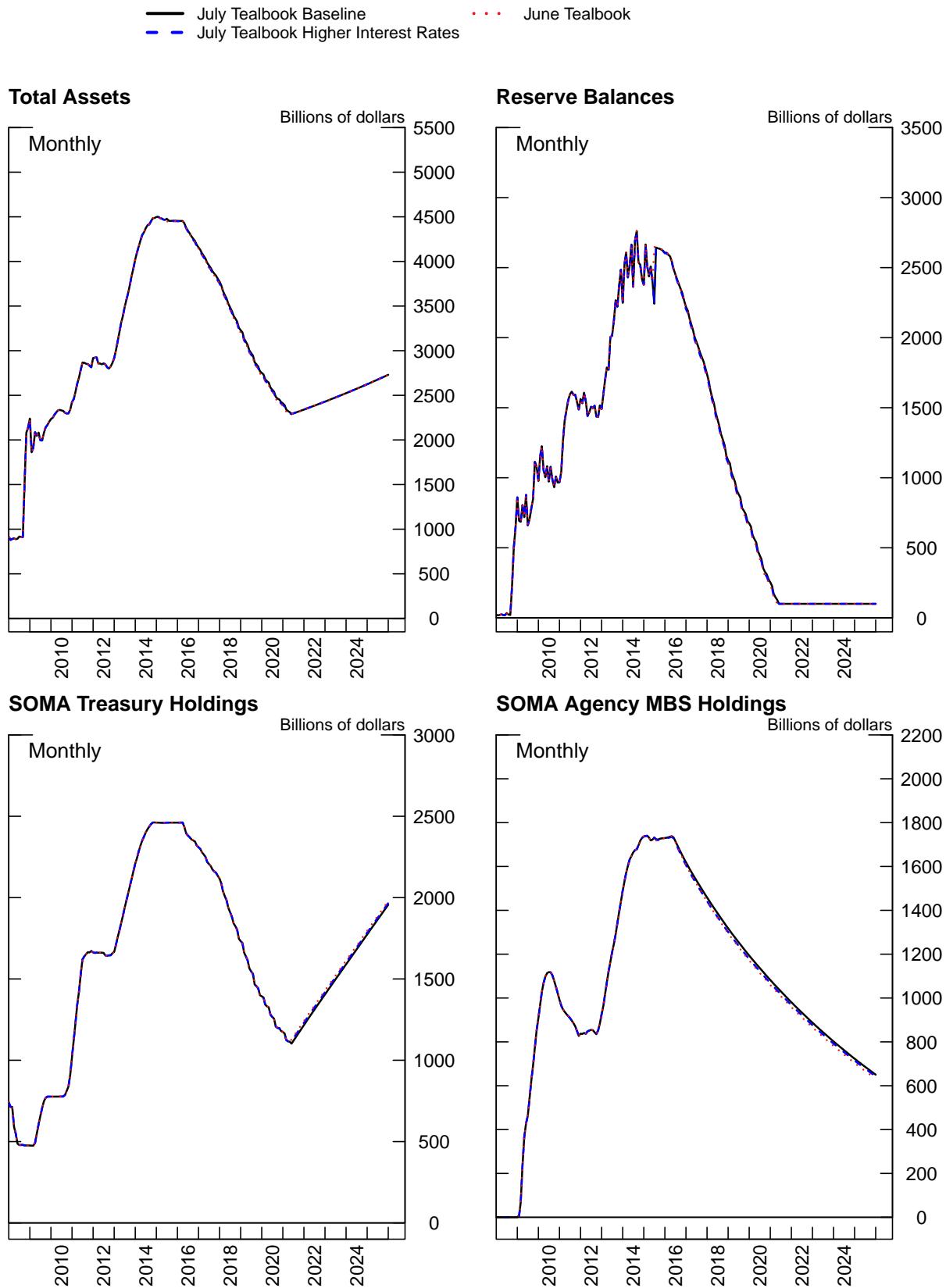
(Percent change, annual rate, from end of preceding period except as noted)

Measure and policy	2015		2016	2017	2018	2019
	H1	H2				
<i>Real GDP</i>						
Extended Tealbook baseline ¹	1.1	2.0	2.3	2.1	2.0	1.7
Taylor (1993)	1.1	1.7	2.0	2.1	2.1	1.9
Taylor (1999)	1.1	1.8	2.0	2.0	2.0	1.8
Inertial Taylor (1999)	1.1	2.0	2.3	2.1	2.0	1.7
First-difference	1.1	2.0	2.5	2.3	2.1	1.8
Optimal control	1.1	2.0	2.4	2.2	2.0	1.7
<i>Unemployment rate²</i>						
Extended Tealbook baseline ¹	5.4	5.2	5.2	5.1	5.0	5.0
Taylor (1993)	5.4	5.3	5.4	5.4	5.2	5.1
Taylor (1999)	5.4	5.3	5.3	5.3	5.2	5.1
Inertial Taylor (1999)	5.4	5.2	5.2	5.1	5.0	5.0
First-difference	5.4	5.2	5.1	5.0	4.8	4.7
Optimal control	5.4	5.2	5.1	5.1	5.0	4.9
<i>Total PCE prices</i>						
Extended Tealbook baseline ¹	0.0	0.7	1.6	1.7	1.8	1.9
Taylor (1993)	0.0	0.7	1.6	1.7	1.8	1.9
Taylor (1999)	0.0	0.7	1.6	1.7	1.8	1.9
Inertial Taylor (1999)	0.0	0.7	1.6	1.7	1.8	1.9
First-difference	0.0	0.8	1.8	1.9	2.0	2.1
Optimal control	0.0	0.7	1.6	1.8	1.9	1.9
<i>Core PCE prices</i>						
Extended Tealbook baseline ¹	1.2	1.4	1.5	1.7	1.8	1.9
Taylor (1993)	1.2	1.3	1.5	1.6	1.8	1.9
Taylor (1999)	1.2	1.3	1.5	1.6	1.8	1.9
Inertial Taylor (1999)	1.2	1.4	1.5	1.7	1.8	1.9
First-difference	1.2	1.4	1.7	1.8	2.0	2.1
Optimal control	1.2	1.4	1.6	1.7	1.9	1.9
<i>Effective nominal federal funds rate²</i>						
Extended Tealbook baseline ¹	0.1	0.4	1.3	2.1	2.8	3.2
Taylor (1993)	0.1	1.9	2.4	2.9	3.3	3.5
Taylor (1999)	0.1	1.4	2.1	2.8	3.3	3.5
Inertial Taylor (1999)	0.1	0.5	1.3	2.1	2.8	3.2
First-difference	0.1	0.4	1.4	2.3	2.7	2.8
Optimal control	0.1	0.4	1.2	2.0	2.8	3.3

1. In the Tealbook baseline, the federal funds rate first departs from an effective lower bound of 12½ basis points in September 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.

Total Assets and Selected Balance Sheet Items



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

	Jun 30, 2015	2015	2017	2019	2021	2023	2025
Total assets	4,479	4,454	3,773	2,752	2,340	2,524	2,730
Selected assets							
Loans and other credit extensions*	2	0	0	0	0	0	0
Securities held outright	4,229	4,224	3,579	2,589	2,199	2,394	2,609
U.S. Treasury securities	2,461	2,461	2,116	1,393	1,216	1,590	1,956
Agency debt securities	36	33	4	2	2	2	2
Agency mortgage-backed securities	1,732	1,730	1,459	1,194	981	802	650
Unamortized premiums	198	191	151	117	93	81	71
Unamortized discounts	-18	-17	-13	-10	-8	-7	-6
Total other assets	47	49	49	49	49	49	49
Total liabilities	4,421	4,395	3,702	2,661	2,226	2,379	2,547
Selected liabilities							
Federal Reserve notes in circulation	1,324	1,363	1,537	1,661	1,800	1,954	2,121
Reverse repurchase agreements	558	266	266	166	166	166	166
Deposits with Federal Reserve Banks	2,530	2,761	1,894	830	255	255	255
Reserve balances held by depository institutions	2,242	2,606	1,739	674	100	100	100
U.S. Treasury, General Account	254	150	150	150	150	150	150
Other deposits	34	5	5	5	5	5	5
Interest on Federal Reserve Notes due to U.S. Treasury	3	0	0	0	0	0	0
Total capital	58	60	71	90	114	145	183

Projections

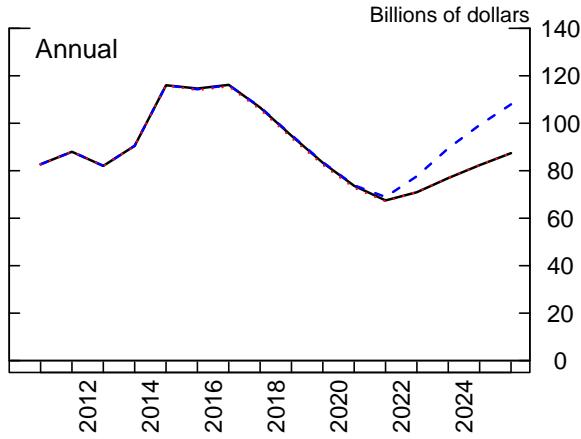
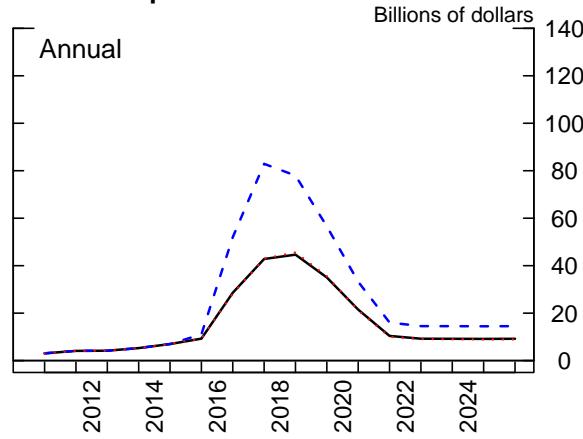
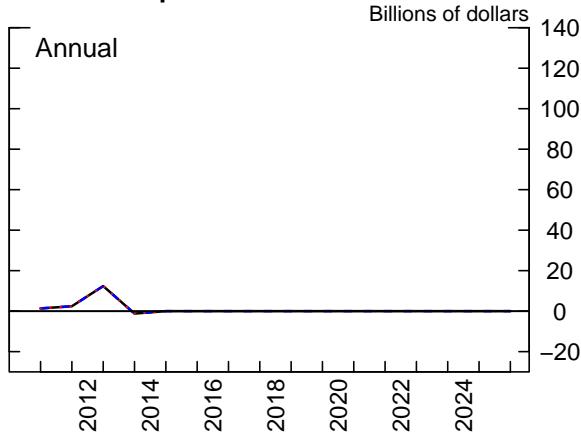
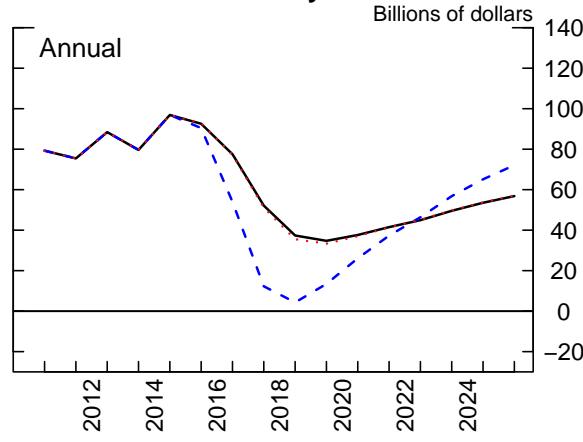
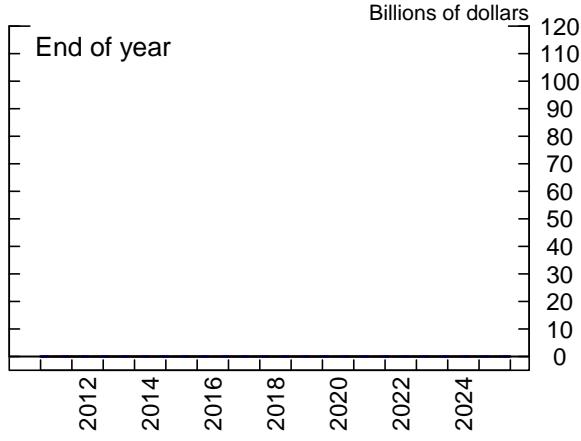
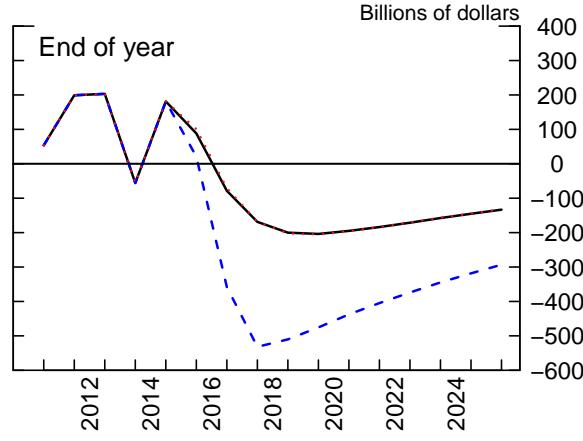
Source: Federal Reserve H.4.1 statistical releases and staff calculations.

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

— July Tealbook Baseline
 - - - June Tealbook
 - - July Tealbook Higher Interest Rates

Interest Income**Interest Expense****Realized Capital Gains****Remittances to Treasury****Deferred Asset****Memo: Unrealized Gains/Losses**

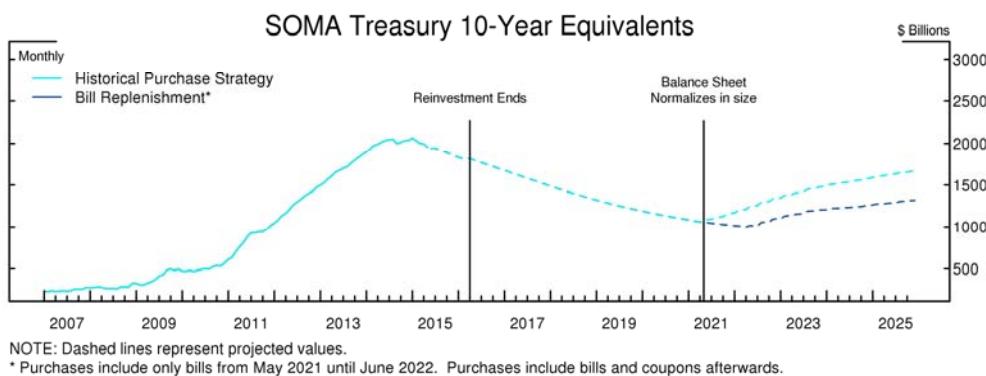
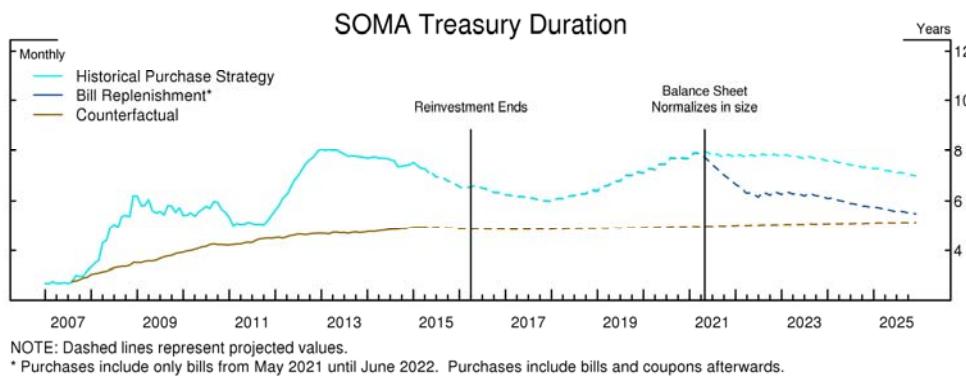
Projections

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

Date	July Tealbook Baseline	July Tealbook Higher Interest Rates	June TealBook
Quarterly Averages			
2015:Q3	-108	-109	-107
Q4	-103	-104	-102
2016:Q1	-99	-100	-98
Q2	-94	-95	-93
Q3	-90	-91	-88
Q4	-85	-87	-84
2017:Q4	-70	-71	-69
2018:Q4	-58	-59	-57
2019:Q4	-49	-50	-48
2020:Q4	-41	-42	-40
2021:Q4	-35	-36	-35
2022:Q4	-30	-31	-30
2023:Q4	-25	-25	-24
2024:Q4	-19	-20	-19
2025:Q4	-14	-14	-14

Either investment strategy will result in SOMA Treasury holdings having a much higher weighted-average duration in 2025 than prior to the crisis. This increase in duration relative to before the crisis reflects, in large part, the fact that the Treasury has and is expected to continue to extend the weighted average maturity of its debt over time. This point can be seen by the light brown line which illustrates how the weighted-average duration of the SOMA Treasury portfolio would have evolved in a scenario where the portfolio grew primarily with currency growth, and the Federal Reserve followed its normal reinvestment and secondary market purchase policy.

The effect of the Federal Reserve's balance sheet decisions on long-term rates has often been analyzed in terms of the so-called "10-year equivalent" value of the portfolio. Similar to the duration of the portfolio, as shown in the bottom panel, SOMA Treasury 10-year equivalents increased substantially after the onset of the financial crisis and subsequent recession. Going forward, after reinvestment ceases, the 10-year equivalent value of SOMA Treasury holdings is projected to fall reflecting the decrease in the size of the SOMA Treasury portfolio.⁸ When purchases of Treasury coupon securities resume after the balance sheet normalizes in size, the 10-year equivalent value of the Treasury portfolio is projected to increase. Under the historical purchase strategy, the inflection point in the 10-year equivalents occurs sooner and is larger than under the bill-replenishment strategy, because the securities purchased under this strategy will have longer duration than those purchased under bill-replenishment strategy.



Projections

⁸ Ten-year equivalents declines between 2017 and 2021 while duration increases because the rise in duration is more than offset by the shrinking of the SOMA Treasury portfolio.

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

Date	July Tealbook Baseline	July Tealbook Higher Interest Rates	June Tealbook
<i>Quarterly</i>			
2015:Q3	26.2	26.1	14.4
Q4	6.3	6.1	0.2
2016:Q1	-0.2	-0.3	-0.2
Q2	-4.9	-5.2	-5.3
Q3	-9.7	-10.2	-10.5
Q4	-8.9	-9.2	-9.6
<i>Annual</i>			
2017	-9.7	-9.8	-10.2
2018	-14.6	-14.7	-15.4
2019	-13.3	-13.3	-14.1
2020	-13.1	-13.2	-14.0
2021	-5.1	-4.5	-4.4
2022	3.3	3.3	3.5
2023	3.4	3.4	3.6
2024	3.4	3.4	3.6
2025	3.4	3.4	3.7

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

MONEY

M2 is expected to grow sluggishly in the third quarter of 2015 and then contract through the third quarter of 2016 as the assumed increase in the target range for the federal funds rate and the associated rise in the opportunity cost of holding money restrains money demand. Over the remainder of the projection period, the increase in opportunity cost is expected to hold M2 growth below that of nominal GDP in 2017 and in 2018.

M2 Monetary Aggregate Projections (Percent change, annual rate; seasonally adjusted)*		
<i>Quarterly</i>		
2015:	Q2	5.0
	Q3	2.2
	Q4	-2.4
2016:	Q1	-1.2
	Q2	-0.6
	Q3	-0.1
	Q4	0.6
2017:	Q1	1.3
	Q2	1.6
	Q3	1.7
	Q4	1.8
2018:	Q1	2.1
	Q2	2.5
	Q3	2.8
	Q4	3.0
<i>Annual</i>		
	2015	3.1
	2016	-0.3
	2017	1.6
	2018	2.7

Note: This forecast is consistent with nominal GDP and interest rates in the Tealbook forecast. Actual data through July 13, 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

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
GSIBs	globally systemically important banking organizations
HQLA	high-quality liquid assets
ISM	Institute for Supply Management
LIBOR	London interbank offered rate
MBS	mortgage-backed securities
MMFs	money market funds
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