

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

October 21, 2015

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

Authorized for Public Release

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Comparing the Staff Projection with Other Forecasts

The staff's projection for real GDP growth is a little lower than the most recent Blue Chip Consensus Outlook and the Survey of Professional Forecasters (SPF) median projections. The staff's forecast of the unemployment rate is a bit higher in 2016 and the staff's inflation projections are lower. Note that the SPF projection was completed in the first half of August and therefore does not reflect the effects of recent data releases and the volatility in financial markets since then.

Comparison of Tealbook and Outside Forecasts

	2015	2016
GDP (Q4/Q4 percent change)		
October Tealbook	2.0	2.2
Blue Chip (10/10/15)	2.3	2.6
SPF median (8/14/15)	2.1	n.a.
Unemployment rate (Q4 level)		
October Tealbook	5.0	4.9
Blue Chip (10/10/15)	5.0	4.7
SPF median (8/14/15)	5.1	n.a.
Consumer price inflation (Q4/Q4 percent change)		
October Tealbook	.4	1.8
Blue Chip (10/10/15)	.6	2.2
SPF median (8/14/15)	.8	2.1
PCE price inflation (Q4/Q4 percent change)		
October Tealbook	.5	1.4
SPF median (8/14/15)	.8	1.8
Core PCE price inflation (Q4/Q4 percent change)		
October Tealbook	1.4	1.4
SPF median (8/14/15)	1.5	1.8

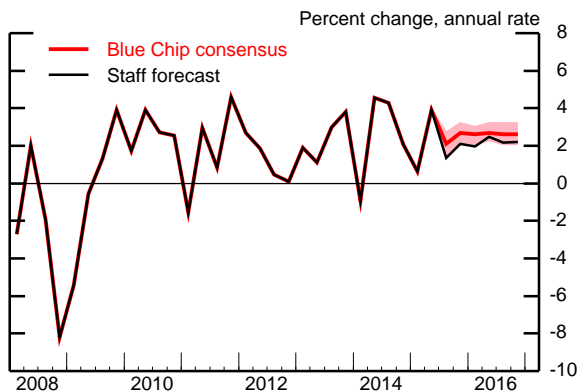
Note: SPF is the Survey of Professional Forecasters. Blue Chip does not provide results for PCE price inflation. The Blue Chip Consensus contains about 50 panelists, and the SPF about 40. Roughly 20 panelists contribute to both surveys.

n.a. Not available.

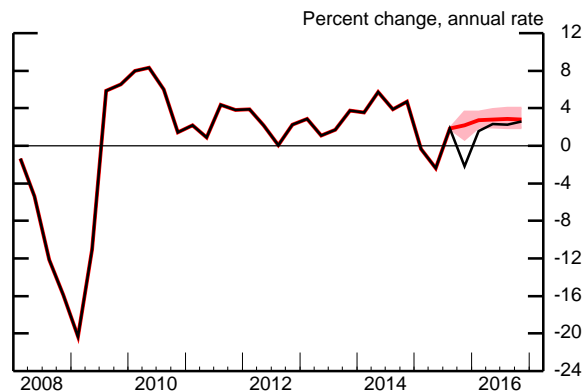
Source: Blue Chip Economic Indicators; Federal Reserve Bank of Philadelphia.

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

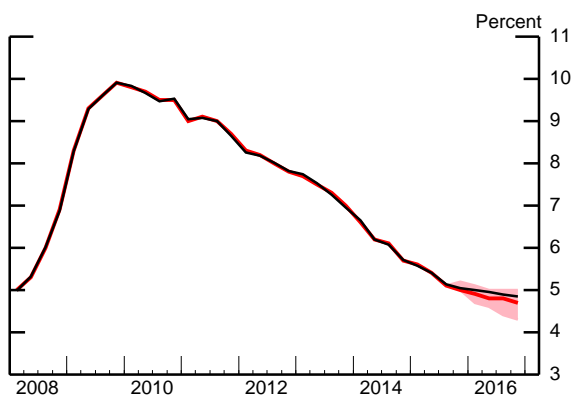
Real GDP



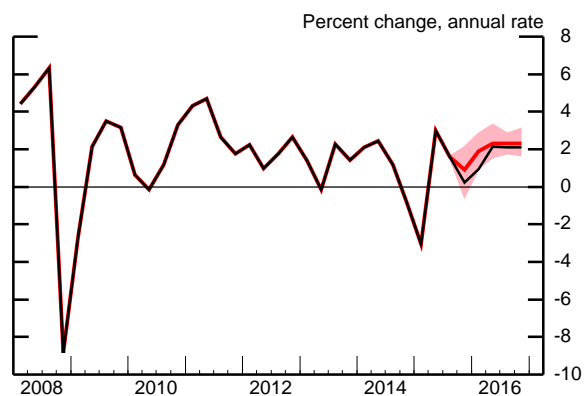
Industrial Production



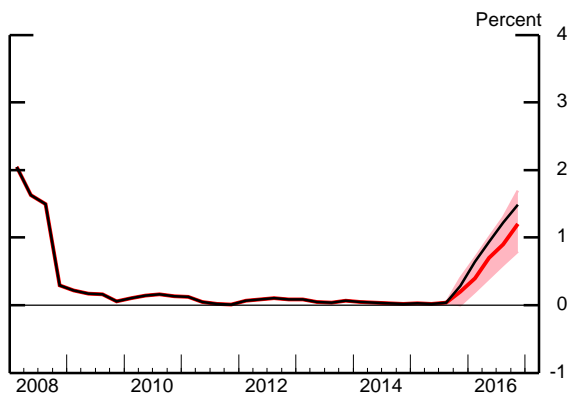
Unemployment Rate



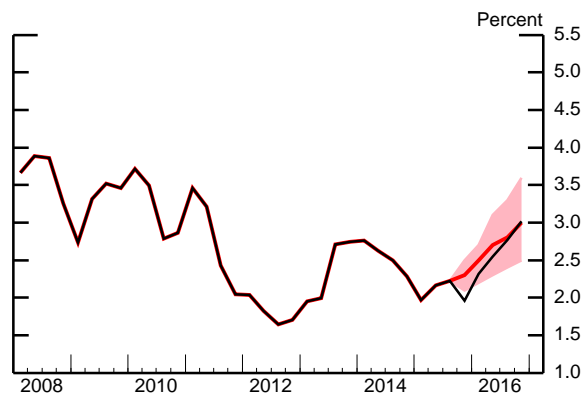
Consumer Price Index



Treasury Bill Rate



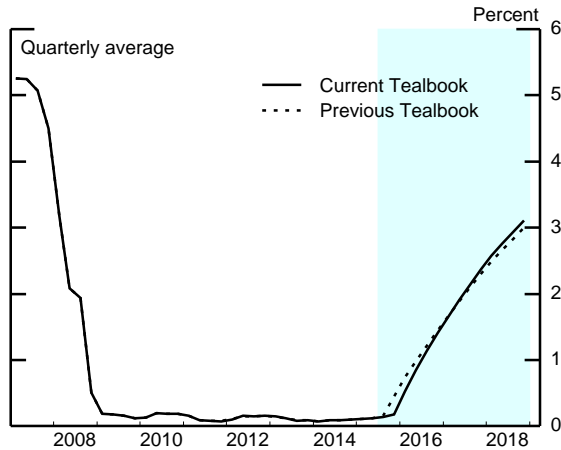
10-Year Treasury Yield



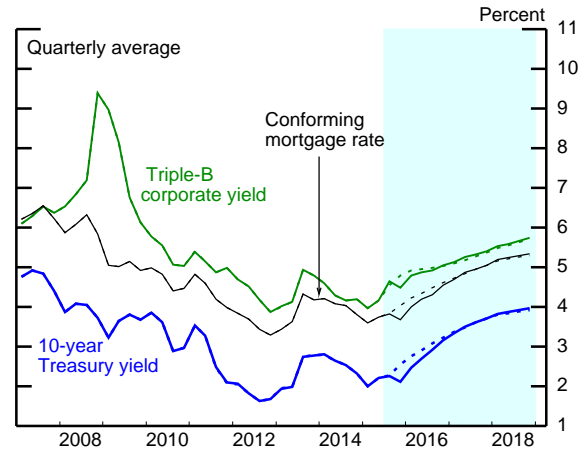
Note: The yield is for on-the-run Treasury securities. Over the forecast period, the staff's projected yield is assumed to be 15 basis points below the off-the-run yield.

Key Background Factors underlying the Baseline Staff Projection

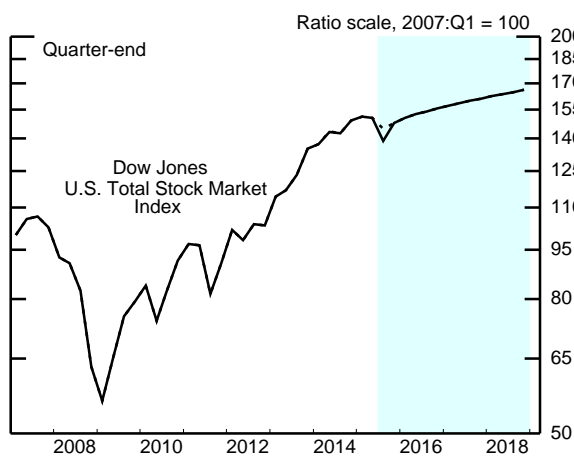
Federal Funds Rate



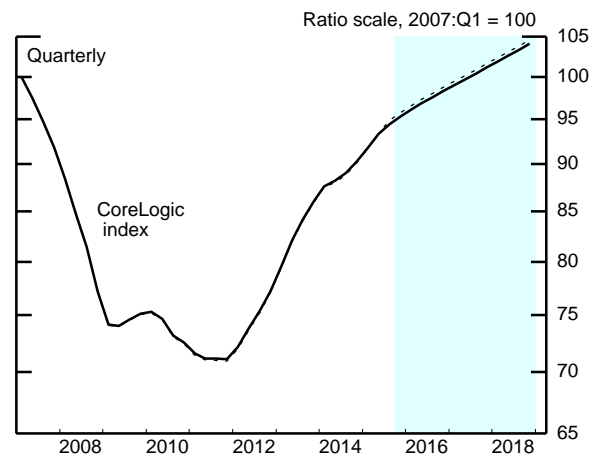
Long-Term Interest Rates



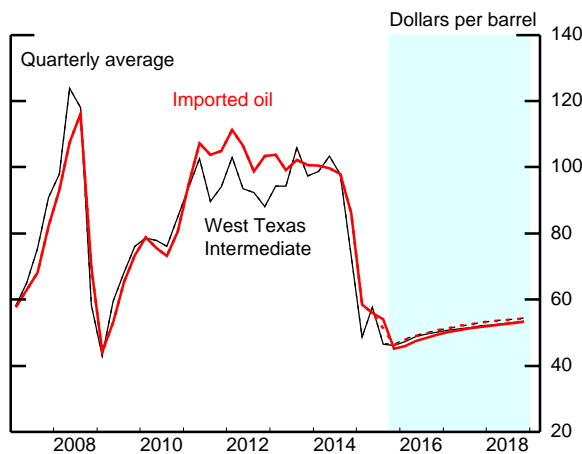
Equity Prices



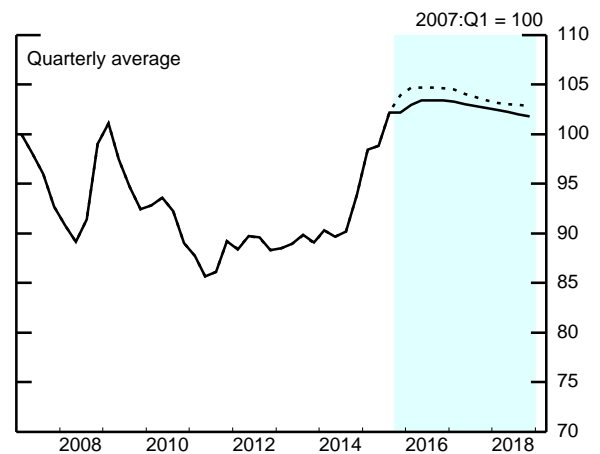
House Prices



Crude Oil Prices



Broad Real Dollar



Federal Reserve System Nowcasts of 2015:Q3 Real GDP Growth

(Percent change at annual rate from previous quarter)

Federal Reserve entity	Type of model	Nowcast as of Oct. 20, 2015
Federal Reserve Bank		
New York	<ul style="list-style-type: none"> Factor-augmented autoregressive model combination Factor-augmented autoregressive model combination, financial factors only Dynamic factor model (as of Oct. 16, 2015) 	2.0 2.8 2.0
Cleveland	<ul style="list-style-type: none"> Bayesian regressions with stochastic volatility Tracking model 	2.1 1.1
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) 	0.9
Chicago	<ul style="list-style-type: none"> Dynamic factor models Bayesian VARs 	1.8 1.4
St. Louis	<ul style="list-style-type: none"> Dynamic factor models News index model Let-the-data-decide regressions 	1.7 2.7 2.5
Minneapolis	<ul style="list-style-type: none"> Bayesian VARs 	2.1
Kansas City	<ul style="list-style-type: none"> Accounting-based tracking estimate 	1.7
Board of Governors	<ul style="list-style-type: none"> Board staff's forecast (judgmental tracking model)¹ Dynamic factor models 	1.4 3.0
Memo: Median of Federal Reserve System nowcasts		2.0

1. The October Tealbook forecast, finalized on October 21, is also 1.4 percent.

Summary of the Near-Term Outlook

(Percent change at annual rate except as noted)

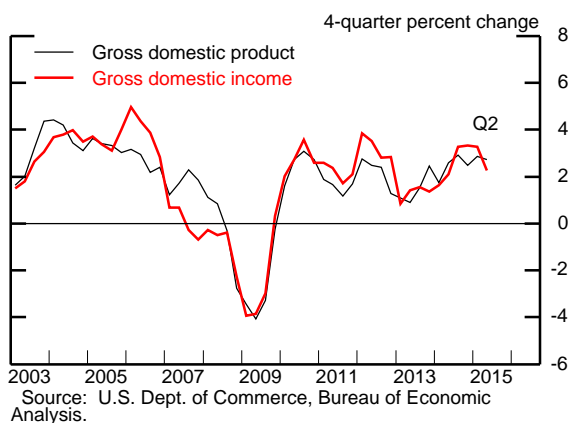
Measure	2015:H1		2015:Q3		2015:Q4	
	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook
Real GDP	2.2	2.3	1.9	1.4	1.9	2.1
Private domestic final purchases	2.7	3.0	3.3	3.8	3.1	2.9
Personal consumption expenditures	2.4	2.7	2.8	3.2	2.9	2.8
Residential investment	9.7	9.7	7.4	7.4	2.0	.9
Nonres. private fixed investment	2.6	2.8	5.0	6.4	4.5	4.0
Government purchases	1.3	1.3	.0	.7	.0	.2
<i>Contributions to change in real GDP</i>						
Inventory investment ¹	.5	.4	-.3	-1.4	.0	.4
Net exports ¹	-.9	-.9	-.5	-.6	-.8	-.7
Unemployment rate²	5.4	5.4	5.2	5.1	5.0	5.0
PCE chain price index	.1	.1	1.2	1.3	-.4	.4
Ex. food and energy	1.4	1.4	1.2	1.4	1.2	1.4

1. Percentage points.

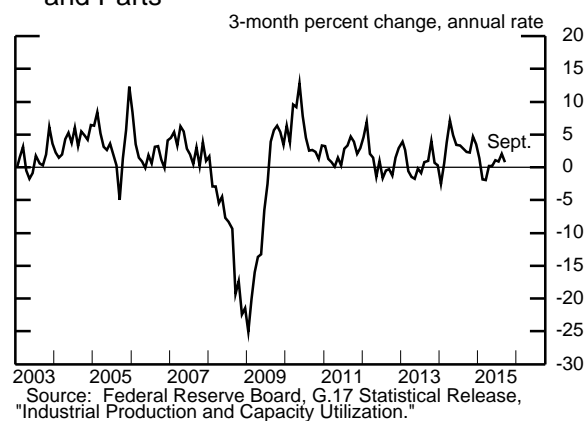
2. Percent; 2015:Q2 values are used for 2015:H1.

Recent Nonfinancial Developments (1)

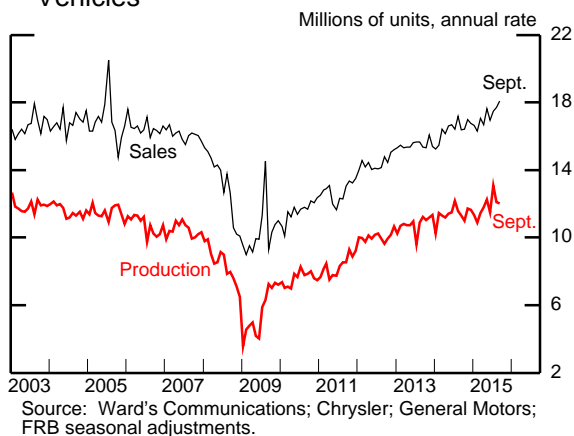
Real GDP and GDI



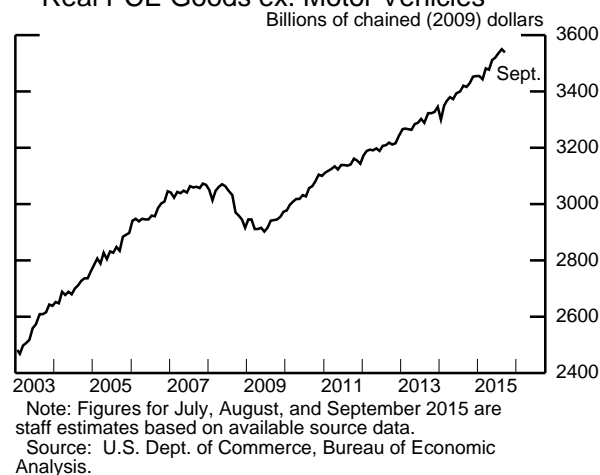
Manufacturing IP ex. Motor Vehicles and Parts



Sales and Production of Light Motor Vehicles



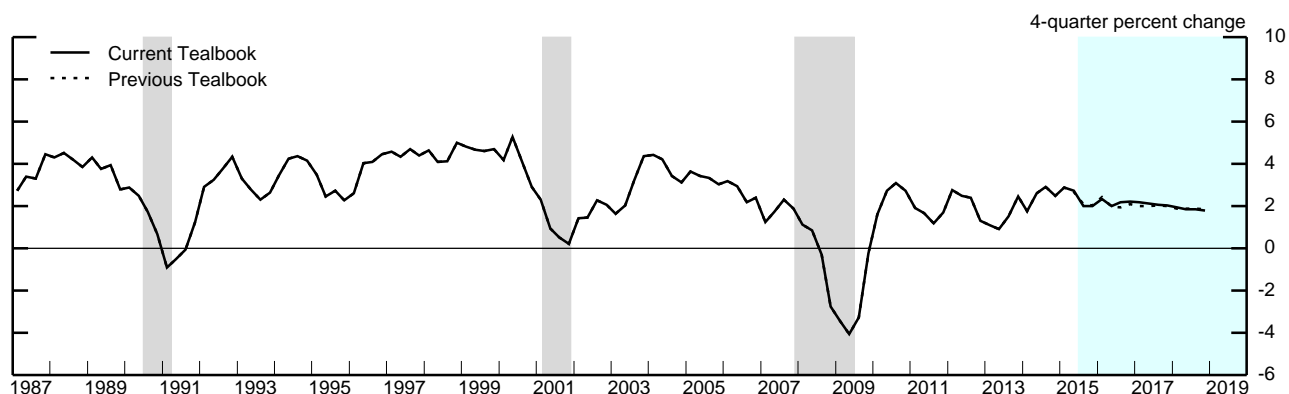
Real PCE Goods ex. Motor Vehicles



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

Measure	2015	2015		2016	2017	2018
		H1	H2			
Real GDP	2.0	2.3	1.7	2.2	2.0	1.8
Previous Tealbook	2.0	2.2	1.9	2.1	2.0	1.8
Final sales	2.0	1.8	2.3	2.3	2.1	2.0
Previous Tealbook	1.9	1.7	2.1	2.2	2.3	2.1
Personal consumption expenditures	2.8	2.7	3.0	3.2	2.6	2.1
Previous Tealbook	2.6	2.4	2.8	3.2	2.6	2.1
Residential investment	6.9	9.7	4.1	11.2	5.3	3.9
Previous Tealbook	7.1	9.7	4.6	10.1	7.3	4.2
Nonresidential structures	.5	-.8	1.9	1.5	2.7	1.2
Previous Tealbook	2.2	-1.0	5.5	1.0	1.9	.8
Equipment and intangibles	5.0	3.9	6.1	5.0	2.6	2.2
Previous Tealbook	4.1	3.6	4.6	4.9	3.5	2.4
Federal purchases	-.5	.5	-1.6	-1.0	-.8	-.6
Previous Tealbook	-.6	.6	-1.7	-1.1	-.8	-.7
State and local purchases	1.7	1.7	1.7	1.5	1.8	1.8
Previous Tealbook	1.4	1.8	1.1	1.5	1.8	1.8
Exports	.3	-.6	1.3	1.1	2.2	4.2
Previous Tealbook	.5	-.6	1.7	.8	2.0	4.3
Imports	5.2	5.1	5.4	6.7	4.0	3.2
Previous Tealbook	5.3	5.0	5.6	6.7	4.0	3.2
Contributions to change in real GDP (percentage points)						
Inventory change	.0	.4	-.5	-.1	-.1	-.2
Previous Tealbook	.2	.5	-.2	-.1	-.3	-.2
Net exports	-.8	-.9	-.7	-.9	-.4	.0
Previous Tealbook	-.8	-.9	-.6	-.9	-.4	.0

Real GDP

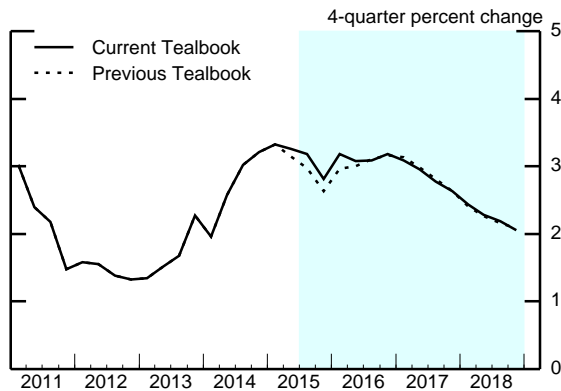


Note: The gray shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research.

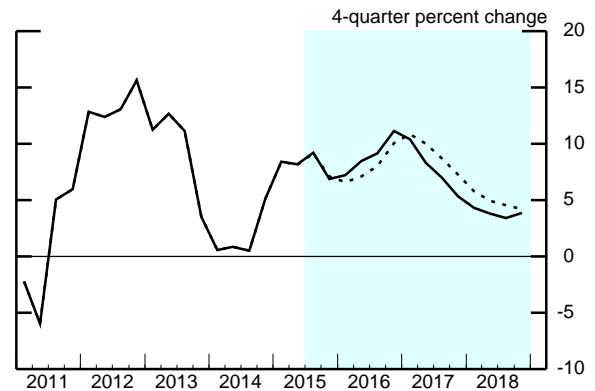
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Components of Final Demand

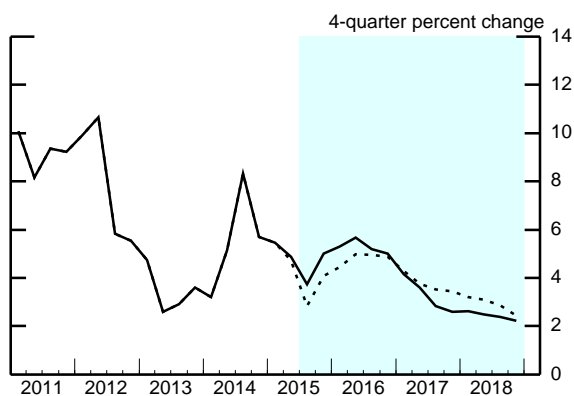
Personal Consumption Expenditures



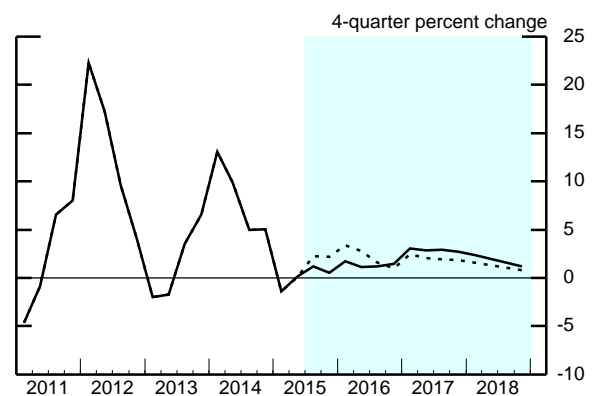
Residential Investment



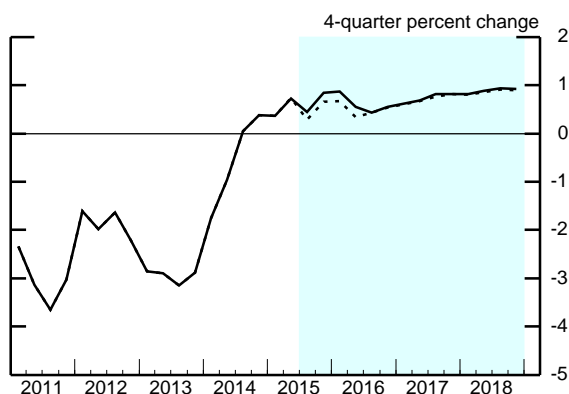
Equipment and Intangibles



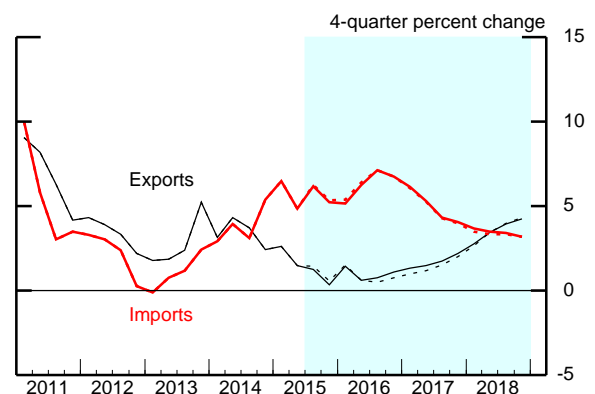
Nonresidential Structures



Government Consumption & Investment



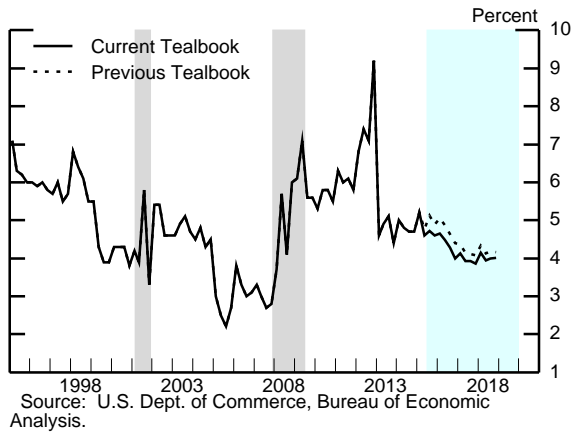
Exports and Imports



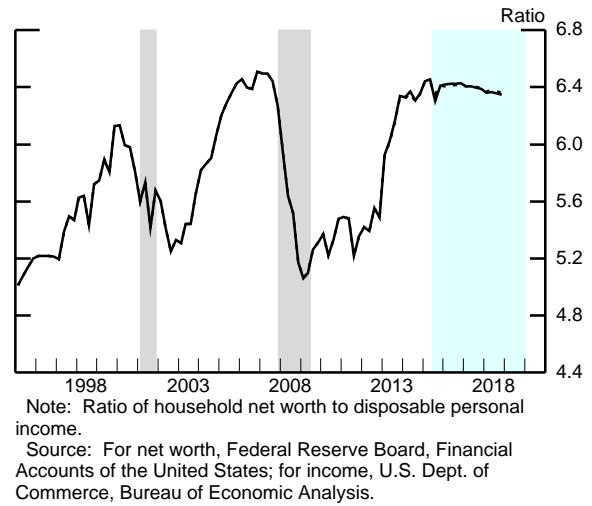
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Aspects of the Medium-Term Projection

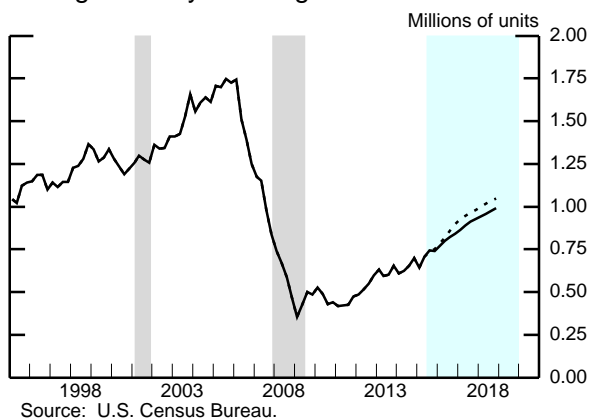
Personal Saving Rate



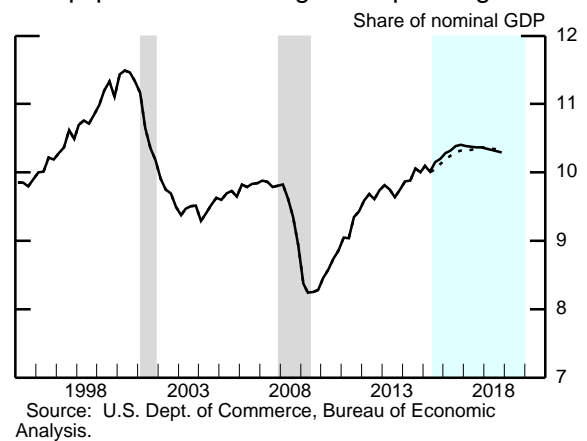
Wealth-to-Income Ratio



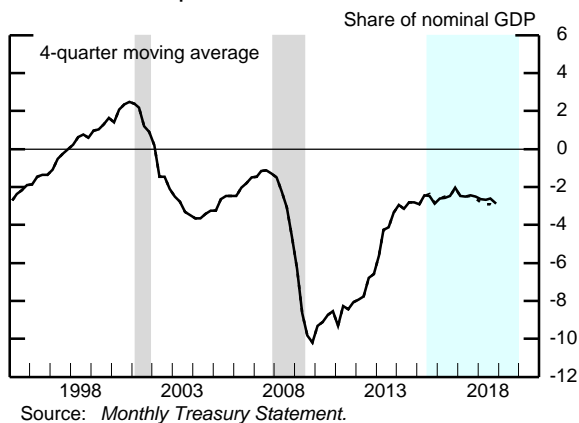
Single-Family Housing Starts



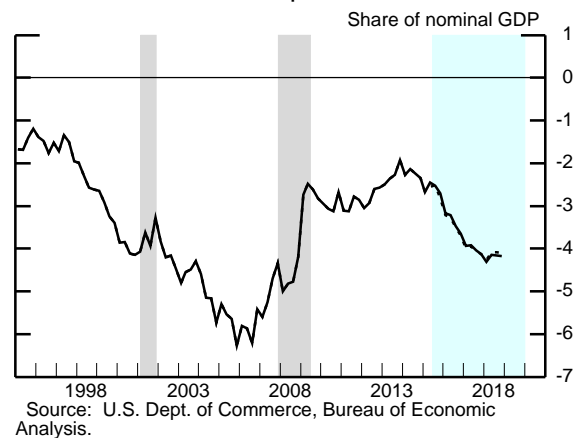
Equipment and Intangibles Spending



Federal Surplus/Deficit



Current Account Surplus/Deficit



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

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

Measure	1974-95	1996-2000	2001-07	2008-10	2011-14	2015	2016	2017	2018
Potential real GDP	3.1	3.4	2.6	1.7	1.1	1.3	1.5	1.6	1.7
Previous Tealbook	3.1	3.4	2.6	1.7	1.1	1.3	1.5	1.6	1.7
<i>Selected contributions¹</i>									
Structural labor productivity ²	1.6	2.9	2.8	1.5	.8	1.2	1.3	1.4	1.5
Previous Tealbook	1.6	2.9	2.8	1.5	.8	1.2	1.3	1.4	1.5
Capital deepening	.7	1.5	1.0	.3	.6	.8	.8	.8	.7
Multifactor productivity	.5	1.0	1.5	1.0	.1	.3	.4	.5	.7
Structural hours	1.6	1.2	.8	-.1	.6	.5	.4	.4	.3
Previous Tealbook	1.6	1.2	.8	-.1	.6	.6	.4	.4	.3
Labor force participation	.4	-.1	-.2	-.5	-.7	-.6	-.5	-.5	-.5
Previous Tealbook	.4	-.1	-.2	-.5	-.7	-.6	-.5	-.5	-.5
Memo:									
GDP gap ³	-1.9	2.4	.8	-4.4	-.9	-.2	.5	.9	1.0
Previous Tealbook	-1.9	2.4	.8	-4.4	-.9	-.2	.4	.8	.9

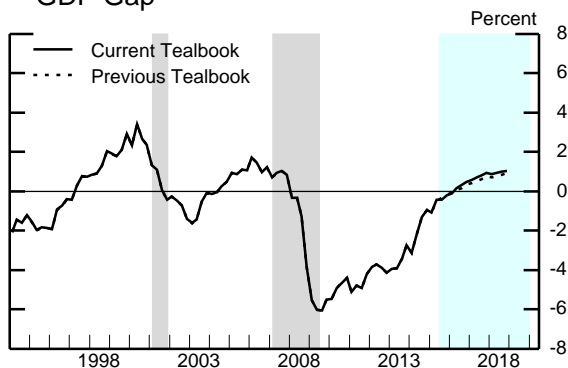
Note: For multiyear periods, the percent change is the annual average from Q4 of the year preceding the first year shown to Q4 of the last year shown.

1. Percentage points.

2. Total business sector.

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

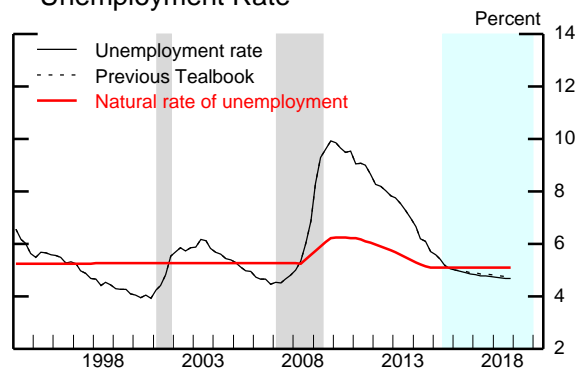
GDP Gap



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

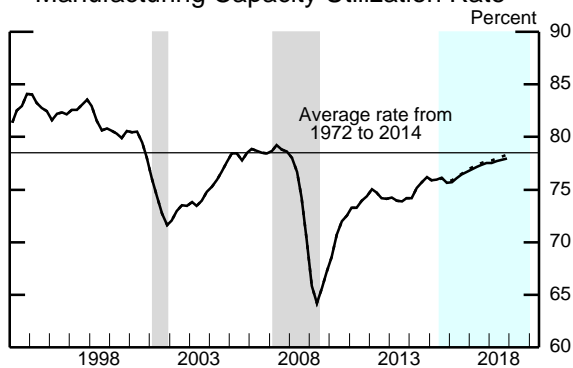
Source: U.S. Department of Commerce, Bureau of Economic Analysis; staff assumptions.

Unemployment Rate



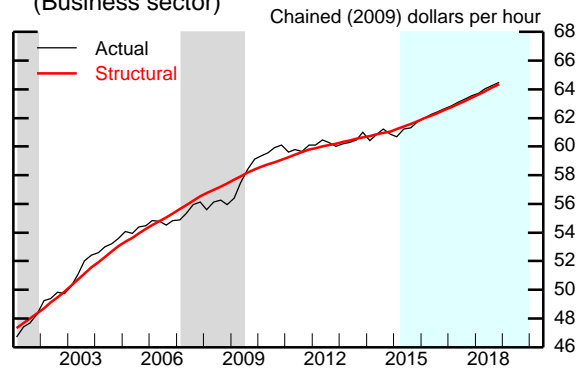
Source: U.S. Department of Labor, Bureau of Labor Statistics; staff assumptions.

Manufacturing Capacity Utilization Rate



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

Structural and Actual Labor Productivity (Business sector)



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

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

The Outlook for the Labor Market

Measure	2015	2015		2016	2017	2018
		H1	H2			
Output per hour, business ¹	1.4	1.2	1.6	1.5	1.4	1.5
Previous Tealbook	1.2	1.1	1.3	1.6	1.5	1.6
Nonfarm payroll employment ²	193	213	174	163	139	107
Previous Tealbook	215	213	218	154	130	107
Private employment ²	180	207	154	150	121	90
Previous Tealbook	204	207	201	141	113	90
Labor force participation rate ³	62.5	62.8	62.5	62.4	62.3	62.0
Previous Tealbook	62.6	62.8	62.6	62.5	62.3	62.0
Civilian unemployment rate ³	5.0	5.4	5.0	4.9	4.7	4.7
Previous Tealbook	5.0	5.4	5.0	4.9	4.8	4.7

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)

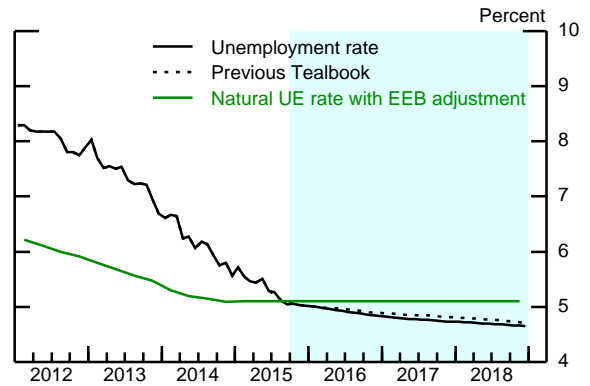
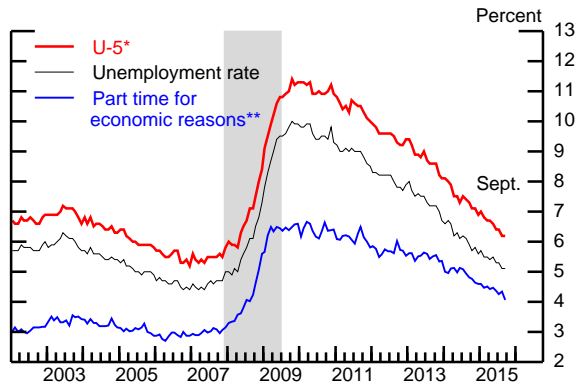
Measure	2015	2015		2016	2017	2018
		H1	H2			
PCE chain-weighted price index	.5	.1	.9	1.4	1.7	1.9
Previous Tealbook	.3	.1	.4	1.5	1.7	1.9
Food and beverages	.7	-.7	2.1	1.8	2.0	2.0
Previous Tealbook	.5	-.7	1.6	1.8	2.0	1.9
Energy	-15.7	-20.0	-11.2	-.9	2.7	1.8
Previous Tealbook	-18.3	-20.0	-16.6	2.7	2.4	1.5
Excluding food and energy	1.4	1.4	1.4	1.4	1.7	1.9
Previous Tealbook	1.3	1.4	1.2	1.4	1.7	1.9
Prices of core goods imports ¹	-3.1	-3.8	-2.3	.4	1.2	1.2
Previous Tealbook	-2.8	-3.8	-1.9	.3	1.3	1.2

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



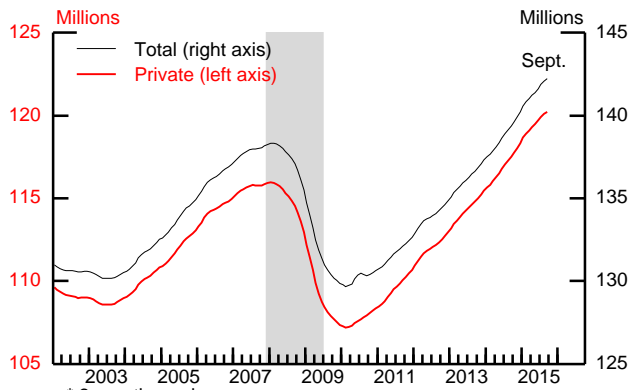
* U-5 measures total unemployed persons plus all marginally attached to the labor force, as a percent of the labor force plus persons marginally attached to the labor force.

** Percent of Current Population Survey employment.

EEB Extended and emergency unemployment benefits.

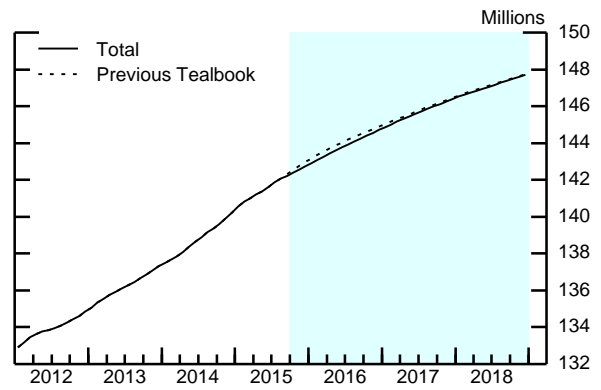
Source: U.S. Department of Labor, Bureau of Labor Statistics.

Level of Payroll Employment*

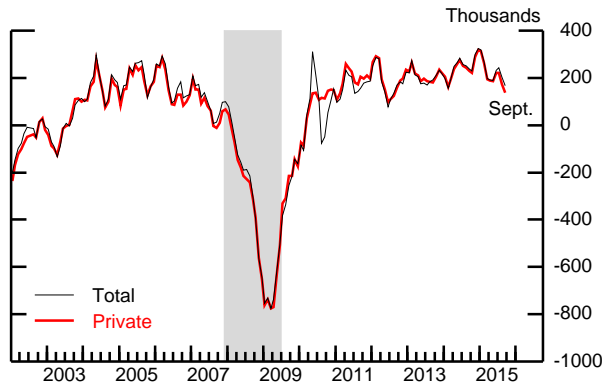


* 3-month moving averages.

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

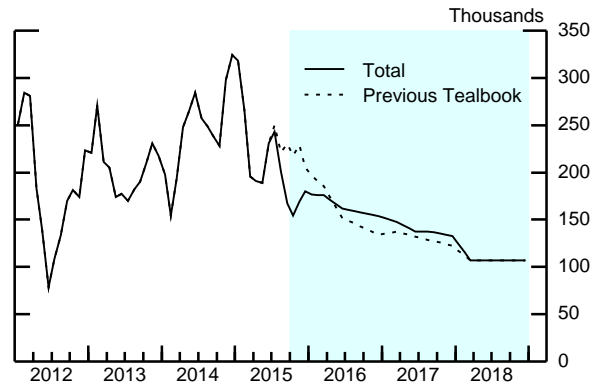


Change in Payroll Employment*



* 3-month moving averages.

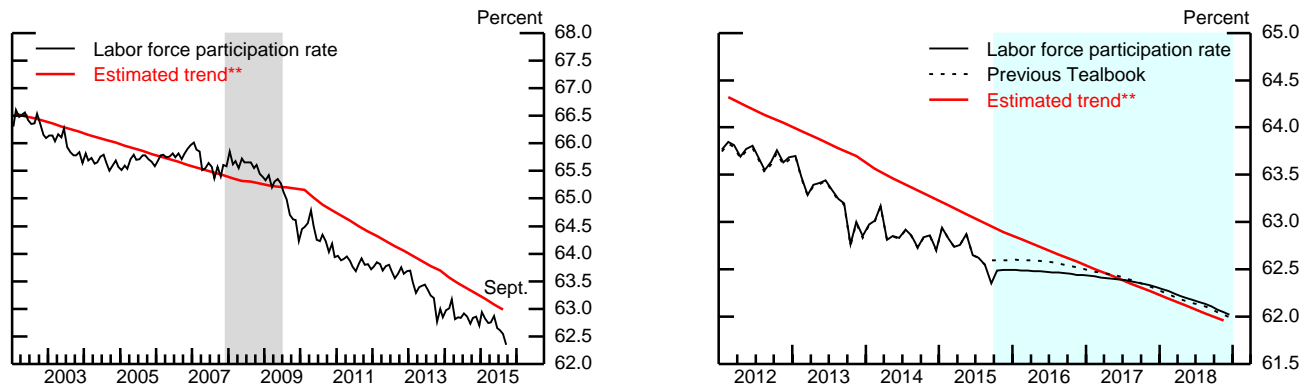
Source: U.S. Department of Labor, Bureau of Labor Statistics.



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*

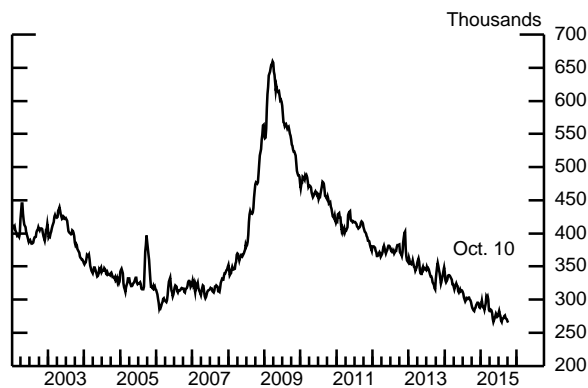


* Published data adjusted by staff to account for changes in population weights.

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

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

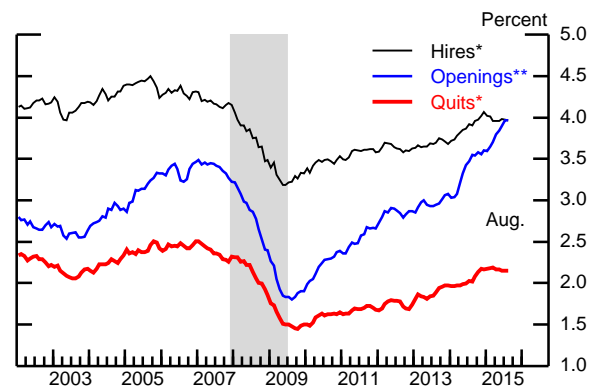
Initial Unemployment Insurance Claims*



* 4-week moving average.

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

Private Hires, Quits, and Job Openings

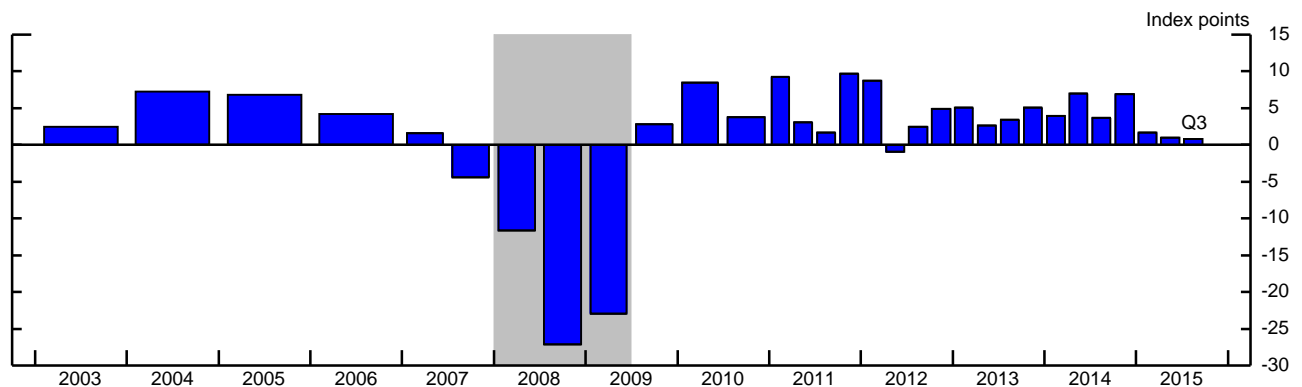


* Percent of private nonfarm payroll employment, 3-month moving average.

** 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



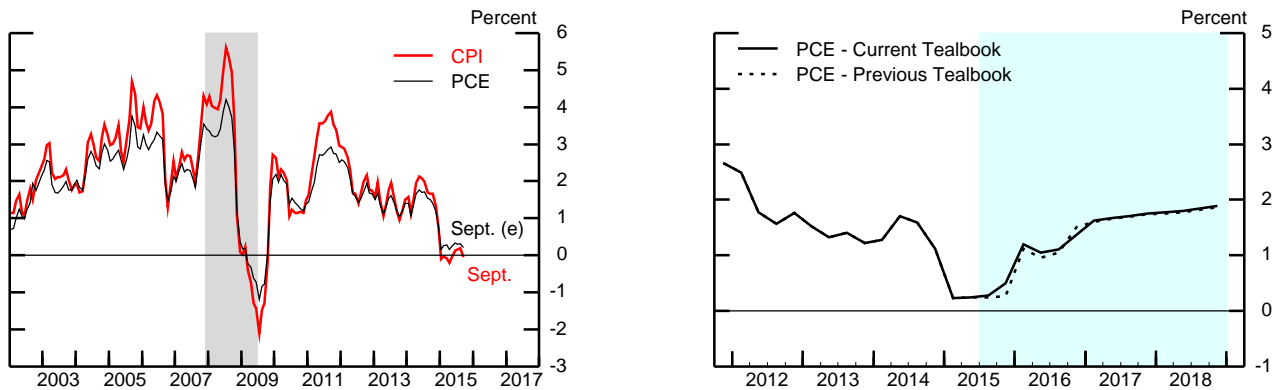
Source: Labor market conditions index estimated by staff.

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)

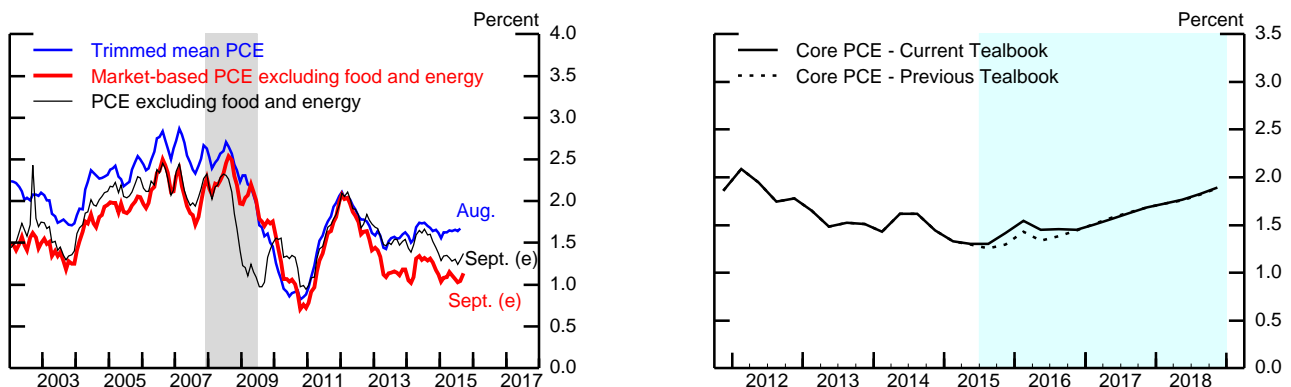
Headline Consumer Price Inflation



Note: PCE prices from July to September 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.

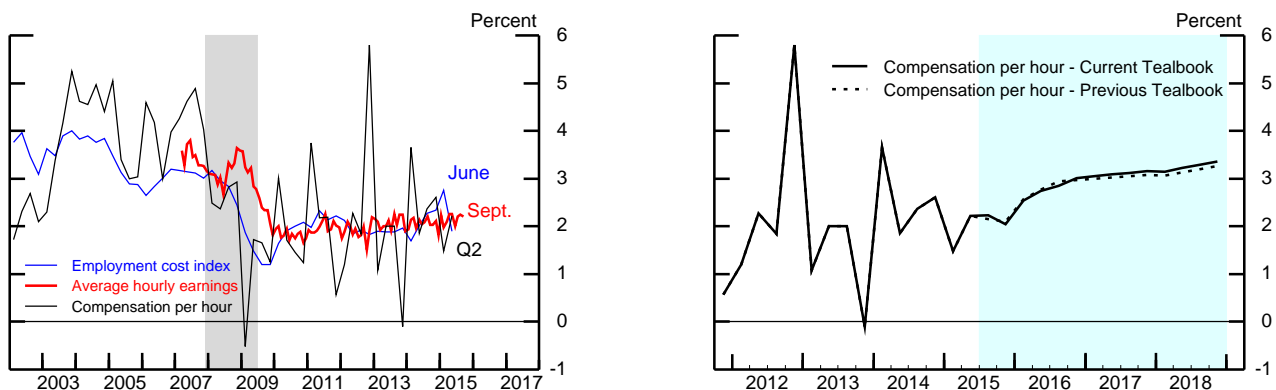
Measures of Underlying PCE Price Inflation



Note: Core PCE prices from July to September 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.

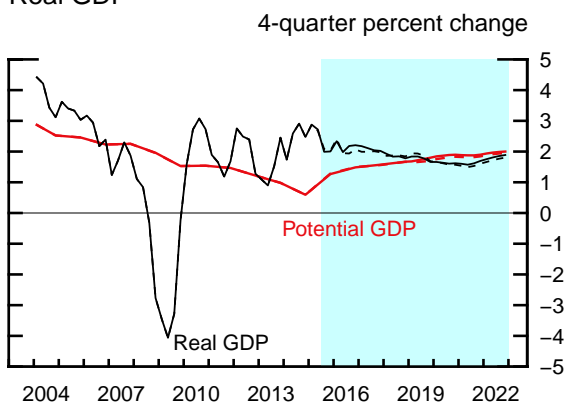
The Long-Term Outlook

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

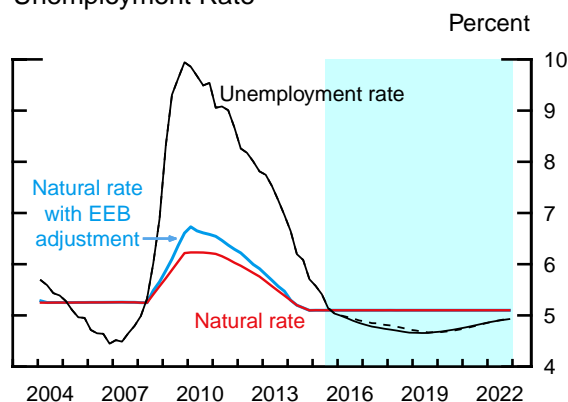
Measure	2015	2016	2017	2018	2019	2020	Longer run
Real GDP	2.0	2.2	2.0	1.8	1.7	1.6	1.9
Previous Tealbook	2.0	2.1	2.0	1.8	1.7	1.6	1.9
Civilian unemployment rate ¹	5.0	4.9	4.7	4.7	4.7	4.7	5.1
Previous Tealbook	5.0	4.9	4.8	4.7	4.7	4.7	5.1
PCE prices, total	.5	1.4	1.7	1.9	2.0	2.0	2.0
Previous Tealbook	.3	1.5	1.7	1.9	1.9	2.0	2.0
Core PCE prices	1.4	1.4	1.7	1.9	2.0	2.0	2.0
Previous Tealbook	1.3	1.4	1.7	1.9	2.0	2.0	2.0
Federal funds rate ¹	.2	1.4	2.4	3.1	3.6	3.7	3.3
Previous Tealbook	.4	1.4	2.3	3.0	3.5	3.7	3.3
10-year Treasury yield ¹	2.1	3.2	3.7	4.0	4.1	4.2	4.1
Previous Tealbook	2.6	3.2	3.7	3.9	4.1	4.2	4.1

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

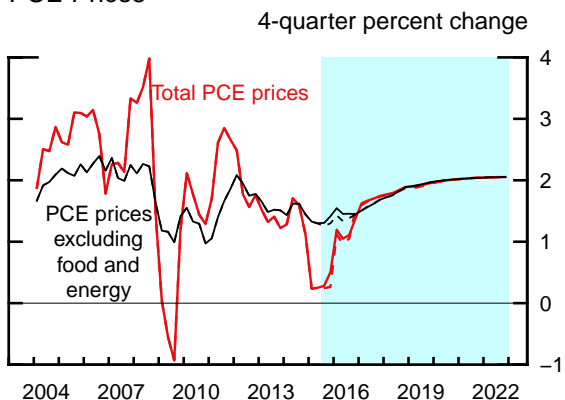
Real GDP



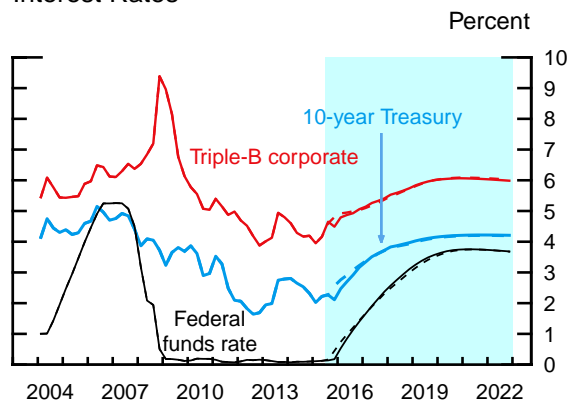
Unemployment Rate



PCE Prices



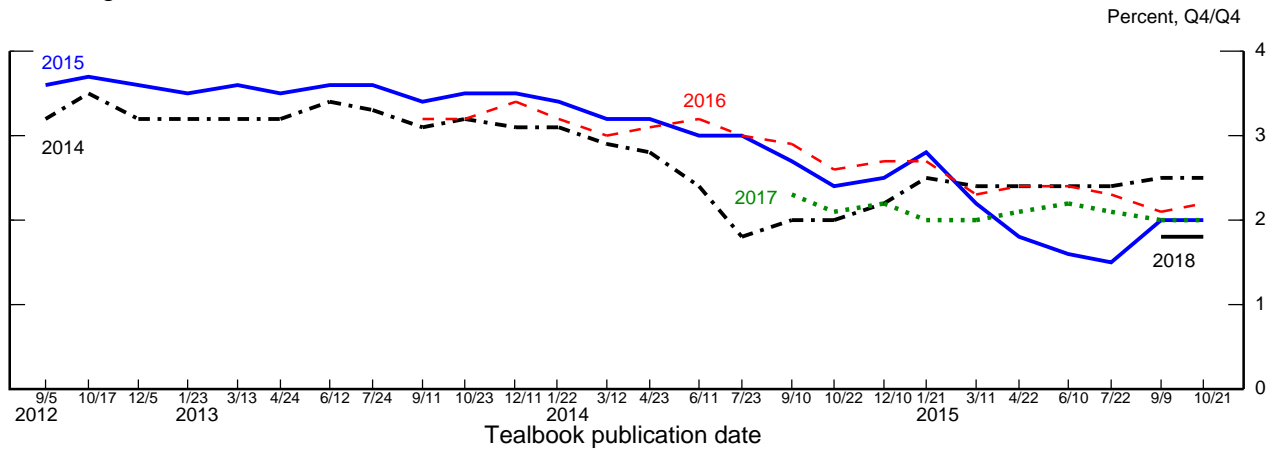
Interest Rates



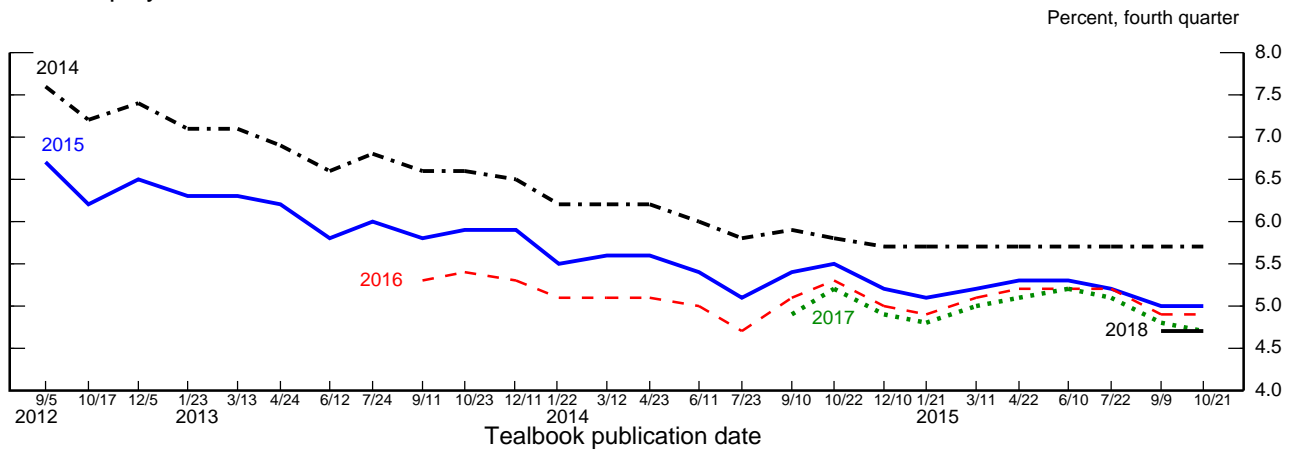
Note: In each panel, shading represents the projection period, and dashed lines are the previous Tealbook.

Evolution of the Staff Forecast

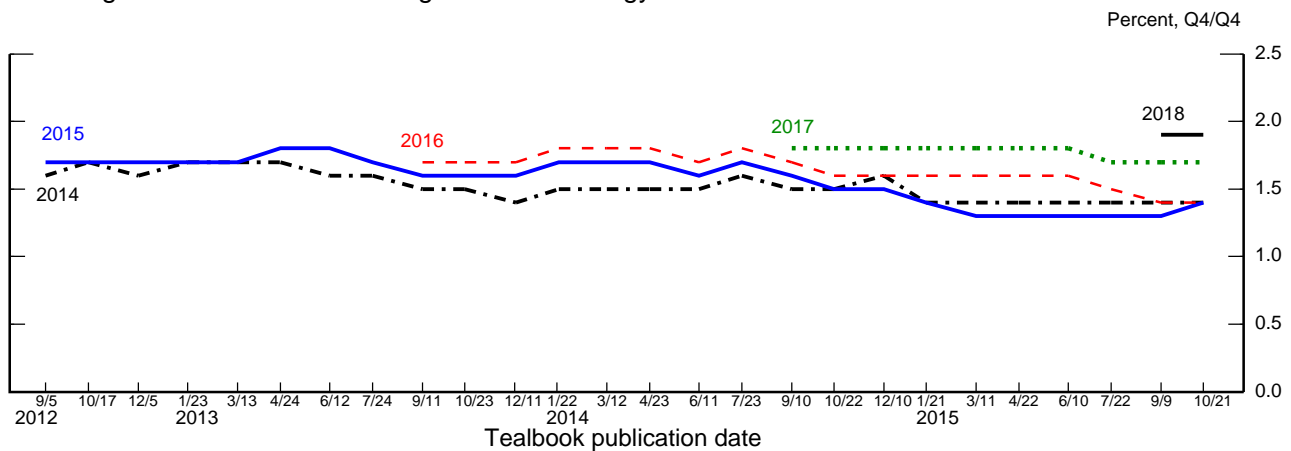
Change in Real GDP



Unemployment Rate



Change in PCE Prices excluding Food and Energy



The Foreign GDP Outlook

Real GDP*

Percent change, annual rate

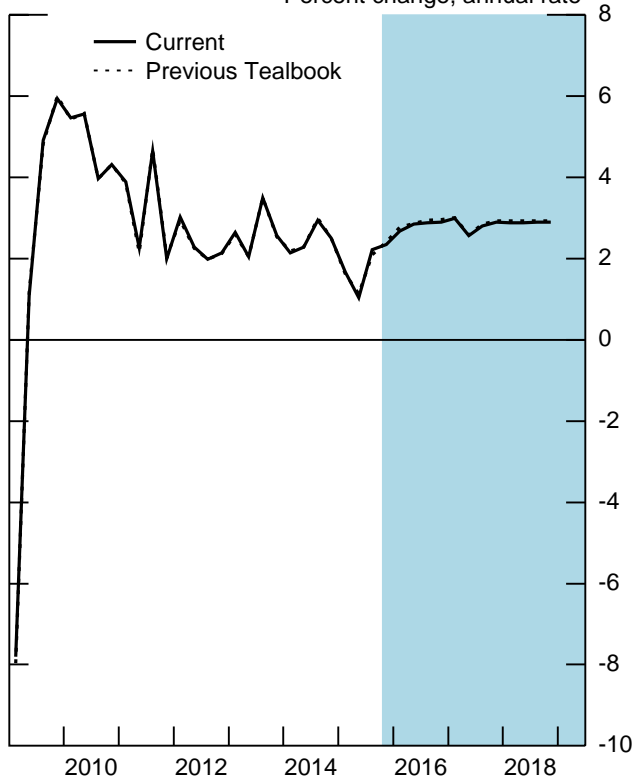
	2014	2015			2016		2017	2018
		H1	Q3	Q4	H1	H2		
1. Total Foreign	2.5	1.4	2.2	2.3	2.8	2.9	2.8	2.9
<i>Previous Tealbook</i>	2.5	1.4	2.1	2.4	2.8	3.0	2.8	2.9
2. Advanced Foreign Economies	1.7	0.6	1.9	1.7	2.0	2.1	1.8	1.9
<i>Previous Tealbook</i>	1.7	0.6	1.7	1.8	2.0	2.1	1.8	1.9
3. Canada	2.5	-0.7	2.4	2.0	2.2	2.2	1.9	1.8
4. Euro Area	0.9	1.8	1.6	1.6	1.8	2.0	2.0	2.0
5. Japan	-0.8	1.6	0.4	0.7	1.0	1.2	-0.3	1.0
6. United Kingdom	3.0	2.1	2.5	2.5	2.7	2.7	2.4	2.4
7. Emerging Market Economies	3.2	2.0	2.5	2.9	3.5	3.7	3.8	3.9
<i>Previous Tealbook</i>	3.2	2.1	2.5	3.0	3.6	3.8	3.8	3.9
8. China	7.2	6.5	7.4	6.5	6.2	6.2	6.1	6.0
9. Emerging Asia ex. China	3.4	2.5	2.5	3.6	4.0	4.1	4.1	4.0
10. Mexico	2.6	1.9	2.3	2.2	2.9	3.1	3.1	3.2
11. Brazil	-0.3	-5.1	-4.1	-0.9	0.7	1.2	2.0	2.1

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

... Not applicable.

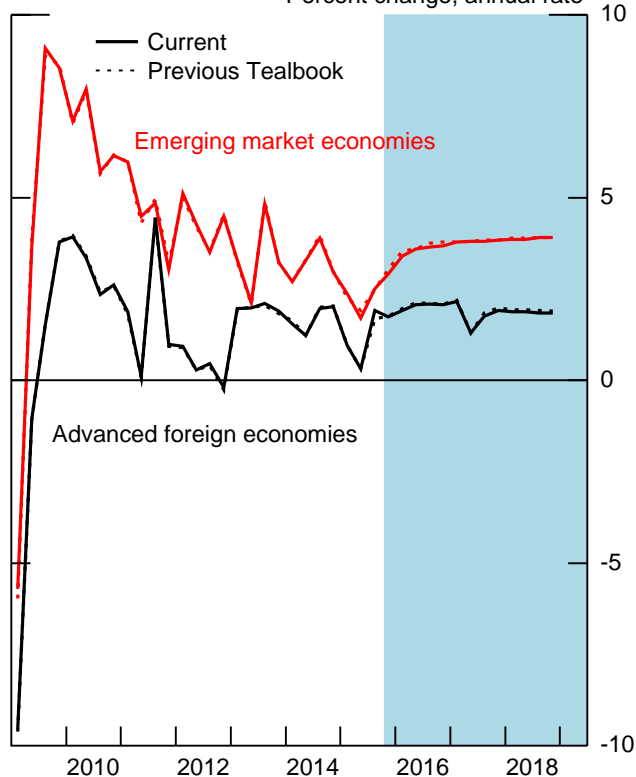
Total Foreign GDP

Percent change, annual rate



Foreign GDP

Percent change, annual rate



The Foreign Inflation Outlook

Consumer Prices*

Percent change, annual rate

	2014	2015			2016		2017	2018
		H1	Q3	Q4	H1	H2		
1. Total Foreign	2.0	1.3	2.0	1.7	2.3	2.4	2.6	2.5
<i>Previous Tealbook</i>	2.0	1.2	2.3	2.0	2.3	2.4	2.6	2.5
2. Advanced Foreign Economies	1.2	0.6	0.7	0.5	1.3	1.5	1.9	1.7
<i>Previous Tealbook</i>	1.2	0.6	0.6	0.9	1.3	1.5	1.9	1.7
3. Canada	1.9	1.1	2.4	1.5	1.6	1.8	2.0	2.0
4. Euro Area	0.2	0.5	-0.3	0.3	1.3	1.5	1.5	1.6
5. Japan	2.5	0.7	0.0	-0.5	0.6	1.0	2.5	1.3
6. United Kingdom	0.9	-0.2	1.0	0.6	1.7	1.9	2.0	2.0
7. Emerging Market Economies	2.6	1.9	3.0	2.7	3.1	3.1	3.1	3.1
<i>Previous Tealbook</i>	2.6	1.7	3.6	2.9	3.0	3.1	3.1	3.1
8. China	1.5	1.4	3.3	1.9	2.5	2.5	2.5	2.5
9. Emerging Asia ex. China	2.2	1.4	1.6	2.6	3.0	3.2	3.3	3.3
10. Mexico	4.2	1.8	2.9	3.1	3.3	3.3	3.3	3.3
11. Brazil	6.6	10.6	10.1	7.6	6.4	6.2	5.5	5.4

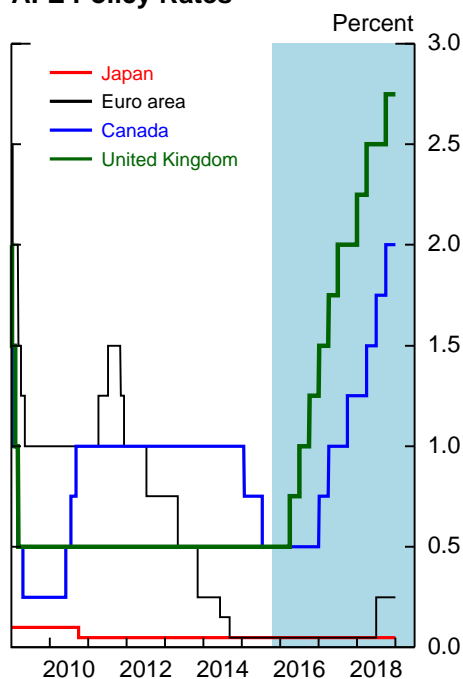
* CPI aggregates weighted by shares of U.S. non-oil imports.

... Not applicable.

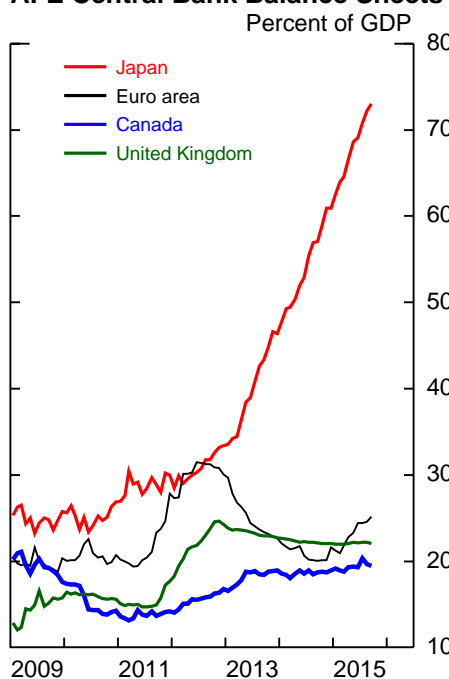
Int'l Econ Devel & Outlook

Foreign Monetary Policy

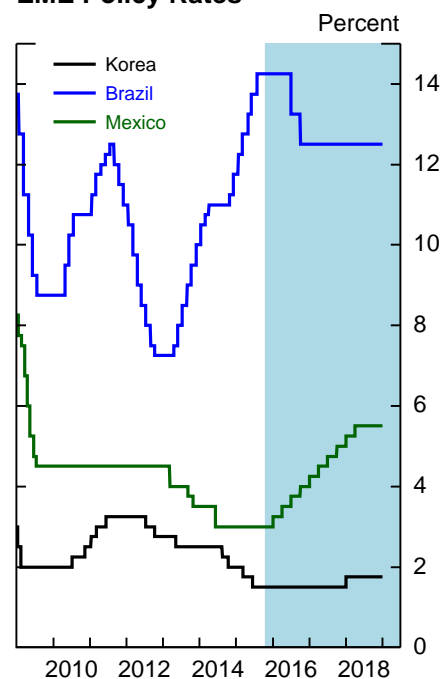
AFE Policy Rates



AFE Central Bank Balance Sheets

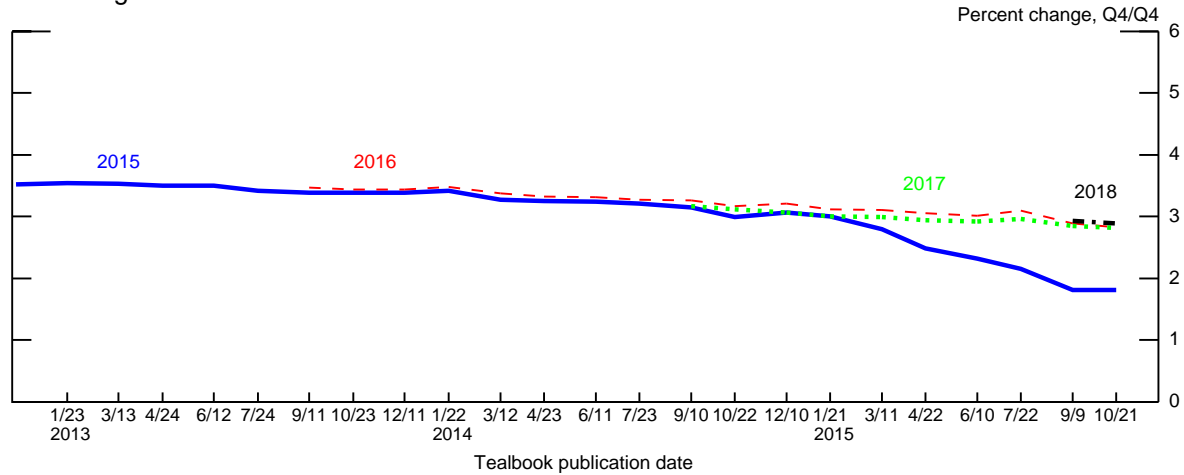


EME Policy Rates

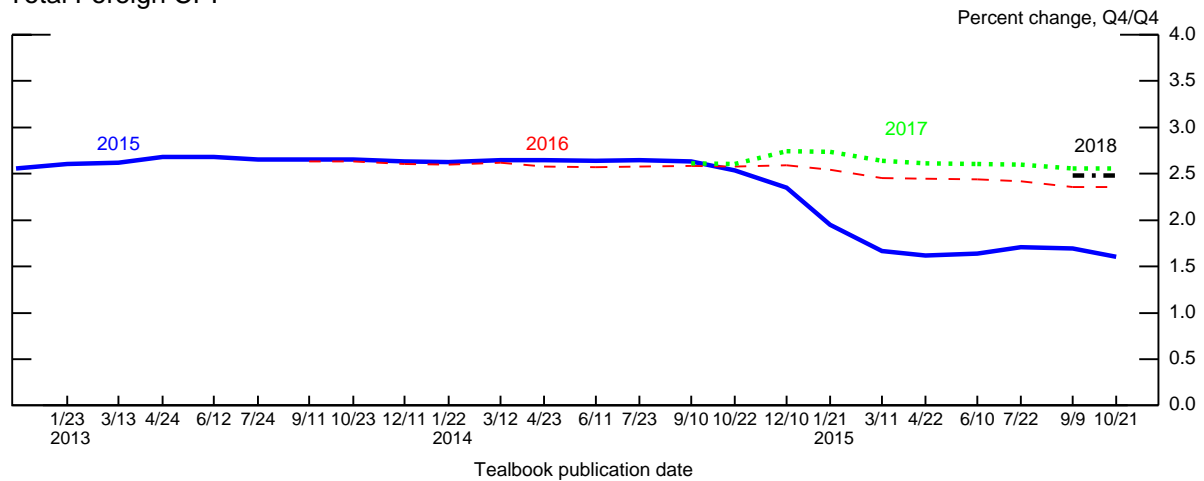


Evolution of Staff's International Forecast

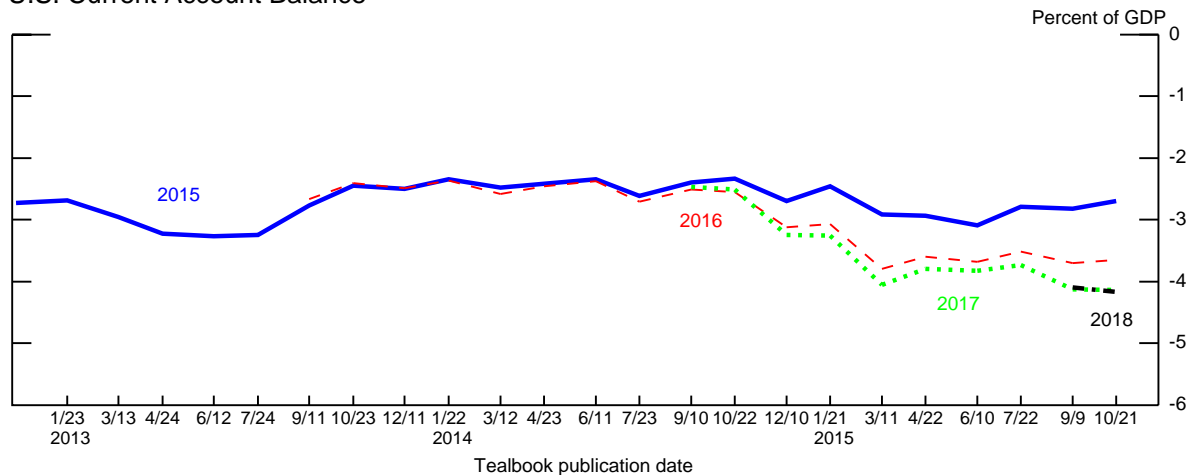
Total Foreign GDP



Total Foreign CPI



U.S. Current Account Balance



Alternative Scenarios

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

Measure and scenario	2015	2016	2017	2018	2019-20
	H2				
<i>Real GDP</i>					
Extended Tealbook baseline	1.7	2.2	2.0	1.8	1.6
Faster growth with higher inflation	3.2	2.9	1.7	1.5	1.5
Weak consumer demand	1.6	1.6	1.6	1.4	1.7
Lower long-term inflation expectations	1.7	2.2	2.0	1.8	1.7
Financial turbulence	1.7	.6	2.6	2.2	1.8
Emerging market economy slump	1.6	1.0	1.5	2.1	2.0
Faster foreign growth and weaker dollar	1.8	2.8	2.3	1.7	1.4
<i>Unemployment rate¹</i>					
Extended Tealbook baseline	5.0	4.9	4.7	4.7	4.7
Faster growth with higher inflation	4.8	4.4	4.4	4.5	4.6
Weak consumer demand	5.1	5.1	5.2	5.4	5.6
Lower long-term inflation expectations	5.0	4.9	4.7	4.6	4.6
Financial turbulence	5.0	5.5	5.2	4.9	4.9
Emerging market economy slump	5.1	5.3	5.5	5.4	5.2
Faster foreign growth and weaker dollar	5.0	4.7	4.4	4.2	4.4
<i>Total PCE prices</i>					
Extended Tealbook baseline	.9	1.4	1.7	1.9	2.0
Faster growth with higher inflation	1.1	1.9	2.1	2.2	2.2
Weak consumer demand	.9	1.4	1.7	1.8	1.9
Lower long-term inflation expectations	.8	1.1	1.3	1.4	1.6
Financial turbulence	.9	1.3	1.7	1.8	1.9
Emerging market economy slump	.6	.2	1.2	1.8	2.0
Faster foreign growth and weaker dollar	1.1	1.9	2.0	2.1	2.0
<i>Core PCE prices</i>					
Extended Tealbook baseline	1.4	1.4	1.7	1.9	2.0
Faster growth with higher inflation	1.6	1.9	2.0	2.2	2.2
Weak consumer demand	1.4	1.4	1.7	1.8	1.9
Lower long-term inflation expectations	1.4	1.2	1.2	1.4	1.6
Financial turbulence	1.4	1.4	1.6	1.8	1.9
Emerging market economy slump	1.3	.8	1.1	1.6	1.9
Faster foreign growth and weaker dollar	1.5	1.8	1.9	2.1	2.1
<i>Federal funds rate¹</i>					
Extended Tealbook baseline	.2	1.4	2.4	3.1	3.7
Faster growth with higher inflation	.2	2.2	3.5	4.1	4.5
Weak consumer demand	.2	1.2	1.8	2.2	2.4
Lower long-term inflation expectations	.2	1.3	2.1	2.6	3.4
Financial turbulence	.2	.6	1.3	2.2	3.1
Emerging market economy slump	.2	1.0	.9	1.5	2.9
Faster foreign growth and weaker dollar	.2	1.6	2.9	3.7	4.2

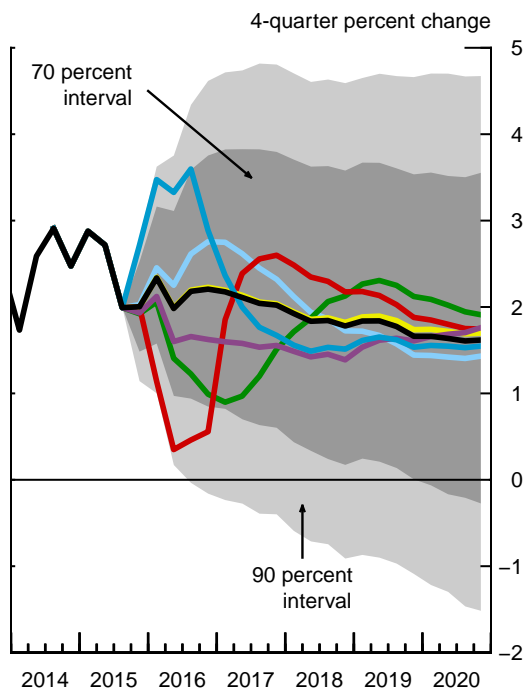
1. Percent, average for the final quarter of the period.

Forecast Confidence Intervals and Alternative Scenarios

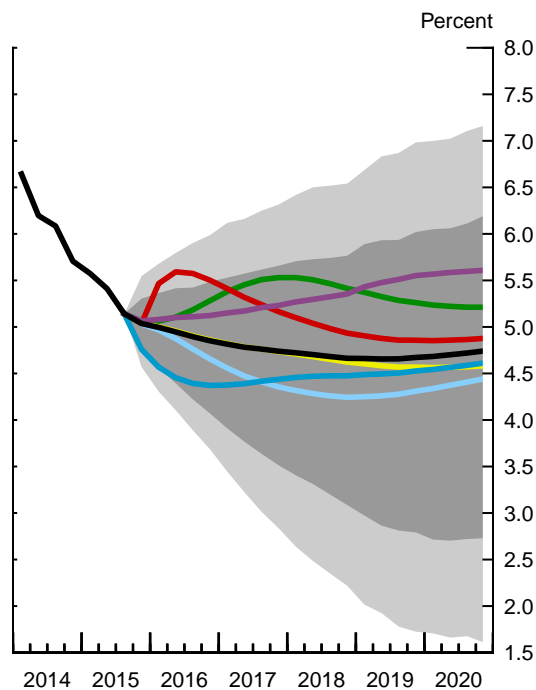
Confidence Intervals Based on FRB/US Stochastic Simulations

- Extended Tealbook baseline
- Lower long-term inflation expectations
- Emerging market economy slump
- Faster growth with higher inflation
- Financial turbulence
- Faster foreign growth and weaker dollar
- Weak consumer demand

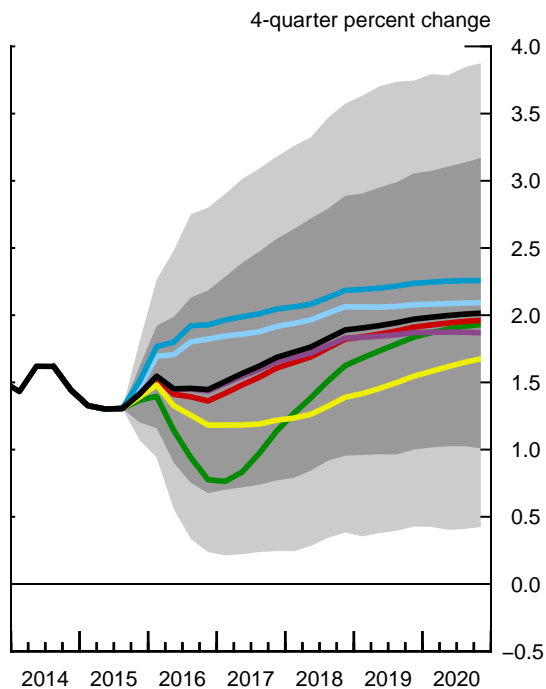
Real GDP



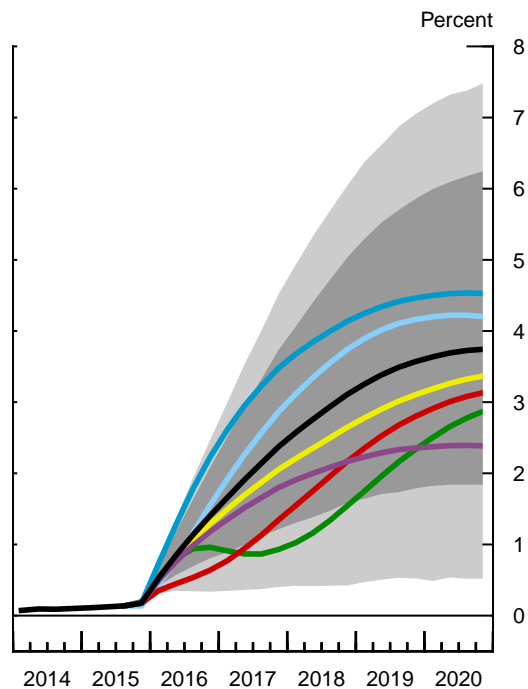
Unemployment Rate



PCE Prices excluding Food and Energy



Federal Funds Rate

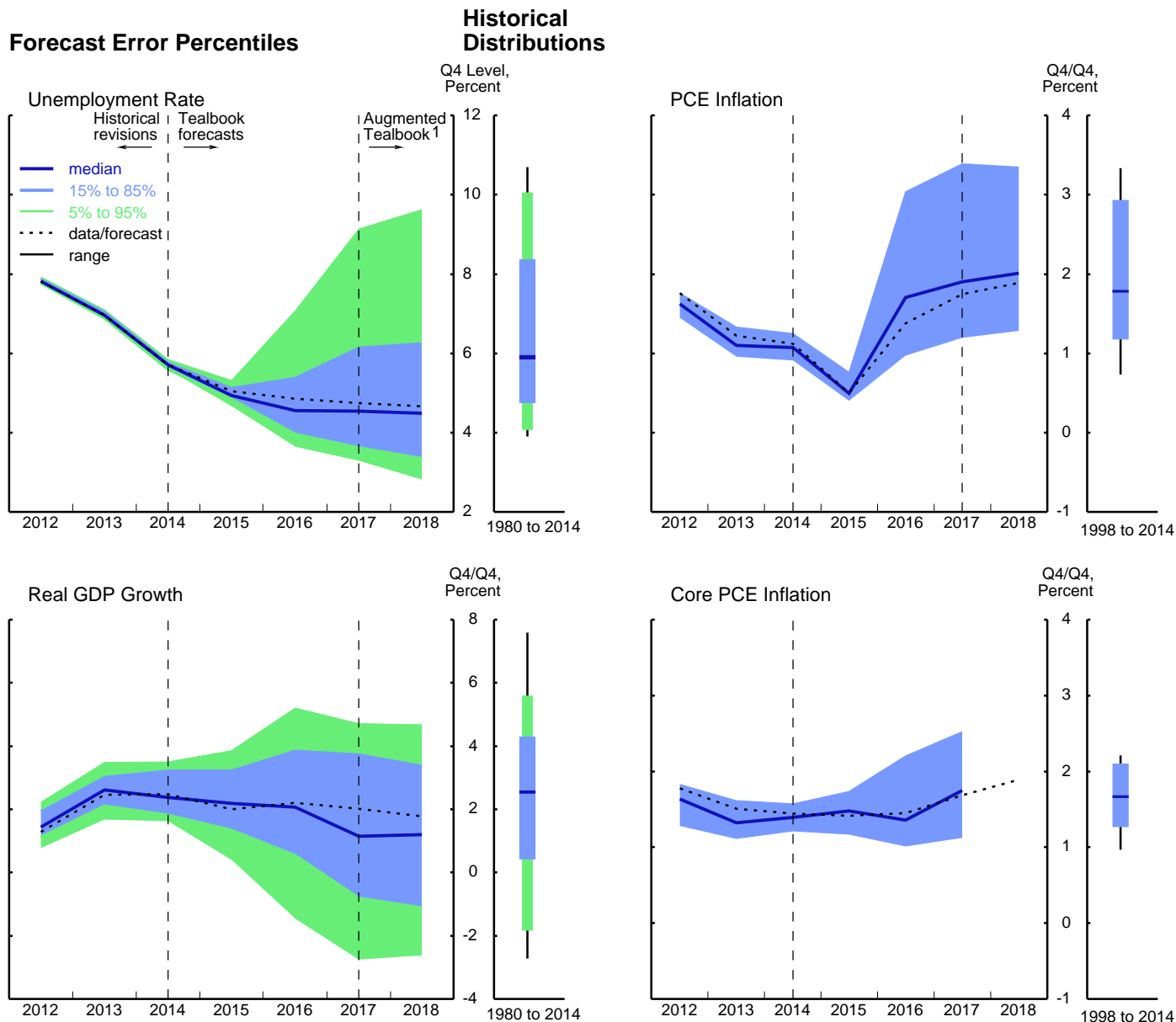


**Selected Tealbook Projections and 70 Percent Confidence Intervals Derived
from Historical Tealbook Forecast Errors and FRB/US Simulations**

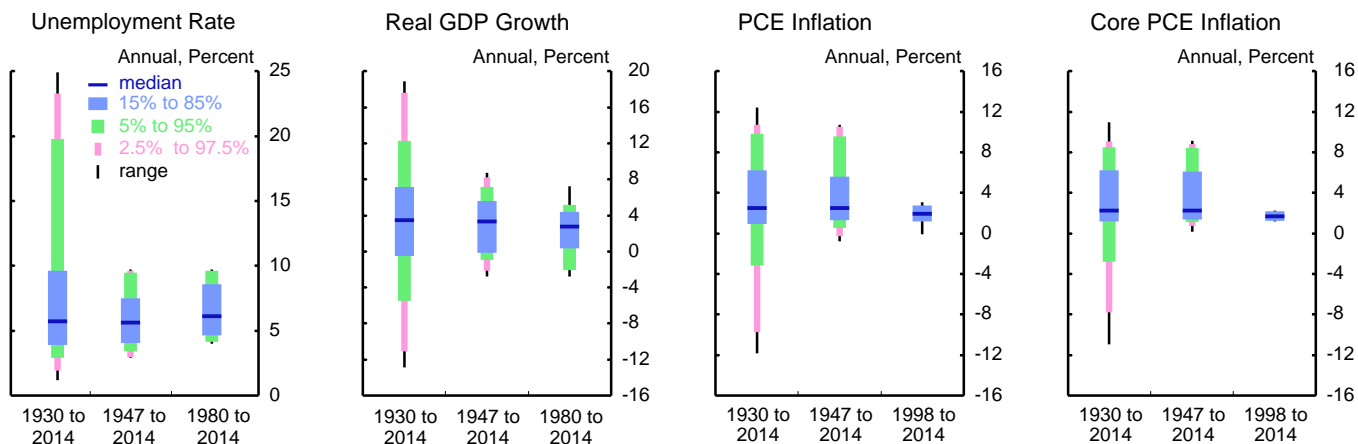
Measure	2015	2016	2017	2018	2019	2020
<i>Real GDP</i> (percent change, Q4 to Q4)						
Projection	2.0	2.2	2.0	1.8	1.7	1.6
Confidence interval						
Tealbook forecast errors	1.3–3.2	.5–3.9	-.8–3.8	-1.1–3.4
FRB/US stochastic simulations	1.5–2.5	.8–3.8	.6–3.8	.2–3.6	.0–3.5	-.3–3.6
<i>Civilian unemployment rate</i> (percent, Q4)						
Projection	5.0	4.9	4.7	4.7	4.7	4.7
Confidence interval						
Tealbook forecast errors	4.8–5.1	4.0–5.4	3.6–6.2	3.3–6.3
FRB/US stochastic simulations	4.7–5.3	4.1–5.5	3.5–5.7	3.1–5.8	2.8–6.0	2.7–6.2
<i>PCE prices, total</i> (percent change, Q4 to Q4)						
Projection	.5	1.4	1.7	1.9	2.0	2.0
Confidence interval						
Tealbook forecast errors	.4–.8	1.0–3.0	1.2–3.4	1.3–3.3
FRB/US stochastic simulations	.2–.8	.6–2.2	.7–2.7	.8–3.0	.9–3.1	.9–3.3
<i>PCE prices excluding food and energy</i> (percent change, Q4 to Q4)						
Projection	1.4	1.4	1.7	1.9	2.0	2.0
Confidence interval						
Tealbook forecast errors	1.2–1.7	1.0–2.2	1.1–2.5
FRB/US stochastic simulations	1.2–1.6	.7–2.2	.8–2.6	1.0–2.9	1.0–3.1	1.0–3.2
<i>Federal funds rate</i> (percent, Q4)						
Projection	.2	1.4	2.4	3.1	3.6	3.7
Confidence interval						
FRB/US stochastic simulations	.2–.2	.8–2.1	1.2–3.7	1.6–5.0	1.8–5.9	1.8–6.3

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 2018 using information from the Blue Chip survey and forecasts from the CBO and CEA.
... Not applicable.

Prediction Intervals Derived from Historical Tealbook Forecast Errors



Historical Distributions



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

1. Augmented Tealbook prediction intervals use 2- and 3-year-ahead forecast errors from Blue Chip, CBO, and CEA to extend the Tealbook prediction intervals through 2018.

Assessment of Key Macroeconomic Risks (1)

Probability of Inflation Events
(4 quarters ahead—2016:Q3)

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	.02	.02	.12	.04
Previous Tealbook	.02	.02	.12	.06
<i>Less than 1 percent</i>				
Current Tealbook	.46	.46	.26	.21
Previous Tealbook	.48	.48	.28	.19

Probability of Unemployment Events
(4 quarters ahead—2016:Q3)

Probability that the unemployment rate will...	Staff	FRB/US	EDO	BVAR
<i>Increase by 1 percentage point</i>				
Current Tealbook	.04	.04	.25	.01
Previous Tealbook	.04	.04	.25	.01
<i>Decrease by 1 percentage point</i>				
Current Tealbook	.13	.06	.02	.20
Previous Tealbook	.12	.05	.02	.29

Probability of Near-Term Recession

Probability that real GDP declines in each of 2015:Q4 and 2016:Q1	Staff	FRB/US	EDO	BVAR	Factor Model
Current Tealbook	.05	.05	.02	.03	.18
Previous Tealbook	.06	.04	.03	.02	.11

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

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

Interval	Nominal GDP		Real GDP		PCE price index		Core PCE price index		Unemployment rate ¹	
	09/09/15	10/21/15	09/09/15	10/21/15	09/09/15	10/21/15	09/09/15	10/21/15	09/09/15	10/21/15
<i>Quarterly</i>										
2015:Q1	.8	.8	.6	.6	-1.9	-1.9	1.0	1.0	5.6	5.6
Q2	5.9	6.1	3.7	3.9	2.2	2.2	1.8	1.9	5.4	5.4
Q3	3.8	2.9	1.9	1.4	1.2	1.3	1.2	1.4	5.2	5.1
Q4	1.9	3.0	1.9	2.1	-4	.4	1.2	1.4	5.0	5.0
2016:Q1	3.9	2.8	2.1	2.0	1.5	.8	1.5	1.5	5.0	5.0
Q2	3.6	4.3	1.9	2.5	1.6	1.6	1.5	1.5	5.0	4.9
Q3	3.5	3.8	1.9	2.2	1.5	1.6	1.4	1.4	4.9	4.9
Q4	4.0	3.9	2.4	2.2	1.5	1.5	1.4	1.4	4.9	4.9
2017:Q1	3.9	3.9	1.8	1.8	1.8	1.8	1.7	1.7	4.9	4.8
Q2	3.7	4.1	1.9	2.2	1.8	1.8	1.7	1.7	4.8	4.8
Q3	3.7	3.7	1.9	1.9	1.7	1.7	1.6	1.6	4.8	4.8
Q4	4.0	3.9	2.3	2.1	1.7	1.7	1.6	1.6	4.8	4.7
<i>Two-quarter²</i>										
2015:Q2	3.3	3.4	2.2	2.3	.1	.1	1.4	1.4	-3	-3
Q4	2.9	2.9	1.9	1.7	.4	.9	1.2	1.4	-4	-4
2016:Q2	3.7	3.5	2.0	2.2	1.5	1.2	1.5	1.5	.0	-1
Q4	3.8	3.9	2.1	2.2	1.5	1.5	1.4	1.4	-1	.0
2017:Q2	3.8	4.0	1.9	2.0	1.8	1.8	1.7	1.7	-1	-1
Q4	3.9	3.8	2.1	2.0	1.7	1.7	1.6	1.6	.0	-1
<i>Four-quarter³</i>										
2014:Q4	3.9	3.9	2.5	2.5	1.1	1.1	1.4	1.4	-1.3	-1.3
2015:Q4	3.1	3.2	2.0	2.0	.3	.5	1.3	1.4	-7	-7
2016:Q4	3.8	3.7	2.1	2.2	1.5	1.4	1.4	1.4	-1	-1
2017:Q4	3.8	3.9	2.0	2.0	1.7	1.7	1.7	1.7	-1	-2
2018:Q4	3.8	3.8	1.8	1.8	1.9	1.9	1.9	1.9	-1	.0
<i>Annual</i>										
2014	4.1	4.1	2.4	2.4	1.4	1.4	1.5	1.5	6.2	6.2
2015	3.4	3.4	2.4	2.4	.2	.3	1.3	1.3	5.3	5.3
2016	3.5	3.5	2.1	2.2	1.2	1.2	1.4	1.5	5.0	4.9
2017	3.8	3.9	2.0	2.1	1.7	1.7	1.6	1.6	4.8	4.8
2018	3.8	3.8	1.9	1.8	1.8	1.8	1.8	1.8	4.8	4.7

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.

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

Item	2015			2016				2017				2015 ¹	2016 ¹	2017 ¹	2018 ¹
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Real GDP <i>Previous Tealbook</i>	3.9 3.7	1.4 1.9	2.1 1.9	2.0 2.1	2.5 1.9	2.2 1.9	2.2 2.4	1.8 1.8	2.2 1.9	1.9 2.3	2.1 2.3	2.0 2.0	2.2 2.1	2.0 2.0	1.8 1.8
Final sales <i>Previous Tealbook</i>	3.9 3.6	2.8 2.3	1.7 1.9	1.8 1.5	2.6 2.6	2.2 2.1	2.7 2.6	1.8 2.0	2.4 2.4	2.1 2.2	2.3 2.4	2.0 1.9	2.3 2.2	2.1 2.3	2.0 2.1
Priv. dom. final purch. <i>Previous Tealbook</i>	3.9 3.4	3.8 3.3	2.9 3.1	3.6 3.4	3.9 3.8	3.7 3.6	3.5 3.5	3.0 3.4	2.8 2.9	2.6 2.7	2.6 2.7	3.2 3.0	3.7 3.6	2.7 2.9	2.1 2.2
Personal cons. expend. <i>Previous Tealbook</i>	3.6 3.1	3.2 2.8	2.8 2.9	3.2 3.1	3.2 3.3	3.2 3.2	3.2 3.1	2.8 3.0	2.6 2.6	2.4 2.5	2.6 2.4	2.8 2.6	3.2 3.2	2.6 2.6	2.1 2.1
Durables	8.0	8.3	4.1	6.0	6.7	6.8	6.0	4.6	4.2	3.8	3.7	5.6	6.4	4.1	3.7
Nondurables	4.3	3.7	3.6	2.4	2.6	2.5	2.8	2.6	2.3	2.1	2.7	3.0	2.6	2.4	2.2
Services	2.7	2.2	2.3	3.0	2.8	2.8	2.9	2.6	2.5	2.4	2.4	2.3	2.9	2.5	1.7
Residential investment <i>Previous Tealbook</i>	9.3 9.2	7.4 7.4	.9 2.0	11.5 7.9	14.5 11.4	10.2 11.1	8.5 10.1	8.5 11.1	6.0 8.0	5.0 5.7	2.1 4.5	6.9 7.1	11.2 10.1	5.3 7.3	3.9 4.2
Nonres. priv. fixed invest. <i>Previous Tealbook</i>	4.1 3.6	6.4 5.0	4.0 4.5	3.6 3.8	4.7 4.7	4.9 3.8	3.7 3.8	2.4 3.2	2.8 2.6	2.6 3.0	2.7 3.6	4.0 3.7	4.2 4.0	2.6 3.1	2.0 2.1
Equipment & intangibles <i>Previous Tealbook</i>	3.5 2.9	7.6 4.5	4.7 4.7	5.5 5.8	5.0 5.0	5.6 4.3	3.9 4.4	2.2 3.4	2.7 2.8	2.6 3.4	2.8 4.1	5.0 4.1	5.0 4.9	2.6 3.5	2.2 2.4
Nonres. structures <i>Previous Tealbook</i>	6.2 5.9	2.1 6.9	1.8 4.1	-3.0 -3.1	3.7 3.5	2.3 2.0	3.0 1.9	3.1 2.4	3.0 1.9	2.4 1.4	2.2 1.8	.5 2.2	1.5 1.0	2.7 1.9	1.2 .8
Net exports ² <i>Previous Tealbook</i> ²	-535 -534	-559 -556	-591 -590	-646 -651	-687 -691	-733 -737	-751 -757	-788 -798	-805 -814	-819 -827	-822 -829	-556 -555	-704 -709	-808 -817	-832 -838
Exports	5.1	.8	1.8	-1.9	1.7	1.4	3.2	-1.0	2.4	2.5	5.0	.3	1.1	2.2	4.2
Imports	3.0	4.4	6.4	6.8	7.4	7.8	5.0	4.4	4.1	3.7	4.0	5.2	6.7	4.0	3.2
Gov't cons. & invest. <i>Previous Tealbook</i>	2.6 2.7	.7 .0	.2 .0	.0 .0	1.3 1.3	.2 .4	.6 .4	.3 .3	1.6 1.6	.7 .7	.7 .7	.8 .7	.5 .5	.8 .8	.9 .9
Federal	.0	-1.8	-1.5	-1.0	-1.0	-1.7	-4	-1.0	-8	-9	-6	-5	-1.0	-8	-6
Defense	.3	-2.2	-1.9	-1.4	-1.4	-2.6	-4	-1.7	-1.3	-1.6	-1.0	-7	-1.5	-1.4	-8
Nondefense	-5	-1.1	-8	-4	-4	-4	-4	.1	.0	.1	.1	-3	-4	.1	-4
State & local	4.3	2.2	1.2	.7	2.8	1.4	1.3	1.1	3.0	1.7	1.4	1.7	1.5	1.8	1.8
Change in priv. inventories ² <i>Previous Tealbook</i> ²	114 119	57 105	73 106	80 133	76 107	74 97	55 88	56 79	52 58	45 48	38 43	89 111	71 106	48 57	15 14

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	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Real GDP <i>Previous Tealbook</i>	-2 -2	2.7 2.7	1.7 1.7	1.3 1.3	2.5 2.5	2.5 2.5	2.0 2.0	2.2 2.1	2.0 2.0	1.8 1.8
Final sales <i>Previous Tealbook</i>	-4 -4	2.0 2.0	1.5 1.5	1.7 1.7	1.9 1.9	2.6 2.6	2.0 1.9	2.3 2.2	2.1 2.3	2.0 2.1
Priv. dom. final purch. <i>Previous Tealbook</i>	-2.4 -2.4	3.5 3.5	2.6 2.6	2.3 2.3	2.6 2.6	3.6 3.6	3.2 3.0	3.7 3.6	2.7 2.9	2.1 2.2
Personal cons. expend. <i>Previous Tealbook</i>	-2 -2	3.1 3.1	1.5 1.5	1.3 1.3	2.3 2.3	3.2 3.2	2.8 2.6	3.2 3.2	2.6 2.6	2.1 2.1
Durables	2.5	9.3	4.8	7.2	4.6	7.5	5.6	6.4	4.1	3.7
Nondurables	.2	3.3	.4	.8	2.6	2.3	3.0	2.6	2.4	2.2
Services	-8	2.0	1.4	.6	1.8	2.8	2.3	2.9	2.5	1.7
Residential investment <i>Previous Tealbook</i>	-10.8 -10.8	-5.2 -5.2	6.0 6.0	15.7 15.7	3.5 3.5	5.1 5.1	6.9 7.1	11.2 10.1	5.3 7.3	3.9 4.2
Nonres. priv. fixed invest. <i>Previous Tealbook</i>	-12.2 -12.2	8.1 8.1	9.0 9.0	5.2 5.2	4.2 4.2	5.5 5.5	4.0 3.7	4.2 4.0	2.6 3.1	2.0 2.1
Equipment & intangibles <i>Previous Tealbook</i>	-6.0 -6.0	12.0 12.0	9.2 9.2	5.5 5.5	3.6 3.6	5.7 5.7	5.0 4.1	5.0 4.9	2.6 3.5	2.2 2.4
Nonres. structures <i>Previous Tealbook</i>	-27.1 -27.1	-4.0 -4.0	8.0 8.0	4.1 4.1	6.5 6.5	5.0 5.0	.5 2.2	1.5 1.0	2.7 1.9	1.2 .8
Net exports ¹ <i>Previous Tealbook</i> ¹	-395 -395	-459 -459	-459 -459	-447 -447	-417 -417	-443 -443	-556 -555	-704 -709	-808 -817	-832 -838
Exports	.8	10.1	4.2	2.2	5.2	2.4	.3	1.1	2.2	4.2
Imports	-6.2	12.0	3.5	.3	2.4	5.4	5.2	6.7	4.0	3.2
Gov't. cons. & invest. <i>Previous Tealbook</i>	2.3 2.3	-1.1 -1.1	-3.0 -3.0	-2.2 -2.2	-2.9 -2.9	.4 .4	.8 .7	.5 .5	.8 .8	.9 .9
Federal	3.9	3.2	-4.0	-2.1	-6.8	-8	-5	-1.0	-8	-6
Defense	3.6	2.0	-4.1	-3.9	-7.4	-2.9	-7	-1.5	-1.4	-8
Nondefense	4.6	5.5	-3.9	1.0	-5.9	2.7	-3	-4	.1	-4
State & local	1.3	-4.0	-2.3	-2.3	-2	1.1	1.7	1.5	1.8	1.8
Change in priv. inventories ¹ <i>Previous Tealbook</i> ¹	-148 -148	58 58	38 38	55 55	61 61	68 68	89 111	71 106	48 57	15 14

1. Billions of chained (2009) dollars.

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

Item	2015			2016				2017				2015 ¹	2016 ¹	2017 ¹	2018 ¹
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Real GDP <i>Previous Tealbook</i>	3.9 3.7	1.4 1.9	2.1 1.9	2.0 2.1	2.5 1.9	2.2 1.9	2.2 2.4	1.8 1.8	2.2 1.9	1.9 1.9	2.1 2.3	2.0 2.0	2.2 2.1	2.0 2.0	1.8 1.8
Final sales <i>Previous Tealbook</i>	3.9	2.7	1.7	1.8	2.6	2.2	2.7	1.8	2.3	2.1	2.3	2.0	2.3	2.1	2.0
Priv. dom. final purch. <i>Previous Tealbook</i>	3.5	2.3	1.8	1.5	2.5	2.1	2.6	2.0	2.4	2.2	2.4	1.8	2.2	2.2	2.0
	3.3	3.2	2.4	3.0	3.3	3.2	3.0	2.6	2.4	2.2	2.2	2.7	3.1	2.4	1.8
	2.9	2.8	2.6	2.9	3.2	3.1	3.0	2.9	2.5	2.3	2.3	2.5	3.0	2.5	1.9
Personal cons. expend. <i>Previous Tealbook</i>	2.4	2.1	1.9	2.2	2.2	2.2	2.2	1.9	1.8	1.7	1.8	1.9	2.2	1.8	1.4
Durables	2.1	1.9	2.0	2.1	2.2	2.2	2.1	2.1	1.8	1.7	1.7	1.8	2.2	1.8	1.4
Nondurables	.6	.6	.3	.4	.5	.5	.4	.3	.3	.3	.3	.4	.5	.3	.3
Services	.6	.5	.5	.4	.4	.4	.4	.4	.3	.3	.4	.5	.4	.4	.3
	1.2	1.0	1.1	1.4	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.3	1.2	.8
Residential investment <i>Previous Tealbook</i>	.3	.2	.0	.4	.5	.4	.3	.3	.2	.2	.1	.2	.4	.2	.2
	.3	.2	.1	.3	.4	.4	.4	.4	.3	.2	.2	.2	.3	.3	.2
Nonres. priv. fixed invest. <i>Previous Tealbook</i>	.5	.8	.5	.5	.6	.6	.5	.3	.4	.3	.4	.5	.5	.3	.3
Equipment & intangibles <i>Previous Tealbook</i>	.5	.6	.6	.5	.6	.5	.5	.4	.3	.4	.5	.5	.5	.4	.3
	.4	.7	.5	.5	.5	.6	.4	.2	.3	.3	.3	.5	.5	.3	.2
<i>Previous Tealbook</i>	.3	.4	.5	.6	.5	.4	.4	.4	.3	.4	.4	.4	.5	.4	.3
Nonres. structures <i>Previous Tealbook</i>	.2	.1	.0	-.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.1	.0
	.2	.2	.1	-.1	.1	.1	.1	.1	.1	.0	.0	.1	.0	.1	.0
Net exports <i>Previous Tealbook</i>	.2	-.6	-.7	-.13	-.9	-.10	-.4	-.8	-.4	-.3	.0	-.8	-.9	-.4	.0
Exports	.2	-.5	-.8	-.14	-.9	-.10	-.4	-.9	-.3	-.3	.0	-.8	-.9	-.4	.0
Imports	.6	.1	.2	-.2	.2	.2	.4	-.1	.3	.3	.6	.0	.1	.3	.5
	-.5	-.7	-1.0	-1.0	-1.1	-1.2	-.8	-.7	-.6	-.6	-.6	-.8	-1.0	-.6	-.5
Gov't. cons. & invest. <i>Previous Tealbook</i>	.5	.1	.0	.0	.2	.0	.1	.1	.3	.1	.1	.2	.1	.1	.2
Federal	.5	.0	.0	.0	.2	.1	.1	.1	.3	.1	.1	.1	.1	.1	.2
Defense	.0	-.1	-.1	-.1	-.1	-.1	.0	-.1	.0	-.1	.0	.0	-.1	-.1	.0
Nondefense	.0	-.1	-.1	-.1	-.1	-.1	.0	-.1	-.1	-.1	.0	.0	-.1	-.1	.0
State & local	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	.5	.2	.1	.1	.3	.2	.1	.1	.3	.2	.2	.2	.2	.2	.2
Change in priv. inventories <i>Previous Tealbook</i>	.0	-1.4	.4	.2	-.1	.0	-.5	.0	-.1	-.2	-.2	.0	-.1	-.1	-.2
	.2	-.3	.0	.7	-.6	-.2	-.2	-.2	-.5	-.2	-.1	.2	-.1	-.3	-.2

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	2015			2016				2017				2015 ¹	2016 ¹	2017 ¹	2018 ¹
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
GDP chain-wt. price index <i>Previous Tealbook</i>	2.1 2.1	1.6 1.9	.9 .0	.8 1.7	1.7 1.7	1.7 1.6	1.6 1.6	2.0 2.0	1.8 1.8	1.8 1.7	1.8 1.7	1.2 1.0	1.4 1.7	1.9 1.8	2.0 1.9
PCE chain-wt. price index <i>Previous Tealbook</i>	2.2 2.2	1.3 1.2	.4 -.4	.8 1.5	1.6 1.6	1.6 1.5	1.5 1.5	1.8 1.8	1.8 1.7	1.7 1.7	1.7 1.7	.5 .3	1.4 1.5	1.7 1.7	1.9 1.9
Energy <i>Previous Tealbook</i>	15.1 15.2	-1.9 -1.0	-19.6 -29.7	-14.3 1.0	4.2 3.2	4.2 3.4	3.8 3.1	3.4 2.9	2.8 2.6	2.3 2.2	2.1 2.0	-15.7 -18.3	-9 2.7	2.7 2.4	1.8 1.5
Food <i>Previous Tealbook</i>	-1.1 -1.1	2.2 1.9	2.0 1.4	1.7 1.7	1.7 1.7	1.8 1.8	1.9 1.9	1.9 1.9	1.9 1.9	2.0 2.0	2.0 2.0	.7 .5	1.8 1.8	2.0 2.0	2.0 1.9
Ex. food & energy <i>Previous Tealbook</i>	1.9 1.8	1.4 1.2	1.4 1.2	1.5 1.5	1.5 1.5	1.4 1.4	1.4 1.4	1.7 1.7	1.7 1.7	1.6 1.6	1.6 1.6	1.4 1.3	1.4 1.4	1.7 1.7	1.9 1.9
Ex. food & energy, market based <i>Previous Tealbook</i>	1.8 1.8	1.1 1.0	1.3 1.0	1.5 1.4	1.5 1.4	1.4 1.4	1.3 1.4	1.7 1.7	1.7 1.7	1.6 1.6	1.6 1.6	1.2 1.1	1.4 1.4	1.7 1.7	1.9 1.9
CPI <i>Previous Tealbook</i>	3.0 3.0	1.6 1.7	.2 -.7	.9 1.9	2.1 2.0	2.1 2.1	2.1 2.1	2.2 2.1	2.2 2.1	2.1 2.1	2.1 2.1	.4 .2	1.8 2.0	2.1 2.1	2.1 2.0
Ex. food & energy <i>Previous Tealbook</i>	2.5 2.5	1.7 1.8	1.7 1.6	2.0 2.0	2.0 2.0	2.0 2.0	2.0 2.0	2.1 2.1	2.1 2.1	2.1 2.1	2.1 2.0	1.9 1.9	2.0 2.0	2.1 2.1	2.1 2.0
ECL, hourly compensation ² <i>Previous Tealbook</i> ²	.0 .0	2.5 2.5	2.5 2.5	2.6 2.6	2.6 2.6	2.6 2.6	2.6 2.6	2.8 2.7	2.8 2.7	2.8 2.7	2.8 2.7	2.0 2.0	2.6 2.6	2.8 2.7	2.8 2.7
Business sector Output per hour <i>Previous Tealbook</i>	3.8 3.6	.5 .6	2.6 2.0	1.7 1.7	1.7 1.6	1.4 1.6	1.3 1.5	1.1 1.5	1.7 1.5	1.4 1.5	1.4 1.5	1.4 1.2	1.5 1.6	1.4 1.5	1.5 1.6
Compensation per hour <i>Previous Tealbook</i>	2.1 2.1	2.5 2.2	2.3 2.8	3.2 3.2	2.9 2.9	2.9 2.9	2.9 2.9	3.4 3.3	3.1 3.0	3.1 3.0	3.1 3.0	2.0 2.1	3.0 3.0	3.2 3.1	3.4 3.3
Unit labor costs <i>Previous Tealbook</i>	-1.6 -1.4	2.0 1.6	-.3 .8	1.5 1.5	1.2 1.3	1.6 1.3	1.6 1.3	2.2 1.7	1.3 1.4	1.6 1.4	1.6 1.5	.6 .9	1.5 1.4	1.7 1.5	1.8 1.6
Core goods imports chain-wt. price index ³ <i>Previous Tealbook</i> ³	-3.1 -3.1	-2.5 -1.7	-2.2 -2.0	-.3 -1.1	.0 .3	.8 1.0	1.1 1.1	1.2 1.2	1.2 1.3	1.2 1.4	1.2 1.4	-3.1 -2.8	.4 .3	1.2 1.3	1.2 1.2

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

2. Private-industry workers.

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

Greensheets

Changes in Prices and Costs

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

Item	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
GDP chain-wt. price index <i>Previous Tealbook</i>	.4	1.8	1.9	1.9	1.6	1.3	1.2	1.4	1.9	2.0
PCE chain-wt. price index <i>Previous Tealbook</i>	.4	1.8	1.9	1.9	1.6	1.3	1.0	1.7	1.8	1.9
Energy <i>Previous Tealbook</i>	1.2	1.3	2.7	1.8	1.2	1.1	.5	1.4	1.7	1.9
Food <i>Previous Tealbook</i>	1.2	1.3	2.7	1.8	1.2	1.1	.3	1.5	1.7	1.9
Ex. food & energy <i>Previous Tealbook</i>	2.3	6.4	12.0	2.3	-2.5	-6.4	-15.7	-9	2.7	1.8
Ex. food & energy, market based <i>Previous Tealbook</i>	2.3	6.4	12.0	2.3	-2.5	-6.4	-18.3	2.7	2.4	1.5
CPI <i>Previous Tealbook</i>	-1.8	1.3	5.1	1.2	.8	2.8	.7	1.8	2.0	2.0
Ex. food & energy <i>Previous Tealbook</i>	-1.8	1.3	5.1	1.2	.8	2.8	.5	1.8	2.0	1.9
Ex. food & energy, market based <i>Previous Tealbook</i>	1.4	1.0	1.9	1.8	1.5	1.4	1.4	1.4	1.7	1.9
CPI <i>Previous Tealbook</i>	1.4	1.0	1.9	1.8	1.5	1.4	1.3	1.4	1.7	1.9
Ex. food & energy <i>Previous Tealbook</i>	1.8	.7	1.9	1.5	1.2	1.2	1.2	1.4	1.7	1.9
Ex. food & energy, market based <i>Previous Tealbook</i>	1.8	.7	1.9	1.5	1.2	1.2	1.1	1.4	1.7	1.9
ECL, hourly compensation ¹ <i>Previous Tealbook</i> ¹	1.5	1.2	3.3	1.9	1.2	1.2	.4	1.8	2.1	2.1
ECL, hourly compensation ¹ <i>Previous Tealbook</i> ¹	1.5	1.2	3.3	1.9	1.2	1.2	.2	2.0	2.1	2.0
Business sector Output per hour <i>Previous Tealbook</i>	1.8	.6	2.2	1.9	1.7	1.7	1.9	2.0	2.1	2.1
Compensation per hour <i>Previous Tealbook</i>	1.8	.6	2.2	1.9	1.7	1.7	1.9	2.0	2.1	2.0
Unit labor costs <i>Previous Tealbook</i>	1.2	2.1	2.2	1.8	2.0	2.3	2.0	2.6	2.8	2.8
Core goods imports chain-wt. price index ² <i>Previous Tealbook</i> ²	1.2	2.1	2.2	1.8	2.0	2.3	2.0	2.6	2.7	2.7
Business sector Output per hour <i>Previous Tealbook</i>	5.6	1.7	.0	-2	1.6	-2	1.4	1.5	1.4	1.5
Compensation per hour <i>Previous Tealbook</i>	5.6	1.7	.0	-2	1.6	-2	1.2	1.6	1.5	1.6
Unit labor costs <i>Previous Tealbook</i>	1.3	1.2	.6	5.8	-1	2.6	2.0	3.0	3.2	3.4
Core goods imports chain-wt. price index ² <i>Previous Tealbook</i> ²	1.3	1.2	.6	5.8	-1	2.6	2.1	3.0	3.1	3.3
Unit labor costs <i>Previous Tealbook</i>	-4.2	-4	.6	6.0	-1.7	2.8	.6	1.5	1.7	1.8
Core goods imports chain-wt. price index ² <i>Previous Tealbook</i> ²	-4.2	-4	.6	6.0	-1.7	2.8	.9	1.4	1.5	1.6
Core goods imports chain-wt. price index ² <i>Previous Tealbook</i> ²	-1.9	2.3	4.3	.1	-1.1	.5	-3.1	.4	1.2	1.2
Core goods imports chain-wt. price index ² <i>Previous Tealbook</i> ²	-1.9	2.3	4.3	.1	-1.1	.5	-2.8	.3	1.3	1.2

1. Private-industry workers.

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

Other Macroeconomic Indicators

Item	2015			2016				2017				2015 ¹	2016 ¹	2017 ¹	2018 ¹
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
<i>Employment and production</i>															
Nonfarm payroll employment ²	.6	.6	.5	.5	.5	.5	.5	.4	.4	.4	.4	2.5	2.0	1.7	1.3
Unemployment rate ³	5.4	5.1	5.0	5.0	4.9	4.9	4.9	4.8	4.8	4.8	4.7	5.0	4.9	4.7	4.7
<i>Previous Tealbook³</i>	5.4	5.2	5.0	5.0	5.0	4.9	4.9	4.9	4.8	4.8	4.8	5.0	4.9	4.8	4.7
Natural rate of unemployment ³	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 Tealbook³</i>	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
Employment-to-Population Ratio ³	59.4	59.3	59.3	59.4	59.4	59.4	59.4	59.4	59.4	59.4	59.4	59.3	59.4	59.4	59.2
Employment-to-Population Trend ³	59.9	59.8	59.7	59.6	59.5	59.5	59.4	59.3	59.2	59.2	59.1	59.7	59.4	59.1	58.8
GDP gap ⁴	-5	-4	-2	-1	.1	.3	.5	.6	.7	.8	.9	-2	.5	.9	1.0
<i>Previous Tealbook⁴</i>	-5	-4	-2	-1	.0	.1	.4	.4	.5	.6	.8	-2	.4	.8	.9
Industrial production ⁵	-2.4	1.8	-2.2	1.6	2.4	2.3	2.6	2.8	2.5	2.1	1.9	-8	2.2	2.3	1.8
<i>Previous Tealbook⁵</i>	-2.4	2.7	-1.3	1.2	2.2	2.2	3.0	3.0	2.3	2.1	2.0	-3	2.1	2.4	1.9
Manufacturing industr. prod. ⁵	1.4	2.5	-1.4	1.7	3.2	3.0	2.6	2.4	2.6	2.2	1.9	.5	2.6	2.3	1.8
<i>Previous Tealbook⁵</i>	1.2	2.5	-3	1.6	3.0	2.8	2.9	2.6	2.4	2.1	2.0	.7	2.6	2.3	1.9
Capacity utilization rate - mfg. ³	75.9	76.1	75.6	75.7	76.1	76.4	76.7	76.9	77.2	77.4	77.5	75.6	76.7	77.5	78.0
<i>Previous Tealbook³</i>	75.9	76.1	75.8	75.9	76.2	76.5	76.8	77.1	77.4	77.5	77.7	75.8	76.8	77.7	78.3
Housing starts ⁶	1.2	1.2	1.2	1.3	1.3	1.4	1.4	1.4	1.5	1.5	1.5	1.1	1.3	1.5	1.5
Light motor vehicle sales ⁶	17.1	17.8	17.3	17.0	17.0	17.0	17.0	17.0	16.9	16.8	16.7	17.2	17.0	16.8	16.7
<i>Income and saving</i>															
Nominal GDP ⁵	6.1	2.9	3.0	2.8	4.3	3.8	3.9	3.9	4.1	3.7	3.9	3.2	3.7	3.9	3.8
Real disposable pers. income ⁵	1.2	3.5	2.3	3.4	2.5	2.3	1.9	3.4	1.8	2.4	2.3	2.7	2.5	2.5	2.2
<i>Previous Tealbook⁵</i>	1.3	4.4	1.9	3.8	2.4	2.2	2.1	2.9	1.7	2.3	2.2	2.9	2.6	2.3	2.2
Personal saving rate ³	4.6	4.7	4.6	4.6	4.5	4.3	4.0	4.1	3.9	3.9	3.9	4.6	4.0	3.9	4.0
<i>Previous Tealbook³</i>	4.8	5.1	4.9	5.1	4.9	4.6	4.4	4.4	4.2	4.1	4.1	4.9	4.4	4.1	4.2
Corporate profits ⁷	14.7	5.1	-14.4	-10.7	1.8	3.4	3.8	-3.4	-1.1	-1.2	1.2	-5.0	-6	-1.1	.8
Profit share of GNP ³	11.5	11.5	11.0	10.6	10.6	10.6	10.6	10.4	10.3	10.2	10.1	11.0	10.6	10.1	9.8
Gross national saving rate ³	18.3	18.4	18.2	17.9	17.9	17.8	17.6	17.4	17.4	17.3	17.2	18.2	17.6	17.2	17.1
Net national saving rate ³	3.4	3.5	3.1	2.7	2.8	2.6	2.3	2.0	2.0	1.8	1.6	3.1	2.3	1.6	1.3

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	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<i>Employment and production</i>										
Nonfarm payroll employment ¹	-5.6	.8	2.0	2.2	2.5	2.9	2.5	2.0	1.7	1.3
Unemployment rate ²	9.9	9.5	8.7	7.8	7.0	5.7	5.0	4.9	4.7	4.7
<i>Previous Tealbook²</i>	9.9	9.5	8.7	7.8	7.0	5.7	5.0	4.9	4.8	4.7
Natural rate of unemployment ²	6.2	6.2	6.0	5.8	5.4	5.1	5.1	5.1	5.1	5.1
<i>Previous Tealbook²</i>	6.2	6.2	6.0	5.8	5.4	5.1	5.1	5.1	5.1	5.1
Employment-to-Population Ratio ²	58.4	58.3	58.5	58.7	58.5	59.2	59.3	59.4	59.4	59.2
Employment-to-Population Trend ²	61.6	61.3	60.9	60.2	60.2	60.0	59.7	59.4	59.1	58.8
GDP gap ³	-5.5	-4.4	-4.2	-4.2	-2.8	-9	-2	.5	.9	1.0
<i>Previous Tealbook³</i>	-5.5	-4.4	-4.2	-4.2	-2.8	-9	-2	.4	.8	.9
Industrial production ⁴	-5.4	5.9	2.8	2.1	2.3	4.5	-8	2.2	2.3	1.8
<i>Previous Tealbook⁴</i>	-5.4	5.9	2.8	2.1	2.3	4.5	-3	2.1	2.4	1.9
Manufacturing industr. prod. ⁴	-6.1	6.0	2.7	1.5	1.3	3.4	.5	2.6	2.3	1.8
<i>Previous Tealbook⁴</i>	-6.1	6.0	2.7	1.5	1.3	3.4	.7	2.6	2.3	1.9
Capacity utilization rate - mfg. ²	67.1	72.5	74.4	74.1	74.2	76.2	75.6	76.7	77.5	78.0
<i>Previous Tealbook²</i>	67.1	72.5	74.4	74.1	74.2	76.2	75.8	76.8	77.7	78.3
Housing starts ⁵	.6	.6	.6	.8	.9	1.0	1.1	1.3	1.5	1.5
Light motor vehicle sales ⁵	10.4	11.5	12.7	14.4	15.5	16.4	17.2	17.0	16.8	16.7
<i>Income and saving</i>										
Nominal GDP ⁴	.1	4.6	3.6	3.2	4.1	3.9	3.2	3.7	3.9	3.8
Real disposable pers. income ⁴	-7	2.6	1.7	5.1	-2.9	3.6	2.7	2.5	2.5	2.2
<i>Previous Tealbook⁴</i>	-7	2.6	1.7	5.1	-2.9	3.6	2.9	2.6	2.3	2.2
Personal saving rate ²	5.6	5.5	5.8	9.2	4.4	4.7	4.6	4.0	3.9	4.0
<i>Previous Tealbook²</i>	5.6	5.5	5.8	9.2	4.4	4.7	4.9	4.4	4.1	4.2
Corporate profits ⁶	53.7	18.0	6.8	.6	4.1	3.4	-5.0	-6	-1.1	.8
Profit share of GNP ²	10.6	12.0	12.3	12.0	12.0	11.9	11.0	10.6	10.1	9.8
Gross national saving rate ²	14.6	15.2	16.1	18.0	18.1	18.8	18.2	17.6	17.2	17.1
Net national saving rate ²	-1.7	-3	.8	2.9	3.1	3.9	3.1	2.3	1.6	1.3

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				2015				2016				2017			
	2015	2016	2017	2018	Q1 ^a	Q2 ^a	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Unified budget																
Receipts	3,249	3,406	3,525	3,641	680	1,027	802	746	720	1,078	862	795	746	1,110	875	820
Outlays	3,688	3,861	3,989	4,157	943	904	924	1,001	939	949	972	974	1,051	989	975	1,018
Surplus/deficit	-439	-455	-463	-515	-263	123	-123	-255	-219	129	-110	-179	-305	121	-100	-198
<i>Previous Tealbook</i>	-424	-463	-469	-575	-263	123	-107	-263	-224	135	-111	-181	-309	125	-104	-213
Means of financing:																
Borrowing	337	730	584	636	67	-16	46	428	253	-78	127	207	338	-89	127	228
Cash decrease	-40	8	-0	-0	123	-154	56	20	-4	-21	13	2	-3	-2	2	-0
Other ¹	142	-283	-120	-120	73	47	21	-193	-30	-30	-30	-30	-30	-30	-30	-30
Cash operating balance, end of period	199	191	192	192	100	254	199	179	183	204	191	189	192	194	192	192
NIPA federal sector																
Receipts	3,379	3,507	3,644	3,783	3,356	3,408	3,455	3,467	3,482	3,518	3,560	3,603	3,623	3,657	3,693	3,730
Expenditures	3,983	4,104	4,301	4,513	3,936	4,015	4,060	4,037	4,099	4,112	4,167	4,221	4,309	4,309	4,368	4,423
Consumption expenditures	955	960	971	982	957	957	955	954	962	962	962	963	972	974	975	977
Defense	594	594	597	601	595	595	594	592	596	595	594	594	598	598	597	597
Nondefense	361	366	374	381	362	362	362	362	366	367	368	369	374	376	378	380
Other spending	3,029	3,144	3,330	3,531	2,979	3,057	3,105	3,084	3,136	3,149	3,206	3,258	3,336	3,335	3,393	3,446
Current account surplus	-604	-597	-658	-730	-579	-607	-605	-571	-616	-593	-607	-618	-685	-652	-675	-693
Gross investment	263	260	260	261	262	264	262	261	260	260	259	260	260	260	260	260
Gross saving less gross investment ²	-596	-583	-641	-712	-569	-599	-594	-558	-603	-580	-592	-603	-669	-635	-657	-674
Fiscal indicators																
High-employment (HEB)																
surplus/deficit ³	-550.4	-594.9	-691.6	-784.3	-505.9	-569.7	-578.1	-554.3	-608.8	-595.6	-621.0	-644.8	-713.4	-689.2	-719.0	-745.0
Change in HEB, percent of potential GDP	.5	.2	.4	.3	-2	.3	.0	-1	.3	-1	.1	.1	.3	-2	.1	.1
Fiscal impetus (FI), percent of GDP ⁴	.3	.2	.2	.2	.0	.6	.3	.3	.1	.3	.1	.2	.1	.3	.2	.2
<i>Previous Tealbook</i>	.3	.2	.2	.2	.0	.7	.2	.3	.1	.3	.2	.2	.1	.3	.2	.2
Federal purchases	.0	-1	-1	.0	.1	.0	-1	-1	-1	-1	-1	.0	-1	-1	-1	.0
State and local purchases	.2	.2	.2	.2	-1	.5	.2	.1	.1	.3	.1	.1	.1	.3	.2	.1
Taxes and transfers	.2	.1	.1	.0	.0	.2	.2	.2	.1	.1	.1	.1	.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.

Foreign Real GDP and Consumer Prices: Selected Countries

(Quarterly percent changes at an annual rate)

Measure and country	2015				2016				2017			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Real GDP¹												
Total foreign	1.7	1.0	2.2	2.3	2.7	2.9	2.9	2.9	3.0	2.6	2.8	2.9
<i>Previous Tealbook</i>	1.6	1.1	2.1	2.4	2.8	2.9	3.0	3.0	3.0	2.6	2.9	2.9
Advanced foreign economies	1.0	.3	1.9	1.7	1.9	2.1	2.1	2.1	2.2	1.3	1.8	1.9
Canada	-.8	-.5	2.4	2.0	2.2	2.3	2.3	2.1	2.0	1.9	1.9	1.8
Japan	4.5	-1.2	-.4	.7	1.0	1.1	1.2	1.3	3.0	-4.7	-.2	1.0
United Kingdom	1.5	2.6	2.5	2.5	2.7	2.7	2.7	2.7	2.5	2.4	2.4	2.4
Euro area	2.1	1.4	1.6	1.6	1.7	1.9	1.9	2.0	2.0	2.0	2.0	2.1
Germany	1.4	1.8	1.7	1.7	1.7	1.8	1.9	2.0	2.0	1.9	1.9	1.9
Emerging market economies	2.4	1.7	2.5	2.9	3.4	3.6	3.6	3.7	3.8	3.8	3.8	3.8
Asia	4.3	3.7	4.3	4.7	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.8
Korea	3.3	1.3	3.2	3.9	3.9	3.9	3.9	3.9	3.7	3.7	3.7	3.7
China	5.7	7.2	7.4	6.5	6.3	6.2	6.2	6.2	6.1	6.1	6.1	6.1
Latin America	.9	.1	1.0	1.4	2.2	2.5	2.6	2.6	2.9	2.9	2.9	3.0
Mexico	1.7	2.0	2.3	2.2	2.7	3.1	3.1	3.1	3.1	3.1	3.1	3.2
Brazil	-3.0	-7.2	-4.1	-.9	.6	.8	1.1	1.4	1.8	2.1	2.1	2.1
Consumer prices²												
Total foreign	.1	2.5	2.0	1.7	2.2	2.3	2.4	2.4	2.4	2.9	2.5	2.5
<i>Previous Tealbook</i>	-.1	2.6	2.3	2.0	2.3	2.3	2.4	2.4	2.4	2.9	2.4	2.5
Advanced foreign economies	-.8	2.0	.7	.5	1.2	1.4	1.5	1.6	1.6	2.6	1.6	1.7
Canada	-.2	2.5	2.4	1.5	1.6	1.7	1.8	1.9	2.0	2.0	2.0	2.0
Japan	-.3	1.7	.0	-.5	.4	.9	1.0	1.1	1.2	6.5	1.2	1.2
United Kingdom	-1.3	.9	1.0	.6	1.6	1.8	1.9	1.9	1.9	2.0	2.0	2.0
Euro area	-1.3	2.3	-.3	.3	1.2	1.4	1.5	1.5	1.5	1.5	1.5	1.6
Germany	-1.6	2.2	-.4	.3	1.3	1.5	1.6	1.7	1.7	1.7	1.7	1.7
Emerging market economies	.8	3.0	3.0	2.7	3.0	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Asia	.1	2.7	2.7	2.1	2.7	2.7	2.8	2.8	2.8	2.8	2.8	2.8
Korea	.1	1.5	.9	2.2	2.9	3.0	3.2	3.2	3.2	3.2	3.2	3.3
China	.2	2.5	3.3	1.9	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Latin America	2.2	3.7	4.0	3.8	3.9	3.9	3.9	3.9	3.7	3.7	3.7	3.7
Mexico	1.0	2.7	2.9	3.1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
Brazil	10.9	10.2	10.1	7.6	6.6	6.2	6.2	6.2	5.7	5.4	5.4	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.

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

Measure and country	2010	2011	2012	2013	2014	2015	Projected		
							2016	2017	2018
Real GDP¹									
Total foreign	4.8	3.2	2.4	2.7	2.5	1.8	2.8	2.8	2.9
<i>Previous Tealbook</i>	4.8	3.2	2.3	2.7	2.5	1.8	2.9	2.8	2.9
Advanced foreign economies	3.1	1.8	.4	2.0	1.7	1.2	2.0	1.8	1.9
Canada	3.6	3.0	1.0	2.7	2.5	.8	2.2	1.9	1.8
Japan	3.6	.3	.0	2.3	-8	1.1	1.1	-3	1.0
United Kingdom	1.8	2.1	1.0	2.8	3.0	2.3	2.7	2.4	2.4
Euro area	2.4	.6	-1.0	.6	.9	1.7	1.9	2.0	2.0
Germany	4.5	2.4	.1	1.3	1.5	1.6	1.8	1.9	1.8
Emerging market economies	6.7	4.6	4.3	3.4	3.2	2.4	3.6	3.8	3.9
Asia	8.4	4.9	5.7	5.3	4.9	4.3	4.9	4.8	4.8
Korea	6.1	2.9	2.1	3.4	2.7	2.9	3.9	3.7	3.7
China	10.0	8.6	7.9	7.6	7.2	6.7	6.2	6.1	6.0
Latin America	4.7	4.2	3.4	1.5	1.8	.8	2.5	2.9	3.1
Mexico	4.4	4.2	3.4	1.0	2.6	2.1	3.0	3.1	3.2
Brazil	5.8	2.5	2.3	2.0	-3	-3.8	1.0	2.0	2.1
Consumer prices²									
Total foreign	3.2	3.4	2.3	2.3	2.0	1.6	2.4	2.6	2.5
<i>Previous Tealbook</i>	3.2	3.4	2.3	2.3	2.0	1.7	2.4	2.6	2.5
Advanced foreign economies	1.7	2.2	1.3	1.0	1.2	.6	1.4	1.9	1.7
Canada	2.2	2.7	1.0	1.0	1.9	1.5	1.7	2.0	2.0
Japan	-3	-3	-2	1.4	2.5	.2	.8	2.5	1.3
United Kingdom	3.4	4.6	2.6	2.1	.9	.3	1.8	2.0	2.0
Euro area	2.0	2.9	2.3	.8	.2	.2	1.4	1.5	1.6
Germany	1.6	2.6	2.0	1.3	.4	.1	1.5	1.7	1.8
Emerging market economies	4.3	4.3	3.1	3.3	2.6	2.4	3.1	3.1	3.1
Asia	4.3	4.5	2.6	3.1	1.7	1.9	2.7	2.8	2.8
Korea	3.2	3.9	1.7	1.1	1.0	1.2	3.1	3.2	3.2
China	4.6	4.6	2.0	2.9	1.5	2.0	2.5	2.5	2.5
Latin America	4.4	4.0	4.3	4.0	4.8	3.4	3.9	3.7	3.7
Mexico	4.3	3.5	4.1	3.6	4.2	2.4	3.3	3.3	3.3
Brazil	5.6	6.7	5.6	5.9	6.6	9.7	6.3	5.5	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

	2015				2016				Projected-----2017			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	Billions of dollars, s.a.a.r.											
U.S. current account balance	-473.2	-438.7	-454.9	-491.3	-578.7	-595.7	-647.4	-688.5	-748.7	-752.6	-783.5	-809.5
<i>Previous Tealbook</i>	-469.5	-456.7	-454.7	-512.2	-588.5	-604.2	-653.8	-696.7	-758.7	-756.7	-784.2	-808.3
Current account as percent of GDP	-2.7	-2.4	-2.5	-2.7	-3.2	-3.2	-3.5	-3.7	-3.9	-3.9	-4.0	-4.1
<i>Previous Tealbook</i>	-2.7	-2.6	-2.5	-2.8	-3.2	-3.3	-3.5	-3.7	-4.0	-3.9	-4.0	-4.1
Net goods & services	-537.2	-520.0	-535.8	-561.2	-633.2	-662.4	-710.1	-736.6	-778.1	-786.1	-802.9	-814.3
Investment income, net	208.8	212.7	214.8	207.2	204.8	198.8	194.7	185.3	179.6	165.7	151.4	142.0
Direct, net	278.8	280.6	273.2	271.5	282.6	291.7	303.6	312.4	325.6	332.6	340.5	353.4
Portfolio, net	-70.0	-67.9	-58.4	-64.3	-77.8	-92.9	-108.8	-127.1	-146.0	-166.9	-189.1	-211.4
Other income and transfers, net	-144.8	-131.4	-133.9	-137.3	-150.3	-132.1	-132.0	-137.3	-150.3	-132.1	-132.0	-137.3

Annual Data

	Projected-----								
	2010	2011	2012	2013	2014	2015	2016	2017	2018
Billions of dollars									
U.S. current account balance	-442.0	-460.4	-449.7	-376.8	-389.5	-464.5	-627.6	-773.6	-839.8
Previous Tealbook	-442.0	-460.4	-449.7	-376.8	-389.5	-473.3	-635.8	-777.0	-827.4
Current account as percent of GDP	-3.0	-3.0	-2.8	-2.3	-2.2	-2.6	-3.4	-4.0	-4.2
Previous Tealbook	-3.0	-3.0	-2.8	-2.3	-2.2	-2.6	-3.4	-4.0	-4.1
Net goods & services	-494.7	-548.6	-536.8	-478.4	-508.3	-538.5	-685.6	-795.3	-824.4
Investment income, net	185.7	229.0	220.8	233.6	247.4	210.9	195.9	159.7	122.5
Direct, net	288.0	298.6	290.2	301.7	300.5	276.0	297.6	338.0	386.8
Portfolio, net	-102.3	-69.5	-69.4	-68.1	-53.1	-65.2	-101.6	-178.3	-264.3
Other income and transfers, net	-133.0	-140.8	-133.7	-132.0	-128.6	-136.8	-137.9	-137.9	-137.9

Abbreviations

ABS	asset-backed securities
AFE	advanced foreign economy
BEA	Bureau of Economic Analysis
BOC	Bank of Canada
BOE	Bank of England
BOJ	Bank of Japan
CDS	credit default swaps
C&I	commercial and industrial
CMBS	commercial mortgage-backed securities
CP	commercial paper
CPI	consumer price index
CRE	commercial real estate
Desk	Open Market Desk
DSGE	dynamic stochastic general equilibrium
EME	emerging market economy
FOMC	Federal Open Market Committee; also, the Committee
GCF	General Collateral Finance
GDP	gross domestic product
GSE	government-sponsored enterprise
IP	industrial production
MBS	mortgage-backed securities
MERS	Middle East Respiratory Syndrome
OIS	overnight index swap
ON RRP	overnight reverse repurchase agreement
PCE	personal consumption expenditures
PMI	purchasing managers index
RRP	reverse repurchase agreement
SLOOS	Senior Loan Officer Opinion Survey on Bank Lending Practices

SOMA	System Open Market Account
S&P	Standard & Poor's
TIPS	Treasury Inflation-Protected Securities

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.

Please note that some material may have been redacted from this document if that material was received on a confidential basis. Redacted material is indicated by occasional gaps in the text or by gray boxes around non-text content. All redacted passages are exempt from disclosure under applicable provisions of the Freedom of Information Act.

Class I FOMC – Restricted Controlled (FR)

Report to the FOMC on Economic Conditions and Monetary Policy



Book B Monetary Policy: Strategies and Alternatives

October 22, 2015

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

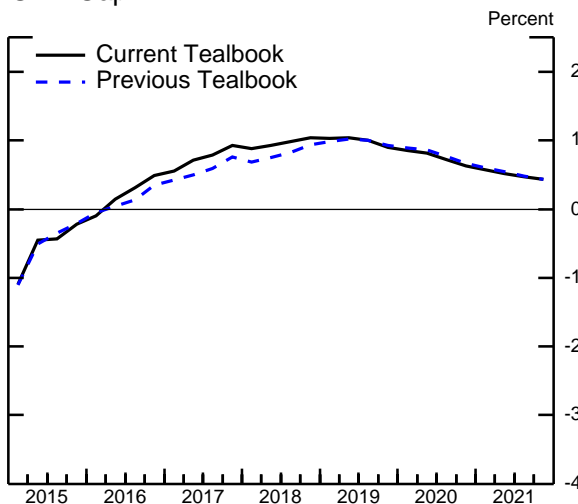
Policy Rules and the Staff Projection

Near-Term Prescriptions of Selected Policy Rules¹

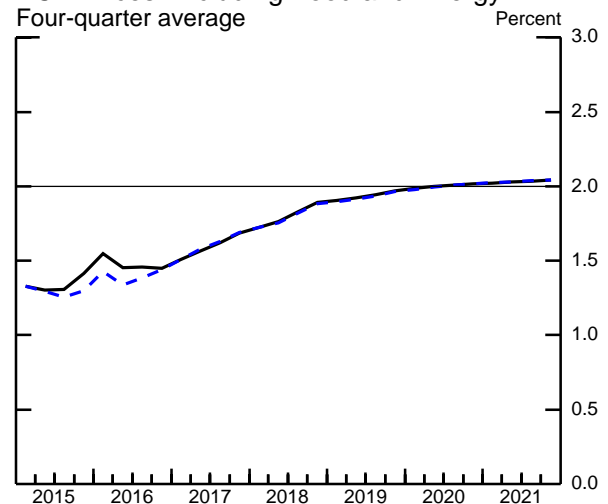
	(Percent)	
	2015:Q4	2016:Q1
Taylor (1993) rule	2.28	2.53
<i>Previous Tealbook</i>	2.11	2.37
Taylor (1999) rule	2.18	2.48
<i>Previous Tealbook</i>	2.01	2.34
Inertial Taylor (1999) rule	0.44	0.75
<i>Previous Tealbook outlook</i>	0.44	0.73
First-difference rule	0.23	0.31
<i>Previous Tealbook outlook</i>	0.13	0.13

Key Elements of the Staff Projection

GDP Gap



PCE Prices Excluding Food and Energy
Four-quarter average



Real Federal Funds Rate Estimates²

	(Percent)		
	Current Tealbook	Current Quarter Estimate as of <i>Previous Tealbook</i>	<i>Previous Tealbook</i>
Tealbook-consistent FRB/US r^*	0.74	0.71	0.47
Current real federal funds rate	-1.17		-1.16
Average projected real federal funds rate ³	0.21	0.28	0.09

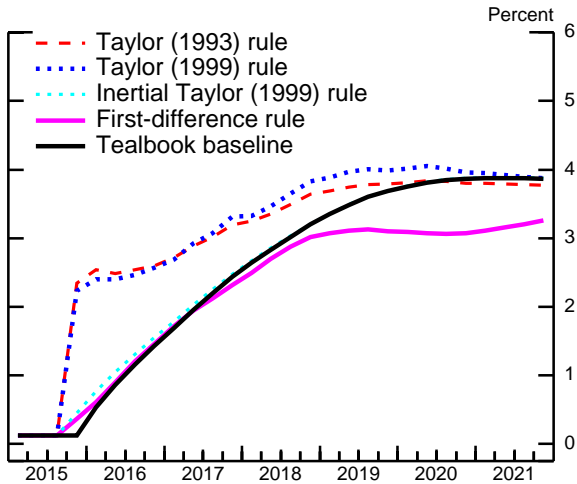
1. For rules that have a lagged policy rate as a right-hand-side variable, the column denoted "Previous Tealbook outlook" reports rule prescriptions based on the previous Tealbook's staff outlook, but jumping off from the realized value for the policy rate last quarter.

2. Estimates of r^* and of the average projected real federal funds rate may change at the beginning of a quarter even when the staff outlook is unchanged because the 12-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.

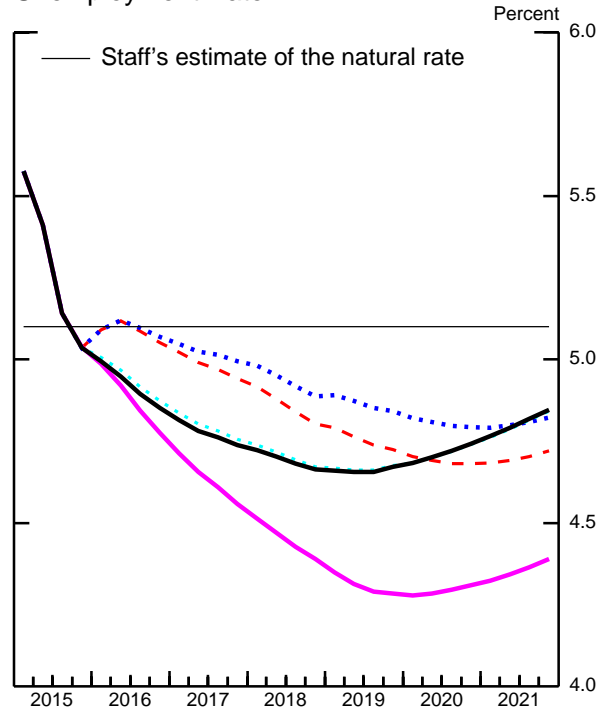
3. The average projected real federal funds rate is the 12-quarter average of the current real federal funds rate and its projected values under the Tealbook baseline over the next 11 quarters.

Policy Rule Simulations

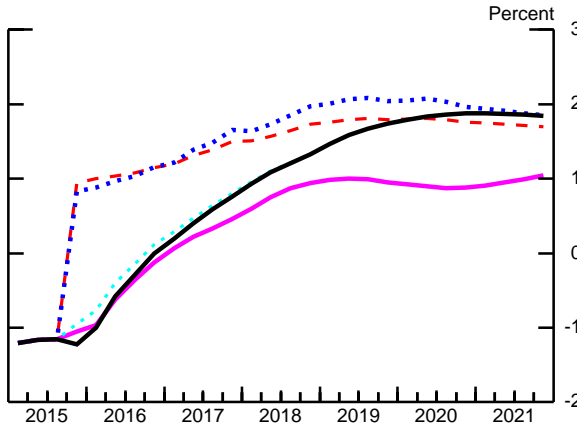
Effective Nominal Federal Funds Rate



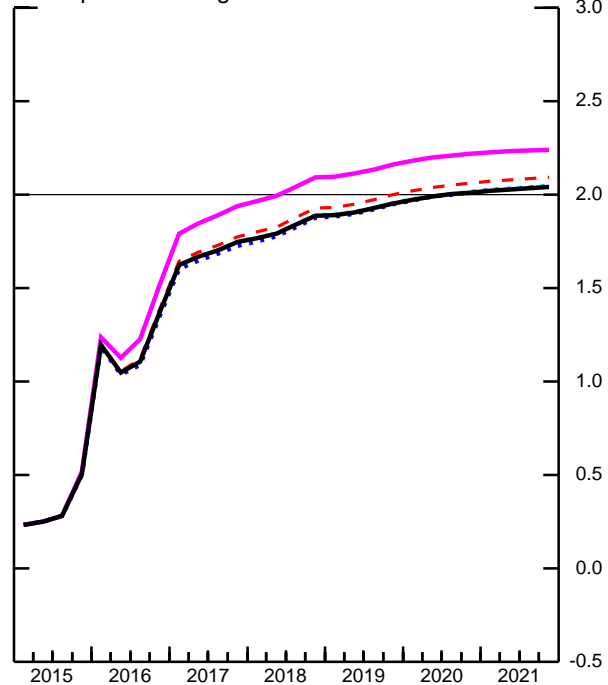
Unemployment Rate



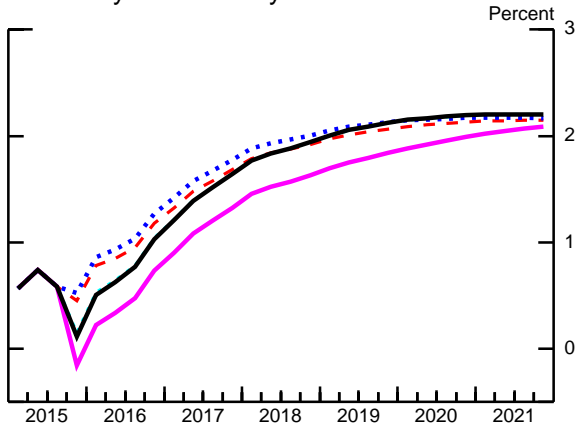
Real Federal Funds Rate



PCE Inflation
Four-quarter average



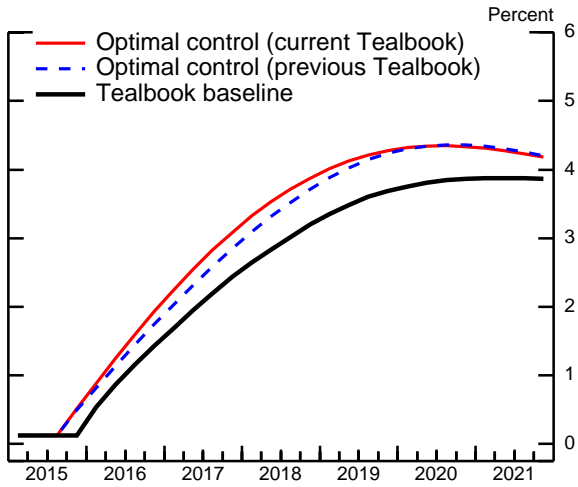
Real 10-year Treasury Yield



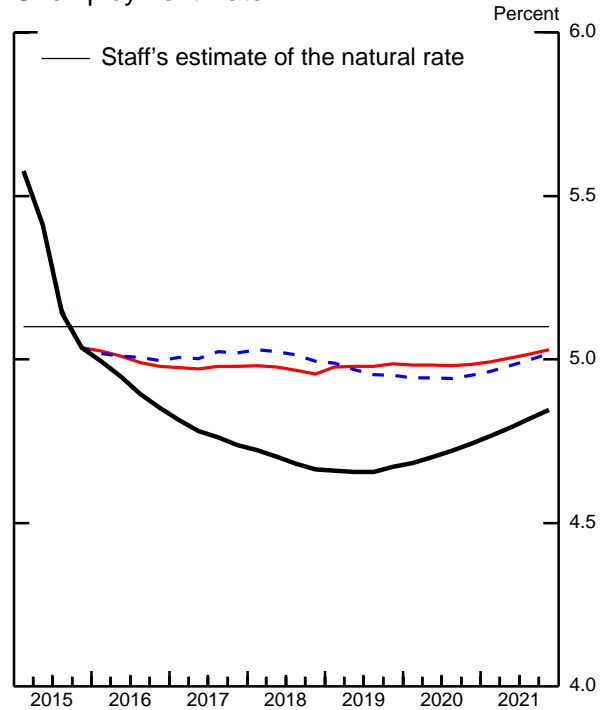
Note: The policy rule simulations in this exhibit are based on rules that respond to core inflation. This choice of rule specification was made in light of the tendency for current and near-term core inflation rates to outperform headline inflation rates as predictors of the medium-term behavior of headline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

Optimal Control Policy under Commitment

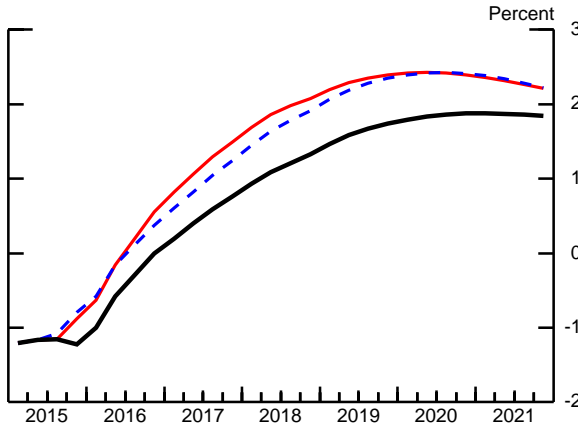
Effective Nominal Federal Funds Rate



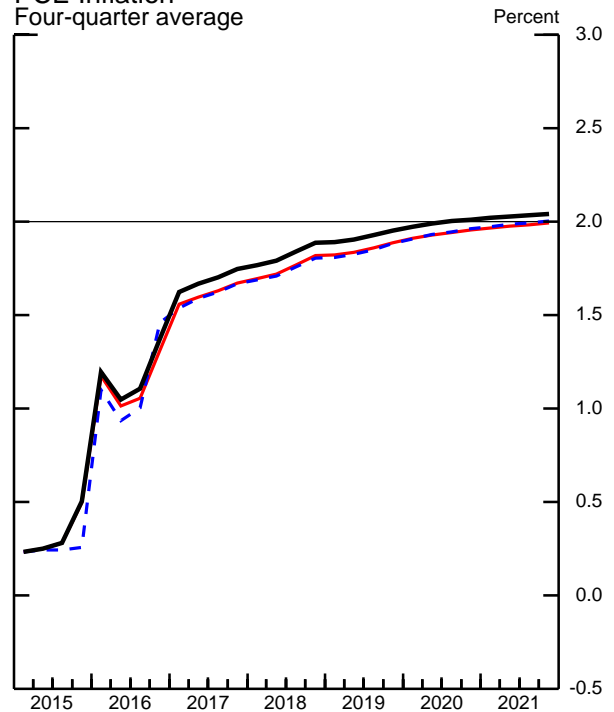
Unemployment Rate



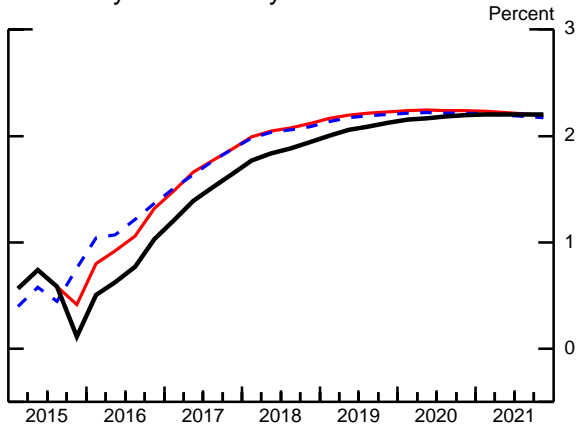
Real Federal Funds Rate



PCE Inflation
Four-quarter average

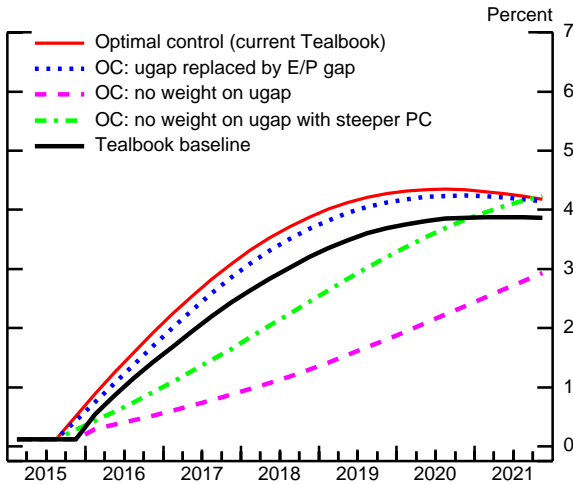


Real 10-year Treasury Yield

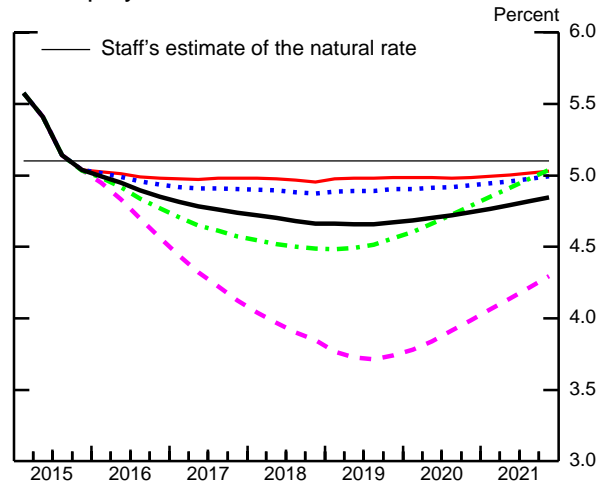


Optimal Control with Alternative Labor Market Objectives

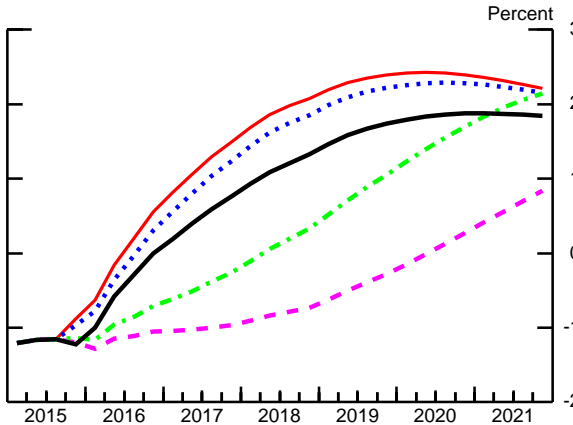
Effective Nominal Federal Funds Rate



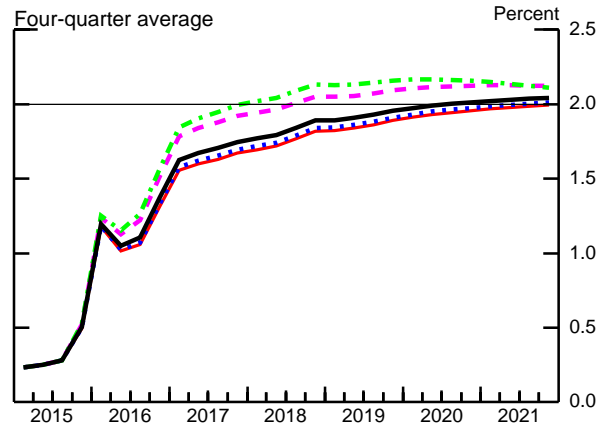
Unemployment Rate



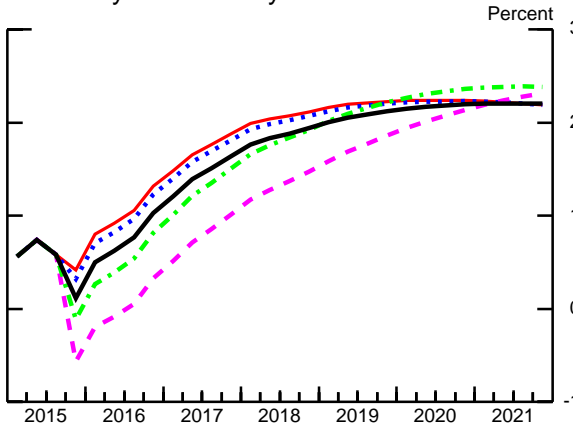
Real Federal Funds Rate



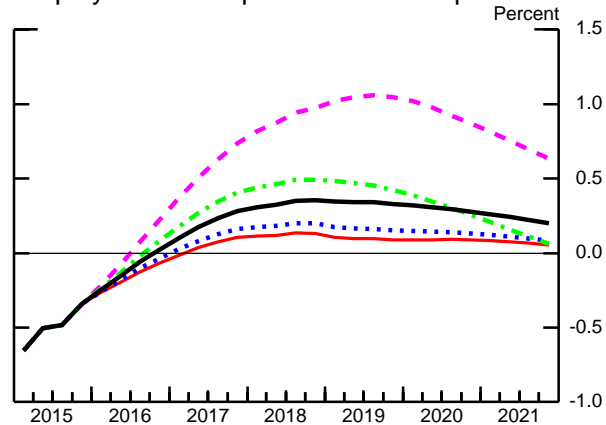
PCE Inflation



Real 10-year Treasury Yield



Employment-to-Population Ratio Gap



Note: The lines labeled "Optimal control (current Tealbook)" correspond to the baseline optimal control policy under commitment shown in the previous exhibit. The lines labeled "OC: ugap replaced by E/P gap" correspond to an optimal control policy that substitutes the unemployment gap in the loss function with the deviation of the employment-to-population ratio from its trend. The lines labeled "OC: no weight on ugap" correspond to optimal control with a loss function that places no weight on the unemployment gap; the lines labeled "OC no weight on ugap with steeper PC" further posit a wage Phillips curve that is steeper than under the baseline.

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	2.3	1.7	2.2	2.0	1.8	1.7
Taylor (1993)	2.3	1.7	1.8	2.0	1.9	1.8
Taylor (1999)	2.3	1.7	1.8	1.9	1.8	1.8
Inertial Taylor (1999)	2.3	1.7	2.2	2.0	1.8	1.7
First-difference	2.3	1.7	2.4	2.3	2.0	1.8
Optimal control	2.3	1.7	1.9	1.8	1.7	1.7
<i>Unemployment rate²</i>						
Extended Tealbook baseline ¹	5.4	5.0	4.9	4.7	4.7	4.7
Taylor (1993)	5.4	5.0	5.1	4.9	4.8	4.7
Taylor (1999)	5.4	5.0	5.1	5.0	4.9	4.8
Inertial Taylor (1999)	5.4	5.0	4.9	4.8	4.7	4.7
First-difference	5.4	5.0	4.8	4.6	4.4	4.3
Optimal control	5.4	5.0	5.0	5.0	5.0	5.0
<i>Total PCE prices</i>						
Extended Tealbook baseline ¹	0.1	0.9	1.4	1.7	1.9	2.0
Taylor (1993)	0.1	0.9	1.4	1.8	1.9	2.0
Taylor (1999)	0.1	0.9	1.4	1.7	1.9	2.0
Inertial Taylor (1999)	0.1	0.9	1.4	1.8	1.9	2.0
First-difference	0.1	0.9	1.5	1.9	2.1	2.2
Optimal control	0.1	0.9	1.3	1.7	1.8	1.9
<i>Core PCE prices</i>						
Extended Tealbook baseline ¹	1.4	1.4	1.4	1.7	1.9	2.0
Taylor (1993)	1.4	1.4	1.5	1.7	1.9	2.0
Taylor (1999)	1.4	1.4	1.4	1.7	1.9	2.0
Inertial Taylor (1999)	1.4	1.4	1.4	1.7	1.9	2.0
First-difference	1.4	1.4	1.6	1.9	2.1	2.2
Optimal control	1.4	1.4	1.4	1.6	1.8	1.9
<i>Effective nominal federal funds rate²</i>						
Extended Tealbook baseline ¹	0.1	0.2	1.4	2.4	3.2	3.7
Taylor (1993)	0.1	2.3	2.6	3.2	3.6	3.8
Taylor (1999)	0.1	2.2	2.6	3.3	3.8	4.0
Inertial Taylor (1999)	0.1	0.5	1.6	2.5	3.2	3.7
First-difference	0.1	0.4	1.5	2.3	3.0	3.1
Optimal control	0.1	0.5	1.9	3.1	3.9	4.3

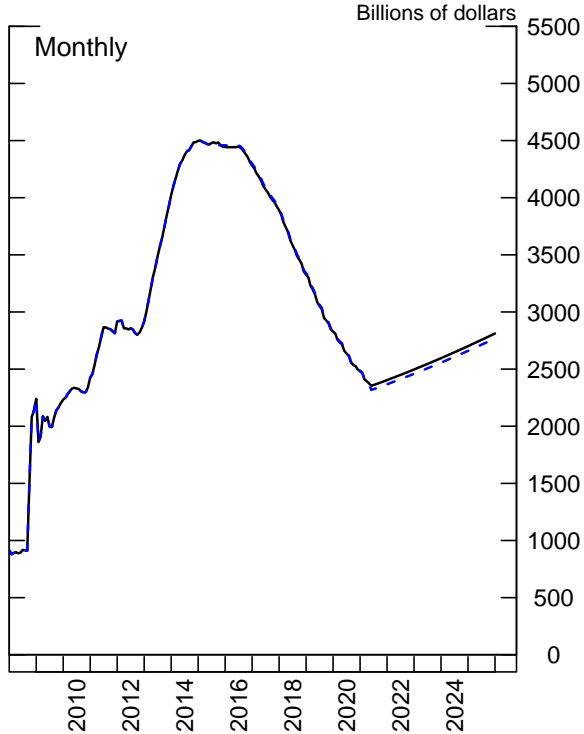
1. In the Tealbook baseline, the federal funds rate first departs from an effective lower bound of 12½ basis points in December of 2015. Thereafter, the federal funds rate follows the prescriptions of the inertial Taylor (1999) rule.

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

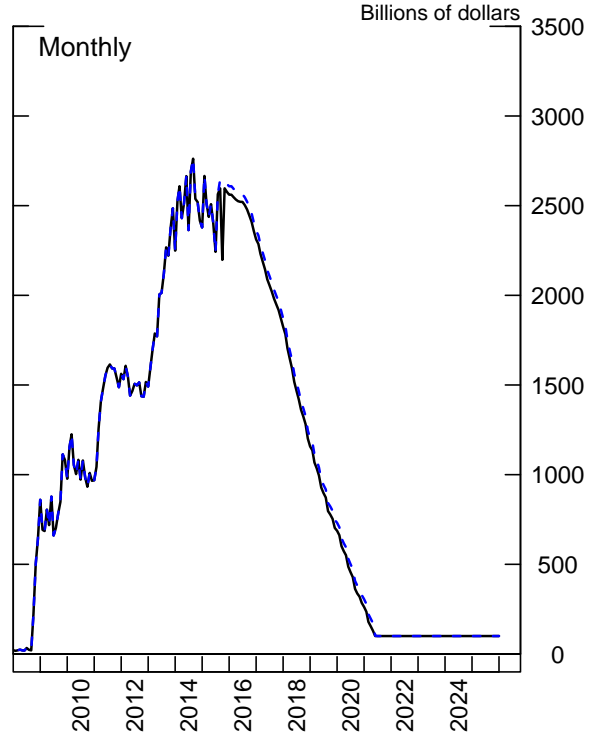
Total Assets and Selected Balance Sheet Items

— October Tealbook - - - September Tealbook

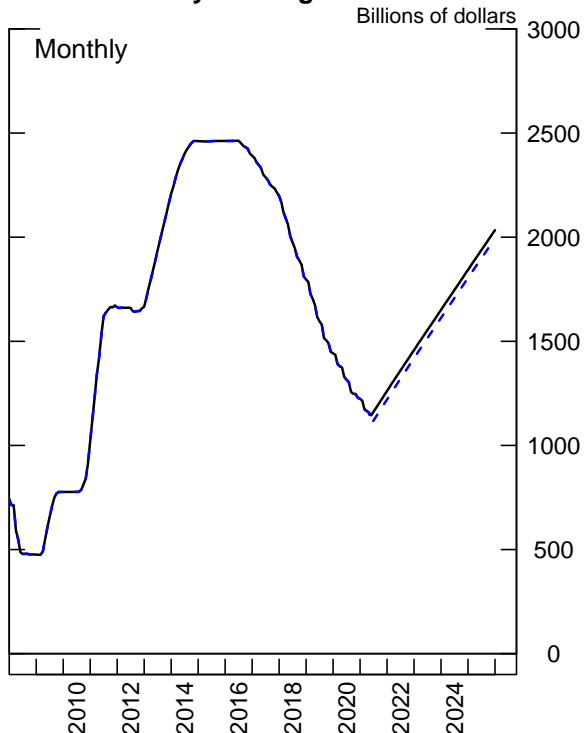
Total Assets



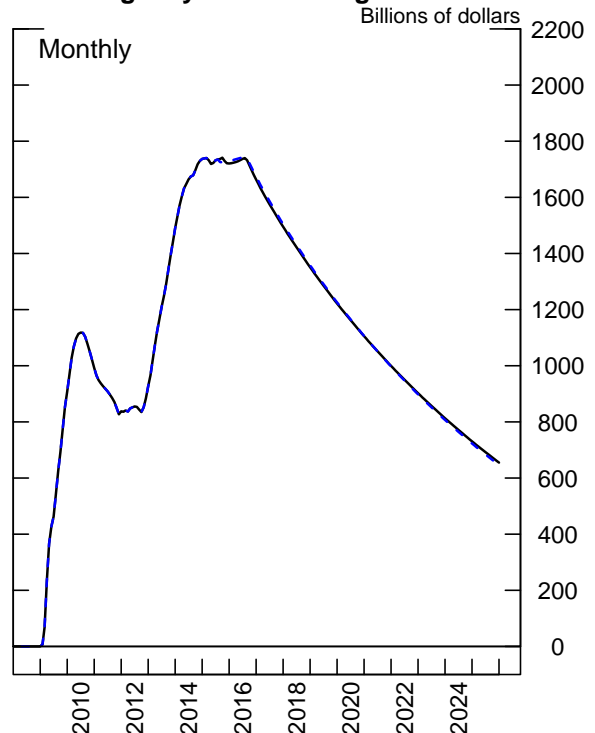
Reserve Balances



SOMA Treasury Holdings



SOMA Agency MBS Holdings



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

	Sep 30, 2015	2015	2017	2019	2021	2023	2025
Total assets	4,484	4,444	3,891	2,829	2,404	2,596	2,812
Selected assets							
Loans and other credit extensions*	3	0	0	0	0	0	0
Securities held outright	4,238	4,216	3,698	2,666	2,263	2,466	2,691
U.S. Treasury securities	2,462	2,462	2,198	1,442	1,261	1,651	2,034
Agency debt securities	35	33	4	2	2	2	2
Agency mortgage-backed securities	1,741	1,721	1,495	1,222	999	813	655
Unamortized premiums	194	189	151	117	93	81	71
Unamortized discounts	-17	-17	-13	-10	-8	-7	-6
Total other assets	47	48	48	48	48	48	48
Total liabilities	4,426	4,385	3,822	2,742	2,295	2,457	2,637
Selected liabilities							
Federal Reserve notes in circulation	1,342	1,370	1,544	1,702	1,841	2,004	2,184
Reverse repurchase agreements	641	291	291	191	191	191	191
Deposits with Federal Reserve Banks	2,435	2,718	1,982	843	256	256	256
Reserve balances held by depository institutions	2,198	2,561	1,825	687	100	100	100
U.S. Treasury, General Account	199	150	150	150	150	150	150
Other deposits	38	6	6	6	6	6	6
Interest on Federal Reserve Notes due to U.S. Treasury	2	0	0	0	0	0	0
Total capital	59	59	68	86	109	138	175

Projections

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

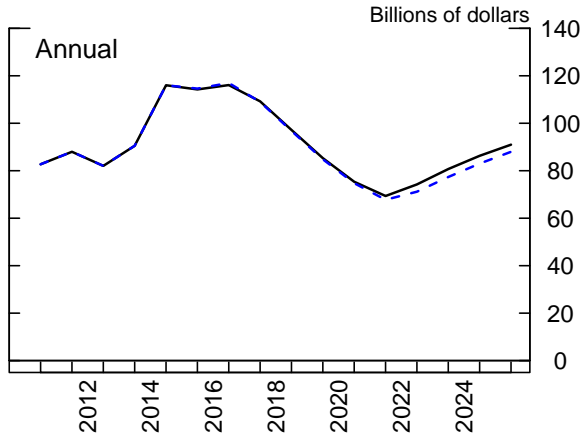
Note: Components may not sum to totals due to rounding.

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

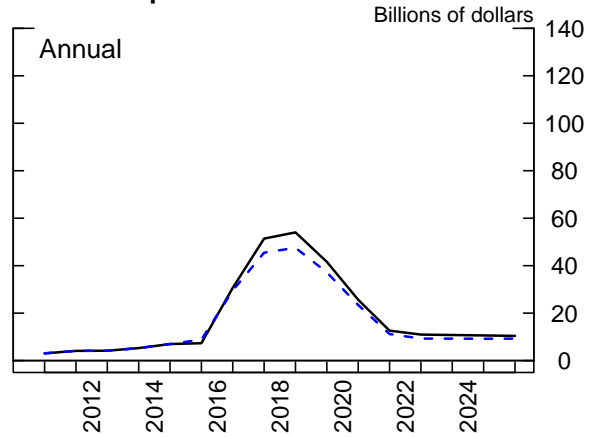
Income Projections

— October Tealbook - - - September Tealbook

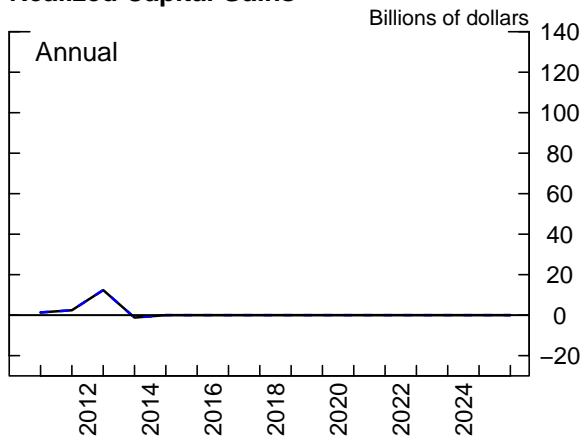
Interest Income



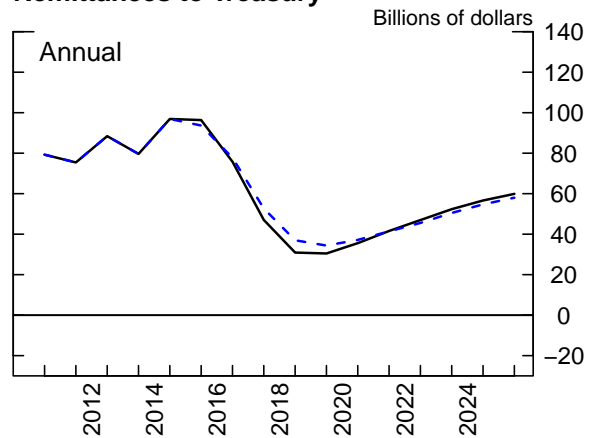
Interest Expense



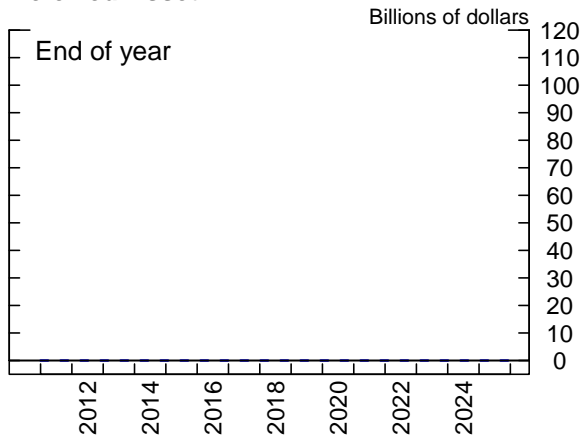
Realized Capital Gains



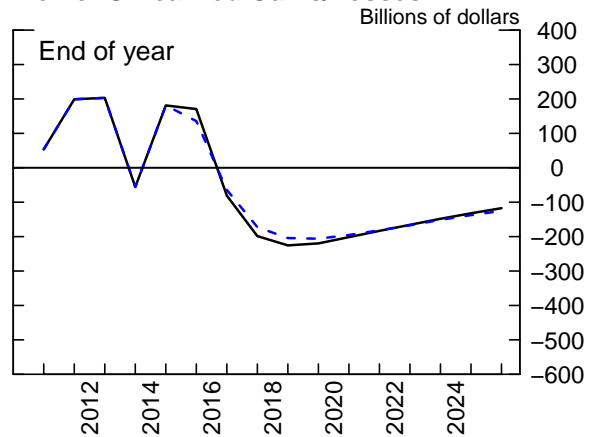
Remittances to Treasury



Deferred Asset



Memo: Unrealized Gains/Losses



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

Date	October Tealbook	September Tealbook
Quarterly Averages		
2015:Q4	-108	-109
2016:Q1	-103	-104
Q2	-99	-100
Q3	-94	-95
Q4	-90	-91
2017:Q4	-74	-75
2018:Q4	-62	-62
2019:Q4	-52	-52
2020:Q4	-44	-44
2021:Q4	-37	-37
2022:Q4	-32	-32
2023:Q4	-26	-26
2024:Q4	-20	-20
2025:Q4	-15	-15

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

Date	October Tealbook	September Tealbook
<i>Quarterly</i>		
2015:Q4	39.0	4.6
2016:Q1	5.3	-0.2
Q2	0.0	-0.1
Q3	-2.1	-2.5
Q4	-8.0	-8.4
<i>Annual</i>		
2017	-9.3	-10.2
2018	-14.3	-15.9
2019	-13.1	-14.8
2020	-12.4	-14.4
2021	-5.1	-8.0
2022	3.2	3.9
2023	3.3	4.0
2024	3.4	4.0
2025	3.4	4.0

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

MONEY

M2 is expected to increase more rapidly than nominal GDP in the fourth quarter of 2015, in part reflecting a large, albeit temporary, surge in deposit balances related to debt ceiling concerns.⁹ The contour of the path for money growth thereafter is about unchanged relative to the projection in the September Tealbook: We continue to project that M2 will contract for several quarters in response to increases in the opportunity cost of holding money (M2OC) related to the assumed increase in the target range for the federal funds rate. This restraint is expected to continue to hold M2 growth below that of nominal GDP in 2017 and 2018, although the restraint is projected to diminish over this horizon. In contrast with the September projection, however, we now expect that the rise in M2OC will not begin to notably restrain money demand until the beginning of 2016, in line with the later projected timing of liftoff in the current forecast.

M2 Monetary Aggregate Projections (Percent change, annual rate; seasonally adjusted)*			
<i>Quarterly</i>			
2015:	Q3		6.2
	Q4		6.2
2016:	Q1		-0.5
	Q2		-4.3
	Q3		-3.0
	Q4		-0.1
2017:	Q1		1.0
	Q2		1.2
	Q3		1.4
	Q4		1.9
2018:	Q1		2.1
	Q2		2.4
	Q3		2.5
	Q4		2.9
<i>Annual</i>			
	2015		6.3
	2016		-2.0
	2017		1.4
	2018		2.5

Note: This forecast is consistent with nominal GDP and interest rates in the Tealbook forecast. Actual data through October 12, 2015; projections thereafter.

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

⁹ This projected rise in deposits stemming from debt ceiling concerns is based on the deposit flows that are estimated to have been associated with the 2013 debt ceiling episode. See Tealbook A box “Debt Ceiling Update and Review of 2013 Episode” for additional detail on these dynamics.

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
EDO	Estimated, dynamic, optimization-based model
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