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.

Content last modified 01/08/2021.

Report to the FOMC on Economic Conditions and Monetary Policy

Book A

Economic and Financial Conditions:
Current Situation and Outlook

September 9, 2015

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

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Domestic Economic Developments and Outlook

The incoming information on real activity has been stronger, on net, than we expected in the July Tealbook. Real GDP is now estimated to have increased at an annual rate of 2¼ percent in the first half of the year, 1 percentage point faster than in our July projection, and we continue to expect that aggregate output will rise at a 2 percent pace in the second half. Moreover, we view labor market conditions as having improved by more than we anticipated: The unemployment rate moved down to 5.1 percent in August, 0.2 percentage point below our previous projection and equal to our estimate of its natural rate. Payroll gains are reported to have averaged 220,000 per month from June through August.

In contrast, the key background factors shaping our medium-term forecast have become somewhat less supportive of economic growth since the time of the July Tealbook, as equity prices have declined, the dollar has appreciated further, and prospects for foreign economic growth have weakened. Accordingly, real GDP is now projected to increase 2 percent in both 2016 and 2017 and then ease to a 1¾ percent pace in 2018, nearly ¼ percentage point lower per year, on average, than in the previous Tealbook. By the end of 2017, the slower projected pace of output growth unwinds the upward surprise to GDP growth in the first half of 2015.

Even with the upward revision to GDP growth in the first half of this year, the unemployment rate has moved down more than could be explained by our usual Okun's law relationship given the supply assumptions that we had in place in the July Tealbook. Accordingly, we made several adjustments to allow a little greater downward tilt in our projection for the unemployment rate. In particular, we further degraded our assumptions about potential output growth and prevented our forecast of GDP growth from weakening over the medium term as much as the deterioration of the key background factors otherwise would have indicated. As a result, we now project the unemployment rate will fall more in line with the improvement in the GDP gap over the next few years, reaching 4.8 percent by the end of 2017, 0.3 percentage point below our estimate of its natural rate. At that time, actual GDP is expected to exceed its potential by ¾ percent. By contrast, we had previously expected output to equal its potential in the final quarter of 2017.

Revisions to the Staff Projection since the Previous SEP

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

Since the June projection, we have revised up our forecast for real GDP growth this year, as stronger-than-expected data for the first half of the year more than offsets our slightly weaker projection for the second half. Our forecast of real GDP growth for 2016 through 2018 is a little slower than in June, mostly because our projected path for the foreign exchange value of the dollar is higher and the path for equity prices is lower. We also have reduced somewhat our trajectory for potential GDP over the medium term. Altogether, these revisions leave our projection for the GDP gap over the projection period stronger than in the June forecast. The unemployment rate has declined more than we expected in June and is projected to average 5.0 percent in the fourth quarter of this year. The unemployment rate is forecast to gradually decline to 4.7 percent at the end of 2018, below the staff's estimate of its natural rate—which is a bit lower than in the June forecast.

The staff's projection for headline PCE inflation has been revised down in the second half of this year, largely reflecting declines in crude oil prices that are expected to pass through to consumer energy prices; core PCE inflation is expected to be a little softer than in the June projection, as the prices of core imported goods are anticipated to decline at a faster pace than in June with the further appreciation of the dollar. Given our assumptions that longer-run inflation expectations

Staff Economic Projections Compared with the June Tealbook

Variable	2015		2015	2016	2017	2018	Longer run
	H1	H2					
Real GDP[1]	2.2	1.9	2.0	2.1	2.0	1.8	1.9
June Tealbook	1.0	2.1	1.6	2.4	2.2	1.9	1.9
Unemployment rate[2]	5.4	5.0	5.0	4.9	4.8	4.7	5.1
June Tealbook	5.5	5.3	5.3	5.2	5.2	5.1	5.2
PCE inflation[1]	.1	.4	.3	1.5	1.7	1.9	2.0
June Tealbook	-.1	1.3	.6	1.6	1.8	1.9	2.0
Core PCE inflation[1]	1.4	1.2	1.3	1.4	1.7	1.9	n.a.
June Tealbook	1.2	1.4	1.3	1.6	1.8	1.9	n.a.
Federal funds rate[2]	.12	.45	.45	1.44	2.31	3.00	3.25
June Tealbook	.13	.35	.35	1.26	2.12	2.80	3.50
Memo: Federal funds rate, end of period	.13	.55	.55	1.52	2.38	3.05	3.25
June Tealbook	.13	.44	.44	1.33	2.19	2.85	3.50
GDP gap[2,3]	-.5	-.2	-.2	.4	.8	.9	n.a.
June Tealbook	-1.3	-1.0	-1.0	-.4	.1	.2	n.a.

1. Percent change from final quarter of preceding period to final quarter of period indicated.
2. Percent, final quarter of period indicated.
3. Percent difference between actual and potential. A negative number indicates that the economy is operating below potential.
n.a. Not available.

will remain stable over the medium term, the declines in energy prices will be transitory, and core import prices will start to rise by the middle of next year, our forecasts for headline and core inflation in 2016 through 2018 are little changed. We continue to project that inflation will run somewhat below the Committee's 2 percent objective through 2018.

We maintained our assumption that the federal funds rate will lift off from its effective lower bound in the third quarter of this year, but we adjusted down our assumptions about long-run equilibrium interest rates. Specifically, we lowered our assumed longer-run nominal value of the federal funds rate ¼ percentage point, to 3¼ percent. Even with the downward revision to our assumption for longer-run equilibrium interest rates, the stronger GDP gap in the current forecast, along with an inflation projection that is little changed, leaves the projected path for the federal funds rate a little above the one in the June forecast—around 0.2 percentage point higher at the end of next year and in 2018.

Because FOMC participants are providing additional information about their expectations of the economic conditions that will exist at the time they anticipate it will first become appropriate to increase the target range for the federal funds rate, we include the table below providing quarterly information from the staff projection. In the third quarter of this year—the quarter when our baseline projection assumes liftoff of the federal funds rate will occur—we forecast the unemployment rate to average 5.2 percent and the trailing four-quarter change in real GDP to be 2.1 percent. We project the trailing four-quarter change in core PCE inflation to be 1.3 percent, and the four-quarter change in headline PCE prices to be only 0.2 percent because of decreases in energy prices over the past year.

Staff Economic Projections Compared with the June Tealbook, Quarterly

Variable	2015		2016				2017	
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Four-quarter percent change								
Real GDP	2.1	2.0	2.4	1.9	1.9	2.1	2.0	2.0
June Tealbook	1.5	1.6	2.2	2.2	2.4	2.4	2.4	2.4
PCE inflation	.2	.3	1.1	1.0	1.0	1.5	1.6	1.7
June Tealbook	.2	.6	1.5	1.4	1.5	1.6	1.6	1.7
Core PCE inflation	1.3	1.3	1.4	1.3	1.4	1.4	1.5	1.6
June Tealbook	1.2	1.3	1.5	1.5	1.5	1.6	1.6	1.7
Percent								
Unemployment rate	5.2	5.0	5.0	5.0	4.9	4.9	4.9	4.8
June Tealbook	5.4	5.3	5.3	5.3	5.3	5.2	5.2	5.2
Federal funds rate	.16	.45	.74	.98	1.21	1.44	1.67	1.89
June Tealbook	.15	.35	.59	.82	1.04	1.26	1.48	1.70
Memo								
Federal funds rate, end of period	.22	.55	.83	1.06	1.29	1.52	1.74	1.96
June Tealbook	.19	.44	.67	.89	1.11	1.33	1.55	1.77

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 and the Survey of Professional Forecasters (SPF) median projection. The staff's forecast of the unemployment rate is a little lower this year and a little higher next year relative to those of the outside forecasters; the staff's inflation projection is lower. However, the SPF projection was completed in the first half of August and therefore does not reflect the effects of the recent turbulence in financial markets.

Comparison of Tealbook and Outside Forecasts

	2015	2016
GDP (Q4/Q4 percent change)		
September Tealbook	2.0	2.1
Blue Chip (9/10/15)	2.4	2.7
SPF median (8/14/15)	2.1	n.a.
Unemployment rate (Q4 level)		
September Tealbook	5.0	4.9
Blue Chip (9/10/15)	5.1	4.7
SPF median (8/14/15)	5.1	n.a.
Consumer price inflation (Q4/Q4 percent change)		
September Tealbook	.2	2.0
Blue Chip (9/10/15)	.7	2.2
SPF median (8/14/15)	.8	2.1
PCE price inflation (Q4/Q4 percent change)		
September Tealbook	.3	1.5
SPF median (8/14/15)	.8	1.8
Core PCE price inflation (Q4/Q4 percent change)		
September Tealbook	1.3	1.4
SPF median (8/14/15)	1.5	1.8

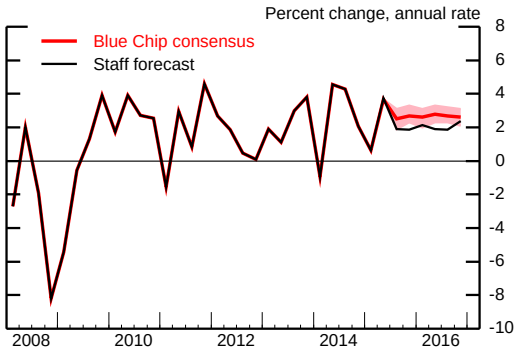
Note: SPF is the Survey of Professional Forecasters. Blue Chip does not provide results for PCE price inflation. The Blue Chip Consensus contains about 50 panelists, and the SPF about 40. Roughly 20 panelists contribute to both surveys.

n.a. Not available.

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

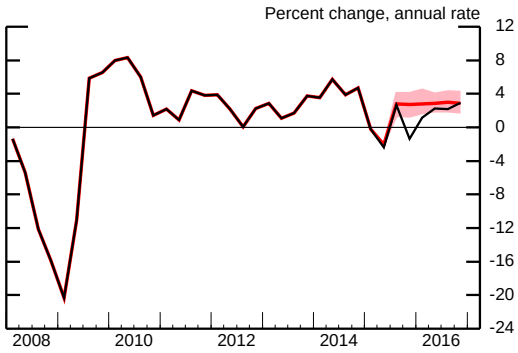
Tealbook Forecast Compared with Blue Chip
(Blue Chip survey released September 10, 2015)

Real GDP



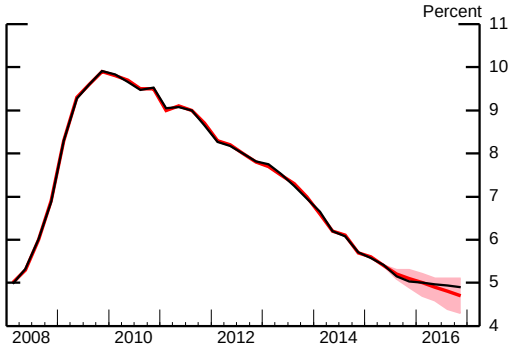
Note: The shaded area represents the area between the Blue Chip top 10 and bottom 10 averages.

Industrial Production

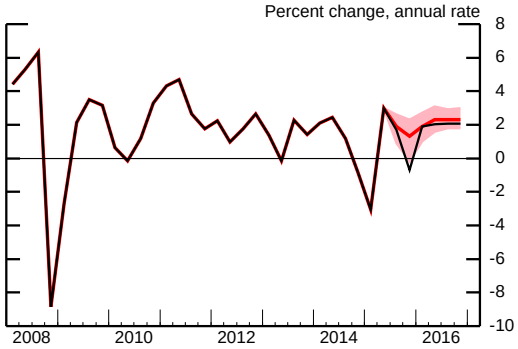


Note: Historical revisions to the IP data were published after the latest Blue Chip survey.

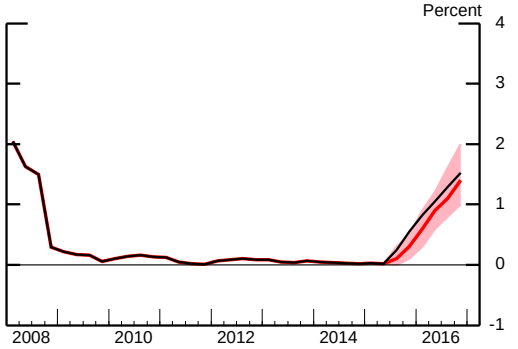
Unemployment Rate



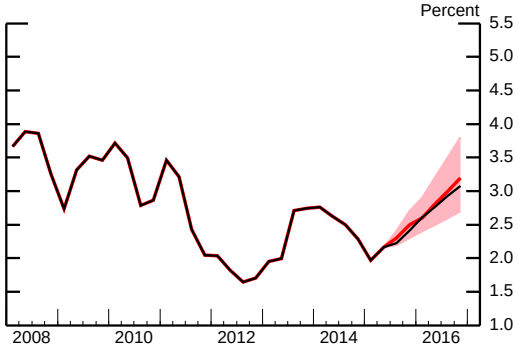
Consumer Price Index



Treasury Bill Rate



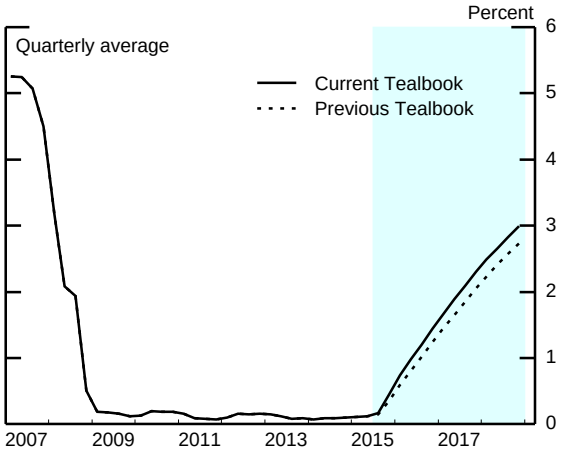
10-Year Treasury Yield



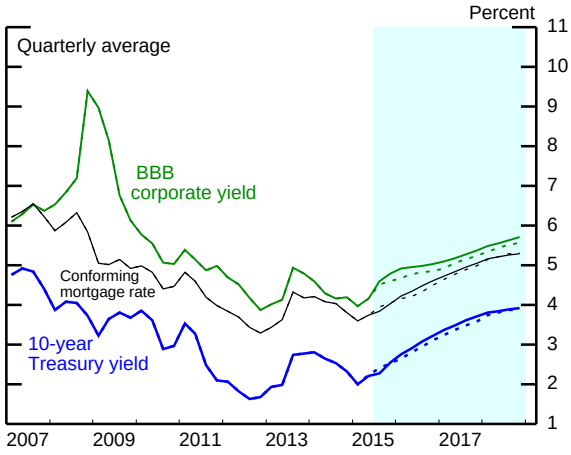
Note: The yield is for on-the-run Treasury securities. Over the forecast period, the staff's projected yield is assumed to be 15 basis points below the off-the-run yield.

Key Background Factors underlying the Baseline Staff Projection

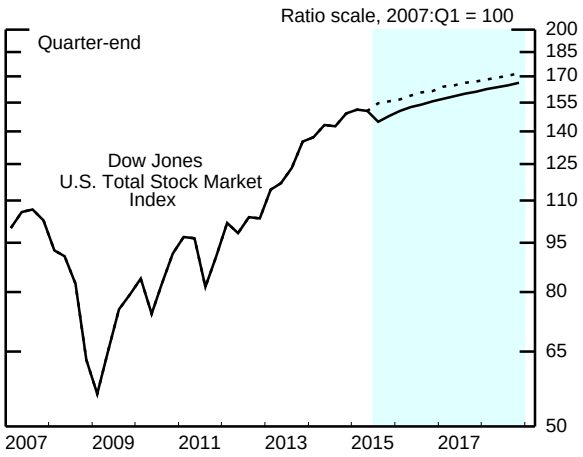
Federal Funds Rate



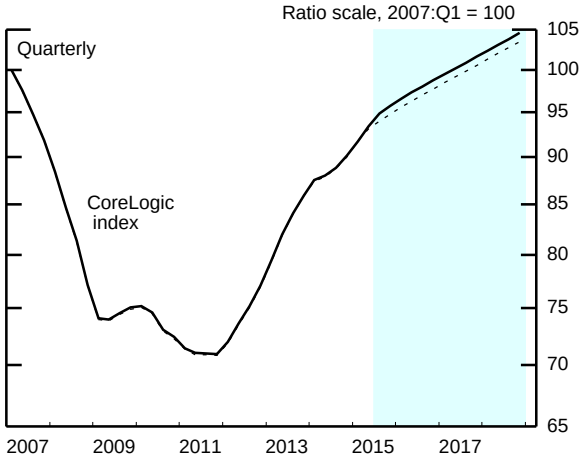
Long-Term Interest Rates



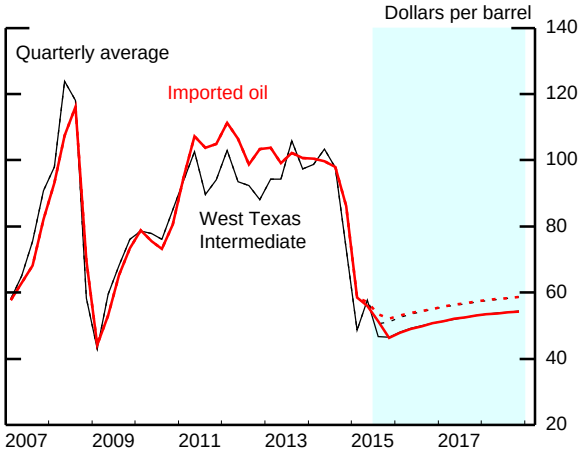
Equity Prices



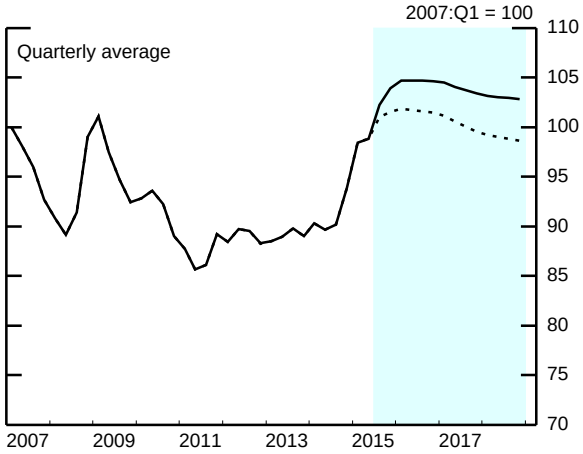
House Prices



Crude Oil Prices



Broad Real Dollar



The main news in our inflation projection pertains to the decline in commodity prices and appreciation of the dollar since the July Tealbook; these factors impart a little greater restraint on consumer price inflation in the near term. Otherwise, our outlook for price inflation is little revised from the July Tealbook. We have core inflation gradually moving up from 1.3 percent this year to 1.9 percent in 2018, as import prices turn back up, the effects of earlier sharp declines in energy prices wane, and resource utilization tightens. Total PCE price inflation is expected to run roughly in line with core inflation beyond the near term. The incoming data on compensation has generally been a good bit softer than expected and suggests that wages have continued to rise at the same modest pace we have seen over the past several years.

KEY BACKGROUND FACTORS

Monetary Policy

- We continue to assume that the federal funds rate will lift off from its effective lower bound after the September meeting, and that it will be governed thereafter by an inertial version of the Taylor (1999) policy rule.[1] However, we lowered our assumption for the longer-run real federal funds rate by 25 basis points.[2] Even so, the projected path of the federal funds rate

[1] If we had instead assumed that the federal funds rate would lift off after the December meeting and be governed (as in the baseline) by the inertial Taylor rule thereafter, the FRB/US model projects that, relative to our current forecast, the level of real GDP would be 0.1 percent higher at the end of 2018, the unemployment rate would be less than 0.1 percentage point lower at the end of 2018, core consumer inflation would be 1 basis point higher in 2018, and the federal funds rate would be 5 basis points higher at the end of the medium term.

[2] In this Tealbook, we lowered our assumption for the longer-run nominal value of the federal funds rate and the 10-year Treasury yield by ¼ percentage point each, to 3¼ percent and 4 percent, respectively. Because inflation in the longer run remains unchanged at the Committee's objective of 2 percent, these reductions in nominal interest rates reflect a reduction in long-run equilibrium real interest rates. These adjustments were motivated partly by the decline in far-forward interest rates. For example, 5- and 10-year forward rates on 10-year Treasury notes are 60 basis points lower than a year ago; we had previously adjusted down our assessment of the longer-run real federal funds rate by only 25 basis points. Even with the latest adjustment, our estimate of the real longer-run funds rate (1¼ percent) remains well above the point value that comes out of the model by Laubach and Williams (2005)—see www.frbsf.org/economic-research/economists/john-williams for current estimates—and slightly above the midpoint of the range cited in Hamilton and others (see James Hamilton, Ethan Harris, Jan Hatzius, and Kenneth West (2015), "The Equilibrium Real Funds Rate: Past, Present and Future," unpublished paper). For a broad description of factors influencing the trend in interest rates over recent decades, see *Long-Term Interest Rates: A Survey* (2015), a report by the Executive Office of the President of the United States, accessible via a link in a July 14, 2015, blog post, "The Decline in Long-Term Interest Rates," by Maurice

is steeper than in the July Tealbook, as the upward impetus from tighter resource utilization in this projection more than offsets the decrease in the longer-run real federal funds rate. All told, the nominal federal funds rate is projected to reach an average of 3.0 percent in the fourth quarter of 2018, 0.3 percentage point higher than in the July projection.

- The SOMA portfolio is assumed to remain at its current size until about two quarters after the federal funds rate is raised above its effective lower bound, at which point the portfolio begins to contract as maturing assets are not reinvested.

Other Interest Rates

- Our projection continues to call for the 10-year Treasury yield to rise significantly, reflecting the movement of the 10-year valuation window through the period of extremely low short-term interest rates as well as an increase in the term premium toward its historically normal level. Compared with the July Tealbook, the rise in the Treasury yield is a bit steeper, as the path of expected short-term rates over the valuation window is higher.

- We revised up the path for the 30-year mortgage rate and the 10-year triple-B corporate yield about in line with the revision to Treasury yields.

Equity Prices and Home Prices

- After dropping around 7 percent, on net, since the July Tealbook, equity prices are expected to rise roughly 4 percent per year over the projection period, somewhat faster than in the July Tealbook. Even so, the level of equity prices at the end of 2018 is 3½ percent lower in this projection than in the July Tealbook. Thus, we judge that the considerations that have pushed equity valuations downward since July will prove partly transitory and partly persistent.

- The data on house prices have come in a bit stronger than we had anticipated, and we now expect house prices to increase 6¼ percent in 2015; thereafter, we continue to expect house prices to rise 3 percent per year. Our assessment is

Obstfeld and Linda Tesar, available on the White House website at https://www.whitehouse.gov/blog/2015/07/14/decline-long-term-interest-rates.

that house prices are not far out of line with their historical relationship to rents, and we expect valuations to remain within the range predicted by this relationship over the medium term.

Fiscal Policy

- We have made no changes to our fiscal policy assumptions in this forecast. We continue to anticipate that, after having been a small drag on real GDP growth in 2014, fiscal policy actions at all levels of government will provide a small stimulus in 2015 and over the medium term.

- The federal government faces multiple fiscal deadlines over the remainder of the year. The main items requiring action are that spending legislation must be enacted by October 1 or the government will shut down, and the federal debt limit is expected to bind sometime in the fourth quarter. We assume these deadlines will be navigated such that there are no significant disruptions to government operations or financial markets.

Foreign Economic Activity and the Dollar

- Foreign real GDP now is estimated to have expanded at an annual rate of only about 1 percent in the second quarter of this year, ½ percentage point below our projection in the July Tealbook. In addition, we marked down our projection for growth in the second half by about ½ percentage point, to a 2¼ percent pace; this downward adjustment reflects weakness in recent indicators, most notably for China, as well as the financial turbulence associated in part with concerns about the Chinese economy. We continue to expect foreign growth to pick up and average about 3 percent between now and the end of 2018. The advanced foreign economies should continue to recover, importantly supported by accommodative monetary policy; in turn, the emerging market economies should be helped by a rebound in exports to the advanced foreign economies and the United States. Nevertheless, this projection is slightly weaker than in the previous Tealbook, mainly because we lowered our medium-term projection for China's economic growth rate by ½ percentage point, and that reassessment spills over into lower projected growth in other foreign economies, especially those in emerging Asia.

- The broad nominal dollar has appreciated 2¼ percent on net since the time of the July Tealbook. The dollar rose against most emerging market currencies, notably including the Chinese renminbi, but fell against the euro and the yen. We expect the nominal dollar to rise a bit further through the end of this year, pushed up by monetary policy actions in the United States, some further rise against the renminbi, and by concerns about the global outlook, and then to be little changed on net over the remainder of the medium term. This trajectory is above our previous forecast and leaves the broad real dollar about 4 percent higher at the end of the forecast period than in the July Tealbook.

Oil Prices and Other Commodity Prices

- After a month of dramatic price swings, the spot price of Brent crude oil is about $8 per barrel lower relative to the time of the July Tealbook. Prices for futures contracts with delivery at the end of 2018 are down about $6 per barrel. These declines appear to primarily reflect anxieties about the prospects for global demand, especially in China, against a backdrop of continued strength in global oil production. As the recent declines in spot crude prices pass through to import prices, we expect the price of imported oil to move down from $51 per barrel this quarter to $46 per barrel next quarter. Thereafter, we forecast that the price of imported oil will move up slowly to about $54 per barrel by the end of 2018, in line with quotes from futures markets.

- Concerns about weak global demand have also weighed on metals prices, with an index of these prices falling about 5 percent since the previous Tealbook. Agricultural prices edged down over this period, largely in response to positive supply-side developments.

THE OUTLOOK FOR REAL GDP

As noted earlier, the most recent information suggests that growth in aggregate output in the first half of this year was more robust than we had projected in July.[3] We now estimate that real GDP rose at an annual rate of 2¼ percent over that period,

[3] The upward revision to real GDP in the first half of this year was primarily due to stronger-than-projected construction spending in both the private and public sectors, a faster-than-expected pace of inventory accumulation, and a smaller-than-expected drag from net exports.

1 percentage point more than we thought previously. We continue to expect aggregate output to rise at an annual rate of 2 percent in the second half of the year, a pace of growth sufficient to further narrow the remaining gap between actual and potential output.[4]

- After having averaged 2½ percent in the first half of the year, real PCE growth is projected to average 2¾ percent in the second half, supported by moderate growth in real disposable personal income, upbeat consumer sentiment, and a wealth-to-income ratio that remains high even after the recent fall in the stock market. That said, the lower equity prices and a more muted trajectory of labor income led us to lower our projection for real PCE growth in the latter part of this year.

- Overall investment spending is projected to rise at a moderate pace over the second half of this year. Recent data on housing starts and sales suggest that residential investment remains on a gradual upward trend. In the business sector, we anticipate that the earlier sharp decline of investment in oil and drilling structures will ease substantially this quarter and next, and that investment elsewhere will proceed at a rate consistent with the projected modest pace of sales growth. In all, private fixed investment is projected to rise at an annual rate of 4¾ percent in the second half; this projection is a little stronger than in the July Tealbook, reflecting the more positive tone of the incoming data across a range of categories, including nonresidential construction and investment in equipment and intangibles.

- Net exports, which subtracted almost 1 percentage point from GDP growth in the first half of the year, are projected to take ¾ percentage point off growth in the second half. This projection is slightly less negative than in the July Tealbook, as better-than-expected trade data from July is mostly offset by the negative impetus from the higher dollar and weaker foreign growth.

- The direct and upstream effects of lower oil and gas prices and the appreciation in the dollar are also expected to continue to restrain oil drilling activity and to damp demand for factory output. As a result, industrial

[4] As noted in the table "Federal Reserve System Nowcasts of 2015:Q3 Real GDP Growth," the staff's judgmental projection for real GDP growth for the third quarter, at 2 percent, is about equal to the median of the projections generated by the near-term forecasting approaches used within the System.

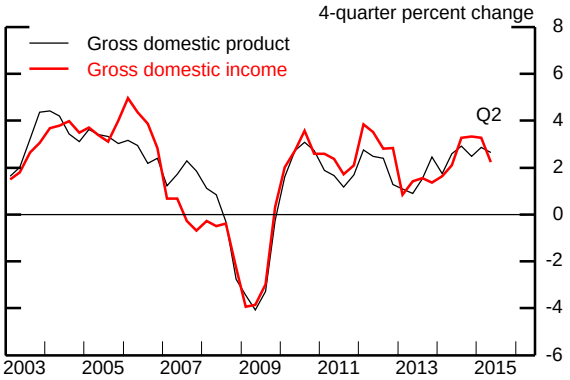
Summary of the Near-Term Outlook
(Percent change at annual rate except as noted)

Measure	2015:Q2		2015:Q3		2015:H2	
	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook
Real GDP	**2.4**	**3.7**	**1.7**	**1.9**	**2.0**	**1.9**
Private domestic final purchases	3.0	3.4	3.0	3.3	3.2	3.2
Personal consumption expenditures	2.8	3.1	2.9	2.8	3.1	2.8
Residential investment	8.4	9.2	5.8	7.4	5.4	4.6
Nonres. private fixed investment	2.5	3.6	2.6	5.0	2.9	4.8
Government purchases	1.1	2.7	.2	.0	.4	.0
Contributions to change in real GDP						
Inventory investment[1]	-.1	.2	-.1	-.3	.0	-.2
Net exports[1]	-.2	.2	-.8	-.5	-.7	-.6
Unemployment rate[2]	**5.4**	**5.4**	**5.3**	**5.2**	**5.2**	**5.0**
PCE chain price index	**2.0**	**2.2**	**1.2**	**1.2**	**.7**	**.4**
Ex. food and energy	1.7	1.8	1.4	1.2	1.4	1.2

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

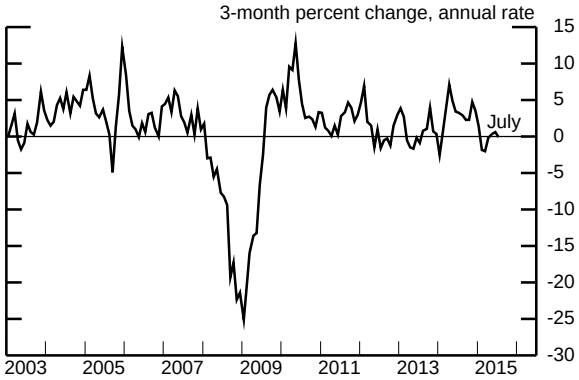
Recent Nonfinancial Developments (1)

Real GDP and GDI



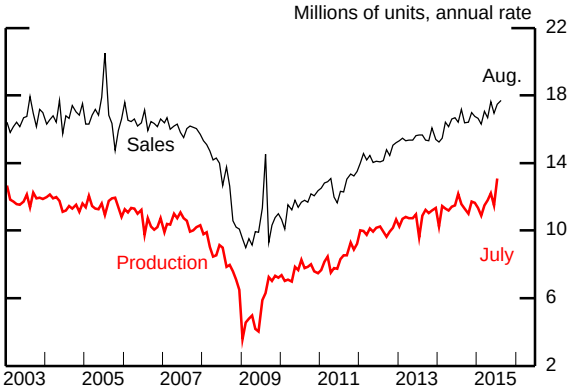
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

Manufacturing IP ex. Motor Vehicles and Parts



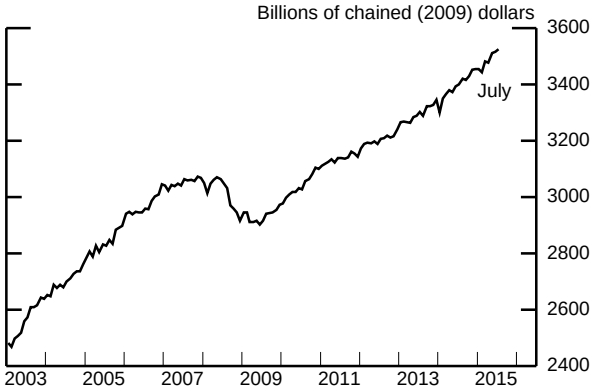
Source: Federal Reserve Board, G.17 Statistical Release, "Industrial Production and Capacity Utilization."

Sales and Production of Light Motor Vehicles



Source: Ward's Communications, Chrysler, General Motors; adjusted using FRB seasonals.

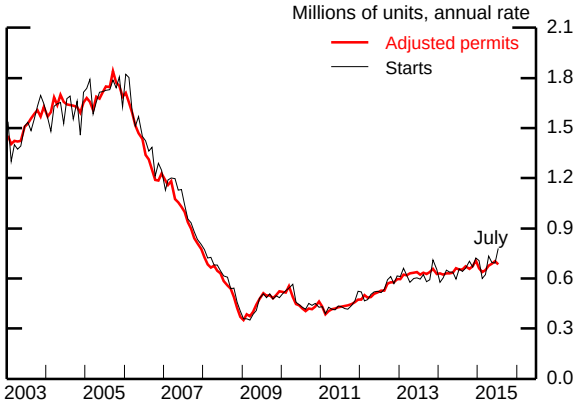
Real PCE Goods ex. Motor Vehicles



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

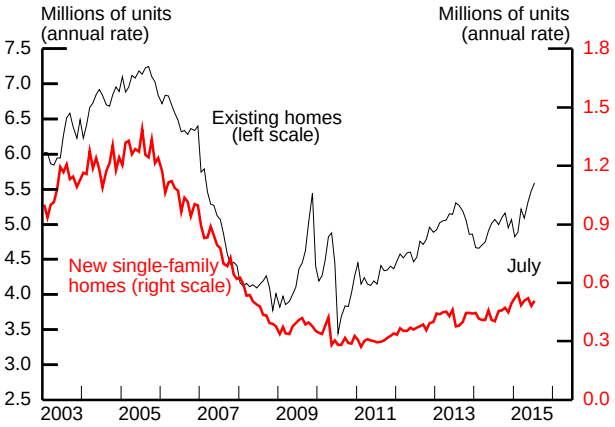
Recent Nonfinancial Developments (2)

Single-Family Housing Starts and Permits



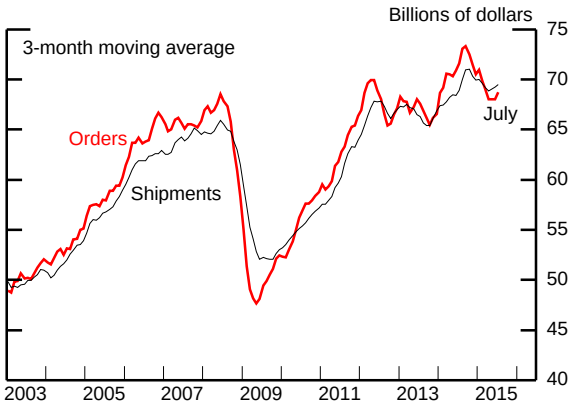
Note: Adjusted permits equal permit issuance plus total starts outside of permit-issuing areas.
Source: U.S. Census Bureau.

Home Sales



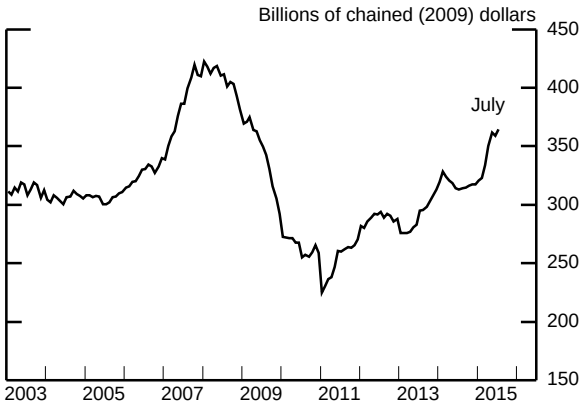
Source: For existing, National Association of Realtors; for new, U.S. Census Bureau.

Nondefense Capital Goods ex. Aircraft



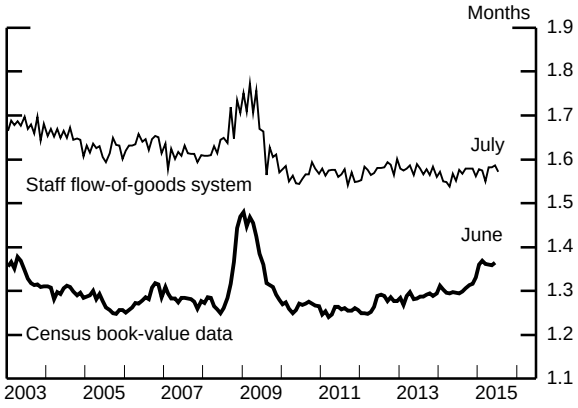
Source: U.S. Census Bureau.

Nonresidential Construction Put in Place



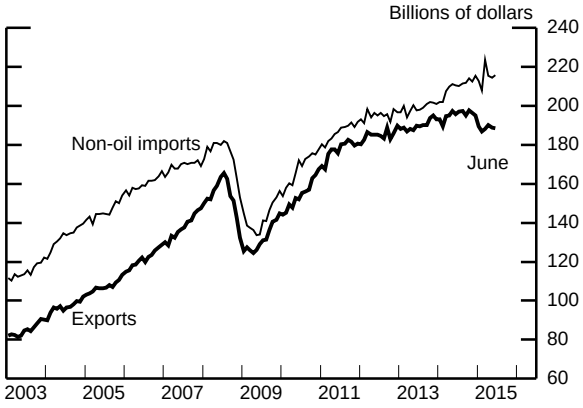
Note: Nominal CPIP deflated by BEA prices through 2015:Q1 and by the staff's estimated deflator thereafter.
Source: U.S. Census Bureau.

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.

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 Sept. 8, 2015
Federal Reserve Bank		
New York	• Factor-augmented autoregressions • Factor-augmented autoregressions (financials only) • Dynamic factor model	2.7 0.7 1.9
Cleveland	• Bayesian regressions with stochastic volatility • Tracking model	2.4 1.8
Atlanta	• Tracking model combined with Bayesian vector autoregressions (VARs), dynamic factor models, and factor-augmented autoregressions (known as GDPNow)	1.4
Chicago	• Dynamic factor models • Bayesian VARs	2.0 1.9
St. Louis	• Dynamic factor models • News index model • Let-the-data-decide regressions	2.3 2.7 2.3
Minneapolis	• Bayesian VARs	2.0
Kansas City	• Accounting-based tracking estimate	2.0
Board of Governors	• Board staff's forecast (judgmental tracking model)[1] • Dynamic factor models	1.9 2.2
Memo: Median of Federal Reserve System nowcasts		2.0

1. The September Tealbook forecast, which incorporates data received after September 8, is also 1.9 percent.

production, which fell at an annual rate of 1¼ percent in the first half of the year, is projected to only eke out a small gain in the second half, an outcome that seems consistent with the very subdued tone of the national and regional manufacturing surveys. This projection is little changed, on balance, from the previous Tealbook.

Real GDP is projected to rise about 2 percent in both 2016 and 2017 and then ease to a 1¾ percent pace in 2018. Over this period, actual GDP growth is expected to run modestly above our estimate of potential growth, supported by monetary policy that remains accommodative, albeit decreasingly so.

- Compared with the July Tealbook, aggregate output growth is, on average, nearly ¼ percentage point lower per year over the medium term. The downward revision reflects the higher path for the dollar, the lower path for equity prices, and the more subdued outlook for foreign output growth.

- We expect above-trend growth in aggregate demand to be led by further gains in consumer spending, as continued improvements in labor market conditions support additional increases in real personal income and consumer confidence.

- We continue to assess the current level of residential construction as unsustainably low. We therefore project a significant increase in starts over the medium term supported by the strengthening job market, low mortgage rates, and our expectation that household formation will move up from its currently low level.

- Government purchases are expected to rise only sluggishly over the medium term at a pace well below that seen in past economic expansions. Although we expect state and local governments to increase their purchases moderately as the expansion in economic activity continues to push up their tax collections, purchases at the federal level are expected to drift lower because of both continued adherence to sequestration spending levels and the drawdown of spending on overseas military operations.

THE OUTLOOK FOR THE LABOR MARKET AND AGGREGATE SUPPLY

Taken together, the two employment reports that we have received since the July Tealbook were more positive, on net, than we had expected.

- Total nonfarm payrolls are reported by the BLS to have risen an average of 220,000 over the three months ending in August, in line with our July Tealbook projection. However, we think the odds are that subsequent estimates will show a somewhat larger gain in August than is currently reported.[5]

- The unemployment rate fell to 5.1 percent in August, 0.2 percentage point below our July Tealbook projection. However, the participation rate also came in lower than we had projected, leaving the employment-to-population ratio in line with our previous forecast.

- Looking ahead, we continue to expect payroll employment to rise at an average monthly pace of 205,000 in the fourth quarter. We expect the unemployment rate to edge down to 5.0 percent in the fourth quarter, 0.2 percentage point lower than in our previous projection.

Even with the upward revision to real GDP growth in the first half of this year, the sizable downward surprise in the unemployment rate in August left the tension between the unemployment rate gap and the output gap uncomfortably large. Accordingly, to bring the two gaps into better alignment at present and allow for a steeper decline in our medium-term forecast for the unemployment rate, we took steps to widen the differential between actual and potential output growth, all else being equal.

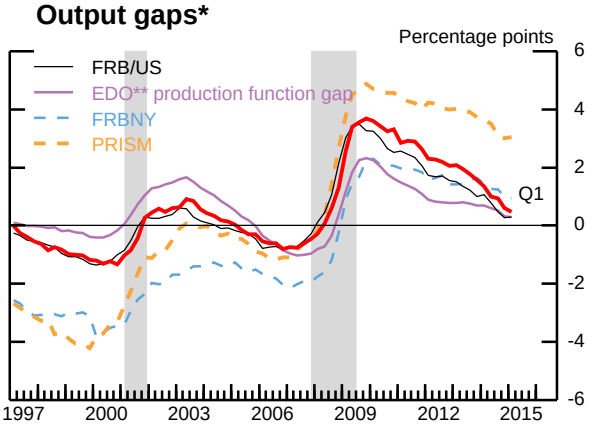
- On the potential output side of the equation, we took a little signal from the disappointing news about productivity implied by the NIPA annual revision

[5] In 10 of the past 12 years, the first estimate of the change in August payroll employment has been revised up, and we expect another upward revision, of about 60,000, to occur this year. As a matter of internal housekeeping, we have lumped the expected upward revision to August employment in with the anticipated September gain.

Alternative Measures of Slack

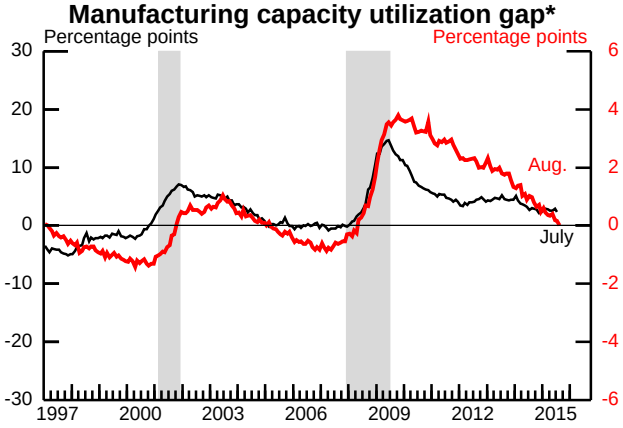
The red line in each panel is the staff's measure of the unemployment rate gap (right axis).

Output gaps*



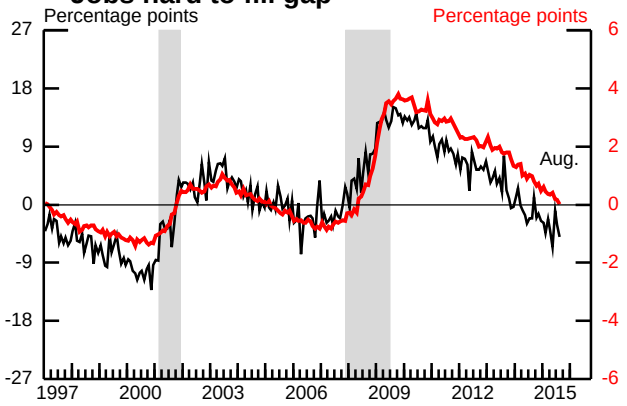
** EDO is Estimated, Dynamic, Optimization-based model.
Source: Federal Reserve Board; PRISM: Federal Reserve Board Bank of Philadelphia, PRISM Model Documentation (June 2011); FRBNY: Federal Reserve Bank of New York Staff Report 618 (May 2013, revised April 2014).

Manufacturing capacity utilization gap*



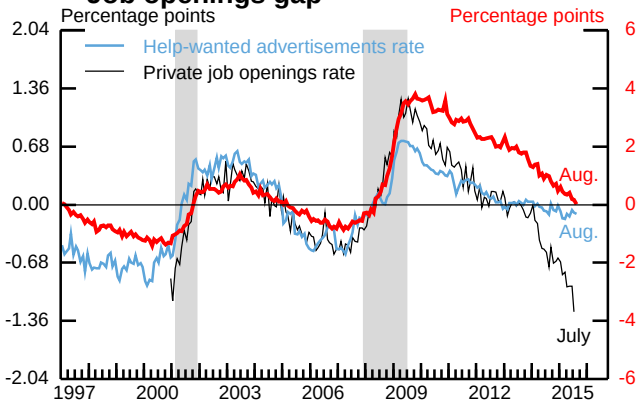
Source: Federal Reserve Board.

Jobs hard to fill gap*



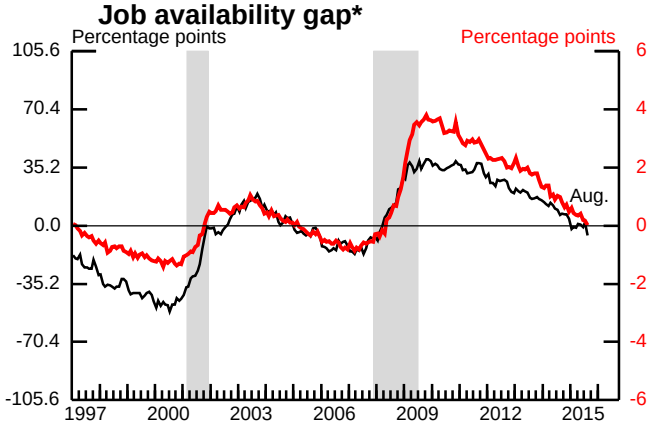
Note: Percent of small businesses surveyed with at least one "hard to fill" job opening. Seasonally adjusted by Federal Reserve Board Staff.
Source: National Federation of Independent Business, Small Business Economic Trends Survey.

Job openings gap*



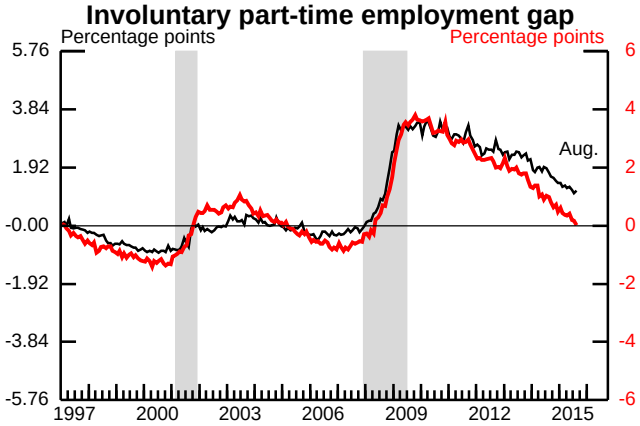
Note: Job openings rate is the number of job openings divided by employment plus job openings.
Source: Job Openings and Labor Turnover Survey; U.S. Department of Labor, Bureau of Labor Statistics, Current Employment Statistics.

Job availability gap*



Note: Percent of households believing jobs are plentiful minus the percent believing jobs are hard to get.
Source: Conference Board.

Involuntary part-time employment gap



Note: Percent of employment.
Source: U.S. Department of Labor, Bureau of Labor Statistics, Current Population Survey.

* Plots the negative of the gap to have the same sign as the unemployment rate gap.
Note: The shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research. Output gaps are multiplied by -0.44 to facilitate comparison with the unemployment rate gap. Manufacturing capacity utilization gap is constructed by subtracting its average rate from 1972 to 2013. Other gaps were constructed by subtracting each series' average in 2004:Q4 and 2005:Q1.

and trimmed our assumption for structural productivity growth by a bit less than 0.1 percentage point per year, on average, from 2015 through 2018.[6]

- We also adjusted our assumptions for trend labor force participation and the trend workweek in recent years, reducing the level of potential GDP a further ¼ percent in 2015.[7]

- To achieve the remainder of the desired widening between actual and potential GDP growth, we reduced our forecast for actual GDP growth over the projection period by 0.1 percentage point per year less than what the deterioration in conditioning factors alone would have warranted.

- All told, actual GDP is now projected to be ¾ percent above the level of potential at the end of 2017; in the July Tealbook, the gap at the end of 2017 was essentially zero.

The medium-term outlook for labor market utilization is stronger, on net, than in our previous projection.

- The unemployment rate is projected to edge down from 5.0 percent in the fourth quarter of this year to 4.8 percent by the end of 2017, 0.3 percentage point lower than in the July forecast, and to reach 4.7 percent by the end of 2018.

- Monthly payroll gains are projected to slow gradually from 215,000 in 2015 to 105,000 in 2018, as the level of productivity moves back toward its structural trend.

- Although the unemployment rate in August was at our estimate of its natural rate, we believe that a small amount of slack—but less than in previous Tealbooks—remains in the labor market. This judgment reflects our view that the labor force participation rate is still unusually low relative to its trend

[6] The BEA's annual revision to real GDP, published at the end of July, put the level of real GDP in the final quarter of 2014 nearly 1 percent lower than in the previous vintage of NIPA data. Consistent with our usual practice, we adjusted our estimates of potential output in line with the revisions to actual GDP. This downward revision in potential output growth manifests in slower trend productivity growth than we had previously assumed.

[7] Trend labor force participation is now assumed to be 0.1 percentage point lower in the fourth quarter of this year and thereafter relative to the July Tealbook.

and that the level of involuntary part-time employment is unusually high. As the economy improves further, we expect additional individuals to be drawn into the labor market and the rate of involuntary part-time employment to move down.

THE OUTLOOK FOR INFLATION

Total PCE prices are expected to rise at an annual rate of 1.2 percent in the current quarter and then to *fall* 0.4 percent in the fourth quarter. The projected decline in the headline price index at the end of this year largely reflects the pass-through of the drop in crude oil prices this summer into consumer energy prices and the narrowing of temporarily elevated gasoline margins. Core PCE price inflation is projected to step down from 1.8 percent in the second quarter to 1.2 percent in the second half of the year, reflecting further declines in core import prices, some pass-through into core prices of the earlier steep declines in energy prices, and a continuation of some tendency for core inflation to run a little high in the second quarter and then a little low in the second half of the year (a manifestation of residual seasonality).

- Our forecast for fourth-quarter headline PCE inflation is ½ percentage point lower than in our previous projection, largely due to the downward surprise in crude oil prices since the July Tealbook.

- We expect core import prices to fall at an annual rate of about 1¾ percent over the second half of 2015 and decrease 1 percent in the first quarter of 2016. Relative to the July Tealbook, this forecast has been revised down 1¼ percentage points, on average, in these three quarters because of recent dollar appreciation and lower commodity prices.

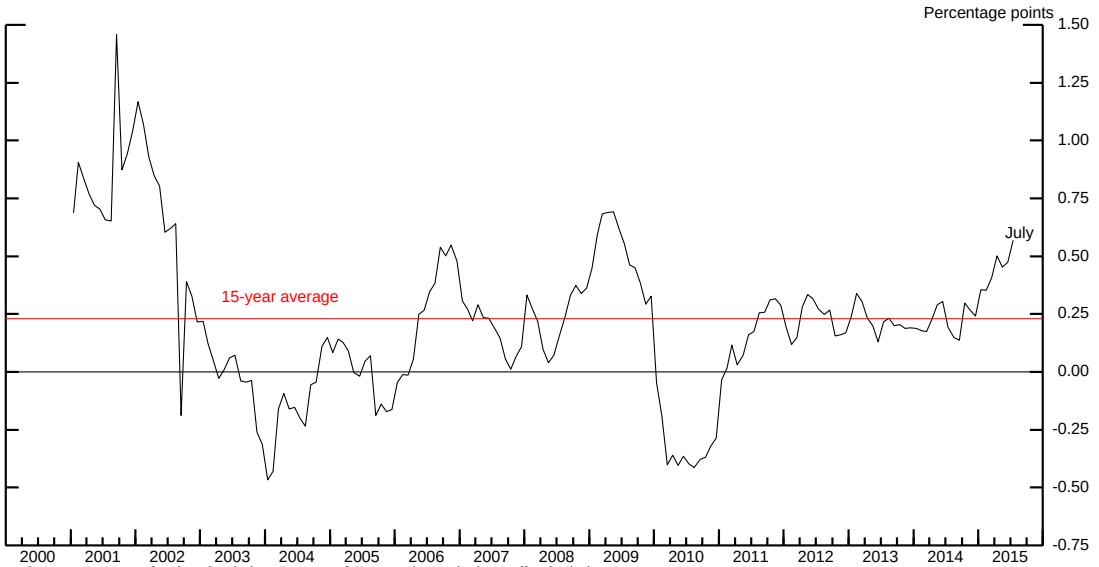
- The projection for core PCE inflation in the second half of this year is 0.2 percentage point lower than in the July Tealbook, reflecting slightly softer-than-expected incoming data and the downward adjustment to our near-term path for core import prices.

- The gap between core CPI and core PCE inflation has been unusually wide recently. For further discussion, see the box "The Recent Gap between Core CPI and Core PCE Price Inflation Measures."

The Recent Gap between Core CPI and Core PCE Price Inflation Measures

Headline measures of consumer prices provide the best metric for changes in the cost of living, but core inflation, which excludes changes in food and energy prices, tends to be more useful when trying to distinguish the inflation signal from the transitory noise. However, different core measures can provide conflicting signals about inflation. For example, the core CPI increased 1¾ percent over the 12 months ending in July, very similar to its pace over the preceding 12 months, while core PCE prices increased only 1¼ percent over the same period, a step down from the pace over the prior 12 months. As a result, the gap between the core CPI and the core PCE measures of price inflation (the black line in figure 1) is currently more than ½ percentage point, notably wider than the average gap over the past 15 years (the red line). However, as shown in figure 1, the difference between core CPI and core PCE price inflation has varied over time, and the current gap is not unprecedented.[1]

Figure 1: Difference between 12-Month Changes in Core CPI and Core PCE Prices



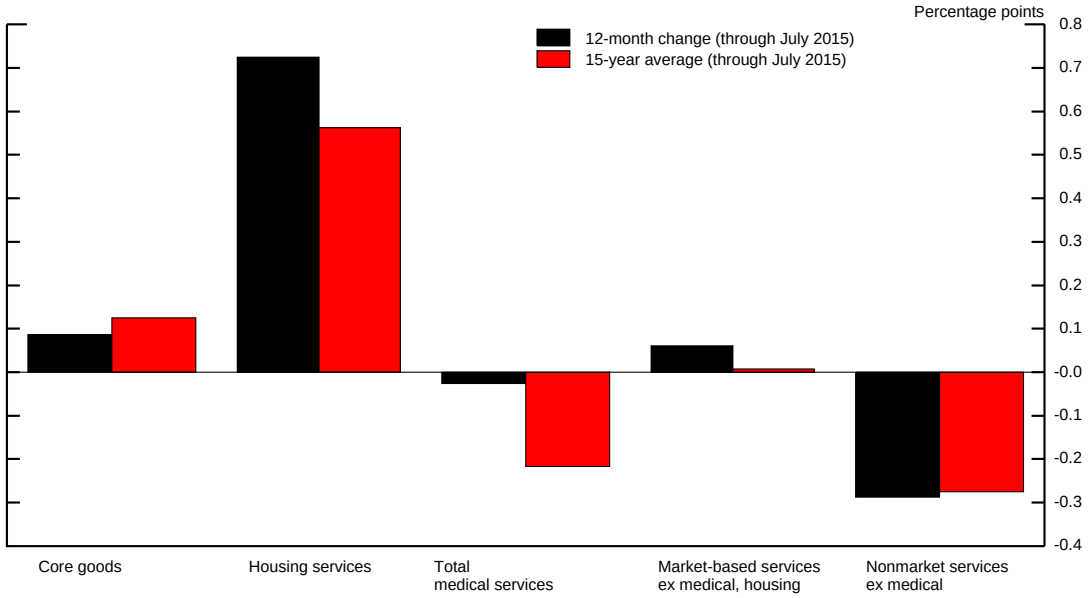
Source: Bureau of Labor Statistics; Bureau of Economic Analysis; staff calculations.

The CPI and the PCE price index differ for many reasons, including different aggregation formulas, different prices for some items, different weights used in aggregating items, and a broader scope of coverage for the PCE index. In combination, these methodological differences cause some categories of expenditure prices to make a notably larger or smaller contribution to CPI inflation than to PCE price inflation. Figure 2 (next page) shows contributions of some expenditure price categories to the gap between core CPI and core PCE price inflation over the past 12 months (the black bars) compared with their average contribution over the past 15 years (the red bars). This chart suggests that the recent behavior of prices for housing services and for medical services can more than explain why core CPI inflation is currently markedly higher than core PCE price inflation.

[1] In contrast to the difference in the core measures, over the 12 months ending in July, both the total CPI and total PCE price index increased at about the same pace—¼ percent. Currently, there is no gap between the headline measures because the recent sharp declines in energy prices have a larger effect on the CPI than on the PCE price index. On average, the gap between the headline CPI and headline PCE price inflation has been about ⅓ percentage point over the past 15 years.

A 15-year average is chosen as the reference period in order to allow for the use of methodologically consistent CPI component series.

Figure 2: Contributions to the Difference between Core CPI and Core PCE Inflation



Source: Bureau of Labor Statistics; Bureau of Economic Analysis; staff calculations.

In particular, both the CPI and PCE price index for housing services increased about 3 percent over the 12 months ending in July.[2] But because housing services have a much larger weight in the core CPI than in the core PCE price index, this increase in housing services prices contributed 1¼ percentage points to core CPI inflation over the past 12 months but only ½ percentage point to core PCE price inflation. The ¾ percentage point difference between the two contributions (shown by the second black bar in figure 2) is larger than the average contribution over the past 15 years (the corresponding red bar) because housing services prices have increased more rapidly over the past year than over the past 15 years.

Another key difference between the CPI and PCE price index is the treatment of medical services. The CPI focuses on household out-of-pocket expenditures, while the PCE price index tries to capture all household medical consumption, regardless of the payer. For example, the PCE index includes medical services paid for by Medicare and Medicaid, which are largely excluded from the CPI.[3] Consequently, medical services have a much smaller weight in the CPI than in the PCE price index, and thus the rapidly rising medical services prices over the past 15 years contributed less to core CPI inflation than to core PCE price inflation (shown by the negative middle red bar in figure 2). However, a substantial slowing of medical services price inflation (driven, in large part, by the administered Medicare and Medicaid reimbursement rates used in PCE prices) has led the contribution of total medical services to be roughly the same for both the core CPI and the core PCE price index in the most recent 12 months (the middle black bar in figure 2).

In the Tealbook baseline forecast, we project that the gap between core CPI and core PCE price inflation will edge down by 2017 but will still be about ¼ percentage point above the current 15-year average, as relatively high housing services price inflation and low PCE medical services price inflation are anticipated to persist for some time.

[2] For this analysis, we define housing services prices as tenants' rent and owners' equivalent rent.

[3] As a result, many of the PCE price components are based on PPI, not CPI, series.

Beyond the near term, core PCE price inflation is projected to edge up gradually from 1.3 percent this year to 1.9 percent in 2018, as import prices turn back up, the effects on core inflation of the previous large declines in energy prices dissipate, and resource utilization continues to tighten in an environment of well-anchored inflation expectations. With consumer food and energy prices projected to rise roughly in line with core prices after this year, total PCE inflation is expected to run at about the same pace as core inflation throughout the medium term.

- Survey-based measures of longer-run inflation expectations have generally remained stable over the intermeeting period. The final August estimate of expected inflation over the next 5 to 10 years from the Michigan survey was 2.7 percent—at the lower end of the narrow range of values seen in recent years. Expected PCE price inflation over the next 10 years from the Survey of Professional Forecasters for the current quarter was 2 percent—essentially the same as it has been for the past 2 years.

- In contrast, TIPS-based measures of longer-term inflation compensation fell substantially amid the turbulence in financial markets and the decline in oil prices. However, staff models attributed little of this decline in inflation compensation to lower expected inflation.

Overall, the incoming data on compensation were weaker than our expectations in the July Tealbook and suggest that recent wage gains have continued to be subdued.

- Average hourly earnings of all employees were up 2.2 percent in the 12 months through August, broadly in line with the increases seen over the past several years.

- After increasing at an annual rate of 3 percent in the first quarter, the employment cost index (ECI) for private industry workers was unchanged in the second quarter, as the wages and salaries component of the index decelerated and the benefits component declined. The 12-month change in the ECI as of June was 1.9 percent, very close to the pace of the preceding 3 years but ½ percentage point less than projected in the July Tealbook.

- The four-quarter change in hourly compensation from the Productivity and Costs release was 2¼ percent in the second quarter, about ½ percentage point

below our previous projection. Nonetheless, with labor and product markets tightening over the projection period, we expect this measure of hourly compensation to step up to an average pace of around 3 percent over the medium term.

THE LONG-TERM OUTLOOK

- The federal funds rate continues to be set according to the prescriptions of an inertial version of the Taylor (1999) rule. However, as in the near- and medium-term portions of the forecast, the policy rule now assumes a long-run equilibrium level of the nominal federal funds rate of 3¼ percent rather than the 3½ percent used in the previous Tealbook.

- The Federal Reserve's holdings of securities continue to put downward pressure on longer-term interest rates, albeit to a diminishing extent over time. The SOMA portfolio is projected to have returned to a normal size by 2021.

- The federal funds rate rises further after 2018. With the economy running above its potential level and inflation having nearly reached the Committee's 2 percent objective, the federal funds rate moves above its long-run value in 2019 and 2020.

- The natural rate of unemployment remains at 5.1 percent, and potential GDP rises about 1¾ percent per year, on average, in 2019 and 2020.

- As monetary policy continues to tighten, real GDP decelerates further and rises 1.6 percent in 2020. The unemployment rate remains at 4.7 percent until 2020 and moves back up toward its assumed natural rate thereafter.

- PCE price inflation remains below the Committee's long-run objective at the end of 2019 but moves up to 2 percent at the end of 2020.

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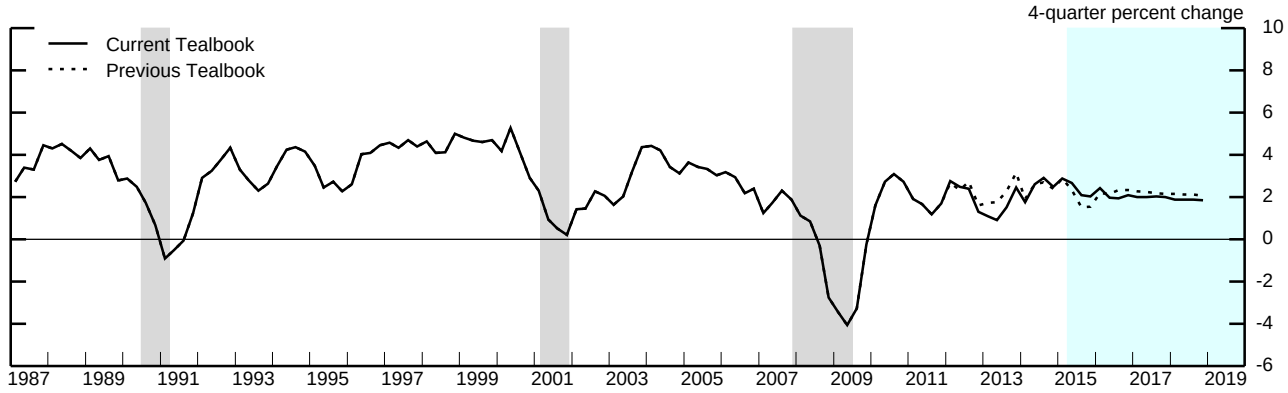
Projections of Real GDP and Related Components
(Percent change at annual rate from final quarter of preceding period except as noted)

Measure	2015	2015 H1	2015 H2	2016	2017	2018
Real GDP	**2.0**	**2.2**	**1.9**	**2.1**	**2.0**	**1.8**
Previous Tealbook	1.5	1.1	2.0	2.3	2.1	2.0
Final sales	1.9	1.7	2.1	2.2	2.3	2.1
Previous Tealbook	1.5	.9	2.0	2.4	2.5	
Personal consumption expenditures	2.6	2.4	2.8	3.2	2.6	2.1
Previous Tealbook	2.8	2.5	3.1	3.3	2.7	
Residential investment	7.1	9.7	4.6	10.1	7.3	4.2
Previous Tealbook	6.4	7.4	5.4	11.6	6.9	
Nonresidential structures	2.2	-1.0	5.5	1.0	1.9	.8
Previous Tealbook	-5.5	-11.8	1.3	.8	1.4	
Equipment and intangibles	4.1	3.6	4.6	4.9	3.5	2.4
Previous Tealbook	3.6	4.0	3.3	4.2	3.3	
Federal purchases	-.6	.6	-1.7	-1.1	-.8	-.7
Previous Tealbook	-.8	-.5	-1.0	-1.1	-1.0	
State and local purchases	1.4	1.8	1.1	1.5	1.8	1.8
Previous Tealbook	1.0	.7	1.3	1.6	1.9	
Exports	.5	-.6	1.7	.8	2.0	4.3
Previous Tealbook	-.3	-1.5	.9	1.1	3.0	
Imports	5.3	5.0	5.6	6.7	4.0	3.2
Previous Tealbook	5.5	5.5	5.5	6.0	3.7	
	Contributions to change in real GDP (percentage points)					
Inventory change	.2	.5	-.2	-.1	-.3	-.2
Previous Tealbook	.1	.2	.0	-.1	-.3	
Net exports	-.8	-.9	-.6	-.9	-.4	.0
Previous Tealbook	-.9	-1.1	-.7	-.8	-.2	

Real GDP

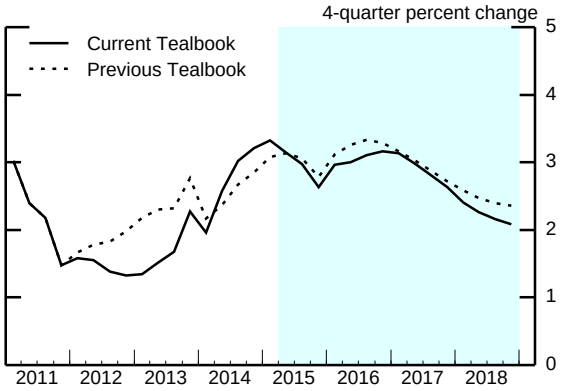


Note: The gray shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research.

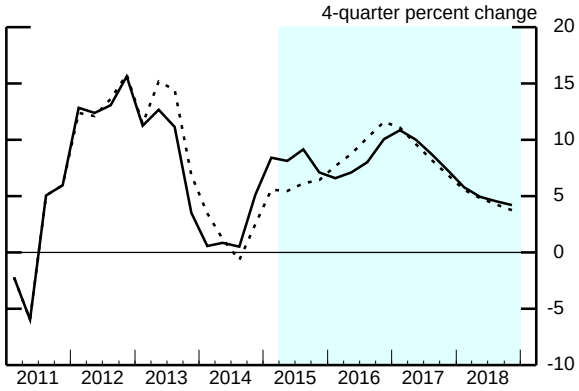
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Components of Final Demand

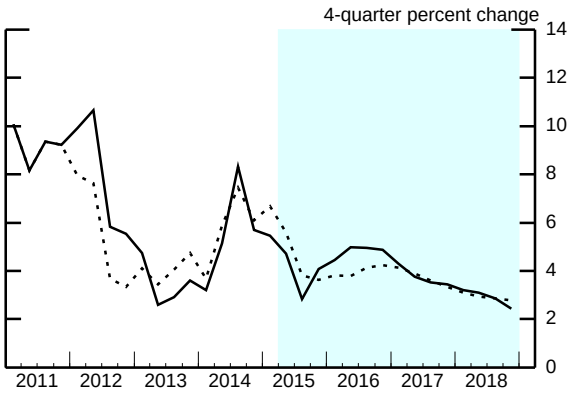
Personal Consumption Expenditures



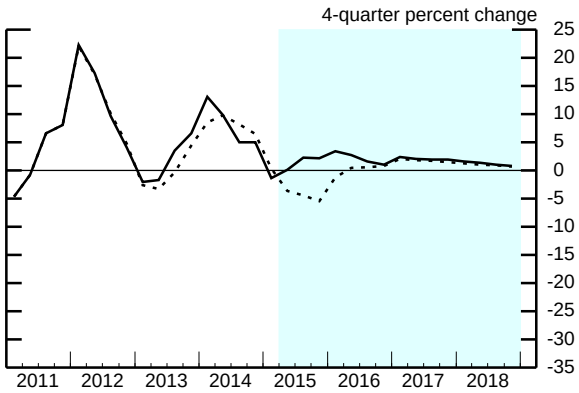
Residential Investment



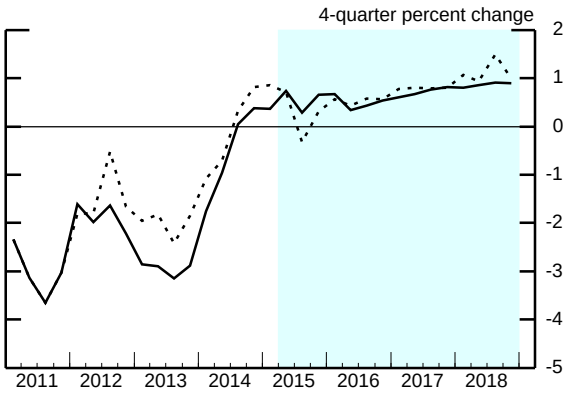
Equipment and Intangibles



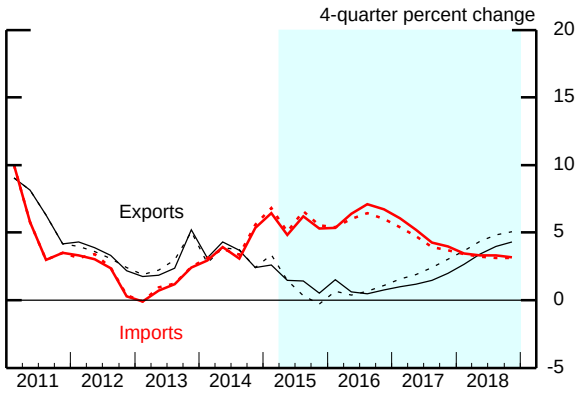
Nonresidential Structures



Government Consumption & Investment



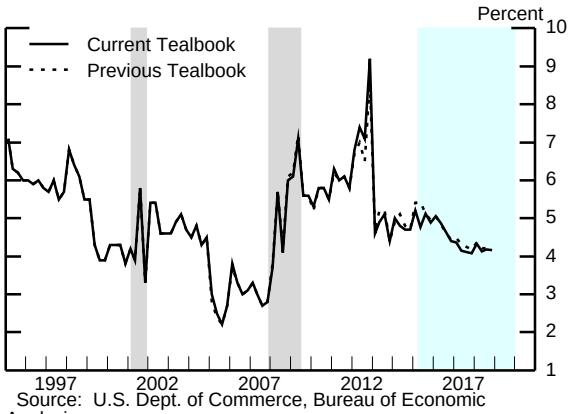
Exports and Imports



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

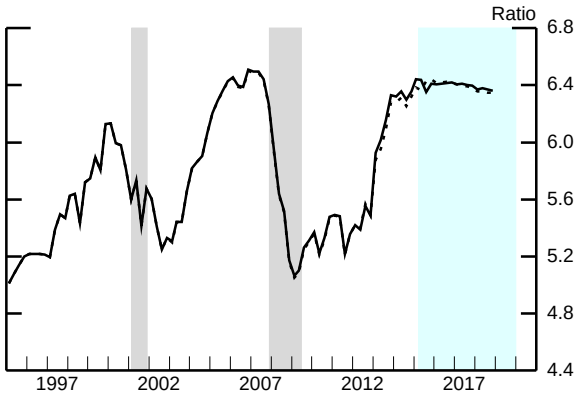
Aspects of the Medium-Term Projection

Personal Saving Rate



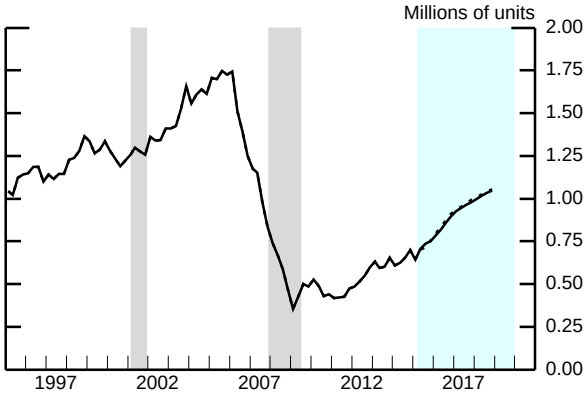
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

Wealth-to-Income Ratio



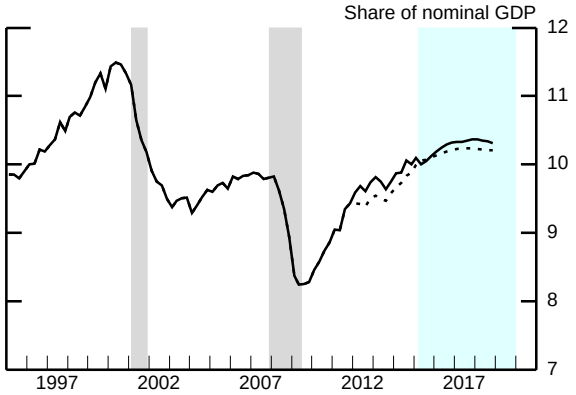
Note: Ratio of household net worth to disposable personal income.
Source: For net worth, Federal Reserve Board, Financial Accounts of the United States; for income, U.S. Dept. of Commerce, Bureau of Economic Analysis.

Single-Family Housing Starts



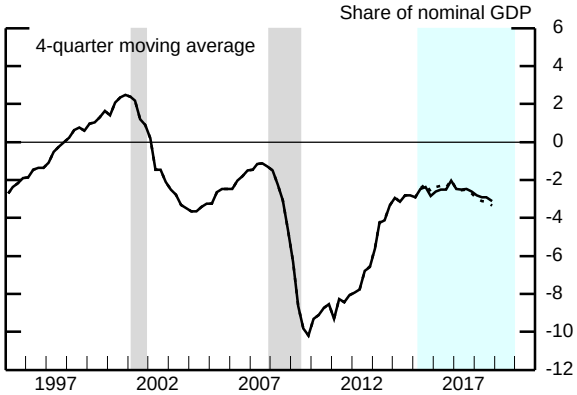
Source: U.S. Census Bureau.

Equipment and Intangibles Spending



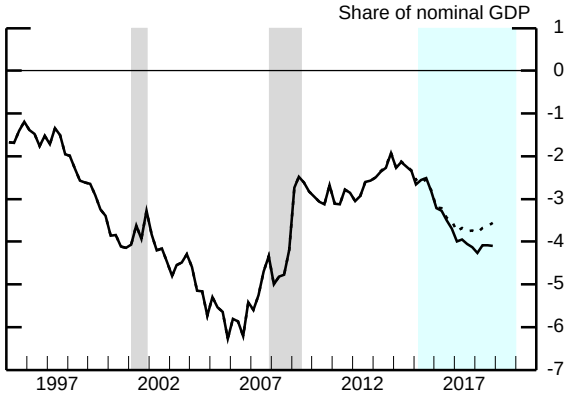
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

Federal Surplus/Deficit



Source: *Monthly Treasury Statement.*

Current Account Surplus/Deficit



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

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

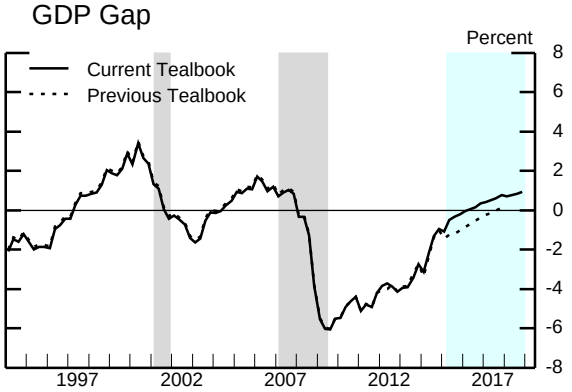
Decomposition of Potential GDP

(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	1.3	1.5	1.6	1.6	
Selected contributions[1]									
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	1.0	1.3	1.4	1.4	
Capital deepening	.6	1.5	1.0	.3	.6	.8	.7	.7	.6
Multifactor productivity	.6	1.0	1.5	1.0	.1	.3	.4	.6	.8
Structural hours	1.5	1.0	.7	.2	.7	.4	.4	.4	.3
Previous Tealbook	1.5	1.0	.7	.2	.8	.5	.4	.4	
Labor force participation	.4	.0	-.3	-.4	-.5	-.6	-.5	-.5	-.5
Previous Tealbook	.4	.0	-.3	-.4	-.5	-.5	-.5	-.5	
Memo:									
GDP gap[3]	-1.9	2.4	.8	-4.4	-.9	-.2	.4	.8	.9
Previous Tealbook	-1.8	2.5	.9	-4.4	-1.0	-1.0	-.4	.1	

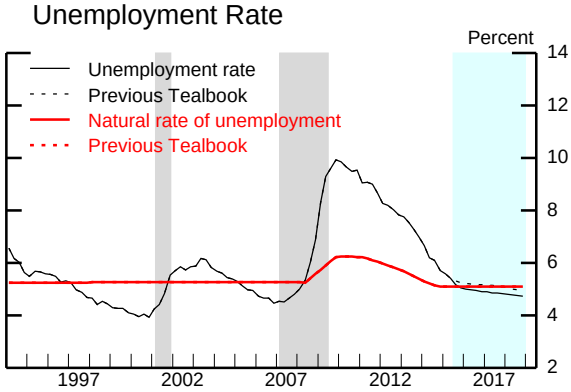
Note: For multiyear periods, the percent change is the annual average from Q4 of the year preceding the first year shown to Q4 of the last year shown.
1. Percentage points.
2. Total business sector.
3. Percent difference between actual and potential GDP in the final quarter of the period indicated. A negative number indicates that the economy is operating below potential.

GDP Gap



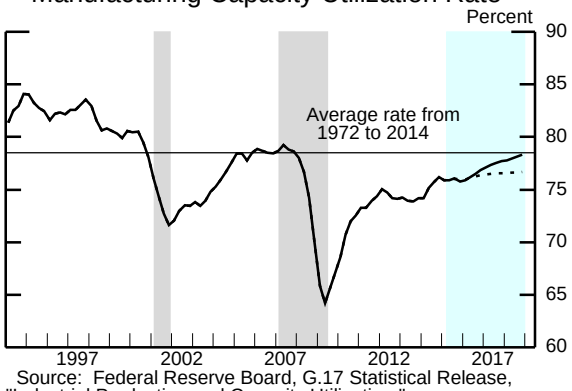
Note: The GDP gap is the percent difference between actual and potential GDP; a negative number indicates that the economy is operating below potential.
Source: U.S. Department of Commerce, Bureau of Economic Analysis; staff assumptions.

Unemployment Rate



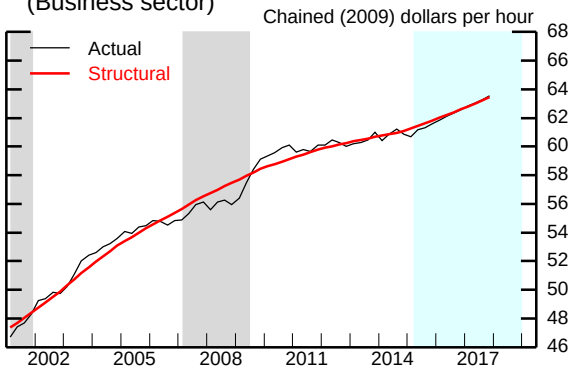
Source: U.S. Department of Labor, Bureau of Labor Statistics; staff assumptions.

Manufacturing Capacity Utilization Rate



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

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 H1	2015 H2	2016	2017	2018
Output per hour, business[1]	1.2	1.1	1.3	1.6	1.5	1.6
Previous Tealbook	1.0	-.1	2.1	1.7	1.7	
Nonfarm private employment[2]	204	207	201	141	113	90
Previous Tealbook	205	207	203	160	125	
Labor force participation rate[3]	62.6	62.8	62.6	62.5	62.3	62.0
Previous Tealbook	62.7	62.8	62.7	62.6	62.4	
Civilian unemployment rate[3]	5.0	5.4	5.0	4.9	4.8	4.7
Previous Tealbook	5.2	5.4	5.2	5.2	5.1	4.9

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.

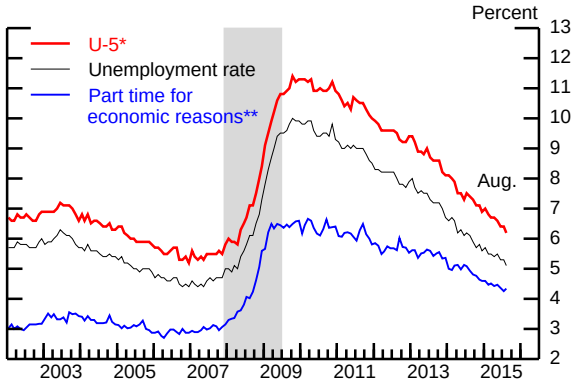
Inflation Projections
(Percent change at annual rate from final quarter of preceding period)

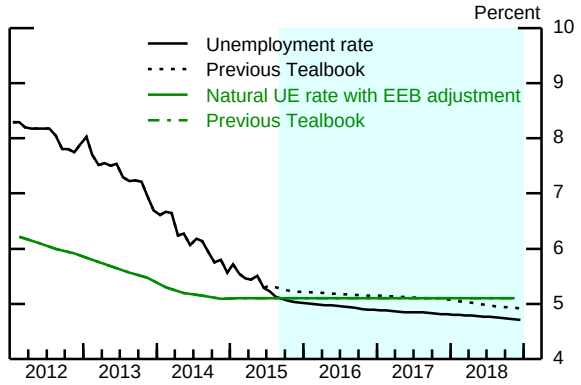
Measure	2015	2015 H1	2015 H2	2016	2017	2018
PCE chain-weighted price index	.3	.1	.4	1.5	1.7	1.9
Previous Tealbook	.3	.0	.7	1.6	1.7	1.8
Food and beverages	.5	-.7	1.6	1.8	2.0	1.9
Previous Tealbook	.3	-.6	1.2	1.8	2.0	
Energy	-18.3	-20.0	-16.6	2.7	2.4	1.5
Previous Tealbook	-16.4	-19.9	-12.7	3.3	2.3	
Excluding food and energy	1.3	1.4	1.2	1.4	1.7	1.9
Previous Tealbook	1.3	1.2	1.4	1.5	1.7	1.8
Prices of core goods imports[1]	-2.8	-3.8	-1.9	.3	1.3	1.2
Previous Tealbook	-2.3	-3.7	-.8	.9	1.4	

1. Core goods imports exclude computers, semiconductors, oil, and natural gas.
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Labor Market Developments and Outlook (1)

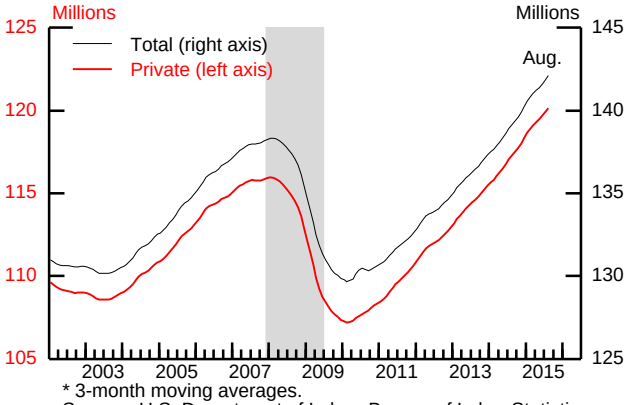
Measures of Labor Underutilization

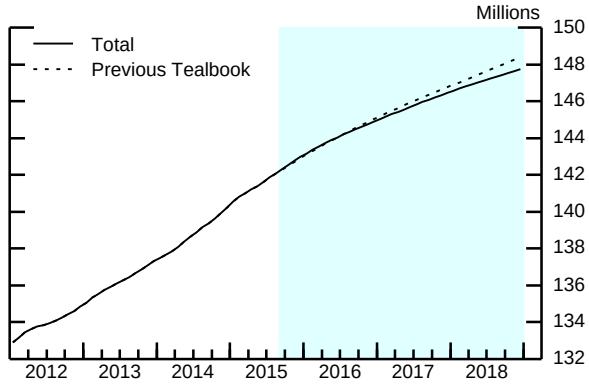




* U-5 measures total unemployed persons plus all marginally attached to the labor force, as a percent of the labor force plus persons marginally attached to the labor force.
** Percent of Current Population Survey employment.
EEB Extended and emergency unemployment benefits.
Source: U.S. Department of Labor, Bureau of Labor Statistics.

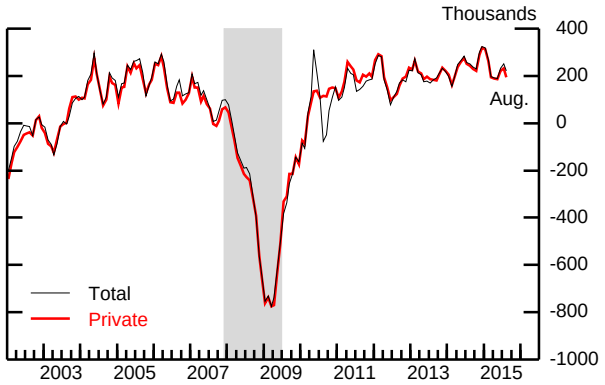
Level of Payroll Employment*

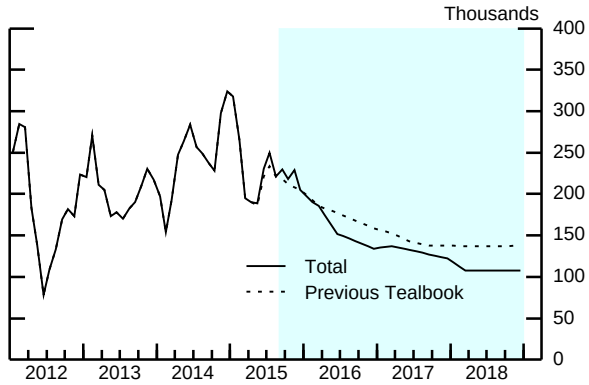




* 3-month moving averages.
Source: U.S. Department of Labor, Bureau of Labor Statistics.

Change in Payroll Employment*



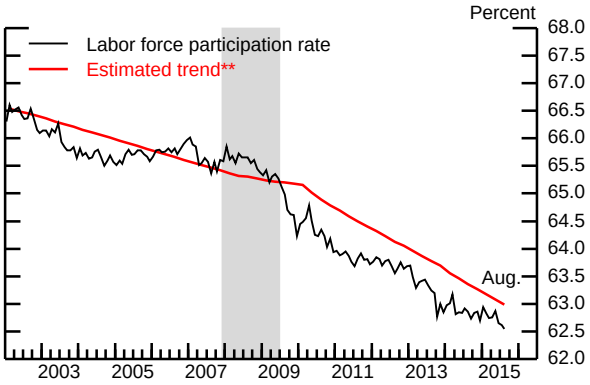


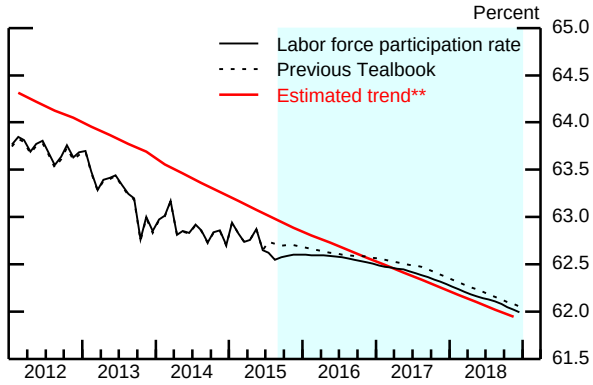
* 3-month moving averages.
Source: U.S. Department of Labor, Bureau of Labor Statistics.

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

Labor Market Developments and Outlook (2)

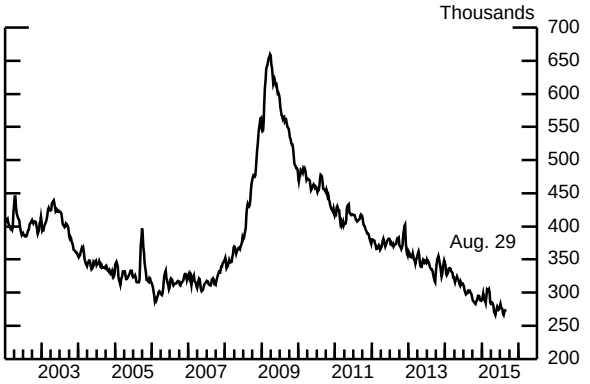
Labor Force Participation Rate*





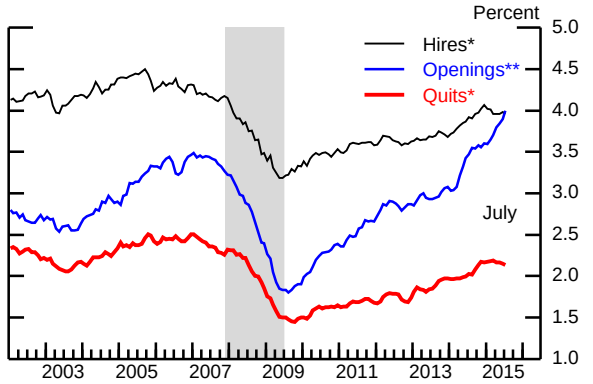
* Published data adjusted by staff to account for changes in population weights.
** Includes staff estimate of the effect of extended and emergency unemployment benefits.
Source: U.S. Department of Labor, Bureau of Labor Statistics; staff assumptions.

Initial Unemployment Insurance Claims*



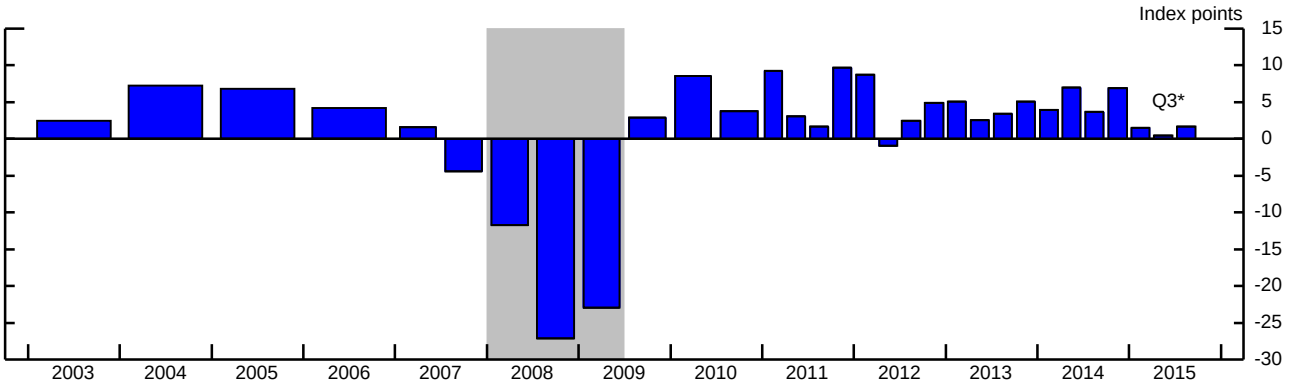
* 4-week moving average.
Source: U.S. Department of Labor, Employment and Training Administration.

Private Hires, Quits, and Job Openings



* Percent of private nonfarm payroll employment, 3-month moving average.
** Percent of private nonfarm payroll employment plus unfilled jobs, 3-month moving average.
Source: Job Openings and Labor Turnover Survey.

Average Monthly Change in Labor Market Conditions Index



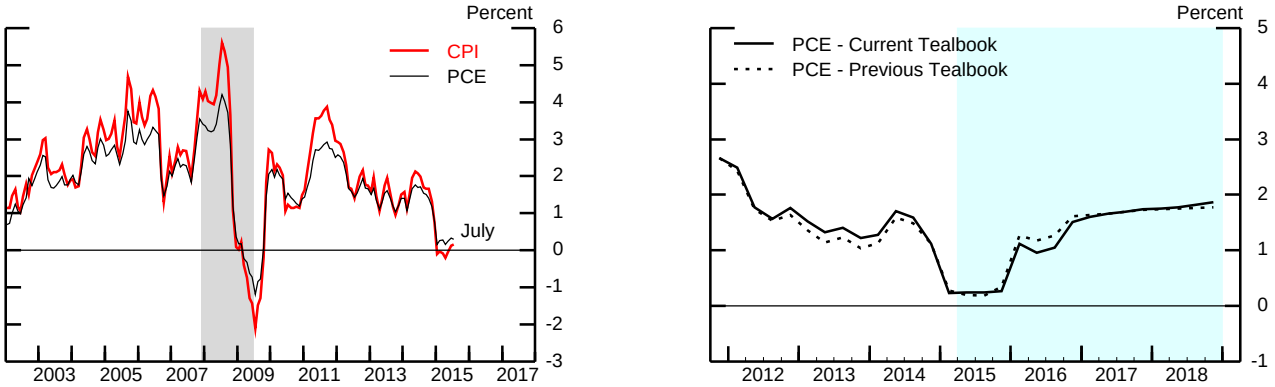
* Value shown for Q3 is an average of August and July data.
Note: Labor market conditions index estimated by staff.

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

Inflation Developments and Outlook (1)

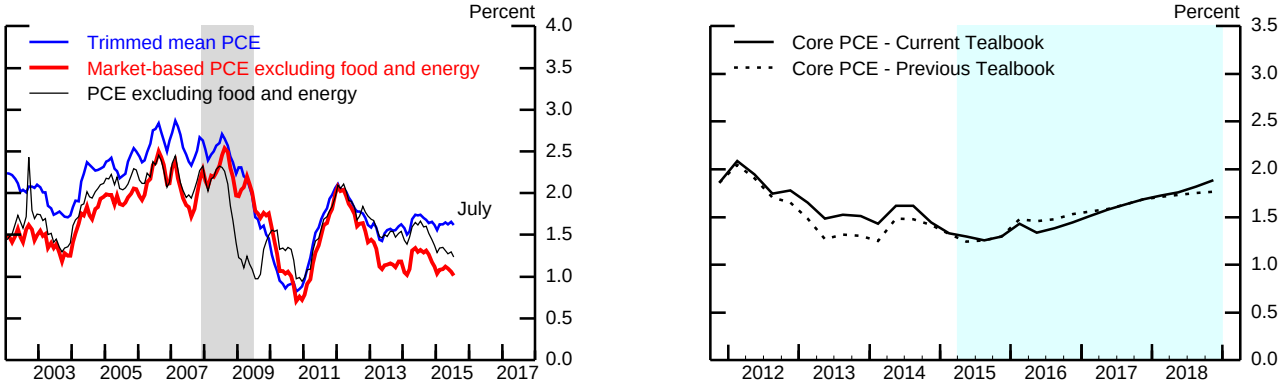
(Percent change from year-earlier period)

Headline Consumer Price Inflation



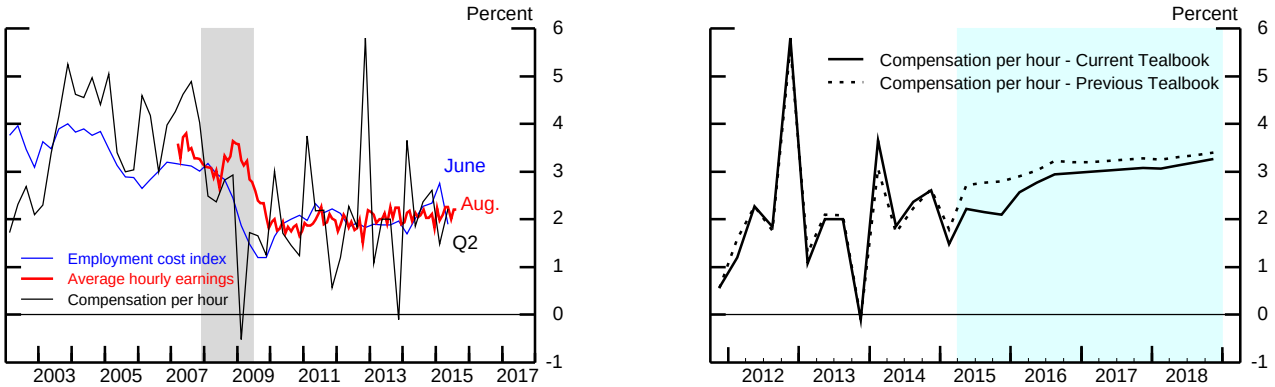
Source: For CPI, U.S. Department of Labor, Bureau of Labor Statistics; for PCE, U.S. Department of Commerce, Bureau of Economic Analysis.

Measures of Underlying PCE Price Inflation



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

Labor Cost Growth



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

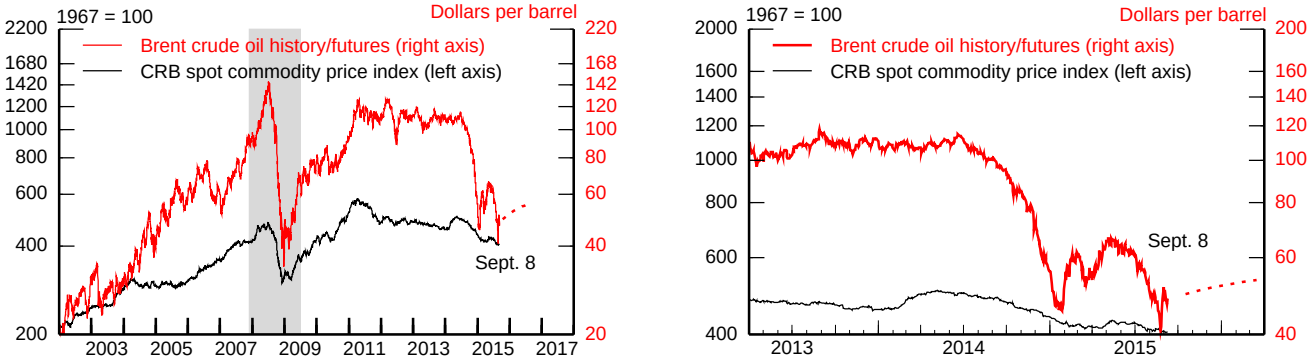
Source: U.S. Department of Labor, Bureau of Labor Statistics.

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

Inflation Developments and Outlook (2)

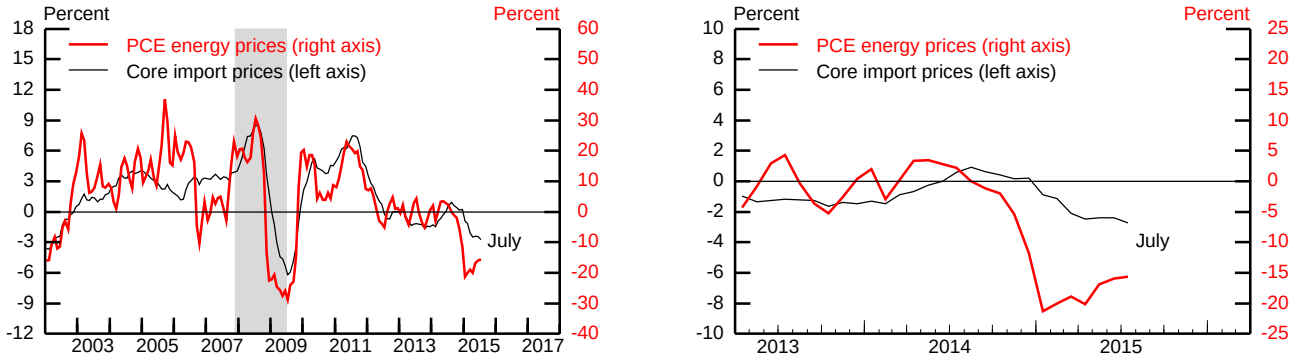
(Percent change from year-earlier period, except as noted)

Commodity and Oil Price Levels



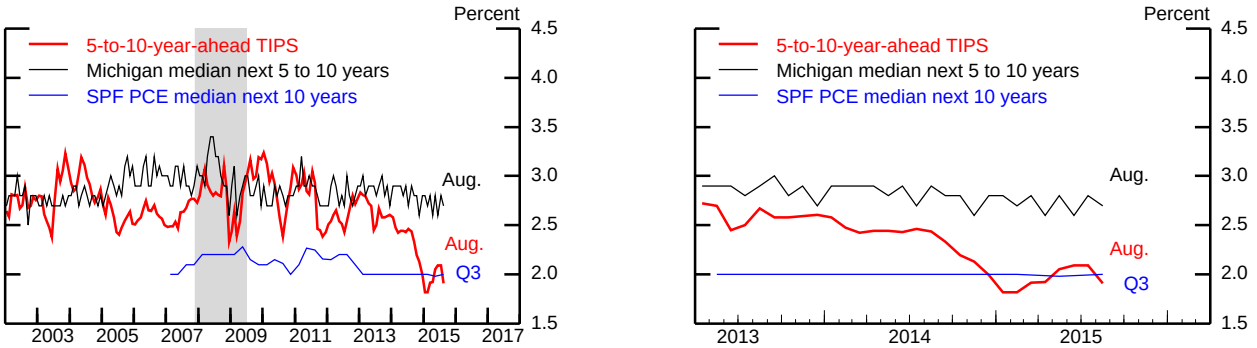
Note: Futures prices (dotted lines) are the latest observations on monthly futures contracts.
Source: For oil prices, U.S. Department of Energy, Energy Information Agency; for commodity prices, Commodity Research Bureau (CRB).

Energy and Import Price Inflation



Source: For core import prices, U.S. Dept. of Labor, Bureau of Labor Statistics; for PCE, U.S. Dept. of Commerce, Bureau of Economic Analysis.

Long-Term Inflation Expectations



Note: Based on a comparison of an estimated TIPS (Treasury Inflation-Protected Securities) yield curve with an estimated nominal off-the-run Treasury yield curve, with an adjustment for the indexation-lag effect.
SPF Survey of Professional Forecasters.
Source: For Michigan, University of Michigan Surveys of Consumers; for SPF, the Federal Reserve Bank of Philadelphia; for TIPS, Federal Reserve Board staff calculations.

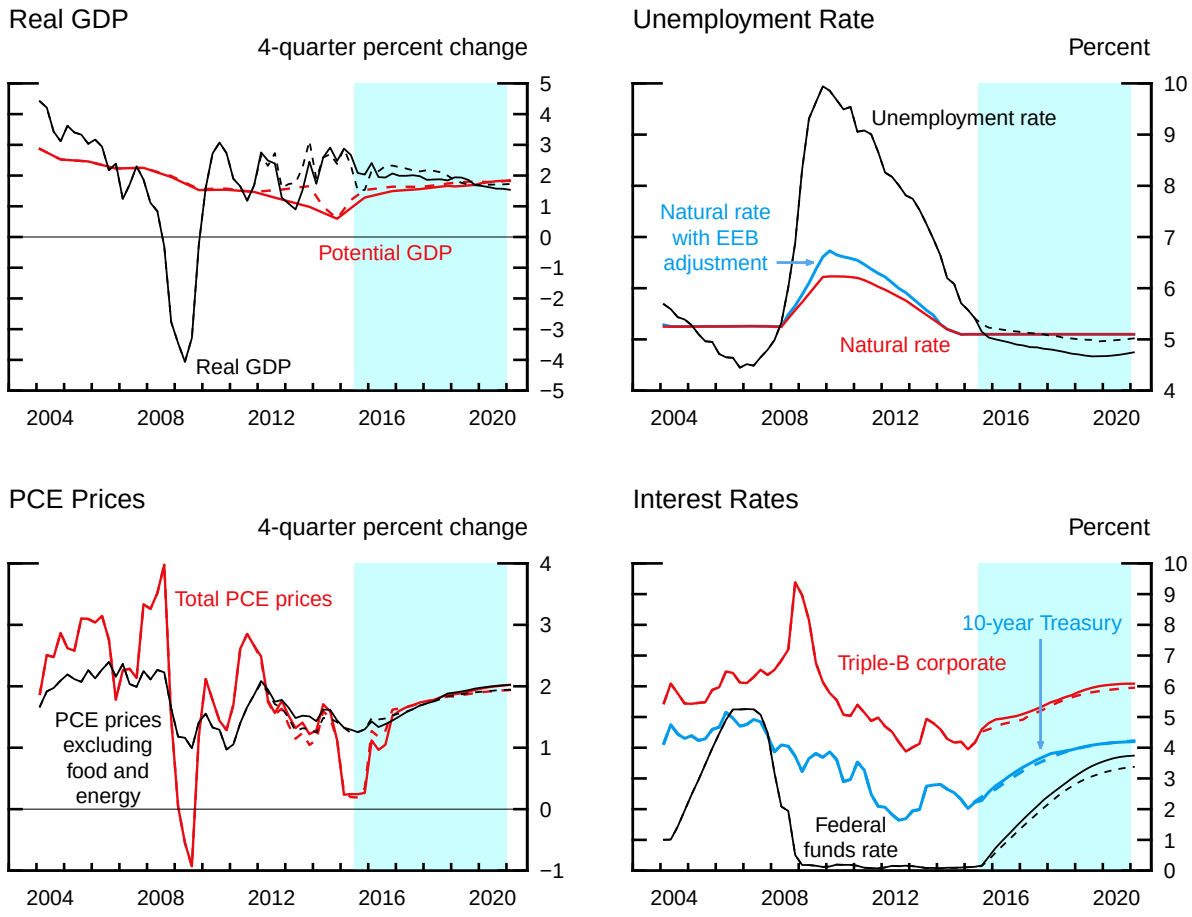
Note: The gray shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research.

The Long-Term Outlook

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

Measure	2015	2016	2017	2018	2019	Longer run
Real GDP	2.0	2.1	2.0	1.8	1.7	1.9
Previous Tealbook	1.5	2.3	2.1	2.0	1.7	1.9
Civilian unemployment rate[1]	5.0	4.9	4.8	4.7	4.7	5.1
Previous Tealbook	5.2	5.2	5.1	5.0	5.0	5.1
PCE prices, total	.3	1.5	1.7	1.9	1.9	2.0
Previous Tealbook	.3	1.6	1.7	1.8	1.9	2.0
Core PCE prices	1.3	1.4	1.7	1.9	2.0	2.0
Previous Tealbook	1.3	1.5	1.7	1.8	1.9	2.0
Federal funds rate[1]	.4	1.4	2.3	3.0	3.5	3.3
Previous Tealbook	.4	1.2	2.1	2.7	3.1	3.5
10-year Treasury yield[1]	2.6	3.2	3.7	3.9	4.1	4.1
Previous Tealbook	2.5	3.1	3.6	3.9	4.1	4.3

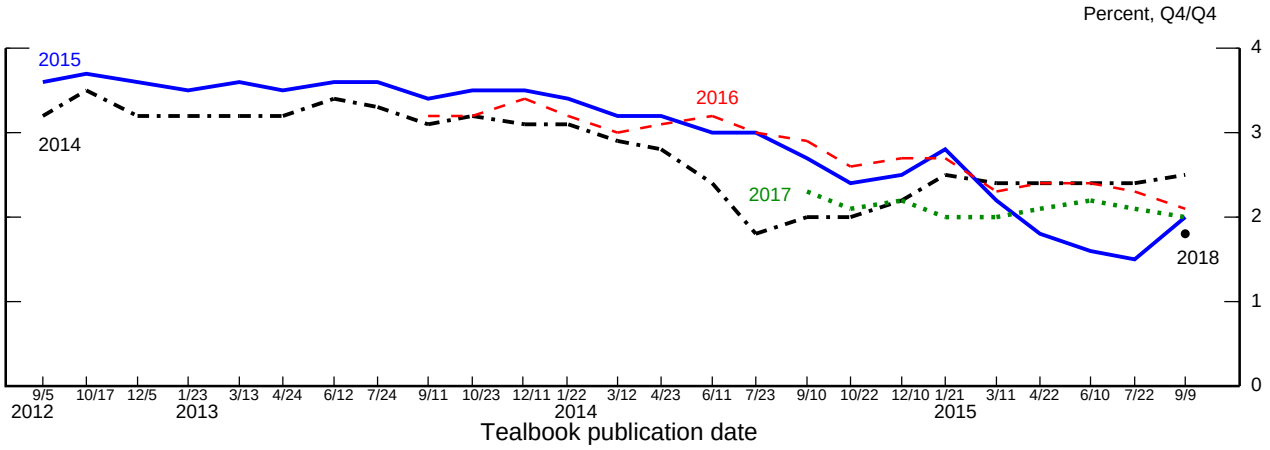
1. Percent, average for the final quarter of the period.



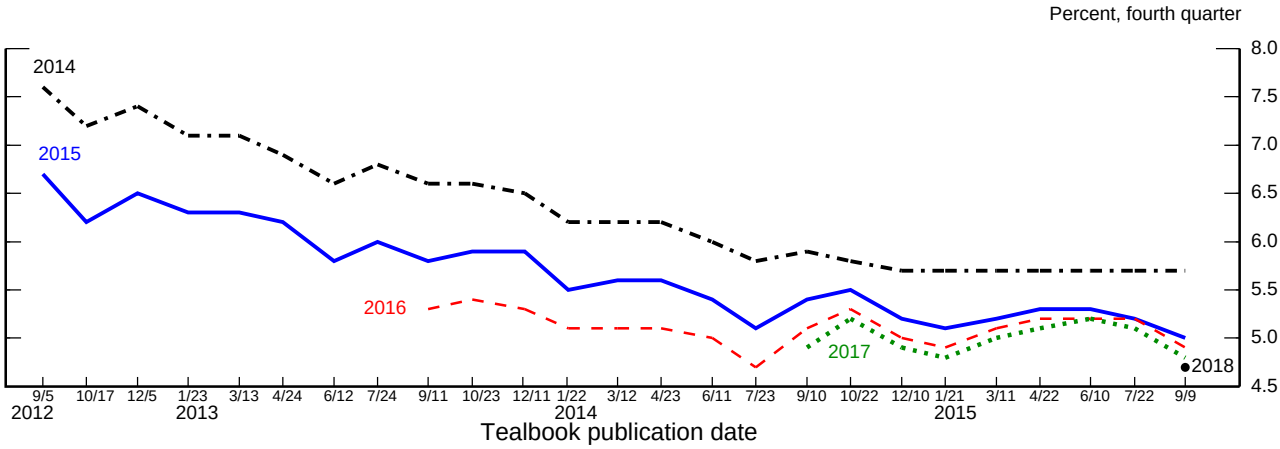
Note: In each panel, shading represents the projection period, and dashed lines are the previous Tealbook.

Evolution of the Staff Forecast

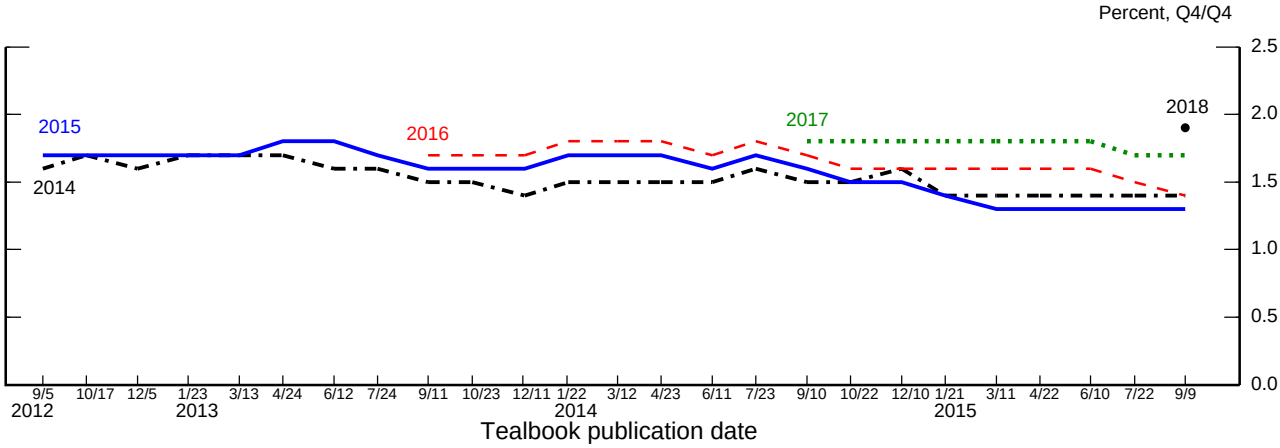
Change in Real GDP



Unemployment Rate



Change in PCE Prices excluding Food and Energy



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International Economic Developments and Outlook

Foreign economic growth appears to have remained quite weak in the second quarter at only 1 percent, down from an already sluggish 1½ percent in the first quarter. This second-quarter estimate is more than ½ percentage point lower than we had forecast at the time of the July Tealbook, with sizable downward revisions to the estimates for Brazil, Japan, and emerging Asia. We expect growth to step up to 2¼ percent in the second half of this year, in part as temporary factors holding down activity in Canada let up and Brazil begins to pull out of its steep contraction.

This second-half pace for the foreign economies is almost ½ percentage point below our July forecast. Early third-quarter indicators for many economies have come in softer than expected, most notably in China. In addition, the depreciation of the renminbi, the continued slide in Chinese equity prices, and inconsistent responses of Chinese authorities have shaken global financial and commodity markets, putting a damper on global growth, especially in EMEs. The decline in oil prices since July, in part associated with concerns about weaker Chinese growth, should eventually prove to be a net positive for global growth, but in the near term it is likely to depress activity among oil exporters more than it boosts demand in oil importers.

Beyond the near term, we still project a further pickup in growth in the foreign economies, to 3 percent by the second half of 2016, a bit above its trend pace. AFE growth should continue to firm, reflecting accommodative monetary policy and a further healing in credit markets. EME growth should be helped by a rebound in exports to the advanced economies. Nevertheless, we revised down our outlook by ¼ percentage point next year and by a little less thereafter. This revision reflects weaker momentum in many economies, somewhat tighter financial conditions, and, most importantly, a markdown in longer-term prospects for the Chinese economy, where potential growth appears to be decelerating a bit more rapidly than previously estimated.

Moreover, as underscored by the turbulence in global financial markets, the risks to our projection for foreign growth are skewed a little more to the downside. Financial and economic conditions in China could deteriorate much more sharply than we have seen to date, triggering a severe recession in the EMEs and substantial economic spillovers to the global economy. (See the alternative scenarios on China in the Risks and Uncertainty section.) Additionally, a

worsening of financial and economic conditions in EMEs in response to the liftoff in U.S. interest rates remains a significant concern. Although conditions in Greece appear quiescent at the moment, the situation there could deteriorate at any time. Finally, against the background of repeated shortfalls in foreign growth relative to our forecast, it is possible that the trend growth of foreign GDP is weaker than we have assumed.

Inflation rates continue to be quite low in the AFEs, and market-based measures of inflation expectations have recently moved down in the euro area and Japan. The sharp drop in oil prices since the previous Tealbook led us to revise down our projection for headline consumer price inflation by almost ½ percentage point in the second half, to ¾ percentage point. As the effects of lower oil prices wane and economic slack narrows, AFE inflation should move up to around 1¾ percent in 2018. In the EMEs, we estimate that inflation picked up to around 3½ percent in the current quarter, partly because of higher food prices in China and currency depreciation in many EMEs. Inflation should move back down to around 3 percent by next year, as the effects of higher food prices wane.

Along with our weaker forecasts for both economic activity and inflation, we now assume somewhat easier macroeconomic policy. China has already taken steps to ease financial conditions, and several other EMEs have loosened fiscal policy or are expected to do so. We also expect the Bank of Canada (BOC) to wait longer than we had previously assumed to begin raising rates, and we now anticipate that the European Central Bank (ECB) will extend its asset purchase program beyond its earlier-anticipated end date of September 2016.

EMERGING MARKET ECONOMIES

- ***China.*** We expect real GDP growth to edge down from its average pace of 6½ percent in the first half to 6¼ percent in the current quarter. Recent data on industrial production, exports, and PMIs all point to a significant loss of momentum in China's manufacturing sector. The surprise change in China's exchange rate policy on August 11, which resulted in a 3 percent devaluation of the renminbi, should provide only a modest offset. We project that growth should decline further to about 6 percent by 2018, as slower growth in the labor force and rebalancing from manufacturing to services production contribute to a decline in potential growth.

  Compared with the July Tealbook, this forecast is about 1 percentage point lower in the third quarter. Moreover, as described in greater detail in the box "Recent Developments in China and Their Implications for Our Forecast," we have lowered

Chinese growth ½ percentage point over the remainder of the forecast period. The accumulation of weaker data led us to bring down our (admittedly uncertain) estimate of potential growth. In addition, the authorities' clumsy response to the stock market crash and poorly communicated change in exchange rate policy likely hurt confidence and raised questions about the authorities' ability to tackle the considerable economic, financial, and structural vulnerabilities in the Chinese economy. Our sense is that the authorities are willing to tolerate a somewhat faster transition to lower growth than we previously thought rather than undertake stimulative policies that would exacerbate these vulnerabilities.

Inflation picked up in the past few months, largely reflecting a rise in pork prices that is expected to persist for several months. However, inflation should dip again toward the end of the year as the recent decline in oil prices passes through to lower domestic fuel prices. We see inflation settling at 2½ percent by the middle of next year.

- ***Other Emerging Asia.*** Second-quarter real GDP growth fell unexpectedly sharply to 1½ percent from 3½ percent in the first quarter. Weak exports contributed to negative growth surprises in **Singapore** and **Taiwan**, while growth in **Korea** was held down by the effects of the MERS epidemic. We see growth rebounding to 3¼ percent in the second half as the effects of the MERS epidemic abate and exports pick up. Growth is expected to average 4 percent thereafter. Weaker-than-expected economic data, as well as the recent financial market stress, led us to mark down our second-half forecast for the region by a little more than ½ percentage point. Further out, growth is revised down a little from the July Tealbook in response to reductions in the China forecast. We expect inflation to slow to 2 percent in the current quarter from 3 percent last quarter, as a result of lower oil prices as well as a weather-related fall in food prices in **India**. As these effects pass, inflation should move up to 3¼ percent in 2016.

- ***Latin America.*** **Mexican** real GDP growth edged up to a still-subdued 2 percent in the second quarter from 1¾ percent in the first. Exports remained weak, reflecting lackluster U.S. demand and a decline in oil shipments. By contrast, private consumption continued to improve, supported by job creation and credit growth. Moreover, investment in machinery and equipment was robust. We see growth improving, moving up to 2¼ percent in the current quarter and reaching 3 percent by early 2016. This rebound is supported by a pickup in U.S. demand, the 15 percent real depreciation in the peso over the past year (driven in part by lower oil prices),

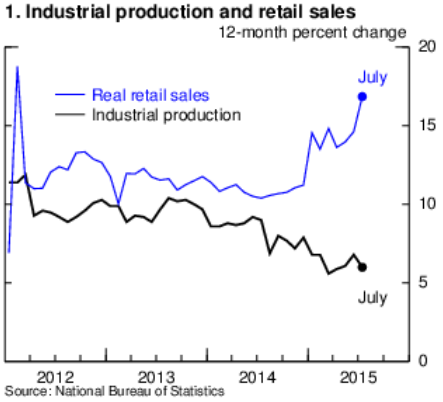
Recent Developments in China and Their Implications for Our Forecast

In China, weak incoming data, an unexpected devaluation of the renminbi, and a further collapse of equity prices led to a pronounced heightening of concerns about the Chinese economy during the intermeeting period, which in turn led to steep downdrafts in global commodity and financial markets. Investors appear focused on the possibility that Chinese economic activity is slumping, that the renminbi may depreciate substantially further, and that these developments could lead to a global economic slowdown. These are indeed downside risks, but they are not the most likely scenario in our view.

Although recent data do suggest a lower growth trajectory in China, we see little evidence that China is in the midst of a financial or economic crisis. The stock market has few linkages to the real economy, because few households own stocks and equity financing accounts for a small share of firms' overall financing. Although industrial production growth (the black line in figure 1) and exports (not shown) both fell in July, the declines were not dramatic. Other indicators offer grounds for optimism. In particular, China's housing market, which has exerted a significant drag on the economy since the middle of last year, appears to have bottomed out, with prices and sales rising. Job growth has also been strong and running well ahead of the authorities' target, as growth in the more labor-intensive service sector has outpaced growth in manufacturing. And retail sales (the blue line in figure 1) have been robust, pointing to solid consumption growth. Taken together, the indicators paint a picture of an economy that is rebalancing, not crashing.

Many market participants believe that China's economy is slowing more sharply than its GDP statistics suggest, but we have found little evidence to support this view. As seen in figure 2, the staff indicator model—which relates Chinese GDP to industrial production, imports, and retail sales—generally tracks the GDP data very well. We have also estimated models using electricity production data and data from other countries' exports to China, neither of which suggests that economic

1. Industrial production and retail sales



Source: National Bureau of Statistics

2. China indicator model

Source: National Bureau of Statistics and staff estimates

activity has been slowing significantly more in recent quarters than is indicated by the GDP data.

Nonetheless, we took some signal from recent developments and marked down our projection for China's growth over the forecast period. In addition to the weaker-than-expected data, the downward revision reflects our view that rising uncertainty about the ability of policymakers to manage an orderly rebalancing, particularly in light of the authorities' ineffective and costly interventions in response to the stock market crash, has likely diminished the confidence of households, firms, and investors. For their part, notwithstanding some recent policy easing, policymakers appear focused on reining in financial vulnerabilities, and this could constrain their willingness to provide significant fiscal or monetary stimulus. We now see growth hovering around 6¼ percent through 2016 and falling gradually to 6 percent by the end of 2018. Even with this downward revision—averaging about ½ percentage point—to our growth outlook, we see risks in China as more tilted to the downside than we did in the previous Tealbook.

We also revised our path for the renminbi. Instead of staying flat against the dollar over the rest of the year, the renminbi is now expected to depreciate a modest 2 percent. The People's Bank of China is currently intervening to support the renminbi, but in the face of heightened capital outflows associated with weaker growth, it will probably allow some further decline in the currency's value, though it would likely act to prevent a sharper and more destabilizing depreciation. Eventually, we expect the renminbi to resume appreciating, given China's higher productivity growth relative to its trading partners and the continued need to rebalance its economy. Nonetheless, the level of the renminbi exchange rate at the end of 2018 is about 6 percent weaker than our July Tealbook path. In light of heightened uncertainties about growth and investor confidence, we see some risk that the currency will be weaker than we are forecasting.

The modest slowing of Chinese growth and limited further depreciation of the renminbi in our baseline forecast are expected to have a relatively small effect on the global economy. We marked down EME growth by ¼ percentage point on average over the forecast period, and we also increased the expected pace of depreciation of emerging Asian currencies relative to the dollar this year, in part to help maintain competitiveness against the renminbi. Given China's relatively small share of U.S. exports (about 7½ percent), the direct effect of slower growth in China on U.S. economic activity in our baseline forecast is small. The main channel of transmission occurs indirectly through lower EME growth and especially a stronger dollar. Indeed, simulations using our SIGMA model suggest that even the downside risk of a severe slump in China would have little effect on U.S. growth in the absence of spillovers to other EMEs. But, as discussed in the Risks and Uncertainty section, we estimate that in scenarios where financial and economic disruptions in China do spill over to other EMEs, the effects on U.S. and global economic growth could be significant.

and a small boost from the country's energy reform. We revised down our estimate for the second half of this year by ½ percentage point given the further decline in the price of oil as well as the downward revision to U.S. manufacturing output.

We penciled in a rise in inflation to 3¼ percent in the current quarter from 2¾ percent in the second, reflecting the waning effect of declines in energy and other administered prices earlier this year. We expect inflation to remain at that rate over the rest of the forecast period. Bank of Mexico (BOM) officials have expressed concern that the peso's depreciation will stoke inflationary pressures, but given the economic slack, we now expect that the BOM will not begin to raise its policy rate until the fourth quarter of this year.

Brazilian real GDP plunged 7¼ percent at an annual rate in the second quarter, 3 percentage points more than we had expected, following a 3 percent decline in the first quarter. Private domestic demand, especially investment, fell sharply in response to very weak consumer and business confidence. With the political situation worsening, commodity prices remaining low, and global growth weaker, we now expect that the recession will be deeper and longer than we did previously. Accordingly, we have the economy contracting 1¾ percent in the second half of this year, 1½ percentage points more than in the July Tealbook. Growth should turn positive next year and pick up further to a still-sluggish 2 percent in 2017, as monetary policy begins to ease by mid-2016 and business confidence improves.

Despite the weak economy, the substantial depreciation of the *real* and increases in administered prices have kept inflation stubbornly high, at an estimated 10 percent annual rate in the current quarter. To restrain inflation, the central bank has raised its policy rate 325 basis points since October 2014. We expect past policy tightening, lower pressure from administered prices, and economic slack to bring inflation down to 5½ percent by 2017.

The fall in commodity prices is also restraining economic activity in other Latin American countries. In **Chile,** real GDP remained about flat in the second quarter, down from 4½ percent growth in the first quarter. The downturn was broad based and led by weak domestic demand, particularly investment.

ADVANCED FOREIGN ECONOMIES

- ***Euro Area.*** Real GDP grew 1.4 percent in the second quarter, slightly below our July Tealbook estimate. More recent indicators, such as the composite purchasing managers index (PMI), suggest that output is expanding a touch faster in the current quarter. We expect GDP growth to rise to 2 percent next year and remain at that pace over the rest of the forecast period, supported by ongoing monetary stimulus, lower oil prices, and easing credit conditions. Compared with the July Tealbook, this forecast is slightly weaker throughout the projection period, as the drag from a stronger euro, a weaker global outlook, and lower stock prices is only partly offset by a boost from lower oil prices and expected additional monetary policy accommodation.

  Headline inflation is on track to fall to ¼ percent in the third quarter (from 2.3 percent in the second quarter), reflecting a sharp decline in energy prices; however, core inflation appears to be holding steady at around 1¼ percent. We expect inflation to step up to 1¾ percent by the end of 2018 as the effect of lower energy prices wanes and the output gap narrows. This projection is a bit weaker than in the July Tealbook, largely due to lower energy prices and a stronger euro. Given the weaker outlook for growth and inflation, we now expect the ECB to continue its asset purchases beyond September 2016, and we revised our forecast of total purchases up by €100 billion to about €1.2 trillion. We expect the ECB to leave its main policy rate unchanged until the second half of 2018.

  Although financial stresses emanating from Greece moderated since the previous Tealbook, the Greek government stepped down, and Greek authorities scheduled another national parliamentary election for September 20. Political instability and domestic opposition to austerity will likely continue to fuel financial tensions in Greece, but we still expect that spillovers to other European countries will remain limited.

- ***Japan.*** Following a strong expansion in the first quarter, real GDP unexpectedly contracted at a 1.2 percent pace in the second quarter, as exports and private consumption declined. However, data on exports and household spending for July and PMI data through August suggest that economic activity is rebounding in the current quarter, with GDP estimated to rise 1 percent. We see growth remaining near

that pace through 2016 before a hike in the consumption tax stalls the expansion in 2017. Given the markdown to global growth and a substantial appreciation of the yen, we lowered our Japanese growth forecast by ½ percentage point in the second half of 2015 and by a small amount in 2016 and 2017.

Inflation rose to 1.7 percent in the second quarter, led by a rapid increase in food prices. However, with the stronger yen and lower oil prices, consumer prices should decline a bit in the second half of the year. Thereafter, as energy prices begin to rise and the output gap narrows, we project that inflation (excluding the direct effect of the consumption tax hike) will recover to 1¼ percent in 2017.

- ***Canada.*** Real GDP fell 0.5 percent in the second quarter, a bit more than we estimated in the previous Tealbook, but a rebound in monthly GDP in June and strong export growth in June and July point to recovery. We now expect growth of nearly 2 percent in the second half of this year, as the temporary factors that had been holding back growth, including wildfires that disrupted energy production, come off. Growth should average around that rate over the rest of the forecast, supported by accommodative monetary policy and rising oil prices. This forecast is a little lower than in the July Tealbook, as recent declines in commodity prices and the weaker outlook for U.S. growth are expected to weigh on Canadian growth, more than offsetting the boost from recent currency depreciation.

  Lower energy prices should cause inflation to slow to 1½ percent in the second half of this year. By 2017, we see inflation edging up to the BOC's 2 percent target as the output gap closes. We expect weaker growth prospects and contained inflation pressures to lead the BOC to postpone its first rate hike until the first quarter of 2017, two quarters later than previously assumed.

- ***United Kingdom.*** Real GDP expanded 2.7 percent in the second quarter, up from 1.5 percent in the first quarter. Recent indicators, including PMIs, consumer confidence, and retail sales, have been strong, but the weaker global outlook and somewhat tighter financial conditions are expected to offset this added momentum. Thus, we continue to project growth at close to 2½ percent in the second half of the year and throughout the projection period.

  Inflation in the third quarter is projected to increase to 1¾ percent, despite the fall in energy prices, as a sharp rise in core prices in July suggested a reversal of their

disinflationary trend over the past year. After edging down in the fourth quarter, inflation is expected to increase in 2016 toward the 2 percent target of the Bank of England (BOE), as the effect of energy price declines dissipates and slack in the economy is eliminated. This forecast is slightly weaker in the near term on account of the recent decline in energy prices. In line with the rise in inflation and the tightening labor market, we continue to expect the BOE to begin raising its policy rate in the first quarter of 2016.

The Foreign GDP Outlook

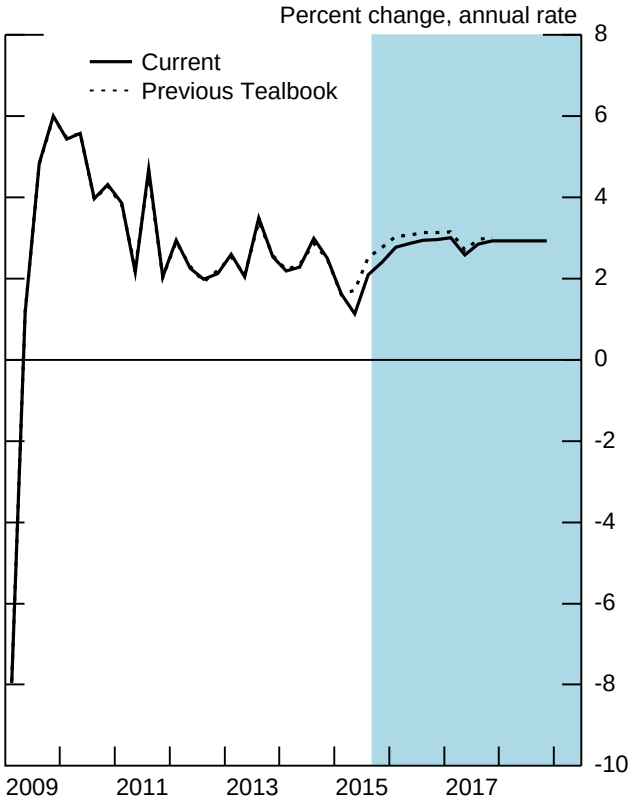
Real GDP*

Percent change, annual rate

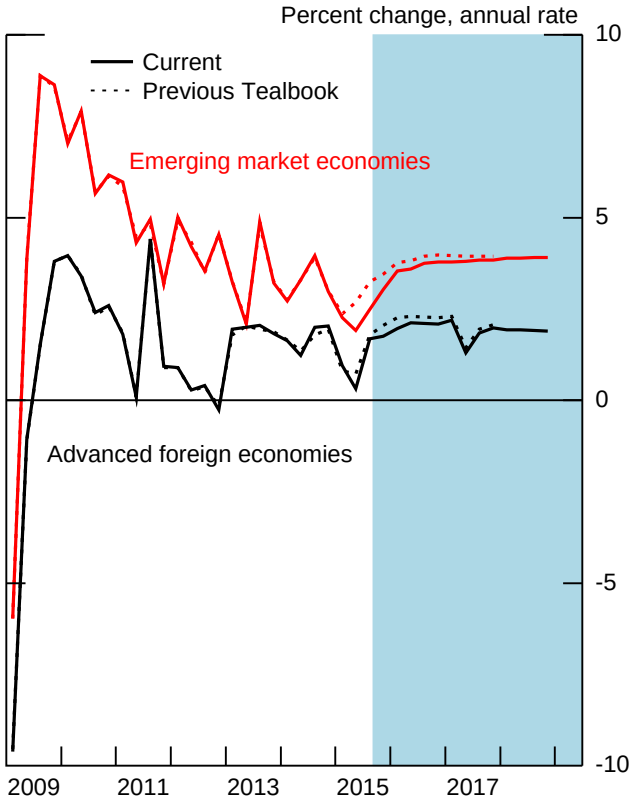
	2014	2015			2016		2017	2018
		H1	Q3	Q4	H1	H2		
1. Total Foreign	**2.5**	**1.4**	**2.1**	**2.4**	**2.8**	**3.0**	**2.8**	**2.9**
Previous Tealbook	*2.5*	*1.7*	*2.5*	*2.8*	*3.1*	*3.1*	*3.0*	*...*
2. Advanced Foreign Economies	**1.7**	**0.6**	**1.7**	**1.8**	**2.0**	**2.1**	**1.8**	**1.9**
Previous Tealbook	*1.7*	*0.8*	*1.8*	*2.1*	*2.3*	*2.3*	*1.9*	*...*
3. Canada	2.5	-0.7	1.8	2.0	2.3	2.3	2.0	1.9
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	1.1	0.7	1.0	1.2	-0.4	1.1
6. United Kingdom	3.4	2.1	2.6	2.5	2.7	2.7	2.4	2.4
7. Emerging Market Economies	**3.2**	**2.1**	**2.5**	**3.0**	**3.6**	**3.8**	**3.8**	**3.9**
Previous Tealbook	*3.2*	*2.5*	*3.2*	*3.5*	*3.8*	*4.0*	*3.9*	*...*
8. China	7.3	6.5	6.3	6.3	6.2	6.2	6.1	6.0
9. Emerging Asia ex. China	3.4	2.5	2.9	3.7	4.1	4.2	4.0	4.0
10. Mexico	2.6	1.9	2.3	2.6	3.0	3.1	3.1	3.3
11. Brazil	-0.3	-5.1	-3.0	-0.5	0.9	1.3	2.0	2.1

* GDP aggregates weighted by shares of U.S. merchandise exports.
... Not applicable.

Total Foreign GDP



Foreign GDP



The Foreign Inflation Outlook

Consumer Prices*

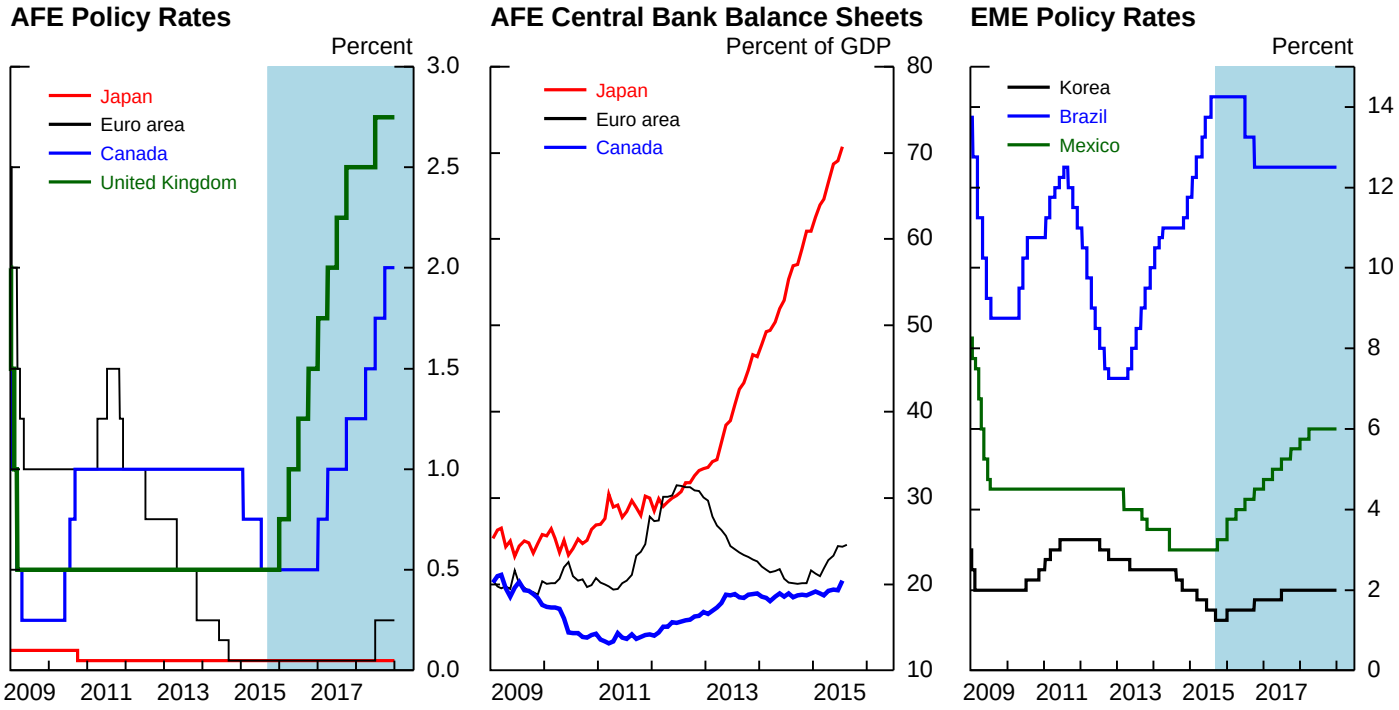
Percent change, annual rate

	2014	2015			2016		2017	2018
		H1	Q3	Q4	H1	H2		
1. Total Foreign	**2.0**	**1.2**	**2.3**	**2.0**	**2.3**	**2.4**	**2.6**	**2.5**
Previous Tealbook	*2.0*	*1.2*	*2.2*	*2.2*	*2.4*	*2.4*	*2.6*	*...*
2. Advanced Foreign Economies	**1.2**	**0.6**	**0.6**	**0.9**	**1.3**	**1.5**	**1.9**	**1.7**
Previous Tealbook	*1.2*	*0.5*	*1.0*	*1.3*	*1.4*	*1.6*	*2.0*	*...*
3. Canada	1.9	1.1	1.2	1.7	1.7	1.8	2.0	2.0
4. Euro Area	0.2	0.4	0.3	0.9	1.3	1.5	1.5	1.6
5. Japan	2.5	0.7	0.0	-0.4	0.7	1.0	2.5	1.3
6. United Kingdom	0.9	-0.3	1.7	1.5	1.7	1.8	2.0	2.0
7. Emerging Market Economies	**2.6**	**1.7**	**3.6**	**2.9**	**3.0**	**3.1**	**3.1**	**3.1**
Previous Tealbook	*2.6*	*1.8*	*3.1*	*2.9*	*3.1*	*3.1*	*3.1*	*...*
8. China	1.5	1.1	4.1	2.2	2.5	2.5	2.5	2.5
9. Emerging Asia ex. China	2.2	1.4	2.1	3.0	3.1	3.2	3.3	3.3
10. Mexico	4.2	1.5	3.3	3.3	3.3	3.3	3.3	3.3
11. Brazil	6.5	11.0	10.0	6.6	5.9	5.6	5.4	5.4

* CPI aggregates weighted by shares of U.S. non-oil imports.
... Not applicable.

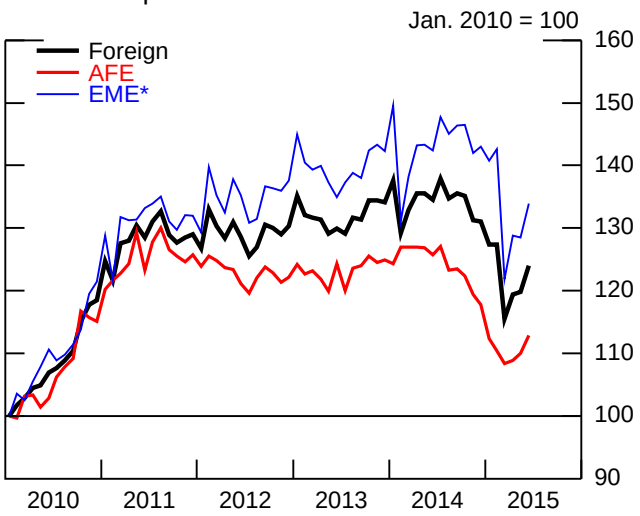
Int'l Econ Devel & Outlook

Foreign Monetary Policy



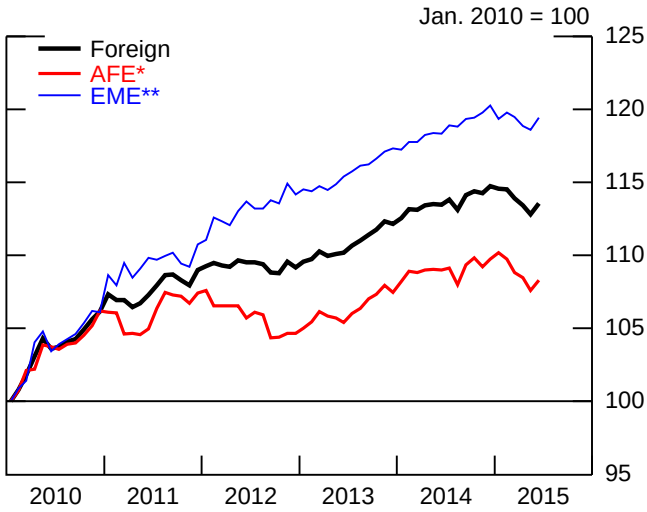
Recent Foreign Indicators

Nominal Exports



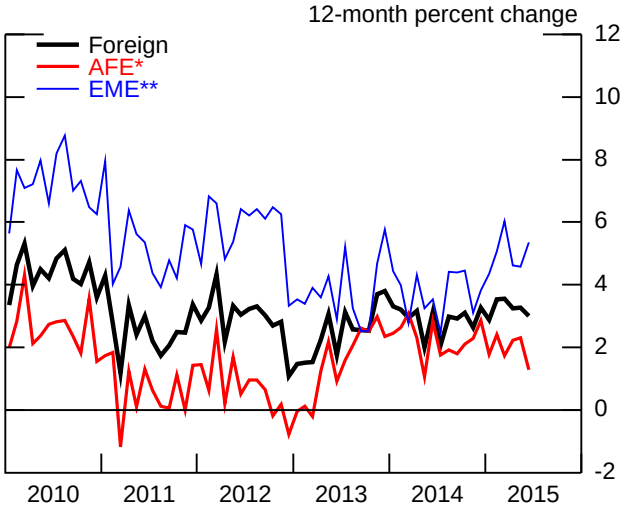
* Excludes Venezuela.

Industrial Production



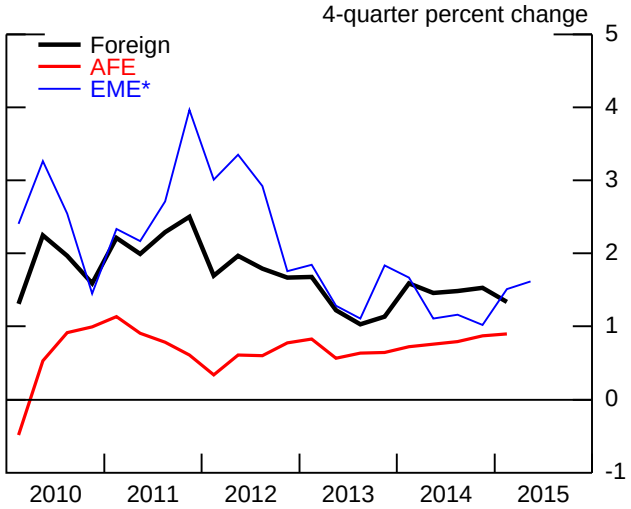
* Excludes Australia and Switzerland.
** Excludes Venezuela, Hong Kong, and Colombia.

Retail Sales



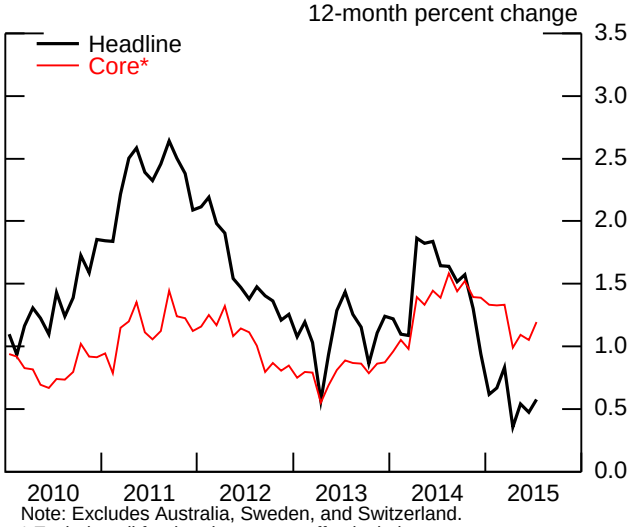
* Excludes Australia.
** Includes Brazil, Chile, China, Indonesia, Korea, Mexico, and Taiwan.

Employment



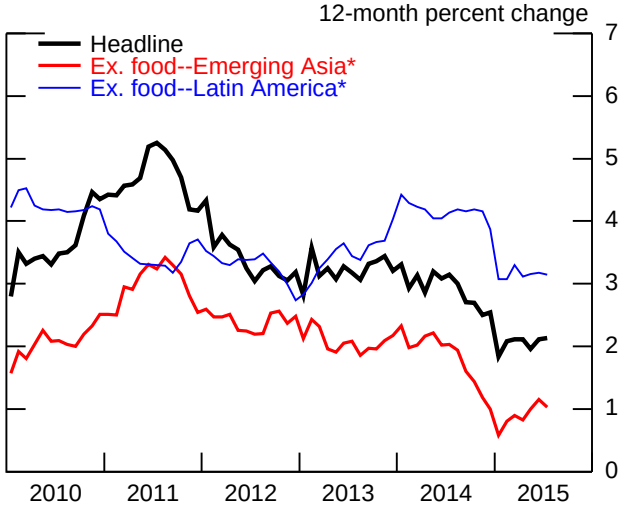
* Excludes Argentina and China.

Consumer Prices: Advanced Foreign Economies



Note: Excludes Australia, Sweden, and Switzerland.
* Excludes all food and energy; staff calculation.
Source: Haver Analytics and CEIC.

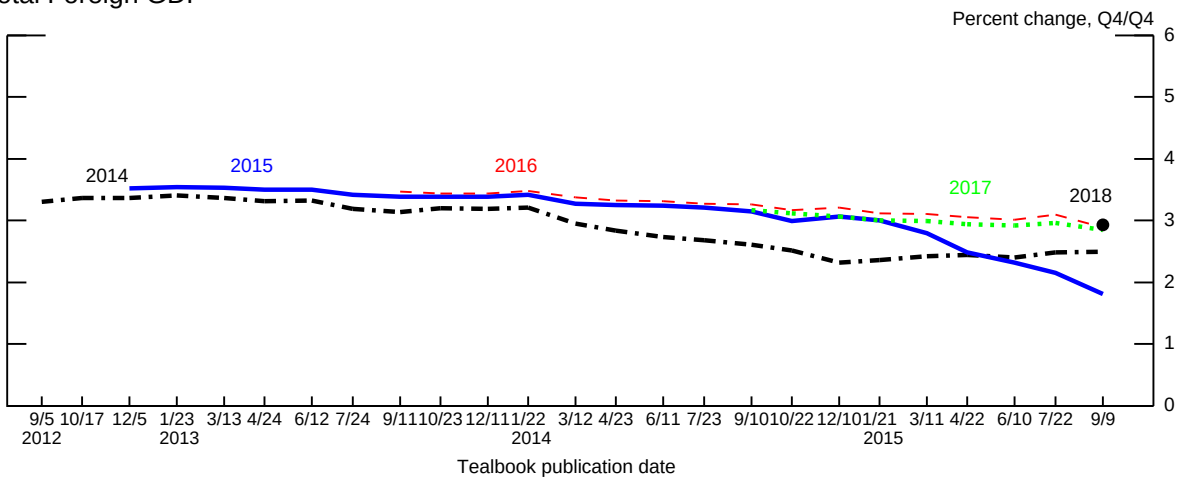
Consumer Prices: Emerging Market Economies



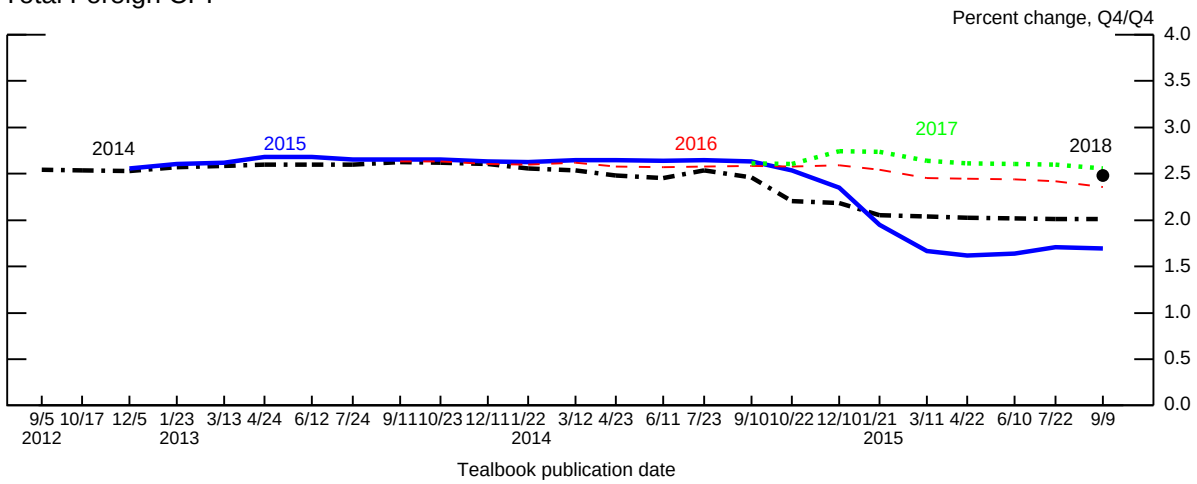
* Excludes all food; staff calculation.

Evolution of Staff's International Forecast

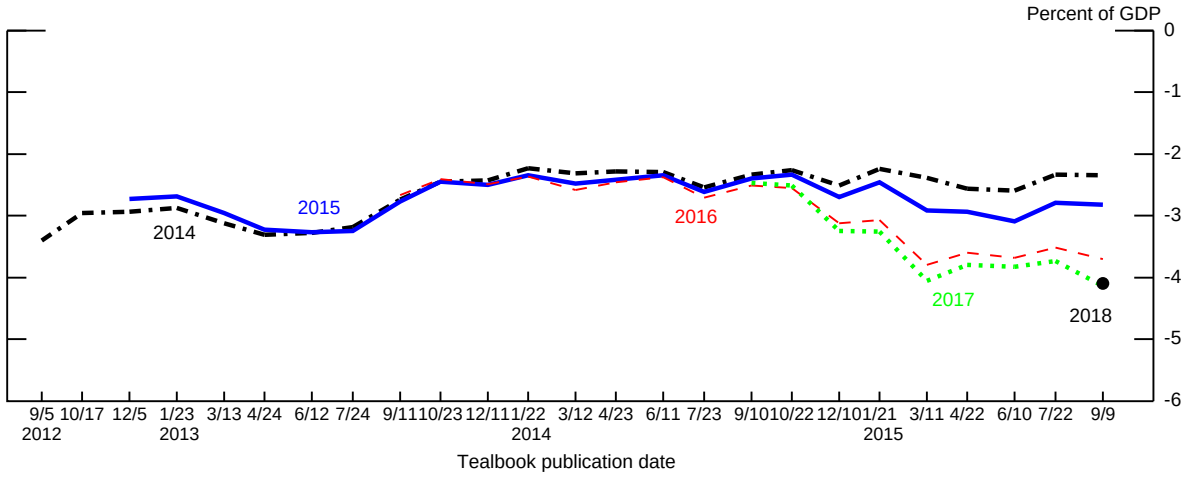
Total Foreign GDP



Total Foreign CPI



U.S. Current Account Balance



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Financial Developments

Concerns about global growth prospects, centered on China, contributed to an increase in financial market volatility and a deterioration in risk sentiment in the United States and abroad during the intermeeting period. Although incoming news on domestic economic activity generally met market expectations, the volatility in financial markets boosted uncertainty about the timing of liftoff. That said, short- and long-term nominal Treasury yields were little changed on net.

- Market- and survey-based probabilities for an initial increase in the federal funds rate in September moved down, on balance, while the probability of liftoff in 2016 increased. The probabilities of liftoff occurring at the September or December meeting are on the order of 20 to 30 percent.

- The expected path of the federal funds rate implied by OIS quotes flattened over the intermeeting period. The implied federal funds rate is about 0.3 percent at the end of 2015 and 0.8 percent at the end of 2016.

- The U.S. dollar appreciated about 2 percent, rising against most emerging market currencies but declining against the euro and the yen.

- TIPS-based measures of inflation compensation moved lower, on balance, amid a decline in oil prices, a strengthening of the dollar, and slightly weaker-than-expected readings on realized inflation.

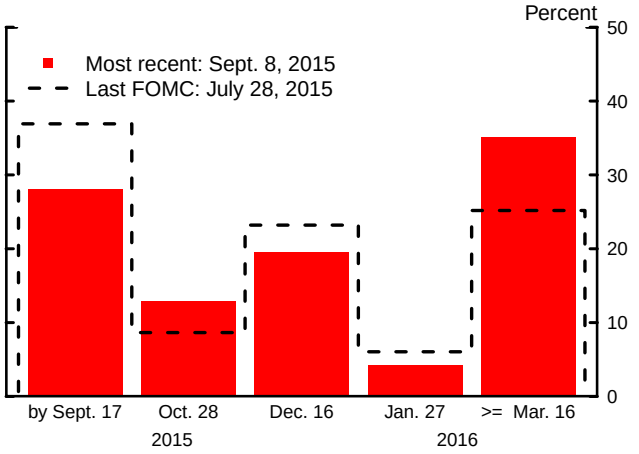
- The S&P 500 index fell about 6 percent, on net, corporate bond spreads increased modestly, and the VIX—which shot up dramatically in the middle of the intermeeting period—ended the period above its historical median level.

- Liquidity in foreign exchange, Treasury, equity, and corporate bond markets deteriorated at times during the period, but effects on market functioning and pricing appear to have been limited and short lived.

- Financing conditions remained generally accommodative, but the increase in financial market volatility resulted in a modest tightening of conditions for businesses.

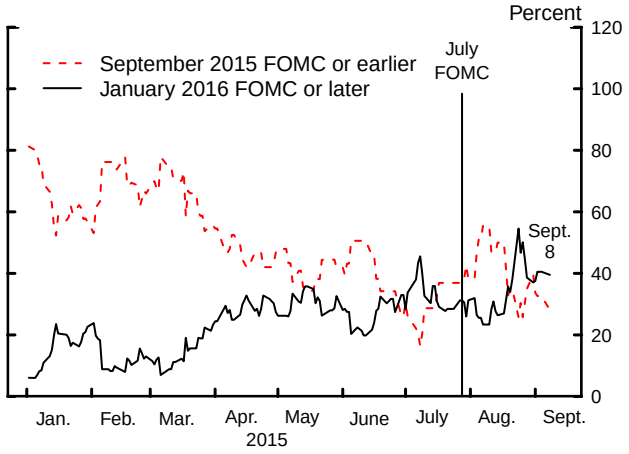
Policy Expectations

Implied Probability Distribution of Liftoff



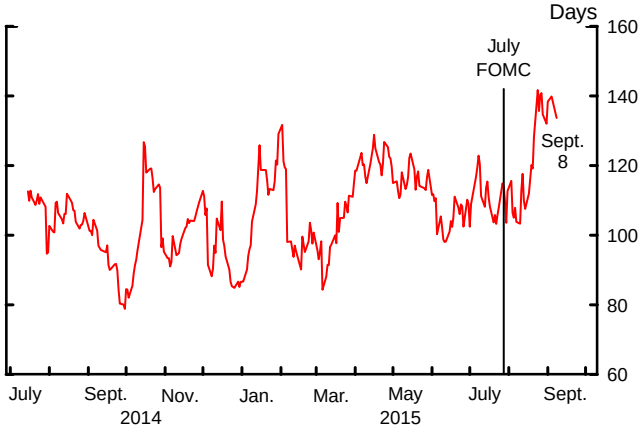
Note: Implied by federal funds futures. Assumes that investors expect the federal funds rate to trade around 37.5 basis points after liftoff.
Source: CME Group.

Implied Probability of Liftoff



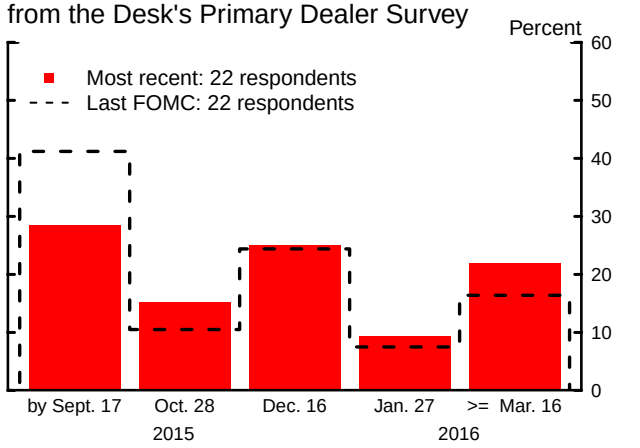
Note: Implied by federal funds futures. Assumes that investors expect the federal funds rate to trade around 37.5 basis points after liftoff.
Source: CME Group.

Uncertainty of Liftoff Timing



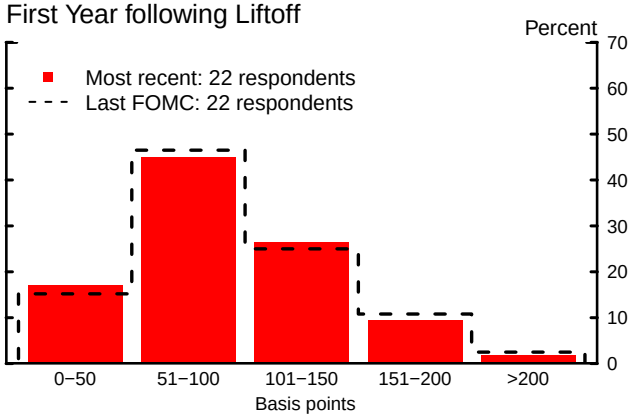
Note: Implied by federal funds futures. Standard deviation (in days) of the date of liftoff as implied by rates on federal funds futures contracts.
Source: CME Group.

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



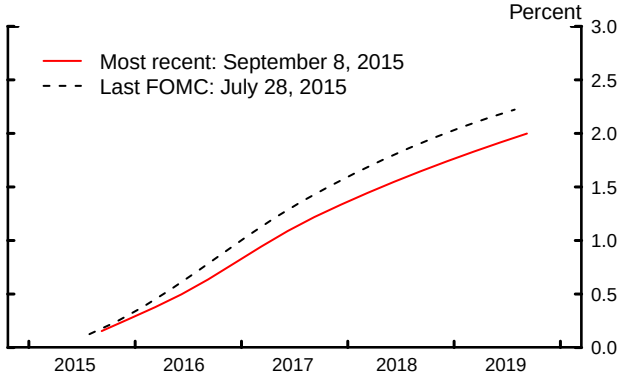
Note: Average across dealers of their individual probabilities attached to the first tightening occuring at a particular meeting. For March 2016, expected timing is during or after that meeting.
Source: Desk's primary dealer survey from September 8, 2015.

Conditional Pace of Tightening, First Year following Liftoff



Note: Distribution conditional on the federal funds rate not returning to its zero lower bound.
Source: Desk's primary dealer survey from September 8, 2015.

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.

POLICY EXPECTATIONS

On net, the probability for a September liftoff implied by federal funds futures moved down over the intermeeting period.[1] Early in the period, the market-based probability for a September liftoff firmed as incoming data showed some further improvement in the labor market and as some policymakers' comments appeared to be supportive of an imminent liftoff. Subsequently, market participants revised down significantly the odds they placed on a September tightening amid turbulence in global equity and foreign exchange markets, perhaps in part because the minutes pointed to financial and international developments as factors in the FOMC's evaluation of progress toward their objectives. Comments from some FOMC members were seen as supporting this view. The odds of a September liftoff rebounded slightly, on net, late in the period as domestic equity markets calmed, incoming data on economic activity generally met market expectations, and statements by policymakers suggested that a September liftoff was still on the table.

The uncertainty around the date of liftoff derived from federal funds futures rose notably as the probabilities of liftoff at the September and December meetings fell and the probability of liftoff in October and 2016 rose.[2] Moreover, the expected path of the federal funds rate implied by OIS quotes flattened, on balance, over the intermeeting period: The implied federal funds rate at the end of 2015 was down about 5 basis points to 0.3 percent, and the rate implied at the end of 2016 declined about 17 basis points to 0.8 percent.

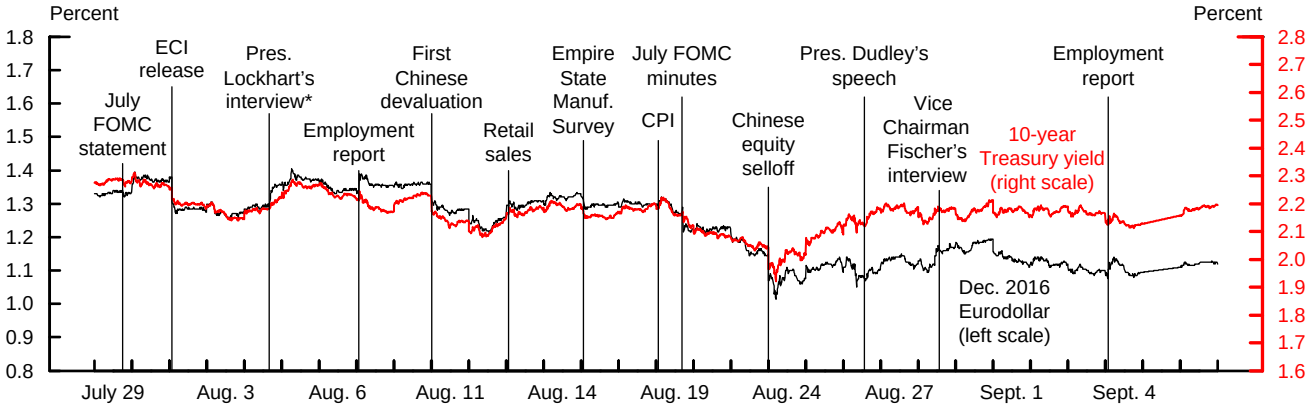
According to the Desk's surveys of dealers and market participants, the average of respondents' probability distributions shifted toward later liftoff dates relative to the July surveys. Respondents are now about evenly split between those viewing September and December as the most likely date of liftoff. The expected pace of tightening

[1] The Board's staff used the following assumptions to compute liftoff probabilities from quotes on the federal funds futures contract expiring at the end of September 2015: The average federal funds rate between September 1 and September 17 equals its 30-day average; the federal funds rate after September 17 equals 12.5 basis points if there is no liftoff or 37.5 basis points if there is liftoff. Popular alternative assumptions generate implied probabilities for a September liftoff that range from 20 percent to 35 percent.

[2] Positions held by unhedged investors in federal funds and 90-day Eurodollar futures—which are thought to reflect speculative investors' expectations of future interest rate developments—are currently near neutral, suggesting that these investors' policy expectations are roughly in line with those implied by the market-based measures.

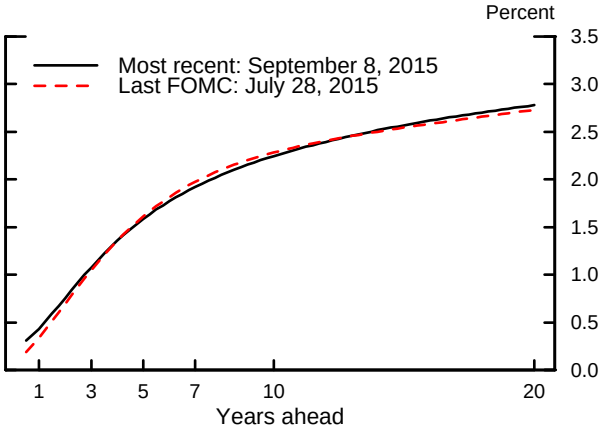
Treasury Yields

Selected Interest Rates



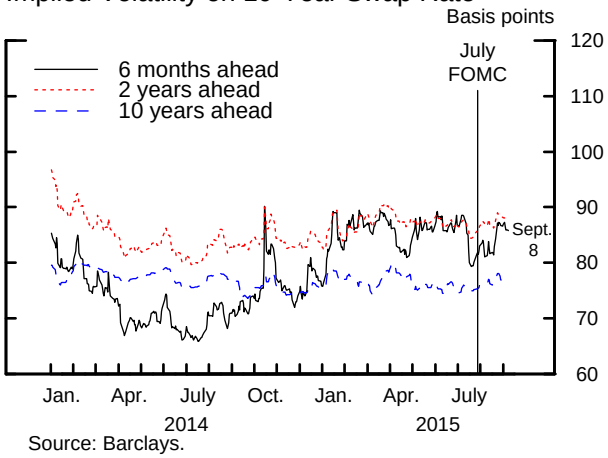
Note: 5-minute intervals. 8:00 a.m. to 4:00 p.m.
* *Wall Street Journal* interview time was around 1:20 p.m.
Source: Bloomberg.

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.

Implied Volatility on 10-Year Swap Rate

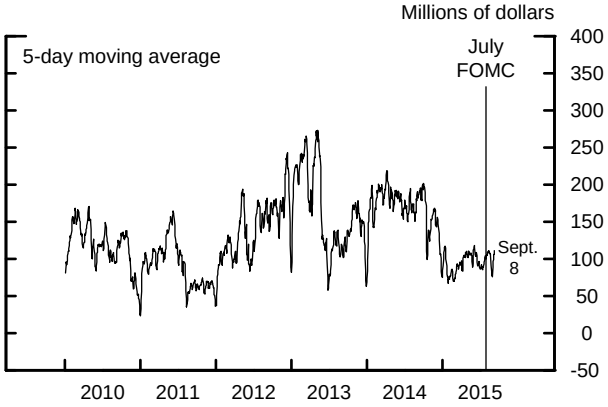


Source: Barclays.

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: Federal Reserve Bank of New York; staff estimates.

Market Depth in 10-Year Treasury



Note: Market depth is defined as the average top 3 bid and asked quote sizes.
Source: BrokerTec.

Financial Developments

following liftoff is little changed, but the median estimate of the federal funds rate at the end of 2016 is down 25 basis points. Dealers and market participants pushed out slightly the expected timing of the end of the FOMC's reinvestments.

TREASURY YIELDS AND TREASURY FINANCE

Despite the decline in global equity markets and the downshift in the expected path of the federal funds rate, yields on nominal Treasury securities were up a bit at short horizons and down a touch at the 5- and 10-year horizons. Swap rates and some other benchmark yields declined noticeably across the maturity structure. Some market participants cited the selling of Treasury securities by foreign central banks as a possible factor putting upward pressure on Treasury yields.

The 5- and 5-to-10-year measures of inflation compensation based on TIPS declined 14 basis points and 27 basis points, respectively, and are now back near their historical lows. The decreases were reportedly driven in part by declines in oil prices, the strengthening of the dollar, and slightly weaker-than-expected readings on realized inflation. The 5-to-10-year measure of inflation compensation derived from inflation swaps—which is typically not affected by technical factors in Treasury markets—declined a little less over the period but also fell to near its historical lows.

Liquidity conditions in the Treasury market remained largely stable over most of the intermeeting period.[3] Treasury markets saw high trading volumes and somewhat reduced market depth in late August amid turbulence in global financial markets, but normalized quickly.

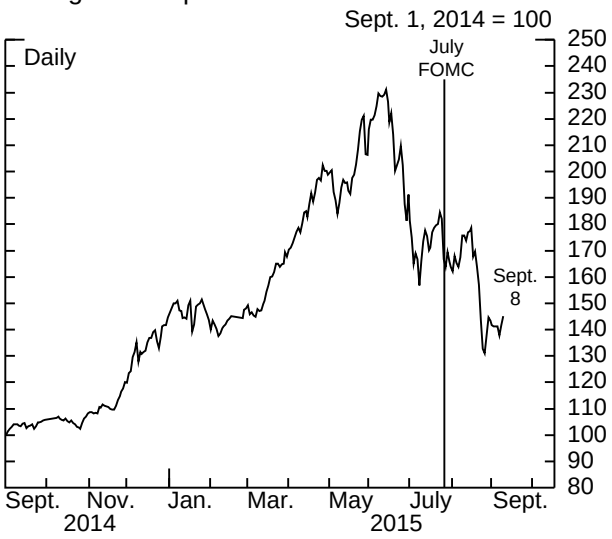
On July 30, Treasury Secretary Lew extended the "debt issuance suspension period" through October 30, which allows the Treasury Department to use extraordinary measures to remain under the debt limit while issuing new securities.[4] Staff and private-sector projections suggest that these measures should allow federal debt to stay below its statutory ceiling at least into November.

[3] Since the July FOMC meeting, the Treasury Department has auctioned $243 billion of Treasury nominal fixed-coupon securities, $16 billion of TIPS, and $28 billion of two-year FRNs.

[4] The accounting measures available to the Treasury include suspending daily reinvestment of the Treasury securities held by the Government Securities Investment Fund, redeeming existing investments and suspending new investment in the Civil Service Retirement and Disability Fund, and suspending the daily reinvestment of dollar balances held by the Exchange Stabilization Fund into Treasury securities.

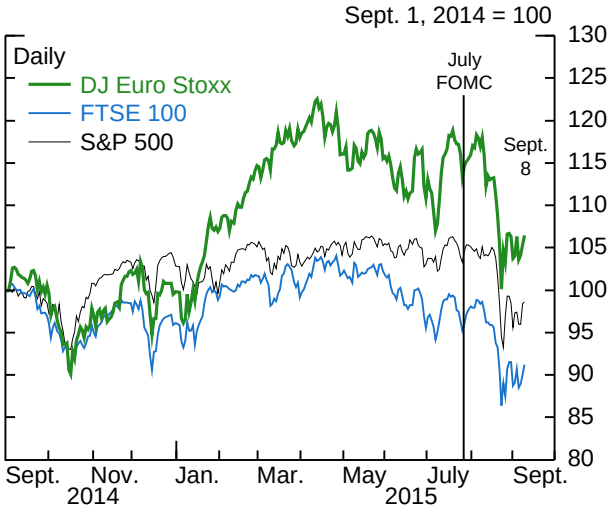
Foreign Developments

Shanghai Composite Index



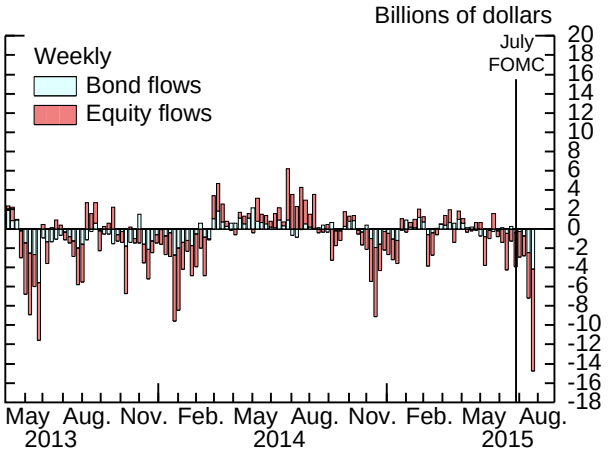
Source: Bloomberg.

Stock Price Indexes



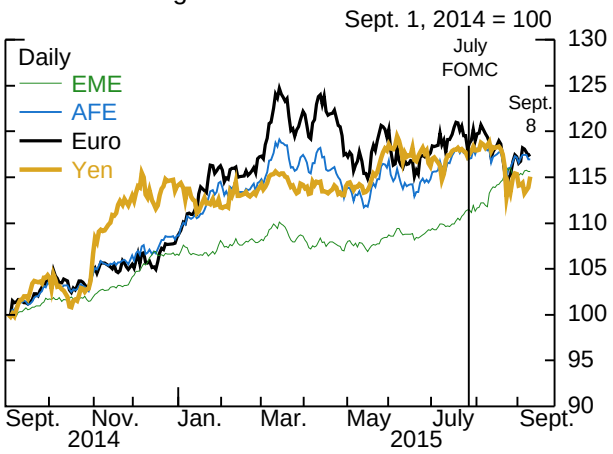
Source: Bloomberg.

Flows to EME-Dedicated Funds



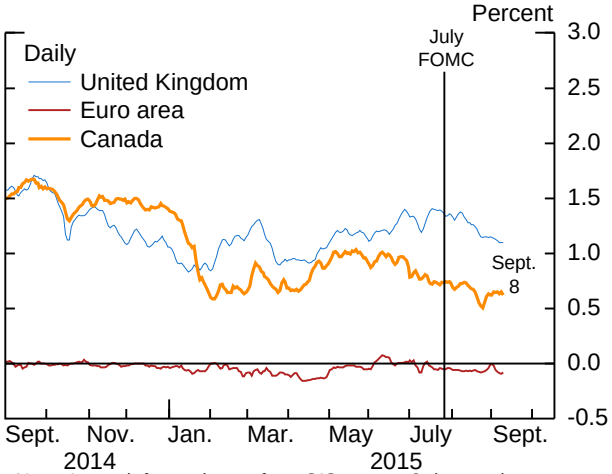
Note: Excludes intra-China flows.
Source: Emerging Portfolio Fund Research.

Dollar Exchange Rate Indexes



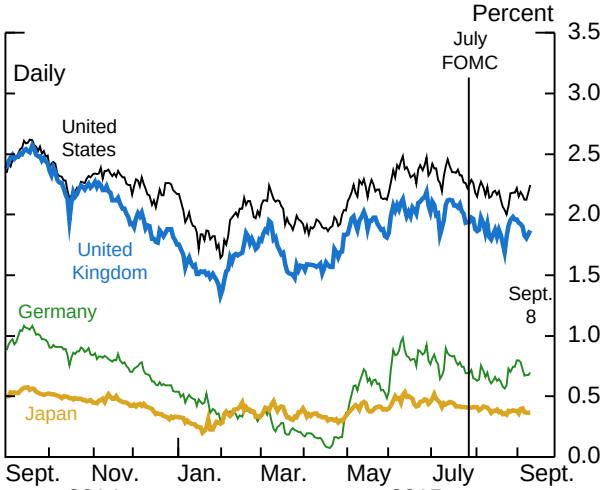
Source: Federal Reserve Board; Bloomberg.

24-Month-Ahead Policy Expectations



Note: 1-month forward rates from OIS quotes, 3-day moving average.
Source: Bloomberg.

AFE and U.S. 10-Year Nominal Benchmark Yields



Source: Bloomberg.

FOREIGN DEVELOPMENTS

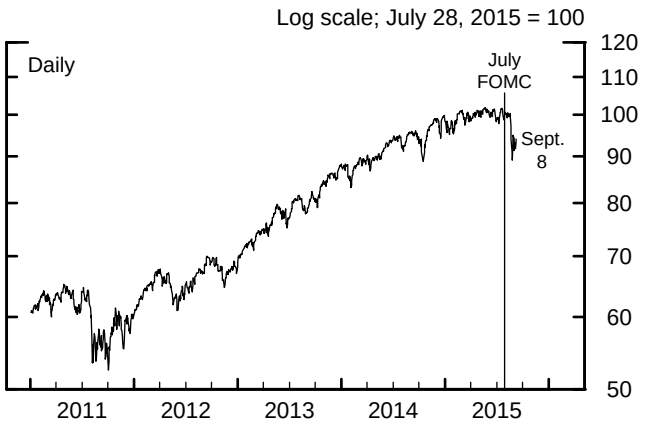
Global financial markets have been volatile since the July FOMC meeting, as investor concerns about a slowdown in global growth were amplified by thin summer trading and skittishness as U.S. liftoff approaches. Much of this volatility emanated from China, where weak manufacturing and export data exacerbated worries about slowing growth. (See the box "Recent Developments in China and Their Implications for Our Forecast" in the International Economic Developments and Outlook section.) These worries were intensified when the People's Bank of China (PBOC) unexpectedly changed its exchange rate policy, resulting in a 3 percent devaluation of the renminbi over the next week. Subsequently, the PBOC undertook other actions to reduce further depreciation pressure on the renminbi, reportedly selling reserve assets and increasing the specific reserve requirements for Chinese banks selling the U.S. dollar in the forward market. Later in the period, a sharp decline in Chinese stock prices, which occurred a few days after reports that policymakers would withdraw credit support for equity purchases, rattled global markets and appeared to threaten confidence in China's ability to manage its economy. In part to support the stock market, Chinese authorities cut benchmark interest rates by 25 basis points and the reserve requirement ratio by 50 basis points. Along with an apparent reversal on credit support for equity purchases, these actions seemed to calm equity markets, which ended the period down by about 13 percent.

Concerns about potential spillovers from a slowdown in China to the global economy, along with an impending policy liftoff in the United States, contributed to a sharp decline in the prices of global risk assets. Foreign stock indexes were down up to 15 percent over the intermeeting period, and emerging markets equity and bond funds recorded unusually large outflows.

The U.S. dollar appreciated against most currencies during the heightened market volatility, and the broad index of the dollar ended the intermeeting period 2¼ percent higher. Asian EME currencies moved in sympathy with the renminbi and are down 3 to 6 percent against the dollar. Mexico's and Brazil's currencies fell 3½ percent and 14 percent, respectively, because of commodity exposures and, in Brazil, deteriorating economic and political conditions. Mexico and Brazil increased their foreign exchange interventions to support their respective currencies, and the Brazilian central bank raised its benchmark policy rate 50 basis points.

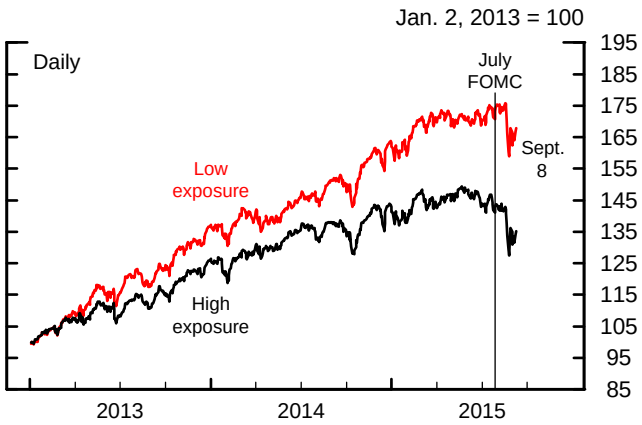
Corporate Asset Prices and Earnings

S&P 500 Stock Price Index



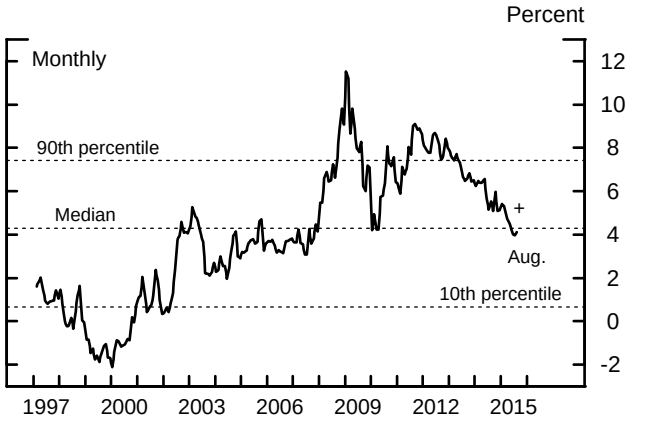
Source: Bloomberg.

Equity Performance, by International Sales Exposure



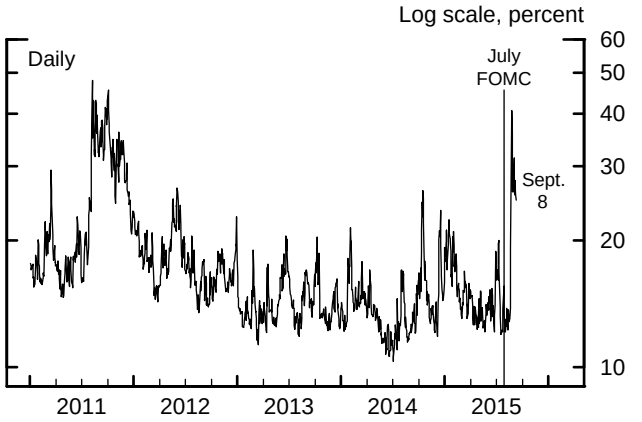
Note: High and low international sales exposure groups include all Compustat firms except those in the energy, financial, and utility industries. International sales exposure is defined as the ratio of foreign sales to total sales, with high (low) exposure defined as being above (below) the 67th (33rd) percentile.
Source: Compustat; Yahoo Finance.

Equity Risk Premium



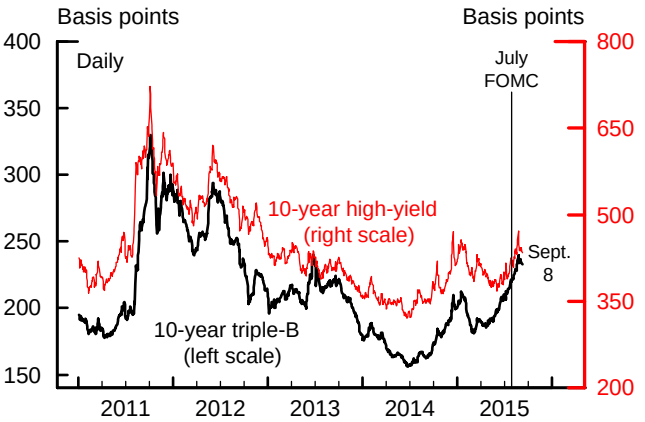
Note: The dashed lines show the respective percentiles of the historical distribution of the equity risk premium from January 1985 to August 2015.
+ Denotes the latest daily observation using daily interest rates and stock prices.
Source: Staff projection.

Implied Volatility on S&P 500 (VIX)



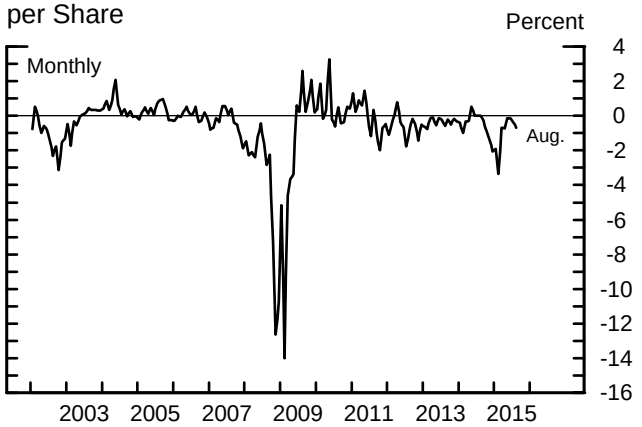
Source: Chicago Board Options Exchange.

Corporate Bond Spreads



Note: Spreads over 10-year Treasury yield.
Source: Staff estimates of smoothed corporate yield curves based on Merrill Lynch data and smoothed Treasury yield curve.

Revisions to S&P 500 Year-Ahead Earnings per Share



Note: Weighted average of the percent change in the consensus forecasts of current-year and following-year earnings per share.
Source: Thomson Reuters Financial.

Financial Developments

Movements in the dollar were mixed against the currencies of the advanced foreign economies (AFEs). The British pound is down about 1½ percent against the dollar, with most of the change occurring following the August policy meeting of the Bank of England, at which there were fewer votes in favor of raising rates than had been expected. The Canadian dollar depreciated 2¼ percent against the dollar, reflecting the effect of declining oil prices on prospects for the Canadian economy. In contrast, the Japanese yen appreciated 3 percent against the dollar on flight-to-safety flows and the unwinding of carry trades funded in yen. The euro appreciated in August, consistent with lower market expectations for U.S. policy rates and an unwinding of euro-funded carry trade positions. The euro partially retraced this increase following the release of a weaker-than-expected ECB staff economic outlook and communication by ECB President Draghi that signaled the ECB's willingness to expand its quantitative easing program in the future.

AFE sovereign yields ended the period somewhat lower, in part because of a markdown in expectations for future policy rates. The decline was most pronounced in the United Kingdom, where the 10-year yield is down about 10 basis points on net. Greek sovereign spreads narrowed by about 320 basis points over the period, as Greece and the euro area finalized Greece's third bailout package. In contrast, concerns about the global slowdown and falling commodity prices widened spreads on EME dollar-denominated debt by about 20 to 30 basis points.

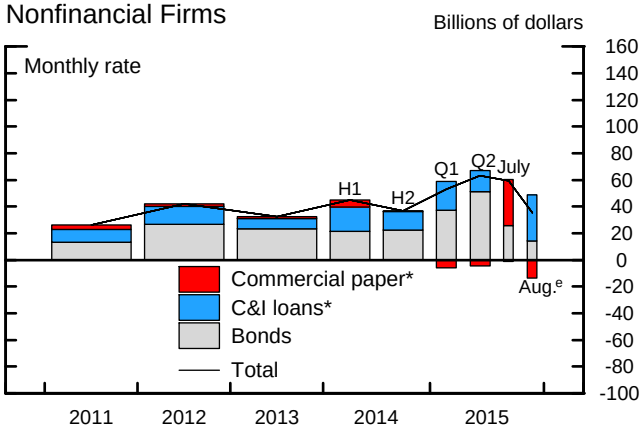
CORPORATE ASSET PRICES AND EARNINGS

Broad U.S. equity price indexes were highly correlated with foreign equity price indexes over the intermeeting period and posted net declines of about 6 percent. While concerns about global growth likely played a role, stock prices of firms with relatively high exposures to foreign markets decreased only slightly more than those with low foreign exposures. Another factor depressing domestic stock prices was reportedly a reassessment of equity market risk and appropriate valuations. Indeed, the decline in stock prices was broad based, and the market was very volatile over the period, especially in late August and early September, when the one-month-ahead option-implied volatility on the S&P 500 index—the VIX—reached levels last seen in 2011.

Bid-asked spreads in equity markets temporarily increased during the days of the sharpest stock price declines, and trading halts were triggered for certain stocks. Some ETFs experienced pricing troubles that were resolved within a few days.

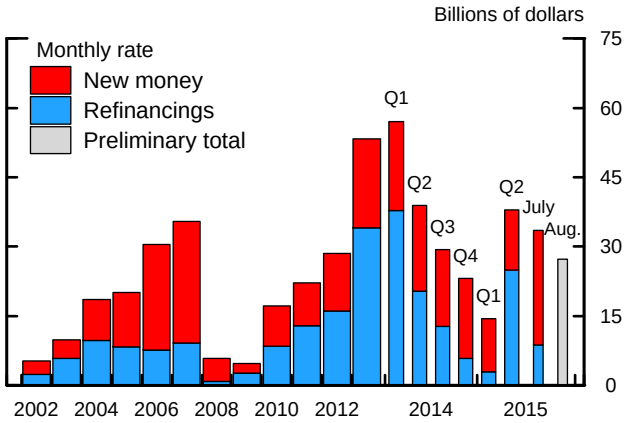
Business and Municipal Finance

Selected Components of Net Debt Financing, Nonfinancial Firms



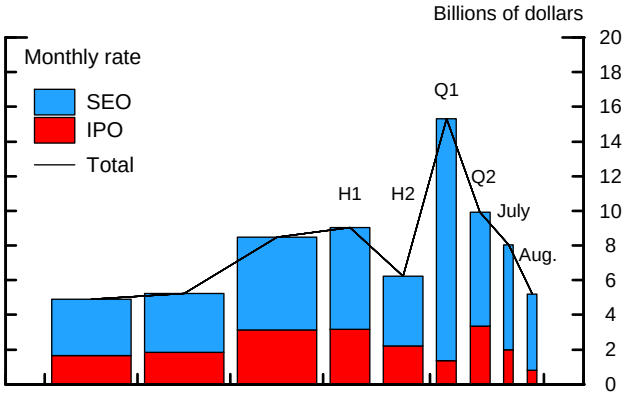
e Estimate for change in commercial and industrial (C&I) loans.
* Period-end basis, seasonally adjusted.
Source: Depository Trust & Clearing Corporation; Mergent Fixed Investment Securities Database; Federal Reserve Board.

Institutional Leveraged Loan Issuance, by Purpose



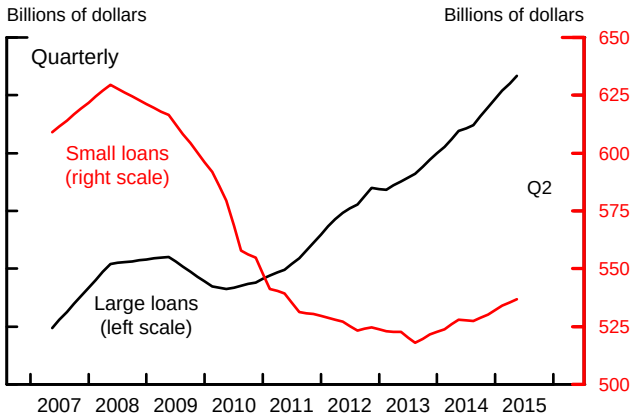
Note: Preliminary data as of August 15, 2015.
Source: Thomson Reuters LPC LoanConnector.

Nonfinancial Equity Issuance: IPO and SEO



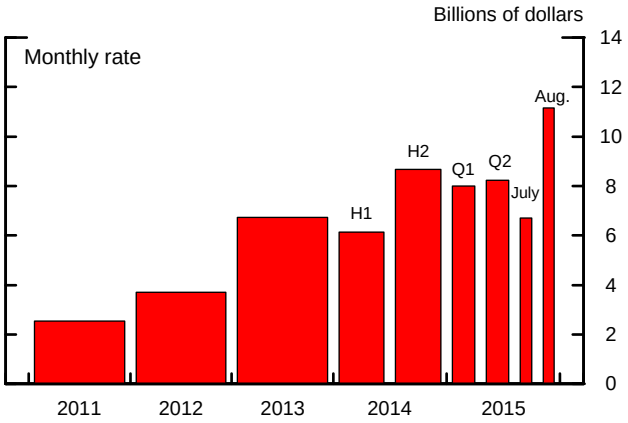
Note: IPO is initial public offering; SEO is seasoned equity offering.
Source: Securities Data Company.

Outstanding Bank Loans to Businesses



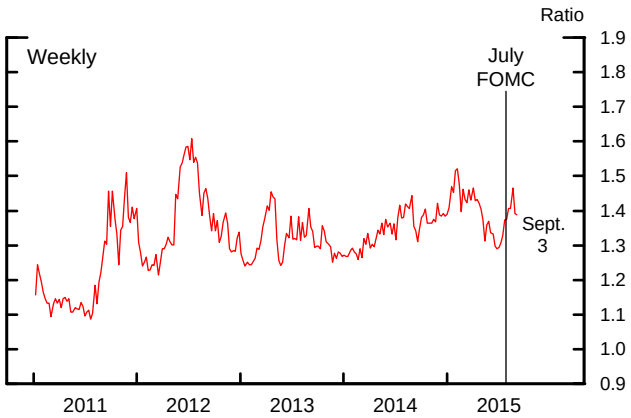
Note: Data are annual through 2009 and quarterly thereafter. Small loans (a proxy for loans to small businesses) are those with an origination amount of $1 million or less; large loans are those with an origination amount of more than $1 million.
Source: Call Reports.

CMBS Issuance



Note: CMBS is commercial mortgage-backed securities.
Source: Commercial Mortgage Alert.

Municipal Bond Spread



Note: Bond Buyer GO 20-year index over 20-year Treasury yields.
Source: Bond Buyer; Merrill Lynch.

Financial Developments

Spreads of yields on BBB-rated and speculative-grade corporate bonds over comparable-maturity Treasury securities have both widened, on net, 12 basis points since the July FOMC meeting. Spreads on BBB-rated bonds ended the period somewhat above their historical medians, while those for speculative-grade bonds remained close to their historical medians. Speculative-grade issuers in the energy sector experienced more notable increases in spreads than did firms in other industries. Measures of liquidity conditions suggest that corporate bond markets functioned fairly well, even during the peaks of market volatility.

With most firms in the S&P 500 having reported earnings for the second quarter, the staff estimates that earnings per share for these firms increased slightly relative to first-quarter levels. Through the end of August, private-sector equity analysts revised down slightly their projections for year-ahead earnings.

BUSINESS AND MUNICIPAL FINANCE

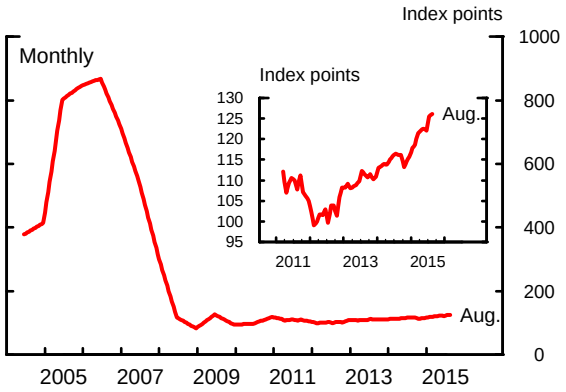
Financing conditions for nonfinancial businesses tightened modestly over the summer, although the effects on business finance of the declines in equity prices and increases in bond spreads are difficult to discern given data lags and typical summer slowdowns in financing activity. Corporate bond and institutional leveraged loan issuance remained solid through July but moderated in August. Public equity issuance also stayed solid, though it slowed for firms conducting initial public offerings. Similarly, the growth of C&I loans on banks' books moderated in July and August, mostly for banks with a higher concentration of exposures to oil and gas firms. Financing conditions for small businesses continued to improve slowly in the second quarter.

Financing for commercial real estate (CRE) remained broadly available through the summer, with CRE loans on banks' books expanding and CMBS issuance staying robust in July and August. Spreads on investment-grade CMBS widened noticeably in August, which analysts attributed to heavy issuance as well as increased volatility in broader financial markets.

During the intermeeting period, Puerto Rico suspended setting aside money for general obligation debt due in January 2016 and defaulted on $58 million of "moral

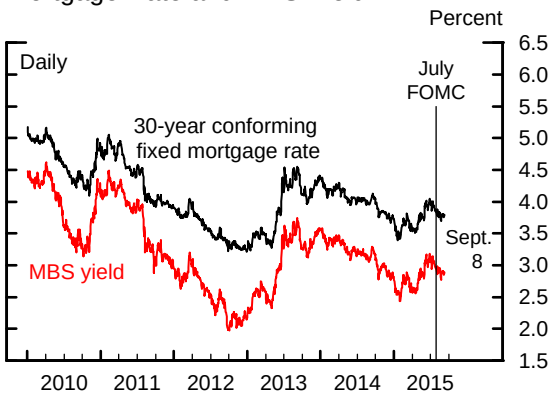
Household Finance

Mortgage Credit Availability Index



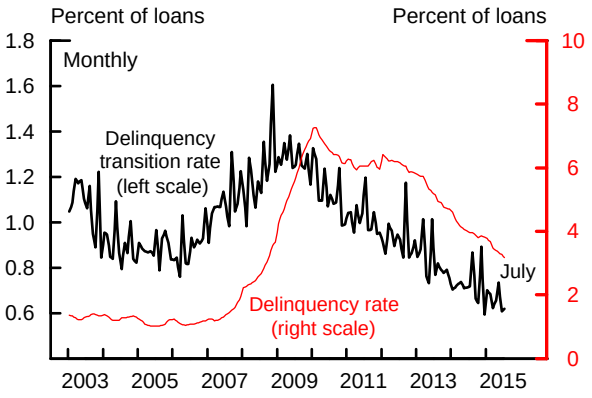
Source: Mortgage Bankers Association.

Mortgage Rate and MBS Yield



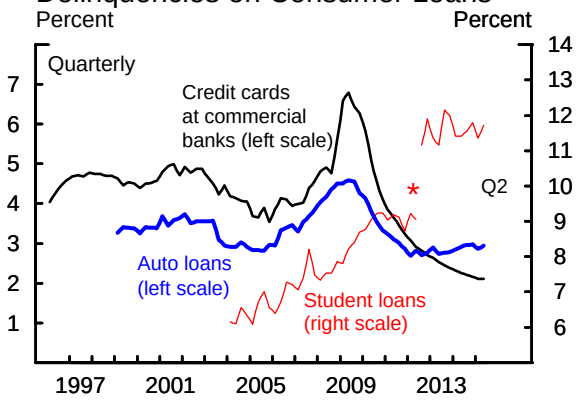
Note: The MBS yield is the Fannie Mae 30-year current-coupon rate.
Source: For MBS yield, Barclays; for mortgage rate, Loansifter.

Delinquencies on Prime Mortgages



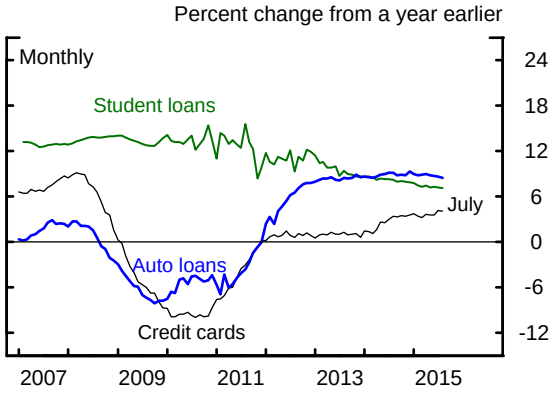
Note: For delinquency rate, percent of loans 90 or more days past due or in foreclosure. For transition rate, percent of previously current mortgages that transition to being at least 30 days delinquent each month.
Source: LPS Applied Analytics/Black Knight.

Delinquencies on Consumer Loans



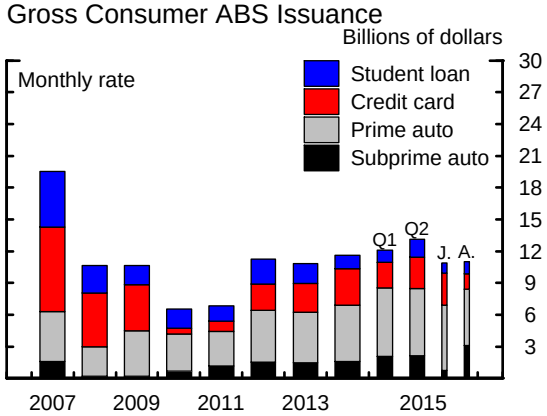
Note: Credit cards at commercial banks and auto loans are seasonally adjusted.
* Denotes change in methodology.
Source: Call Reports; Federal Reserve Bank of New York Consumer Credit Panel/Equifax.

Consumer Credit



Note: The data are not seasonally adjusted.
Source: Federal Reserve Board.

Gross Consumer ABS Issuance



Source: Inside MBS & ABS; Merrill Lynch; Federal Reserve Board.

Financial Developments

obligation" bonds.[5] Despite these events, yields on Puerto Rico's general obligation bonds were little changed, on net, and overall credit conditions in municipal bond markets remained stable.

HOUSEHOLD FINANCE

Credit conditions for residential mortgages continued to improve slowly over the intermeeting period. Nevertheless, credit remains tight for borrowers with low credit scores, hard-to-document income, or high debt-to-income ratios. Interest rates on 30-year fixed-rate mortgages declined 6 basis points, in line with changes in agency MBS yields.

Financing conditions in consumer credit markets remained generally accommodative over the summer, and the performance of outstanding consumer loans was largely stable. Credit card balances expanded further in July against the backdrop of gradually easing lending standards, and student and auto loans continued to be broadly available, even to borrowers with subprime credit scores. Delinquency rates on credit card loans and auto loans stayed low through the second quarter. That said, delinquency rates on recently originated subprime auto loans continued to edge up, partly reflecting increased lending activity to the riskiest borrowers. Indeed, average credit scores among borrowers purchasing both new and used vehicles continued to trend down slightly. Delinquency rates on student loans remained elevated.

Conditions in consumer ABS markets were little changed over the intermeeting period. Student loan ABS spreads remained particularly wide, apparently because rating agencies announced that they are going to review for downgrade securities collateralized with legacy loans originated under the discontinued Federal Family Education Loan Program (FFELP). The rating agencies attributed their concerns to low repayment rates for the underlying loans, due in part to the increased availability and use of structured repayment programs.[6]

BANKING DEVELOPMENTS

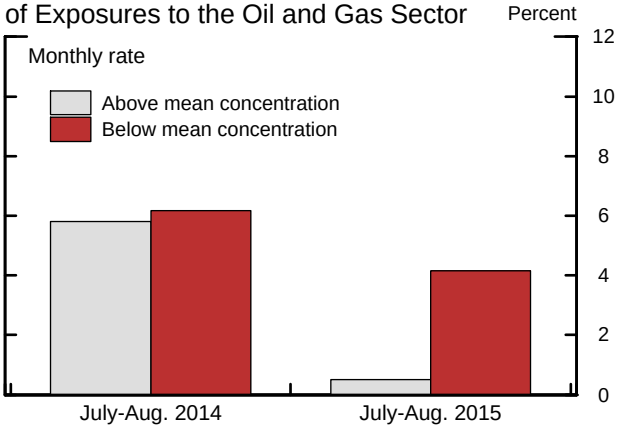
Growth of business loans on banks' books remained robust, and bank lending to consumers continued to improve in July and August. However, aggregate credit provided

[5] "Moral obligation" bonds are backed by a nonlegally binding pledge by a local legislature to appropriate the funds for repayment. Bondholders have no legal right to compel payment.

[6] FFELP loans are guaranteed by the U.S. government.

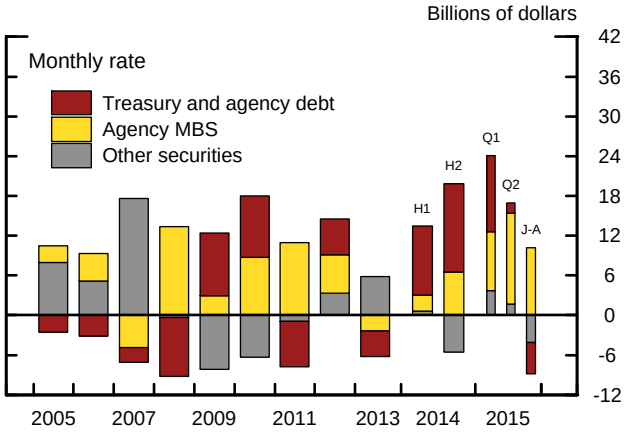
Banking Developments and Money

C&I Loans at Large Banks, by Concentration of Exposures to the Oil and Gas Sector



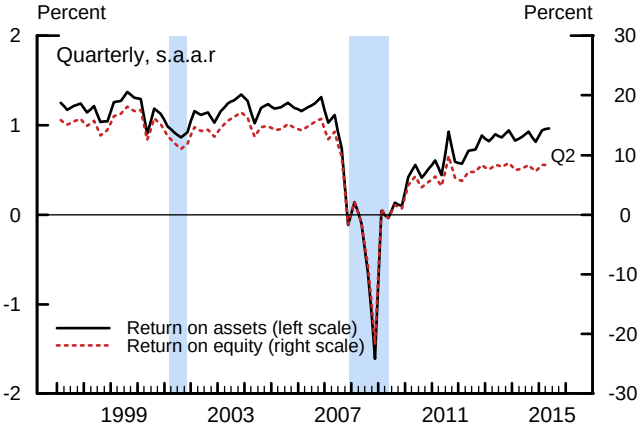
Note: Growth rates shown are averages of July and August. Concentrations are determined using confidential supervisory data.
Source: Federal Reserve Board, FR Y-14Q, Capital Assessments and Stress Testing; Federal Reserve Board, FR 2644, Weekly Report of Selected Assets and Liabilities of Domestically Chartered Commercial Banks and U.S. Branches and Agencies of Foreign Banks.

Securities



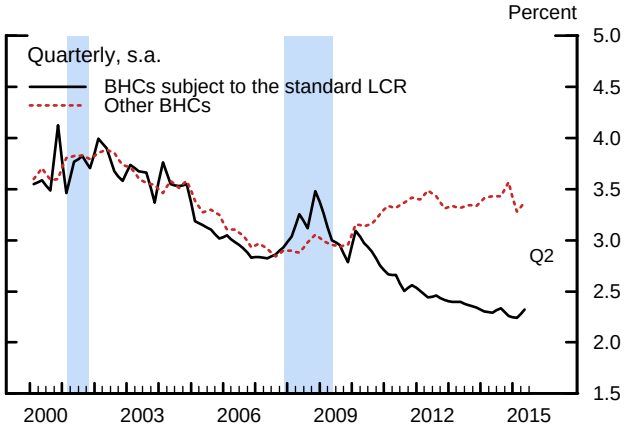
Note: All data have been adjusted to remove the estimated effects of marking to market securities available for sale (FAS 115).
Source: Federal Reserve Board, FR 2644, Weekly Report of Selected Assets and Liabilities of Domestically Chartered Commercial Banks and U.S. Branches and Agencies of Foreign Banks.

Return on Assets and Return on Equity at BHCs



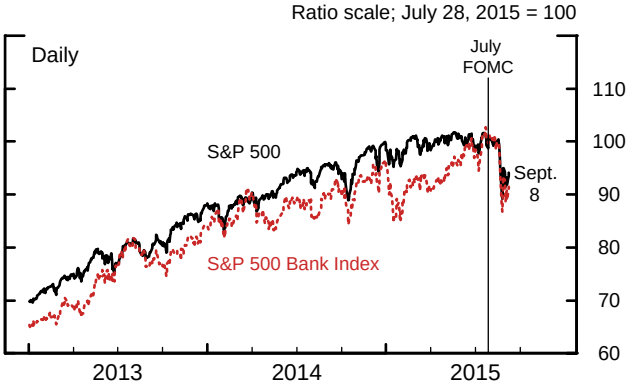
Note: BHC is bank holding company.
Source: Federal Reserve Board, FR Y-9C, Consolidated Financial Statements for Holding Companies.

Net Interest Margin, by BHC Type



Note: Bank holding companies (BHCs) subject to the standard liquidity coverage ratio (LCR): Bank of America, Bank of New York Mellon, BB&T, Capital One, Citigroup, Goldman Sachs, JPMorgan Chase, Morgan Stanley, Northern Trust, PNC Financial, State Street, U.S. Bancorp, and Wells Fargo.
Source: Federal Reserve Board, FR Y-9C, Consolidated Financial Statements for Holding Companies.

S&P 500 Stock Price Indexes



Source: Bloomberg.

Growth of M2 and Its Components

Percent, s.a.a.r.

	M2	Liquid deposits	Small time deposits	Retail MMFs	Curr.
2014	5.7	7.0	-8.0	-2.8	7.5
2014:H2	5.2	6.5	-8.7	-2.8	6.2
2015:Q1	7.6	9.1	-10.1	-4.0	9.8
2015:Q2	5.0	6.7	-18.2	-3.4	5.1
July-Aug.	7.9	9.2	-16.1	7.3	7.2

Note: Retail MMFs are retail money market funds.
Source: Federal Reserve Board.

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

by commercial banks decelerated a bit, driven by a decline in the growth of securities. Holdings of high-quality liquid assets (HQLA) decreased in the second quarter at banks subject to the standard liquidity coverage ratio. The decrease in HQLA, however, has likely had a minimal effect on banks' liquidity coverage ratios, as it has been coupled with a reduction in non-operational deposits provided by financial institutions at a few global systemically important banking organizations.

Profitability at BHCs increased slightly in the second quarter but remained below the levels observed in the decade prior to the financial crisis. Net interest margins improved modestly last quarter, and noninterest income rose on increases in investment banking revenue and a pickup in mortgage activity. More recently, stock prices of large domestic BHCs declined about 8 percent, a bit more than the broader stock market. CDS spreads for the these BHCs moved up less than they did for other investment-grade firms, suggesting that global developments have had only a modest effect on perceived bank solvency.

FEDERAL RESERVE OPERATIONS AND SHORT-TERM FUNDING MARKETS

The Federal Reserve continued to test RRP and TDF operations during the intermeeting period.[7] Daily ON RRP take-up averaged about $83 billion, with money market funds continuing to account for most of the participation. Averages for overnight federal funds and Eurodollar rates were slightly higher than they were during the previous intermeeting period, although both rates fell several basis points on the July and August month-ends.[8] Rates in secured markets were somewhat higher over the intermeeting period, while measures of funding pressure in short-term unsecured markets remained low.

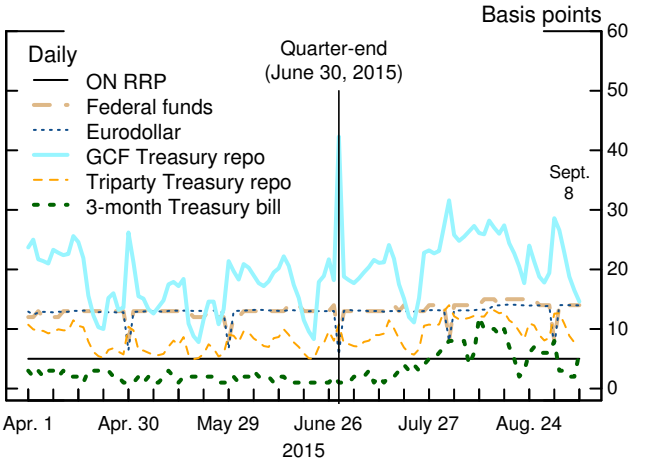
The Desk purchased $39 billion of agency MBS under the reinvestment program during the intermeeting period and did not execute any dollar rolls. The ratio of

[7] The Federal Reserve offered a series of two overlapping TDF operations in August, with a total take-up of nearly $125 billion, slightly lower than the take-up at operations in May. The FRBNY added 5 new RRP counterparties, bringing the total number of eligible nonprimary dealer counterparties to 146, just shy of the 150-counterparty limit. In addition, the Desk announced two term RRP operations over the September quarter-end: a seven-day operation on September 24 and a two-day operation on September 30, with a combined offer amount of at least $200 billion.

[8] The effective federal funds rate averaged 14 basis points over the intermeeting period, with the intraday standard deviation averaging 4 basis points.

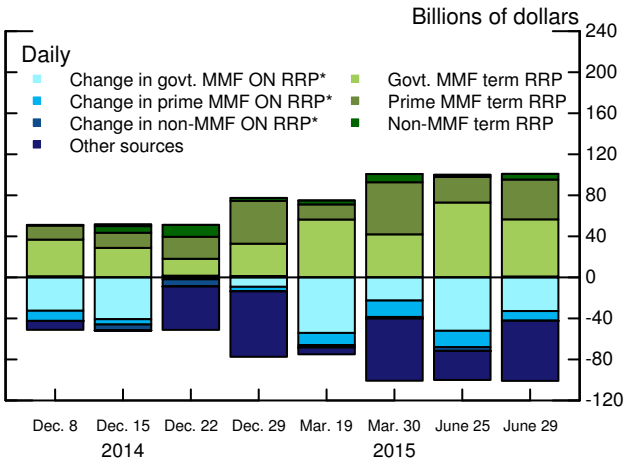
Federal Reserve Operations and Short-Term Funding Markets

Money Market Rates



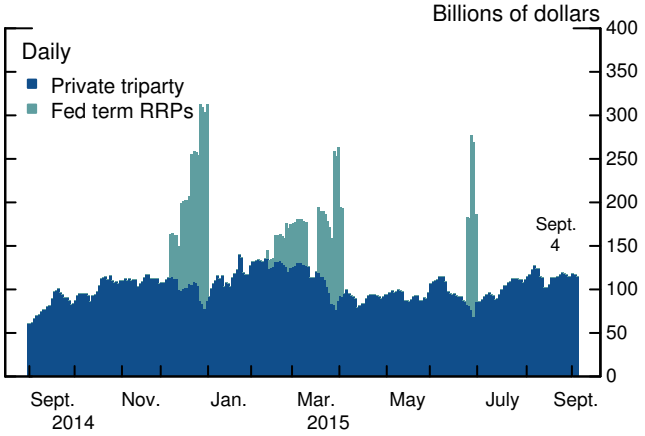
Note: GCF is General Collateral Finance; repo is repurchase agreement.
Source: Depository Trust & Clearing Corporation; Federal Reserve Bank of New York; Federal Reserve Board.

Sources of Term RRP Awards at Quarter-End



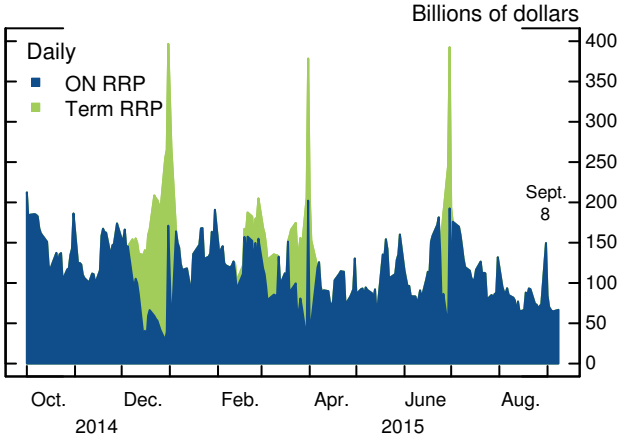
Note: MMF is money market fund.
* 1-day change in ON RRP allotment from the previous day.
Source: Federal Reserve Bank of New York.

Outstanding Term Treasury Repo



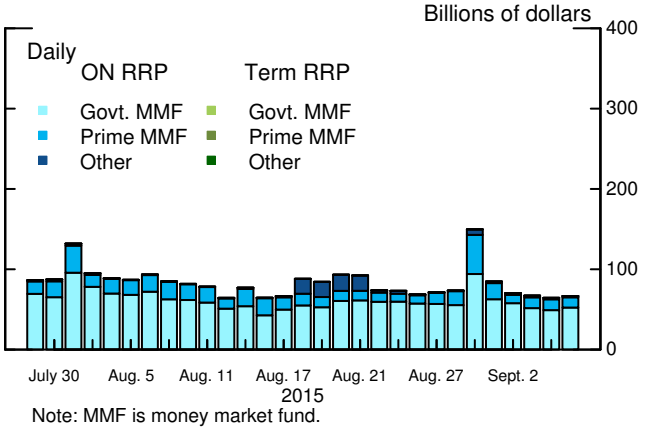
Source: Federal Reserve Bank of New York.

ON RRP and Term RRP Take-Up



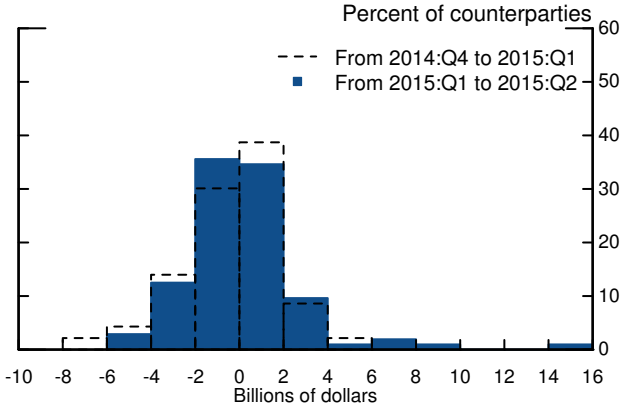
Source: Federal Reserve Bank of New York.

ON RRP and Term RRP Take-Up, by Type



Note: MMF is money market fund.
Source: Federal Reserve Bank of New York.

Distribution of the Change in Total RRP Take-Up from Previous Quarter-End



Source: Federal Reserve Bank of New York.

Note: Overnight reverse repurchase agreements (ON RRPs) specify operations in which the trade matures on the next business day. Term reverse repurchase agreements (term RRPs) specify operations in which the trade matures more than 1 business day after the settlement date.

monthly settlements for these reinvestment operations relative to gross issuance of MBS declined a little in July, to approximately 30 percent.

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Risks and Uncertainty

ASSESSMENT OF RISKS

We continue to view the uncertainty around our projections for real GDP growth and the unemployment rate as roughly in line with the average over the past 20 years (the benchmark used by the FOMC). As before, we see the risks to our forecast for real GDP growth as weighted to the downside because neither monetary nor fiscal policy appears well positioned to help the economy withstand adverse shocks. This downside skew is increased by the recent turbulence in financial markets as well as by the possibility of even greater weakness in the Chinese and other emerging market economies than we have assumed in our baseline projection. Consistent with these downside risks to aggregate demand and with the further adjustments we introduced this round to the supply side of the projection, we now view the risks around our unemployment rate projection as aligned with those for GDP and, therefore, as tilted to the upside. (Previously, in light of the tendency of the unemployment rate to move lower than we expected, we viewed the risks around our unemployment projection as balanced—and thus not aligned in the intuitive manner with the GDP risks.)

With regard to inflation, we see significant uncertainty around our projection but do not view the current level of uncertainty as unusually high. At the same time, we continue to view the risks around our inflation projection as tilted to the downside. TIPS-based five-year forward inflation compensation has declined significantly and is back near its historic low. Moreover, core PCE price inflation remains below the Committee's target, raising the odds that we may be underestimating the degree of slack in the economy. Furthermore, in light of the turmoil in China and elsewhere, major foreign central banks may continue to conduct aggressive policies to fight their own shortfalls in aggregate demand and cause the dollar to be stronger than in the baseline, leading to greater downward pressure on U.S. inflation than we have anticipated.

Our view of the risks to the economic outlook is informed by the staff's quarterly quantitative surveillance assessment, which judges the vulnerabilities of the U.S. financial system as moderate. This assessment reflects low levels of leverage and maturity transformation in the banking sector and only modest growth in household debt. That said, borrowing by lower-rated nonfinancial firms has grown rapidly and leverage

Alternative Scenarios

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

Measure and scenario	2015		2016	2017	2018-19
	H1	H2			
Real GDP					
Extended Tealbook baseline	2.2	1.9	2.1	2.0	1.8
Increased financial turbulence	2.2	-.5	1.7	2.5	2.0
Productivity growth speeds up	2.2	2.2	3.1	3.3	3.1
Lower long-term inflation expectations	2.2	1.9	2.1	2.0	1.8
China-driven EME slowdown	2.2	1.6	1.3	2.1	2.1
China-driven EME crisis	2.2	1.0	-.9	1.3	2.6
Unemployment rate[1]					
Extended Tealbook baseline	5.4	5.0	4.9	4.8	4.7
Increased financial turbulence	5.4	5.5	5.5	5.2	4.8
Productivity growth speeds up	5.4	5.1	4.9	4.7	4.3
Lower long-term inflation expectations	5.4	5.0	4.9	4.8	4.6
China-driven EME slowdown	5.4	5.1	5.2	5.2	4.9
China-driven EME crisis	5.4	5.1	6.1	6.6	5.9
Total PCE prices					
Extended Tealbook baseline	.1	.4	1.5	1.7	1.9
Increased financial turbulence	.1	.4	1.4	1.7	1.8
Productivity growth speeds up	.1	.4	1.2	1.1	1.1
Lower long-term inflation expectations	.1	.3	1.2	1.2	1.4
China-driven EME slowdown	.1	-.3	.7	1.7	2.0
China-driven EME crisis	.1	-.8	-.6	1.3	1.8
Core PCE prices					
Extended Tealbook baseline	1.4	1.2	1.4	1.7	1.9
Increased financial turbulence	1.4	1.2	1.4	1.6	1.9
Productivity growth speeds up	1.4	1.2	1.1	1.1	1.1
Lower long-term inflation expectations	1.4	1.1	1.1	1.2	1.4
China-driven EME slowdown	1.4	1.0	.9	1.5	1.9
China-driven EME crisis	1.4	.7	.0	.9	1.6
Federal funds rate[1]					
Extended Tealbook baseline	.1	.4	1.4	2.3	3.5
Increased financial turbulence	.1	.3	.5	1.2	2.7
Productivity growth speeds up	.1	.4	1.3	2.0	3.0
Lower long-term inflation expectations	.1	.4	1.3	1.9	3.0
China-driven EME slowdown	.1	.5	1.1	1.7	3.1
China-driven EME crisis	.1	.5	.1	.1	1.4

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

among these firms is near record highs. Further, hedge fund leverage has risen. And commercial real estate valuation pressures have continued to rise, with several of the leading price indexes moving back up to their pre-recession nominal peaks. Finally, bond prices may be more volatile in response to stress than in the past given recent changes in the structure of bond markets.

ALTERNATIVE SCENARIOS

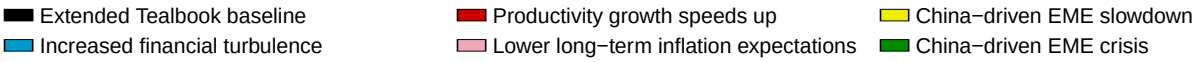
To illustrate some of the risks to the outlook, we construct a number of alternatives to the baseline projection using simulations of staff models. The first scenario illustrates potential consequences of increased financial volatility on the economy. The second scenario looks at the possibility that productivity growth may pick up substantially as firms learn to take full advantage of new information technology. In the third scenario, we examine the risks to our inflation outlook that stem from lower long-term inflation expectations. The fourth and fifth scenarios consider the consequences either of a slowdown or of a full-blown crisis in the EMEs triggered by financial turmoil in China.

We generate the first scenario in consultation with staff from the Federal Reserve Bank of New York using a DSGE model they developed that explicitly incorporates financial frictions. The second scenario uses the EDO model. The third scenario uses the FRB/US model. The final two scenarios are generated using the multicountry SIGMA model. The date of liftoff in each scenario is set using a mechanical procedure intended to be broadly consistent with the guidance provided in the Committee's recent statements. Once the federal funds rate has risen above its current target range, its movements are governed—as in the baseline forecast—by an inertial version of the Taylor (1999) rule.[1] In all cases, we assume that the size and composition of the SOMA portfolio follow their baseline paths.

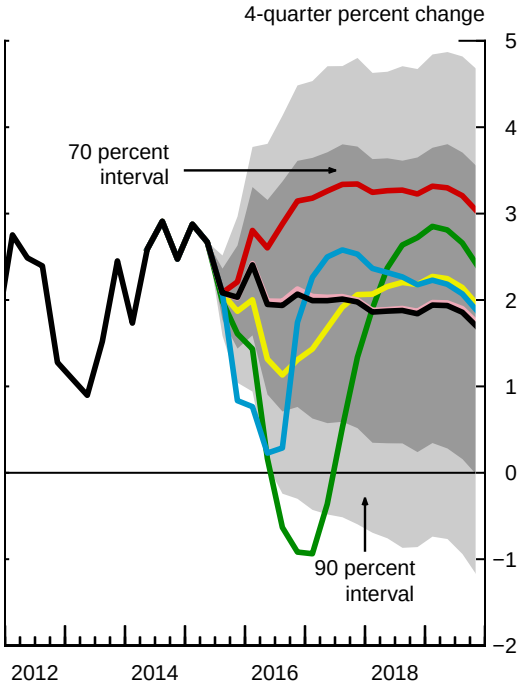
[1] For the scenarios run in SIGMA, we assume a policy rule broadly similar to the FRB/US and EDO simulations. One key difference relative to the FRB/US and EDO simulations is that the policy rule in SIGMA uses a measure of slack equal to the difference between actual output and the model's estimate of the level of output that would occur in the absence of slow adjustment of wages and prices. The policy rule in the New York Fed model also responds to such a measure of slack.

Forecast Confidence Intervals and Alternative Scenarios

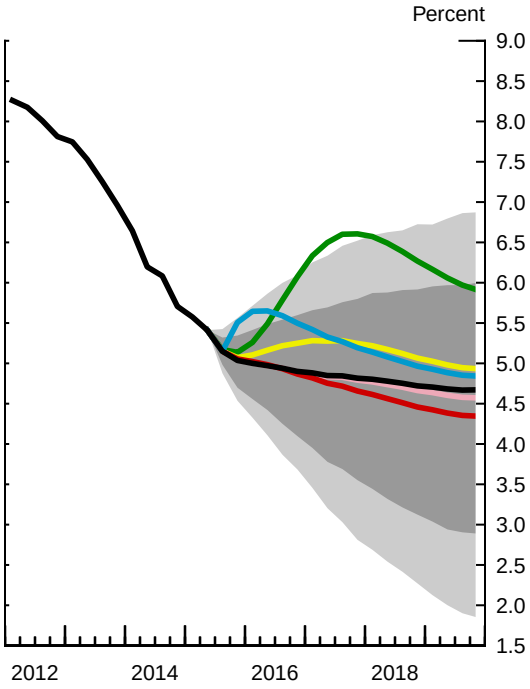
Confidence Intervals Based on FRB/US Stochastic Simulations



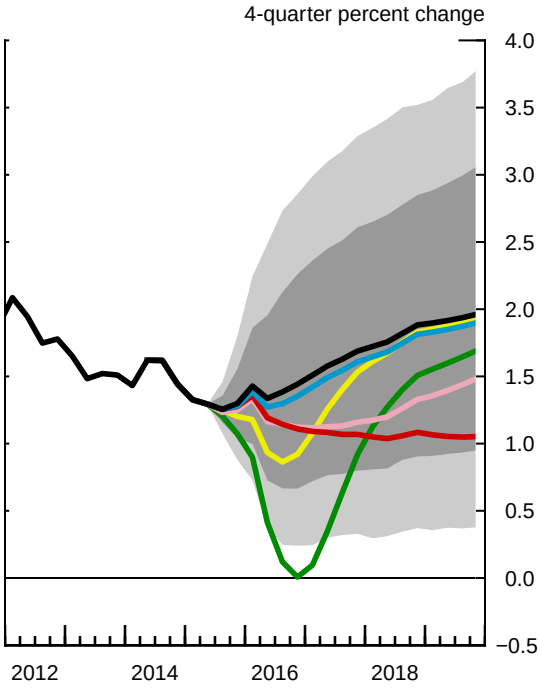
Real GDP



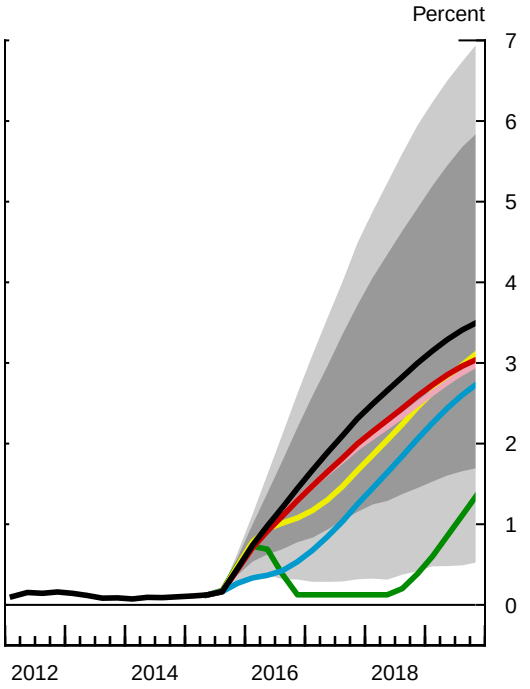
Unemployment Rate



PCE Prices excluding Food and Energy



Federal Funds Rate



Risks & Uncertainty

Increased Financial Turbulence

Measures of financial market volatility such as the VIX have spiked in recent weeks. The spread of Baa-rated corporate bonds over Treasury securities, another measure of financial market turbulence, has risen about 75 basis points since the beginning of the year. In this alternative scenario, we explore the consequences of a larger increase in the Baa spread. The DSGE model underlying the scenario explicitly models risk spreads and is estimated using data on spreads. In the scenario, we assume that the spread rises 200 basis points in the fourth quarter and then gradually returns to a more normal level.

We attribute the source of the rise in spreads to an increase in household and investor risk aversion, resulting in a drop in aggregate demand and higher financing costs for firms' capital expenditures. Under these circumstances, the economy contracts sharply in the fourth quarter and the unemployment rate rises to 5½ percent by the end of the year before a gradual recovery gets under way in the middle of 2016. Core PCE inflation is slightly below baseline for the entire simulation period. The federal funds rate path is substantially lower.

Productivity Growth Speeds Up

Productivity growth in the recent past has been slower than its long-run average. This scenario considers the possibility that the current slowdown is only temporary and is in fact the harbinger of higher productivity gains in the future. In particular, new forms of IT investment in cloud computing and mobility-enhancing technologies such as tablets and smartphones, as well as increased use of big data, may initially be difficult for firms to utilize efficiently. Indeed, in the initial transition phase, implementing these innovations may actually impede gains in productivity. Similar to the wave of IT-based productivity that began slowly in the 1980s and accelerated through the late 1990s, the payoffs for today's IT may accelerate in future years. This simulation assumes that productivity growth over the next five years will be around 2 percent per year, 1 percentage point faster than in the baseline.

The higher productivity growth causes output growth to pick up to above 3 percent by 2017. The unemployment rate is slightly lower than in the baseline starting in 2017, falling to 4.3 percent by the end of 2019. The path for inflation is significantly lower, running at about 1 percent beyond 2015, as the productivity shocks reduce firms'

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

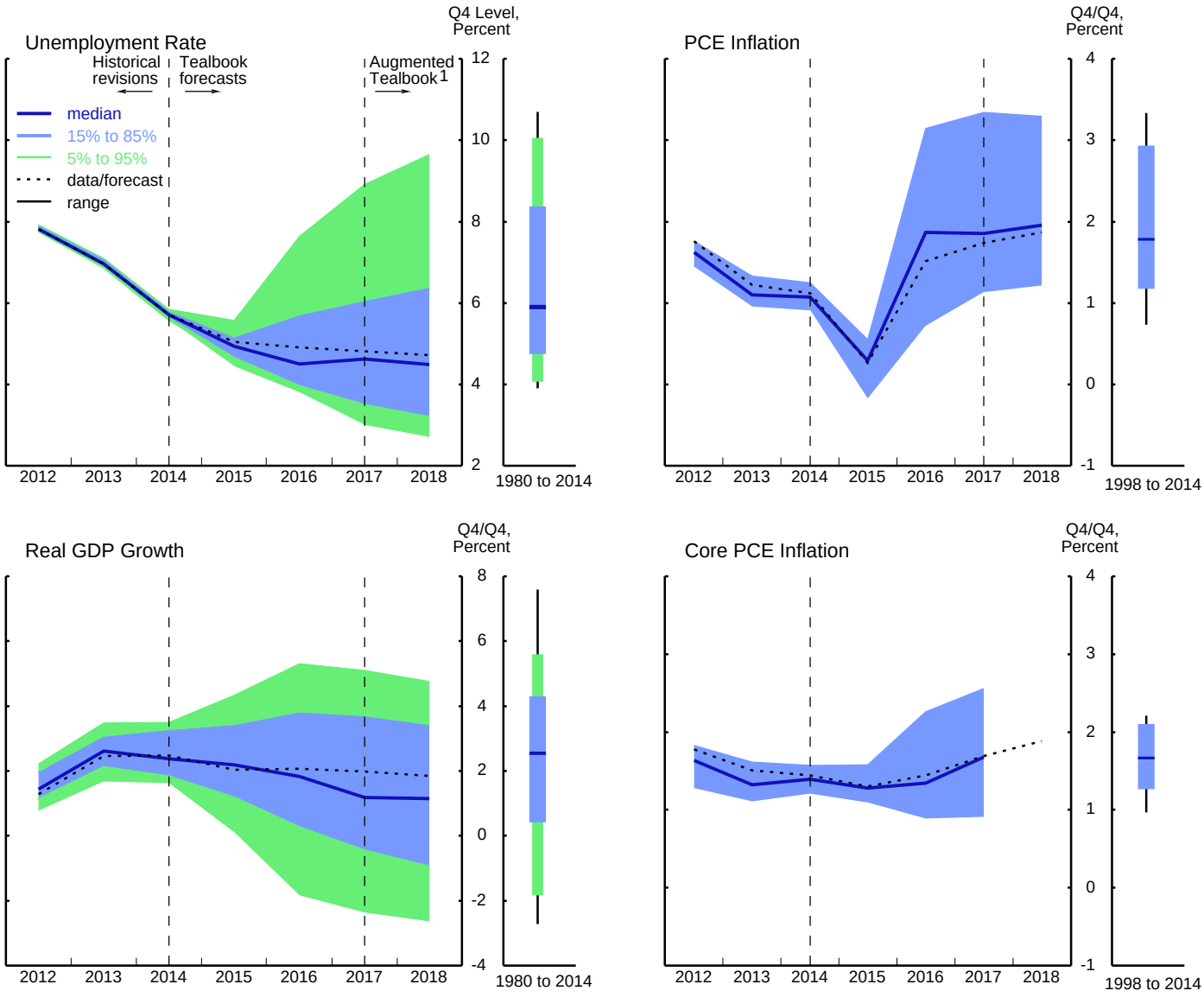
Measure	2015	2016	2017	2018	2019
Real GDP					
(percent change, Q4 to Q4)					
Projection	2.0	2.1	2.0	1.8	1.7
Confidence interval					
Tealbook forecast errors	1.2–3.4	.2–3.8	-.5–3.7	. . .	. . .
FRB/US stochastic simulations	1.4–2.6	.8–3.6	.5–3.8	.2–3.6	.0–3.5
Civilian unemployment rate					
(percent, Q4)					
Projection	5.0	4.9	4.8	4.7	4.7
Confidence interval					
Tealbook forecast errors	4.6–5.1	3.9–5.7	3.5–6.0	. . .	. . .
FRB/US stochastic simulations	4.7–5.3	4.1–5.6	3.6–5.8	3.1–5.9	2.9–6.0
PCE prices, total					
(percent change, Q4 to Q4)					
Projection	.3	1.5	1.7	1.9	1.9
Confidence interval					
Tealbook forecast errors	-.2–.5	.7–3.1	1.1–3.3	. . .	. . .
FRB/US stochastic simulations	.0–.6	.7–2.4	.8–2.7	.8–3.0	.9–3.1
PCE prices excluding					
food and energy					
(percent change, Q4 to Q4)					
Projection	1.3	1.4	1.7	1.9	2.0
Confidence interval					
Tealbook forecast errors	1.1–1.6	.9–2.3	. . .	. . .	. . .
FRB/US stochastic simulations	1.0–1.6	.7–2.3	.8–2.6	.9–2.9	1.0–3.1
Federal funds rate					
(percent, Q4)					
Projection	.4	1.4	2.3	3.0	3.5
Confidence interval					
FRB/US stochastic simulations	.4–.6	.8–2.2	1.2–3.7	1.4–4.9	1.7–5.9

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.

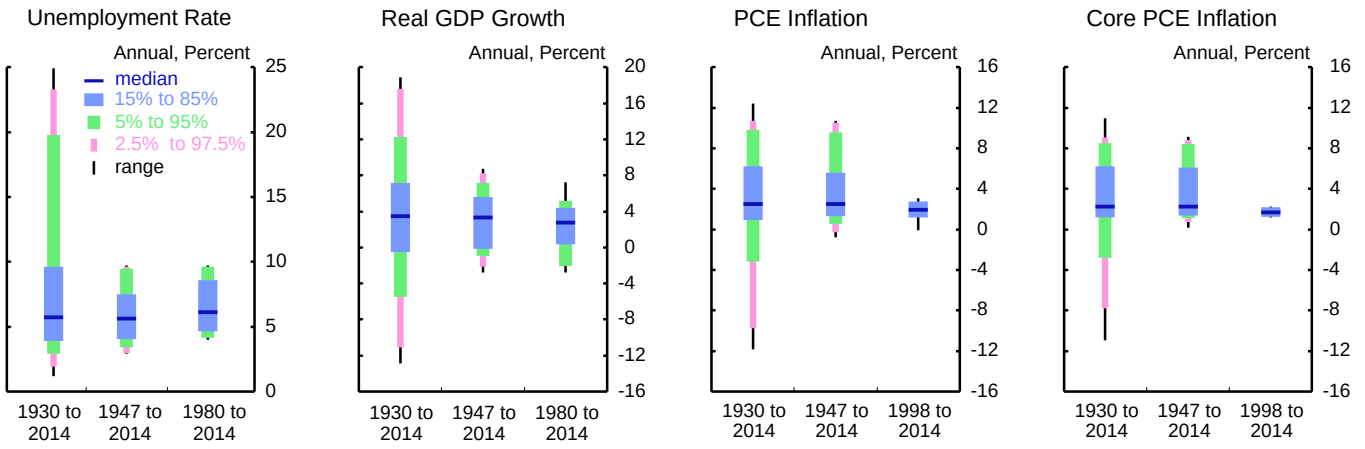
Prediction Intervals Derived from Historical Tealbook Forecast Errors

Forecast Error Percentiles

Historical Distributions



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.

marginal cost of production and, hence, price pressure. The federal funds rate takes a shallower path, reaching 50 basis points below baseline by the end of 2019, reflecting the net effects of substantially lower inflation readings and greater resource utilization.

Lower Long-Term Inflation Expectations

The extended period of below-target inflation experienced while at the zero lower bound could affect the long-term inflation expectations that are relevant for wage and price setting. If beliefs about long-term inflation are formed adaptively based on realized past inflation, achieving convergence of inflation to the 2 percent target will be substantially more difficult. This simulation assumes that consumers currently see long-term inflation as equaling 1.5 percent (the average inflation rate of the past seven years) and form their long-term inflation expectations adaptively throughout the simulation.[2]

The subdued inflation expectations and low actual inflation in the coming years are mutually reinforcing. Inflation falls to 1.2 percent at the end of 2016 and does not rise above 1.5 percent until after 2019. The overall path of the federal funds rate is significantly lower than in the baseline and increasingly so as the simulation continues. The paths of real GDP growth and the unemployment rate are roughly unchanged.

China-Driven EME Slowdown

Although our baseline forecast projects that growth in China will be reasonably solid, averaging about 6 percent over the next few years, downside risks to the outlook for China and the EMEs appear to have risen markedly. Any number of developments—including a bond default, a property market bust, or loss of confidence in the ability of the Chinese authorities to stabilize the economy—could interact with and amplify China's many underlying financial vulnerabilities and possibly trigger a broad-based crisis. In this scenario, we assume that China experiences a financial meltdown that also significantly weakens growth in other EME economies.

[2] Long-term inflation is defined as the rate to which actual inflation would converge once resource utilization is at its maximum sustainable level and other shocks have washed out of the system.

Specifically, our scenario assumes that China's GDP falls about 7 percent below baseline over the next two years. In response to the effects of this slump on trade, commodity prices, and financial conditions, GDP in other EMEs declines about 3½ percent relative to baseline, in line with staff regression estimates of the effects of changes in Chinese GDP growth on other EMEs. In addition, flight-to-quality flows into dollar-denominated assets contribute to an 8 percent appreciation of the broad real dollar and cause term premiums on U.S. Treasury securities and AFE government bonds to decline slightly.

In response to weaker foreign economic growth and the appreciation of the dollar, U.S. real net exports decline relative to baseline and real GDP growth falls to only 1¼ percent in 2016. The unemployment rate climbs above 5 percent by late 2016, about ¼ percentage point higher than in the baseline. Given the stronger dollar and lower resource utilization, core PCE inflation declines to less than 1 percent in 2016. The federal funds rate follows a somewhat shallower path than in the baseline.

China-Driven EME Crisis

This scenario builds on the previous scenario but assumes that China's financial meltdown hits other EMEs much harder, triggering deeper financial disruptions that spill over to the rest of the global economy, including the United States. Our scenario assumes that EME borrowing costs soar and that EME business and household confidence collapses. EME real GDP—for both China and other EMEs—declines 7 percent relative to baseline by the end of 2016, while EME currencies depreciate more than 20 percent against the dollar. The effect on aggregate EME growth roughly parallels the growth slowdown that occurred during the Asian and Russian crises of the late 1990s, though the EME currency depreciation in the scenario is a little larger.

In response to stresses in EMEs, corporate and household borrowing spreads rise sharply and equity prices sink in both the United States and AFEs, while flight-to-safety flows push down term premiums on government bond yields. Commodity prices tumble and, partly because commodity currencies fall sharply, the broad real dollar appreciates 17 percent above baseline. With policy rates constrained by the zero lower bound in many AFEs, aggregate foreign GDP falls nearly 6 percent below baseline in 2016.

In this environment, U.S. real net exports decline sharply relative to baseline in response to weaker foreign economic growth and the appreciation of the dollar.

Moreover, tighter financial conditions and lower confidence reduce U.S. aggregate demand. All told, U.S. real GDP contracts at an annual rate of about 1 percent in 2016, and the unemployment rate increases to 6½ percent in 2017, 1¾ percentage points higher than in the baseline. The appreciation of the dollar and greater resource slack push down U.S. core PCE inflation to around zero in 2016. The progressive widening of resource slack and subdued inflation imply that the federal funds rate returns to the zero lower bound in 2016 and remains there for about two years.

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

Measure and projection	2015		2016		2017	
	June Tealbook	Current Tealbook	June Tealbook	Current Tealbook	June Tealbook	Current Tealbook
Real GDP						
Staff	1.6	2.0	2.4	2.1	2.2	2.0
FRB/US	1.9	2.2	2.6	2.2	2.2	2.0
EDO	1.7	2.2	2.4	2.6	2.6	2.7
Unemployment rate[1]						
Staff	5.3	5.0	5.2	4.9	5.2	4.8
FRB/US	5.4	5.1	5.4	5.1	5.5	5.2
EDO	5.7	5.5	5.9	5.6	5.9	5.6
Total PCE prices						
Staff	.6	.3	1.6	1.5	1.8	1.7
FRB/US	.7	.3	1.7	1.4	1.5	1.1
EDO	.9	.7	2.1	1.8	2.1	2.0
Core PCE prices						
Staff	1.3	1.3	1.6	1.4	1.8	1.7
FRB/US	1.5	1.4	1.7	1.4	1.5	1.0
EDO	1.6	1.4	2.1	1.8	2.1	2.0
Federal funds rate[1]						
Staff	.4	.4	1.3	1.4	2.1	2.3
FRB/US	.6	.4	1.2	.8	1.1	.6
EDO	1.0	.5	2.1	1.7	2.7	2.4

1. Percent, average for Q4.

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
Greater than 3 percent				
Current Tealbook	.02	.02	.12	.06
Previous Tealbook	.03	.04	.13	.08
Less than 1 percent				
Current Tealbook	.48	.48	.28	.19
Previous Tealbook	.42	.28	.24	.15

Probability of Unemployment Events

(4 quarters ahead—2016:Q3)

Probability that the unemployment rate will ...	Staff	FRB/US	EDO	BVAR
Increase by 1 percentage point				
Current Tealbook	.04	.04	.25	.01
Previous Tealbook	.04	.04	.27	.01
Decrease by 1 percentage point				
Current Tealbook	.12	.05	.02	.29
Previous Tealbook	.11	.04	.03	.37

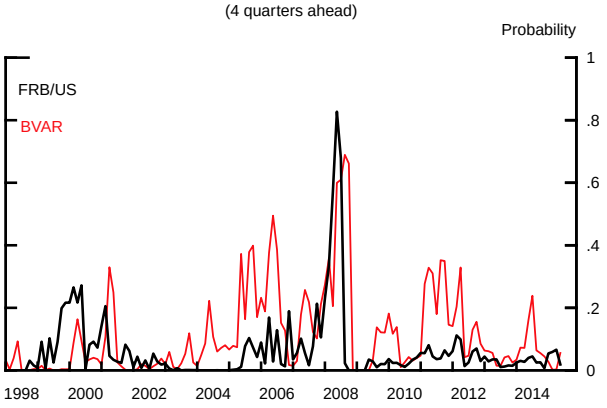
Probability of Near-Term Recession

Probability that real GDP declines in each of 2015:Q4 and 2016:Q1	Staff	FRB/US	EDO	BVAR	Factor Model
Current Tealbook	.06	.04	.03	.02	.11
Previous Tealbook	.05	.02	.03	.03	.17

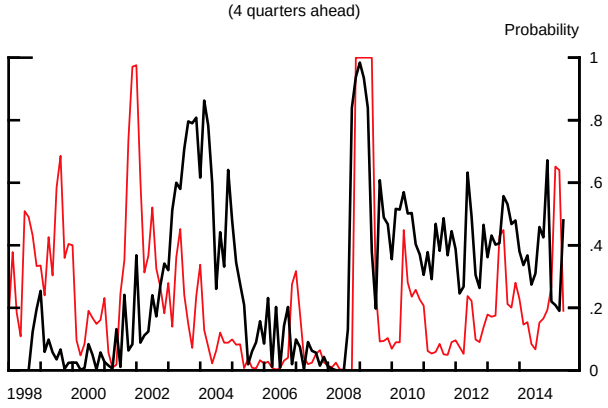
Note: "Staff" represents Tealbook forecast errors applied to the Tealbook baseline; baselines for FRB/US, BVAR, EDO, and the factor model are generated by those models themselves, up to the current-quarter estimate. Data for the current quarter are taken from the staff estimate for the second Tealbook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

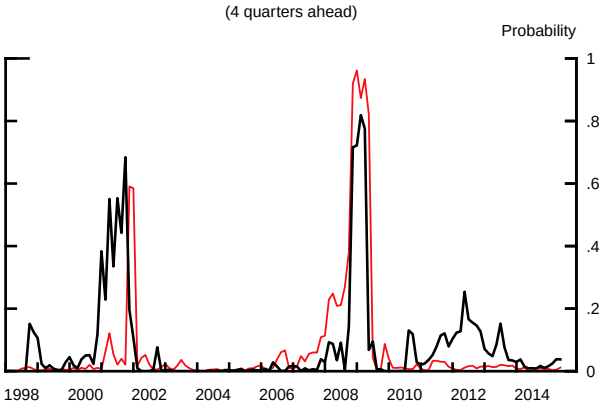
Probability that Total PCE Inflation Is above 3 Percent



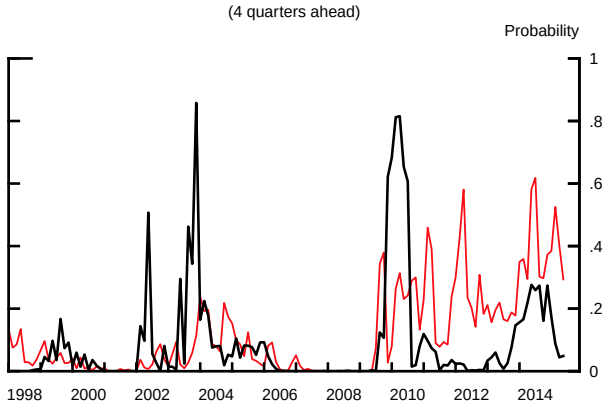
Probability that Total PCE Inflation Is below 1 Percent



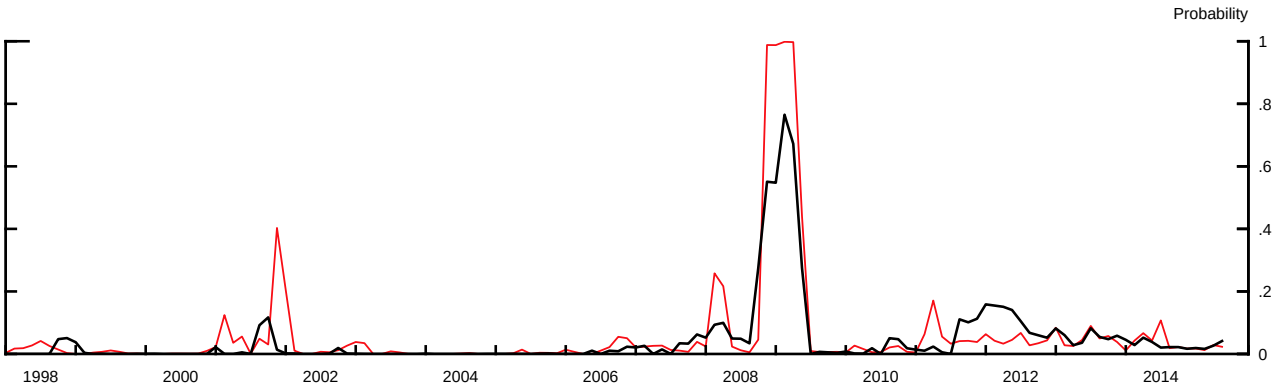
Probability that the Unemployment Rate Increases 1 ppt



Probability that the Unemployment Rate Decreases 1 ppt



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.

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Appendix

Technical Note on "Prediction Intervals Derived from Historical Tealbook Forecast Errors"

This technical note provides additional details about the exhibit "Prediction Intervals Derived from Historical Tealbook Forecast Errors." In the four large fan charts, the black dotted lines show staff projections and current estimates of recent values of four key economic variables: average unemployment rate in the fourth quarter of each year and the Q4/Q4 percent change for real GDP, total PCE prices, and core PCE prices. (The GDP series is adjusted to use GNP for those years when the staff forecast GNP and to strip out software and intellectual property products from the currently published data for years preceding their introduction. Similarly, the core PCE inflation series is adjusted to strip out the "food away from home" component for years before it was included in core.)

The historical distributions of the corresponding series (with the adjustments described above) are plotted immediately to the right of each of the fan charts. The thin black lines show the highest and lowest values of the series during the indicated time period. At the bottom of the page, the distributions over three different time periods are plotted for each series. To enable the use of data for years prior to 1947, we report annual-average data in this section. The annual data going back to 1930 for GDP growth, PCE inflation, and core PCE inflation are available in the conventional national accounts; we used estimates from Lebergott (1957) for the unemployment rate from 1930 to 1946.[1]

The prediction intervals around the current and one-year-ahead forecasts are derived from historical staff forecast errors, comparing staff forecasts with the latest published data. For the unemployment rate and real GDP growth, errors were calculated for 1980 through 2014, yielding percentiles of the sizes of the forecast errors. For PCE and core PCE inflation, errors for 1998 through 2014 were used. This shorter range reflects both more limited data on staff forecasts of PCE inflation and the staff judgment that the distribution of inflation since the mid-1990s is more appropriate for the projection period than distributions of inflation reaching further back. In all cases, the prediction intervals are computed by adding the percentile bands of the errors onto the forecast. The blue bands encompass 70 percent prediction-interval ranges; adding the green bands expands this range to 90 percent. The dark blue line plots the median of the prediction intervals. There is not enough historical forecast data to calculate meaningful 90 percent ranges for the two inflation series. A median line above the staff forecast means that forecast errors were positive more than half of the time.

[1] Stanley Lebergott (1957), "Annual Estimates of Unemployment in the United States, 1900–1954," in National Bureau of Economic Research, *The Measurement and Behavior of Unemployment* (Princeton, N.J.: Princeton University Press), pp. 213–41.

Because the staff has produced two-year-ahead forecasts for only a few years, the intervals around the two-year-ahead forecasts are constructed by augmenting the staff projection errors with information from outside forecasters: the Blue Chip consensus, the Council of Economic Advisers, and the Congressional Budget Office. Specifically, we calculate prediction intervals for outside forecasts in the same manner as for the staff forecasts. We then calculate the change in the error bands from outside forecasts from one year ahead to two years ahead and apply the average change to the staff's one-year-ahead error bands. That is, we assume that any deterioration in the performance between the one- and two-year-ahead projections of the outside forecasters would also apply to the Tealbook projections. Limitations on the availability of data mean that a slightly shorter sample is used for GDP and unemployment, and the outside projections may only be for a similar series, such as total CPI instead of total PCE prices or annual growth rates of GDP instead of four-quarter changes. In particular, because data on forecasts for core inflation by these outside forecasters are much more limited, we did not extrapolate the staff's errors for core PCE inflation two years ahead.

The intervals around the historical data in the four fan charts are based on the history of data revisions for each series. The previous-year, two-year-back, and three-year-back values as of the current Tealbook forecast are subtracted from the corresponding currently published estimates (adjusted as described earlier) to produce revisions, which are then combined into distributions and revision intervals in the same way that the prediction intervals are created.

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]	
	07/22/15	09/09/15	07/22/15	09/09/15	07/22/15	09/09/15	07/22/15	09/09/15	07/22/15	09/09/15
Quarterly										
2015:Q1	-.2	.8	-.2	.6	-2.0	-1.9	.8	1.0	5.6	5.6
Q2	4.7	5.9	2.4	3.7	2.0	2.2	1.7	1.8	5.4	5.4
Q3	3.4	3.8	1.7	1.9	1.2	1.2	1.4	1.2	5.3	5.2
Q4	2.7	1.9	2.3	1.9	.2	-.4	1.3	1.2	5.2	5.0
2016:Q1	4.2	3.9	2.3	2.1	1.7	1.5	1.6	1.5	5.2	5.0
Q2	4.0	3.6	2.3	1.9	1.6	1.6	1.6	1.5	5.2	5.0
Q3	4.0	3.5	2.3	1.9	1.6	1.5	1.5	1.4	5.2	4.9
Q4	4.0	4.0	2.3	2.4	1.6	1.5	1.5	1.4	5.2	4.9
2017:Q1	4.1	3.9	2.1	1.8	1.8	1.8	1.7	1.7	5.1	4.9
Q2	3.9	3.7	2.1	1.9	1.7	1.8	1.7	1.7	5.1	4.8
Q3	3.9	3.7	2.1	1.9	1.7	1.7	1.7	1.6	5.1	4.8
Q4	4.0	4.0	2.2	2.3	1.7	1.7	1.7	1.6	5.1	4.8
Two-quarter[2]										
2015:Q2	2.2	3.3	1.1	2.2	.0	.1	1.2	1.4	-.3	-.3
Q4	3.0	2.9	2.0	1.9	.7	.4	1.4	1.2	-.2	-.4
2016:Q2	4.1	3.7	2.3	2.0	1.7	1.5	1.6	1.5	.0	.0
Q4	4.0	3.8	2.3	2.1	1.6	1.5	1.5	1.4	.0	-.1
2017:Q2	4.0	3.8	2.1	1.9	1.7	1.8	1.7	1.7	-.1	-.1
Q4	3.9	3.9	2.2	2.1	1.7	1.7	1.7	1.6	.0	.0
Four-quarter[3]										
2014:Q4	3.7	3.9	2.4	2.5	1.1	1.1	1.4	1.4	-1.3	-1.3
2015:Q4	2.6	3.1	1.5	2.0	.3	.3	1.3	1.3	-.5	-.7
2016:Q4	4.1	3.8	2.3	2.1	1.6	1.5	1.5	1.4	.0	-.1
2017:Q4	4.0	3.8	2.1	2.0	1.7	1.7	1.7	1.7	-.1	-.1
2018:Q4		3.8	2.0	1.8	1.8	1.9	1.8	1.9	-.2	-.1
Annual										
2014	3.9	4.1	2.4	2.4	1.3	1.4	1.4	1.5	6.2	6.2
2015	3.1	3.4	2.1	2.4	.3	.2	1.3	1.3	5.4	5.3
2016	3.8	3.5	2.2	2.1	1.3	1.2	1.5	1.4	5.2	5.0
2017	4.0	3.8	2.2	2.0	1.7	1.7	1.6	1.6	5.1	4.8
2018		3.8	2.1	1.9	1.8	1.8	1.7	1.8	5.0	4.8

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 Q2	2015 Q3	2015 Q4	2016 Q1	2016 Q2	2016 Q3	2016 Q4	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2015[1]	2016[1]	2017[1]	2018[1]
Real GDP	3.7	1.9	1.9	2.1	1.9	1.9	2.4	1.8	1.9	1.9	2.3	2.0	2.1	2.0	1.8
Previous Tealbook	2.4	1.7	2.3	2.3	2.3	2.3	2.3	2.1	2.1	2.1	2.2	1.5	2.3	2.1	2.0
Final sales	3.6	2.3	1.9	1.5	2.6	2.1	2.6	2.0	2.4	2.2	2.4	1.9	2.2	2.3	2.1
Previous Tealbook	2.5	1.8	2.3	1.8	2.6	2.4	2.9	2.3	2.5	2.4	2.6	1.5	2.4	2.5	
Priv. dom. final purch.	3.4	3.3	3.1	3.4	3.8	3.6	3.5	3.4	2.9	2.7	2.7	3.0	3.6	2.9	2.2
Previous Tealbook	3.0	3.0	3.4	3.6	3.8	3.7	3.5	3.3	3.0	2.8	2.6	2.7	3.7	2.9	
Personal cons. expend.	3.1	2.8	2.9	3.1	3.3	3.2	3.1	3.0	2.6	2.5	2.4	2.6	3.2	2.6	2.1
Previous Tealbook	2.8	2.9	3.3	3.4	3.3	3.2	3.1	2.9	2.8	2.6	2.5	2.8	3.3	2.7	
Durables	8.2	8.0	7.9	5.9	6.8	6.6	5.6	5.0	4.3	3.8	3.6	6.5	6.2	4.2	3.7
Nondurables	4.1	2.7	2.8	2.2	2.6	2.6	2.8	2.7	2.3	2.1	2.4	2.5	2.5	2.4	2.3
Services	2.0	2.0	2.1	2.9	2.9	2.9	2.8	2.8	2.5	2.4	2.2	2.0	2.9	2.5	1.8
Residential investment	9.2	7.4	2.0	7.9	11.4	11.1	10.1	11.1	8.0	5.7	4.5	7.1	10.1	7.3	4.2
Previous Tealbook	8.4	5.8	5.0	11.7	12.9	11.4	10.4	9.6	6.9	5.9	5.0	6.4	11.6	6.9	
Nonres. priv. fixed invest.	3.6	5.0	4.5	3.8	4.7	3.8	3.8	3.2	2.6	3.0	3.6	3.7	4.0	3.1	2.1
Previous Tealbook	2.5	2.6	3.1	2.6	4.0	3.8	3.6	3.4	3.1	2.7	2.6	1.5	3.5	2.9	
Equipment & intangibles	2.9	4.5	4.7	5.8	5.0	4.3	4.4	3.4	2.8	3.4	4.1	4.1	4.9	3.5	2.4
Previous Tealbook	4.5	2.9	3.6	4.2	4.4	4.2	4.1	3.8	3.4	3.1	3.0	3.6	4.2	3.3	
Nonres. structures	5.9	6.9	4.1	-3.1	3.5	2.0	1.9	2.4	1.9	1.4	1.8	2.2	1.0	1.9	.8
Previous Tealbook	-4.3	1.4	1.3	-3.3	2.5	2.0	1.9	1.8	1.7	1.3	1.0	-5.5	.8	1.4	
Net exports[2]	-534	-556	-590	-651	-691	-737	-757	-798	-814	-827	-829	-555	-709	-817	-838
Previous Tealbook[2]	-558	-591	-621	-677	-711	-751	-763	-794	-805	-813	-804	-580	-726	-804	
Exports	5.1	1.6	1.8	-2.3	1.4	1.1	2.9	-1.4	2.1	2.4	5.0	.5	.8	2.0	4.3
Imports	3.0	4.6	6.6	7.3	7.0	7.5	5.1	4.6	3.8	3.6	3.9	5.3	6.7	4.0	3.2
Gov't. cons. & invest.	2.7	.0	.0	.0	1.3	.4	.4	.3	1.6	.7	.7	.7	.5	.8	.9
Previous Tealbook	1.1	.2	.6	.3	.6	.8	.6	1.2	.7	.8	.6	.3	.6	.8	
Federal	.0	-1.7	-1.6	-1.1	-1.0	-1.2	-.9	-1.0	-.8	-.9	-.6	-.6	-1.1	-.8	-.7
Defense	.3	-2.2	-2.1	-1.6	-1.4	-1.8	-1.2	-1.7	-1.4	-1.6	-1.0	-.8	-1.5	-1.4	-1.0
Nondefense	-.4	-1.1	-.8	-.4	-.4	-.4	-.4	.1	.0	.1	.1	-.3	-.4	.1	-.4
State & local	4.4	1.1	1.0	.7	2.7	1.4	1.3	1.1	3.0	1.7	1.4	1.4	1.5	1.8	1.8
Change in priv. inventories[2]	119	105	106	133	107	97	88	79	58	48	43	111	106	57	14
Previous Tealbook[2]	95	92	92	112	101	101	80	71	56	45	29	95	98	50	

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	-.2	2.7	1.7	1.3	2.5	2.5	2.0	2.1	2.0	1.8
Previous Tealbook	-.2	2.7	1.7	1.6	3.1	2.4	1.5	2.3	2.1	2.0
Final sales	-.4	2.0	1.5	1.7	1.9	2.6	1.9	2.2	2.3	2.1
Previous Tealbook	-.4	2.0	1.5	2.1	2.6	2.4	1.5	2.4	2.5	
Priv. dom. final purch.	-2.4	3.5	2.6	2.3	2.6	3.6	3.0	3.6	2.9	2.2
Previous Tealbook	-2.4	3.5	2.6	2.6	3.2	3.3	2.7	3.7	2.9	
Personal cons. expend.	-.2	3.1	1.5	1.3	2.3	3.2	2.6	3.2	2.6	2.1
Previous Tealbook	-.2	3.1	1.5	2.0	2.8	2.9	2.8	3.3	2.7	
Durables	2.5	9.3	4.8	7.2	4.6	7.5	6.5	6.2	4.2	3.7
Nondurables	.2	3.3	.4	.8	2.6	2.3	2.5	2.5	2.4	2.3
Services	-.8	2.0	1.4	.6	1.8	2.8	2.0	2.9	2.5	1.8
Residential investment	-10.8	-5.2	6.0	15.7	3.5	5.1	7.1	10.1	7.3	4.2
Previous Tealbook	-10.8	-5.2	6.0	15.8	6.9	2.5	6.4	11.6	6.9	
Nonres. priv. fixed invest.	-12.2	8.1	9.0	5.2	4.2	5.5	3.7	4.0	3.1	2.1
Previous Tealbook	-12.2	8.1	9.0	3.7	4.7	6.2	1.5	3.5	2.9	
Equipment & intangibles	-6.0	12.0	9.2	5.5	3.6	5.7	4.1	4.9	3.5	2.4
Previous Tealbook	-6.0	12.0	9.2	3.3	4.8	6.1	3.6	4.2	3.3	
Nonres. structures	-27.1	-4.0	8.0	4.1	6.5	5.0	2.2	1.0	1.9	.8
Previous Tealbook	-27.1	-4.0	8.0	4.8	4.4	6.5	-5.5	.8	1.4	
Net exports[1]	-395	-459	-459	-447	-417	-443	-555	-709	-817	-838
Previous Tealbook[1]	-395	-459	-459	-452	-420	-453	-580	-726	-804	
Exports	.8	10.1	4.2	2.2	5.2	2.4	.5	.8	2.0	4.3
Imports	-6.2	12.0	3.5	.3	2.4	5.4	5.3	6.7	4.0	3.2
Gov't. cons. & invest.	2.3	-1.1	-3.0	-2.2	-2.9	.4	.7	.5	.8	.9
Previous Tealbook	2.3	-1.1	-3.0	-1.7	-1.9	.8	.3	.6	.8	
Federal	3.9	3.2	-4.0	-2.1	-6.8	-.8	-.6	-1.1	-.8	-.7
Defense	3.6	2.0	-4.1	-3.9	-7.4	-2.9	-.8	-1.5	-1.4	-1.0
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	1.4	1.5	1.8	1.8
Change in priv. inventories[1]	-148	58	38	55	61	68	111	106	57	14
Previous Tealbook[1]	-148	58	38	57	64	71	95	98	50	

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							
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2015[1]	2016[1]	2017[1]	2018[1]
Real GDP	3.7	1.9	1.9	2.1	1.9	1.9	2.4	1.8	1.9	1.9	2.3	2.0	2.1	2.0	1.8
Previous Tealbook	2.4	1.7	2.3	2.3	2.3	2.3	2.3	2.1	2.1	2.1	2.2	1.5	2.3	2.1	2.0
Final sales	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
Previous Tealbook	2.5	1.8	2.3	1.8	2.6	2.3	2.9	2.3	2.5	2.4	2.6	1.5	2.4	2.4	
Priv. dom. final purch.	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
Previous Tealbook	2.5	2.5	2.8	3.1	3.2	3.1	3.0	2.8	2.6	2.4	2.3	2.3	3.1	2.5	
Personal cons. expend.	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
Previous Tealbook	1.9	2.0	2.3	2.4	2.3	2.2	2.2	2.0	1.9	1.8	1.7	1.9	2.3	1.9	
Durables	.6	.6	.6	.4	.5	.5	.4	.4	.3	.3	.3	.5	.5	.3	.3
Nondurables	.6	.4	.4	.3	.4	.4	.4	.4	.3	.3	.4	.4	.4	.4	.3
Services	.9	.9	1.0	1.4	1.3	1.3	1.3	1.3	1.2	1.1	1.0	.9	1.3	1.2	.8
Residential investment	.3	.2	.1	.3	.4	.4	.4	.4	.3	.2	.2	.2	.3	.3	.2
Previous Tealbook	.3	.2	.2	.4	.4	.4	.4	.4	.3	.2	.2	.2	.4	.3	
Nonres. priv. fixed invest.	.5	.6	.6	.5	.6	.5	.5	.4	.3	.4	.5	.5	.5	.4	.3
Previous Tealbook	.3	.3	.4	.3	.5	.5	.5	.4	.4	.3	.3	.2	.4	.4	
Equipment & intangibles	.3	.4	.5	.6	.5	.4	.4	.4	.3	.4	.4	.4	.5	.4	.3
Previous Tealbook	.4	.3	.4	.4	.4	.4	.4	.4	.3	.3	.3	.4	.4	.3	
Nonres. structures	.2	.2	.1	-.1	.1	.1	.1	.1	.1	.0	.0	.1	.0	.1	.0
Previous Tealbook	-.1	.0	.0	-.1	.1	.1	.1	.0	.0	.0	.0	-.2	.0	.0	
Net exports	.2	-.5	-.8	-1.4	-.9	-1.0	-.4	-.9	-.3	-.3	.0	-.8	-.9	-.4	.0
Previous Tealbook	-.2	-.8	-.7	-1.3	-.8	-.9	-.2	-.7	-.2	-.2	.2	-.9	-.8	-.2	
Exports	.6	.2	.2	-.3	.2	.1	.4	-.2	.3	.3	.6	.1	.1	.2	.5
Imports	-.5	-.7	-1.0	-1.1	-1.1	-1.2	-.8	-.7	-.6	-.6	-.6	-.8	-1.0	-.6	-.5
Gov't. cons. & invest.	.5	.0	.0	.0	.2	.1	.1	.1	.3	.1	.1	.1	.1	.1	.2
Previous Tealbook	.2	.0	.1	.1	.1	.1	.1	.2	.1	.1	.1	.1	.1	.1	
Federal	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0	-.1	-.1	.0
Defense	.0	-.1	-.1	-.1	-.1	-.1	.0	-.1	-.1	-.1	.0	.0	-.1	-.1	.0
Nondefense	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
State & local	.5	.1	.1	.1	.3	.2	.1	.1	.3	.2	.2	.2	.2	.2	.2
Change in priv. inventories	.2	-.3	.0	.7	-.6	-.2	-.2	-.2	-.5	-.2	-.1	.2	-.1	-.3	-.2
Previous Tealbook	-.1	-.1	.0	.5	-.3	.0	-.5	-.2	-.4	-.3	-.4	.1	-.1	-.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	2015			2016				2017							
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2015[1]	2016[1]	2017[1]	2018[1]
GDP chain-wt. price index	2.1	1.9	.0	1.7	1.7	1.6	1.6	2.0	1.8	1.7	1.7	1.0	1.7	1.8	1.9
Previous Tealbook	2.3	1.7	.4	1.8	1.7	1.6	1.6	2.0	1.8	1.7	1.7	1.1	1.7	1.8	
PCE chain-wt. price index	2.2	1.2	-.4	1.5	1.6	1.5	1.5	1.8	1.8	1.7	1.7	.3	1.5	1.7	1.9
Previous Tealbook	2.0	1.2	.2	1.7	1.6	1.6	1.6	1.8	1.7	1.7	1.7	.3	1.6	1.7	1.8
Energy	15.2	-1.0	-29.7	1.0	3.2	3.4	3.1	2.9	2.6	2.2	2.0	-18.3	2.7	2.4	1.5
Previous Tealbook	15.7	-3.0	-21.5	4.4	2.8	3.1	3.1	3.2	2.0	1.9	2.0	-16.4	3.3	2.3	
Food	-1.1	1.9	1.4	1.7	1.7	1.8	1.9	1.9	1.9	2.0	2.0	.5	1.8	2.0	1.9
Previous Tealbook	-1.1	1.0	1.5	1.6	1.7	1.8	1.9	1.9	1.9	2.0	2.0	.3	1.8	2.0	
Ex. food & energy	1.8	1.2	1.2	1.5	1.5	1.4	1.4	1.7	1.7	1.6	1.6	1.3	1.4	1.7	1.9
Previous Tealbook	1.7	1.4	1.3	1.6	1.6	1.5	1.5	1.7	1.7	1.7	1.7	1.3	1.5	1.7	1.8
Ex. food & energy, market based	1.8	1.0	1.0	1.4	1.4	1.4	1.4	1.7	1.7	1.6	1.6	1.1	1.4	1.7	1.9
Previous Tealbook	1.7	1.4	1.3	1.6	1.6	1.5	1.5	1.7	1.7	1.7	1.7	1.2	1.5	1.7	
CPI	3.0	1.7	-.7	1.9	2.0	2.1	2.1	2.1	2.1	2.1	2.1	.2	2.0	2.1	2.0
Previous Tealbook	3.0	1.6	.1	2.1	2.0	2.1	2.1	2.2	2.1	2.0	2.1	.4	2.1	2.1	
Ex. food & energy	2.5	1.8	1.6	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	1.9	2.0	2.1	2.0
Previous Tealbook	2.5	1.9	1.7	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.1	
ECI, hourly compensation[2]	.0	2.5	2.5	2.6	2.6	2.6	2.6	2.7	2.7	2.7	2.7	2.0	2.6	2.7	2.7
Previous Tealbook[2]	2.5	2.6	2.6	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.8	2.8	
Business sector															
Output per hour	3.6	.6	2.0	1.7	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.2	1.6	1.5	1.6
Previous Tealbook	2.1	1.9	2.2	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.0	1.7	1.7	
Compensation per hour	2.1	2.2	2.8	3.2	2.9	2.9	2.9	3.3	3.0	3.0	3.0	2.1	3.0	3.1	3.3
Previous Tealbook	2.6	2.3	3.2	3.5	3.1	3.1	3.1	3.5	3.2	3.2	3.2	2.8	3.2	3.3	
Unit labor costs	-1.4	1.6	.8	1.5	1.3	1.3	1.3	1.7	1.4	1.4	1.5	.9	1.4	1.5	1.6
Previous Tealbook	.4	.3	1.0	1.7	1.4	1.4	1.4	1.8	1.4	1.4	1.4	1.8	1.4	1.5	
Core goods imports chain-wt. price index[3]	-3.1	-1.7	-2.0	-1.1	.3	1.0	1.1	1.2	1.3	1.4	1.4	-2.8	.3	1.3	1.2
Previous Tealbook[3]	-3.0	-.8	-.8	.3	.9	1.2	1.2	1.2	1.4	1.5	1.5	-2.3	.9	1.4	

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.

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	.4	1.8	1.9	1.9	1.6	1.3	1.0	1.7	1.8	1.9
Previous Tealbook	.4	1.8	1.9	1.8	1.4	1.2	1.1	1.7	1.8	
PCE chain-wt. price index	1.2	1.3	2.7	1.8	1.2	1.1	.3	1.5	1.7	1.9
Previous Tealbook	1.2	1.3	2.7	1.6	1.0	1.1	.3	1.6	1.7	1.8
Energy	2.3	6.4	12.0	2.3	-2.5	-6.4	-18.3	2.7	2.4	1.5
Previous Tealbook	2.3	6.4	12.0	2.1	-2.6	-6.1	-16.4	3.3	2.3	
Food	-1.8	1.3	5.1	1.2	.8	2.8	.5	1.8	2.0	1.9
Previous Tealbook	-1.8	1.3	5.1	1.2	.7	2.8	.3	1.8	2.0	
Ex. food & energy	1.4	1.0	1.9	1.8	1.5	1.4	1.3	1.4	1.7	1.9
Previous Tealbook	1.4	1.0	1.9	1.6	1.3	1.4	1.3	1.5	1.7	1.8
Ex. food & energy, market based	1.8	.7	1.9	1.5	1.2	1.2	1.1	1.4	1.7	1.9
Previous Tealbook	1.8	.7	1.9	1.5	1.2	1.2	1.2	1.5	1.7	
CPI	1.5	1.2	3.3	1.9	1.2	1.2	.2	2.0	2.1	2.0
Previous Tealbook	1.5	1.2	3.3	1.9	1.2	1.2	.4	2.1	2.1	
Ex. food & energy	1.8	.6	2.2	1.9	1.7	1.7	1.9	2.0	2.1	2.0
Previous Tealbook	1.8	.6	2.2	1.9	1.7	1.7	2.0	2.0	2.1	
ECI, hourly compensation[1]	1.2	2.1	2.2	1.8	2.0	2.3	2.0	2.6	2.7	2.7
Previous Tealbook[1]	1.2	2.1	2.2	1.8	2.0	2.3	2.7	2.8	2.8	
Business sector										
Output per hour	5.6	1.7	.0	-.2	1.6	-.2	1.2	1.6	1.5	1.6
Previous Tealbook	5.6	1.7	.0	.2	2.3	-.4	1.0	1.7	1.7	
Compensation per hour	1.3	1.2	.6	5.8	-.1	2.6	2.1	3.0	3.1	3.3
Previous Tealbook	1.3	1.2	.6	5.6	-.1	2.6	2.8	3.2	3.3	
Unit labor costs	-4.2	-.4	.6	6.0	-1.7	2.8	.9	1.4	1.5	1.6
Previous Tealbook	-4.2	-.4	.6	5.4	-2.3	3.0	1.8	1.4	1.5	
Core goods imports chain-wt. price index[2]	-1.9	2.3	4.3	.1	-1.1	.5	-2.8	.3	1.3	1.2
Previous Tealbook[2]	-1.9	2.3	4.3	.2	-1.0	.6	-2.3	.9	1.4	

1. Private-industry workers.
2. Core goods imports exclude computers, semiconductors, oil, and natural gas.

Other Macroeconomic Indicators

Item	2015			2016				2017							
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2015[1]	2016[1]	2017[1]	2018[1]
Employment and production															
Nonfarm payroll employment[2]	.6	.7	.7	.6	.5	.4	.4	.4	.4	.4	.4	2.7	1.9	1.6	1.3
Unemployment rate[3]	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
Previous Tealbook[3]	5.4	5.3	5.2	5.2	5.2	5.2	5.2	5.1	5.1	5.1	5.1	5.2	5.2	5.1	4.9
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
Previous Tealbook[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	
Employment-to-Population Ratio[3]	59.4	59.4	59.4	59.5	59.5	59.5	59.5	59.4	59.4	59.4	59.3	59.4	59.5	59.3	59.1
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	.0	.1	.4	.4	.5	.6	.8	-.2	.4	.8	.9
Previous Tealbook[4]	-1.3	-1.2	-1.0	-.9	-.7	-.5	-.4	-.2	-.1	.0	.1	-1.0	-.4	.1	
Industrial production[5]	-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
Previous Tealbook[5]	-1.7	1.2	.0	1.2	2.7	2.1	1.9	2.5	1.9	1.8	1.8	-.2	2.0	2.0	
Manufacturing industr. prod.[5]	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
Previous Tealbook[5]	1.5	1.7	1.2	1.4	2.5	2.3	2.2	2.0	1.9	1.7	1.7	.9	2.1	1.8	
Capacity utilization rate - mfg.[3]	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
Previous Tealbook[3]	75.9	76.0	76.0	76.0	76.1	76.3	76.4	76.4	76.5	76.5	76.6	76.0	76.4	76.6	
Housing starts[6]	1.2	1.2	1.1	1.2	1.3	1.3	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	17.5	17.0	16.8	16.8	16.8	16.8	16.8	16.8	16.7	16.6	17.1	16.8	16.7	16.6
Income and saving															
Nominal GDP[5]	5.9	3.8	1.9	3.9	3.6	3.5	4.0	3.9	3.7	3.7	4.0	3.1	3.8	3.8	3.8
Real disposable pers. income[5]	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
Previous Tealbook[5]	3.0	1.7	2.6	3.9	2.3	2.3	2.3	3.2	2.1	2.3	2.2	3.2	2.7	2.5	
Personal saving rate[3]	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
Previous Tealbook[3]	5.4	5.1	5.0	5.1	4.8	4.6	4.4	4.5	4.3	4.2	4.2	5.0	4.4	4.2	
Corporate profits[7]	8.3	7.0	-12.9	-1.6	-2.8	1.4	6.3	-2.3	-3.3	.2	4.1	-5.5	.7	-.3	1.8
Profit share of GNP[3]	11.3	11.4	11.0	10.8	10.7	10.6	10.7	10.5	10.4	10.3	10.3	11.0	10.7	10.3	10.1
Gross national saving rate[3]	18.2	18.5	18.4	18.3	18.2	18.0	17.9	17.7	17.6	17.5	17.5	18.4	17.9	17.5	17.4
Net national saving rate[3]	3.3	3.6	3.5	3.2	3.1	2.8	2.6	2.3	2.2	2.0	1.9	3.5	2.6	1.9	1.7

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.

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
Employment and production										
Nonfarm payroll employment[1]	-5.6	.8	2.0	2.2	2.5	2.9	2.7	1.9	1.6	1.3
Unemployment rate[2]	9.9	9.5	8.7	7.8	7.0	5.7	5.0	4.9	4.8	4.7
Previous Tealbook[2]	9.9	9.5	8.7	7.8	7.0	5.7	5.2	5.2	5.1	4.9
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
Previous Tealbook[2]	6.2	6.2	6.0	5.8	5.4	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	59.4	59.5	59.3	59.1
Employment-to-Population Trend[2]	61.3	60.9	60.6	60.3	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	.4	.8	.9
Previous Tealbook[3]	-5.5	-4.4	-4.2	-4.1	-2.8	-1.0	-1.0	-.4	.1	
Industrial production[4]	-5.4	5.9	2.8	2.1	2.3	4.5	-.3	2.1	2.4	1.9
Previous Tealbook[4]	-5.4	5.9	2.8	2.1	2.3	4.5	-.2	2.0	2.0	
Manufacturing industr. prod.[4]	-6.1	6.0	2.7	1.5	1.3	3.4	.7	2.6	2.3	1.9
Previous Tealbook[4]	-6.1	6.0	2.7	1.5	1.3	3.4	.9	2.1	1.8	
Capacity utilization rate - mfg.[2]	67.1	72.5	74.4	74.1	74.2	76.2	75.8	76.8	77.7	78.3
Previous Tealbook[2]	67.1	72.5	74.4	74.1	74.2	76.2	76.0	76.4	76.6	
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	17.1	16.8	16.7	16.6
Income and saving										
Nominal GDP[4]	.1	4.6	3.6	3.2	4.1	3.9	3.1	3.8	3.8	3.8
Real disposable pers. income[4]	-.7	2.6	1.7	5.1	-2.9	3.6	2.9	2.6	2.3	2.2
Previous Tealbook[4]	-.7	2.6	1.7	5.0	-1.9	3.3	3.2	2.7	2.5	
Personal saving rate[2]	5.6	5.5	5.8	9.2	4.4	4.7	4.9	4.4	4.1	4.2
Previous Tealbook[2]	5.6	5.5	5.8	8.6	4.4	4.7	5.0	4.4	4.2	
Corporate profits[6]	53.7	18.0	6.8	.6	4.1	3.4	-5.5	.7	-.3	1.8
Profit share of GNP[2]	10.6	12.0	12.3	12.0	12.0	11.9	11.0	10.7	10.3	10.1
Gross national saving rate[2]	14.6	15.2	16.1	18.0	18.1	18.8	18.4	17.9	17.5	17.4
Net national saving rate[2]	-1.7	-.3	.8	2.9	3.1	3.9	3.5	2.6	1.9	1.7

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					Not seasonally adjusted											
Receipts	3,252	3,399	3,527	3,639	680	1,027	805	736	720	1,084	859	794	747	1,116	871	819
Outlays	3,675	3,862	3,996	4,214	943	904	912	999	944	949	970	975	1,056	990	975	1,031
Surplus/deficit	-424	-463	-469	-575	-263	123	-107	-263	-224	135	-111	-181	-309	125	-104	-213
Previous Tealbook	*-393*	*-443*	*-478*	*-627*	*-263*	*126*	*-80*	*-253*	*-223*	*138*	*-105*	*-180*	*-315*	*121*	*-103*	*-227*
Means of financing:																
Borrowing	345	418	587	696	67	-15	53	29	364	-93	117	195	360	-97	129	242
Cash decrease	-45	65	2	-1	123	-154	51	164	-110	-12	23	16	-21	2	5	1
Other[1]	123	-20	-120	-120	73	44	3	70	-30	-30	-30	-30	-30	-30	-30	-30
Cash operating balance, end of period	203	138	136	137	100	254	203	39	149	161	138	122	143	141	136	135
NIPA federal sector					Seasonally adjusted annual rates											
Receipts	3,378	3,515	3,648	3,785	3,356	3,408	3,452	3,468	3,498	3,528	3,566	3,610	3,629	3,659	3,695	3,734
Expenditures	3,983	4,103	4,309	4,514	3,936	4,014	4,058	4,006	4,110	4,122	4,173	4,237	4,315	4,314	4,371	4,424
Consumption expenditures	955	961	972	983	957	957	956	954	962	963	963	964	973	975	976	977
Defense	594	595	597	601	595	595	594	592	596	596	595	595	598	598	597	597
Nondefense	361	366	375	382	362	362	362	362	366	367	368	369	375	376	378	380
Other spending	3,028	3,142	3,337	3,531	2,979	3,057	3,102	3,052	3,148	3,159	3,210	3,273	3,341	3,339	3,395	3,446
Current account surplus	-605	-588	-661	-729	-579	-606	-606	-538	-612	-594	-608	-626	-685	-655	-676	-690
Gross investment	263	260	260	261	262	263	262	260	260	260	260	260	260	260	260	260
Gross saving less gross investment[2]	-596	-574	-644	-710	-569	-598	-595	-525	-599	-580	-593	-611	-669	-638	-658	-672
Fiscal indicators																
High-employment (HEB) surplus/deficit[3]	-552.4	-585.5	-683.9	-769.9	-507.9	-569.0	-583.1	-524.6	-608.0	-594.8	-614.6	-645.6	-703.7	-679.4	-706.8	-730.1
Change in HEB, percent of potential GDP	.5	.1	.4	.3	-.2	.3	.1	-.3	.4	-.1	.1	.1	.3	-.2	.1	.1
Fiscal impetus (FI), percent of GDP[4]	.3	.2	.2	.2	.0	.7	.2	.3	.1	.3	.2	.2	.1	.3	.2	.2
Previous Tealbook	*.2*	*.2*	*.2*	*.2*	*-.2*	*.4*	*.3*	*.3*	*.1*	*.2*	*.3*	*.2*	*.3*	*.2*	*.2*	*.2*
Federal purchases	.0	-.1	-.1	.0	.1	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0
State and local purchases	.2	.2	.2	.2	-.1	.5	.1	.1	.1	.3	.1	.1	.1	.3	.2	.1
Taxes and transfers	.2	.1	.1	.0	.0	.2	.2	.3	.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)

	Projected											
	2015				2016				2017			
Measure and country	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Real GDP[1]												
Total foreign	1.6	1.1	2.1	2.4	2.8	2.9	3.0	3.0	3.0	2.6	2.9	2.9
Previous Tealbook	*1.6*	*1.7*	*2.5*	*2.8*	*3.0*	*3.1*	*3.1*	*3.1*	*3.1*	*2.7*	*3.0*	*3.0*
Advanced foreign economies	1.0	.3	1.7	1.8	2.0	2.1	2.1	2.1	2.2	1.3	1.8	2.0
Canada	-.8	-.5	1.8	2.0	2.2	2.4	2.3	2.2	2.1	2.0	2.0	2.0
Japan	4.5	-1.2	1.1	.7	1.0	1.1	1.1	1.3	3.0	-5.0	-.3	1.0
United Kingdom	1.5	2.7	2.6	2.5	2.7	2.7	2.8	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	1.8	1.8	1.7	1.8	1.9	2.0	2.0	1.9	1.9	1.9
Emerging market economies	2.3	1.9	2.5	3.0	3.5	3.6	3.8	3.8	3.8	3.8	3.8	3.8
Asia	4.1	3.9	4.2	4.7	4.9	4.9	4.9	4.9	4.8	4.8	4.8	4.8
Korea	3.3	1.3	3.0	3.9	3.9	3.9	3.9	3.9	3.7	3.7	3.7	3.7
China	5.1	7.8	6.3	6.3	6.2	6.2	6.2	6.2	6.1	6.1	6.1	6.1
Latin America	.9	.2	1.1	1.7	2.4	2.5	2.8	2.8	2.9	2.9	3.0	3.0
Mexico	1.7	2.0	2.3	2.6	3.0	3.0	3.1	3.1	3.1	3.1	3.2	3.2
Brazil	-3.0	-7.2	-3.0	-.5	.8	1.0	1.2	1.5	1.8	2.1	2.1	2.1
Consumer prices[2]												
Total foreign	-.1	2.6	2.3	2.0	2.3	2.3	2.4	2.4	2.4	2.9	2.4	2.5
Previous Tealbook	*-.1*	*2.6*	*2.2*	*2.2*	*2.4*	*2.4*	*2.4*	*2.5*	*2.5*	*2.9*	*2.5*	*2.5*
Advanced foreign economies	-.8	2.0	.6	.9	1.3	1.4	1.5	1.6	1.6	2.6	1.6	1.7
Canada	-.2	2.5	1.2	1.7	1.7	1.7	1.8	1.9	2.0	2.0	2.0	2.0
Japan	-.3	1.7	.0	-.4	.5	.9	1.0	1.1	1.2	6.5	1.2	1.2
United Kingdom	-1.6	1.1	1.7	1.5	1.7	1.7	1.8	1.9	1.9	2.0	2.0	2.0
Euro area	-1.4	2.3	.3	.9	1.2	1.4	1.5	1.5	1.5	1.5	1.5	1.6
Germany	-1.7	2.3	.9	.8	1.3	1.5	1.6	1.7	1.7	1.7	1.7	1.7
Emerging market economies	.4	3.1	3.6	2.9	3.0	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Asia	-.3	2.7	3.4	2.5	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Korea	.1	1.5	1.4	2.5	3.1	3.2	3.2	3.2	3.2	3.2	3.2	3.3
China	-.4	2.6	4.1	2.2	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Latin America	1.6	3.9	4.2	3.9	3.9	3.8	3.8	3.8	3.7	3.7	3.7	3.7
Mexico	.3	2.8	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
Brazil	11.1	10.8	10.0	6.6	6.1	5.7	5.7	5.6	5.5	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	2016	2017	2018
						Projected			
Real GDP[1]									
Total foreign	4.8	3.2	2.3	2.7	2.5	1.8	2.9	2.8	2.9
Previous Tealbook	*4.8*	*3.2*	*2.3*	*2.7*	*2.5*	*2.2*	*3.1*	*3.0*	*3.0*
Advanced foreign economies	3.1	1.8	.3	2.0	1.7	1.2	2.1	1.8	1.9
Canada	3.6	3.0	1.0	2.7	2.5	.6	2.3	2.0	1.9
Japan	3.6	.3	.0	2.3	-.8	1.3	1.1	-.4	1.1
United Kingdom	2.2	1.5	.4	2.4	3.4	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	1.7	1.8	1.9	1.8
Emerging market economies	6.7	4.6	4.3	3.4	3.2	2.4	3.7	3.8	3.9
Asia	8.3	4.9	5.7	5.3	4.9	4.2	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	9.7	8.7	7.8	7.5	7.3	6.4	6.2	6.1	6.0
Latin America	4.7	4.2	3.4	1.5	1.9	1.0	2.6	3.0	3.1
Mexico	4.4	4.2	3.4	1.0	2.6	2.2	3.0	3.1	3.3
Brazil	5.8	2.5	2.3	2.0	-.3	-3.4	1.1	2.0	2.1
Consumer prices[2]									
Total foreign	3.2	3.4	2.3	2.3	2.0	1.7	2.4	2.6	2.5
Previous Tealbook	*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	.7	1.4	1.9	1.7
Canada	2.2	2.7	1.0	1.0	1.9	1.3	1.8	2.0	2.0
Japan	-.3	-.3	-.2	1.4	2.5	.3	.9	2.5	1.3
United Kingdom	3.4	4.6	2.6	2.1	.9	.6	1.8	2.0	2.0
Euro area	2.0	2.9	2.3	.8	.2	.5	1.4	1.5	1.6
Germany	1.6	2.6	2.0	1.3	.4	.5	1.5	1.7	1.8
Emerging market economies	4.3	4.3	3.1	3.3	2.6	2.5	3.1	3.1	3.1
Asia	4.3	4.5	2.6	3.1	1.8	2.1	2.7	2.8	2.8
Korea	3.2	3.9	1.7	1.1	1.0	1.4	3.2	3.2	3.2
China	4.6	4.6	2.1	2.9	1.5	2.1	2.5	2.5	2.5
Latin America	4.4	4.0	4.3	4.0	4.8	3.4	3.8	3.7	3.7
Mexico	4.3	3.5	4.1	3.7	4.2	2.4	3.3	3.3	3.3
Brazil	5.6	6.7	5.6	5.9	6.5	9.6	5.8	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.

U.S. Current Account

Quarterly Data

	----Projected----											
	2015				2016				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	**-469.5**	**-456.7**	**-454.7**	**-512.2**	**-588.5**	**-604.2**	**-653.8**	**-696.7**	**-758.7**	**-756.7**	**-784.2**	**-808.3**
Previous Tealbook	*-453.3*	*-440.7*	*-470.5*	*-507.2*	*-586.6*	*-596.3*	*-643.9*	*-664.0*	*-717.6*	*-708.9*	*-730.7*	*-734.7*
Current account as percent of GDP	-2.7	-2.6	-2.5	-2.8	-3.2	-3.3	-3.5	-3.7	-4.0	-3.9	-4.0	-4.1
Previous Tealbook	*-2.6*	*-2.5*	*-2.6*	*-2.8*	*-3.2*	*-3.2*	*-3.4*	*-3.5*	*-3.8*	*-3.7*	*-3.8*	*-3.7*
Net goods & services	-537.2	-520.0	-514.1	-547.0	-608.0	-637.3	-685.3	-715.1	-760.8	-768.8	-786.0	-797.4
Investment income, net	212.7	200.7	199.6	178.3	176.0	171.5	169.7	161.9	158.7	150.4	140.0	132.6
Direct, net	283.6	280.8	282.7	272.3	282.1	291.3	306.1	316.2	331.4	342.3	352.4	365.7
Portfolio, net	-71.0	-80.1	-83.1	-94.0	-106.1	-119.9	-136.4	-154.3	-172.7	-191.8	-212.4	-233.1
Other income and transfers, net	-145.0	-137.4	-140.1	-143.5	-156.5	-138.3	-138.2	-143.5	-156.5	-138.3	-138.2	-143.5

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**	**-473.3**	**-635.8**	**-777.0**	**-827.4**
Previous Tealbook	*-442.0*	*-460.4*	*-449.7*	*-376.8*	*-389.5*	*-468.0*	*-622.7*	*-723.0*	*-737.5*
Current account as percent of GDP	-3.0	-3.0	-2.8	-2.3	-2.2	-2.6	-3.4	-4.0	-4.1
Previous Tealbook	*-3.0*	*-3.0*	*-2.8*	*-2.2*	*-2.2*	*-2.6*	*-3.3*	*-3.7*	*-3.7*
Net goods & services	-494.7	-548.6	-536.8	-478.4	-508.3	-529.5	-661.4	-778.3	-804.1
Investment income, net	185.7	229.0	220.8	233.6	247.4	197.8	169.8	145.4	120.9
Direct, net	288.0	298.6	290.2	301.7	300.5	279.9	298.9	347.9	403.4
Portfolio, net	-102.3	-69.5	-69.4	-68.1	-53.1	-82.1	-129.2	-202.5	-282.5
Other income and transfers, net	-133.0	-140.8	-133.7	-132.0	-128.6	-141.5	-144.2	-144.2	-144.2

Abbreviations

ABS	asset-backed securities
AFE	advanced foreign economy
BHC	bank holding company
BLS	Bureau of Labor Statistics
BOC	Bank of Canada
BOE	Bank of England
BOM	Bank of Mexico
CDS	credit default swaps
C&I	commercial and industrial
CMBS	commercial mortgage-backed securities
CPI	consumer price index
CRE	commercial real estate
Desk	Open Market Desk
DSGE	dynamic stochastic general equilibrium
ECB	European Central Bank
ECI	employment cost index
EME	emerging market economy
ETF	exchange-traded fund
FFELP	Federal Family Education Loan Program
FOMC	Federal Open Market Committee; also, the Committee
GDP	gross domestic product
HQLA	high-quality liquid assets
IT	information technology
MBS	mortgage-backed securities
MERS	Middle East Respiratory Syndrome
Michigan survey	University of Michigan Surveys of Consumers
NIPA	national income product accounts
OIS	overnight index swap

ON RRP	overnight reverse repurchase agreement
PBOC	People's Bank of China
PCE	personal consumption expenditures
PMI	purchasing managers index
RRP	reverse repurchase agreement
SOMA	System Open Market Account
S&P	Standard & Poor's
TDF	Term Deposit Facility
TIPS	Treasury Inflation-Protected Securities