

## **Prefatory Note**

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Class II FOMC – Restricted (FR)

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# Report to the FOMC on Economic Conditions and Monetary Policy



## Book A

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

March 13, 2013

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

Authorized for Public Release

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## Domestic Economic Developments and Outlook

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The economic data we have received since the January Tealbook have mostly met or exceeded our expectations. In the labor market, payroll employment gains in the past few months have been somewhat larger than we had anticipated, while the unemployment rate edged down, on balance, much as we had projected. The incoming data on private spending have also been a little stronger, on net, than we expected. By contrast, the fact that the Congress has allowed the federal spending sequestration to go into effect suggests that fiscal policy will weigh on near-term economic growth by more than we had assumed in the January Tealbook. In all, real GDP is now projected to rise at an annual rate of 2¾ percent in the current quarter, the same as in the January Tealbook, but then to step down to a 1¾ percent pace in the second quarter as cuts in federal government purchases deepen.

Our medium-term projection for real activity is essentially unchanged from the January Tealbook, with real GDP projected to rise 2½ percent this year, 3¼ percent in 2014, and 3½ percent in 2015. The additional drag from the greater degree of fiscal consolidation and higher foreign exchange value of the dollar in the current forecast is offset by higher projected equity and house prices, positive momentum from the recent spending data, and a stronger outlook for domestic oil production. As in previous projections, the mild acceleration in output that we project to occur over the medium term reflects the anticipated waning of a number of headwinds that have been restraining growth in the past few years, including the economic and fiscal situation in Europe and restrictive fiscal policy here at home; at the same time, we continue to anticipate that monetary policy will remain highly accommodative and that household and business sentiment will improve.

In line with the gradual pickup in economic activity, we expect the unemployment rate to decline from 7¾ percent in the first quarter of this year to about 6¼ percent at the end of 2015. Thus, at the end of 2015, the unemployment rate is still projected to be ½ percentage point above its natural rate. In this respect as well, our current forecast is very similar to the January Tealbook.

On net, readings on consumer prices have come in close to our expectations. With persistent slack in resource utilization, stable long-run inflation expectations, and

## Revisions to the Staff Projection since the Previous SEP

The FOMC last published its Summary of Economic Projections (SEP) following the December FOMC meeting. The table below summarizes revisions to the staff economic projection since the December Tealbook.

The staff projections for both real GDP growth and inflation through 2015 are essentially unrevised since December and continue to show a gradual strengthening of economic growth with inflation remaining below, but edging toward, the FOMC's long-run objective of 2 percent. The projection for the unemployment rate is revised down throughout the medium term, largely reflecting the downward surprise in the unemployment rate since the December Tealbook, which we have allowed to persist. Nonetheless, significant slack remains even at the end of 2015.

The staff projection for GDP growth over the longer run has been revised a little lower since December to be better aligned with our long-run projections for growth of the population and structural multifactor productivity. This lower expected rate of GDP growth over the long run shows through, essentially one-for-one, to our estimate of the equilibrium federal funds rate.

The baseline path for the federal funds rate in the current projection is set in a manner consistent with the quantitative thresholds described in the Committee's statement following the December meeting; in the December forecast, the path of the federal funds rate was tied to the date-based forward guidance then in force. Nevertheless, the federal funds rate trajectory is essentially unrevised since December and continues to envision the federal funds rate moving above its effective lower bound in the fourth quarter of 2015.

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

Variable	2012	2013		2013	2014	2015	Longer run
		H1	H2				
Real GDP <sup>1</sup>	1.7	2.3	2.8	2.5	3.2	3.6	2.3
December Tealbook	1.7	2.1	2.8	2.5	3.2	3.6	2.5
Unemployment rate <sup>2</sup>	7.8	7.7	7.5	7.5	7.1	6.3	5.2
December Tealbook	8.0	7.9	7.8	7.8	7.4	6.5	5.2
PCE inflation <sup>1</sup>	1.6	1.1	1.5	1.3	1.5	1.6	2.0
December Tealbook	1.6	1.2	1.3	1.3	1.4	1.5	2.0
Core PCE inflation <sup>1</sup>	1.5	1.5	1.7	1.6	1.7	1.7	n.a.
December Tealbook	1.6	1.6	1.6	1.6	1.6	1.7	n.a.
Federal funds rate <sup>2</sup>	.16	.13	.13	.13	.13	.30	4.00
December Tealbook	.15	.13	.13	.13	.13	.38	4.25
Memo:							
Federal funds rate, end of period	.13	.13	.13	.13	.13	.50	4.00
December Tealbook	.13	.13	.13	.13	.13	.50	4.25

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

2. Percent, final quarter of period indicated.

n.a. Not available.

relatively small movements in commodity and import prices, we continue to expect core inflation to remain subdued. In response to the gradual reduction in resource slack that we anticipate over the medium term, core PCE inflation is expected to inch up from 1.6 percent in 2013 to 1.7 percent in both 2014 and 2015, unchanged from the January Tealbook.<sup>1</sup> Total PCE inflation is projected to run a little below core inflation throughout the projection period as energy prices decrease, in line with the path of futures prices for oil.

## KEY BACKGROUND FACTORS

### Monetary Policy

Our monetary policy assumptions are unchanged in this Tealbook. Because our medium-term projections for the unemployment rate and inflation are close to the ones we presented in January, our implementation of the Committee's threshold-based guidance continues to result in the federal funds rate lifting off from its effective zero lower bound in the fourth quarter of 2015. For now, we have also maintained our January assumptions for the Federal Reserve's balance sheet. In particular, we continue to assume the FOMC will cease its current LSAP program this June, bringing the cumulative net purchases since December to \$500 billion.<sup>2</sup>

### Other Interest Rates

Since the January Tealbook, the 10-year Treasury yield has increased about 20 basis points to just over 2 percent, a little more than we had anticipated. Nonetheless, the projected path of the yield is little changed from the January Tealbook; we continue to expect it to increase steadily to about 4 percent by the end of 2015. This projected increase primarily reflects the movement of the 10-year valuation window through the period of extremely low short-term interest rates and a gradual waning of the effects of the FOMC's balance sheet policies. We also still allow for some upward pressure on the 10-year Treasury yield as investors move toward our assumption that the Federal Reserve will purchase fewer securities than they currently anticipate.

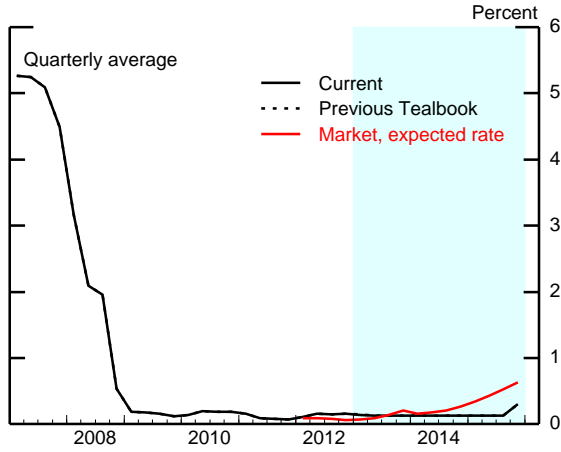
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<sup>1</sup> The February reading on the consumer price index will be published at the end of this week.

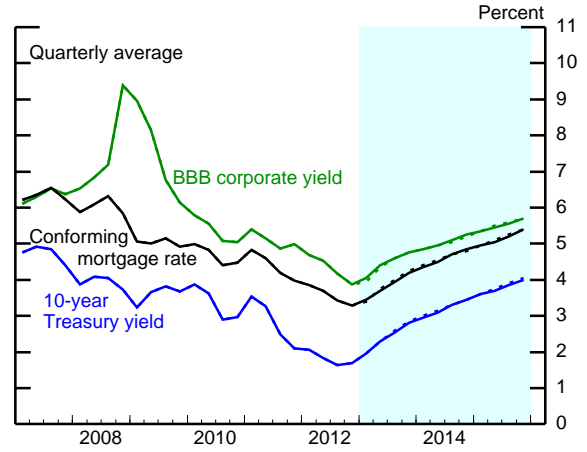
<sup>2</sup> For reference, had we assumed instead that the Federal Reserve would purchase another \$250 billion of longer-term securities over the second half of this year but keep the path of the federal funds rate unchanged through 2017, we would have trimmed our projection for the level of the unemployment rate in the fourth quarter of 2015 about 0.1 percentage point and marked up our forecast for consumer price inflation in 2015 a few basis points.

## Key Background Factors underlying the Baseline Staff Projection

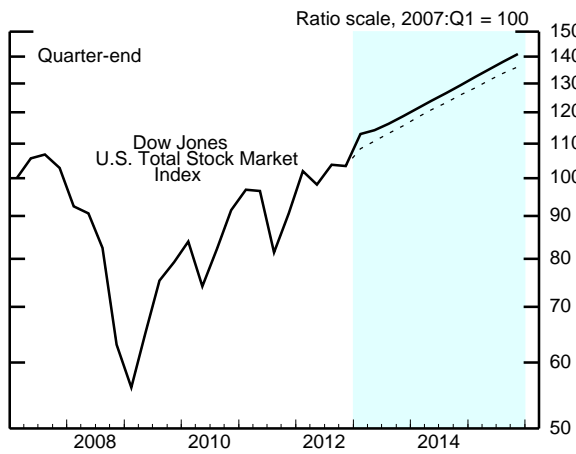
Federal Funds Rate



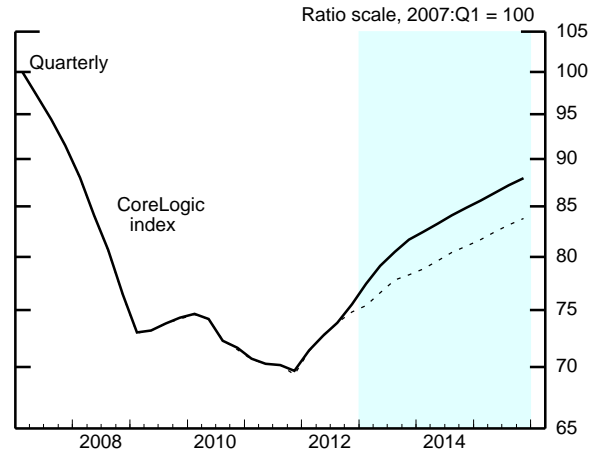
Long-Term Interest Rates



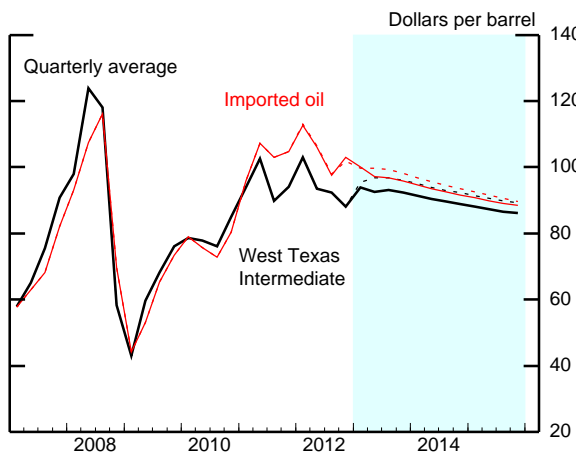
Equity Prices



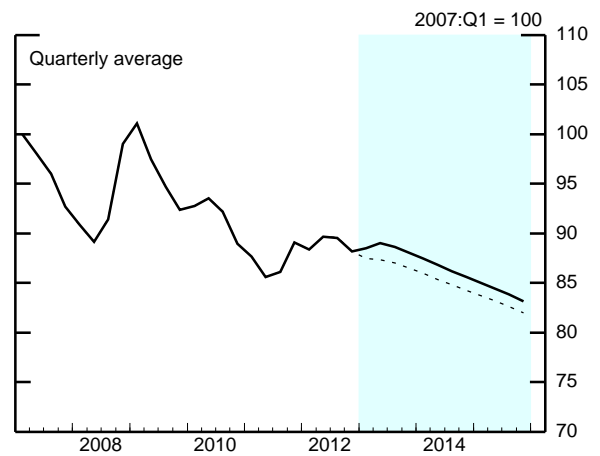
House Prices



Crude Oil Prices



Broad Real Dollar



Yields on investment-grade corporate bonds have moved up about 25 basis points since the January Tealbook, leaving their spreads to yields on comparable-maturity Treasury securities a touch wider. We have carried the slightly higher bond spread through the next several quarters, but we still expect the spread to narrow gradually over the forecast period, ending 2015 almost ½ percentage point below its current level. Conventional 30-year mortgage rates have increased about 25 basis points and are expected to move up about in line with benchmark Treasury yields, which would take them from their current level of about 3½ percent to about 5½ percent by the end of 2015.

## **Equity Prices and Home Prices**

Broad indexes of U.S. stock prices have climbed about 4 percent since the January Tealbook, a higher gain than we had anticipated. We continue to expect equity prices to rise at an average annual rate of close to 9 percent through the end of 2015, resulting in a higher projected path of stock prices this round.

Recent readings on home prices have once again been stronger than we had expected, leading us to revise up our forecast for the level of house prices significantly throughout the projection period. The recent large price increases appear to have been related to tight supply conditions in many local markets. We expect these conditions to persist this year and now forecast house prices to rise 8 percent in 2013, about the same as the increase seen in 2012. In 2014 and 2015, we expect increases in house prices to slow to an average pace of just under 4 percent as a step-up in construction adds to supply and higher mortgage rates weigh on housing affordability. At the end of 2015, the projected level of house prices is about 5 percent higher than in the January Tealbook.

## **Fiscal Policy**

We have changed our assumptions regarding how the spending sequestration will play out. In January, we assumed that the Congress and the Administration would forge a compromise that would eliminate all of the effects of the sequestration in 2013 and replace it with much more gradual deficit-reduction policies in later years. While the ultimate disposition of the sequestration remains highly uncertain, it now appears likely that there will be more fiscal restraint this year than we had previously thought. As a result, we have incorporated a “modified sequester” into our forecast: We assume that fiscal policymakers will reach a compromise that reduces spending in 2013 and 2014 by half of the amount that would occur if the full sequestration is left in place. We continue to assume additional tightening in 2015.



With these new assumptions, fiscal policy at all levels of government is projected to restrain the rate of real GDP growth in 2013 by 1 percentage point (excluding multiplier effects)—about  $\frac{1}{4}$  percentage point more than in the January Tealbook.<sup>3</sup> We continue to forecast that the fiscal restraint on growth of aggregate demand will decrease to  $\frac{1}{2}$  percentage point in 2014 and to  $\frac{1}{4}$  percentage point in 2015. As a result of policy actions to reduce the deficit and the improving economy, the federal budget deficit, which was 7 percent of GDP (\$1.1 trillion) in fiscal year 2012, is projected to fall to  $4\frac{3}{4}$  percent of GDP this fiscal year, and to  $2\frac{3}{4}$  percent of GDP in fiscal 2015.

### Foreign Activity and the Dollar

Foreign real GDP rose at an unexpectedly weak 2 percent pace in the fourth quarter. Growth was disappointing in most advanced foreign economies, with output contracting in Europe. By contrast, the expansion of output growth in emerging market economies exceeded our expectations. Weak incoming data on the advanced economies in the current quarter and some increased financial stresses in Europe following Italy's inconclusive parliamentary election have led us to mark down total foreign growth a little over the forecast period. However, we anticipate that financial conditions in Europe will resume their progress toward normalization—a development that, along with diminishing fiscal drag and accommodative monetary policy, is projected to help end the euro area's recession and lift overall foreign growth to 3 percent this year,  $3\frac{1}{4}$  percent in 2014, and  $3\frac{1}{2}$  percent in 2015.

Since the time of the January Tealbook, the nominal exchange value of the dollar has appreciated almost 2 percent, with larger gains against advanced-economy currencies than those in emerging markets. The Japanese yen depreciated about 8 percent against the dollar, as the nomination of Haruhiko Kuroda to lead the Bank of Japan reinforced the view that aggressive monetary policy action is forthcoming. In addition, both the euro and the pound depreciated markedly as readings on activity came in weak, expectations for further monetary accommodation increased, and financial stresses in Europe intensified after the Italian election. We assume that the dollar will depreciate in real terms at an annual rate of  $2\frac{3}{4}$  percent through the end of 2015, reflecting the gradual abatement of European financial stresses—which should relieve safe-haven pressure on

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<sup>3</sup> If a compromise is not reached and the full sequestration remains in place, we would expect an additional drag on real GDP growth of  $\frac{1}{4}$  percentage point and the unemployment rate to be 0.1 percentage point higher in 2013.

the dollar—and the trend decline of the dollar against emerging market currencies. The broad real dollar averages just over 1½ percent higher over the forecast period than in the January Tealbook.

### **Oil and Other Commodity Prices**

After rising through mid-February, crude oil prices fell back in recent weeks on growing concern over the strength of global demand. The spot price of Brent crude oil closed at about \$110 per barrel on March 12, down about \$2 from the time of the January Tealbook. The projected path for the price of imported oil is also down by about the same amount on average. From this lower level, the price of imported oil is projected to remain fairly steady for the remainder of this year and then to decrease slowly in the next two years, consistent with futures prices. This downward trajectory is likely due, in part, to expectations of increased crude production in the United States and Canada.

A broad index of nonfuel commodity prices has moved down since the time of the January Tealbook, partly as the global supply of agricultural products appears to have been less restricted by last summer's drought than market participants originally feared. Metals prices also edged down, on net, largely reflecting concerns over the strength of Chinese demand. We project that nonfuel commodity prices will remain relatively flat through 2015, a path about in line with quotes from futures markets.

## **RECENT DEVELOPMENTS AND THE NEAR-TERM OUTLOOK FOR REAL GDP**

We currently expect real GDP to rise at an annual rate of 2¾ percent in the current quarter—unrevised from the January Tealbook. This pace of growth is boosted by the assumed recovery in agricultural production and a hurricane-related bounceback. In the second quarter, growth slows to a 1¾ percent pace as these impulses fade and the spending cuts associated with the modified sequestration kick in. The adjustment to fiscal spending accounts for most of the ½ percentage point downward revision to our second quarter forecast relative to the January Tealbook.

### **Household Spending**

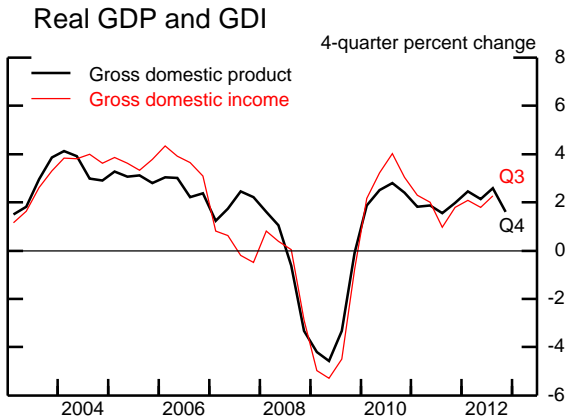
We project that real PCE will rise at an annual rate of 2 percent in the current quarter, up about ¼ percentage point from the January Tealbook. Based on retail sales and motor vehicle sales through February, PCE appears to be holding up reasonably well in the face of January's increase in payroll and income tax rates. We continue to expect households' gradual adjustment to the lower level of disposable income to weigh on

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

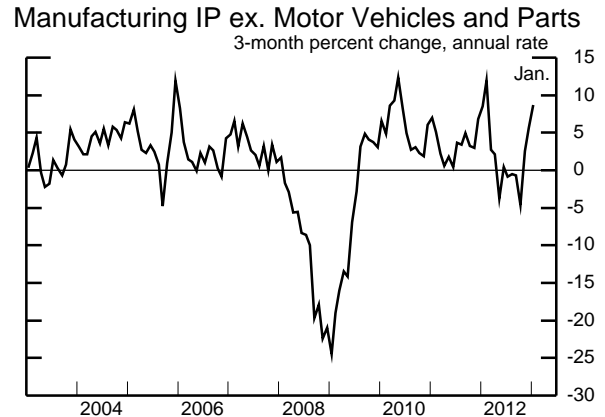
Measure	2012:Q4		2013:Q1		2013:Q2	
	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook
<b>Real GDP</b>	<b>.1</b>	<b>.6</b>	<b>2.7</b>	<b>2.8</b>	<b>2.4</b>	<b>1.8</b>
Private domestic final purchases	3.4	3.7	2.1	2.4	3.5	3.4
Personal consumption expenditures	2.2	2.0	1.7	2.1	2.6	2.5
Residential investment	13.1	17.8	15.0	17.7	25.1	22.8
Business fixed investment	9.6	12.8	2.2	.6	5.0	5.0
Government purchases	-5.6	-6.8	-1.1	-1.1	-1.5	-4.6
<i>Contributions to change in real GDP</i>						
Inventory investment <sup>1</sup>	-1.4	-1.4	.9	1.1	-.2	-.5
Net exports <sup>1</sup>	-.2	.3	.2	.0	.0	.3
<b>Unemployment Rate<sup>2</sup></b>	<b>7.8</b>	<b>7.8</b>	<b>7.8</b>	<b>7.8</b>	<b>7.7</b>	<b>7.7</b>
<b>PCE Chain Price Index</b>	<b>1.2</b>	<b>1.5</b>	<b>.9</b>	<b>1.1</b>	<b>1.9</b>	<b>1.1</b>
Ex. food and energy	.8	.9	1.6	1.4	1.7	1.6

1. Percentage points.
2. Percent.

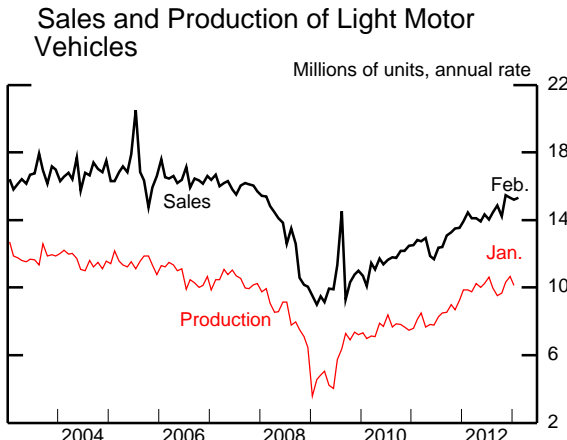
**Recent Nonfinancial Developments (1)**



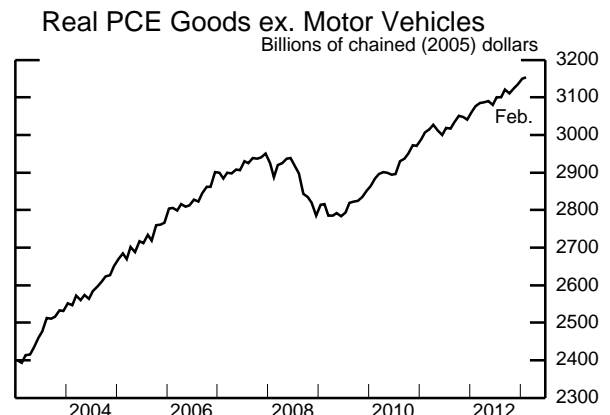
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.



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



Source: Ward's Auto Infobank.



Note: Figures for December, January, and February 2013 are staff estimates based on available source data.  
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

consumer spending in the near term. Nevertheless, real PCE is expected to move up at a 2½ percent pace in the second quarter as the growing drag from the tax increases is more than offset by rising employment and wealth.<sup>4</sup>

In the housing market, the incoming data on starts and sales continue to be consistent with a gradual recovery. At the same time, the number of homes for sale has fallen considerably, bringing inventories of both new and existing homes to very low levels by historical standards. The limited supply of homes for sale is likely due to several factors, including underwater borrowers' reluctance to sell, a slowing in the flow of foreclosed properties coming to the market, and the still-low level of new construction. All told, as in the January Tealbook, we project single-family starts to rise further in the near term, in line with continued gradual increases in demand.

Tight mortgage credit and concerns about future labor market conditions appear to have fueled demand for rental units, leading to falling vacancy rates and rising rents in the multifamily sector. Multifamily starts and permits have nearly recovered to their pre-crisis levels, and we expect to see further growth in this sector as the supportive fundamentals persist.

### **Business Investment**

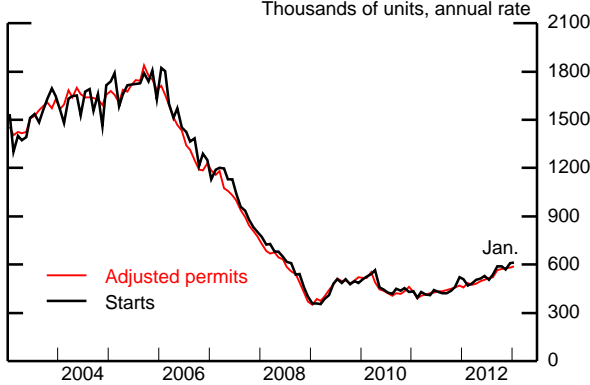
Orders and shipments of nondefense capital goods excluding aircraft have continued to recover from a weak patch in the summer of last year. New orders surged almost 10 percent (not at an annual rate) over the three months ending in January and the level of new orders is now above shipments, suggesting that shipments will remain on an upward trajectory in coming months. Forward-looking indicators of business investment are also consistent with a pickup in real investment in equipment and software (E&S) in the first half of this year relative to the second half of last year. For example, the ISM surveys have shown some improvement of late, and analysts' earnings expectations for capital goods producers have turned more positive since December. Overall, we forecast real business spending on E&S to step up to a growth rate of 5¾ percent in the first half of this year, somewhat faster than in the January Tealbook.

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<sup>4</sup> Our forecast for real disposable personal income jumps in the fourth quarter and falls back in the first quarter, largely owing to the BEA's estimate that some dividends and bonuses were paid early in anticipation of tax increases beginning in 2013. We expect consumers to smooth through this income volatility and do not expect it to have a large effect on consumption.

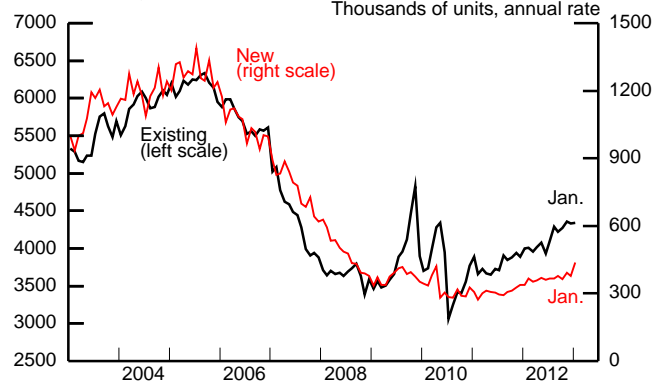
## Recent Nonfinancial Developments (2)

### Single-Family Housing Starts



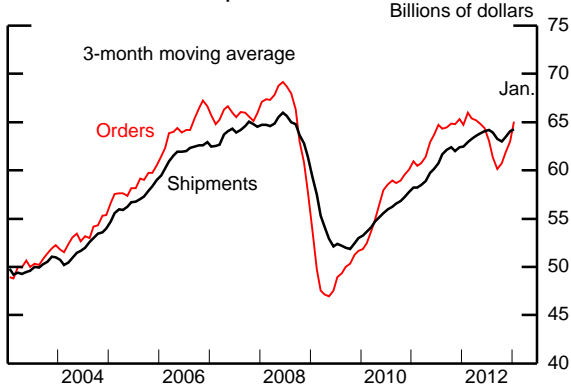
Note: Adjusted permits equal permits plus starts outside of permit-issuing areas.  
Source: U.S. Census Bureau.

### Single-Family Home Sales



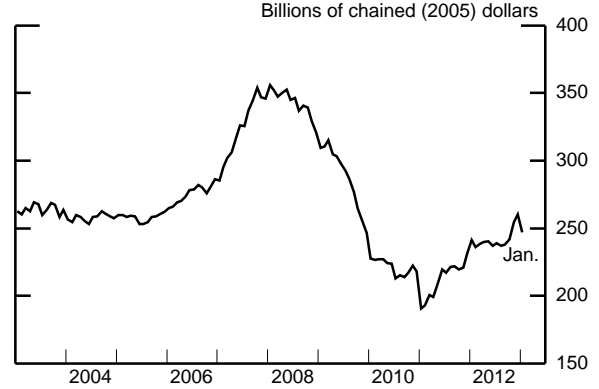
Source: For existing, National Association of Realtors; for new, U.S. Census Bureau.

### Nondefense Capital Goods ex. Aircraft



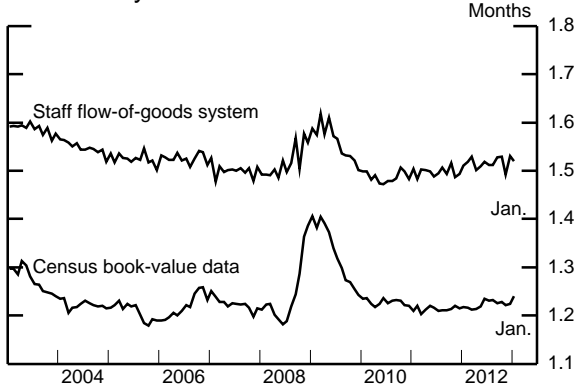
Source: U.S. Census Bureau.

### Nonresidential Construction Put in Place



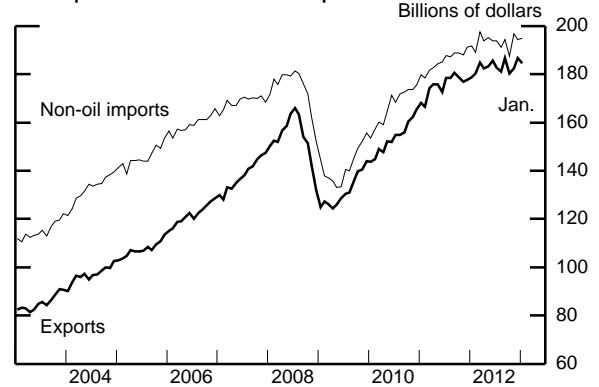
Note: Nominal CPIP deflated by BEA prices through 2012:Q3 and by staff's estimated deflator thereafter.  
Source: U.S. Census Bureau.

### Inventory Ratios ex. Motor Vehicles



Note: Flow-of-goods system covers total industry ex. motor vehicles and parts, and inventories are relative to consumption. Census data cover manufacturing and trade ex. motor vehicles and parts, and inventories are relative to sales.  
Source: U.S. Census Bureau; staff calculation.

### Exports and Non-oil Imports



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

Our estimate of nonresidential investment in the fourth quarter was revised up substantially, as new source data revealed a rush of construction outlays in anticipation of the possible expiration of a tax credit for wind power structures.<sup>5</sup> We have revised down our forecast for the level of spending in the first quarter accordingly. Excluding the power sector, recent data suggest a modest improvement in nonresidential building investment in the first half of this year that is consistent with our January Tealbook forecast. Nevertheless, high vacancy rates and low commercial real estate prices should continue to weigh on investment. Moreover, although financing conditions for existing commercial real estate have improved, they remain tight for new construction.

Inventories appear fairly well aligned with sales in most sectors, and our near-term inventory forecast is largely unrevised on net. Estimates from the staff's flow-of-goods system and indicators of inventory sentiment from the ISM through February show no evidence of sizable inventory imbalances. Consequently, real nonfarm inventory investment is expected to be roughly neutral for real GDP growth in the first half of this year. In the farm sector, real inventory investment is expected to boost real GDP growth by  $\frac{3}{4}$  percentage point in the first quarter, as farm output returns to normal after having been held down by the drought in the second half of last year. We expect this impetus to growth to disappear in the second quarter.

## Government

Improvements in state and local government budgets are reducing the pressure on these jurisdictions to cut their purchases. Overall, we expect their real purchases to decrease only a little in the first half of 2013. Nevertheless, this projection is somewhat softer than in the January Tealbook due to weaker-than-expected incoming data on state and local construction spending and employment so far this quarter.

We now project total real federal purchases to contract at an annual rate of 2 percent in the current quarter, a decline that is a little smaller than in the January Tealbook due to incoming data on defense spending. We do not expect real federal purchases in the first quarter to be materially affected by the spending sequestration that began on March 1 because most agencies have reportedly delayed furloughs and other

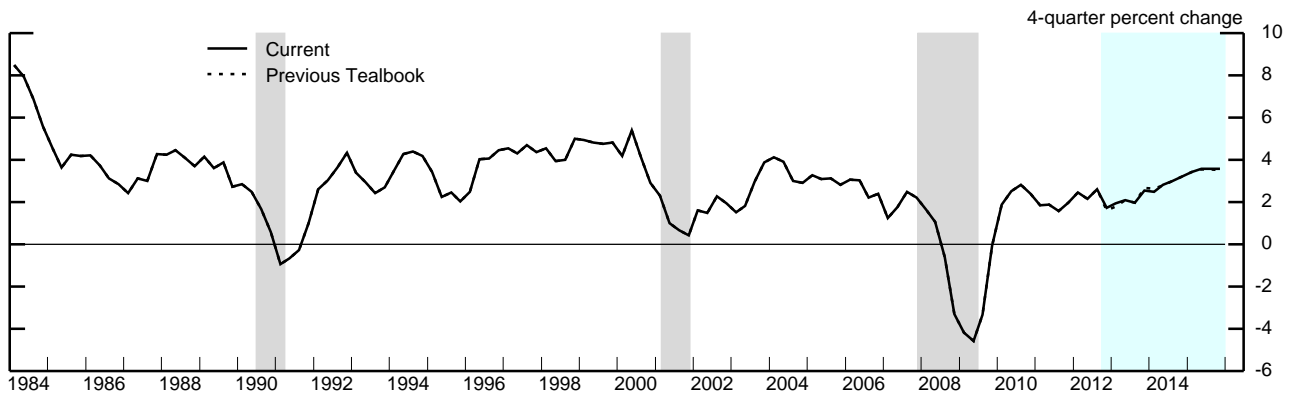
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<sup>5</sup> The tax credit was extended as part of the "fiscal cliff" deal. The new data on construction outlays were released after the publication of the second estimate of the NIPA. We expect the revised data to boost the published figure for fourth-quarter real GDP growth  $\frac{1}{4}$  percentage point when they are incorporated into the third estimate.

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

Measure	2011	2012	2013		2014	2015
			H1	H2		
<b>Real GDP</b>	<b>2.0</b>	<b>1.7</b>	<b>2.3</b>	<b>2.8</b>	<b>3.2</b>	<b>3.6</b>
Previous Tealbook	2.0	1.6	2.6	2.8	3.2	3.5
Final sales	1.7	2.1	2.0	2.6	3.0	3.7
Previous Tealbook	1.7	2.0	2.2	2.7	3.0	3.5
Personal consumption expenditures	1.9	1.9	2.3	2.6	3.3	3.7
Previous Tealbook	1.9	1.9	2.1	2.6	3.3	3.5
Residential investment	3.9	15.0	20.2	17.2	13.9	14.0
Previous Tealbook	3.9	13.8	19.9	16.0	12.7	13.8
Nonresidential structures	6.9	7.2	-4.2	7.0	3.3	3.1
Previous Tealbook	6.9	3.1	3.6	4.8	2.5	2.1
Equipment and software	11.4	4.7	5.7	7.2	5.6	6.3
Previous Tealbook	11.4	5.2	3.6	7.9	5.8	6.0
Federal purchases	-4.2	-2.8	-6.6	-4.1	-5.3	-3.4
Previous Tealbook	-4.2	-2.2	-3.5	-4.3	-4.9	-3.3
State and local purchases	-2.7	-1.0	-.4	.0	.3	1.1
Previous Tealbook	-2.7	-.9	.2	.4	.9	1.2
Exports	4.3	2.1	4.9	3.7	5.4	6.9
Previous Tealbook	4.3	1.7	5.2	5.3	6.1	7.1
Imports	3.5	.2	3.2	4.1	4.5	5.0
Previous Tealbook	3.5	.7	3.7	4.1	4.8	5.3
<b>Contributions to change in real GDP (percentage points)</b>						
Inventory change	.3	-.4	.3	.2	.2	-.2
Previous Tealbook	.3	-.4	.4	.0	.2	.0
Net exports	.0	.3	.1	-.2	.0	.1
Previous Tealbook	.0	.1	.1	.0	.0	.1

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.

cost-cutting measures until the second quarter. But in the second quarter, we project purchases to drop at an annual rate of 11 percent as our assumed “modified sequestration” takes effect. The pattern of federal spending in the near term is particularly uncertain because we have little evidence on which to base our judgment about how quickly agencies will adjust their spending to lower funding levels.

## **Foreign Trade**

Real exports of goods and services are projected to rebound in the current quarter after having fallen in the fourth quarter, supported by the continued robust expansion of the emerging market economies. Our forecast for export growth of about 5 percent in the first half of the year is little changed, on balance, from the January Tealbook, although we shifted some exports from the first quarter to the second to account for delivery delays at Boeing as the company works to correct problems with the 787 Dreamliner. Real imports of goods and services are expected to grow at an average rate of 3¼ percent in the first half of this year, consistent with the projected pace of expansion in U.S. economic activity. This forecast is a little lower than the January Tealbook projection, reflecting both the markdown to U.S. growth and a lower projection for oil imports. Overall, we expect net exports to be a slight positive for growth in the first half of this year.

## **The Industrial Sector**

We project manufacturing output to rise at an annual rate of 7 percent in the first quarter, partly supported by activity related to the recovery from Hurricane Sandy. Near-term indicators, although mixed, have improved somewhat and also point to moderate gains in the first half of this year. In particular, the new orders index from the ISM manufacturing survey rose in February to its highest level since April 2011, and the three-month moving average of the staff’s estimate of real adjusted durable goods orders increased 1 percent in January.

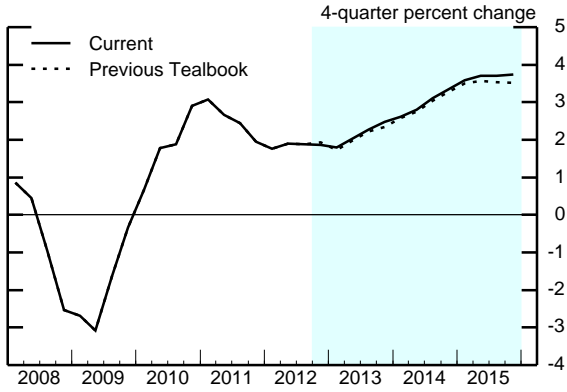
## **THE MEDIUM-TERM OUTLOOK FOR REAL GDP**

The contour of the medium-term projection for real GDP growth is similar to the one in the January Tealbook, as the effects of changes to our key conditioning assumptions have been offsetting on net. On the downside, we now expect fiscal policy to impose more restraint on economic growth than we projected in January, and the upward revision to the exchange value of the dollar is anticipated to hold down exports.

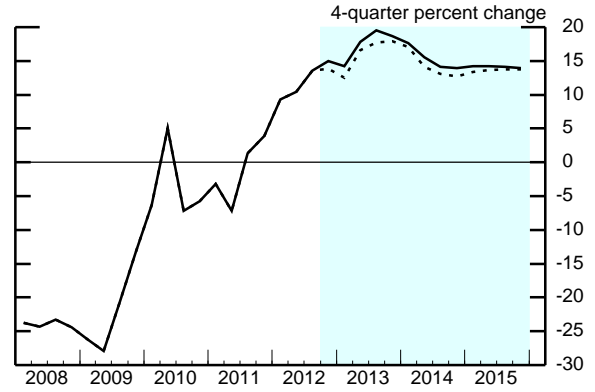


### Components of Final Demand

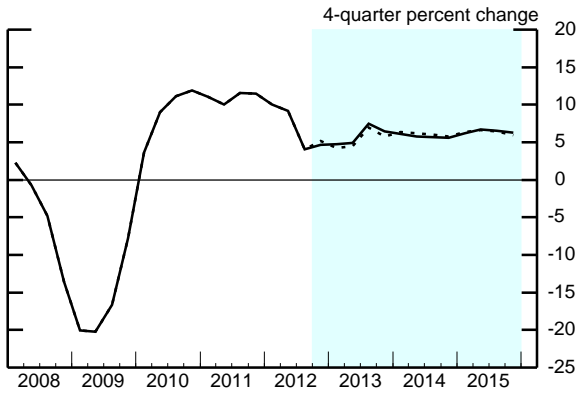
#### Personal Consumption Expenditures



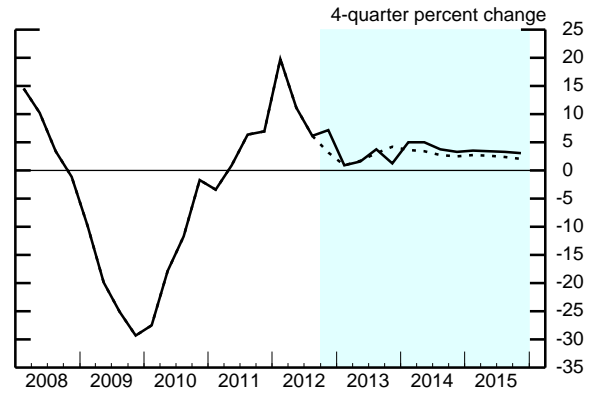
#### Residential Investment



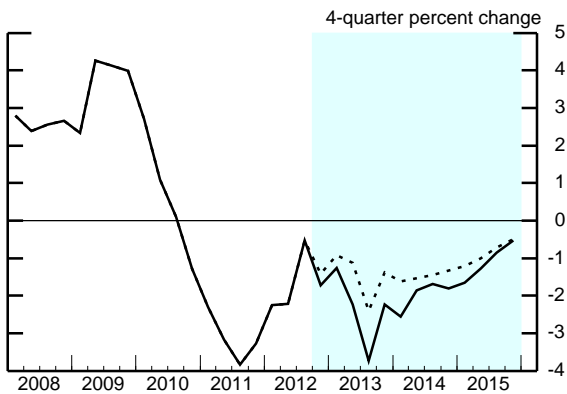
#### Equipment and Software



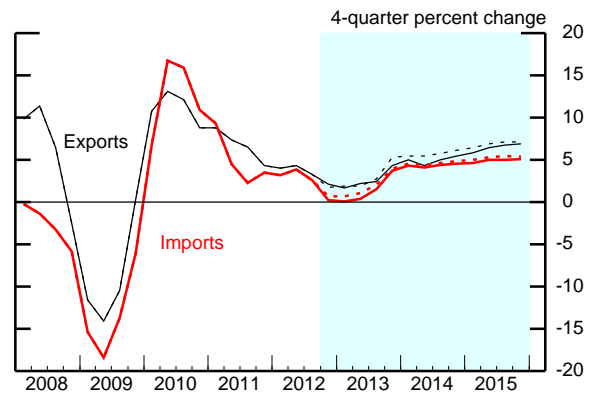
#### Nonresidential Structures



#### Government Consumption & Investment



#### Exports and Imports



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

On the upside, though, we have marked up our forecasts for house prices and the stock market, and revised down slightly our projection for oil prices. In addition, we have upgraded our outlook for domestic oil production in the medium term considerably, as we have taken on board the Department of Energy's view that domestic oil production is likely to continue increasing over the next few years.

All told, real GDP is now projected to expand 2½ percent this year, a modest step up from the 1¾ percent pace of last year.<sup>6</sup> Our forecast then calls for growth in real GDP to move up a little further to an average pace of 3½ percent in 2014 and 2015. In an environment of highly accommodative monetary policy, this gradual acceleration is supported by an easing of a number of headwinds that have restrained growth in the past several years. In particular, we expect the restraint from federal fiscal policy to diminish after this year. Also, European financial and economic conditions are projected to improve gradually over the next several years, supporting an acceleration in exports. Moreover, lenders should gradually increase the availability of mortgage credit to a broader range of homebuyers as capacity constraints ease over time and regulatory uncertainty around mortgage finance is reduced. In sum, these developments are expected to lead to a growing sense among households and firms that threats to the recovery have diminished, which should, in turn, help lower asset risk premiums and boost consumer and business confidence, contributing to greater household consumption as well as business investment and hiring.

The sector where the projected pickup in economic activity is most evident is consumer spending. Real PCE is expected to rise 2½ percent this year before stepping up to 3¼ percent in 2014 and 3¾ percent in 2015. We anticipate that this acceleration will be supported by rising disposable incomes (stemming from ongoing improvements in the labor market) and improving consumer confidence as well as by increases in household wealth. The projected path of real PCE is little changed, on net, from the January Tealbook.

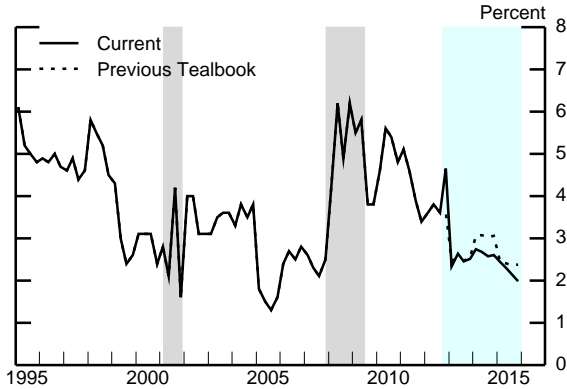
Smaller declines in government purchases also contribute to the projected acceleration in real GDP after this year. In particular, we expect the drag from federal government purchases to wane over the forecast period as the pace of fiscal consolidation

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<sup>6</sup> About half of this projected acceleration is due to the drought and Hurricane Sandy, which held down real GDP in 2012 and is expected to boost growth in 2013 as damaged equipment and structures are replaced and as farm output comes back to normal.

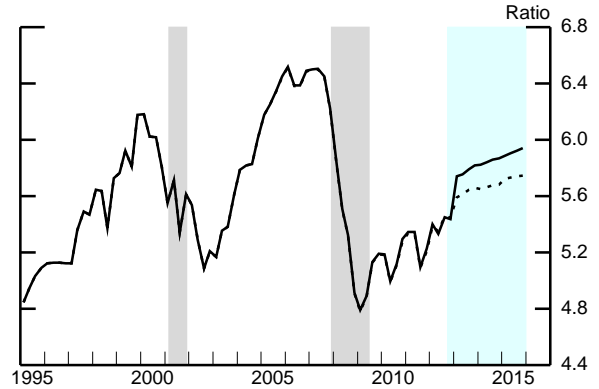
## Aspects of the Medium-Term Projection

Personal Saving Rate



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

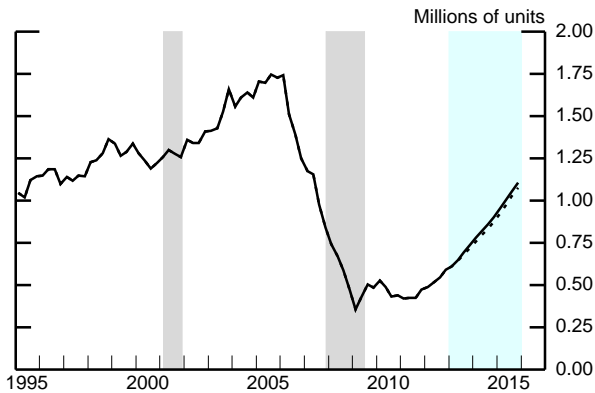
Wealth-to-Income Ratio



Note: Household net worth as a ratio to disposable personal income.

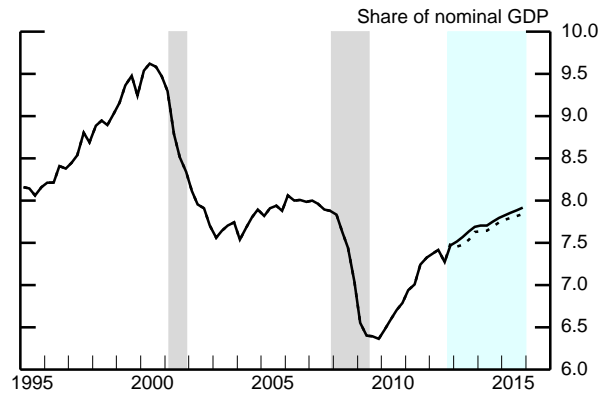
Source: For net worth, Federal Reserve Board, flow of funds data; for income, Dept. of Commerce, Bureau of Economic Analysis.

Single-Family Housing Starts



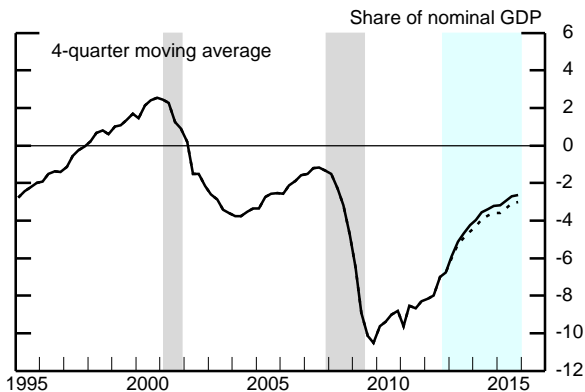
Source: U.S. Census Bureau.

Equipment and Software Spending



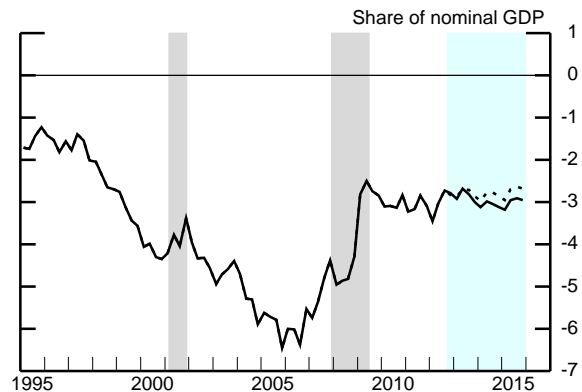
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

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.

slows and the scaling-back of overseas military operations moderates. Meanwhile, slowly improving budget conditions should allow purchases by state and local governments to flatten out in 2013 and begin to rise a little in 2014 and 2015.

Residential construction is projected to benefit from the same factors that support the strengthening of consumer spending, including rising confidence, income, and wealth. However, these effects are offset to some extent by the considerable increase in mortgage interest rates that we expect to occur over the medium term. As a result, growth in residential investment is projected to ease from a pace of 19 percent this year to an average pace of 14 percent in 2014 and 2015. This recovery is noticeably weaker than that seen in many previous housing recoveries, in part because mortgages will continue to remain out of reach for some households.

Growth in E&S investment is expected to average 6¼ percent per year over the medium term, supported by rising demand emanating from the consumer and foreign sectors. Despite the modest acceleration that we project for business output, the increase in capital expenditures is anticipated to be a little larger in 2013 than in 2014, as some investment that may have been delayed last year due to heightened uncertainty about Europe and about U.S. fiscal policy is resumed this year. Moreover, the expected expiration of the 50 percent bonus depreciation provision at the end of this year pulls forward some investment from next year into this year.

In the nonresidential building sector, we are projecting a modest increase in spending growth over the medium term, as the strengthening in overall economic activity leads to very gradual improvements in vacancy rates, commercial real estate prices, and credit availability. By contrast, growth in drilling and mining investment is expected to slow in the next two years after a few years of rapid increases. Overall, our forecast calls for investment in real nonresidential structures to increase about 3¼ percent in each of 2014 and 2015.

Inventory investment and the external sector are both expected to be roughly neutral for real GDP growth over the medium term. With little sign of inventory imbalances, we expect nonfarm inventories to accumulate in line with final sales in the next two years. Meanwhile, both exports and imports are projected to accelerate, reflecting strengthening economic growth at home and abroad. Our forecast for real exports is somewhat lower than in the January Tealbook forecast owing to the stronger exchange value of the dollar. Also, the stronger dollar boosts import growth, but this

**The Outlook for the Labor Market**  
(Percent change from final quarter of preceding period at annual rate)

Measure	2011	2012	2013		2014	2015
			H1	H2		
Output per hour, nonfarm business	.4	.7	.4	1.4	1.8	1.7
Previous Tealbook	.6	.4	.9	1.6	1.8	1.8
Nonfarm private employment <sup>1</sup>	202	189	186	180	210	256
Previous Tealbook	175	159	159	170	205	253
Labor force participation rate <sup>2</sup>	64.1	63.7	63.6	63.6	63.5	63.4
Previous Tealbook	64.1	63.7	63.6	63.6	63.5	63.4
Civilian unemployment rate <sup>2</sup>	8.7	7.8	7.7	7.5	7.1	6.3
Previous Tealbook	8.7	7.8	7.7	7.6	7.1	6.3

1. Thousands, average monthly changes.

2. 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	2011	2012	2013		2014	2015
			H1	H2		
PCE chain-weighted price index	2.5	1.6	1.1	1.5	1.5	1.6
Previous Tealbook	2.5	1.5	1.4	1.4	1.5	1.6
Food and beverages	5.1	1.1	2.3	1.4	1.1	1.5
Previous Tealbook	5.1	1.2	3.0	1.5	1.1	1.5
Energy	11.9	3.2	-6.1	-1.3	-1.2	-.8
Previous Tealbook	11.9	2.2	-3.9	-2.4	-1.5	-1.1
Excluding food and energy	1.7	1.5	1.5	1.7	1.7	1.7
Previous Tealbook	1.7	1.5	1.7	1.6	1.7	1.7
Prices of core goods imports <sup>1</sup>	4.3	.1	1.1	1.0	1.5	1.6
Previous Tealbook	4.3	.0	2.0	1.3	1.5	1.5

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

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

effect is more than offset by a downward revision to oil imports stemming from our brighter outlook for domestic oil production. Combining the two, our projection for net exports is little different from the January Tealbook.

## **THE OUTLOOK FOR THE LABOR MARKET AND INFLATION**

Conditions in the labor market have continued to improve at a pace that is, at least by some metrics, stronger than we had expected. The unemployment rate moved down to 7.7 percent in February, in line with our projection. But in the establishment survey, nonfarm employment came in higher than expected, averaging 180,000 jobs per month in January and February, about the same as the upward-revised pace in the second half of last year. Taking account of the annual revisions, the level of nonfarm payroll employment in February surprised us to the upside by 330,000.<sup>7</sup> Both the workweek for February and the level of aggregate hours also came in somewhat higher than we anticipated.

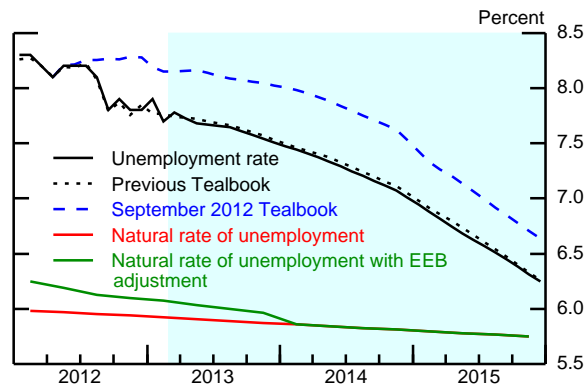
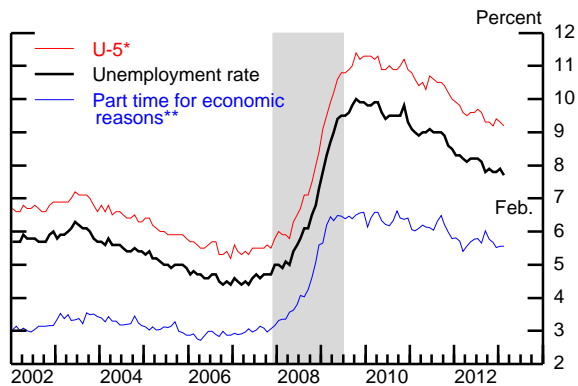
Forward-looking indicators of labor market activity are also consistent with continued employment gains in coming months. Initial claims for unemployment insurance have drifted down over the past few months and are now at their lowest level since early 2008. Meanwhile, individuals' expectations of future labor market conditions brightened a bit in February. That said, the more restrictive picture for fiscal restraint stemming from the federal sequestration suggests somewhat less hiring by private contractors in the near term. We expect the effect of the spending sequestration on federal payroll employment to be minimal as government agencies use furloughs rather than layoffs to reduce spending. In all, we now look for employment gains to average about 175,000 per month and for the unemployment rate to hold steady at 7.7 percent over the next several months. Absent sequestration-related spending cuts, we estimate that employment gains would average about 200,000 per month over the next several months.

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<sup>7</sup> The January employment report released on February 1 included upward revisions to payroll employment from several sources. First, the usual annual benchmark revision raised the level of total nonfarm employment in March 2012 by nearly 425,000; we had anticipated most of this revision, on the basis of the Bureau of Labor Statistics preliminary estimate announced in the fall. Second, payroll employment growth from April to December 2012 was revised up by a cumulative 225,000 because of both additional adjustments associated with the benchmark revision and the inclusion of additional survey responses for November and December. Finally, new seasonal factors released with the January report appear to have removed the residual seasonality in the payroll employment data that resulted from the timing of the recent recession.

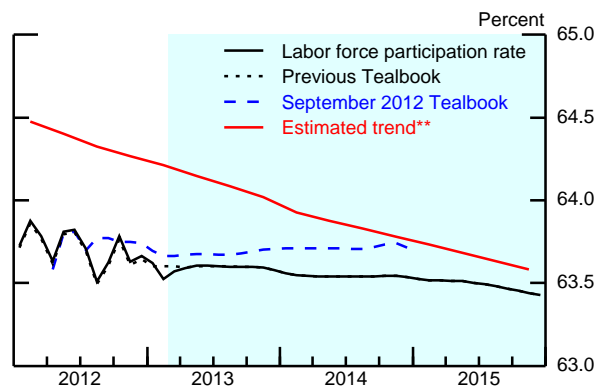
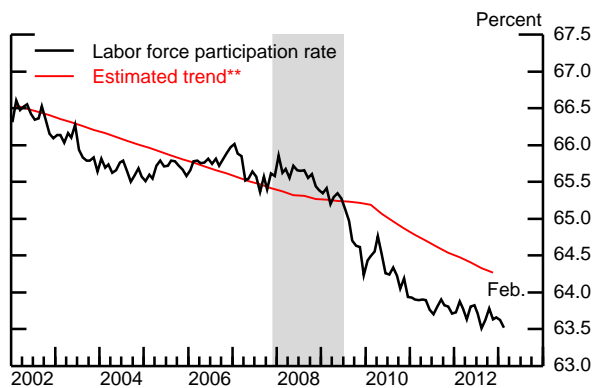
## Labor Market Developments and Outlook

### Measures of Labor Underutilization



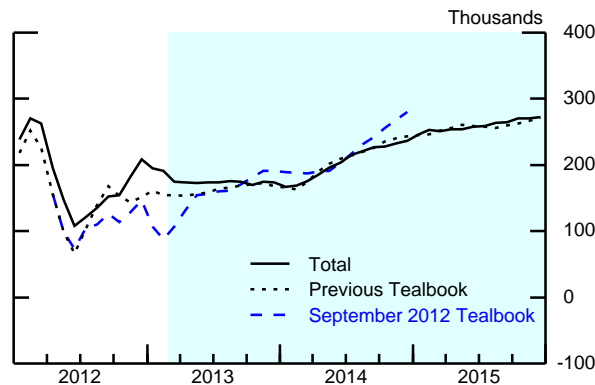
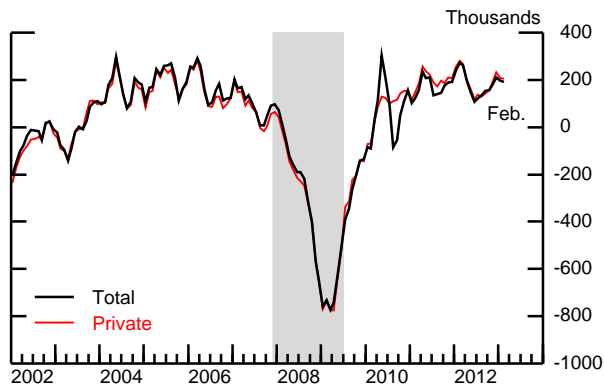
\* U-5 measures total unemployed plus all marginally attached to the labor force, as a percent of the labor force plus persons marginally attached to the labor force.  
 \*\* Percent of Current Population Survey employment.  
 EEB Extended and emergency unemployment benefits.

### Labor Force Participation Rate\*



\* Published data adjusted by staff to account for changes in population weights.  
 \*\* Includes staff estimate of the effect of EEB.

### Change in Payroll Employment\*

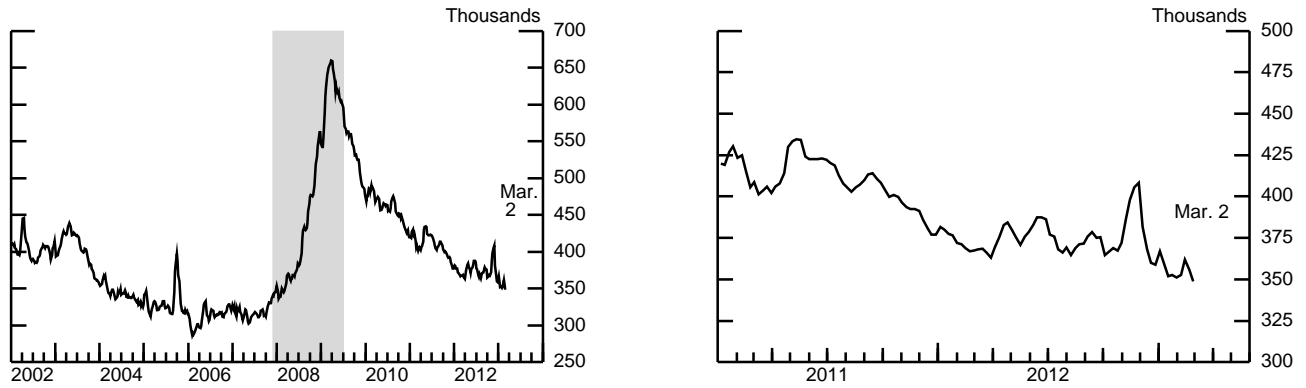


\* 3-month moving averages in history; average monthly changes in each quarter during the forecast period.

Note: In September 2012, judgmental projections were prepared through 2015 for the Summary of Economic Projections variables including the unemployment rate, while projections for other variables, including the labor force participation rate and payroll employment, were prepared only through 2014. This exhibit therefore reports a 2015 projection from the September 2012 Tealbook only for the unemployment rate.

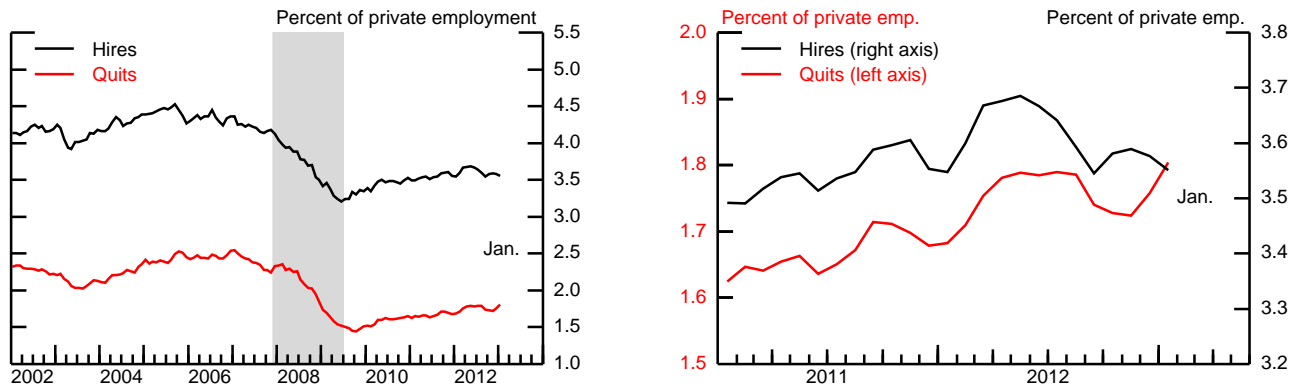
### Labor Market Developments and Outlook (2)

#### Initial Unemployment Insurance Claims\*



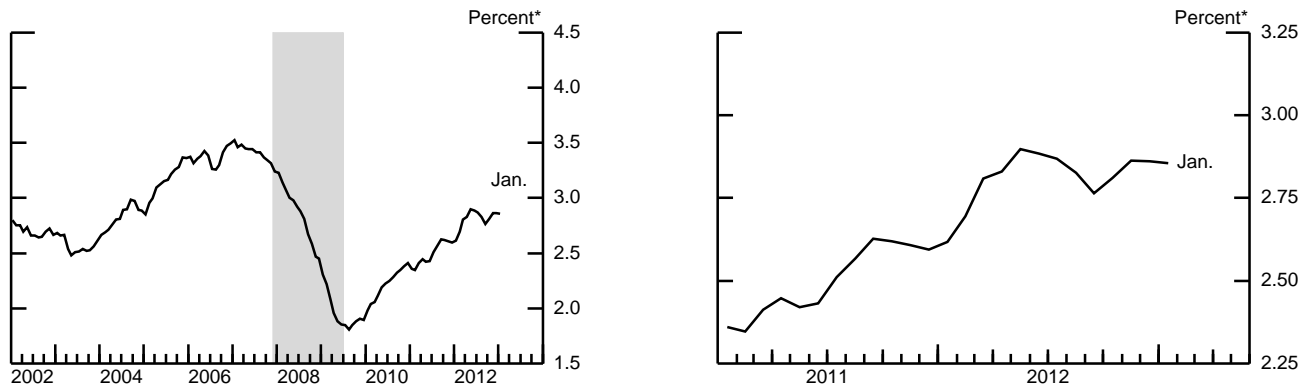
\* 4-week moving average.  
Source: U.S. Dept. of Labor, Employment and Training Administration

#### Private Hires and Quits\*



\* 3-month moving average.  
Source: Job Openings and Labor Turnover Survey.

#### Private Job Openings



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



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

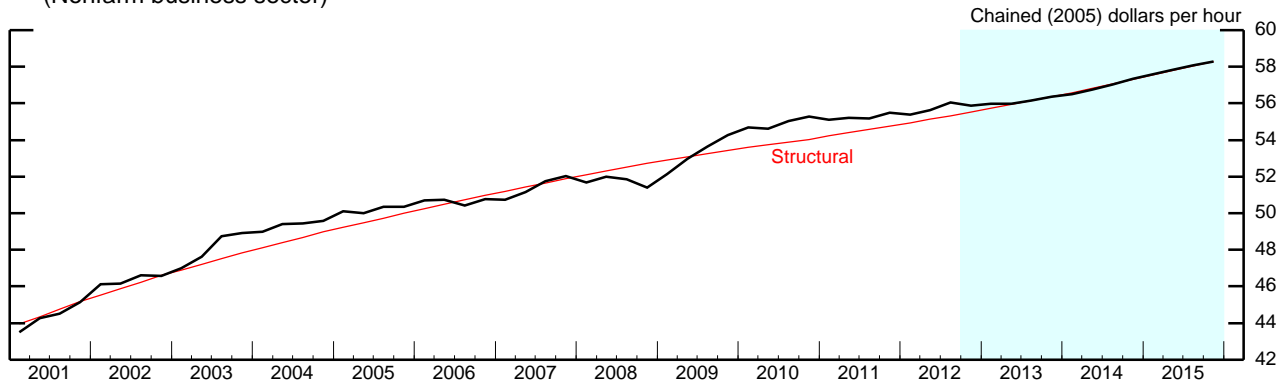
Measure	1974-1995	1996-2000	2001-2010	2011	2012	2013	2014	2015
Potential real GDP	3.0	3.4	2.2	1.5	1.8	1.9	2.1	2.1
Previous Tealbook	3.0	3.4	2.2	1.5	1.8	1.9	2.1	2.1
<i>Selected contributions<sup>1</sup></i>								
Structural labor productivity	1.4	2.6	2.1	1.3	1.4	1.5	1.7	1.8
Previous Tealbook	1.4	2.6	2.1	1.3	1.4	1.5	1.7	1.8
Capital deepening	.7	1.5	.7	.4	.5	.6	.7	.8
Previous Tealbook	.7	1.5	.7	.4	.5	.6	.7	.8
Multifactor productivity	.5	.8	1.2	.8	.8	.8	.9	.9
Previous Tealbook	.5	.8	1.2	.8	.8	.8	.9	.9
Structural hours	1.5	1.0	.6	.5	.6	.6	.6	.6
Previous Tealbook	1.5	1.0	.6	.5	.6	.6	.6	.6
Labor force participation	.4	.0	-.3	-.4	-.3	-.3	-.3	-.3
Previous Tealbook	.4	.0	-.3	-.4	-.3	-.3	-.3	-.3
<b>Memo:</b>								
GDP gap <sup>2</sup>	-2.4	1.9	-4.2	-3.8	-3.9	-3.3	-2.2	-8
Previous Tealbook	-2.4	1.9	-4.2	-3.8	-4.0	-3.3	-2.2	-9

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

1. Percentage points.

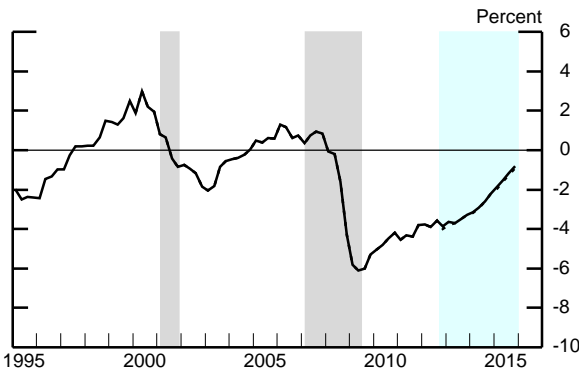
2. Percent difference between actual and potential GDP in the final quarter of the period indicated. A negative number indicates that the economy is operating below potential.

**Structural and Actual Labor Productivity**  
(Nonfarm business sector)



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

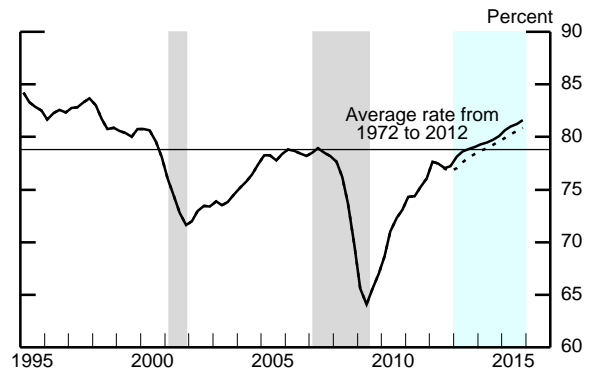
**GDP Gap**



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. Dept. of Commerce, BEA; staff assumptions.

**Manufacturing Capacity Utilization Rate**



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

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

## Potential GDP and the Natural Rate of Unemployment

We have not changed our estimates of potential output, structural productivity, or the natural rate of unemployment in this projection.<sup>8</sup> We continue to project the natural rate of unemployment to edge down from 6 percent in 2012 to 5¾ percent in 2015 as the degree of mismatch between labor demand and labor supply, which was elevated during the recession and early recovery, starts to ease.

We estimate that potential output will rise by about 2 percent per year over the projection period, a slightly faster pace than that seen in the past few years. This acceleration is due to a step-up in capital deepening resulting from the post-recession rebound in investment in E&S as well as to the projected decline in the natural rate.

## The Outlook for the Labor Market and Productivity

We estimate that output per hour in the nonfarm business sector rose only ¾ percent in 2012, only slightly above the pace in 2011. We have interpreted this sluggish pace of growth as suggesting that firms have been gradually returning their workforces to more sustainable levels after having been reluctant to hire new employees earlier in the economic recovery. We currently estimate that actual productivity stood about ½ percent above its longer-run trend in the fourth quarter, so we anticipate slower-than-trend productivity growth in the near term as firms continue to make up for their prior restraint by adding workers. Thereafter, productivity is expected to rise at its structural pace.

Private job gains are projected to step up from 180,000 per month this year to about 210,000 per month in 2014 and 260,000 per month in 2015 as real output accelerates. With this pace of hiring, the unemployment rate moves down throughout the medium term, ending 2015 at 6¼ percent. The forecasts for employment growth and the unemployment rate are similar to those in the January Tealbook, and the unemployment rate is still expected to drop below the Committee's threshold of 6½ percent in the fourth quarter of 2015.

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<sup>8</sup> The upward revision to domestic oil production did not change our projection for trend productivity or potential output. Although labor productivity in the oil industry is higher than the average of the rest of the nonfarm business sector, the revision to the forecast for oil production carries forward the trend in production seen in the past few years. Consequently, we think that the projected trend in structural multifactor productivity, which is informed by average increases in the past, was already consistent with the steeper trajectory of oil production that is now incorporated in our forecast.

The top-right figure of the “Labor Market Developments and Outlook” exhibit compares our unemployment projection with our projection from September 2012, when the Committee first tied its asset purchase decisions to an improvement in the outlook for labor market conditions. The unemployment rate in the fourth quarter of last year was about ½ percentage point below our September Tealbook projection, and our current forecast for the remainder of this year and next year is lower by about the same amount. By the fourth quarter of 2014, we now have the unemployment rate reaching 7.1 percent, down from the 8.1 percent rate that prevailed last August, the latest reading available to the Committee at the time of the September FOMC meeting. Meanwhile, as shown in the lower-right figure in the exhibit, the outlook for payroll employment growth past the first half of this year has changed relatively little since September, in line with our little-revised projection for output growth. That said, the level of payroll employment is higher than in our September projection, reflecting the positive employment surprises in the second half of last year as well as the benchmark revision.

### **Resource Utilization**

We estimate that there is still a fair amount of slack in the economy. In the fourth quarter of 2012, the unemployment rate stood 2 percentage points above our estimate of the natural rate, while the level of real GDP was 4 percent below its potential level. In the manufacturing sector, capacity utilization stood about 1¾ percentage points below its long-run average.<sup>9</sup> We project these gaps to narrow slowly throughout the medium-term forecast as output rises somewhat faster than potential. Nevertheless, we still expect the unemployment rate to be ½ percentage point above the natural rate and real GDP to be 1 percent below potential at the end of 2015.

### **The Outlook for Prices and Compensation**

Recent data on consumer price inflation have come in about in line with our expectations. Moreover, as the projection for resource utilization is little changed in this Tealbook and inflation expectations are still projected to remain stable, the forecast for inflation is also roughly unrevised.

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<sup>9</sup> There appears to be less slack in the manufacturing sector than in the broader economy, in part because of unprecedented declines in production capacity from 2007 to 2010 as manufacturers shuttered plants that had been underutilized for a long time. We estimate capacity in the industrial sector based largely on survey data that attempt to capture the highest level of output that plants can sustainably maintain based on realistic work schedules, assuming that inputs like materials and labor are sufficiently available.

Gasoline prices rose a good bit more than expected in February, but since we judge margins currently to be above their long-run average, we expect gasoline prices to fall back in the near term on a seasonally adjusted basis. Smoothing through these fluctuations, our forecast for the change in consumer energy prices over the first half of this year is roughly the same as in the January Tealbook. Over the medium term, we expect consumer energy prices to decline in line with the projected path of crude oil prices.

We expect food price inflation to remain elevated in the first half of this year, reflecting continued pass-through to retail prices of the sharp run-up in crop prices associated with last summer's drought. Although the CPI for food has surprised us to the downside of late, we estimate that the higher crop prices have not yet been fully passed on to consumer prices. Hence, our near-term forecast for food price inflation is only a little lower than it was in the January Tealbook. We expect food price inflation to slow after this year as the effects of last summer's drought fade.

Given the recent appreciation of the dollar, we expect core import price inflation to slow to only  $\frac{1}{2}$  percent in the second quarter following a projected rise of  $1\frac{3}{4}$  percent in the current quarter. Over the remainder of the projection period, we expect core import price inflation to move back up to a pace of  $1\frac{1}{2}$  percent, in line with our forecast for moderate dollar depreciation.

We expect core PCE prices to rise at an annual rate of about  $1\frac{1}{2}$  percent in the first half of this year, up from a fourth-quarter pace that we think was held down by several transitory factors, including residual seasonality in the price data and earlier declines in import prices.<sup>10</sup> Our current forecast for core inflation in the first half of this year is a bit lower than the one in the January Tealbook due to lower-than-expected estimates of nonmarket prices and to a reduction in Medicare payments to health-care providers that we expect to be associated with the onset of the spending sequestration.

Recent readings on inflation expectations have remained in the relatively narrow range occupied over the past several years. Median 5-to-10-year expected inflation from the Michigan survey ticked up to 3 percent in February. Meanwhile, expectations for PCE price inflation over the next 10 years, as measured by the Survey of Professional

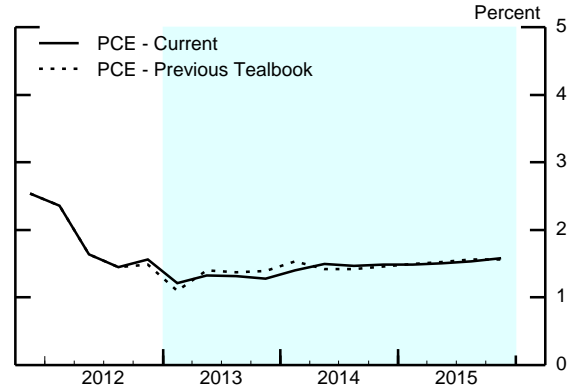
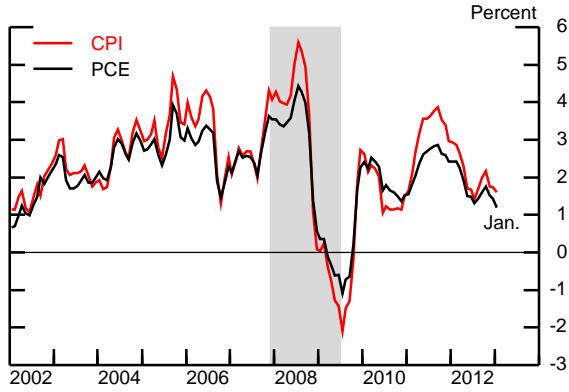
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<sup>10</sup> We suspect that residual seasonality exists in the price data because, for the past several years, there has been a pattern of low inflation late in the year followed by higher readings early in the next year.

## Inflation Developments and Outlook

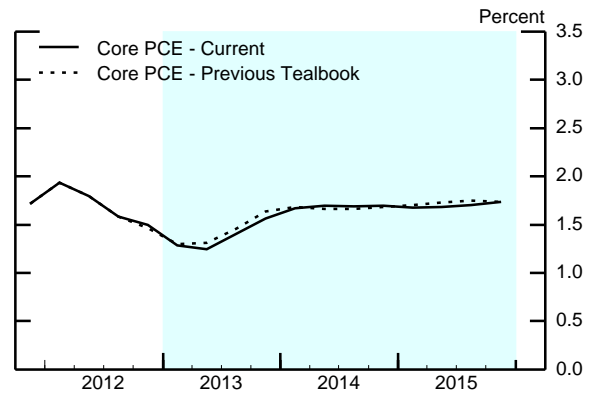
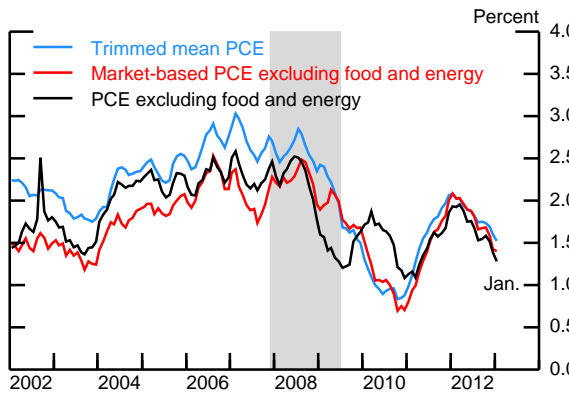
(Percent change from year-earlier period)

### Headline Consumer Price Inflation



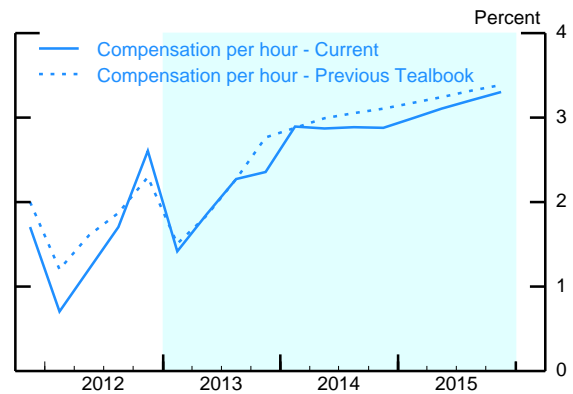
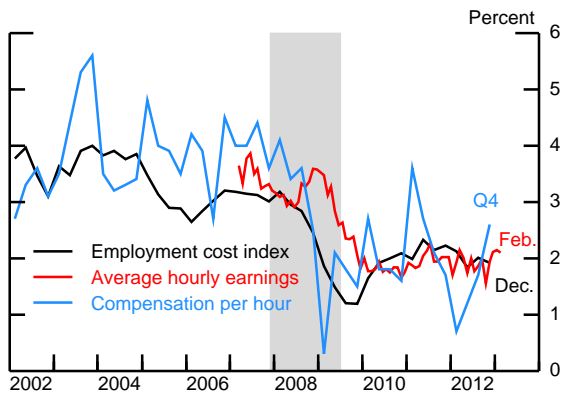
Source: For CPI, U.S. Dept. of Labor, Bureau of Labor Statistics; for PCE, U.S. Dept. of Commerce, Bureau of Economic Analysis.

### Measures of Underlying PCE Price Inflation



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

### Labor Cost Growth (Private Industry)

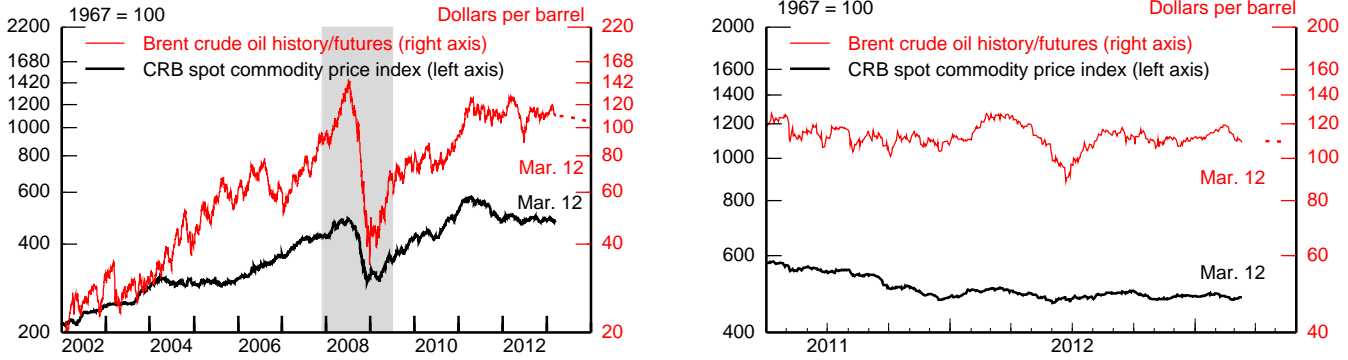


Note: Compensation per hour value for 2012:Q4 is a staff estimate.  
Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

## Inflation Developments and Outlook (2)

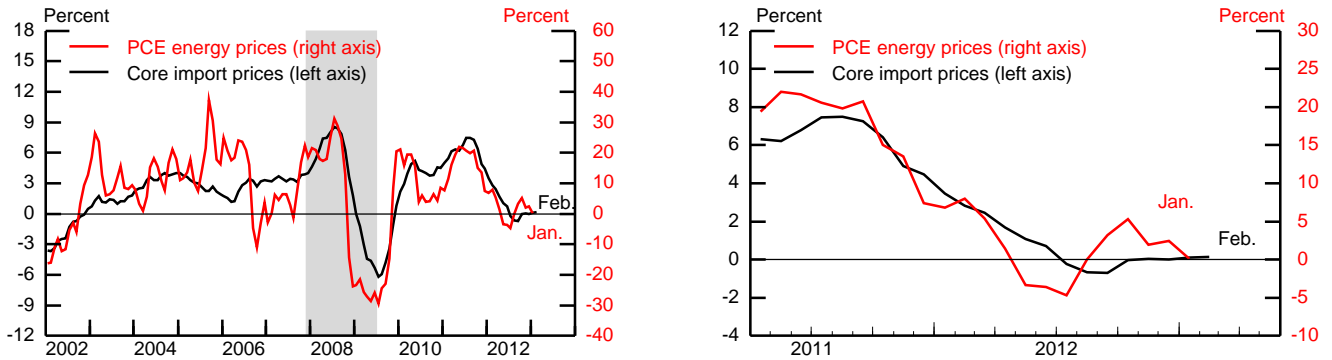
(Percent change from year-earlier period, except as noted)

### Commodity and Oil Price Levels



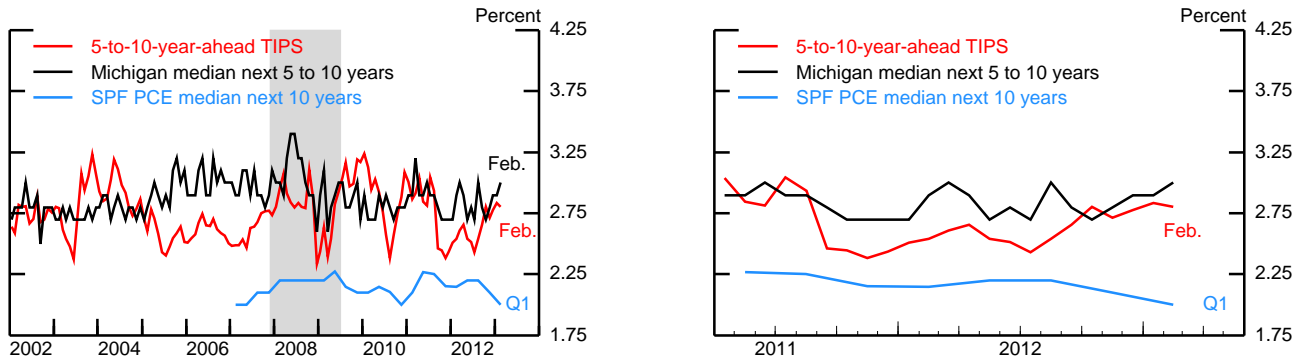
Note: Futures prices are the latest observations on monthly futures contracts.  
 Source: For oil prices, U.S. Dept. of Energy, Energy Information Agency; for commodity prices, Conference Research Board (CRB).

### 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, Thomson Reuters/University of Michigan Surveys of Consumers; for SPF, the Federal Reserve Bank of Philadelphia; for TIPS, FRB staff calculations.

Forecasters, edged down in the first quarter to 2 percent. The TIPS-based measures of inflation compensation for the next 5 years and for 5 to 10 years ahead are about unchanged from the January Tealbook.

With stable long-run inflation expectations, relatively small projected movements in commodity and import prices, and persistent slack in resource utilization, we expect core inflation to remain in the range of  $1\frac{1}{2}$  to  $1\frac{3}{4}$  percent through 2015, essentially unchanged from the January projection. In all, total PCE prices are anticipated to increase  $1\frac{1}{4}$  percent this year and  $1\frac{1}{2}$  percent in both 2014 and 2015. Thus, throughout the medium term, the projection for PCE inflation remains well below the Committee's threshold level of  $2\frac{1}{2}$  percent.

Recent data on labor compensation have remained soft overall, about in line with our January Tealbook forecast. The employment cost index rose at an annual rate of 2 percent in the fourth quarter of last year, close to the average rate observed over the past three years. By contrast, compensation per hour (CPH) in the nonfarm business sector increased at an annual rate of  $2\frac{1}{2}$  percent in the fourth quarter, somewhat higher than its three-year average. However, this higher-than-expected reading mainly reflects the BEA's assumption that anticipated tax increases caused some bonuses to be paid late last year rather than in the first quarter of this year.<sup>11</sup> Consequently, our projection for CPH growth in the first quarter is lower than in the January Tealbook. Smoothing through the volatility around the turn of the year, our forecast for CPH growth is little changed since the January Tealbook, with growth in compensation projected to pick up slowly over the medium term as the labor market gradually tightens.

## THE LONG-TERM OUTLOOK

We have extended the staff's forecast beyond the medium term using the FRB/US model and our assumptions about long-run supply-side conditions, fiscal policy, and

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<sup>11</sup> The employment cost index (ECI) does not show a surge in bonus payments late last year, possibly indicating that they were distributed after the mid-December ECI survey date. In addition, a large fraction of the bonuses may have been paid to top executives who are not included in the ECI survey if the Bureau of Labor Statistics determines that they set their own pay.

other factors. The contour of the long-term outlook depends on the following key assumptions:

- Monetary policy seeks to stabilize PCE inflation at 2 percent over the longer term, consistent with the Committee's strategy statement as reiterated at the January meeting. As noted earlier, the Committee's threshold for the unemployment rate is crossed in the baseline projection in late 2015. Thereafter, the federal funds rate is set according to the inertial Taylor (1999) rule.
- The Federal Reserve's holdings of securities continue to put downward pressure on longer-term interest rates in 2016 and 2017, albeit to a diminishing extent. By late 2018, the process of portfolio normalization is essentially complete.
- Risk premiums on corporate equities and bonds continue to decrease gradually to normal levels, and financial institutions further ease their lending standards.
- The federal budget deficit (measured on a NIPA basis) begins to widen after 2016, primarily reflecting fast-rising transfer payments for retirement and health-care programs. Federal debt stabilizes temporarily at a little below 75 percent of GDP but then begins to edge up later in the decade.
- The real foreign exchange value of the dollar depreciates 1¾ percent per year from 2016 to 2018 and moves down more slowly thereafter. The price of crude oil declines slightly in 2016 and then holds steady in real terms. Foreign real GDP growth is 3¾ percent in 2016 and 2017 and slows to a 3 percent annual rate late in the decade.
- The natural rate of unemployment continues to decline in 2016 and 2017, from 5¾ percent at the end of 2015 to 5¼ percent in the fourth quarter of 2017, as labor market functioning improves further; it remains at that level in the longer run. Potential GDP increases at an average annual rate of just over 2 percent in the 2016–20 period and moves up to a 2¼ percent pace in the longer run.

The economy is projected to enter 2016 with output below its potential level, unemployment above its natural rate, and inflation below the long-run objective of the

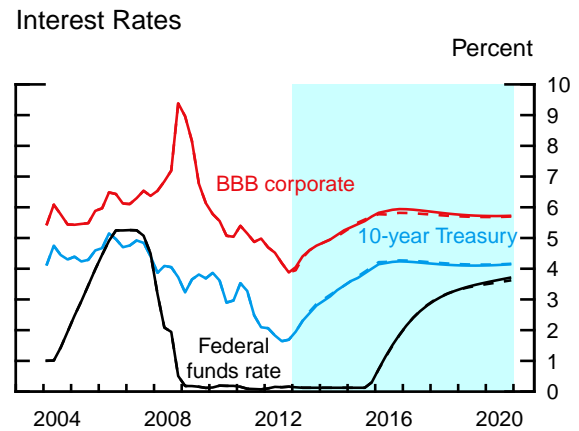
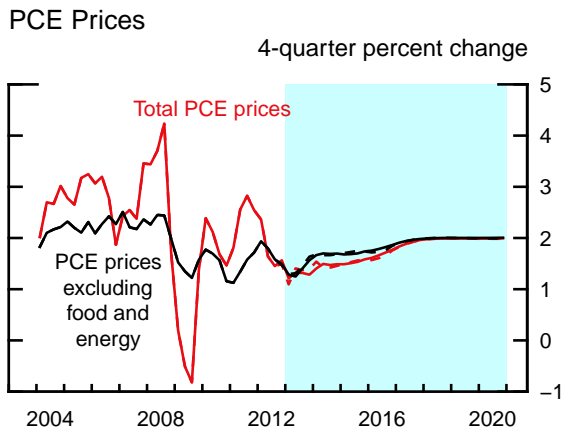
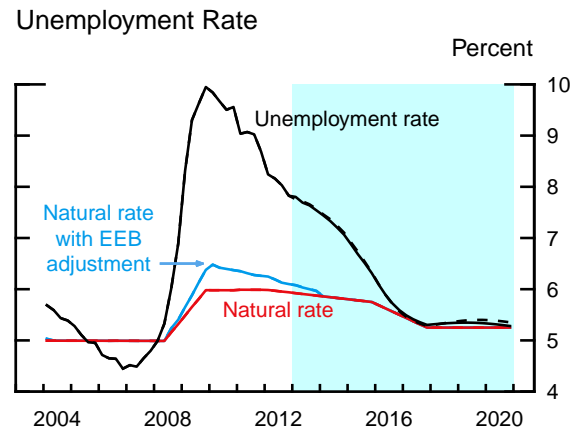
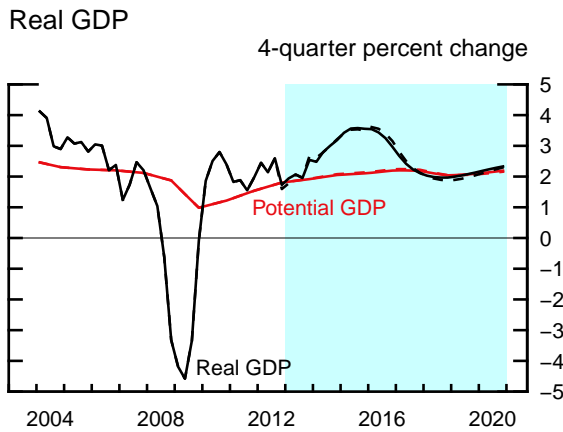


# The Long-Term Outlook

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

Measure	2012	2013	2014	2015	2016	2017	Longer run
Real GDP	1.7	2.5	3.2	3.6	3.0	2.1	2.3
Previous Tealbook	1.6	2.7	3.2	3.5	3.2	2.1	2.3
Civilian unemployment rate <sup>1</sup>	7.8	7.5	7.1	6.3	5.6	5.3	5.2
Previous Tealbook	7.8	7.6	7.1	6.3	5.6	5.3	5.2
PCE prices, total	1.6	1.3	1.5	1.6	1.8	2.0	2.0
Previous Tealbook	1.5	1.4	1.5	1.6	1.8	2.0	2.0
Core PCE prices	1.5	1.6	1.7	1.7	1.9	2.0	2.0
Previous Tealbook	1.5	1.6	1.7	1.7	1.8	2.0	2.0
Federal funds rate <sup>1</sup>	.2	.1	.1	.3	1.8	2.8	4.0
Previous Tealbook	.2	.1	.1	.3	1.8	2.8	4.0
10-year Treasury yield <sup>1</sup>	1.7	2.8	3.5	4.0	4.2	4.2	4.8
Previous Tealbook	1.7	2.8	3.5	4.1	4.3	4.2	4.8

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

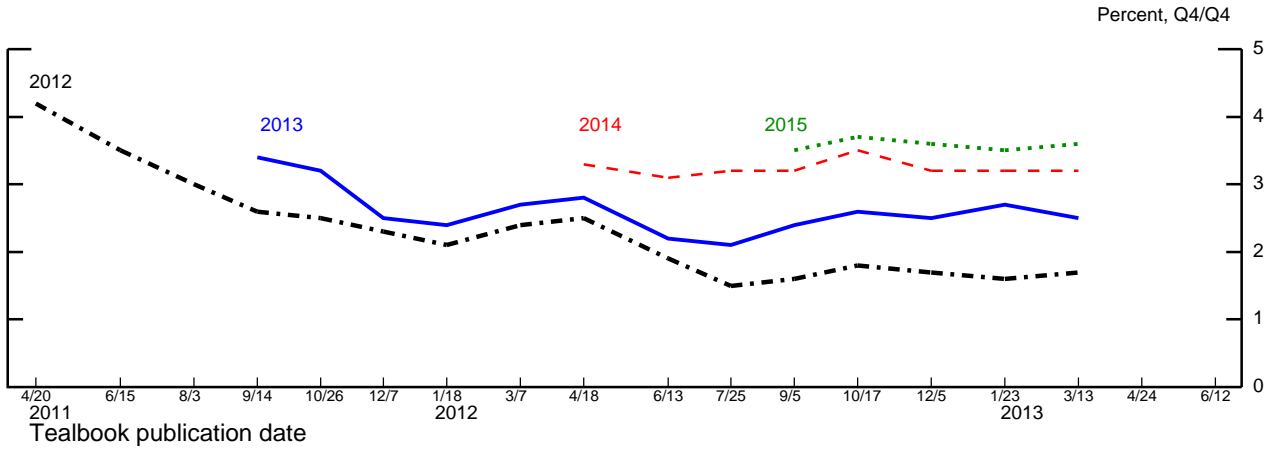


Note: In each panel, shading represents the projection period, and dashed lines are the previous Tealbook.

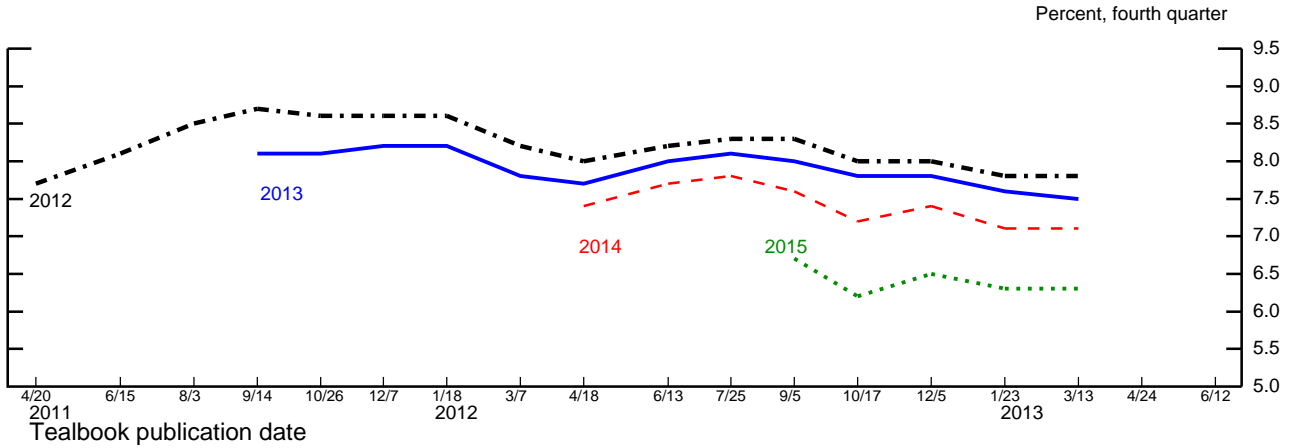
Committee. In the staff's long-term forecast, further improvements in household and business confidence, diminishing uncertainty, and supportive financial conditions enable real GDP to rise 3 percent in 2016. Thereafter, gains in real GDP move down closer to their potential pace, reflecting the progressive withdrawal of monetary accommodation. Unemployment falls through 2017 to 5¼ percent. Long-run inflation expectations are assumed to remain well anchored, and with the margin of slack in labor and product markets diminishing, consumer price inflation is close to 2 percent in 2017. The nominal federal funds rate is 3¾ percent by the end of this decade and eventually stabilizes at around 4 percent early in the next decade. The 10-year Treasury yield averages 4 percent from 2016 through the end of the decade but eventually rises to 4¾ percent.

### Evolution of the Staff Forecast

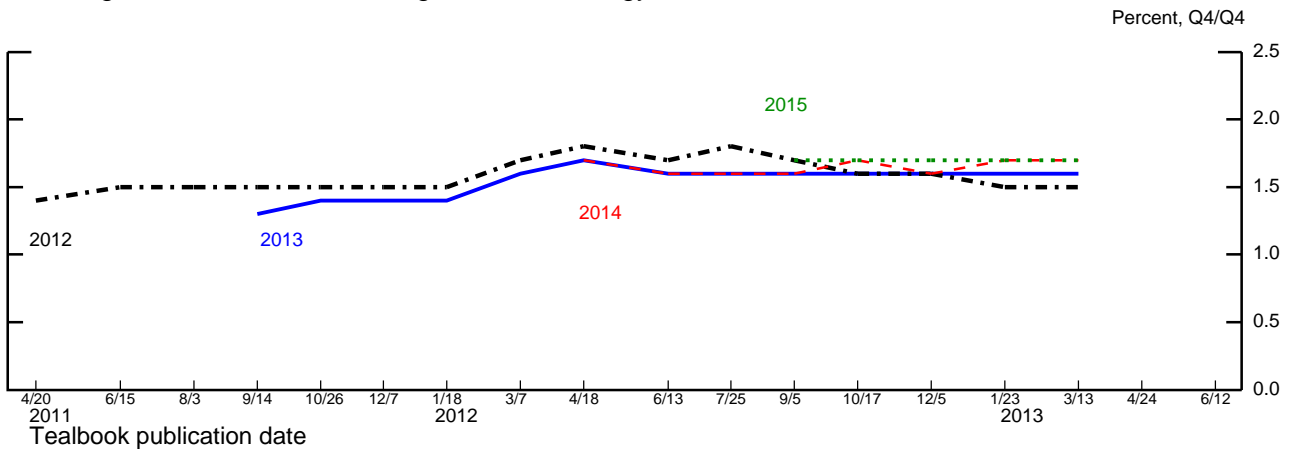
Change in Real GDP



Unemployment Rate



Change in PCE Prices excluding Food and Energy



## International Economic Developments and Outlook

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With nearly all of the 2012 GDP releases in hand, we now estimate that foreign output expanded a modest 2 percent in the fourth quarter, a touch less than we had assumed in the January Tealbook. Growth in the emerging market economies (EMEs) was stronger than we had projected, notably in Asia where trade flows were unexpectedly robust. However, this positive surprise was more than offset by an unanticipated contraction in the output of the advanced foreign economies (AFEs). In particular, Europe experienced a more pronounced fourth-quarter GDP drop than we had foreseen, and Canada remained in a soft patch due to an unexpectedly large deceleration in inventories.

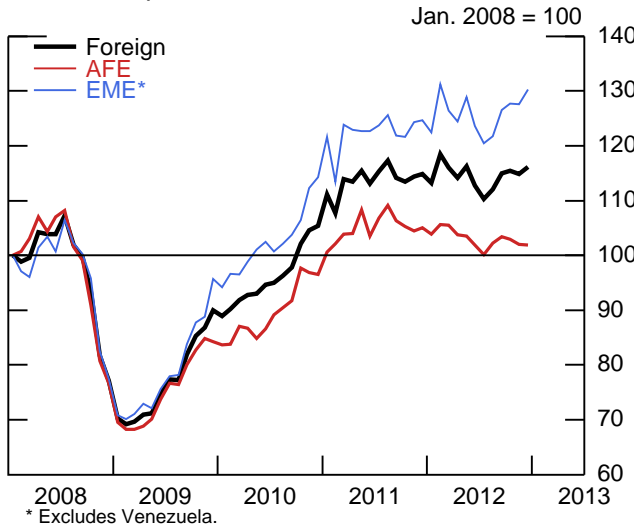
Recent indicators suggest that foreign growth strengthened somewhat following the turn of the year, with foreign GDP estimated to be rising 2¾ percent in the current quarter. This pickup is driven by improved performance in the AFEs, with data on production and exports suggesting some firming this quarter in both Japan and Canada. Additionally, PMIs suggest that the pace of contraction in euro-area GDP is slowing. We expect economic activity in the EMEs to expand at roughly the same solid rate this quarter as in the last, although we see a step-down in the recent rapid growth in emerging Asia, notably in China, being offset by an increase in Latin America.

Europe's exit from recession is likely to proceed more slowly than we had envisioned in the January Tealbook, however. In part, this revision reflects our read of the incoming data, which point to a deeper contraction in European output. In addition, European financial conditions have deteriorated some in the wake of Italy's inconclusive national election, and we expect that Italy's struggles to put together an effective government will weigh on financial markets and business confidence for some time. More generally, the uncertainty resulting from Italy's election highlights the euro area's continuing vulnerability to shocks. The severe European crisis scenario explored in the Risks and Uncertainty section is still a material tail risk.

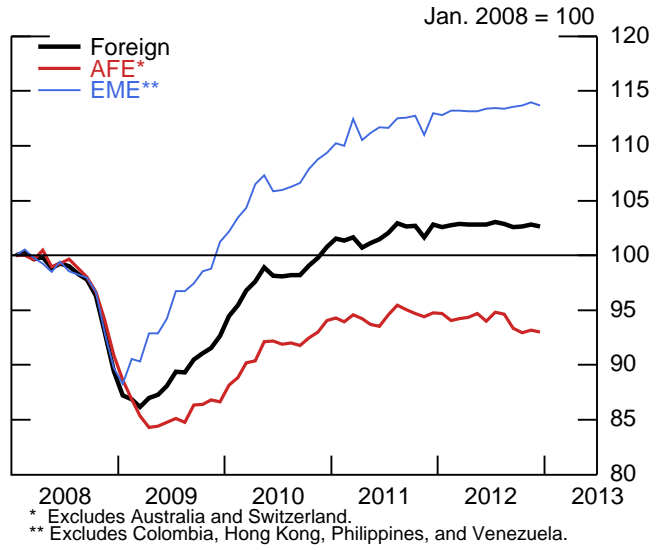
All told, we project total foreign economic growth to strengthen further over the remainder of the forecast period, averaging 3 percent this year and increasing to 3½ percent by 2015. The strengthening is concentrated in the AFEs, where output should accelerate as the euro-area crisis abates, fiscal drag diminishes, and monetary policies

### Recent Foreign Indicators

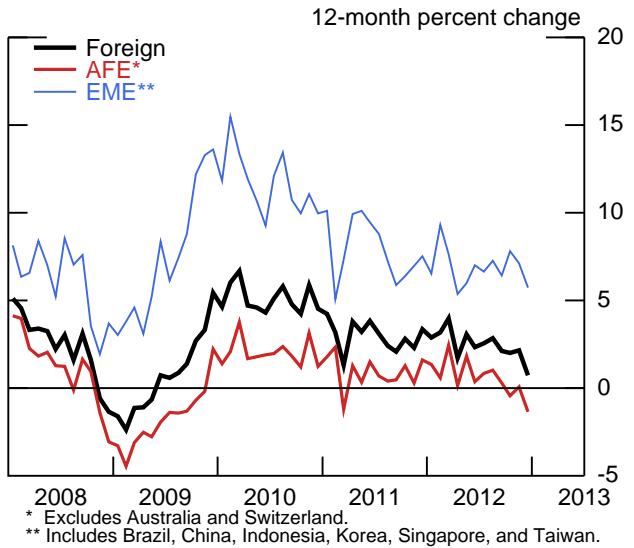
Nominal Exports



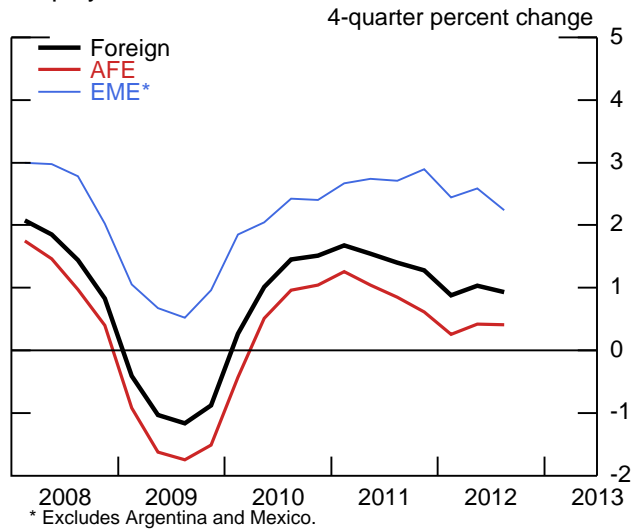
Industrial Production



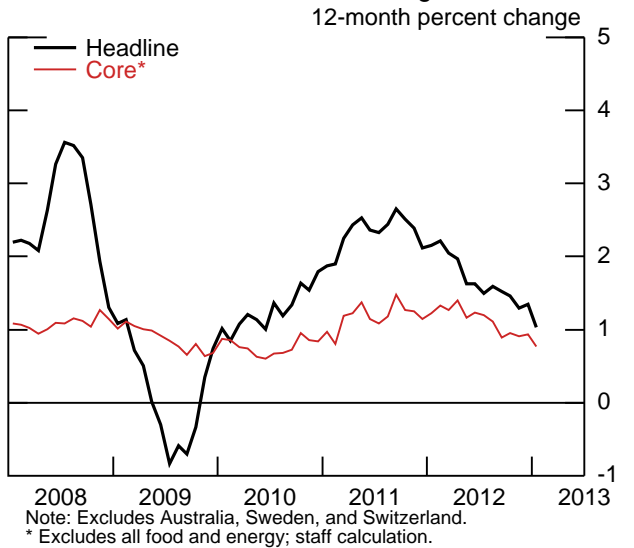
Retail Sales



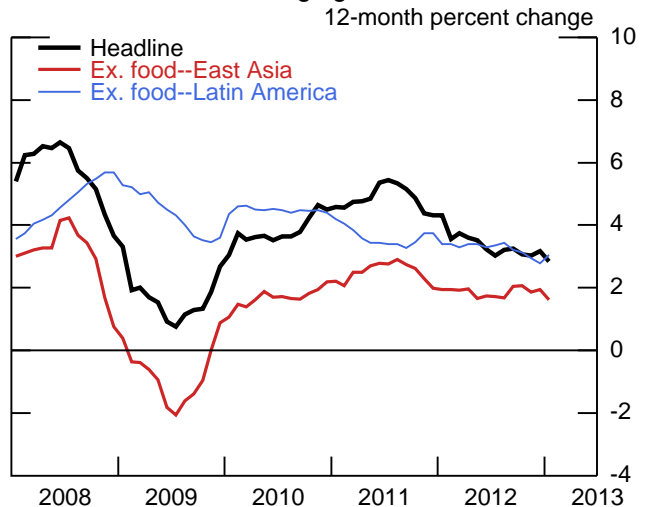
Employment



Consumer Prices: Advanced Foreign Economies



Consumer Prices: Emerging Market Economies



Int'l Econ Devel & Outlook

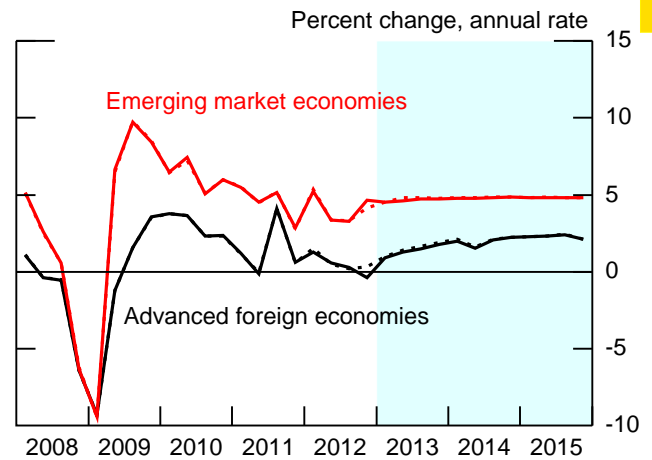
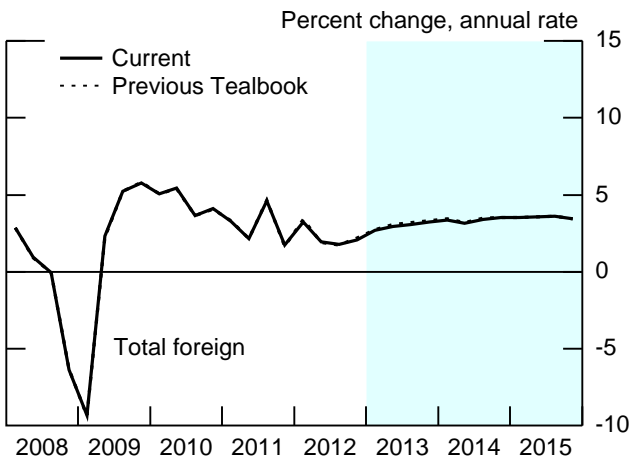
## The Foreign Outlook

(Percent change, annual rate)

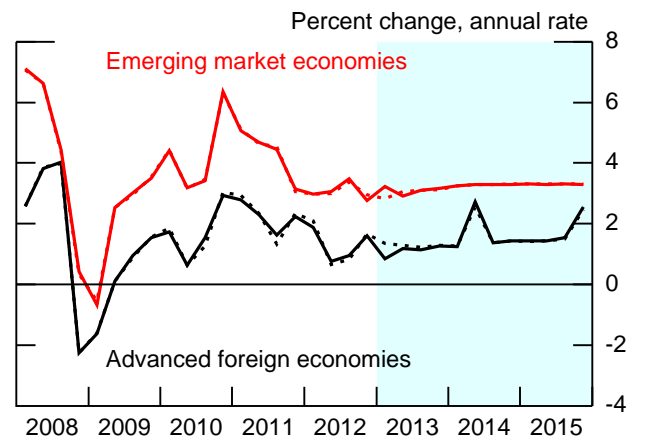
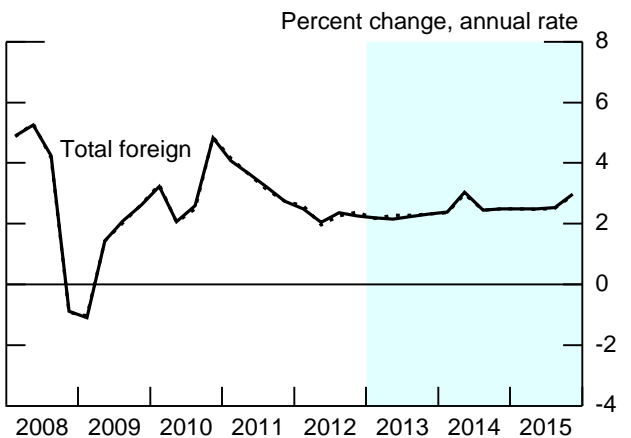
	2012			2013			2014	2015
	H1	Q3	Q4	Q1	Q2	H2		
<b>Real GDP</b>								
Total foreign	2.6	1.8	2.1	2.7	2.9	3.2	3.4	3.5
Previous Tealbook	2.7	1.8	2.2	2.7	3.1	3.3	3.4	3.5
Advanced foreign economies	.9	.3	-.4	.9	1.3	1.6	2.0	2.3
Previous Tealbook	1.0	.2	.3	1.0	1.4	1.8	2.0	2.3
Emerging market economies	4.3	3.3	4.6	4.5	4.6	4.7	4.8	4.8
Previous Tealbook	4.4	3.3	4.1	4.5	4.8	4.8	4.8	4.8
<b>Consumer Prices</b>								
Total foreign	2.3	2.4	2.3	2.2	2.2	2.3	2.6	2.6
Previous Tealbook	2.3	2.3	2.4	2.2	2.3	2.3	2.6	2.6
Advanced foreign economies	1.3	.9	1.6	.8	1.2	1.2	1.7	1.7
Previous Tealbook	1.4	.8	1.7	1.3	1.3	1.3	1.7	1.7
Emerging market economies	3.0	3.5	2.8	3.2	2.9	3.1	3.3	3.3
Previous Tealbook	3.0	3.4	3.0	2.8	3.1	3.1	3.3	3.3

Note: Annualized percent change from final quarter of preceding period to final quarter of period indicated.

### Real GDP



### Consumer Prices



remain accommodative. Growth in the EMEs is slated to stay around 4¾ percent during the period, near its trend pace. Our forecast for total foreign growth is a little lower than in the January Tealbook for this year, mainly reflecting a slightly gloomier outlook for Europe.

Foreign inflation held steady at 2¼ percent in the fourth quarter, in line with the January Tealbook. It should remain near that rate throughout this year, restrained by limited commodity price pressure and, in some countries, substantial resource slack. Some EME central banks, including the Bank of Mexico, have cut their policy rates since the January Tealbook because of economic growth concerns. In the AFEs, we now expect more accommodative monetary policies mainly because of weaker growth, including an additional rate cut by the European Central Bank (ECB) and an expansion of the quantitative easing program of the Bank of England (BOE). But most notably, we see the Bank of Japan (BOJ), under new leadership, undertaking more aggressive actions to end deflation. Exactly how much additional easing will be undertaken by AFE central banks is uncertain, and in the Risks and Uncertainty section we explore the effects of stronger monetary stimulus abroad than we assume in our baseline forecast. In the box “Currency Wars,” we also consider some of the controversies surrounding monetary easing by the advanced economies.

## **ADVANCED FOREIGN ECONOMIES**

Real GDP in the AFEs is expected to increase almost 1 percent at an annual rate in the current quarter after a surprising decline of 0.4 percent in the fourth quarter. Soft economic indicators and elevated financial stresses suggest that economic activity in Europe will remain quite subdued in the near term. In Japan, by contrast, a substantial depreciation of the yen over the past few months, along with prospective fiscal and monetary easing, should support an economic rebound this year. We anticipate that fading financial stresses, reduced drag from fiscal consolidation, and a firming of U.S. activity should lift AFE output growth to a little more than 1¼ percent this year, 2 percent in 2014, and 2¼ percent in 2015. This outlook is a touch weaker than in the January Tealbook.

Recent data suggest that AFE inflation has moderated from 1.6 percent in the fourth quarter to an estimated ¾ percent in the current quarter, a figure somewhat below our January Tealbook projection because of lower-than-expected readings in Canada and

the euro area. We continue to forecast inflation to average about 1¼ percent over the remainder of 2013 before picking up slightly during the following two years.

## **Euro Area**

Euro-area real GDP contracted 2.3 percent in the fourth quarter, 1 percentage point worse than we had estimated in the January Tealbook, with declines widespread across core and peripheral economies. Recent indicators suggest that the pace of contraction is moderating, although less so than we had anticipated. In January, retail sales rebounded and consumer and business confidence edged up, but car registrations dropped. The euro-area composite PMI remained in contractionary territory through February despite rising above its fourth-quarter average. Moreover, bank lending standards continued to tighten, and loans to nonfinancial corporations decreased further.

Financial tensions in the euro area have increased a bit on balance since the January Tealbook. While sovereign spreads declined somewhat, on net, for Ireland and Spain, spreads on Italian 10-year government bonds are up significantly in the wake of the country's inconclusive parliamentary election. At present, expectations are for a weak caretaker government to take power until new elections can be held later this year, which could result in a stronger coalition. The prolonged uncertainty should not compromise fiscal consolidation efforts already under way for 2013. However, a weak government may struggle to implement needed structural reforms and credibly commit to fiscal consolidation for future years, which raises questions about how quickly Italy could obtain ECB support via Outright Monetary Transactions if necessary. As a result, area-wide financial stresses and volatility will probably remain a little higher than envisioned in the January Tealbook, but they should subside when Italy's political situation settles and further progress toward fiscal and structural reform is made in the other peripheral countries.

All told, we revised down our projection for euro-area output growth a little more than ¼ percentage point this year and a touch in 2014. We see GDP contracting a further ¾ percent in the current quarter, bottoming out later this year, and accelerating over the forecast period to a 2 percent pace by 2015.

We expect inflation to step down from 2¼ percent in 2012 to 1¼ percent this year as the output gap widens further and retail energy prices decelerate. The projected recovery in activity should lift inflation to 1¾ percent by 2015. Despite the soft outlook



## Currency Wars

In recent weeks, there has been much discussion about the possibility that several advanced economies might engage in a “currency war,” seeking to devalue their currencies through accommodative monetary policies. Brazilian Finance Minister Guido Mantega is generally credited with coining the term *currency wars* in November 2010, following the initiation of the Federal Reserve’s second LSAP program. At that time, authorities in several EMEs criticized policy easing in the advanced economies as encouraging excessive capital inflows that put upward pressure on EME currencies and asset prices. However, as economic growth in the EMEs slowed last year, prompted in part by renewed weakness in the advanced economies, these criticisms became more muted.

More recently, complaints about currency wars have reemerged following the sharp depreciation of the yen since last fall, when it became clear that Shinzo Abe would be elected prime minister of Japan. Abe called for aggressive monetary stimulus to help Japan escape deflation and discussed currency intervention, including the possible creation of a Japanese government fund to buy foreign assets. Some European officials were vocal in their concerns about policies that depreciate the yen. Bundesbank President Jens Weidmann showed alarm at the Japanese government’s urging of more aggressive monetary stimulus and expressed the hope that competitive devaluations could be avoided. French President François Hollande said he feared the euro’s strength against other currencies and suggested setting a medium-term exchange rate target.

Following their most recent meeting on February 12, the G-7 central bankers and finance ministers committed to refrain from actions focused on achieving competitive advantage through lower currencies: “We reaffirm that our fiscal and monetary policies have been and will remain oriented towards meeting our respective domestic objectives using domestic instruments, and that we will not target exchange rates.”<sup>1</sup> Since then, Japanese policymakers have dialed down public discussion of exchange market intervention or purchases of foreign assets to stimulate their economy.

Similarly, the G-20 (which includes a broader range of countries) issued a communiqué on February 16, which noted: “We will refrain from competitive devaluation. We will not target our exchange rates for competitive purposes, will resist all forms of protectionism and keep our markets open.”<sup>2</sup> But in fact, the exchange rate policies of emerging market countries are varied. Some (most prominently China) heavily manage their currencies, often keeping them at levels that are generally considered undervalued. Others (including Brazil and Korea) occasionally intervene in foreign exchange markets, following an exchange rate policy that is described as a managed, or “dirty,” float. Still others (including Mexico) allow their exchange rates to move more flexibly. There is also a range of exchange rate policies among smaller advanced economies. Recently, the

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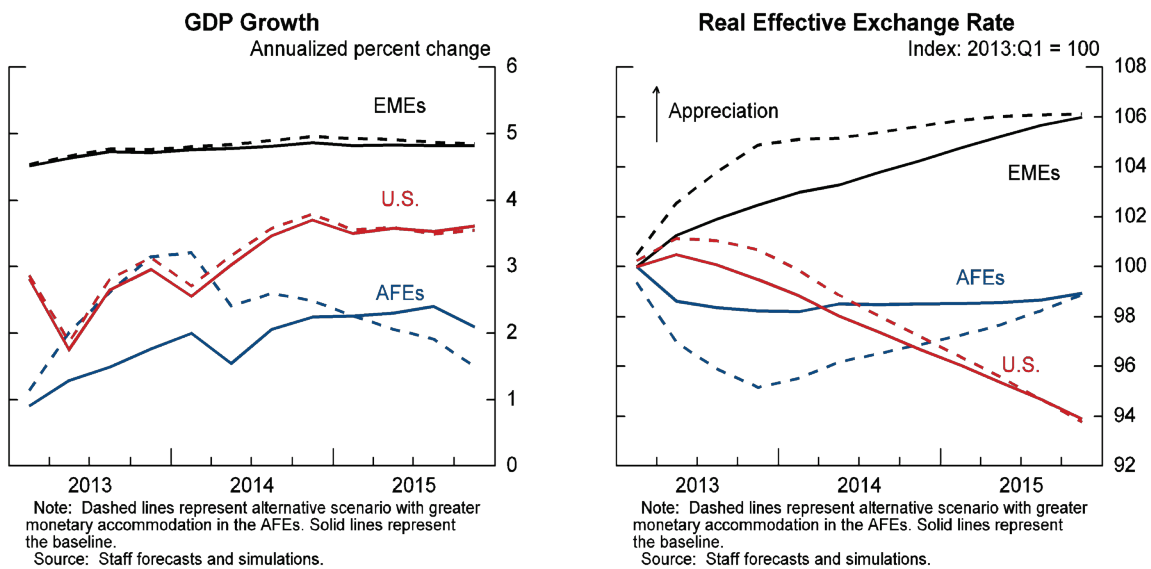
<sup>1</sup> For the full text of the G-7 statement on February 12, see the press release on the Bank of England’s website at [www.forexmg-pt.com/2013/02/12/bank-of-england-publications-news-releases-news-release-g7-statement](http://www.forexmg-pt.com/2013/02/12/bank-of-england-publications-news-releases-news-release-g7-statement).

<sup>2</sup> For the full text of the G-20 communiqué on February 16, see the G-20 website at [www.g20.org/load/781209773](http://www.g20.org/load/781209773).

governor of the Reserve Bank of New Zealand (RBNZ) has said that the New Zealand dollar is clearly overvalued and that the RBNZ stands ready to intervene. Most explicitly, in September 2011 the Swiss National Bank (SNB) imposed a ceiling on the Swiss franc in response to safe-haven flows that sharply appreciated the franc during the height of the euro-area crisis. While clearly targeting the exchange rate, that action generally escaped criticism because the SNB had few other tools to combat deflation and the franc was seen as overvalued.

By our reckoning, the accommodative monetary policies pursued by the Federal Reserve, the Bank of England, the Bank of Japan, and the European Central Bank have indeed been focused on easing domestic financial conditions rather than on depreciating their currencies, consistent with the G-7 statement. These policies contribute to the expansion of global demand. At the same time, however, these policies do exert some downward pressure on home currencies, which can have an adverse effect on trading partners. The net result for other countries will depend on the balance of these effects. To evaluate that balance, an alternative simulation discussed in the Risks and Uncertainty section explores the effects on the United States and the EMEs of a simultaneous increase in monetary accommodation among the advanced foreign economies. This accommodation combines (1) balance sheet expansion sufficient to reduce the term premium in long-term interest rates by 50 basis points and (2) an intention, understood by markets, to extend by about two quarters the period during which short-term interest rates stay near the zero bound. As shown in the figure on the lower left, the net effect on GDP in the United States and the EMEs is quite small, as the adverse effect on output of the resulting appreciation of their currencies (lower-right figure) is offset by the stimulative effect of rising incomes and demand in the countries undertaking monetary easing.

These results suggest that monetary easing is not a beggar-thy-neighbor policy that detracts from economic growth in a country's trading partners. Some observers are concerned that if weakness in the global economy continues, the temptation to resort to policies genuinely focused on exchange rates or trade protectionism might intensify. So far, however, countries have generally resisted such actions.



for both inflation and activity, the ECB left its benchmark policy rate at 0.75 percent in February. Nonetheless, given the larger output gap and ECB projections showing inflation falling well below target, we now expect the ECB to cut its main policy rate to 0.5 percent in the second quarter of 2013 and then hold the rate steady until the second half of 2015.

## United Kingdom

Real GDP contracted 1 percent in the fourth quarter, slightly more than we estimated in the January Tealbook, as inventories decelerated and final demand languished. The near-term outlook has also deteriorated amid disappointing domestic indicators and weaker growth prospects in the euro area, although the recent depreciation of sterling should damp the effect on aggregate demand. In January, retail sales contracted for a fourth consecutive month and industrial production tumbled to a two-decade low. In addition, the composite PMI stalled near 50 through February. Accordingly, we shaved  $\frac{1}{4}$  percentage point off our GDP growth forecast for this year, with output now barely increasing this quarter and expanding a modest  $1\frac{1}{2}$  percent, on average, over the remainder of 2013. As in the January Tealbook, we expect growth to rise to  $2\frac{1}{4}$  percent in 2014 and to  $2\frac{1}{2}$  percent in 2015, helped by continued favorable monetary conditions, smaller fiscal drag, and the projected recovery in the euro area.

We marked up our inflation forecast a bit following warnings by U.K. authorities that power plant closings and increased reliance on higher-priced foreign oil and gas would exert upward pressure on retail energy prices in coming years. We now expect inflation to average  $2\frac{1}{4}$  percent this year before edging down to the BOE's 2 percent target over the remainder of the forecast period. BOE officials appear willing to tolerate above-target inflation over the next year or two, and press reports indicate that the central bank's remit may be modified in a way that places a greater emphasis on growth. In this context, and given weaker GDP growth prospects, we are assuming that this year the BOE will increase its quantitative easing program £50 billion (3.2 percent of GDP) and expand the Funding for Lending Scheme.

## Canada

Canadian real GDP rose only 0.6 percent in the fourth quarter, about the same pace as in the third quarter and  $\frac{3}{4}$  percentage point less than we had estimated in the January Tealbook. Economic activity was held down by a surprisingly large deceleration

in inventories, while consumption and investment grew at a moderate pace. Recent data suggest that output growth is picking up modestly this quarter. Exports advanced in January, and aggregate hours posted a solid gain in February. However, the PMI was consistent with a meager expansion of manufacturing output through February. Moreover, Statistics Canada's annual survey of investment intentions was also downbeat. Given these developments, our GDP growth projection is slightly lower over the forecast period relative to the January Tealbook; we forecast GDP growth to rise from 2 percent in 2013 to 2¾ percent by 2015, in line with the firming in U.S. GDP growth.

Canadian consumer price inflation was softer than expected in January due to surprising weakness in both retail energy and core components. We now expect inflation to moderate to an annual rate of 1 percent this quarter, down from 1.4 percent in the fourth quarter. Inflation should rise to around 1¾ percent by early 2014 as economic activity improves and remain near that rate over the remainder of the forecast period. Against this backdrop of slow growth and low inflation, we now expect the Bank of Canada to push back its first policy rate hike by one quarter, keeping the rate at 1 percent until the third quarter of 2014.

## Japan

Following two quarters of negative growth, Japanese real GDP edged up 0.2 percent in the fourth quarter, as a drag from plummeting exports was offset by a solid increase in private consumption. Recent data suggest that external demand is recovering. Industrial production and exports rose in January, and the manufacturing PMI and other surveys suggest further gains in February. We thus estimate that output is expanding at a 1¾ percent pace in the current quarter. Growth should then pick up to 2¼ percent by year-end, driven by previously announced measures to boost public investment. Thereafter, a planned doubling of the consumption tax rate phased in over two years should slow GDP growth to a near-trend pace of ¾ percent in 2014 and 2015. This outlook is ¼ percentage point stronger than in the January Tealbook, with much of the revision due to a further decline in the yen, higher stock prices, and our expectation for greater monetary easing.

At the end of February, the Abe government nominated Haruhiko Kuroda to head the BOJ. Pending parliamentary approval, Mr. Kuroda and two new deputy governors will take office on March 20. Under their leadership, we expect the BOJ to announce new easing measures, including an increase in the size of the Asset Purchase Program

(APP), an extension of the maturity of Japanese government bonds acquired through the APP, and guidance as to how long open-ended purchases will last. Accordingly, we revised up our inflation forecast  $\frac{1}{4}$  percentage point over the forecast period. However, we remain skeptical about the BOJ's resolve and ability to achieve its new 2 percent inflation target over the forecast period, and we project that, net of the effect of consumption tax hikes, inflation will reach only  $\frac{1}{2}$  percent by the end of 2015.

## EMERGING MARKET ECONOMIES

We estimate that real GDP growth in the EMEs increased to  $4\frac{1}{2}$  percent in the fourth quarter from  $3\frac{1}{4}$  percent in the third quarter, with growth firming in both Latin America—especially Mexico—and emerging Asia. Final domestic demand remained strong, inventories rose sharply in some countries, and exports were surprisingly robust, considering the weakness in the advanced economies. Overall, our fourth-quarter estimate for EME growth is  $\frac{1}{2}$  percentage point higher than in the January Tealbook, reflecting positive surprises in emerging Asia and Mexico.

We expect EME growth to remain at  $4\frac{1}{2}$  percent in the current quarter, with some moderation in emerging Asia balanced by a step-up in Latin America. Over the remainder of the forecast period, we see EME output growth hovering around  $4\frac{3}{4}$  percent. Relative to the January Tealbook, our GDP forecast is down marginally because of the slightly weaker outlook for the advanced economies and somewhat softer-than-expected monthly indicators from China. We would add that some of the EMEs' recent rebound in inventories and output may have been predicated on an anticipated firming of demand by the advanced economies. If that recovery does not materialize within the next several quarters, activity in the EMEs might fall back abruptly.

We estimate that headline inflation in the EMEs will move up to  $3\frac{1}{4}$  percent in the first quarter, about  $\frac{1}{2}$  percentage point higher than we projected in the January Tealbook, largely because of a jump in Chinese inflation driven by food prices. Thereafter, EME inflation should stabilize around  $3\frac{1}{4}$  percent, in line with our January forecast. Mainly on growth concerns, the central banks of Colombia, India, and Mexico cut their policy rates. Capital flows to EME-dedicated funds remained strong for most of February but have moderated in recent weeks.

## China

Indicators from China point to an easing of economic growth from 9½ percent in the fourth quarter to 8½ percent in the current quarter.<sup>1</sup> Over January and February, growth of industrial production and retail sales slowed a bit. Investment remained strong, led by the real estate sector, but we anticipate that investment will also slow as authorities clamp down on speculation in the real estate market, in part by implementing a 20 percent capital gains tax on all residential property sales. We look for GDP growth to decrease a bit further to 8 percent by the end of 2015, largely reflecting a gradual reduction in China's growth potential. The forecast for this year and next is down a bit from the January Tealbook, reflecting the softer tone of the recent data and some reversal of earlier policy stimulus. Still, compared with early last year, when the Chinese economy was decelerating rapidly, a hard landing now seems less likely. However, the new measures to cool the property market could lead to a steeper-than-expected decline in investment, and the recent rapid expansion of off-balance-sheet banking activities could pose a risk to financial stability.

Chinese inflation picked up in January and February mainly because of an increase in vegetable prices. The rise in food prices led us to mark up our forecast for headline inflation in the first quarter 1¼ percentage point to 3¾ percent at an annual rate. We project Chinese inflation to moderate after the effects of the food price shock wane and to average about 3 percent over the remainder of the forecast period.

## Other Emerging Asia

Elsewhere in emerging Asia, real GDP growth climbed to 4½ percent in the fourth quarter from 3 percent in the third. This pace is ¾ percentage point faster than projected in the January Tealbook, as positive surprises in most of the region outweighed disappointing readings in India and Korea. The largest upward surprises were in Thailand and Malaysia, where output growth reached double-digit territory. Activity in the region continued to be supported by domestic demand. In addition, growth was boosted by exports to China, both to meet strong Chinese final demand and to provide parts and components used in the production of goods for re-export. In Singapore and

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<sup>1</sup> There is no official series for the level of Chinese real GDP, and thus estimates of Chinese economic growth from various sources can differ. The staff's quarter-on-quarter growth estimates are constructed from the official series of four-quarter changes in real GDP and should be viewed as having relatively wide confidence bands.

Thailand, a sharp increase in inventory accumulation also raised activity in the fourth quarter.

We expect growth in the region to step down to just above 4 percent in the current quarter, reflecting a moderation in those economies that experienced outsized expansions in the fourth quarter. Thereafter, growth should pick up to 4¾ percent by the end of 2014, supported by accommodative policies and the recovery of activity in the advanced economies. Relative to the January Tealbook, our forecast is up ¼ percentage point in the current quarter on increased economic momentum. The outlook is down a touch for the rest of the year and in 2014 due to the downward revision to the pace of recovery in the advanced economies.

Price readings have been coming in about as expected. Accordingly, we project inflation in the region to remain at 3¼ percent in the current quarter and to stay near that rate over the remainder of the forecast period, in line with our previous Tealbook forecast. Concerns about house price bubbles prompted authorities in Hong Kong and Singapore to introduce additional tightening measures for property markets.

## Latin America

Real GDP growth in Mexico picked up to 3.1 percent in the fourth quarter, almost 1 percentage point more than projected in the January Tealbook. Although industrial output edged down, services output, which represents about two-thirds of the economy, expanded at a moderate pace and output in the volatile agricultural sector jumped. Manufacturing exports edged up in January and vehicle production through February rebounded from its December slump. Combining these readings with the projected improvement in U.S. manufacturing, we expect economic growth to increase further this quarter to 3¾ percent and to remain near that pace through 2015. This forecast is little changed from the January Tealbook.

For South America, we estimate that real GDP growth increased to 3¼ percent in the fourth quarter from 2¼ percent in the third quarter. We expect growth in the region to stay at about this pace in the current quarter before edging up to 3¾ percent in 2014 and 2015. In Brazil, GDP rose 2¼ percent in the fourth quarter, 1 percentage point less than we had estimated, and the third-quarter expansion was also revised down to only 1½ percent. The weakness in the fourth quarter reflected still-sluggish investment, which grew only modestly after four quarters of decline. Indicators for the current quarter, such



as industrial production and PMI, have strengthened and suggest a pickup in growth to about 3 percent in the current quarter, though this is still  $\frac{1}{2}$  percentage point below our January projection. We expect Brazilian growth to increase further to 4 percent next year and to level off at that rate in 2015, supported by policy accommodation and the recovery in the advanced economies.

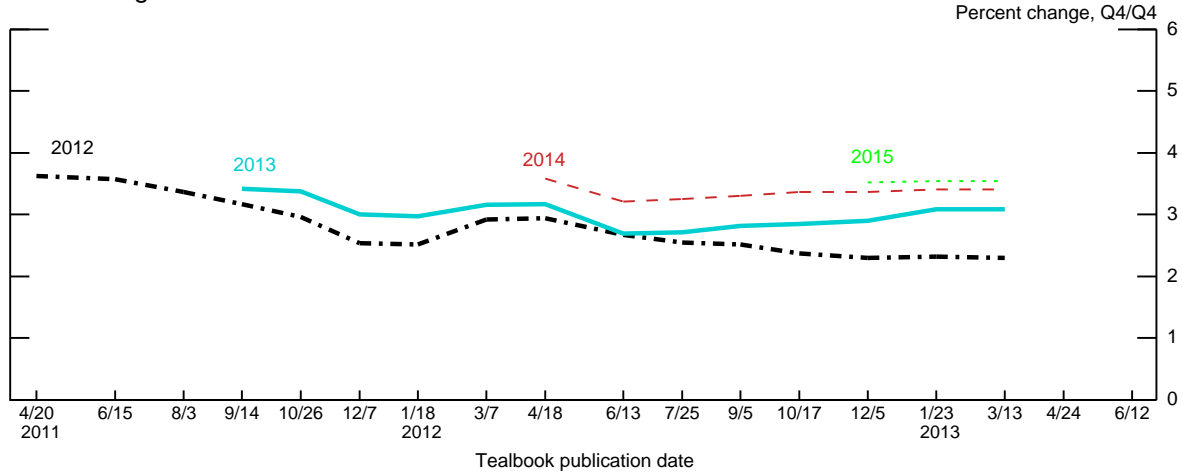
We estimate that consumer price inflation in Mexico dipped to 2 percent at an annual rate in the first quarter, about  $\frac{1}{4}$  percentage point below our January Tealbook forecast, as food prices ebbed from their recent highs. With inflation having retreated significantly and amid concerns about weak global growth and strong capital inflows, the Bank of Mexico lowered its policy rate 0.5 percentage point to 4 percent, the first rate cut since mid-2009. We expect Mexican inflation to rebound to  $3\frac{1}{4}$  percent later this year after food prices bottom out and to step up slightly further over the remainder of the forecast period.

In South America, first-quarter inflation, at an estimated  $5\frac{3}{4}$  percent, has moderated a bit less than we had anticipated in the January Tealbook. Inflation in the region should settle near  $5\frac{1}{4}$  percent over the remainder of the forecast period, in part as inflationary pressures in Brazil ease. The Brazilian central bank kept its main policy rate unchanged at its record-low 7.25 percent at its March meeting, citing persistently weak growth, but indicated a tightening bias for the future given that 12-month inflation, at 6.3 percent in February, is near the upper limit of its target range of  $2\frac{1}{2}$  to  $6\frac{1}{2}$  percent. Accordingly, we expect the central bank to start tightening in coming months.

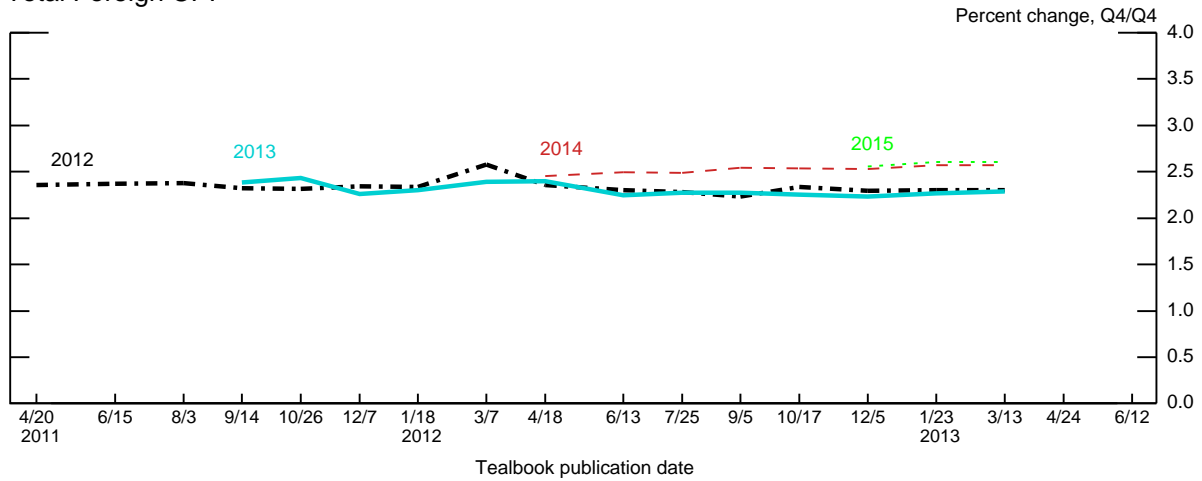


### Evolution of Staff's International Forecast

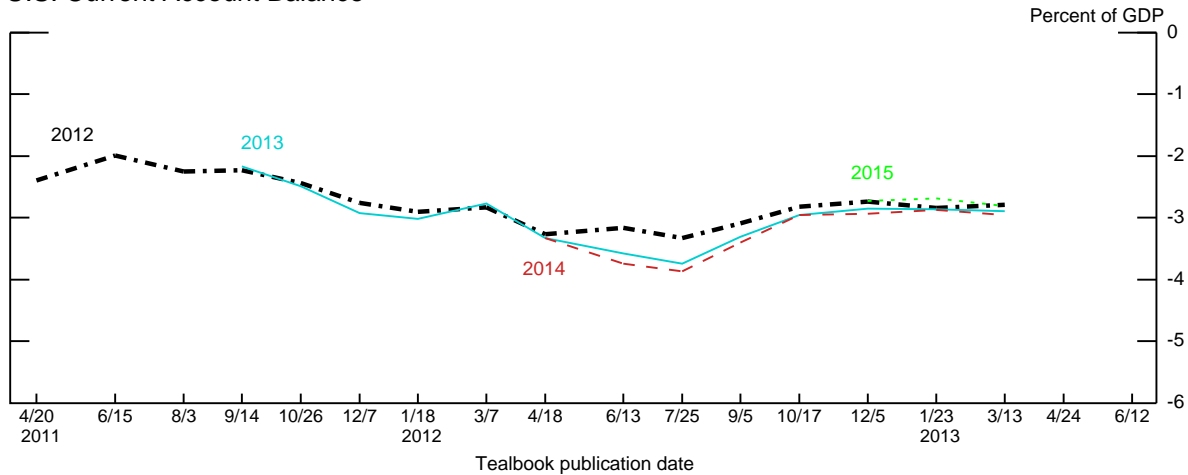
Total Foreign GDP



Total Foreign CPI



U.S. Current Account Balance



## Financial Developments

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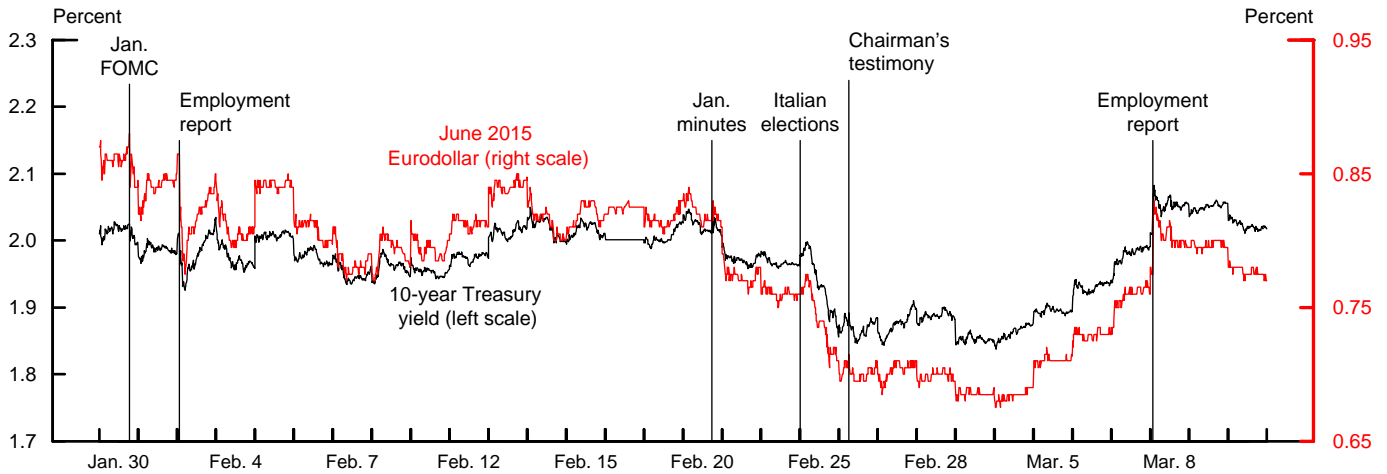
Generally favorable U.S. economic data releases and monetary policymakers' communications supported continued improvement in domestic market sentiment over the intermeeting period despite some renewed concerns about conditions in Europe. On balance, broad U.S. stock price indexes rose 3 percent over the period, while longer-term Treasury yields ticked higher and corporate bond and MBS spreads were essentially unchanged. The passing of the sequestration deadline and uncertainty over the extension of the continuing resolution to fund the federal government left little apparent imprint in domestic asset markets. The dollar appreciated against the major currencies amid weaker-than-expected foreign economic data releases and anticipation of easier monetary policy conditions abroad. Equity prices of European financial institutions dropped and Italian sovereign spreads widened in response to heightened political uncertainty following the inconclusive outcome of the Italian elections.

The expected path of policy rates implied by derivatives contracts edged down, on net, since the January FOMC meeting. On balance, various communications from policymakers, including the Chairman's semiannual testimony to the Congress, were characterized as reinforcing market expectations that significant monetary policy accommodation would continue.

Conditions in domestic financing markets generally improved, on net, over the intermeeting period. There was no apparent deterioration in access to short-term funding, including for financial institutions with European parents. Meanwhile, credit flows to nonfinancial businesses remained robust, as evidenced by elevated net domestic corporate bond issuance and increases in outstanding commercial paper (CP) and C&I loans. Financial conditions in the commercial real estate (CRE) sector continued to improve slowly, with commercial mortgage debt increasing in the fourth quarter for the first time since 2008. On the household side, student and auto loans continued to expand briskly, while other credit flows to the household sector remained subdued. In particular, despite another sizable increase in house prices, residential mortgage debt outstanding was little changed in the fourth quarter amid persistently tight credit conditions for many households, and balances owed on credit card accounts have been flat in recent months. Meanwhile, overall bank credit continued to expand moderately, driven primarily by the

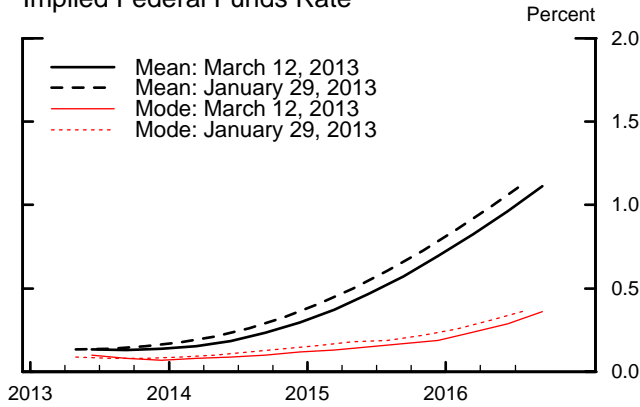
### Policy Expectations and Treasury Yields

Selected Interest Rates



Note: 5-minute intervals. 8:00 a.m. to 4:00 p.m. No adjustments for term premiums.  
Source: Bloomberg.

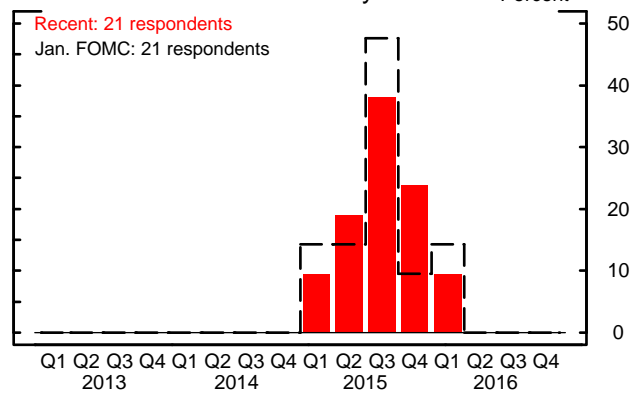
Implied Federal Funds Rate



Note: Mean is estimated using overnight index swap quotes. Mode is estimated from the distribution of federal funds rate implied by interest rate caps. Both include a term premium of zero basis points per month.

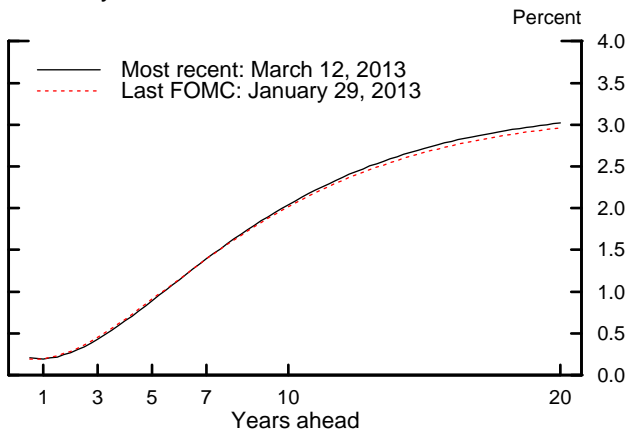
Source: Bloomberg and CME Group.

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



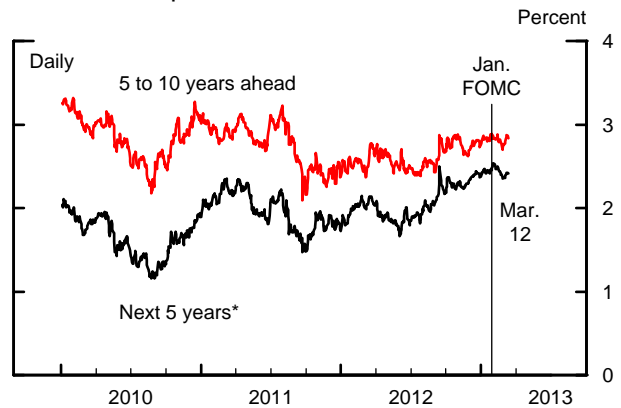
Source: Desk's dealer survey from March 11, 2013.

Treasury Yield Curve



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

Inflation Compensation



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

\* Adjusted for the indexation-lag (carry) effect.

Source: Barclays PLC and staff estimates.

Financial Developments

growth in C&I loans. After surging toward the end of 2012, M2 has been roughly unchanged so far this year.

## **POLICY EXPECTATIONS AND TREASURY YIELDS**

Over the intermeeting period, the expected path for federal funds rates derived from market quotes edged down, while longer-term Treasury yields were relatively unchanged on net. On balance, FOMC communications were slightly more accommodative than expected. Although some market participants viewed the minutes of the January FOMC meeting as signaling marginally less policy accommodation through the Federal Reserve's balance sheet than they had expected, the January FOMC statement, the Chairman's monetary policy testimony, and a number of speeches by FOMC members appeared to more than offset that interpretation and reinforced expectations for a continuation of significant policy accommodation. The expected path for the federal funds rate derived from overnight index swaps now rises above the current target range in the fourth quarter of 2014, one quarter later than at the time of the January FOMC meeting. The modal policy path—the most likely values for future federal funds rates based on prices of interest rate caps—indicates that the federal funds rate will remain in its current range until early 2016, slightly longer than seen in January.<sup>1</sup>

Results from the Open Market Desk's latest Survey of Primary Dealers also show a small downward revision in modal policy rate expectations beyond the first quarter of 2015, although dealers continued to view the third quarter of 2015 as the most likely time of the first increase in the target rate. Median estimates suggest that dealers also continued to view the first quarter of 2014 as the most likely time for the completion of the flow-based purchases in Treasury securities and agency MBS, but the number of dealers that expect purchases to continue beyond the first quarter of 2014 rose slightly.

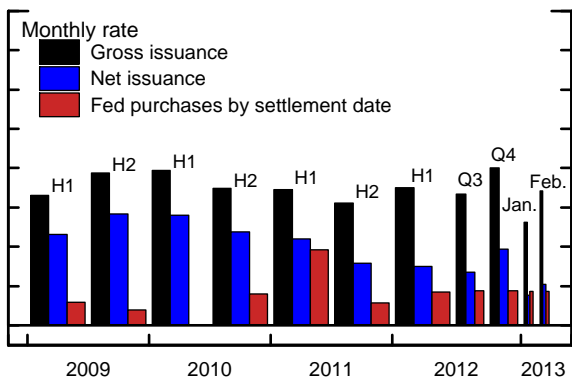
Nominal Treasury yields stayed within a narrow range during the first half of the intermeeting period but declined noticeably in response to the deterioration in sentiment following the inconclusive elections in Italy. The decline in yields was subsequently retraced as domestic data releases on housing and labor market activity exceeded expectations. On net since the January FOMC meeting, 2-year Treasury yields ticked down 2 basis points, while 10- and 30-year yields rose 2 basis points and 7 basis points,

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<sup>1</sup> The effective federal funds rate averaged 15 basis points over the intermeeting period, with the intraday standard deviation averaging about 4 basis points.

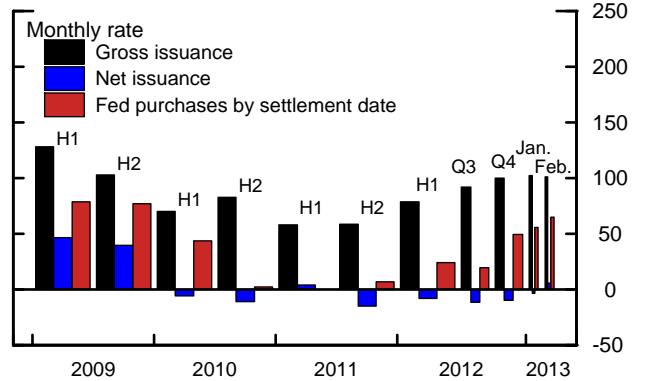
# Treasury and Agency MBS Market Functioning

Nominal Treasury Issuance and Fed Purchases  
Billions of dollars



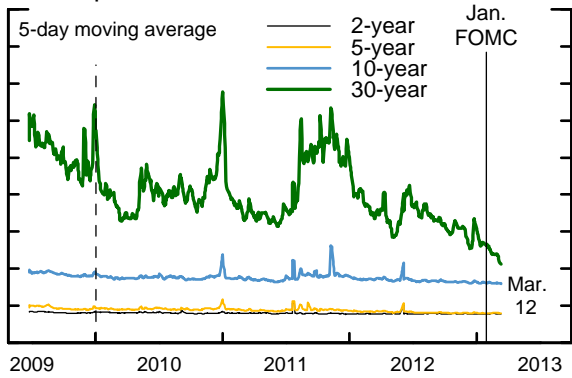
Note: Excludes bills.  
Source: U.S. Department of the Treasury; Federal Reserve Bank of New York.

Agency MBS Issuance and Fed Purchases  
Billions of dollars



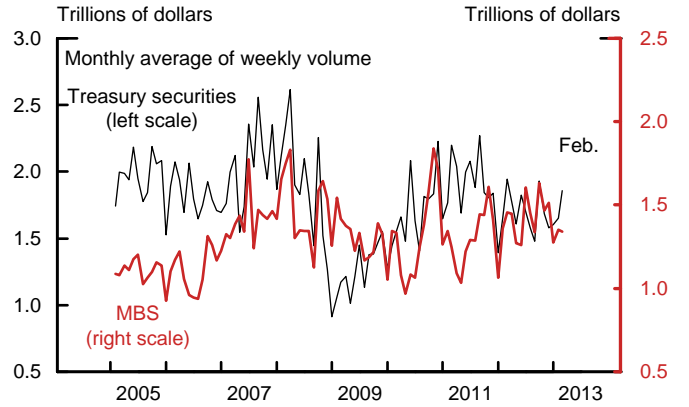
Note: Issuance and purchases of 30-year fixed-rate agency MBS.  
Source: Federal Reserve Bank of New York.

Average Nominal On-the-Run Daily Bid-Asked Price Spreads  
Cents per 100 dollars



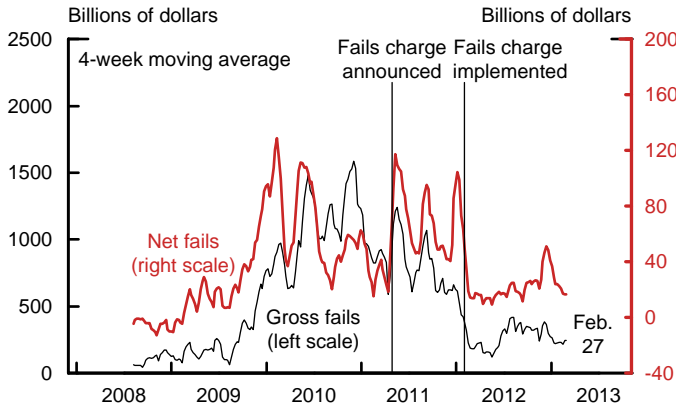
Note: Series contain breaks and are considered more reliable starting on January 1, 2010 (indicated by the dashed vertical line), and going forward.  
Source: BrokerTec.

Treasury and MBS Trading Volume  
Trillions of dollars



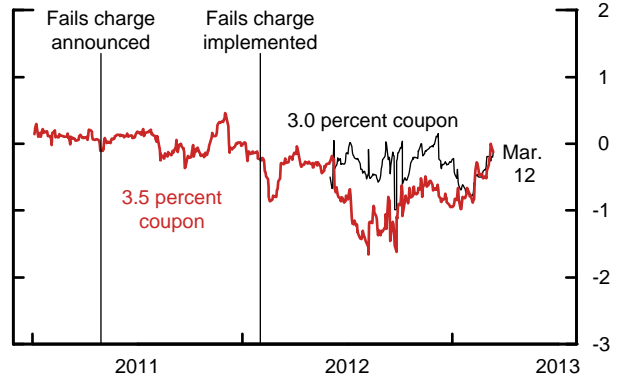
Note: Excludes bills.  
Source: Federal Reserve Board, FR 2004, Government Securities Dealers Reports.

Agency MBS Fails  
Billions of dollars



Note: Par value. Gross fails are the sum of fails-to-receive and fails-to-deliver, while net fails are the difference.  
Source: Federal Reserve Board, FR 2004, Government Securities Dealers Reports.

Dollar Roll Implied Financing Rates (Front Month), Fannie Mae 30-Year  
Percent



Note: For 3.0 percent coupon, data are omitted for January 6-10, 2012.  
Source: J.P. Morgan.

respectively. TIPS-based inflation compensation over the next 5 years decreased 6 basis points, on net, amid declining commodity prices. TIPS-based inflation compensation 5 to 10 years ahead also declined 5 basis points, while the swaps-based measure was little changed.

## **TREASURY AND AGENCY MBS MARKET FUNCTIONING**

The Desk's flow-based purchases of Treasury securities and agency MBS continued to proceed as planned and did not appear to have had any material adverse effect on either Treasury or agency MBS market functioning.<sup>2</sup> Most measures of liquidity conditions in these markets, such as bid-asked spreads for nominal Treasury securities and trading volumes and settlement fails for both types of securities, remained stable over the intermeeting period. Implied financing rates for dollar roll transactions in most MBS coupons have risen over the period, suggesting little scarcity in the supply of the cheapest-to-deliver MBS that trade in the to-be-announced (TBA) market. Implied financing rates for Fannie Mae 3.0 percent and 3.5 percent MBS coupons were quite negative in January, suggesting a short-term shortage of such securities in the TBA market, but rose over the period, as supply in these coupons increased and the Desk's purchases shifted somewhat toward other securities that were in relatively greater supply. Consequently, the Desk rolled only about 8 percent of total expected settlements in February, about half the January level.

## **FINANCIAL INSTITUTIONS AND SHORT-TERM FUNDING MARKETS**

Conditions in domestic funding markets were generally little changed, on balance, since the January FOMC meeting. Conditions in offshore dollar funding markets were stable despite the heightened political uncertainty in Italy.

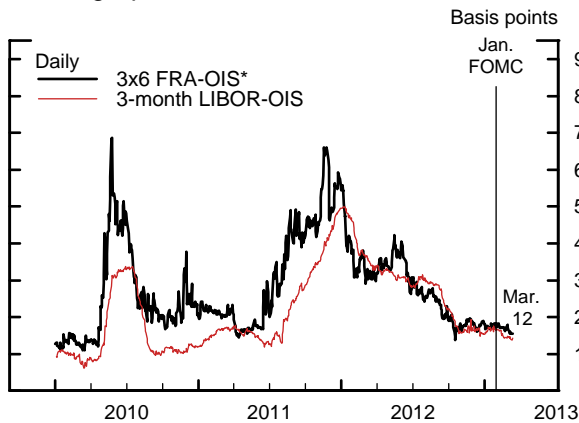
Over the intermeeting period, both the spread between three-month LIBOR and comparable-maturity OIS rates and that between the three-month forward rate agreement three months ahead and the corresponding forward OIS rate narrowed a bit, leaving them near the lower ends of their ranges since 2009. Most financial institutions with parents domiciled in France, Germany, and other "core" European countries reportedly had fairly

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<sup>2</sup> Over the intermeeting period, the Desk purchased \$60 billion in Treasury securities under the flow-based Treasury purchase program. In addition, the Desk purchased \$107 billion in agency MBS under the flow-based MBS program and the reinvestment program.

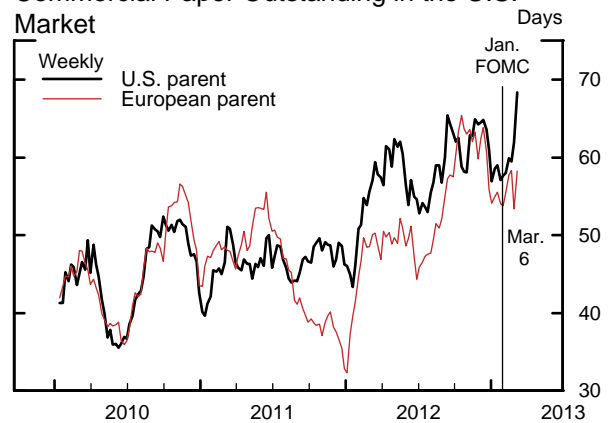
## Financial Institutions and Short-Term Funding Markets

### Funding Spreads



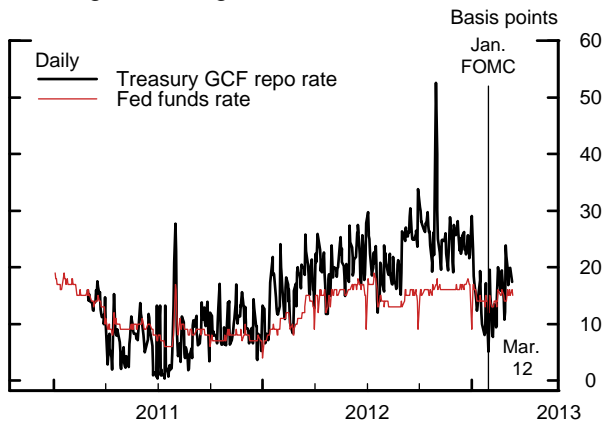
\* Spread is calculated from a LIBOR forward rate agreement (FRA) 3 to 6 months in the future and the forward overnight index swap (OIS) rate for the same period.  
Source: Bloomberg.

### Average Maturity for Unsecured Financial Commercial Paper Outstanding in the U.S. Market



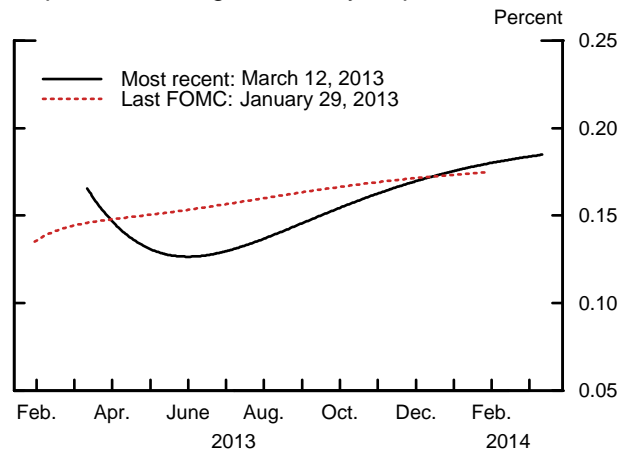
Source: Depository Trust & Clearing Corporation; staff calculations.

### Overnight Funding Rate



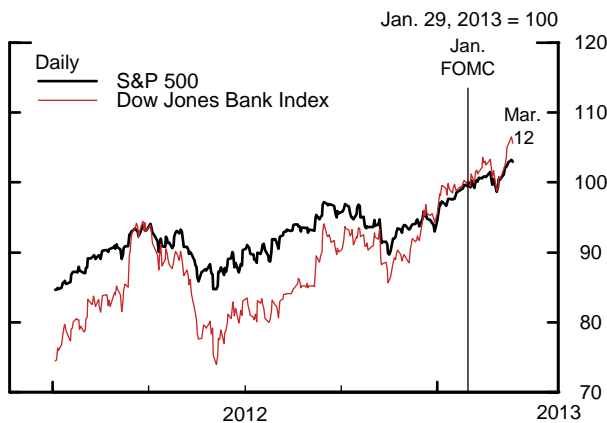
Note: GCF is general collateral finance; repo is repurchase agreement.  
Source: Depository Trust & Clearing Corporation; Federal Reserve.

### Expected Overnight Treasury Repo Rate



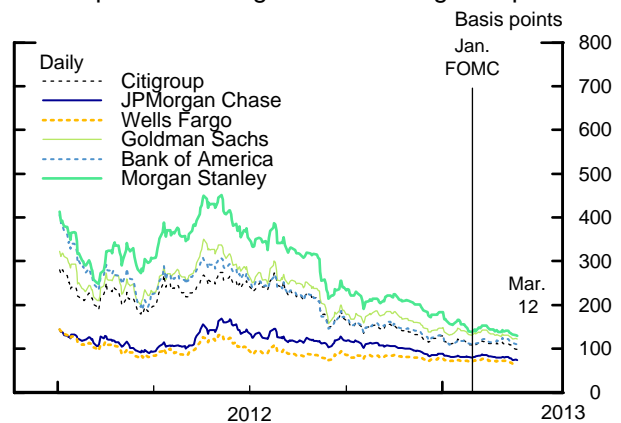
Source: Bloomberg; staff calculations based on GCF Treasury repurchase agreement (repo) futures quotes.

### Stock Prices



Source: Bloomberg.

### CDS Spreads of Large Bank Holding Companies



Source: Markit.

normal access to dollar liquidity.<sup>3</sup> The outstanding amount of unsecured CP issued by European financial institutions remained stable in the period following a significant increase in issuance at the beginning of the year, and the outstanding amount of unsecured CP issued by U.S. financial institutions was also about unchanged. The spreads on U.S. and most European unsecured CP and asset-backed commercial paper (ABCP) generally held at their recent levels. Aggregate outstanding ABCP was little changed for programs with sponsors domiciled in the United States and Europe. Overnight spreads on ABCP (relative to AA-rated unsecured nonfinancial CP) were about unchanged, on net, with spreads on most European ABCP issues remaining close to those on U.S. issues.

Repo markets continued to function well over the intermeeting period. Rates on Treasury and agency GCF repo increased from their low levels at the time of the January FOMC meeting but remained below their six-month averages. Repo haircuts for Treasury and agency collateral, as well as for corporate bond collateral, were roughly unchanged. The availability of term secured funding reportedly continued to increase, including for less-liquid asset classes. Market participants noted that funding for high-yield debt is now available to high-quality counterparties for tenors up to six months, and from a broadening group of lenders.

Leveraged investors have not experienced unusual volatility during the intermeeting period. Dealers reported in the March Senior Credit Officer Opinion Survey on Dealer Financing Terms that risk appetite on the part of leveraged investors has increased somewhat over the past three months, as their concerns about tail risks to the domestic economic outlook appear to have diminished (see appendix).

A broad index of U.S. bank equity prices has risen about 6 percent, on net, since the January FOMC meeting, and large domestic bank CDS spreads ticked down on balance. Results of the annual stress tests mandated by the Dodd–Frank Act for the nation’s largest bank holding companies (BHCs) were viewed generally as in line with expectations and elicited little price action.

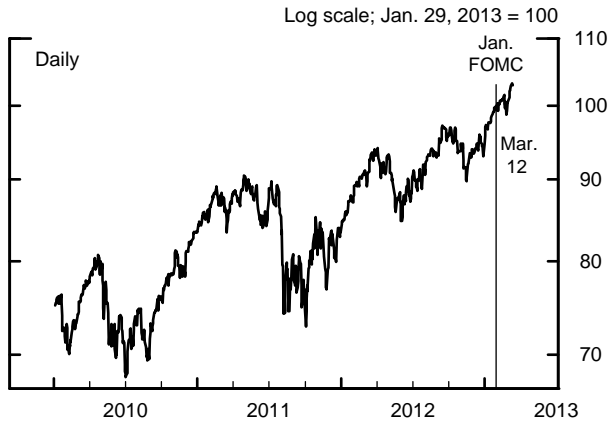
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<sup>3</sup> Usage of the dollar swap lines by foreign central banks was little changed at around \$8 billion over the intermeeting period, remaining near their lowest levels since the cut in the swap line rate to the OIS rate plus 50 basis points in late 2011.



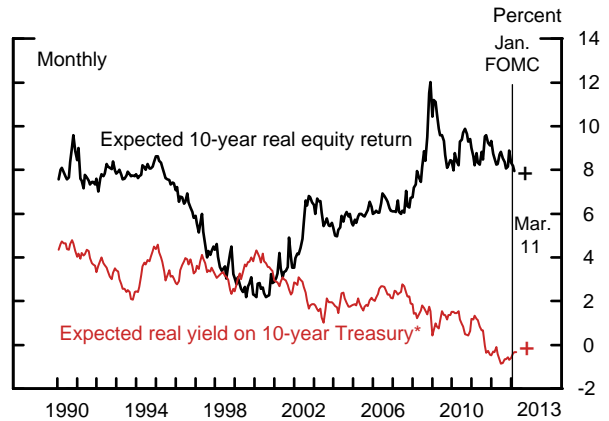
### Other Domestic Asset Market Developments

S&P 500 Stock Price Index



Source: Bloomberg.

Equity Risk Premium

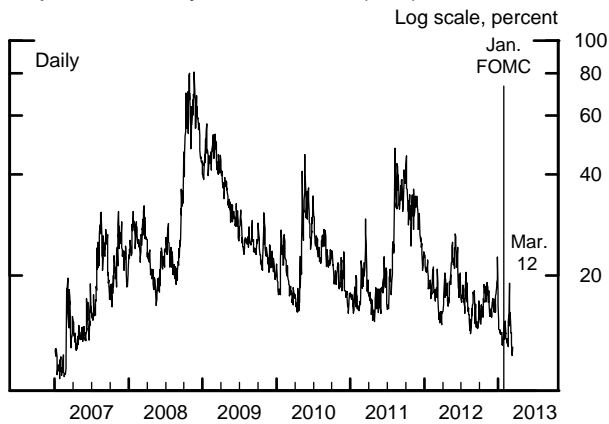


\* Off-the-run 10-year Treasury yield less Philadelphia Fed 10-year expected inflation.

+ Denotes the latest observation using daily interest rates and stock prices and latest earnings data.

Source: Thomson Reuters.

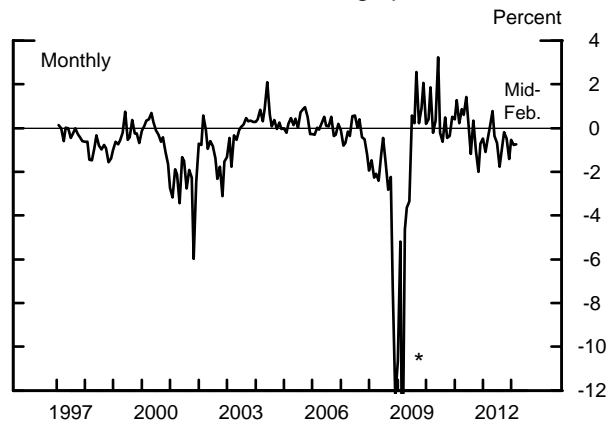
Implied Volatility on S&P 500 (VIX)



Note: Option-implied 1-month-ahead volatility on the S&P 500 index.

Source: Chicago Board Options Exchange.

Revisions to S&P 500 Earnings per Share

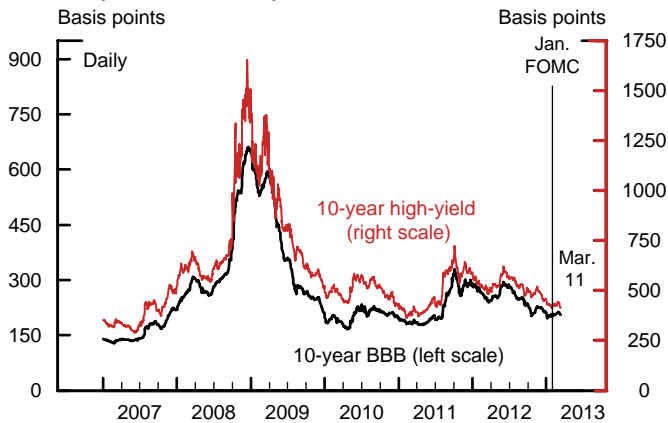


Note: Weighted average of the percent change in the consensus forecasts of current-year and following-year earnings per share.

\* EPS revision is -17.22 percent in Feb. 2009.

Source: Thomson Reuters.

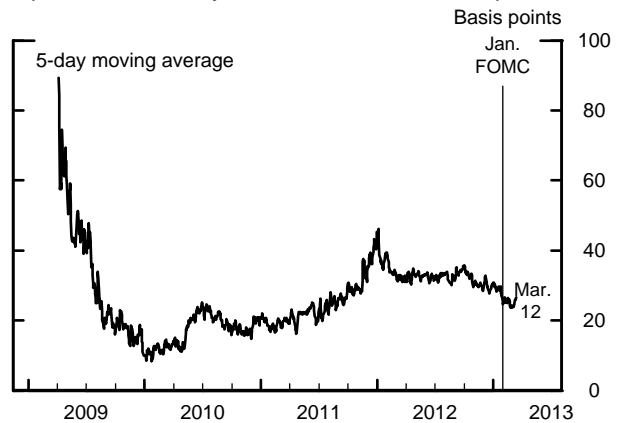
Corporate Bond Spreads



Note: Spreads are measured relative to a smoothed nominal off-the-run Treasury yield curve.

Source: Merrill Lynch; staff calculations.

Spread on 30-day A2/P2 Commercial Paper



Note: The A2/P2 spread is the A2/P2 nonfinancial rate minus the AA nonfinancial rate.

Source: Depository Trust & Clearing Corporation.

## OTHER DOMESTIC ASSET MARKET DEVELOPMENTS

Broad equity price indexes rose over the intermeeting period, as markets reacted to generally better-than-expected domestic economic data releases and strong corporate earnings reports despite the continued trimming of year-ahead earnings forecasts. The staff's estimate of the expected real return on the S&P 500 index edged down further over the period to the lowest level seen since late 2008, while the spread between this return and the real 10-year Treasury yield—a gauge of the current equity premium—remained wide by historical standards. The VIX, an index of option-implied one-month-ahead volatility for the S&P 500 index, jumped after the Italian elections but subsequently fell to a level last seen in early 2007.

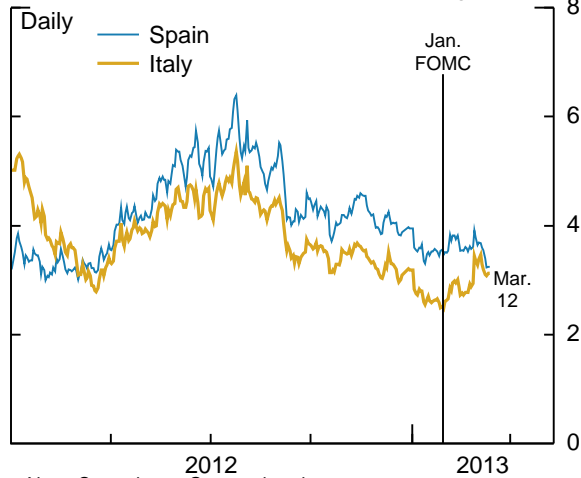
Over the intermeeting period, yields on investment- and speculative-grade corporate bonds rose slightly, roughly in line with yields on comparable-maturity nominal Treasury securities. As a result, spreads for both classes of corporate bonds were about unchanged, on net, for the period. The spreads of yields on A2/P2 unsecured CP issued by nonfinancial firms over yields on AA-rated nonfinancial issues were about unchanged, on balance, over the period.

## FOREIGN DEVELOPMENTS

Concerns regarding Europe rose over the intermeeting period amid weaker-than-expected macroeconomic data releases and the election results in Italy, which cast doubt on whether a governing coalition strong enough to pursue further reforms could be assembled. Spreads of 10-year Italian sovereign debt yields over comparable German yields widened about 65 basis points over the period, but Spanish spreads narrowed modestly. Although the headline euro-area equity index was, on net, little changed over the period, euro-area banking-sector share prices fell 8 percent. Macroeconomic data for the United Kingdom were also weak, and Moody's Investors Service cut the country's Aaa sovereign debt rating one notch, citing the outlook for economic growth. Reflecting poorer growth prospects, market-based measures of expected overnight interest rates in the euro area and the United Kingdom fell, and the Bank of England signaled that it was likely to maintain its accommodative monetary policies even as it expects to miss its inflation target over the medium term. Sovereign yields declined in the United Kingdom and Germany, and sterling and the euro depreciated 6 percent and 3½ percent, respectively, against the dollar.

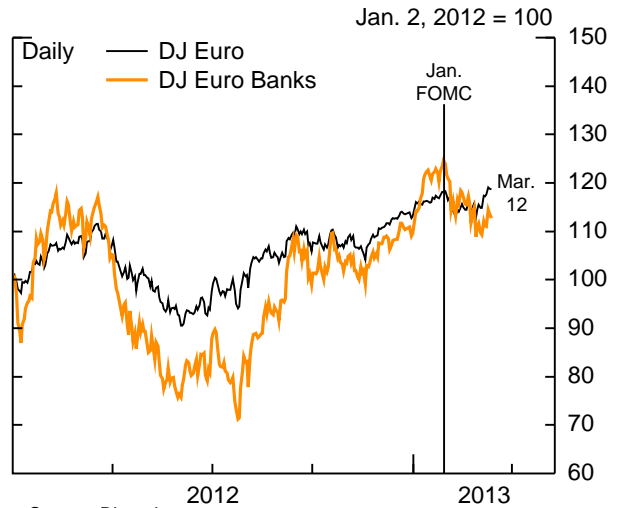
### Foreign Developments

**Euro-Area 10-Year Government Bond Spreads**  
Percentage points



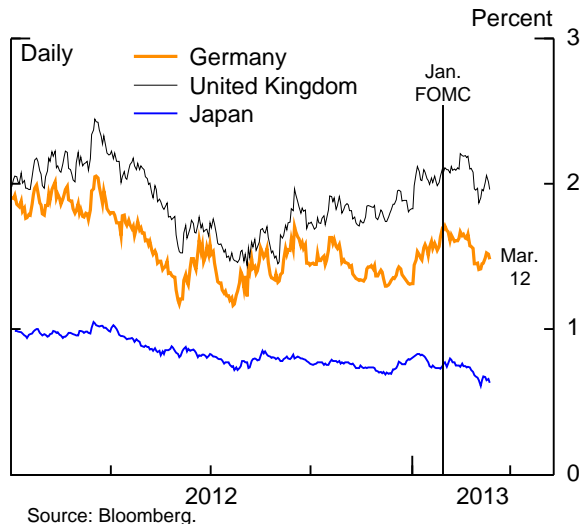
Note: Spread over German bunds.  
Source: Bloomberg.

**Euro-Area Stock Price Indexes**



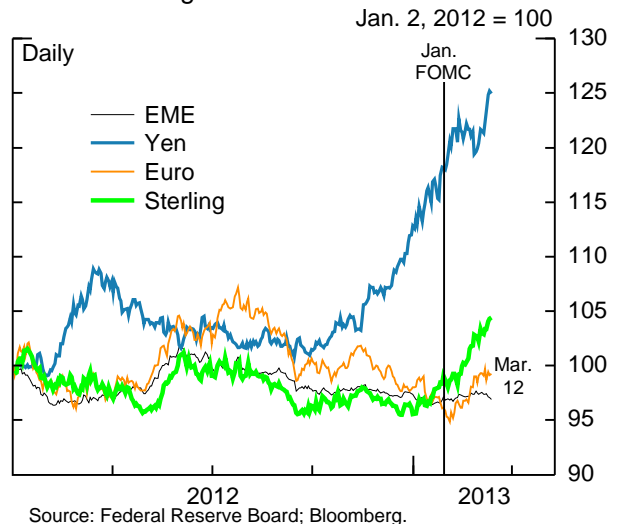
Source: Bloomberg.

**10-Year Nominal Benchmark Yields**



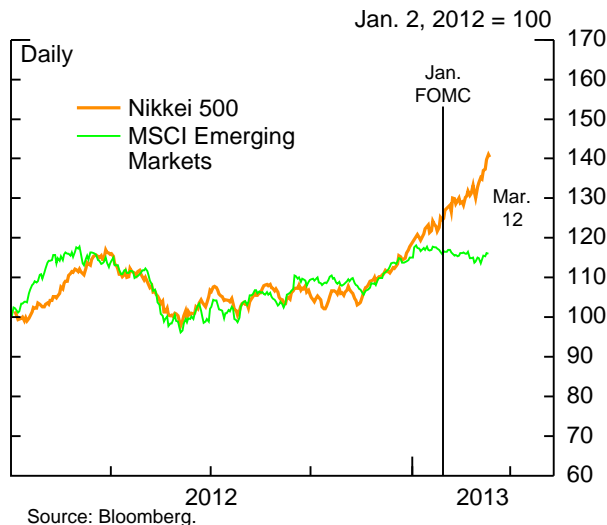
Source: Bloomberg.

**Dollar Exchange Rates**



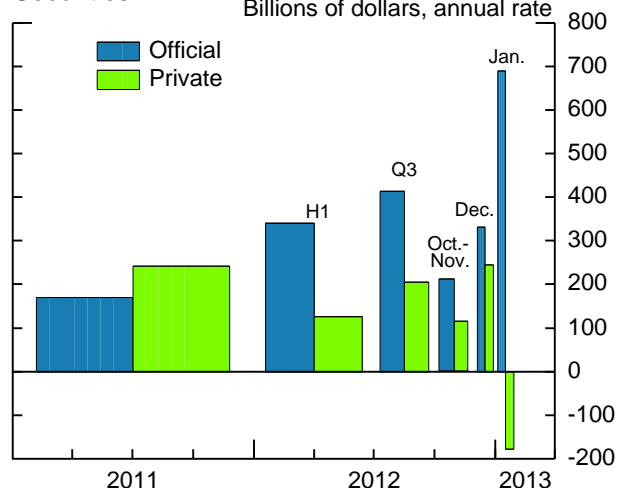
Source: Federal Reserve Board; Bloomberg.

**Stock Price Indexes**



Source: Bloomberg.

**Foreign Net Purchases of U.S. Treasury Securities**



Source: Treasury International Capital data adjusted for staff estimates. January data are embargoed until March 15, 2013.

Expectations for easier monetary policy extended also to Canada and Japan. Amid weak data on domestic economic activity, the Bank of Canada appeared more likely to delay further the start of monetary tightening, and the Canadian dollar depreciated 2½ percent against the U.S. dollar, on net, over the period.

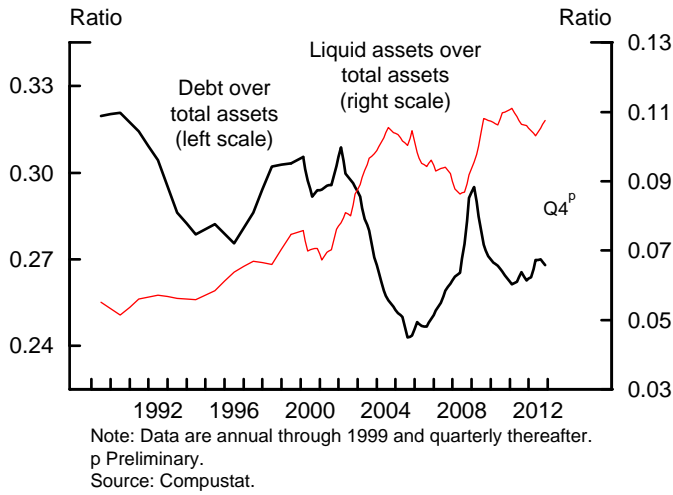
In Japan, the nomination of Haruhiko Kuroda to lead the Bank of Japan reinforced expectations for aggressive monetary policy action. Ten-year sovereign yields decreased about 13 basis points in Japan, to near record lows, and the Nikkei index rose 13 percent over the period. The yen depreciated a further 6 percent against the dollar, bringing the yen's decline against the dollar since last fall to 22 percent. This depreciation in anticipation of more policy easing led to some fears that Japan would deliberately seek to lower its currency and thereby induce retaliatory actions by other countries to devalue their currencies. In response, the G-7 and G-20 issued statements reaffirming their commitments to "market determined" exchange rates (see the box "Currency Wars" in the International Economic Developments and Outlook section).

Although inflows into emerging market mutual funds continued, they slowed notably in recent weeks, partly reflecting heightened stresses after the Italian elections, and EME equity indexes were, on average, slightly lower. In China, the government imposed new measures aimed at cooling activity in the housing market and proposed measures to rein in the country's shadow banking sector. The central banks of Colombia, Hungary, India, Mexico, and Poland lowered their respective policy interest rates over the period, citing weakening prospects for growth. Movements in the currencies of EMEs against the dollar were generally small; on average, the dollar rose ¼ percent against EME currencies.

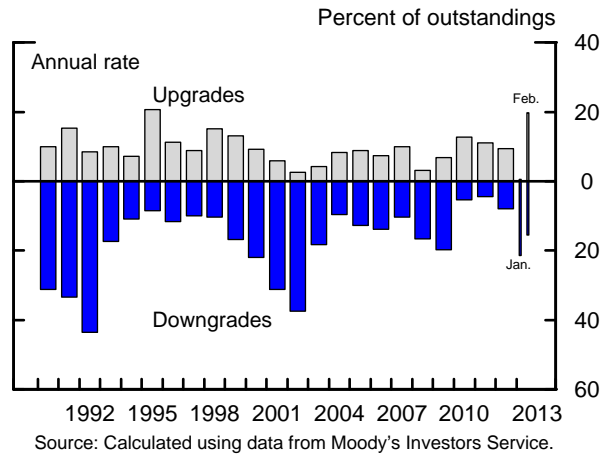
Foreign private demand for U.S. assets, including Treasury securities, was very strong in December but reversed some in January; smoothing through the two months, foreign private demand contributed to the ongoing recovery in cross-border flows. U.S. investors' acquisitions of foreign securities also picked up, with strong purchases of equities. Foreign official purchases of U.S. Treasury securities, led by a sharp increase in purchases from Asia, recovered in December and January from November's low level; Federal Reserve Bank of New York custodial data suggest more-moderate increases in February.

### Business Finance

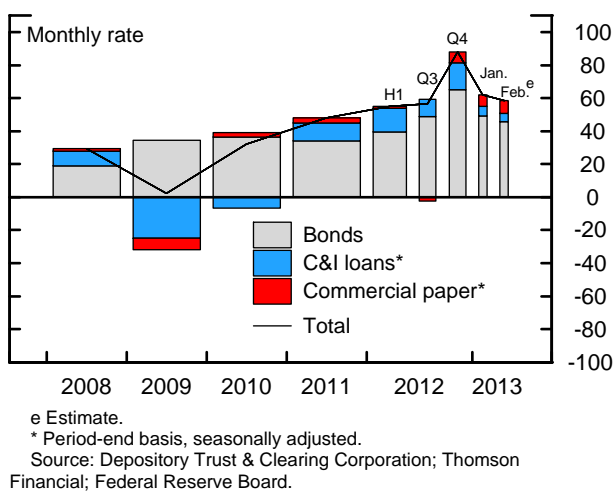
Financial Ratios for Nonfinancial Corporations



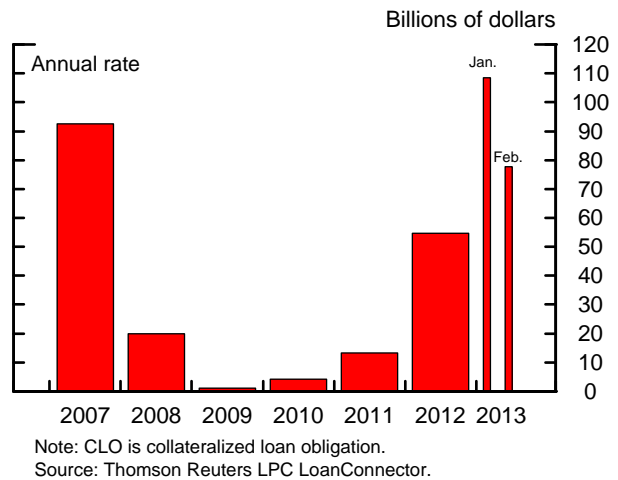
Bond Ratings Changes of Nonfinancial Firms



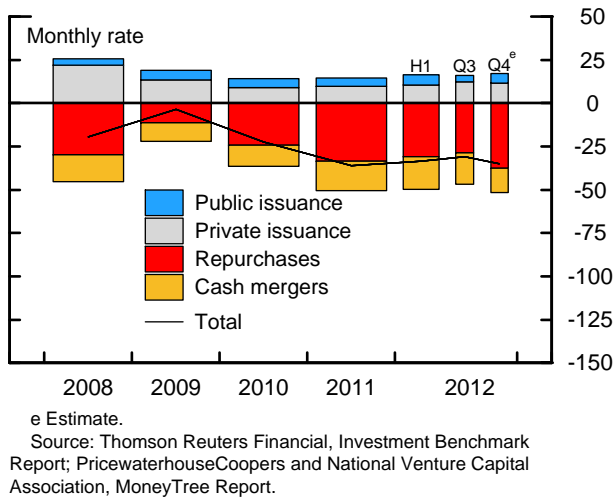
Selected Components of Net Debt Financing, Nonfinancial Firms



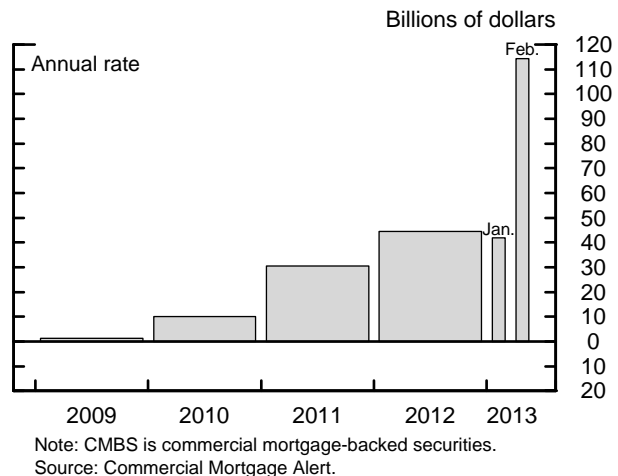
U.S. CLO Issuance



Selected Components of Net Equity Issuance, Nonfinancial Firms



CMBS Issuance



Financial Developments

## **BUSINESS FINANCE**

After a strong finish to the fourth-quarter reporting season, earnings per share for S&P 500 firms are now estimated to have increased modestly from the third-quarter level. Gains for the nonfinancial sector more than offset a substantial decline in the profits of insurance companies stemming in large part from payouts to cover damage caused by Hurricane Sandy. Although revisions to year-ahead analyst earnings forecasts for firms in the S&P 500 continued to be slightly negative in January and February, analysts, on balance, continue to expect a healthy rate of earnings growth over the coming year.

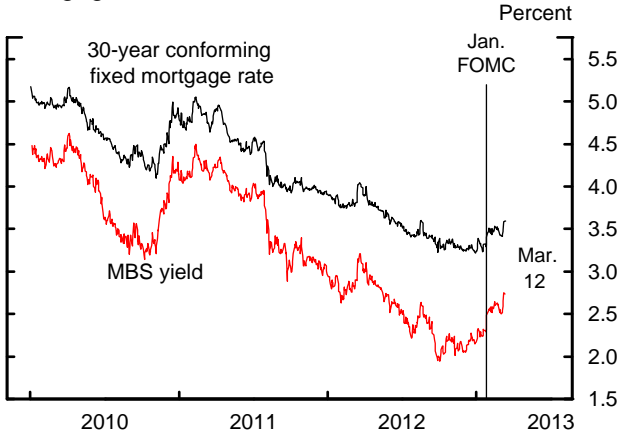
Available indicators also continued to point to solid credit quality for the nonfinancial corporate sector. In the fourth quarter, the aggregate liquid asset ratio remained near its highest level in 20 years, while the aggregate ratio of debt to assets ticked lower and continues to be well below its historical average for the same period. The volume of nonfinancial corporate bonds downgraded by Moody's jumped in January, primarily reflecting a downgrade to AT&T's debt. Bond rating upgrades rebounded in February to slightly exceed downgrades. The six-month trailing bond default rate for nonfinancial firms remained low by historical standards in January, and the C&I loan delinquency rate continued to decrease in the fourth quarter from an already low level. The KMV expected year-ahead default rate for nonfinancial firms declined slightly in recent months because of gains in share prices.

Bond issuance by nonfinancial firms remained fairly robust in February, largely due to continued sizable issuance from investment-grade firms. Staff estimates indicate that the net issuance of nonfinancial CP continued to be brisk, and the volume of C&I loans outstanding also grew, in February. Issuance of syndicated leveraged loans remained robust, supported by strong demand from CLOs, which has recently brought down yields on most tranches, bringing them more in line with other similarly rated debt securities. The pace of CLO issuance hit a post-crisis high over the intermeeting period.

The pace of gross public issuance of equity by nonfinancial firms picked up in January, boosted by robust IPO activity and secondary issuance, and remained strong in February. In the fourth quarter, share repurchases and cash-financed mergers by nonfinancial firms continued their recent pace, leaving net equity issuance deeply negative. Moreover, a notable pickup in announcements of both mergers and share

### Household Finance

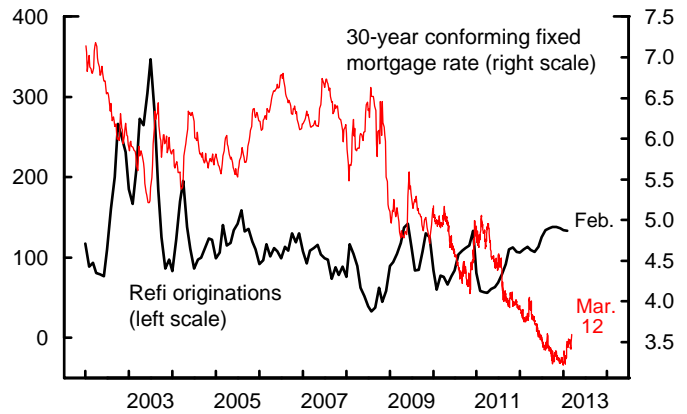
Mortgage Rate and MBS Yield



Note: For mortgage-backed securities (MBS) yield, the data are daily and consist of the Fannie Mae 30-year current-coupon rate; for mortgage rate, the data are weekly before 2010 and daily thereafter.

Source: For MBS yield, Barclays; for mortgage rate, Freddie Mac (before 2010) and Loansifter (from 2010).

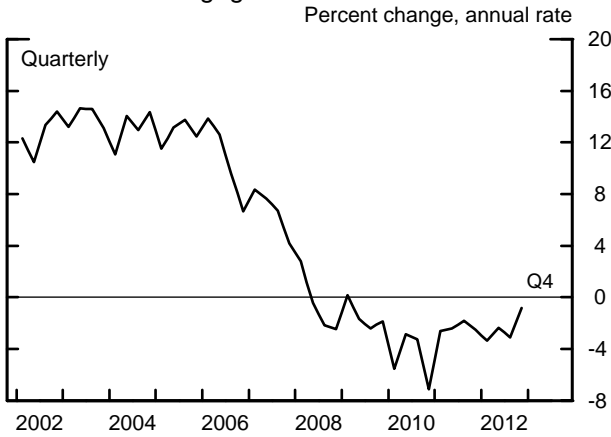
Mortgage Rate and Refinance Loan Originations



Note: For mortgage rate, the data are weekly before 2010 and daily thereafter; for refinance (refi) originations, the data are seasonally adjusted by FRB staff.

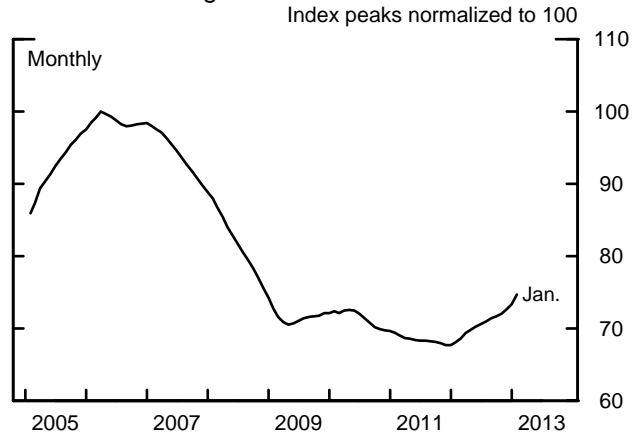
Source: For mortgage rate, Freddie Mac (before 2010) and Loansifter (from 2010); for refi originations, staff estimates.

Residential Mortgage Debt



Source: Federal Reserve Board.

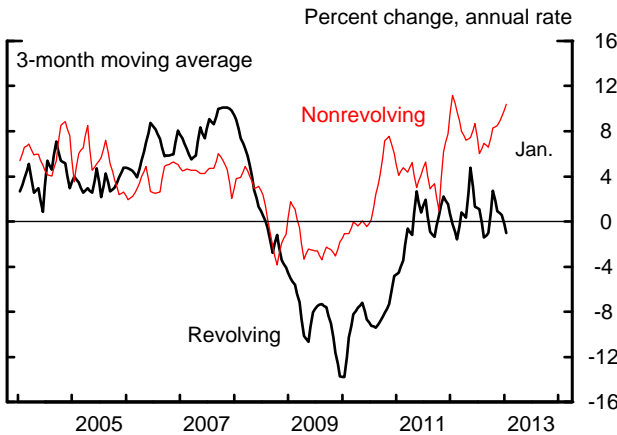
Prices of Existing Homes



Source: CoreLogic.

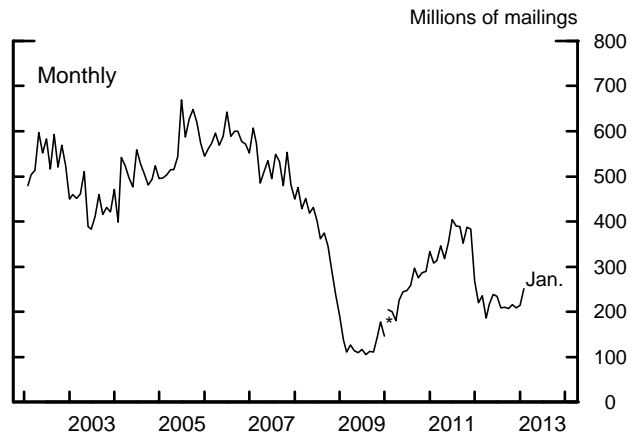
Financial Developments

Consumer Credit



Source: Federal Reserve Board.

Credit Card Solicitation Mail Volume



\* Break in series.  
Source: Mintel.

repurchase programs so far this year suggest that equity retirements are likely to accelerate over the coming quarters.

Financial conditions in the CRE sector have improved of late. As low interest rates have increased demand for commercial mortgages and lending standards reportedly have eased somewhat, commercial mortgage debt increased slightly in the fourth quarter after decreasing in each quarter since the beginning of 2009. Data from banks suggest that growth in multifamily and nonfarm nonresidential loans more than offset further declines in construction and land development loans. Moreover, CMBS issuance continues to be robust so far this year, reportedly driven by low interest rates and strong investor demand. Nonetheless, delinquency rates on loans underlying existing CMBS moved only a touch lower in February, remaining near historically high levels, while CRE prices flattened out in the fourth quarter after several consecutive quarterly increases.

## **HOUSEHOLD FINANCE**

Conforming home mortgage rates and yields on agency MBS have risen a bit, on net, since the previous FOMC meeting, while the spread between primary and secondary rates was little changed. Despite the fact that mortgage rates have increased by about 35 basis points, on net, this year, refinancing originations have declined only slightly, as many borrowers with strong credit records remain “in the money” to refinance even at the higher level of rates.

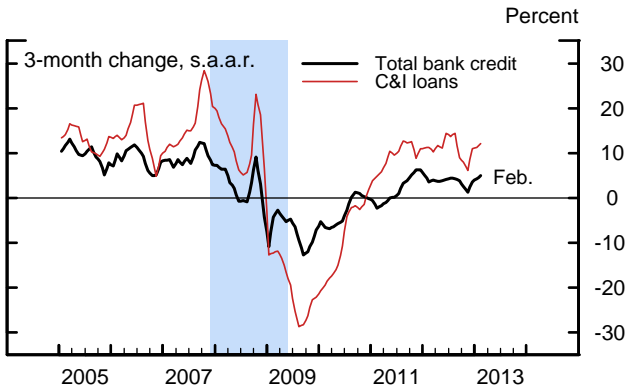
Aggregate house price indexes posted substantial increases in December and January, even as the share of home sales involving distressed properties continued to be elevated. Residential mortgage debt, though, was about flat in the fourth quarter, as tight mortgage credit conditions damped purchase loan originations and foreclosure-related loan charge-offs remained elevated.

Consumer credit continued to expand moderately in December and January, with all of the increase again appearing in the nonrevolving credit category. Growth in student and auto loans averaged annual rates around 10 percent in those two months. In contrast, revolving credit was roughly flat amid continued tight underwriting standards for credit card loans. Even so, credit card solicitation mail volume jumped noticeably in January, perhaps a nascent sign that conditions in this market are beginning to ease, especially for



### Commercial Banking and Money

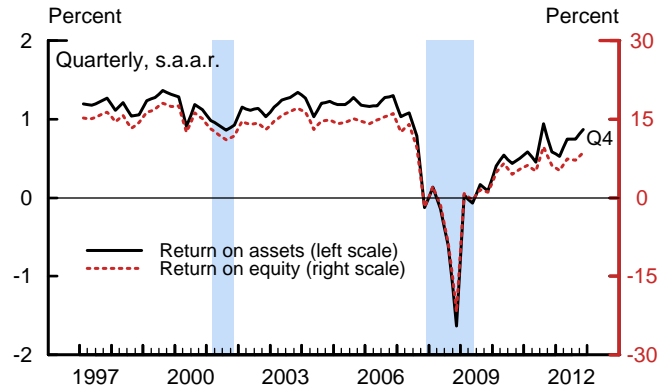
Change in Bank Credit



Note: The data have been adjusted to remove the estimated effects of certain changes to accounting standards and nonbank structure activity of \$5 billion or more. C&I is commercial and industrial.

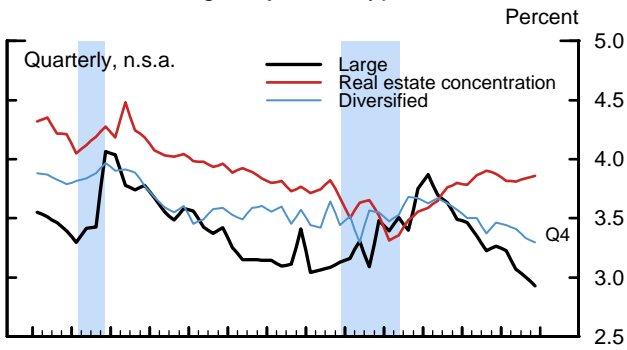
Source: Federal Reserve Board.

Return on Assets and Return on Equity



Source: Federal Reserve Board, FR Y-9C, Consolidated Financial Statements for Bank Holding Companies.

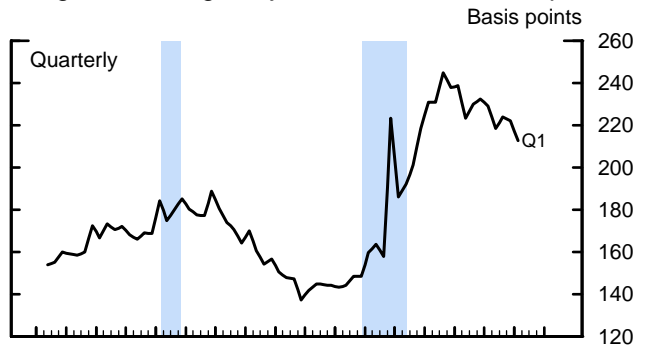
Net Interest Margin, by BHC Type



Note: Large consists of BAC, BK, C, GS, JPM, MS, NTRS, STT, and WFC. Real estate concentration consists of bank holding companies (BHCs) with a residential real estate or commercial real estate loan share greater than or equal to 40 percent. Diversified consists of all other BHCs, excluding those that have a credit card loan share greater than or equal to 40 percent.

Source: Call Report.

Weighted-Average Adjusted C&I Loan Rate Spread



Note: The rate on commercial and industrial (C&I) loans of less than \$25 million over the interest rate on a market instrument of comparable maturity, adjusted for changes in nonprice loan characteristics.

Source: Survey of Terms of Business Lending.

Growth of M2 and Its Components

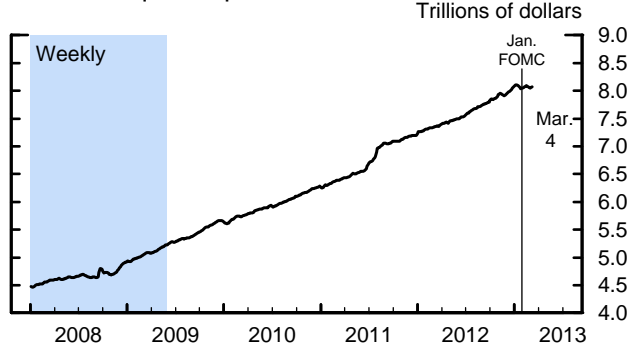
Percent, s.a.a.r.	M2	Liquid deposits	Small time deposits	Retail MMFs	Curr.
2012	7.5	11.1	-16.8	-5.7	9.0
2012:H1	5.7	9.2	-16.7	-10.1	9.1
2012:H2	9.0	12.5	-18.5	-1.4	8.6
2012:Q4	9.1	12.2	-19.8	2.6	9.0
Jan. & Feb.(p)	.6	2.2	-19.5	-6.5	4.3

Note: Retail MMFs are retail money market funds.

p Preliminary.

Source: Federal Reserve Board.

Level of Liquid Deposits



Note: Seasonally adjusted.

Source: Federal Reserve Board.

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

consumers with strong credit records. Consumer ABS issuance continued on pace for another robust quarter, largely supported by strong investor demand for these securities.

## **GOVERNMENT FINANCE**

Since the January FOMC meeting, the Treasury Department has auctioned \$232 billion in nominal securities and \$9 billion in 30-year TIPS. The auctions were generally in line with expectations, with bid-to-cover ratios close to their recent averages.

The pace of gross issuance of long-term municipal bonds weakened in January and is expected to slow further in February, largely owing to tepid issuance for new capital projects. Moreover, net issuance of these bonds remained negative, as state and local governments resisted taking on debt amid continued weakness in their credit quality. The number of rating downgrades of municipal bonds by Moody's continued to substantially outpace upgrades in the fourth quarter, and preliminary data suggest that this trend may have continued in the current quarter. CDS spreads for states inched down further over the intermeeting period, while the ratio of yields on 20-year municipal bonds to yields on comparable-maturity Treasury securities—a gauge of the relative risk of municipal bonds—was little changed.

## **COMMERCIAL BANKING AND MONEY**

Bank credit continued to expand modestly in January and February—about matching its fourth-quarter pace, on average—largely driven by continued robust growth in C&I loans. CRE loans were about unchanged over that period, while moderate increases in closed-end residential mortgage loans were partially offset by continued declines in home equity loans. Consumer loans have only inched up so far this year, reflecting limited changes in credit card loans and modest growth in other consumer loans. Finally, banks' holdings of securities were about flat, as sizable declines in Treasury and agency debt securities were offset by increases in agency MBS and other securities.

In aggregate, the profitability of BHCs increased in the fourth quarter but continued to run well below the levels that prevailed before the financial crisis. Profitability was boosted last quarter by a moderate increase in noninterest income, as revenues from investment banking activities such as underwriting rose. Net interest margins (NIMs) at commercial banks narrowed and remained near the bottom of their

historical range, reflecting a downward trend in NIMs at the largest BHCs. In contrast, NIMs at smaller banks with relatively high concentrations of real estate loans rose in the fourth quarter and have risen, on net, over the past few years. Meanwhile, the industry as a whole continued to release loan loss reserves in the fourth quarter, but to a lesser extent than has been the case in some time. Credit quality at banks continued to show signs of improvement in every major asset class. Regulatory capital ratios rose further, driven by an increase in retained earnings.

According to the Survey of Terms of Business Lending conducted in early February, spreads of C&I loan rates over an interest rate on a market instrument of comparable maturity continued to trend down. However, spreads on loans at large domestic banks and foreign banks declined further, while spreads on loans originated at small domestic banks increased. Likewise, spreads on loans made under smaller commitments, a proxy for loans to small businesses, inched up and remained elevated, while the spreads on loans made under larger commitments fell. These patterns are generally consistent with an environment in which there has reportedly been greater competition among banks to supply credit to large and middle-market firms.

The level of M2 was about unchanged, on net, over January and February. Deposits rose rapidly in December as uncertainty about future tax rates reportedly spurred some investors to realize capital gains and some firms to increase dividend payments. The reversal of these flows due to portfolio rebalancing likely damped M2 growth in the first two months of this year.<sup>4</sup>

In contrast, the monetary base has expanded at an annual rate of 37¾ percent since the start of the year, driven mainly by the increase in reserve balances over the period that resulted from the Federal Reserve's purchases of Treasury securities and agency MBS. Since the beginning of the flow-based purchase program in the fall, almost

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<sup>4</sup> The expiration of unlimited FDIC insurance of noninterest-bearing transaction accounts on December 31, 2012, appeared to have little effect on deposit balances. Commercial bank Call Report data for the fourth quarter of 2012 showed that these temporarily insured balances actually increased until the point of expiration. Moreover, after expiration, there appeared to be no migration of deposit balances to banks perceived as stronger or likely to be "too big to fail." In fact, the largest 19 banks by assets have seen deposit outflows since the turn of the year. Also, banks with higher credit ratings appear to have seen relatively more outflows in January and February than a sampling of banks with comparatively lower credit ratings.

all of the growth in reserve balances has been absorbed by U.S. branches and agencies of foreign banks.

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## Appendix

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### Senior Credit Officer Opinion Survey on Dealer Financing Terms

Responses to the March 2013 Senior Credit Officer Opinion Survey on Dealer Financing Terms generally suggested little change over the past three months in the credit terms applicable to important classes of counterparties covered by the survey.<sup>1</sup> Continuing a trend observed in recent surveys, a large net fraction of respondents reported an increase in the amount of resources and attention devoted to the management of concentrated exposures to central counterparties and other financial market utilities. Overall, respondents noted that the use of financial leverage by most classes of counterparties had remained basically unchanged over the past three months. However, about one-fourth of dealers, including a majority of the nine broad-scope dealers—that is, dealers with a significant presence in essentially all of the business areas covered in the survey—reported an increase in the use of leverage by hedge funds.

As in previous surveys, respondents indicated that most nonprice terms incorporated in new or renegotiated over-the-counter (OTC) derivatives master agreements were generally unchanged, on balance, during the past three months. Dealers also reported that initial margin requirements, which fall outside the scope of the master agreements, were generally little changed over the same period.

While the credit terms applicable to the funding of the various types of securities covered in the survey were reported to be little changed, on net, over the past three months, dealers indicated that demand for funding had increased for a number of collateral types, particularly for securitized products. Almost two-thirds of respondents reported increased demand for funding of non-agency residential mortgage-backed securities (RMBS), whereas about two-fifths noted increased demand for funding of agency RMBS and commercial mortgage-backed securities (CMBS). For a number of the collateral types covered by the survey, dealers characterized liquidity and functioning in the underlying markets as improved relative to three months earlier.

In response to a set of special questions on warehouse funding of commercial real estate (CRE) loans and syndicated bank loans prior to securitization, notable net fractions of dealers reported an increased willingness to fund such loans on an interim basis at prevailing market rates

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<sup>1</sup> The March survey collected qualitative information on changes over the previous three months in credit terms and conditions in securities financing and over-the-counter (OTC) derivatives markets. In addition to the core set of questions, this survey included a set of special questions about the provision of warehouse funding for commercial real estate loans and syndicated bank loans prior to securitization, and a second set of special questions about client risk appetite. The 22 institutions participating in the survey account for almost all of the dealer financing of dollar-denominated securities to nondealers and are the most active intermediaries in OTC derivatives markets. The survey was conducted during the period from February 19, 2013, to March 4, 2013. The core questions ask about changes between December 2012 and February 2013.

and under prevailing terms since the middle of 2012. About one-half of survey respondents also indicated that demand for such interim funding for CRE and syndicated bank loans had increased over the same period.

Finally, in response to a set of special questions about client risk appetite, dealers reported that the appetite of most client types to bear investment risk had increased since the beginning of 2013. In particular, nearly one-half of dealers, on net, noted an increase in the risk appetite of their most-favored hedge fund customers, while about one-fourth of respondents pointed to a similar increase for other hedge funds and insurance companies.

## **COUNTERPARTY TYPES**

### **Dealers and Other Financial Intermediaries**

In the March survey, all but two respondents indicated that the amount of resources and attention devoted to management of concentrated exposures to dealers and other financial intermediaries remained basically unchanged over the past three months. (See the exhibit “Management of Concentrated Credit Exposures and Indicators of Supply of Credit.”) The fraction of dealers reporting an increase in the amount of resources and attention devoted to management of concentrated exposures to dealers and other financial intermediaries has declined gradually from the 90 percent peak reached in the December 2011 survey.

### **Central Counterparties and Other Financial Utilities**

About three-fifths of dealers indicated that they had increased the amount of resources and attention devoted to management of concentrated credit exposure to central counterparties and other financial utilities over the past three months, roughly the same share as in previous surveys. About three-fourths of broad-scope dealers reported such an increase. In light of the implementation of new regulatory requirements mandating increased central clearing of many OTC contracts, continued focus on these exposures is perhaps unsurprising.<sup>2</sup> About one-fifth of survey respondents noted that the credit terms their firms applied to clients on bilateral transactions that are not cleared had been influenced to some extent by changes in the practices of central counterparties, including changes in margin requirements and haircuts.

### **Hedge Funds**

As in December, respondents to the March survey generally indicated that both price terms (such as financing rates) and nonprice terms (including haircuts, maximum maturity, covenants, cure periods, cross-default provisions, or other documentation features) offered to hedge funds for securities financing and OTC derivatives transactions had remained basically

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<sup>2</sup> As of March 11, 2013, central counterparty clearing became mandatory for major swap market participants, including dealers and active funds. The mandated products include interest rate swaps, forward rate agreements, overnight index swaps, basis swaps, and credit default swap indexes. The immediate effect of the clearing rule on dealers’ counterparty exposures is likely to be limited because many dealers have been reportedly submitting these trades for central clearing on a voluntary basis for some time.

unchanged over the past three months. However, about one-fourth of respondents, including two-thirds of broad-scope dealers, reported an increase in the use of financial leverage by hedge funds over the past three months. (See the exhibit “Use of Financial Leverage.”) A few broad-scope dealers also indicated that the availability of additional (and currently unutilized) financial leverage under agreements currently in place with hedge funds had increased somewhat. Nearly one-fourth of dealers further noted that there had been an increase in the intensity of efforts by hedge funds to negotiate more-favorable price and nonprice terms over the same period. A similar fraction noted that the provision of differential terms to most-favored hedge funds had increased somewhat over the same period.

### **Trading Real Estate Investment Trusts**

Most respondents to the March survey reported that price and nonprice terms offered to trading real estate investment trusts (REITs) had remained basically unchanged over the past three months.<sup>3</sup> Respondents generally indicated that the use of financial leverage by trading REITs had remained basically unchanged. Respondents also noted that both the intensity of efforts by trading REITs to negotiate more-favorable price and nonprice terms and the provision of differential terms to most-favored clients were broadly unchanged.

### **Mutual Funds, Exchange-Traded Funds, Pension Plans, and Endowments**

Respondents to the March survey indicated that both price and nonprice terms offered to mutual funds, exchange-traded funds (ETFs), pension plans, and endowments had remained essentially unchanged over the past three months. Provision of differential terms to most-favored clients and the intensity of efforts by clients to negotiate more-favorable terms were also reported to be little changed, as was the use of financial leverage.

### **Insurance Companies**

Respondents to the March survey indicated that both price and nonprice terms offered to insurance companies had changed little over the past three months, as had the provision of differential terms to most-favored clients. The use of financial leverage by insurance companies also remained unchanged. A few respondents reported an increase in the intensity of efforts by insurance companies to negotiate more-favorable price and nonprice terms.

### **Separately Managed Accounts Established with Investment Advisers**

Similarly, nearly all of the dealers reported in the March survey that price and nonprice terms negotiated by investment advisers on behalf of separately managed accounts were basically unchanged over the past three months. Provision of differential terms to most-favored clients and the intensity of effort by clients to negotiate more-favorable terms were also reported to be little changed. Finally, the use of financial leverage by investment advisers remained basically unchanged.

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<sup>3</sup> Trading REITs invest in assets backed by real estate rather than directly in real estate.



## Nonfinancial Corporations

About one-fifth of respondents indicated that they had eased somewhat price terms offered to nonfinancial corporations over the past three months; a couple of dealers also pointed to an easing of nonprice terms. More than one-fourth of respondents reported an increase in the intensity of efforts by nonfinancial corporations to negotiate more-favorable price and nonprice terms.

## Mark and Collateral Disputes

As in previous surveys, a large majority of respondents in March indicated that the volume, persistence, and duration of mark and collateral disputes with each counterparty type included in the survey were little changed over the past three months. A few respondents, however, reported a decline in the volume of mark and collateral disputes with dealers and other financial intermediaries as well as with hedge funds, over the same period.

## OVER-THE-COUNTER DERIVATIVES

As in previous surveys, most nonprice terms incorporated in new or renegotiated OTC derivatives master agreements were reported to be basically unchanged, on net, over the past three months.<sup>4</sup> However, in a departure from prior survey responses, one-fourth of dealers—including some broad-scope dealers—reported a tightening in acceptable collateral, and one-fifth of respondents also indicated that requirements, timelines, and thresholds for posting additional margin had tightened somewhat over the past three months.

For all of the contract types included in the survey, nearly all of the dealers indicated that initial margins (which fall outside the scope of master agreements) were little changed over the past three months. Posting of nonstandard collateral (that is, collateral other than cash and U.S. Treasury securities) also remained basically unchanged on balance. For most contract types included in the survey, dealers generally indicated that the volume, duration, and persistence of mark and collateral disputes had remained basically unchanged over the past three months. However, a few dealers reported a decline in mark and collateral disputes with regard to contracts referencing corporates and securitized products including MBS and ABS as well as commodities.

## SECURITIES FINANCING

As in previous surveys, dealers reported that the credit terms under which most types of securities included in the survey are financed were little changed, on balance, over the past three months. However, in the March survey, dealers reported that demand for funding had increased for a number of collateral types. (See the exhibit “Measures of Demand for Funding and Market Functioning.”) In particular, significant net fractions of respondents noted an increase in demand

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<sup>4</sup> The survey asks specifically about requirements, timelines, and thresholds for posting additional margin, acceptable collateral, recognition of portfolio or diversification benefits, triggers and covenants, and other documentation features, including cure periods and cross-default provisions.

for funding of securitized products. Almost two-thirds of dealers reported increased demand for funding of non-agency RMBS, while about two-fifths of respondents pointed to increased demand for funding of agency RMBS and CMBS. In addition, net fractions of dealers ranging between about one-fifth and one-fourth reported increased demand for funding of high-yield and investment-grade corporate bonds and equities. Finally, respondents noted an increase in demand for term funding—that is, funding with a maturity of 30 days or more—for high-yield corporate bonds, agency and non-agency RMBS, and CMBS.

Survey respondents characterized liquidity and functioning over the past three months as improved in a number of markets. In particular, roughly one-fifth of respondents noted such an improvement in the markets for CMBS, non-agency RMBS, consumer ABS, and high-yield corporate bonds.<sup>5</sup> Finally, as in recent surveys, almost all of the respondents indicated that the volume, duration, and persistence of market and collateral disputes were basically unchanged for all of the collateral types.

### **SPECIAL QUESTIONS ON WAREHOUSE FUNDING OF COMMERCIAL REAL ESTATE AND SYNDICATED BANK LOANS PRIOR TO SECURITIZATION**

A number of new CMBS issues and collateralized loan obligations (CLOs) have been brought to market over the past nine months. In some cases, such primary market activities rely on dealers providing funding for the collateral on an interim basis through “warehouse” lending facilities prior to securitization. The first set of special questions in the March survey asked dealers about the provision of warehouse funding for CRE loans and for syndicated bank loans.

With regard to CRE loans, about one-third of dealers that funded such loans on an interim basis through warehouse financing and similar secured facilities indicated that they had eased their terms on the loans somewhat since the middle of 2012. About one-fourth of respondents also noted an increase in their willingness to fund these loans on an interim basis at prevailing market rates and under prevailing market terms over the same period. In addition, about one-half of dealers reported an increase in demand by their clients for funding CRE loans on an interim basis since the middle of 2012. All but one of these respondents were broad-scope dealers.

With respect to syndicated bank loans, the terms under which these loans are funded on an interim basis through warehouse financing and similar secured facilities were reported to have remained basically unchanged since the middle of 2012. However, about one-third of dealers that offered such funding indicated that they had become more willing to fund these loans on an interim basis at prevailing market rates and under prevailing market terms. More than one-half of respondents also reported an increase in demand for funding syndicated bank loans on an interim basis since the middle of 2012. About one-half of these respondents were broad-scope dealers.

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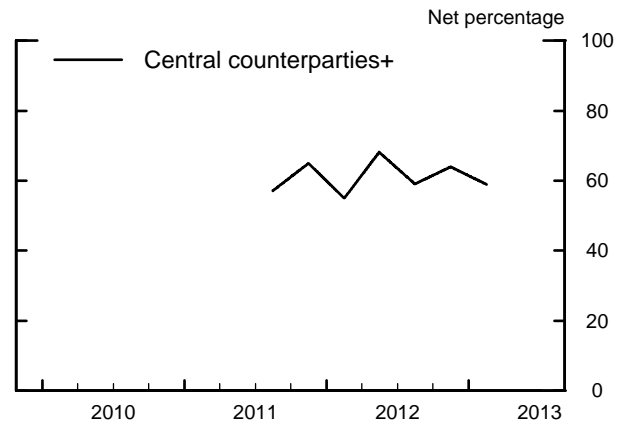
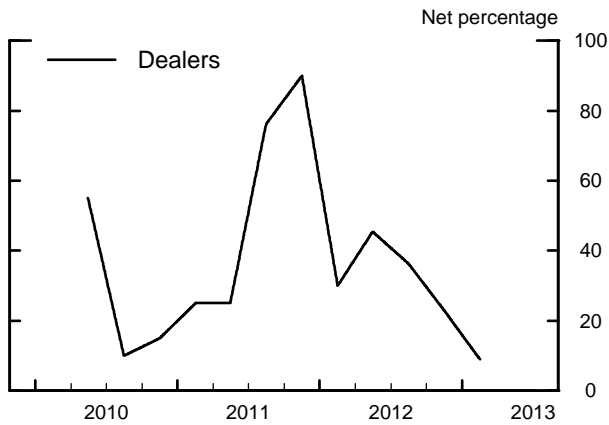
<sup>5</sup> Note that survey respondents are instructed to report changes in liquidity and functioning in the market for the underlying collateral to be funded through repurchase agreements and similar secured financing transactions, not changes in the funding market itself. This question is not asked with respect to equity markets in the core questions.

**SPECIAL QUESTION ON CLIENT RISK APPETITE**

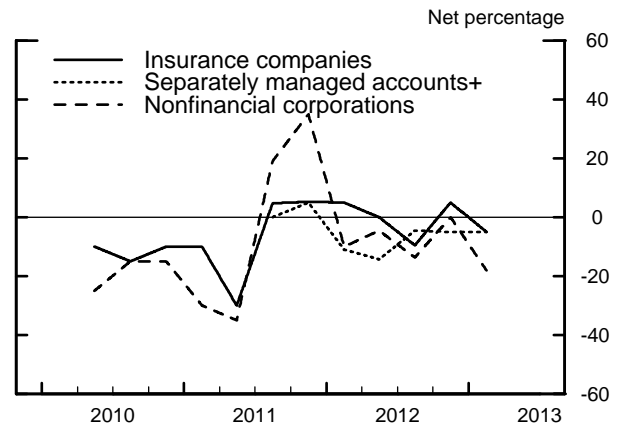
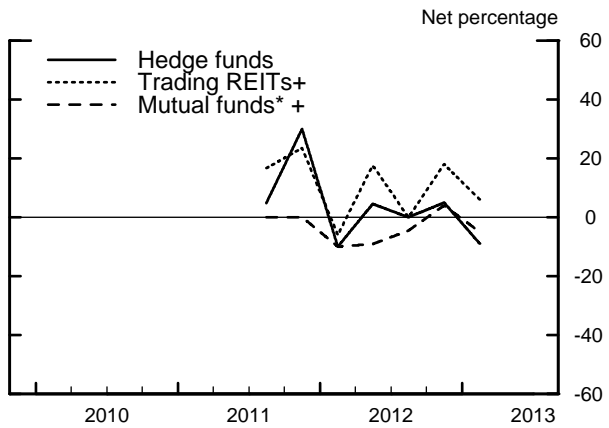
The last set of special questions queried dealers about changes in risk appetite of different client types since the beginning of 2013. Overall, respondents indicated that the appetite of most client types to bear investment risk had increased. (See the exhibit “Client Risk Appetite.”) Most notably, nearly one-half of dealers—including a majority of broad-scope dealers—on net, reported an increase in risk appetite of their most-favored hedge fund customers, and about one-fourth of respondents noted a similar increase for other hedge funds and insurance companies.

**Management of Concentrated Credit Exposures and Indicators of Supply of Credit**

**Respondents increasing resources and attention to management of concentrated exposures to:**

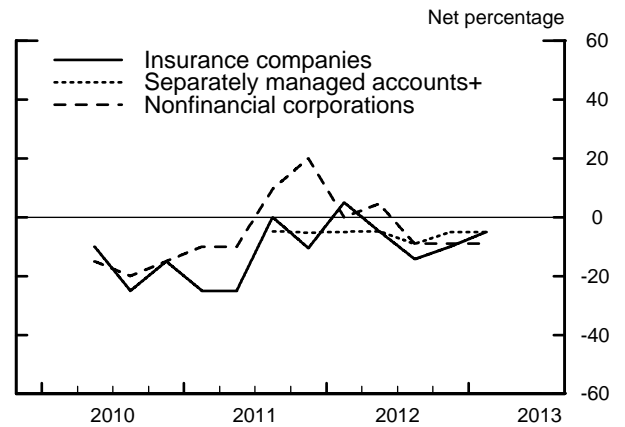
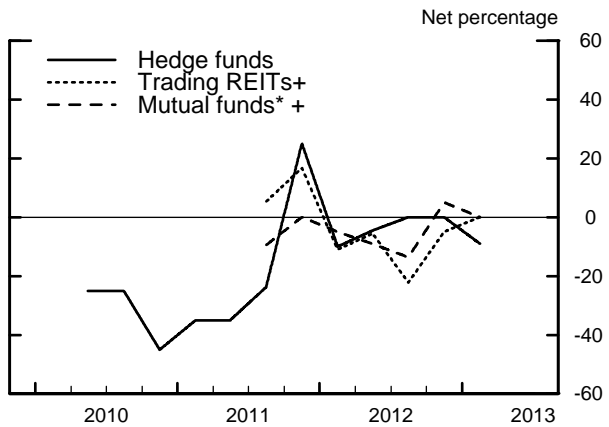


**Respondents tightening price terms to:**



\* Includes mutual funds, exchange-traded funds, pension plans, and endowments.

**Respondents tightening nonprice terms to:**



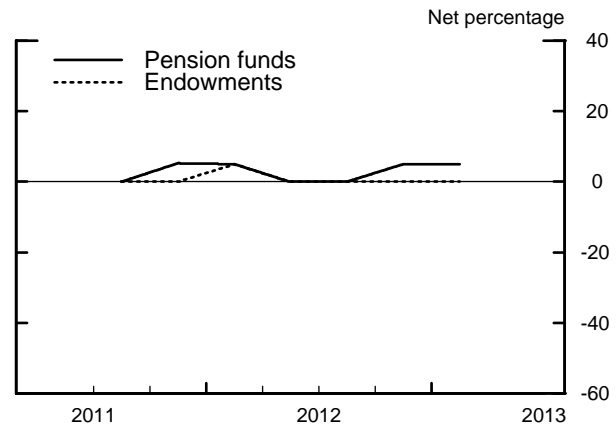
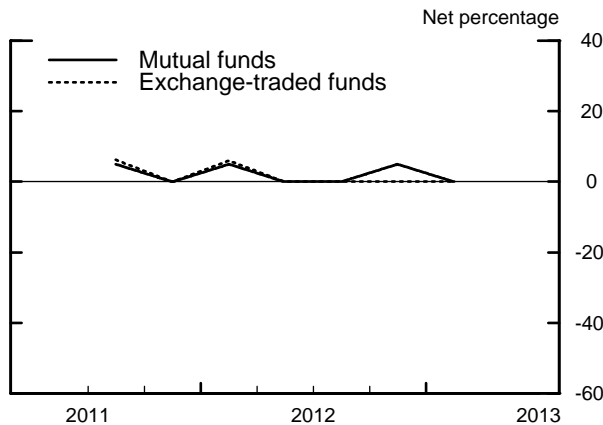
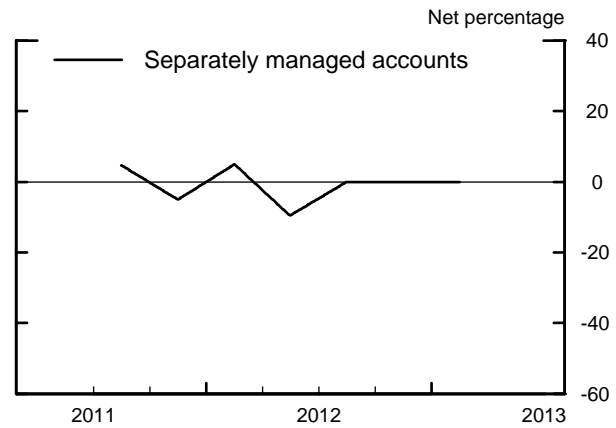
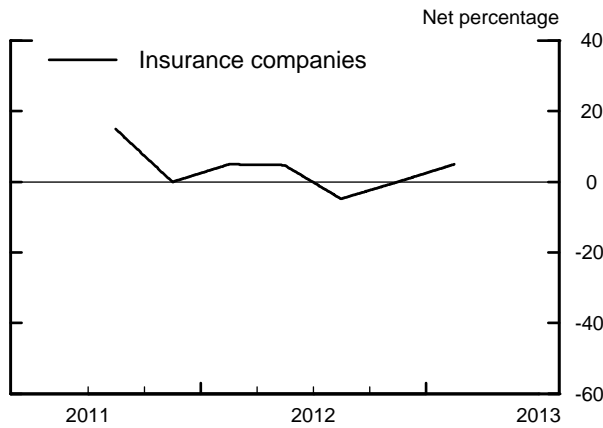
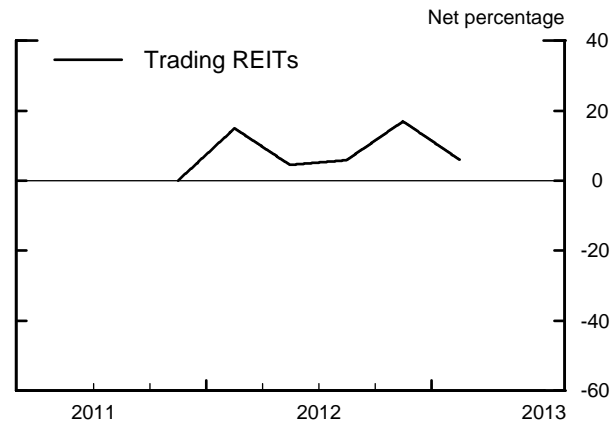
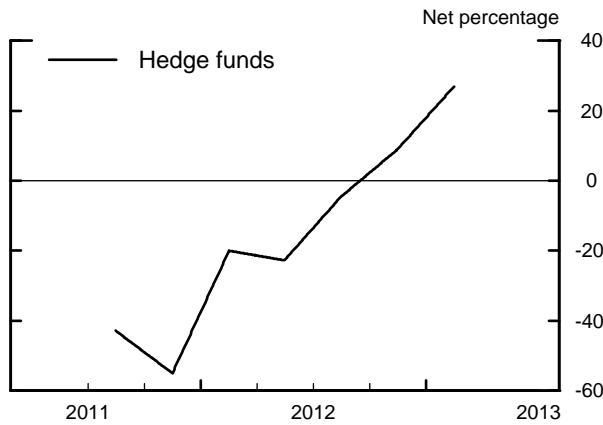
\* Includes mutual funds, exchange-traded funds, pension plans, and endowments.

+ Note: This question was added in the September 2011 survey.

Financial Developments

### Use of Financial Leverage

#### Respondents reporting increased use of leverage by:

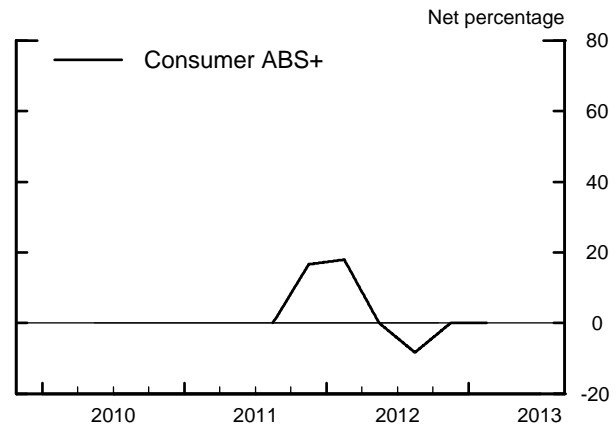
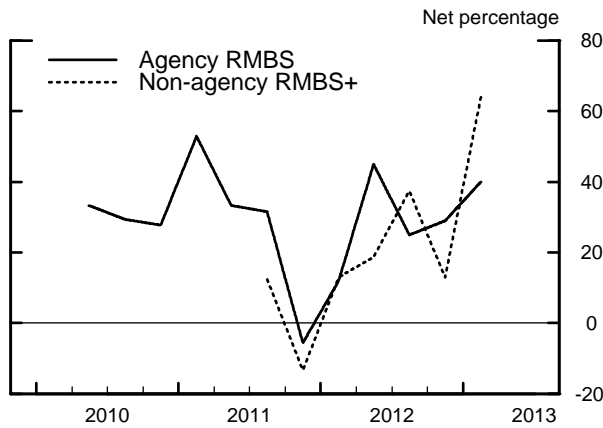
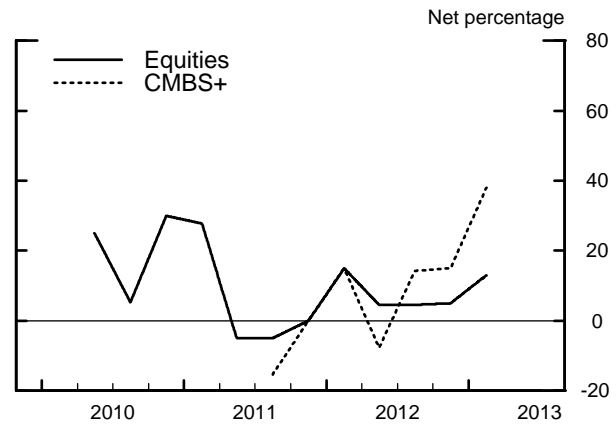
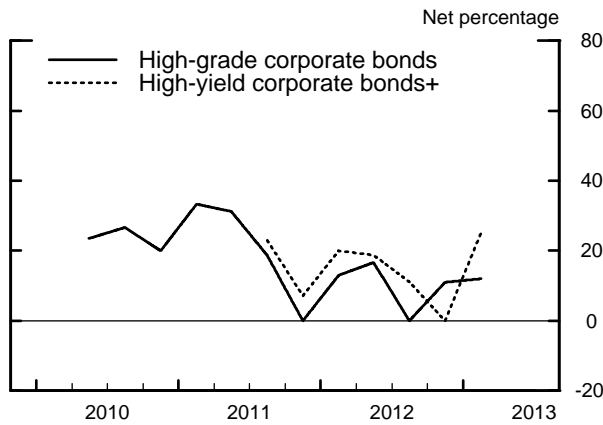


Financial Developments

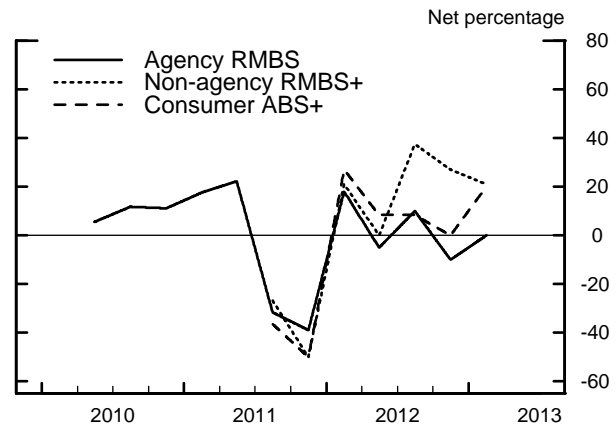
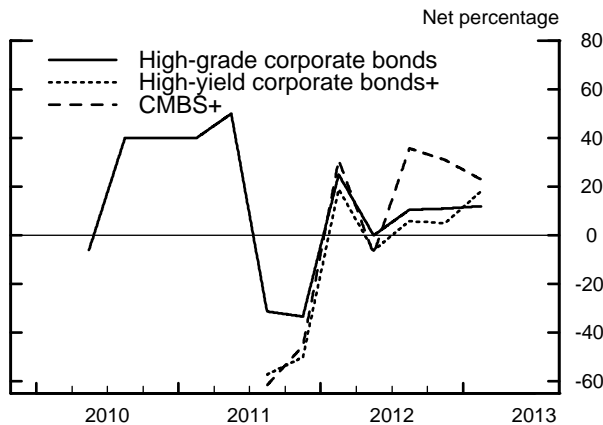
Note: This question was added in the September 2011 survey.

## Measures of Demand for Funding and Market Functioning

### Respondents reporting increased demand for funding of:

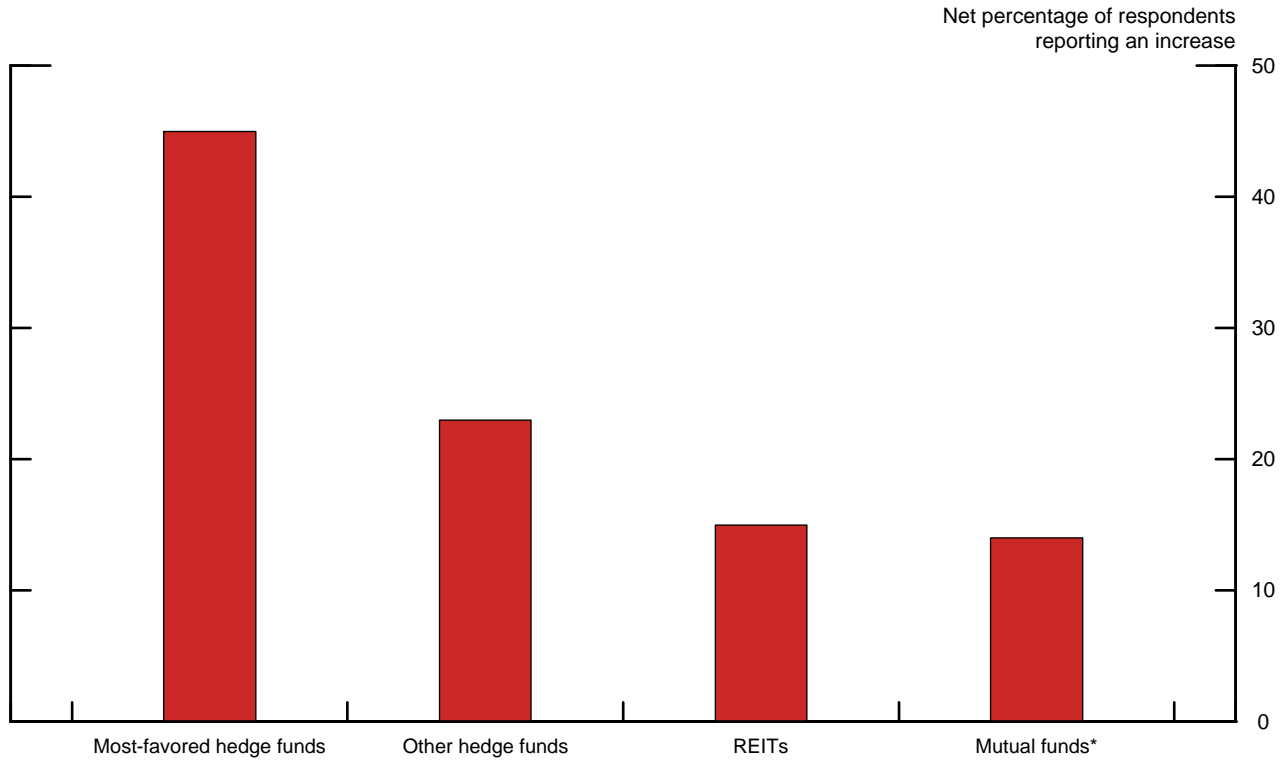


### Respondents reporting an improvement in liquidity and functioning in the underlying markets for:



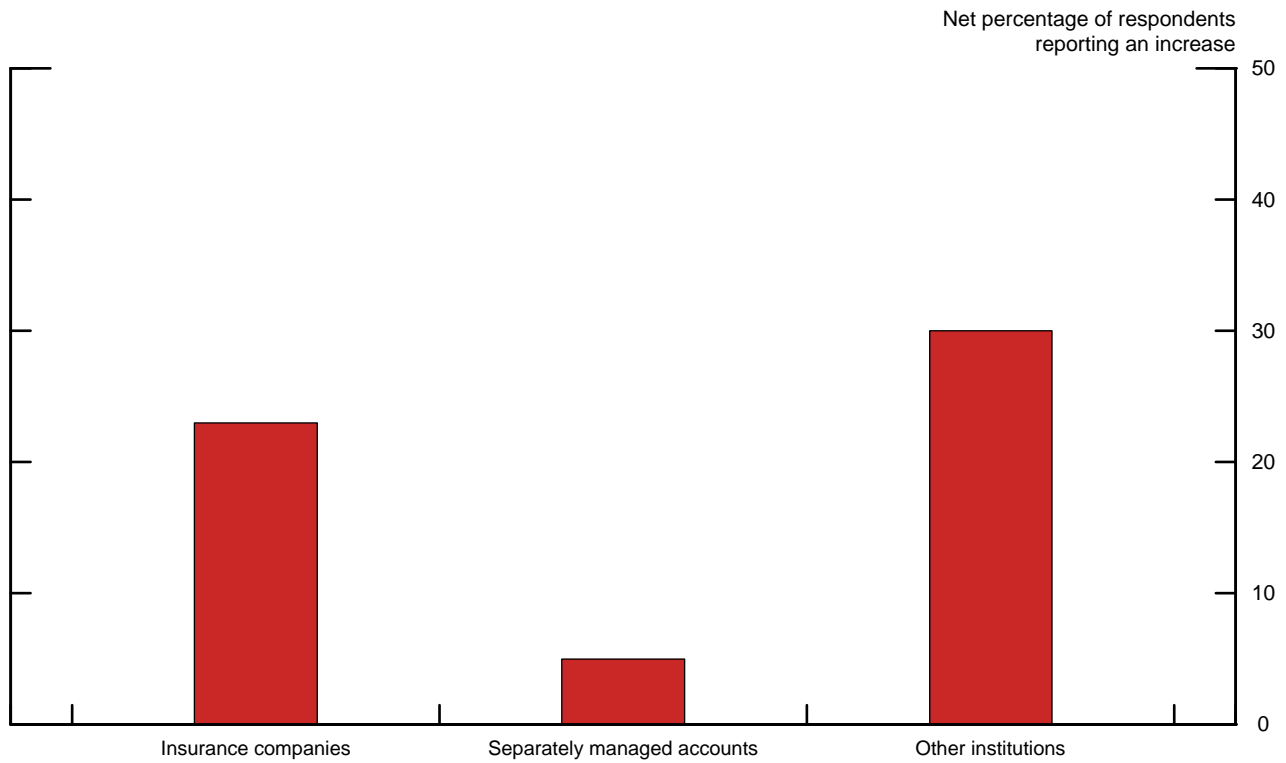
+ Note: This question was added in the September 2011 survey.

### Client Risk Appetite



\* Includes ETFs, pension plans, and endowments.

Financial Developments



## Risks and Uncertainty

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### ASSESSMENT OF FORECAST UNCERTAINTY

We now view the uncertainty around our projection for economic activity as similar to the average level over the past 20 years (the benchmark used by the FOMC). Measures of uncertainty over that period are importantly influenced by the pronounced volatility in activity during the recent recession.<sup>1</sup> Uncertainty is comparable to this high benchmark, in part, because of the persistent aftereffects of the recent financial crisis and recession, which still have uncertain implications for the pace at which the recovery is likely to proceed, the magnitude of slack in labor and product markets, and the resilience of the financial system. We continue to view the risks to the projection for real activity as skewed to the downside. Recent developments in the euro area highlight the fragility of the reform process in several euro-area economies, and we still see a material risk that the European situation could deteriorate markedly, with substantial spillover effects on the U.S. economy. And, despite the resolution since December of some uncertainty, U.S. fiscal policy could impose somewhat more restraint than we have assumed. Importantly, U.S. monetary policy has limited capacity to counteract the effects of a severe economic downturn in Europe, tighter fiscal policy, or any other factor that might unexpectedly impose a significant drag on domestic economic activity. Finally, the disappointing pace of GDP growth during the recovery might indicate greater supply-side damage than we assume in our projection.

With regard to inflation, we see significant uncertainty around our projection but do not view these risks as unusually high. Long-run inflation expectations and the trend in actual inflation have remained stable in recent years despite large fluctuations in the prices of crude oil and other commodities and persistently wide margins of slack in labor and product markets. Furthermore, we still view the risks to our inflation forecast as roughly balanced. On the upside, an increase in inflation expectations, potentially related to concerns about the size of the Federal Reserve's balance sheet and the ability to

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<sup>1</sup> The benchmark estimates of uncertainty about real activity have increased sharply over the past several years. In particular, as the fixed 20-year window used to assess the size of typical forecast errors has moved forward to include the pronounced volatility during the past five years, the estimated standard errors for out-year projections of the unemployment rate have almost doubled. As a result, the benchmark estimates of uncertainty about economic activity are no longer dominated by the experience of the Great Moderation period. In contrast, benchmark estimates of uncertainty about inflation are essentially unchanged relative to earlier sample periods.



**Alternative Scenarios**

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

Measure and scenario	2013		2014	2015	2016-17
	H1	H2			
<i>Real GDP</i>					
Extended Tealbook baseline	2.3	2.8	3.2	3.6	2.5
Housing-led recovery	3.9	5.0	4.7	2.9	.6
Higher long-term interest rates	2.3	2.5	2.4	3.1	3.3
Lower natural rate	2.2	2.6	3.1	3.6	2.3
Supply-side damage	2.2	2.6	2.9	3.0	1.5
European crisis with severe spillovers	.5	-2.3	.6	3.4	3.4
More expansionary monetary policy in AFEs	2.4	3.0	3.3	3.6	2.4
<i>Unemployment rate<sup>1</sup></i>					
Extended Tealbook baseline	7.7	7.5	7.1	6.3	5.3
Housing-led recovery	7.5	6.9	5.6	4.8	6.1
Higher long-term interest rates	7.7	7.5	7.5	7.0	5.3
Lower natural rate	7.6	7.3	6.8	6.0	5.4
Supply-side damage	7.6	7.3	6.7	5.8	5.5
European crisis with severe spillovers	7.9	8.5	9.3	8.7	6.8
More expansionary monetary policy in AFEs	7.7	7.5	7.0	6.2	5.3
<i>Total PCE prices</i>					
Extended Tealbook baseline	1.1	1.5	1.5	1.6	1.9
Housing-led recovery	1.1	1.6	1.7	2.0	2.2
Higher long-term interest rates	1.1	1.5	1.5	1.5	1.7
Lower natural rate	1.0	1.4	1.4	1.4	1.7
Supply-side damage	1.1	1.5	1.5	1.6	1.8
European crisis with severe spillovers	-.3	-.6	.7	1.8	2.3
More expansionary monetary policy in AFEs	1.1	1.6	1.7	1.7	1.9
<i>Core PCE prices</i>					
Extended Tealbook baseline	1.5	1.7	1.7	1.7	1.9
Housing-led recovery	1.5	1.8	1.9	2.1	2.2
Higher long-term interest rates	1.5	1.7	1.7	1.6	1.7
Lower natural rate	1.4	1.6	1.6	1.5	1.7
Supply-side damage	1.5	1.7	1.7	1.7	1.8
European crisis with severe spillovers	1.1	.7	1.1	1.7	2.1
More expansionary monetary policy in AFEs	1.5	1.7	1.8	1.8	1.9
<i>Federal funds rate<sup>1</sup></i>					
Extended Tealbook baseline	.1	.1	.1	.3	2.8
Housing-led recovery	.1	.1	1.8	3.5	3.4
Higher long-term interest rates	.1	.1	.1	.1	2.0
Lower natural rate	.1	.1	.1	.8	2.6
Supply-side damage	.1	.1	.1	1.5	3.0
European crisis with severe spillovers	.1	.1	.1	.1	.1
More expansionary monetary policy in AFEs	.1	.1	.1	.4	2.9

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

execute a timely exit from the current stance of policy, could cause inflation to rise, as could a stronger-than-expected recovery. On the downside, weaker-than-anticipated economic growth, coupled with falling commodity prices, could cause actual inflation to decline; moreover, such developments, coupled with persistently low levels of resource utilization, might prompt inflation expectations to drift down, amplifying the disinflation.

## ALTERNATIVE SCENARIOS

To illustrate some of the risks to the outlook, we construct a number of alternatives to the baseline projection using simulations of the staff's models. The first scenario focuses on the possibility that a stronger recovery in residential construction and house prices could spark broader improvements in the overall economy. The second scenario considers the macroeconomic implications of an unexpectedly sharp increase in long-term interest rates this year. The next two scenarios examine risks to the supply side of the economy. In particular, the third scenario assumes that the natural rate of unemployment declines to a greater extent than assumed in the baseline because a greater number of the long-term unemployed leave the workforce permanently. The fourth scenario explores a different way to explain a faster near-term decline in the unemployment rate than we are projecting, namely that potential GDP is growing less rapidly than we currently assume because of weaker structural productivity growth both in the recent past and in the future. The final two scenarios consider risks to the domestic economy from foreign economic developments—first, that the European crisis could intensify with severe spillovers to the U.S. economy and, second, that monetary policy abroad becomes more expansionary than assumed in the baseline.

We generate the first four scenarios using the FRB/US model and the last two scenarios using the multicountry SIGMA model. In the FRB/US simulations, the federal funds rate follows an inertial version of the Taylor (1999) rule, subject to the thresholds for the unemployment rate and inflation announced by the FOMC following its December 2012 meeting. For the SIGMA simulations, we use a broadly similar policy rule, subject to the same unemployment and inflation thresholds but employing an alternative concept of resource utilization.<sup>2</sup> In all of the scenarios, we assume that the size and composition of the SOMA portfolio follow their baseline paths.

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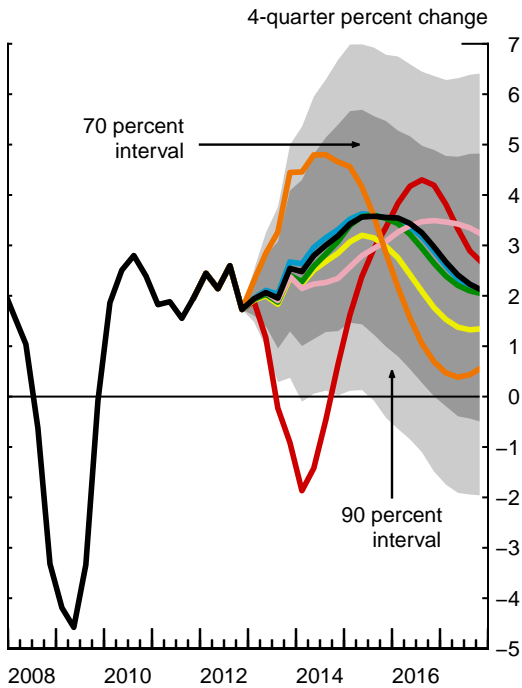
<sup>2</sup> The SIGMA policy rule uses a measure of slack equal to the difference between actual output and the model's estimate of the level of output that would occur in the absence of slow adjustment of wages and prices.

# Forecast Confidence Intervals and Alternative Scenarios

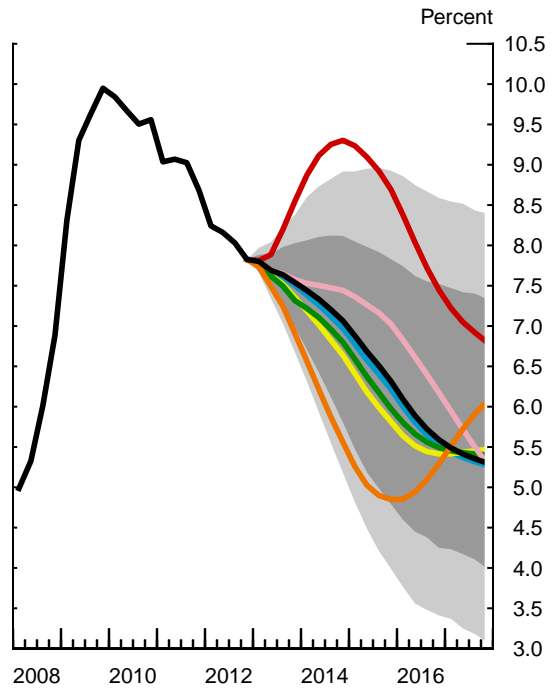
Confidence Intervals Based on FRB/US Stochastic Simulations

- Extended Tealbook baseline
- Housing-led recovery
- Higher long-term interest rates
- Lower natural rate
- Supply-side damage
- European crisis with severe spillovers
- More expansionary monetary policy in AFEs

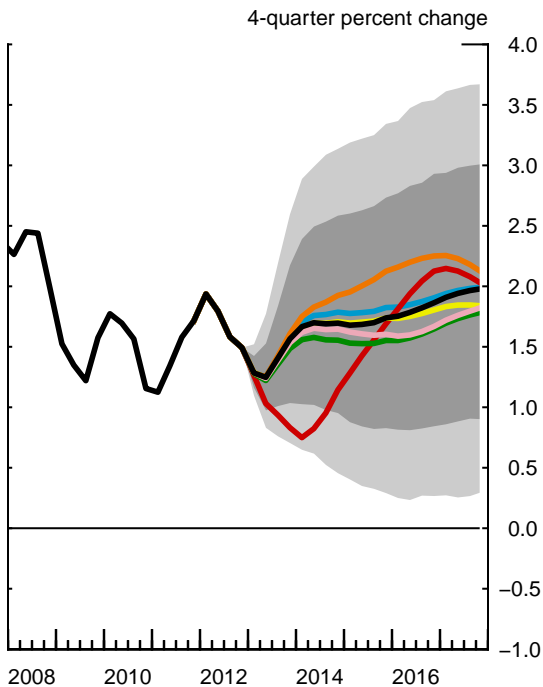
Real GDP



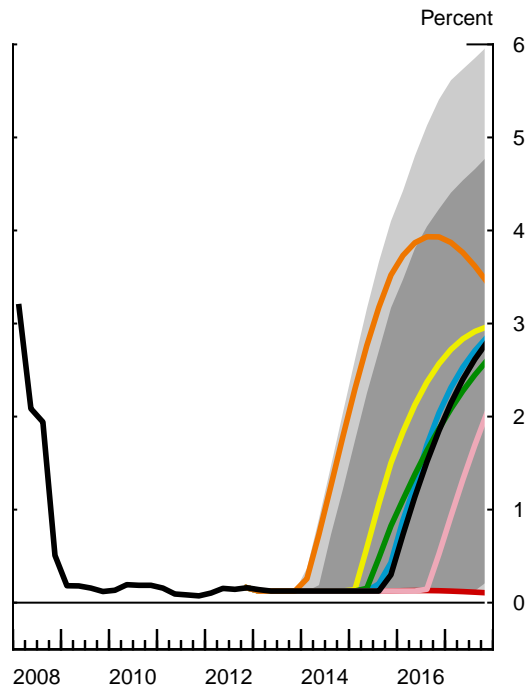
Unemployment Rate



PCE Prices excluding Food and Energy



Federal Funds Rate



Risks & Uncertainty

## Housing-Led Recovery

The increases in house prices, housing starts, and home sales over the past year may be pointing to a more robust recovery in the housing market than is assumed in the baseline. Indeed, given the subdued rate of household formation for the past several years, there may be scope for a very substantial increase in the demand for housing; moreover, by some metrics house prices remain below their equilibrium levels, suggesting that home values could appreciate somewhat more than assumed in the baseline. In this scenario, a stronger housing recovery, along with reduced uncertainty about the durability of the expansion more broadly, sparks a cycle of increased consumer and business confidence, faster hiring, and improved financial conditions that leads to stronger spending by households and firms. As a result, real GDP rises at an average annual rate of around 4½ percent over 2013 and 2014, and the unemployment rate falls below 6½ percent in the first half of 2014 and stands at 4¾ percent in late 2015—½ percentage point below our estimate of the longer-run value of the natural rate. With rapidly disappearing resource slack, unit labor costs eventually rise more rapidly than in the baseline, pushing consumer price inflation up to a little over 2 percent in 2016 and 2017. The federal funds rate lifts off in mid-2014 and remains well above the baseline thereafter.

## Higher Long-Term Interest Rates

In the staff's baseline forecast, long-term interest rates rise steadily and substantially over the medium term, in part reflecting a rise in term premiums. But term premiums could climb even more quickly than we project for any number of reasons, including an increase in inflation risk premiums, a quicker and more substantial reversal of safe-haven demands for U.S. Treasury securities than the staff anticipates, or an unwinding of leveraged positions in anticipation of a cessation of asset purchases by the Federal Reserve. In this scenario, yields on 10-year Treasury securities and BBB-rated corporate bonds reach 3¾ percent and 6 percent, respectively, by early next year, roughly a full percentage point above the baseline projection. The resulting tightening in overall financial conditions shaves ½ percentage point off the average annual growth rate of real GDP over the next three years, and the unemployment rate declines to only 7 percent by late 2015, ¾ percentage point above the baseline. Core PCE inflation remains around 1½ percent until the end of 2016. Under these conditions, the first increase in the federal funds rate is delayed until the end of 2016.

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

Measure	2013	2014	2015	2016	2017
<i>Real GDP</i>					
<i>(percent change, Q4 to Q4)</i>					
Projection	2.5	3.2	3.6	3.0	2.1
Confidence interval					
Tealbook forecast errors	1.0–4.1	1.4–5.0	...	...	...
FRB/US stochastic simulations	1.3–4.1	1.3–5.4	1.0–5.5	.0–4.9	-.5–4.8
<i>Civilian unemployment rate</i>					
<i>(percent, Q4)</i>					
Projection	7.5	7.1	6.3	5.6	5.3
Confidence interval					
Tealbook forecast errors	6.9–8.1	6.2–8.0	...	...	...
FRB/US stochastic simulations	7.0–8.0	5.8–8.1	4.8–7.8	4.2–7.5	4.0–7.3
<i>PCE prices, total</i>					
<i>(percent change, Q4 to Q4)</i>					
Projection	1.3	1.5	1.6	1.8	2.0
Confidence interval					
Tealbook forecast errors	.3–2.3	.3–2.7	...	...	...
FRB/US stochastic simulations	.5–2.2	.5–2.7	.4–2.8	.6–3.0	.6–3.2
<i>PCE prices excluding food and energy</i>					
<i>(percent change, Q4 to Q4)</i>					
Projection	1.6	1.7	1.7	1.9	2.0
Confidence interval					
Tealbook forecast errors	1.0–2.1	.9–2.5	...	...	...
FRB/US stochastic simulations	1.0–2.2	1.0–2.6	.8–2.7	.8–2.9	.9–3.0
<i>Federal funds rate</i>					
<i>(percent, Q4)</i>					
Projection	.1	.1	.3	1.8	2.8
Confidence interval					
FRB/US stochastic simulations	.1–.1	.1–1.2	.1–3.2	.1–4.2	.2–4.8

Note: Shocks underlying FRB/US stochastic simulations are randomly drawn from the 1969–2011 set of model equation residuals.

Intervals derived from Tealbook forecast errors are based on projections made from 1979–2011, except for PCE prices excluding food and energy, where the sample is 1981–2011.

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

## Lower Natural Rate

We were surprised by the extent of the reduction in the unemployment rate last year. In the January Tealbook, we responded to this surprise by trimming a small amount off our estimate of the natural rate of unemployment in 2012 and this year. In this scenario, we consider the possibility that the natural rate of unemployment declines substantially faster than assumed in the baseline, and that it will reach 5¼ percent by late 2013—several years earlier than in the baseline. However, this more rapid decline in the natural rate is not assumed to reflect an improvement in labor market functioning, but instead to be the result of a greater number of the long-term unemployed permanently leaving the labor force. The combination of a more rapidly falling natural rate and a steeper downward trend in labor force participation implies little change in potential labor input—and thus only a small revision from the baseline in potential GDP—through 2015.<sup>3</sup> Under these conditions, real GDP and employment run close to the baseline, but the unemployment rate declines more quickly and falls below its threshold value in mid-2015. As a result, the federal funds rate begins to rise one quarter earlier than in the baseline.

## Supply-Side Damage

In the January Tealbook, we attributed much of the surprisingly rapid decline in the unemployment rate during 2012 to somewhat lower potential output growth over recent history. However, we may still be overestimating the growth rate of potential GDP, perhaps because the financial crisis has caused greater structural damage than we assume. In this scenario, the current level of potential output is 1 percent lower than in the baseline because of smaller-than-estimated gains in structural productivity over the past few years. Moreover, these smaller productivity gains continue, shaving ¼ percentage point off the average annual growth rate of potential GDP going forward. As a result, real GDP rises only about 2½ percent per year, on average, in 2013 and 2014, and economic growth remains below the baseline through 2017. Given the downward revision to potential output in 2012 and beyond in this scenario, the output gap is narrower, and, as a result, Okun’s law implies a more rapid decline in the unemployment rate. With the unemployment rate falling below its threshold value in early 2015, the

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<sup>3</sup> Alternatively, the natural rate of unemployment could decline because of an improvement in labor market functioning. In this case, the natural rate would fall but labor force participation would not, resulting in higher potential output. As a result, GDP growth would be somewhat higher than in the “Lower Natural Rate” scenario, but the unemployment rate would be little different.

federal funds rate begins to rise from its effective lower bound two quarters earlier than in the baseline.

### **European Crisis with Severe Spillovers**

In this scenario, the improvements witnessed in European financial markets since the middle of last year are assumed to be short-lived, and Europe plunges into another bout of severe stress, much worse than that seen to date. While we think the likelihood of such an outcome has declined, recent political events in Italy highlight that the European situation remains fragile and could deteriorate sharply, possibly triggered by a disorderly sovereign default, the failure of a large European financial institution, or a loss of confidence by the public in the ability of European governments to resolve the crisis. In this scenario, the greater stress prompts private and most sovereign borrowing costs in Europe to soar, with corporate bond spreads rising 400 basis points above the baseline; in addition, the confidence of European households and businesses plummets. Real GDP in Europe declines about 8 percent relative to the baseline by the second half of 2014, despite a 25 percent depreciation of the real effective exchange value of the euro. Europe's difficulties are assumed to have important financial and economic spillovers to the rest of the world, including the United States. U.S. economic activity contracts sharply, as U.S. corporate bond spreads rise by about 300 basis points, equity prices plunge, credit availability tightens, and household and business confidence erodes. In addition, weaker foreign economic activity and the stronger exchange value of the dollar depress U.S. net exports. In all, because of greater resource slack and lower commodity and import prices, total U.S. consumer prices fall in 2013, before beginning to rise in 2014 as economic activity starts to recover. U.S. real GDP falls about 1 percent this year and increases only ½ percent in 2014. The unemployment rate rises to 9¼ percent in 2014 and then gradually declines. With inflationary pressures subdued and the unemployment rate above its 6½ percent threshold value until late 2018, the federal funds rate does not lift off from its effective lower bound until 2019.

### **More Expansionary Monetary Policy in AFEs**

In this scenario, we consider the possibility that monetary policy in the advanced foreign economies (AFE) becomes considerably more expansive than in the baseline. Slow economic growth and, in some countries, undesirably low projected inflation rates could bolster the case for further monetary easing in the AFEs, especially in the United Kingdom, Japan, and the euro area. We assume that the easing policies adopted in each AFE country, which might include asset purchases or longer-term central bank lending,

reduce term premiums on 10-year government bonds by 50 basis points on average for the AFEs. We also assume that AFE central banks credibly indicate that they will keep policy rates unchanged for two quarters longer than in the baseline. These easing measures lower the real exchange value of AFE currencies by 3 percent in 2013.<sup>4</sup> The combination of easier financial conditions and exchange rate depreciations boosts AFE economic growth in 2013 and 2014 by  $\frac{3}{4}$  percentage point relative to the baseline and causes AFE core inflation to run  $\frac{1}{2}$  percentage point faster.

The expansion in foreign activity is large enough to offset the effects of a sustained real dollar appreciation of about 1 percent, leaving the performance of the U.S. economy little changed.<sup>5</sup> With real U.S. net exports rising slightly, U.S. real GDP grows  $2\frac{3}{4}$  percent in 2013 and  $3\frac{1}{4}$  percent in 2014, marginally faster than in the baseline. Core PCE inflation runs a touch faster as well, averaging somewhat more than  $1\frac{3}{4}$  percent in 2014 and beyond. As in the baseline, the unemployment rate falls below  $6\frac{1}{2}$  percent in the third quarter of 2015, and the target for the federal funds rate is not increased until the fourth quarter of 2015.

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<sup>4</sup> In line with the LSAP experience for the United States, the AFE central bank operations to expand their balance sheets are assumed to prompt a decline of 2 percent in those countries' real exchange rates. The AFE central banks' indication that they will keep policy rates unchanged for two quarters longer leads to a further 1 percent depreciation of their real exchange rates.

<sup>5</sup> The magnitude of the appreciation of the real U.S. dollar (1 percent) is less than the magnitude of the depreciation of the AFE currencies (3 percent) because the U.S. broad real dollar also includes the emerging market economy (EME) currencies, which move little against the dollar. The results for the EMEs are discussed in the "Currency Wars" box in the International Economic Developments and Outlook section of this Tealbook. Importantly, the AFE policy actions stimulate economic activity in the EMEs.



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

Measure and projection	2012		2013		2014	
	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook
<i>Real GDP</i>						
Staff	1.6	1.7	2.7	2.5	3.2	3.2
FRB/US	1.6	1.7	2.0	1.8	2.2	2.3
EDO	1.6	1.7	3.0	3.0	3.2	3.0
Blue Chip	1.9	1.6	2.2	2.3	2.8	2.8
<i>Unemployment rate<sup>1</sup></i>						
Staff	7.8	7.8	7.6	7.5	7.1	7.1
FRB/US	7.8	7.8	8.0	7.8	8.0	7.7
EDO	7.8	7.8	7.6	7.5	7.3	7.3
Blue Chip	7.8	7.8	7.5	7.6	7.0	7.1
<i>Total PCE prices</i>						
Staff	1.5	1.6	1.4	1.3	1.5	1.5
FRB/US	1.5	1.6	1.3	1.1	1.0	1.0
EDO	1.5	1.6	1.2	1.3	1.4	1.5
Blue Chip <sup>2</sup>	1.9	1.9	1.9	1.9	2.2	2.2
<i>Core PCE prices</i>						
Staff	1.5	1.5	1.6	1.6	1.7	1.7
FRB/US	1.5	1.5	1.5	1.4	1.3	1.2
EDO	1.5	1.5	1.2	1.4	1.4	1.5
Blue Chip	...	...	...	...	...	...
<i>Federal funds rate<sup>1</sup></i>						
Staff	.2	.2	.1	.1	.1	.1
FRB/US	.2	.2	.1	.1	.1	.1
EDO	.2	.2	.9	1.0	1.7	1.9
Blue Chip <sup>3</sup>	.1	.1	.1	.1	.3	.3

Note: Blue Chip forecast completed on March 10, 2013.

1. Percent, average for Q4.

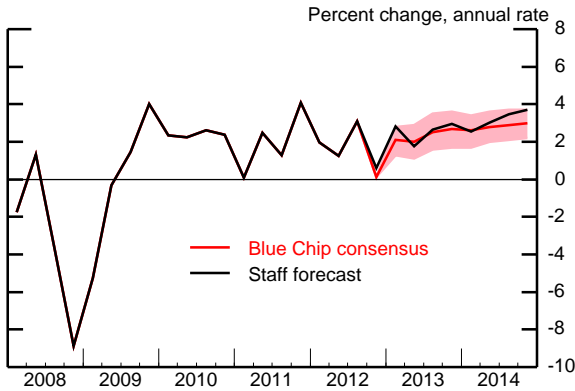
2. Consumer price index.

3. Treasury bill rate.

... Not applicable. The Blue Chip forecast typically extends about 2 years.

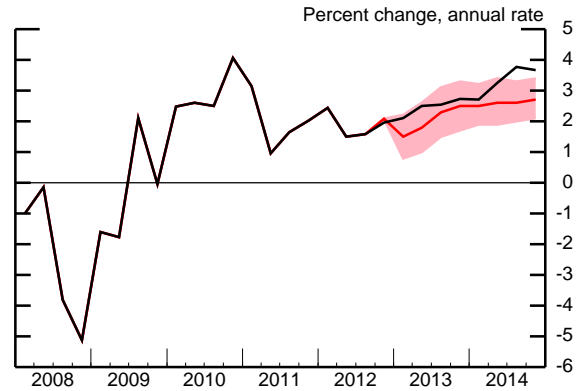
### Tealbook Forecast Compared with Blue Chip (Blue Chip survey released March 10, 2013)

Real GDP

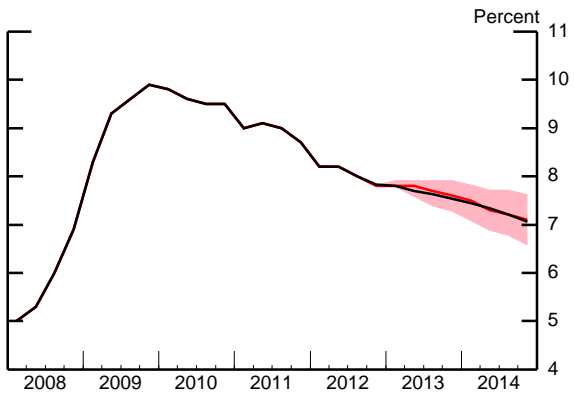


Note: The shaded area represents the area between the Blue Chip top 10 and bottom 10 averages.

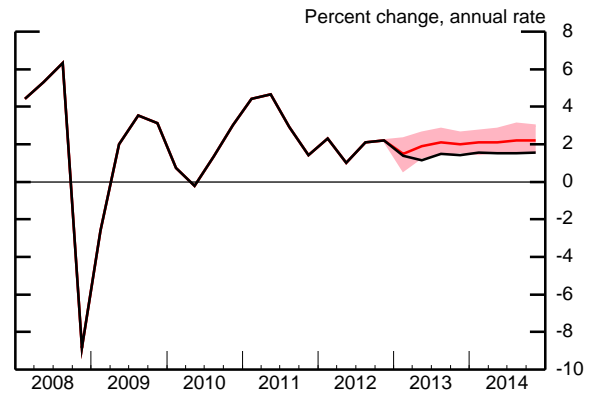
Real PCE



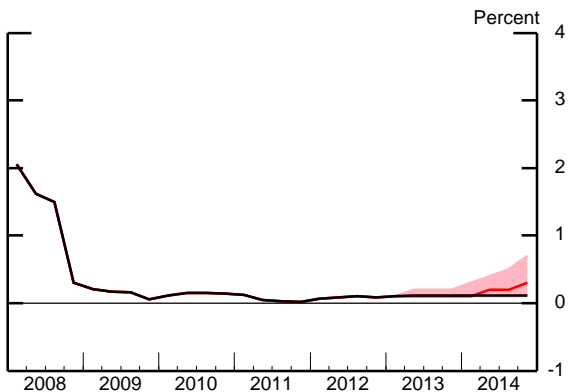
Unemployment Rate



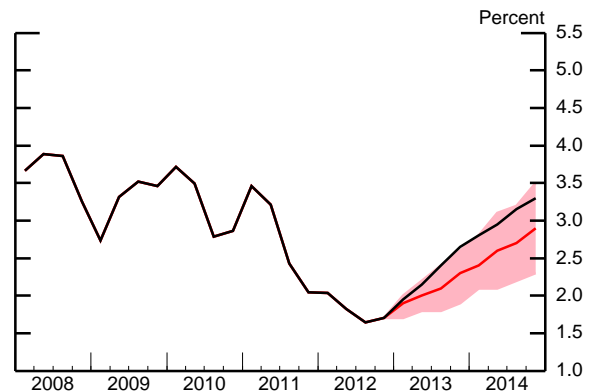
Consumer Price Index



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.

## Assessment of Key Macroeconomic Risks (1)

### Probability of Inflation Events

(4 quarters ahead—2014:Q1)

Probability that the 4-quarter change in total PCE prices will be ...	Staff	FRB/US	EDO	BVAR
<i>Greater than 3 percent</i>				
Current Tealbook	.05	.03	.11	.06
Previous Tealbook	.05	.04	.09	.06
<i>Less than 1 percent</i>				
Current Tealbook	.30	.43	.30	.17
Previous Tealbook	.31	.36	.33	.18

### Probability of Unemployment Events

(4 quarters ahead—2014:Q1)

Probability that the unemployment rate will ...	Staff	FRB/US	EDO	BVAR
<i>Increase by 1 percentage point</i>				
Current Tealbook	.02	.06	.19	.02
Previous Tealbook	.02	.07	.16	.01
<i>Decrease by 1 percentage point</i>				
Current Tealbook	.15	.04	.25	.16
Previous Tealbook	.11	.03	.28	.21

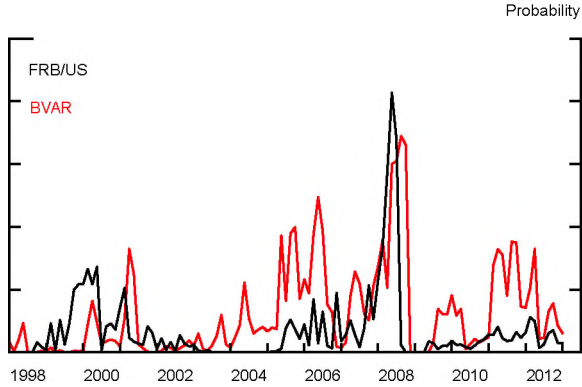
### Probability of Near-Term Recession

Probability that real GDP declines in each of 2013:Q2 and 2013:Q3	Staff	FRB/US	EDO	BVAR	Factor Model
Current Tealbook	.04	.06	.05	.03	.11
Previous Tealbook	.04	.08	.04	.08	.10

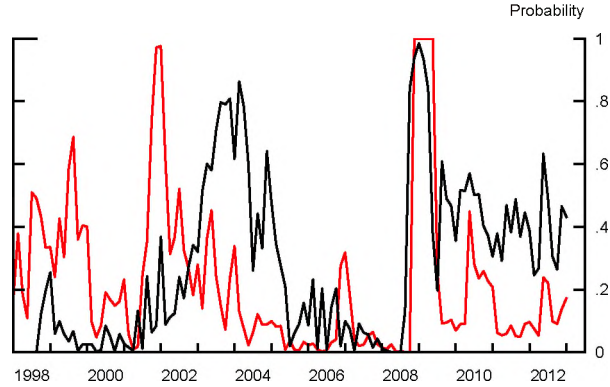
Note: "Staff" represents Tealbook forecast errors applied to the Tealbook baseline; baselines for FRB/US, BVAR, EDO, and the factor model are generated by those models themselves, up to the current-quarter estimate. The current quarter is taken as data from the staff estimate for the second Tealbook in each quarter, otherwise the preceding quarter is taken as the latest historical observation.

### Assessment of Key Macroeconomic Risks (2)

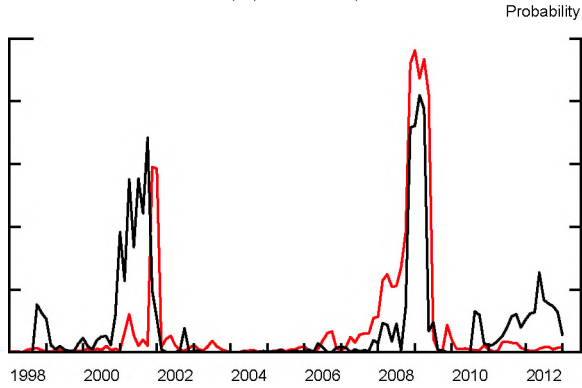
Probability that Total PCE Inflation Is above 3 Percent  
(4 quarters ahead)



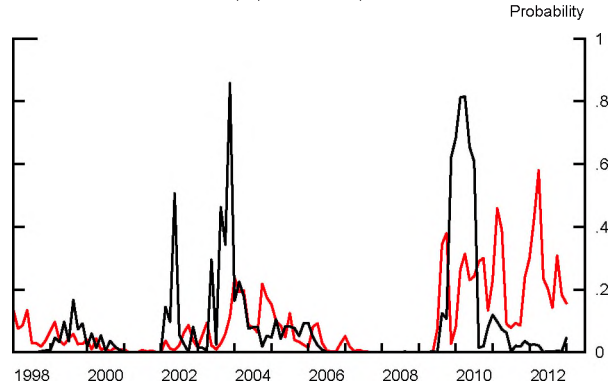
Probability that Total PCE Inflation Is below 1 Percent  
(4 quarters ahead)



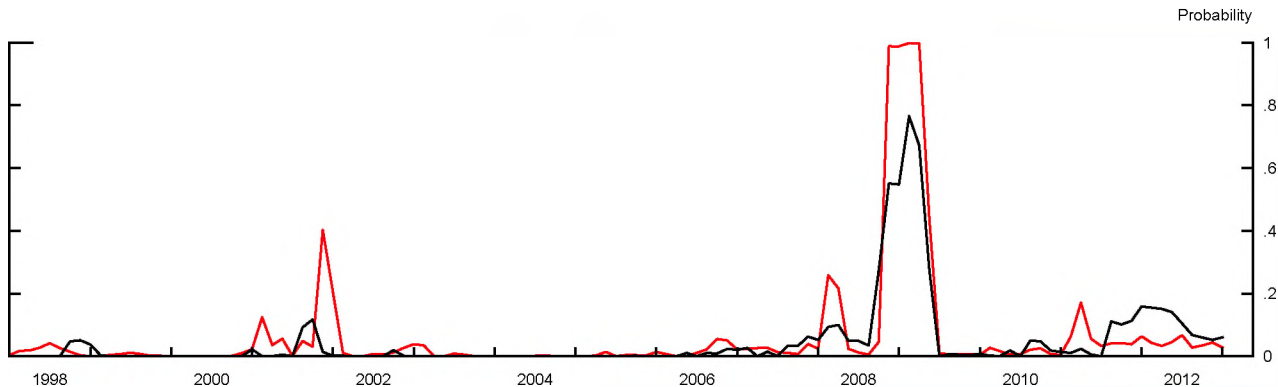
Probability that the Unemployment Rate Increases 1 ppt  
(4 quarters ahead)



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



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



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

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

Interval	Nominal GDP		Real GDP		PCE price index		Core PCE price index		Unemployment rate <sup>1</sup>	
	01/23/13	03/13/13	01/23/13	03/13/13	01/23/13	03/13/13	01/23/13	03/13/13	01/23/13	03/13/13
<i>Quarterly</i>										
2012:Q1	4.2	4.2	2.0	2.0	2.5	2.5	2.2	2.2	8.2	8.2
Q2	2.8	2.8	1.3	1.3	.7	.7	1.7	1.7	8.2	8.2
Q3	5.9	5.9	3.1	3.1	1.6	1.6	1.1	1.1	8.0	8.0
Q4	1.3	1.5	.1	.6	1.2	1.5	.8	.9	7.8	7.8
2013:Q1	3.7	4.2	2.7	2.8	.9	1.1	1.6	1.4	7.8	7.8
Q2	4.2	3.3	2.4	1.8	1.9	1.1	1.7	1.6	7.7	7.7
Q3	4.1	4.2	2.7	2.7	1.5	1.6	1.7	1.7	7.7	7.6
Q4	4.2	4.4	2.8	3.0	1.3	1.4	1.5	1.6	7.6	7.5
2014:Q1	4.1	4.2	2.5	2.6	1.5	1.6	1.7	1.8	7.5	7.4
Q2	4.7	4.6	3.1	3.0	1.4	1.5	1.7	1.7	7.4	7.3
Q3	5.1	5.0	3.5	3.5	1.5	1.5	1.7	1.7	7.2	7.2
Q4	5.3	5.2	3.7	3.7	1.4	1.4	1.6	1.6	7.1	7.1
<i>Two-quarter<sup>2</sup></i>										
2012:Q2	3.5	3.5	1.6	1.6	1.6	1.6	2.0	2.0	-5	-5
Q4	3.6	3.7	1.6	1.8	1.4	1.5	1.0	1.0	-4	-4
2013:Q2	4.0	3.8	2.6	2.3	1.4	1.1	1.7	1.5	-1	-1
Q4	4.2	4.3	2.8	2.8	1.4	1.5	1.6	1.7	-1	-2
2014:Q2	4.4	4.4	2.8	2.8	1.5	1.5	1.7	1.7	-2	-2
Q4	5.2	5.1	3.6	3.6	1.4	1.5	1.7	1.6	-3	-2
<i>Four-quarter<sup>3</sup></i>										
2011:Q4	4.0	4.0	2.0	2.0	2.5	2.5	1.7	1.7	-8	-8
2012:Q4	3.5	3.6	1.6	1.7	1.5	1.6	1.5	1.5	-9	-9
2013:Q4	4.1	4.0	2.7	2.5	1.4	1.3	1.6	1.6	-2	-3
2014:Q4	4.8	4.8	3.2	3.2	1.5	1.5	1.7	1.7	-5	-4
2015:Q4	5.1	5.2	3.5	3.6	1.6	1.6	1.7	1.7	-8	-8
<i>Annual</i>										
2011	4.0	4.0	1.8	1.8	2.4	2.4	1.4	1.4	8.9	8.9
2012	4.0	4.1	2.2	2.2	1.7	1.8	1.7	1.7	8.1	8.1
2013	3.7	3.7	2.1	2.1	1.3	1.3	1.4	1.4	7.7	7.7
2014	4.4	4.4	2.9	2.9	1.5	1.5	1.7	1.7	7.3	7.3
2015	5.1	5.1	3.5	3.5	1.5	1.5	1.7	1.7	6.6	6.6

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	2012				2013				2014				2012 <sup>1</sup>	2013 <sup>1</sup>	2014 <sup>1</sup>	2015 <sup>1</sup>
	Q2	Q3	Q4		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Real GDP	1.3	3.1	.6		2.8	1.8	2.7	3.0	2.6	3.0	3.5	3.7	1.7	2.5	3.2	3.6
<i>Previous Tealbook</i>	1.3	3.1	.1		2.7	2.4	2.7	2.8	2.5	3.1	3.5	3.7	1.6	2.7	3.2	3.5
Final sales	1.7	2.4	2.0		1.7	2.3	2.4	2.8	2.1	2.9	3.4	3.5	2.1	2.3	3.0	3.7
<i>Previous Tealbook</i>	1.7	2.4	1.5		1.8	2.6	2.8	2.6	2.0	3.0	3.6	3.4	2.0	2.5	3.0	3.5
Priv. dom. final purch.	1.9	1.5	3.7		2.4	3.4	3.7	3.6	3.2	3.7	4.4	4.3	2.7	3.3	3.9	4.4
<i>Previous Tealbook</i>	1.9	1.5	3.4		2.1	3.5	3.5	3.6	3.0	3.7	4.2	4.3	2.6	3.2	3.8	4.1
Personal cons. expend.	1.5	1.6	2.0		2.1	2.5	2.5	2.7	2.7	3.2	3.8	3.7	1.9	2.5	3.3	3.7
<i>Previous Tealbook</i>	1.5	1.6	2.2		1.7	2.6	2.5	2.7	2.6	3.2	3.6	3.6	1.9	2.3	3.3	3.5
Durables	-2	8.9	13.6		8.2	7.2	7.8	7.9	8.7	8.4	8.9	8.4	8.3	7.8	8.6	8.8
Nondurables	.6	1.2	.0		1.6	1.8	1.6	1.9	1.8	2.6	3.1	2.9	.8	1.7	2.6	3.0
Services	2.1	.6	.8		1.3	2.0	2.0	2.1	2.0	2.6	3.1	3.1	1.2	1.8	2.7	3.1
Residential investment	8.5	13.5	17.8		17.7	22.8	20.1	14.4	13.4	14.4	14.4	13.4	15.0	18.7	13.9	14.0
<i>Previous Tealbook</i>	8.5	13.5	13.1		15.0	25.1	17.9	14.1	11.6	13.2	13.4	12.6	13.8	17.9	12.7	13.8
Business fixed invest.	3.6	-1.8	12.8		.6	5.0	7.6	6.7	3.7	4.0	6.0	6.1	5.4	4.9	5.0	5.4
<i>Previous Tealbook</i>	3.6	-1.8	9.6		2.2	5.0	6.7	7.3	3.4	4.1	5.6	6.3	4.6	5.3	4.8	4.8
Equipment & software	4.8	-2.6	11.4		5.7	5.6	7.3	7.1	4.3	4.3	6.9	7.0	4.7	6.4	5.6	6.3
<i>Previous Tealbook</i>	4.8	-2.6	13.8		1.7	5.5	7.1	8.6	4.2	4.7	6.7	7.5	5.2	5.7	5.8	6.0
Nonres. structures	.6	.0	16.3		-11.3	3.4	8.5	5.6	2.4	3.3	3.7	3.9	7.2	1.2	3.3	3.1
<i>Previous Tealbook</i>	.6	.0	-.4		3.6	3.7	5.5	4.0	1.4	2.6	3.0	3.1	3.1	4.2	2.5	2.1
Net exports <sup>2</sup>	-407	-395	-385		-387	-376	-383	-387	-390	-388	-389	-387	-401	-383	-389	-377
<i>Previous Tealbook</i> <sup>2</sup>	-407	-395	-403		-396	-396	-390	-394	-397	-393	-387	-388	-405	-394	-391	-379
Exports	5.3	1.9	-2.9		2.4	7.5	2.9	4.5	4.9	4.7	5.7	6.3	2.1	4.3	5.4	6.9
Imports	2.8	-6	-4.2		2.3	4.2	3.7	4.5	4.6	3.6	4.9	4.9	.2	3.7	4.5	5.0
Gov't cons. & invest.	-7	3.9	-6.8		-1.1	-4.6	-2.3	-.8	-2.4	-1.8	-1.7	-1.3	-1.7	-2.2	-1.8	-.5
<i>Previous Tealbook</i>	-7	3.9	-5.6		-1.1	-1.5	-1.4	-1.5	-2.0	-1.2	-1.0	-1.0	-1.4	-1.4	-1.3	-.5
Federal	-2	9.5	-14.8		-1.9	-11.1	-5.9	-2.2	-6.7	-5.3	-4.9	-4.1	-2.8	-5.4	-5.3	-3.4
Defense	-2	12.9	-22.0		-2.2	-11.3	-7.1	-2.2	-8.6	-6.0	-5.4	-4.6	-4.9	-5.8	-6.2	-3.6
Nondefense	-4	3.0	1.8		-1.5	-10.7	-3.6	-2.3	-3.1	-4.0	-4.1	-3.2	1.5	-4.6	-3.6	-3.1
State & local	-1.0	.3	-1.2		-.6	-.1	-.1	.0	.3	.3	.3	.4	-1.0	-.2	.3	1.1
Change in bus. inventories <sup>2</sup>	41	60	18		58	43	48	54	67	73	74	82	44	51	74	73
<i>Previous Tealbook</i> <sup>2</sup>	41	60	16		57	50	46	52	67	71	69	80	44	51	72	84
Nonfarm <sup>2</sup>	53	88	40		51	35	41	47	63	68	69	77	61	43	69	72
Farm <sup>2</sup>	-8	-19	-15		7	7	7	7	5	5	5	5	-11	7	5	1

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

2. Billions of chained (2005) 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	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Real GDP	2.4	2.2	-3.3	-1	2.4	2.0	1.7	2.5	3.2	3.6
<i>Previous Tealbook</i>	2.4	2.2	-3.3	-1	2.4	2.0	1.6	2.7	3.2	3.5
Final sales	2.8	2.4	-2.6	-5	1.7	1.7	2.1	2.3	3.0	3.7
<i>Previous Tealbook</i>	2.8	2.4	-2.6	-5	1.7	1.7	2.0	2.5	3.0	3.5
Priv. dom. final purch.	2.4	1.2	-4.5	-2.8	3.2	2.9	2.7	3.3	3.9	4.4
<i>Previous Tealbook</i>	2.4	1.2	-4.5	-2.8	3.2	2.9	2.6	3.2	3.8	4.1
Personal cons. expend.	3.2	1.7	-2.5	-3	2.9	1.9	1.9	2.5	3.3	3.7
<i>Previous Tealbook</i>	3.2	1.7	-2.5	-3	2.9	1.9	1.9	2.3	3.3	3.5
Durables	7.0	4.6	-13.0	3.0	9.5	5.9	8.3	7.8	8.6	8.8
Nondurables	2.9	.8	-3.1	.4	3.0	1.4	.8	1.7	2.6	3.0
Services	2.6	1.4	-.5	-1.1	1.9	1.5	1.2	1.8	2.7	3.1
Residential investment	-15.7	-20.7	-24.4	-13.3	-5.7	3.9	15.0	18.7	13.9	14.0
<i>Previous Tealbook</i>	-15.7	-20.7	-24.4	-13.3	-5.7	3.9	13.8	17.9	12.7	13.8
Business fixed invest.	7.8	7.9	-9.4	-15.7	7.7	10.2	5.4	4.9	5.0	5.4
<i>Previous Tealbook</i>	7.8	7.9	-9.4	-15.7	7.7	10.2	4.6	5.3	4.8	4.8
Equipment & software	6.0	3.9	-13.6	-7.8	11.9	11.4	4.7	6.4	5.6	6.3
<i>Previous Tealbook</i>	6.0	3.9	-13.6	-7.8	11.9	11.4	5.2	5.7	5.8	6.0
Nonres. structures	13.0	17.3	-1.2	-29.4	-1.8	6.9	7.2	1.2	3.3	3.1
<i>Previous Tealbook</i>	13.0	17.3	-1.2	-29.4	-1.8	6.9	3.1	4.2	2.5	2.1
Net exports <sup>1</sup>	-729	-649	-495	-355	-420	-408	-401	-383	-389	-377
<i>Previous Tealbook</i> <sup>1</sup>	-729	-649	-495	-355	-420	-408	-405	-394	-391	-379
Exports	10.2	10.1	-2.5	.3	8.8	4.3	2.1	4.3	5.4	6.9
Imports	4.1	.8	-5.9	-6.1	10.9	3.5	.2	3.7	4.5	5.0
Gov't. cons. & invest.	1.5	1.9	2.7	4.0	-1.3	-3.3	-1.7	-2.2	-1.8	-5
<i>Previous Tealbook</i>	1.5	1.9	2.7	4.0	-1.3	-3.3	-1.4	-1.4	-1.3	-5
Federal	2.2	3.1	8.8	5.1	2.3	-4.2	-2.8	-5.4	-5.3	-3.4
Defense	4.4	2.6	9.8	4.1	1.0	-4.0	-4.9	-5.8	-6.2	-3.6
Nondefense	-2.3	4.2	6.8	7.2	5.2	-4.6	1.5	-4.6	-3.6	-3.1
State & local	1.2	1.2	-.9	3.3	-3.6	-2.7	-1.0	-.2	.3	1.1
Change in bus. inventories <sup>1</sup>	59	28	-36	-139	51	31	44	51	74	73
<i>Previous Tealbook</i> <sup>1</sup>	59	28	-36	-139	51	31	44	51	72	84
Nonfarm <sup>1</sup>	63	29	-38	-138	58	36	61	43	69	72
Farm <sup>1</sup>	-4	-1	1	-1	-6	-4	-11	7	5	1

1. Billions of chained (2005) dollars.



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

Item	2012				2013				2014				2012 <sup>1</sup>	2013 <sup>1</sup>	2014 <sup>1</sup>	2015 <sup>1</sup>
	Q2	Q3	Q4		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Real GDP <i>Previous Tealbook</i>	1.3 1.3	3.1 3.1	.6 .1		2.8 2.7	1.8 2.4	2.7 2.7	3.0 2.8		2.6 2.5	3.0 3.1	3.5 3.7	1.7 1.6	2.5 2.7	3.2 3.2	3.6 3.5
Final sales <i>Previous Tealbook</i>	1.7 1.7	2.4 2.4	2.0 1.4		1.7 1.8	2.2 2.6	2.4 2.8	2.8 2.6		2.1 2.0	2.9 3.0	3.4 3.4	2.1 2.0	2.3 2.5	3.0 3.0	3.7 3.5
Priv. dom. final purch. <i>Previous Tealbook</i>	1.6 1.6	1.3 1.3	3.0 2.8		2.0 1.8	2.8 2.9	3.1 2.9	3.0 3.0		2.7 2.5	3.1 3.1	3.7 3.6	2.2 2.1	2.8 2.7	3.3 3.2	3.7 3.5
Personal cons. expend. <i>Previous Tealbook</i>	1.1 1.1	1.1 1.1	1.4 1.5		1.5 1.2	1.8 1.8	1.8 1.9	1.9 1.9		1.9 1.8	2.3 2.3	2.7 2.6	1.3 1.4	1.8 1.7	2.4 2.3	2.6 2.5
Durables	.0	.7	1.0		.6	.6	.6	.6		.7	.7	.7	.6	.6	.7	.7
Nondurables	.1	.2	.0		.3	.3	.3	.3		.3	.4	.5	.1	.3	.4	.5
Services	1.0	.3	.4		.6	.9	.9	1.0		.9	1.2	1.5	.6	.9	1.3	1.5
Residential investment <i>Previous Tealbook</i>	.2 .2	.3 .3	.4 .3		.4 .4	.6 .6	.5 .5	.4 .4		.4 .3	.4 .4	.4 .4	.3 .3	.5 .5	.4 .4	.5 .4
Business fixed invest. <i>Previous Tealbook</i>	.4 .4	-.2 -.2	1.2 .9		.1 .2	.5 .7	.8 .8	.7 .8		.4 .4	.4 .4	.6 .7	.5 .5	.5 .5	.5 .5	.6 .5
Equipment & software <i>Previous Tealbook</i>	.4 .4	-.2 -.2	1.0 1.0		.1 .1	.4 .5	.5 .6	.6 .6		.3 .3	.3 .4	.5 .6	.3 .4	.5 .4	.4 .4	.5 .5
Nonres. structures <i>Previous Tealbook</i>	.0 .0	.0 .0	.4 .0		-.4 .1	.1 .1	.2 .1	.2 .1		.1 .0	.1 .1	.1 .1	.2 .1	.0 .1	.1 .1	.1 .1
Net exports <i>Previous Tealbook</i>	.2 .2	.4 .4	.3 -.2		.0 .2	.3 .0	-.2 -.1	-.1 -.1		-.1 -.1	.0 .2	.0 -.1	.3 .1	.0 .1	.0 .0	.1 .1
Exports	.7	.3	-.4		.3	1.0	.4	.6		.7	.6	.8	.3	.6	.7	1.0
Imports	-.5	.1	.7		-.4	-.7	-.6	-.7		-.8	-.6	-.8	.0	-.6	-.8	-.9
Gov't. cons. & invest. <i>Previous Tealbook</i>	-.1 -.1	.8 -.1	-.1 -.1		-.2 -.2	-.9 -.3	-.4 -.3	-.1 -.3		-.4 -.4	-.3 -.2	-.3 -.2	-.3 -.3	-.4 -.3	-.3 -.2	-.1 -.1
Federal	.0	.7	-.1		-.1	-.9	-.4	-.2		-.5	-.4	-.3	-.2	-.4	-.4	-.2
Defense	.0	.6	-.1		-.1	-.6	-.3	-.1		-.4	-.3	-.2	-.3	-.3	-.3	-.1
Nondefense	.0	.1	.0		.0	-.3	-.1	-.1		-.1	-.1	-.1	.0	-.1	-.1	-.1
State & local	-.1	.0	-.1		-.1	.0	.0	.0		.0	.0	.0	-.1	.0	.0	.1
Change in bus. inventories <i>Previous Tealbook</i>	-.5 -.5	.7 .7	-.1 -.1		1.1 .9	-.5 -.2	.2 -.1	.2 .2		.4 .5	.2 .1	.1 .0	.2 .3	-.4 -.4	.3 .2	-.2 .0
Nonfarm	-.3	1.1	-.1		.4	-.5	.2	.2		.5	.2	.0	-.3	.1	.2	-.1
Farm	-.2	-.4	.2		.7	.0	.0	.0		-.1	.0	.0	-.1	.2	.0	.0

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	2012				2013				2014				2012 <sup>1</sup>	2013 <sup>1</sup>	2014 <sup>1</sup>	2015 <sup>1</sup>
	Q2	Q3	Q4		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
GDP chain-wt. price index <i>Previous Tealbook</i>	1.6	2.7	.9		1.4	1.5	1.5	1.4	1.6	1.5	1.5	1.5	1.8	1.5	1.5	1.6
PCE chain-wt. price index <i>Previous Tealbook</i>	.7	1.6	1.5		1.1	1.1	1.6	1.4	1.6	1.5	1.5	1.4	1.6	1.3	1.5	1.6
Energy <i>Previous Tealbook</i>	-13.6	10.5	9.9		-4.7	-7.5	-1.2	-1.4	-1.3	-1.3	-1.2	-1.0	3.2	-3.7	-1.2	-8
Food <i>Previous Tealbook</i>	.7	.6	1.8		2.0	2.6	1.9	1.0	.9	1.0	1.1	1.2	1.1	1.9	1.1	1.5
Ex. food & energy <i>Previous Tealbook</i>	1.7	1.1	.9		1.4	1.6	1.7	1.6	.9	1.0	1.1	1.2	1.2	2.2	1.1	1.5
Ex. food & energy, market based <i>Previous Tealbook</i>	1.8	1.3	.9		1.6	1.4	1.6	1.4	1.7	1.6	1.6	1.5	1.6	1.5	1.6	1.6
CPI <i>Previous Tealbook</i>	1.8	1.3	.8		1.4	1.6	1.6	1.4	1.6	1.6	1.6	1.5	1.6	1.5	1.6	1.6
Ex. food & energy <i>Previous Tealbook</i>	1.0	2.1	2.2		1.4	1.1	1.5	1.4	1.6	1.5	1.5	1.5	1.9	1.4	1.5	1.6
ECL, hourly compensation <sup>2</sup> <i>Previous Tealbook</i> <sup>2</sup>	.8	2.3	2.1		.8	2.1	1.3	1.3	1.4	1.4	1.4	1.4	1.9	1.4	1.4	1.6
Nonfarm business sector Output per hour <i>Previous Tealbook</i>	2.4	1.6	1.7		2.1	1.8	1.7	1.7	1.9	1.9	1.9	1.8	1.9	1.8	1.9	1.9
Compensation per hour <i>Previous Tealbook</i>	2.6	1.5	1.6		1.9	1.8	1.7	1.6	1.8	1.8	1.8	1.7	1.9	1.7	1.7	1.8
Unit labor costs <i>Previous Tealbook</i>	2.1	1.7	2.1		2.2	2.4	2.5	2.5	2.7	2.7	2.7	2.7	1.9	2.4	2.7	2.9
Core goods imports chain-wt. price index <sup>3</sup> <i>Previous Tealbook</i> <sup>3</sup>	2.1	1.7	2.1		2.3	2.6	2.7	2.7	2.9	3.0	3.0	3.0	1.9	2.6	2.9	3.1
Output per hour <i>Previous Tealbook</i>	1.7	3.1	-1.4		.9	-1	1.4	1.4	1.2	1.7	2.0	2.1	.7	.9	1.8	1.7
Compensation per hour <i>Previous Tealbook</i>	1.9	3.3	-3.0		.5	1.2	1.6	1.6	1.3	1.8	2.1	2.3	.4	1.2	1.8	1.8
Unit labor costs <i>Previous Tealbook</i>	1.2	1.2	2.6		.7	2.9	2.8	2.9	2.9	2.9	2.9	2.9	2.6	2.4	2.9	3.3
Core goods imports chain-wt. price index <sup>3</sup> <i>Previous Tealbook</i> <sup>3</sup>	1.3	1.1	1.0		2.6	2.7	2.9	3.0	3.1	3.1	3.1	3.2	2.3	2.8	3.1	3.4
Unit labor costs <i>Previous Tealbook</i>	-5	-1.9	4.6		-2	3.1	1.4	1.5	1.6	1.1	.9	.8	2.1	1.5	1.1	1.6
Core goods imports chain-wt. price index <sup>3</sup> <i>Previous Tealbook</i> <sup>3</sup>	-5	-2.1	4.1		2.1	1.4	1.3	1.4	1.7	1.3	1.0	.9	1.9	1.5	1.2	1.6
Core goods imports chain-wt. price index <sup>3</sup> <i>Previous Tealbook</i> <sup>3</sup>	1.2	-2.3	1.7		1.8	.4	.7	1.2	1.3	1.5	1.8	1.5	.1	1.0	1.5	1.6
Core goods imports chain-wt. price index <sup>3</sup> <i>Previous Tealbook</i> <sup>3</sup>	1.2	-2.3	1.3		2.5	1.6	1.4	1.3	1.3	1.4	1.7	1.5	.0	1.7	1.5	1.5

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

2. Private-industry workers.

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

## Greensheets

## Changes in Prices and Costs

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

Item	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
GDP chain-wt. price index <i>Previous Tealbook</i>	2.9 2.9	2.6 2.6	2.1 2.1	.5 .5	1.8 1.8	2.0 2.0	1.8 1.9	1.5 1.4	1.5 1.5	1.6 1.6
PCE chain-wt. price index <i>Previous Tealbook</i>	1.9 1.9	3.5 3.5	1.7 1.7	1.4 1.4	1.5 1.5	2.5 2.5	1.6 1.5	1.3 1.4	1.5 1.5	1.6 1.6
Energy <i>Previous Tealbook</i>	-3.7 -3.7	19.3 19.3	-8.8 -8.8	2.7 2.7	6.5 6.5	11.9 11.9	3.2 2.2	-3.7 -3.2	-1.2 -1.5	-8 -1.1
Food <i>Previous Tealbook</i>	1.7 1.7	4.7 4.7	7.0 7.0	-1.7 -1.7	1.3 1.3	5.1 5.1	1.1 1.2	1.9 2.2	1.1 1.1	1.5 1.5
Ex. food & energy <i>Previous Tealbook</i>	2.3 2.3	2.4 2.4	2.0 2.0	1.6 1.6	1.2 1.2	1.7 1.7	1.5 1.5	1.6 1.6	1.7 1.7	1.7 1.7
Ex. food & energy, market based <i>Previous Tealbook</i>	2.2 2.2	2.1 2.1	2.2 2.2	1.7 1.7	.7 .7	1.9 1.9	1.6 1.6	1.5 1.5	1.6 1.6	1.6 1.6
CPI <i>Previous Tealbook</i>	2.0 2.0	4.0 4.0	1.6 1.6	1.5 1.5	1.2 1.2	3.3 3.3	1.9 1.9	1.4 1.4	1.5 1.4	1.6 1.6
Ex. food & energy <i>Previous Tealbook</i>	2.7 2.7	2.3 2.3	2.0 2.0	1.7 1.7	.6 .6	2.2 2.2	1.9 1.9	1.8 1.7	1.9 1.8	1.9 1.8
ECL, hourly compensation <sup>1</sup> <i>Previous Tealbook</i> <sup>1</sup>	3.2 3.2	3.0 3.0	2.4 2.4	1.2 1.2	2.1 2.1	2.2 2.2	1.9 1.9	2.4 2.6	2.7 2.9	2.9 3.1
Nonfarm business sector Output per hour <i>Previous Tealbook</i>	.8 .8	2.4 2.5	-1.2 -1.1	5.6 5.6	1.9 1.8	.4 .6	.7 .4	.9 1.2	1.8 1.8	1.7 1.8
Compensation per hour <i>Previous Tealbook</i>	4.5 4.5	3.6 3.6	2.5 2.5	1.5 1.5	1.6 1.6	1.7 2.0	2.6 2.3	2.4 2.8	2.9 3.1	3.3 3.4
Unit labor costs <i>Previous Tealbook</i>	3.6 3.6	1.1 1.1	3.7 3.7	-3.9 -3.9	-2 -2	1.3 1.4	2.1 1.9	1.5 1.5	1.1 1.2	1.6 1.6
Core goods imports chain-wt. price index <sup>2</sup> <i>Previous Tealbook</i> <sup>2</sup>	2.5 2.5	2.9 2.9	3.7 3.7	-1.7 -1.7	2.7 2.7	4.3 4.3	.1 .0	1.0 1.7	1.5 1.5	1.6 1.5

1. Private-industry workers.

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

## Other Macroeconomic Indicators

Item	2012				2013				2014				2012 <sup>1</sup>	2013 <sup>1</sup>	2014 <sup>1</sup>	2015 <sup>1</sup>
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4					
	<i>Employment and production</i>	.5	.4	.5	.6	.5	.5	.5	.5	.6	.6	.7				
Nonfarm payroll employment <sup>2</sup>	8.2	8.0	7.8	7.8	7.7	7.6	7.5	7.4	7.3	7.2	7.1	7.8	7.8	7.1	6.3	
Unemployment rate <sup>3</sup>	8.2	8.0	7.8	7.8	7.7	7.7	7.6	7.5	7.4	7.2	7.1	7.8	7.6	7.1	6.3	
<i>Previous Tealbook<sup>3</sup></i>	6.0	6.0	5.9	5.9	5.9	5.9	5.9	5.9	5.8	5.8	5.8	5.9	5.9	5.8	5.8	
Natural rate of unemployment <sup>3</sup>	6.0	6.0	5.9	5.9	5.9	5.9	5.9	5.9	5.8	5.8	5.8	5.9	5.9	5.8	5.8	
<i>Previous Tealbook<sup>3</sup></i>	-3.9	-3.6	-3.9	-3.7	-3.7	-3.5	-3.3	-3.2	-2.9	-2.6	-2.2	-3.9	-3.3	-2.2	-8	
GDP gap <sup>4</sup>	-3.9	-3.6	-4.0	-3.8	-3.7	-3.5	-3.3	-3.2	-3.0	-2.6	-2.2	-4.0	-3.3	-2.2	-9	
<i>Previous Tealbook<sup>4</sup></i>	2.4	.5	2.7	5.5	6.1	4.7	3.8	3.6	3.7	3.9	4.1	2.8	5.0	3.8	4.3	
Industrial production <sup>5</sup>	2.4	.4	1.0	2.6	6.9	5.7	4.5	3.9	3.9	4.1	4.3	2.4	4.9	4.0	4.1	
<i>Previous Tealbook<sup>5</sup></i>	.8	-8	2.3	6.9	4.6	3.4	3.2	3.6	3.5	3.7	4.1	2.9	4.5	3.7	4.7	
Manufacturing industr. prod. <sup>5</sup>	.8	-1.0	.2	3.8	5.1	4.6	4.0	3.9	3.9	3.9	4.4	2.4	4.4	4.0	4.5	
<i>Previous Tealbook<sup>5</sup></i>	77.5	77.0	77.2	78.1	78.6	78.9	79.1	79.3	79.5	79.7	80.1	77.2	79.1	80.1	81.6	
Capacity utilization rate - mfg. <sup>3</sup>	77.5	77.0	76.8	77.1	77.6	78.1	78.4	78.7	79.0	79.2	79.6	76.8	78.4	79.6	80.9	
<i>Previous Tealbook<sup>3</sup></i>	.7	.8	.9	.9	1.0	1.1	1.1	1.2	1.3	1.3	1.4	.8	1.0	1.3	1.6	
Housing starts <sup>6</sup>	14.1	14.5	15.0	15.3	15.3	15.3	15.3	15.6	15.7	15.9	15.9	14.4	15.3	15.8	16.3	
Light motor vehicle sales <sup>6</sup>	2.8	5.9	1.5	4.2	3.3	4.2	4.4	4.2	4.6	5.0	5.2	3.6	4.0	4.8	5.2	
<i>Income and saving</i>	2.2	.7	6.2	-7.2	3.8	1.9	3.0	3.7	3.1	3.3	3.8	3.2	.3	3.5	3.1	
Nominal GDP <sup>5</sup>	2.2	.5	2.3	-3.0	2.7	2.5	3.1	4.9	3.4	3.5	3.9	2.2	1.3	3.9	2.9	
Real disposable pers. income <sup>5</sup>	3.8	3.6	4.7	2.3	2.6	2.5	2.5	2.7	2.7	2.6	2.6	4.7	2.5	2.6	2.0	
<i>Previous Tealbook<sup>5</sup></i>	3.8	3.6	3.6	2.5	2.5	2.5	2.5	3.1	3.1	3.0	3.1	3.6	2.5	3.1	2.4	
Personal saving rate <sup>3</sup>	4.7	9.9	5.6	2.3	-1.7	-1	-1	1.4	2.3	2.4	.7	2.1	.1	1.7	3.2	
<i>Previous Tealbook<sup>3</sup></i>	12.1	12.3	12.4	12.3	12.2	12.1	12.0	11.9	11.8	11.8	11.6	12.4	12.0	11.6	11.4	
Corporate profits <sup>7</sup>	-1,115	-1,087	-1,057	-819	-810	-779	-771	-656	-653	-657	-672	-1,080	-795	-660	-580	
Profit share of GNP <sup>3</sup>	-124	-140	-128	-122	-105	-97	-88	-93	-70	-63	-54	-130	-103	-70	-24	
Net federal savings <sup>8</sup>	12.3	12.3	12.8	13.2	13.4	13.4	13.5	13.8	13.9	13.8	13.7	12.8	13.5	13.7	14.2	
Net state & local saving <sup>8</sup>	-4	-3	.4	.9	1.0	1.1	1.2	1.6	1.7	1.6	1.6	.4	1.2	1.6	2.2	
Gross national saving rate <sup>3</sup>																
Net national saving rate <sup>3</sup>																

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

2. Change, millions.

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

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

Annual values are for the fourth quarter of the year indicated.

5. Percent change, annual rate.

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

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

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

Other Macroeconomic Indicators

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

Item	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<i>Employment and production</i>										
Nonfarm payroll employment <sup>1</sup>	2.1	1.2	-2.8	-5.6	.8	2.0	2.2	2.2	2.4	3.1
Unemployment rate <sup>2</sup>	4.5	4.8	6.9	9.9	9.5	8.7	7.8	7.5	7.1	6.3
<i>Previous Tealbook</i> <sup>2</sup>	4.5	4.8	6.9	9.9	9.5	8.7	7.8	7.6	7.1	6.3
Natural rate of unemployment <sup>2</sup>	5.0	5.0	5.3	6.0	6.0	6.0	5.9	5.9	5.8	5.8
<i>Previous Tealbook</i> <sup>2</sup>	5.0	5.0	5.3	6.0	6.0	6.0	5.9	5.9	5.8	5.8
GDP gap <sup>3</sup>	.8	.8	-4.3	-5.3	-4.2	-3.8	-3.9	-3.3	-2.2	-8
<i>Previous Tealbook</i> <sup>3</sup>	.8	.8	-4.3	-5.3	-4.2	-3.8	-4.0	-3.3	-2.2	-9
Industrial production <sup>4</sup>	2.1	2.5	-9.0	-5.7	6.3	4.1	2.8	5.0	3.8	4.3
<i>Previous Tealbook</i> <sup>4</sup>	2.1	2.5	-9.0	-5.7	6.3	4.1	2.4	4.9	4.0	4.1
Manufacturing industr. prod. <sup>4</sup>	1.8	2.8	-11.8	-6.5	6.5	4.2	2.9	4.5	3.7	4.7
<i>Previous Tealbook</i> <sup>4</sup>	1.8	2.8	-11.8	-6.5	6.5	4.2	2.4	4.4	4.0	4.5
Capacity utilization rate - mfg. <sup>2</sup>	78.2	78.2	69.7	67.0	73.1	76.1	77.2	79.1	80.1	81.6
<i>Previous Tealbook</i> <sup>2</sup>	78.2	78.2	69.7	67.0	73.1	76.1	76.8	78.4	79.6	80.9
Housing starts <sup>5</sup>	1.8	1.4	.9	.6	.6	.6	.8	1.0	1.3	1.6
Light motor vehicle sales <sup>5</sup>	16.5	16.1	13.1	10.4	11.5	12.7	14.4	15.3	15.8	16.3
<i>Income and saving</i>										
Nominal GDP <sup>4</sup>	5.3	4.9	-1.2	.4	4.3	4.0	3.6	4.0	4.8	5.2
Real disposable pers. income <sup>4</sup>	4.6	1.6	1.0	-3.0	3.5	.3	3.2	.3	3.5	3.1
<i>Previous Tealbook</i> <sup>4</sup>	4.6	1.6	1.0	-3.0	3.5	.3	2.2	1.3	3.9	2.9
Personal saving rate <sup>2</sup>	2.8	2.5	6.2	3.8	4.8	3.4	4.7	2.5	2.6	2.0
<i>Previous Tealbook</i> <sup>2</sup>	2.8	2.5	6.2	3.8	4.8	3.4	3.6	2.5	3.1	2.4
Corporate profits <sup>6</sup>	3.7	-8.1	-33.5	57.0	17.3	9.2	2.1	1	1.7	3.2
Profit share of GNP <sup>2</sup>	11.6	10.1	6.8	10.7	12.0	12.5	12.4	12.0	11.6	11.4
Net federal saving <sup>7</sup>	-204	-245	-613	-1229	-1308	-1237	-1080	-795	-660	-580
Net state & local saving <sup>7</sup>	51	12	-72	-113	-90	-102	-130	-103	-70	-24
Gross national saving rate <sup>2</sup>	16.5	13.9	12.6	11.0	12.1	12.4	12.8	13.5	13.7	14.2
Net national saving rate <sup>2</sup>	4.4	1.7	-6	-2.3	-6	-3	.4	1.2	1.6	2.2

1. Change, millions.  
 2. Percent; values are for the fourth quarter of the year indicated.  
 3. Percent difference between actual and potential GDP; a negative number indicates that the economy is operating below potential.  
 Values are for the fourth quarter of the year indicated.  
 4. Percent change.  
 5. Level, millions; values are annual averages.  
 6. Percent change, with inventory valuation and capital consumption adjustments.  
 7. Billions of dollars; values are annual averages.

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

Item	Fiscal year				2012				2013				2014			
	2012 <sup>a</sup>	2013	2014	2015	Q1 <sup>a</sup>	Q2 <sup>a</sup>	Q3 <sup>a</sup>	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	Not seasonally adjusted															
<b>Unified budget</b>																
Receipts <sup>1</sup>	2,449	2,753	2,992	3,228	509	760	625	616	572	856	710	677	616	935	765	739
Outlays <sup>1</sup>	3,538	3,510	3,558	3,703	966	885	810	909	905	862	834	905	910	882	862	948
Surplus/deficit <sup>1</sup>	-1,089	-757	-566	-476	-457	-125	-185	-293	-333	-6	-124	-228	-293	52	-97	-209
<i>Previous Tealbook</i>																
On-budget	-1,089	-793	-628	-544	-457	-125	-185	-292	-347	-14	-140	-245	-308	41	-116	-230
Off-budget	-1,151	-770	-571	-467	-458	-187	-160	-311	-315	-54	-91	-249	-270	8	-59	-226
	62	13	5	-9	1	62	-25	17	-18	48	-33	22	-23	44	-38	17
Means of financing																
Borrowing	1,152	760	635	556	398	198	230	314	230	7	209	237	313	-32	117	229
Cash decrease	-27	5	11	0	42	-48	6	-7	63	-31	-20	11	0	0	0	0
Other <sup>2</sup>	-36	-9	-80	-80	17	-25	-51	-13	40	30	-65	-20	-20	-20	-20	-20
Cash operating balance, end of period	85	81	70	70	43	91	85	93	30	60	81	70	70	70	70	70
<b>NIPA federal sector</b>																
Receipts	2,633	2,907	3,159	3,375	2,665	2,659	2,673	2,715	2,942	2,973	3,001	3,033	3,165	3,200	3,237	3,272
Expenditures	3,744	3,774	3,843	3,988	3,724	3,775	3,761	3,772	3,760	3,783	3,779	3,803	3,822	3,854	3,894	3,943
Consumption expenditures	1,062	1,026	988	958	1,056	1,055	1,086	1,041	1,043	1,016	1,005	1,004	992	983	974	968
Defense	709	672	645	622	703	701	728	681	683	667	658	657	647	640	635	630
Nondefense	353	354	344	336	352	354	358	360	359	349	347	346	345	343	340	338
Other spending	2,682	2,747	2,855	3,030	2,668	2,720	2,674	2,731	2,718	2,766	2,774	2,800	2,830	2,871	2,920	2,975
Current account surplus	-1,111	-866	-684	-612	-1,059	-1,115	-1,087	-1,057	-819	-810	-779	-771	-656	-653	-657	-672
Gross investment	156	152	140	130	152	156	155	156	155	150	147	145	141	138	136	134
Gross saving less gross investment <sup>3</sup>	-1,126	-873	-675	-589	-1,071	-1,130	-1,100	-1,070	-830	-815	-779	-769	-649	-642	-642	-653
<b>Fiscal indicators<sup>4</sup></b>																
High-employment (HEB) surplus/deficit	-918.6	-661.6	-503.1	-484.7	-865.1	-922.6	-907.1	-864.6	-614.0	-600.9	-566.7	-570.1	-472.7	-476.8	-492.7	-522.5
Change in HEB, percent of potential GDP	-1.0	-1.7	-1.0	-2	-8	.3	-2	-3	-1.5	-1	-2	.0	-6	.0	.1	.1
Fiscal impetus (FI), percent of GDP	-7	-1.1	-7	-3	-7	-6	.3	-1.5	-1.4	-1.3	-1.0	-6	-1.0	-8	-6	-4
<i>Previous Tealbook</i>	-6	-9	-7	-3	-7	-6	.3	-1.3	-1.5	-7	-8	-7	-1.1	-7	-5	-4

1. Budget receipts, outlays, and surplus/deficit include corresponding social security (OASDI) surplus and the Postal Service surplus as excluded from the on-budget surplus and shown separately as off-budget, as classified under current law.  
 2. Other means of financing are checks issued less checks paid, accrued items, and changes in other financial assets and liabilities.  
 3. Gross saving is the current account surplus plus consumption of fixed capital of the general government as well as government enterprises.  
 4. 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. FI is the weighted difference of discretionary changes in federal spending and taxes in chained (2005) dollars, scaled by real GDP. The FI estimates are calendar year contributions to Q4/Q4 real GDP growth. Also, for FI and the change in HEB, positive values indicate aggregate demand stimulus. Quarterly figures for change in HEB and FI are not at annual rates.  
 a. Actual.

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

Measure and country	2012				2013				Projected			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Real GDP</b> <sup>1</sup>												
Total foreign	3.2	1.9	1.8	2.1	2.7	2.9	3.1	3.2	3.4	3.1	3.4	3.5
<i>Previous Tealbook</i>	3.4	1.9	1.8	2.2	2.7	3.1	3.2	3.3	3.4	3.2	3.5	3.5
Advanced foreign economies	1.3	.6	.3	-.4	.9	1.3	1.5	1.8	2.0	1.5	2.1	2.2
Canada	1.2	1.9	.7	.6	1.8	1.9	2.0	2.2	2.2	2.4	2.6	2.8
Japan	6.1	-9	-3.7	.2	1.8	2.1	2.1	2.3	3.5	-2.4	.8	.8
United Kingdom	-.3	-1.4	3.9	-1.0	.4	1.0	1.6	2.0	2.1	2.2	2.4	2.6
Euro area	-.2	-.7	-.3	-2.3	-.7	.0	.4	-.9	1.1	1.3	1.5	1.7
Germany	2.0	1.1	.9	-2.3	.4	.9	1.1	1.6	1.7	1.8	1.9	1.9
Emerging market economies	5.2	3.4	3.3	4.6	4.5	4.6	4.7	4.7	4.8	4.8	4.8	4.9
Asia	6.0	3.8	4.8	6.3	5.6	5.6	5.7	5.7	5.8	5.8	5.8	5.9
Korea	3.5	1.1	-.2	1.5	3.1	3.6	3.8	4.0	4.1	4.2	4.3	4.4
China	7.0	6.5	8.4	9.5	8.5	8.2	8.2	8.1	8.1	8.1	8.1	8.1
Latin America	4.6	2.8	1.7	3.2	3.5	3.7	3.8	3.8	3.8	3.8	3.8	3.9
Mexico	5.3	3.1	1.5	3.1	3.7	3.9	4.0	3.9	3.9	3.9	3.9	4.0
Brazil	.6	1.3	1.5	2.2	3.0	3.5	3.7	3.7	3.8	3.8	4.0	4.0
<b>Consumer prices</b> <sup>2</sup>												
Total foreign	2.5	2.1	2.4	2.3	2.2	2.2	2.2	2.3	2.4	3.0	2.5	2.5
<i>Previous Tealbook</i>	2.6	2.0	2.3	2.4	2.2	2.3	2.3	2.3	2.4	3.0	2.5	2.5
Advanced foreign economies	1.9	.8	.9	1.6	.8	1.2	1.1	1.3	1.3	2.7	1.4	1.4
Canada	2.0	.2	.1	1.4	1.0	1.6	1.5	1.6	1.7	1.8	1.8	1.8
Japan	1.2	-.7	-1.5	.0	.0	.0	.0	.1	.2	8.2	.3	.3
United Kingdom	1.7	1.3	3.1	4.5	2.3	2.2	1.9	3.0	1.6	1.6	1.7	2.8
Euro Area	2.4	2.0	2.4	2.4	1.0	1.3	1.3	1.3	1.4	1.4	1.5	1.5
Germany	2.3	1.4	2.1	2.2	1.6	2.0	1.7	1.7	1.7	1.7	1.8	1.9
Emerging market economies	3.0	3.1	3.5	2.8	3.2	2.9	3.1	3.2	3.3	3.3	3.3	3.3
Asia	2.4	3.2	2.3	2.4	3.6	2.6	3.0	3.0	3.1	3.2	3.2	3.2
Korea	1.6	1.2	1.0	3.1	2.3	2.8	2.8	2.9	3.0	3.0	3.0	3.1
China	2.0	2.5	1.7	2.0	3.8	2.2	2.8	2.9	3.0	3.0	3.0	3.0
Latin America	4.6	2.6	6.3	3.6	2.6	3.7	3.5	3.5	3.7	3.7	3.7	3.7
Mexico	4.5	2.5	6.5	3.0	2.0	3.5	3.2	3.2	3.4	3.4	3.4	3.4
Brazil	4.0	3.8	7.3	7.5	6.9	5.3	5.5	5.5	5.5	5.4	5.4	5.4

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

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



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

Measure and country	-----Projected-----									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	
<b>Real GDP</b> <sup>1</sup>										
Total foreign	4.3	-7	.8	4.6	2.9	2.3	3.0	3.4	3.5	
<i>Previous Tealbook</i>	4.3	-7	.8	4.5	2.9	2.3	3.1	3.4	3.5	
Advanced foreign economies	2.4	-1.6	-1.5	3.0	1.4	.4	1.4	2.0	2.3	
Canada	2.3	.0	-1.6	3.6	2.4	1.1	2.0	2.5	2.7	
Japan	1.6	-4.8	-6	3.5	-1	.4	2.1	.7	.6	
United Kingdom	3.8	-4.6	-9	1.5	.9	.3	1.2	2.3	2.6	
Euro area	2.4	-2.1	-2.3	2.3	.6	-9	.1	1.4	2.0	
Germany	2.4	-1.9	-2.2	4.2	1.9	.4	1.0	1.8	2.4	
Emerging market economies	6.7	.4	3.5	6.2	4.5	4.1	4.6	4.8	4.8	
Asia	8.9	.8	8.1	7.8	5.0	5.2	5.7	5.8	5.9	
Korea	5.8	-3.2	6.3	5.0	3.4	1.6	3.6	4.2	4.6	
China	13.7	7.7	11.3	9.7	8.8	7.8	8.2	8.1	8.0	
Latin America	4.4	-2	-8	4.5	3.9	3.1	3.7	3.8	3.8	
Mexico	3.5	-1.1	-2.2	4.1	4.0	3.3	3.9	3.9	3.8	
Brazil	6.6	.9	5.3	5.4	1.4	1.4	3.5	3.9	4.0	
<b>Consumer prices</b> <sup>2</sup>										
Total foreign	3.7	3.3	1.2	3.2	3.4	2.3	2.2	2.6	2.6	
<i>Previous Tealbook</i>	3.7	3.3	1.3	3.2	3.4	2.3	2.3	2.6	2.6	
Advanced foreign economies	2.2	2.0	.2	1.7	2.2	1.3	1.1	1.7	1.7	
Canada	2.5	1.8	.8	2.2	2.7	.9	1.4	1.8	1.8	
Japan	.5	1.1	-2.0	-2	-3	-2	.0	2.2	1.7	
United Kingdom	2.1	3.9	2.2	3.4	4.6	2.6	2.3	1.9	1.9	
Euro Area	2.9	2.3	.4	2.0	2.9	2.3	1.2	1.4	1.7	
Germany	3.1	1.7	.3	1.6	2.6	2.0	1.7	1.8	1.9	
Emerging market economies	5.1	4.6	2.1	4.3	4.3	3.1	3.1	3.3	3.3	
Asia	5.5	3.6	1.2	4.3	4.5	2.6	3.0	3.1	3.2	
Korea	3.4	4.5	2.4	3.2	4.0	1.7	2.7	3.0	3.2	
China	6.7	2.5	.6	4.6	4.6	2.1	2.9	3.0	3.0	
Latin America	4.2	6.7	3.9	4.4	4.0	4.3	3.3	3.7	3.7	
Mexico	3.8	6.2	4.0	4.3	3.5	4.1	3.0	3.4	3.4	
Brazil	4.3	6.3	4.3	5.6	6.7	5.6	5.8	5.4	5.4	

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

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



U.S. Current Account

Quarterly Data

	2012				2013				Projected-----2014			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<i>Billions of dollars, s.a.a.r.</i>												
<b>U.S. current account balance</b>	<b>-535.4</b>	<b>-473.4</b>	<b>-431.4</b>	<b>-442.2</b>	<b>-469.2</b>	<b>-435.3</b>	<b>-461.6</b>	<b>-497.0</b>	<b>-522.1</b>	<b>-505.3</b>	<b>-521.2</b>	<b>-540.1</b>
<i>Previous Tealbook</i>	-534.5	-472.4	-430.0	-450.8	-458.5	-437.3	-444.1	-473.3	-496.9	-469.9	-475.2	-496.7
Current account as percent of GDP	-3.5	-3.0	-2.7	-2.8	-2.9	-2.7	-2.8	-3.0	-3.1	-3.0	-3.1	-3.1
<i>Previous Tealbook</i>	-3.5	-3.0	-2.7	-2.8	-2.9	-2.7	-2.7	-2.9	-3.0	-2.8	-2.8	-2.9
Net goods & services	-594.4	-550.6	-499.4	-513.7	-521.3	-472.9	-482.6	-506.1	-520.1	-495.7	-498.0	-512.4
Investment income, net	197.4	215.9	211.0	215.0	196.8	178.4	165.2	155.4	142.7	131.3	120.9	118.6
Direct, net	282.9	291.6	286.1	279.2	259.2	245.2	239.1	238.3	235.3	232.6	232.4	241.5
Portfolio, net	-85.6	-75.7	-75.2	-64.2	-62.4	-66.7	-73.9	-83.0	-92.5	-101.3	-111.6	-122.9
Other income and transfers, net	-138.4	-138.7	-143.1	-143.5	-144.8	-140.9	-144.2	-146.3	-144.8	-140.9	-144.2	-146.3

Annual Data

	-----Projected-----										
	2007	2008	2009	2010	2011	2012	2013	2014	2015		
<i>Billions of dollars</i>											
<b>U.S. current account balance</b>	<b>-710.3</b>	<b>-677.1</b>	<b>-381.9</b>	<b>-442.0</b>	<b>-465.9</b>	<b>-470.6</b>	<b>-465.8</b>	<b>-522.2</b>	<b>-536.0</b>		
<i>Previous Tealbook</i>	-710.3	-677.1	-381.9	-442.0	-465.9	-471.9	-453.3	-484.7	-490.6		
Current account as percent of GDP	-5.1	-4.7	-2.7	-3.0	-3.1	-3.0	-2.9	-3.1	-3.0		
<i>Previous Tealbook</i>	-5.1	-4.7	-2.7	-3.0	-3.1	-3.0	-2.8	-2.9	-2.7		
Net goods & services	-696.7	-698.3	-379.2	-494.7	-559.9	-539.5	-495.7	-506.5	-502.2		
Investment income, net	111.1	157.8	127.6	191.0	235.0	209.8	174.0	128.4	109.2		
Direct, net	244.6	284.3	253.0	297.9	321.7	285.0	245.4	235.4	259.5		
Portfolio, net	-133.5	-126.5	-125.4	-106.9	-86.7	-75.2	-71.5	-107.1	-150.3		
Other income and transfers, net	-124.7	-136.6	-130.3	-138.2	-141.1	-140.9	-144.0	-144.0	-143.0		

## Abbreviations

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ABCP	asset-backed commercial paper
ABS	asset-backed securities
AFE	advanced foreign economy
APP	Asset Purchase Program
BEA	Bureau of Economic Analysis, Department of Commerce
BHC	bank holding company
BOE	Bank of England
BOJ	Bank of Japan
CDS	credit default swaps
C&I	commercial and industrial
CLO	collateralized loan obligation
CMBS	commercial mortgage-backed securities
CP	commercial paper
CPH	compensation per hour
CPI	consumer price index
CRE	commercial real estate
Desk	Open Market Desk
ECB	European Central Bank
EME	emerging market economy
ECI	employment cost index
E&S	equipment and software
ETF	exchange-traded fund
FDIC	Federal Deposit Insurance Corporation
FOMC	Federal Open Market Committee; also, the Committee
G-7	Group of Seven (Canada, France, Germany, Italy, Japan, U.K., U.S.)
G-20	Group of Twenty (Argentina, Australia, Brazil, Canada, China, European Union, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, U.K., U.S.)

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GCF	general collateral finance
GDP	gross domestic product
HFR	Hedge Fund Research
IPO	initial public offering
ISM	Institute for Supply Management
LIBOR	London interbank offered rate
LSAP	large-scale asset purchase
MBS	mortgage-backed securities
Michigan Survey	Thomson Reuters/University of Michigan Surveys of Consumers
NIM	net interest margin
NIPA	national income and product accounts
OIS	overnight index swap
OTC	over-the-counter
PCE	personal consumption expenditures
PMI	purchasing managers index
REIT	real estate investment trust
REO	real estate owned
repo	repurchase agreement
RMBS	residential mortgage-backed securities
SCOOS	Senior Credit Officer Opinion Survey on Dealer Financing Term
SOMA	System Open Market Account
S&P	Standard & Poor's
TBA	to be announced (for example, TBA market)
TIPS	Treasury inflation-protected securities
VIX	Chicago Board Options Exchange Market Volatility Index