

## **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

December 5, 2012

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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 information we have received since the October Tealbook has been mixed but, taken as a whole, suggests that economic activity has been slightly softer than we anticipated. October's employment report and the most recent reading on orders and shipments of capital goods were somewhat better than projected. However, data on both consumer spending and households' real disposable income have been notably weaker than we expected. In addition, Hurricane Sandy temporarily disrupted activity in the Northeast at the end of October and probably will leave some small imprint on real GDP for the fourth quarter as a whole. In all, real GDP growth is projected to rise at an annual rate of  $1\frac{3}{4}$  percent over the second half of this year, about  $\frac{1}{4}$  percentage point less than in the October Tealbook.

In the first quarter of next year, the rebound in farm output from last summer's drought is, by itself, expected to contribute  $\frac{3}{4}$  percentage point to the growth of real GDP, and the recovery from the hurricane is projected to chip in another  $\frac{1}{2}$  percentage point. As a result, real GDP is expected to increase at a  $1\frac{3}{4}$  percent pace despite the substantial tightening of fiscal policy that we assume.

We have propagated the recent weakness in consumer spending and disposable income forward into our medium-term projection. In addition, we now expect financial conditions to be a little less supportive than we anticipated in the October Tealbook. In particular, while we have maintained our assumption that the FOMC will purchase \$85 billion per month of longer-term assets through the middle of next year, financial market participants, as best we can judge, expect purchases to continue at roughly this rate through the end of 2013. Accordingly, we assume investors will gradually realize that cumulative purchases will be about \$500 billion less than they currently appear to have factored in. Over time, this realization is expected to lead to a small amount of upward pressure on long-term interest rates and the exchange value of the dollar and a small amount of downward pressure on stock market prices.

The potential effect on business and consumer spending of downside risks from the "fiscal cliff" has loomed large in our deliberations on both the near- and medium-term projections. Anecdotes suggest that many firms have put investment and hiring on hold as they wait for uncertainty about the size of the fiscal contraction next year to be resolved. While we do not doubt that cliff-related uncertainty has weighed on firms'

## Revisions to the Staff Projection since the Previous SEP

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

The September Tealbook projection did not assume any additional monetary accommodation such as was announced following the September FOMC meeting. Accordingly, the staff's federal funds rate assumption is now appreciably lower than in September, with the funds rate remaining at its effective lower bound until the fourth quarter of 2015 and reaching only ½ percent by the end of that year.

Although the key financial variables underlying the projection became more accommodative following the announcement of the FOMC's new policy stance, some of these variables have since retraced part of that improvement, and the conditioning assumptions for our projection are now only a little more accommodative than in September; in addition, incoming economic data have been to the soft side of our expectations on balance. In all, the staff projection for real GDP growth is substantially unchanged from September. The unemployment rate has been revised down throughout the medium term, mainly reflecting the surprises to the unemployment rate that we have received since September. As before, significant slack remains even at the end of 2015.

The staff projection for inflation is about unchanged since September. The lower path for the unemployment rate has only a small effect on our inflation projection, given our estimate of a relatively flat Phillips curve and stable inflation expectations.

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

Variable	2012		2012	2013	2014	2015	Longer run
	H1	H2					
Real GDP <sup>1</sup>	1.6	1.8	1.7	2.5	3.2	3.6	2.5
September Tealbook	1.8	1.5	1.6	2.4	3.2	3.6	2.5
Unemployment rate <sup>2</sup>	8.2	8.0	8.0	7.8	7.4	6.5	5.2
September Tealbook	8.2	8.3	8.3	8.0	7.6	6.7	5.2
PCE inflation <sup>1</sup>	1.6	1.6	1.6	1.3	1.4	1.5	2.0
September Tealbook	1.6	1.8	1.7	1.4	1.4	1.5	2.0
Core PCE inflation <sup>1</sup>	2.0	1.2	1.6	1.6	1.6	1.7	n.a.
September Tealbook	2.0	1.4	1.7	1.6	1.6	1.7	n.a.
Federal funds rate <sup>2</sup>	.15	.15	.15	.13	.13	.38	4.25
September Tealbook	.15	.13	.13	.13	.65	2.06	4.25
Memo:							
Federal funds rate, end of period	.13	.13	.13	.13	.13	.50	4.25
September Tealbook	.13	.13	.13	.13	.75	2.25	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.

decisions of late, we judge that general pessimism—about the European situation, the ability of the domestic economy to generate robust growth, and the effects of fiscal policy on economic growth in both the near term and years to come—is the primary factor restraining the recovery. As a result, while the resolution of the fiscal cliff is expected to answer one set of concerns about the path of the economy—and hence to contribute somewhat to the pickup in activity over the first half of next year—we project pessimism about the outlook more generally, as well as other headwinds, to fade only slowly and, therefore, we expect the journey back to full employment to be quite slow.

The broad contour of our forecast is similar to that in the October Tealbook. Real GDP growth is projected to step up to an annual rate of 2½ percent next year, as a lessening of strains in Europe, improving domestic financial conditions, rising consumer and business confidence, and a rebound from the drought and Hurricane Sandy more than offset the anticipated drag from fiscal policy. Thereafter, with fiscal restraint expected to diminish and the factors supporting the recovery still in place, real GDP growth is expected to step up to 3¼ percent in 2014 and 3½ percent in 2015. The slower pace of output growth in this projection relative to the previous one generates a commensurately more drawn-out reduction in the unemployment rate; at the end of 2015, we expect the jobless rate to stand at 6½ percent, about ¼ percentage point higher than in our previous forecast.

On the price front, crude oil prices have come down some in recent weeks and gasoline margins have narrowed. As a result, we have trimmed our near-term forecast for overall PCE inflation. Otherwise, the outlook for inflation is essentially unchanged from the October Tealbook: Anchored inflation expectations and wide margins of economic slack lead core PCE prices to rise 1.6 percent both next year and in 2014, and 1.7 percent in 2015. Given expected declines in crude oil prices over the medium term, total PCE inflation is expected to run a little below core inflation—and, accordingly, a little below the Committee's 2 percent objective—over the next three years.

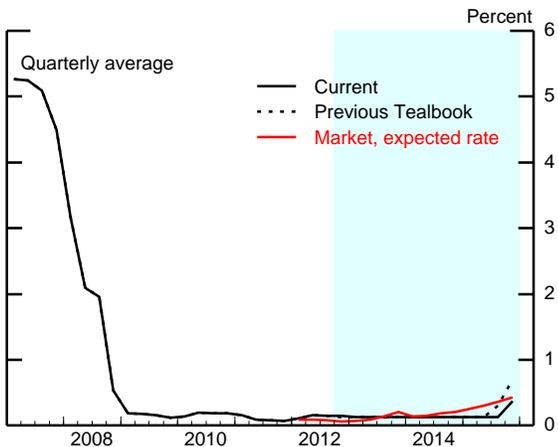
## **KEY BACKGROUND FACTORS**

### **Monetary Policy**

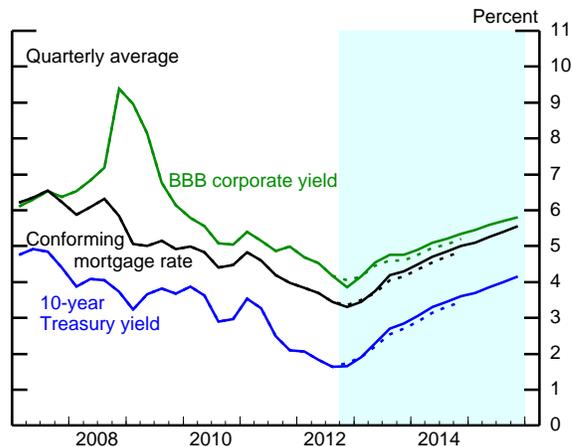
Our assumptions about the conduct of monetary policy are close to unchanged from the October Tealbook. With respect to the balance sheet, we assume that the Federal Reserve will complete the maturity extension program (MEP) as scheduled at the end of December and purchase another \$40 billion of agency MBS over the course of the

### Key Background Factors underlying the Baseline Staff Projection

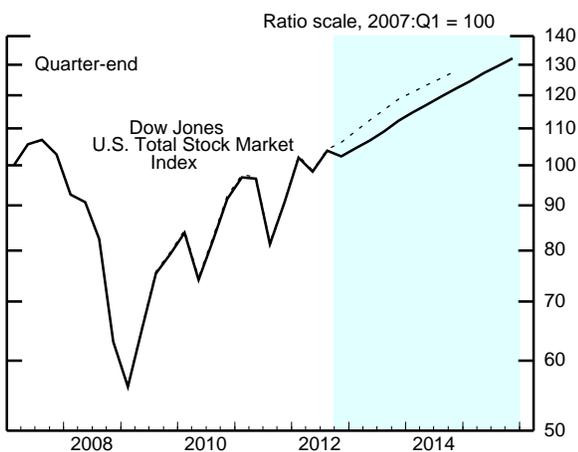
#### Federal Funds Rate



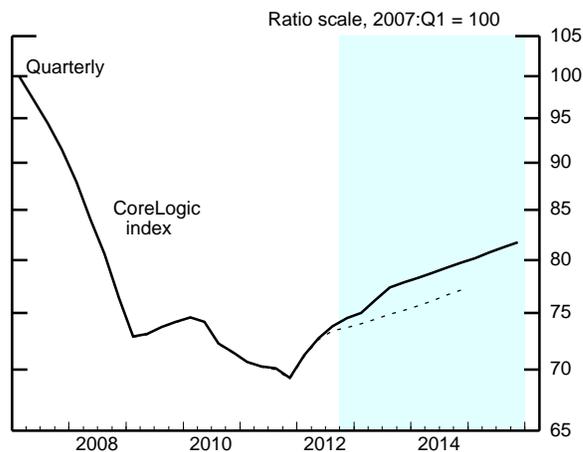
#### Long-Term Interest Rates



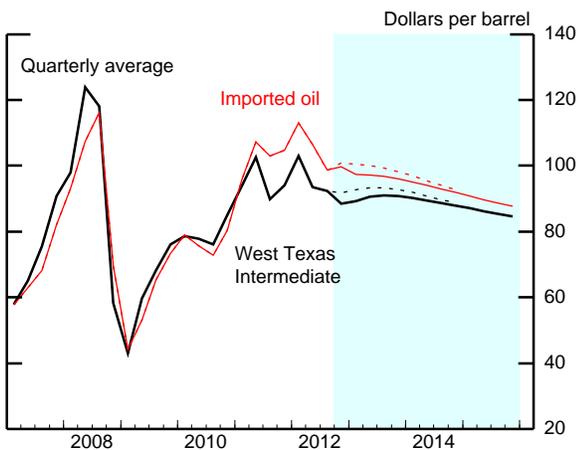
#### Equity Prices



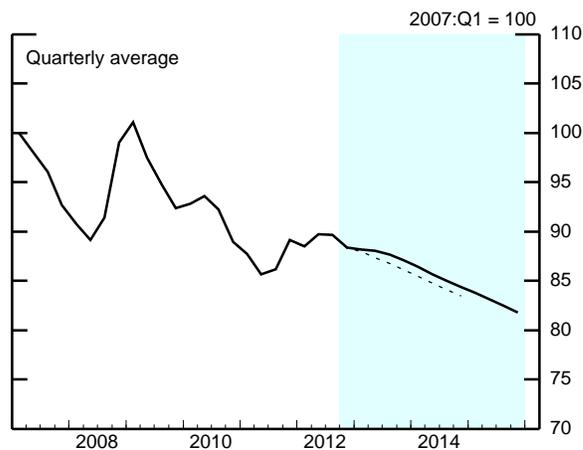
#### House Prices



#### Crude Oil Prices



#### Broad Real Dollar



month. And as in October, we further assume that the Federal Reserve will then purchase about \$85 billion of longer-term securities per month through June 2013.

Results from the primary dealer survey suggest that market participants expect a longer-lived asset purchase program than the one we have assumed. More specifically, it appears that investors currently expect that cumulative asset purchases will be about \$500 billion larger than in the baseline. As a result, we have incorporated gradual learning among financial market participants through next summer, as they come to realize that the program will not continue past midyear. This learning effect causes long-term interest rates and the exchange value of the dollar to be higher than they would otherwise be and causes stock prices to be lower. By itself, this learning effect is expected to add between 0.1 and 0.2 percentage point to the unemployment rate at the end of 2015 and subtract less than 0.1 percentage point from PCE inflation in that year.<sup>1</sup>

With respect to the federal funds rate, and consistent with our approach in the previous Tealbook, we adjusted the outcome-based rule so that it reflects the Committee's forward guidance in the October FOMC statement.<sup>2</sup> On this adjusted basis, the rule implies that liftoff of the target federal funds rate from its effective lower bound will occur in the fourth quarter of 2015, one quarter later than in the October Tealbook. Although different policy rules yield different paths for the federal funds rate, nearly all of the rules we typically consult—absent any adjustment to reflect the Committee's forward guidance—call for an earlier liftoff of the federal funds rate than is generated by the adjusted outcome-based rule. In contrast, in our standard optimal control exercise, increases in the federal funds rate would not begin until early 2016. (See Book B for more details on other monetary policy rules.)

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<sup>1</sup> These effects are somewhat smaller than those reported in the November 30, 2012, FOMC memo "Options for Continued Open-Ended Asset Purchases in 2013." In that memo, FRB/US model simulations with a similar \$500 billion difference in purchases led to a 0.3 percentage point difference in the unemployment rate at the end of 2015 and a 0.2 percentage point difference in PCE inflation for that year. Some, but not all, of these differences can be explained by differing assumptions regarding when market participants learn about the \$500 billion difference in purchases. We are currently reviewing both the FRB/US model's structure and our judgmental procedures to better understand the sources of the differences. We expect that this exercise will result in purchase-program estimates that lie somewhere between those now produced by the two approaches.

<sup>2</sup> The federal funds rate follows the estimated outcome-based rule described in the appendix on policy rules in Book B, with an intercept adjustment that reflects the Committee's latest forward guidance about the likely date of tightening. The adjustment was calibrated to delay the first increase in the federal funds rate until the third quarter of 2015 based on the economic outlook in the October Tealbook. This intercept adjustment gradually declines beginning in the third quarter of 2015 and is zero starting in the fourth quarter of 2017. We have not adjusted the rule to incorporate quantitative thresholds on either the unemployment rate or inflation.

## Other Interest Rates

The 10-year Treasury yield has decreased about 15 basis points since the time of the October Tealbook to about 1½ percent. We project that this yield will rise to about 4 percent in the fourth quarter 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 unconventional monetary policy. In addition, downward pressures on Treasury rates should lessen next year as concerns diminish about both the crisis in Europe and the economic effects of the fiscal situation at home, and as investors learn that the asset purchase program will be smaller than they currently appear to expect.

Yields on investment-grade corporate bonds are about unchanged since the October Tealbook amid a torrent of new issuance. We expect these yields to rise to 5¾ percent by the end of 2015. Conventional 30-year mortgage rates have edged down to the historically low level of about 3¾ percent since the October Tealbook, but spreads of primary mortgage rates over MBS yields have remained large. Although we expect that these spreads will narrow somewhat in coming quarters, we project that mortgage rates will rise to about 5½ percent by the end of 2015 as MBS yields normalize gradually over the next two years.

## Equity Prices and Home Prices

Broad indexes of U.S. stock prices have decreased about 2¾ percent, on net, since the October Tealbook, with essentially all of that decrease occurring between the close of that Tealbook and the subsequent FOMC meeting. With concerns about the European crisis and the U.S. fiscal situation anticipated to lessen next year, we project that equity prices will increase about 10 percent in 2013, even as investors are disappointed by the size of the asset purchase program. We project that equity prices will then increase at an average annual rate of about 8 percent in 2014 and 2015. On average, the trajectory of equity prices over the entire projection period is about 4½ percent lower than in the October Tealbook, with about half of this revision reflecting market disappointment about the size of the asset purchase program.

Recent readings on home prices from CoreLogic, along with other house price indicators, have come in above our expectations, and, as a result, we have boosted our projection for the pace of house price gains this year and next to 7½ percent and 4½ percent, respectively. That said, we continue to project that home prices will be restrained by the large supply of distressed properties for sale and tight credit conditions

(see the box “Supply of Mortgage and Consumer Credit”), and therefore expect house prices to rise at a 2½ percent pace in both 2014 and 2015, unrevised from October.

**Fiscal Policy**

There remains considerable uncertainty about how and when the Administration and the Congress will resolve the issue of the fiscal cliff, and we expect uncertainty about fiscal policy to remain heightened into the first half of next year. Nevertheless, we still assume that a legislative agreement will eventually be reached to avoid the full force of the fiscal cliff, and our policy assumptions are essentially unchanged from the October Tealbook.<sup>3</sup> In particular, we assume that federal fiscal policy will exert a substantial drag on economic growth next year, reflecting the expiration of the payroll tax cut and the EUC program at the beginning of the year as well as declines in real federal purchases owing to the discretionary spending caps in the Budget Control Act and reduced spending on overseas military operations. But we also assume that key elements of the fiscal cliff will be replaced by much smaller fiscal adjustments. Specifically, we assume that most federal tax provisions set to expire at the end of this year under current law, notably the 2001–03 tax cuts, will instead be extended, and that the provisions of the spending sequestration will be replaced by much smaller tax increases and spending reductions.<sup>4</sup>

Reflecting both the assumed fiscal policy tightening and an anticipated acceleration in tax revenues as the economic recovery strengthens, the federal budget deficit is projected to narrow from \$1.1 trillion (7 percent of GDP) in fiscal year 2012 to about \$600 billion (a little over 3 percent of GDP) in fiscal 2015. We continue to expect that fiscal policy at all levels of government will directly restrain the rate of real GDP growth (excluding multiplier effects) by the amounts shown in the table “Total Fiscal Impetus.”

**Total Fiscal Impetus**  
(Percentage point contribution to real GDP growth)

2012	2013	2014	2015
-0.2	-1.1	-0.4	-0.2

<sup>3</sup> We assume that negotiations will also lift the debt ceiling in time to avert a disruption in the timely payment of all federal obligations, including the federal debt.

<sup>4</sup> These tax increases and spending cuts are assumed to generate a similar amount of deficit reduction as the sequestration over 10 years but to be implemented more gradually than the sequestration cuts.

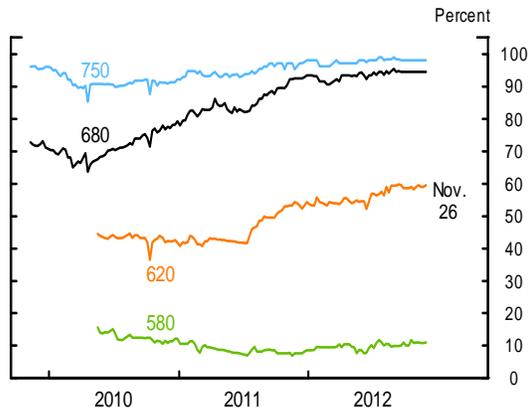
## Supply of Mortgage and Consumer Credit

The supply of credit to U.S. households tightened substantially during the financial crisis. Over the past two years or so, households' access to credit has improved somewhat, but the recovery has been slow and unbalanced. Specifically, the supply of mortgage and credit card debt has generally remained very tight except for borrowers with the highest credit scores, whereas auto loans and government-originated student loans have been much more widely available. We expect these credit conditions to persist into the near future as the economy and labor market continue to recover slowly and as some important regulatory uncertainties resolve only gradually.

The supply of mortgage credit has remained extremely tight for borrowers without very clean credit histories. Borrowers with credit scores higher than 680 appear to have ample access to mortgage credit, particularly if they are financing homes with down payments of at least 10 percent (lower-left figure). However, potential borrowers with credit scores of 620 or lower, who comprise nearly 30 percent of all consumers, continue to face more-stringent credit conditions. Even now, only about 60 percent of mortgage lenders are willing to extend credit to individuals with a credit score of 620 and a down payment of 10 percent. (A year ago, the fraction of lenders willing to serve potential borrowers with FICOs of 620 was closer to 50 percent.) Furthermore, borrowers unable to qualify for prime mortgages have also faced tighter underwriting on FHA-insured mortgages. For example, the vast majority of respondents to the October Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS) reported that, compared with 2006, they were currently less likely to approve FHA loan applications from borrowers with credit scores of 620 (lower-right figure).

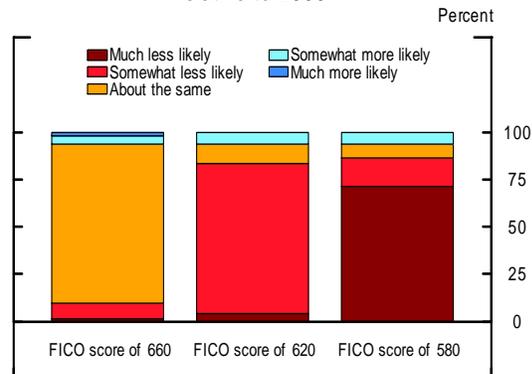
A key factor affecting the availability of mortgage credit is that lending capacity remains nearly 40 percent below its 2006 level. Moreover, given the sluggish recovery in the housing market, lenders have been expanding their capacity only at a modest pace. With more-stringent underwriting standards and longer origination timelines, capacity is likely to be strained for some time.

Lenders Offering 30-Year Fixed-Rate Mortgages at Given FICO Scores



Note: Mortgages originated with 10 percent down payments.  
Source: LoanSifter.

Likelihood of Approving an Application for an FHA Home Purchase Mortgage Loan Relative to 2006

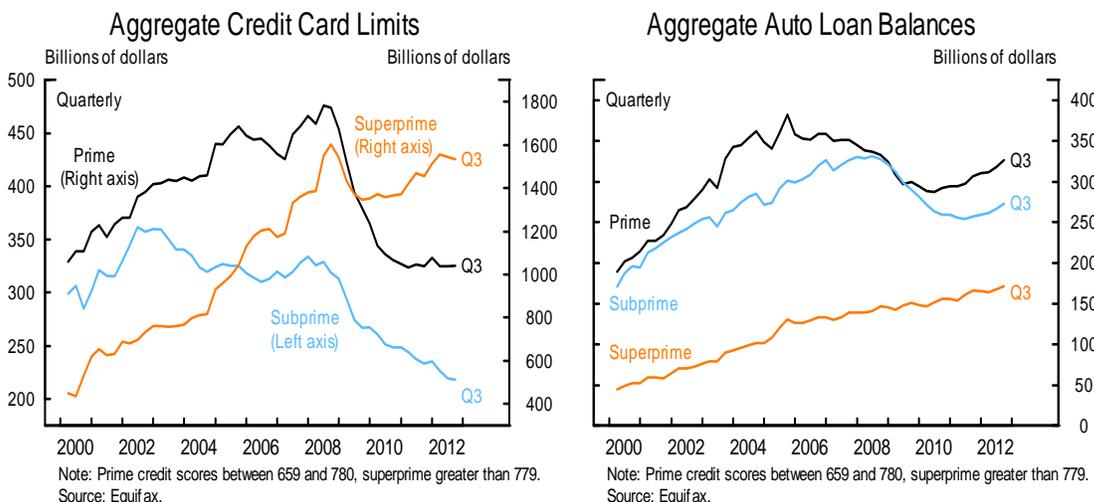


Note: Responses are weighted by survey respondents' holdings of residential real estate loans (excluding multifamily loans and home equity lines of credit).  
Source: Senior Loan Officer Opinion Survey on Bank Lending Practices.

Tight credit conditions have also continued to prevail in the credit card market. Many borrowers (other than those with the very highest credit scores) saw their lines of credit reduced in 2008 and 2009 and have yet to see any restoration at all (lower-left figure). Anecdotal evidence suggests that many lenders have been focusing on retaining existing high-credit-quality customers and have not been eager to acquire new customers with potentially lower credit quality. Indeed, one indicator of the supply of credit card debt is the mail volume of credit card offers, and this measure has moved sideways at a subdued level this year. As a result of stringent underwriting over the past few years, the composition of credit card debt has shifted substantially to borrowers with more-pristine credit records, which has driven delinquency rates on existing credit card debt down to historically low levels.

By contrast, consumers have seen more accommodative conditions in the auto loan market. Originations of auto loans have increased notably since earlier this year, and aggregate outstanding loan balances for prime and subprime borrowers have turned higher (lower-right figure). During the past two years, SLOOS respondents consistently reported a net easing of lending standards of auto loans. Further, interest rates on such loans have remained at fairly low levels. Moreover, according to surveys of households, consumers no longer cite tight credit conditions as their primary concern when making car purchase decisions. The recovery in the auto loan market is due partly to the apparently strong investor demand and favorable conditions in the market for asset-backed securities.

Finally, the student loan market experienced profound changes after the Department of Education became the sole originator of government-backed loans in 2010. Since then, student loans held by the federal government have risen dramatically. These loans are provided with essentially no underwriting—a feature motivated by allowing potential students to invest in their human capital and to increase their earning power over time. That said, the Survey of Consumer Finances data suggest that the share of households having student loans increased about 70 percent and real student loan balance per borrowing household increased more than 50 percent over the past decade. Moreover, delinquency rates on student loans remain elevated while delinquency rates on other consumer loans have declined substantially. Therefore, a continued rapid increase of student loan debt could be of concern.



## Foreign Activity and the Dollar

Foreign real GDP is expected to expand at a below-trend annual rate of 2 percent in the current quarter, a bit higher than the subdued pace of the previous two quarters. Recent indicators tentatively point to some improvement in emerging Asia; however, we expect economic activity in the near term to continue to contract in the euro area, and we anticipate only weak growth in several other economies. Financial stresses in Europe have eased slightly since the time of the October Tealbook, as European and IMF officials managed to reach agreement on aid to Greece. However, financial conditions are expected to continue to restrain euro-area growth in coming months and to improve sufficiently to support a rebound only later next year. Europe's recovery, when it does occur, along with the effects of faster U.S. growth, should help push total foreign economic growth up to nearly 3 percent in 2013 and about 3½ percent in 2014 and 2015. This outlook is little changed from the October Tealbook.

The nominal exchange value of the dollar has risen slightly, on net, since the time of the October Tealbook. In addition, the market's learning about the size of the Federal Reserve's asset purchases is assumed to put upward pressure on the level of the dollar beginning next year. As a result, the trajectory for the dollar is about 1 percent higher, on average, over the forecast period than in the October Tealbook. Still, the broad real dollar is projected to depreciate at about a 2¾ percent annual rate over the medium term. This pace reflects some further trend depreciation of the dollar against the emerging market currencies and our assumption that financial stresses in the euro area will abate next year, unwinding safe-haven support for the dollar.

## Oil and Other Commodity Prices

Crude oil prices have moved down since the October Tealbook amid accumulating inventories and market concerns about a weaker global outlook, notwithstanding a flare-up of violence in the Middle East. On net, the spot price of Brent crude oil closed at about \$110 per barrel on December 4, about \$6 per barrel lower than in the October Tealbook.<sup>5</sup> In response, we revised down our forecast for the price of imported oil by \$3 per barrel in early 2013 and by less later in the forecast period. Overall, the price of imported oil is projected to be about \$97 per barrel for much of 2013 and then to decline slowly over the remainder of the forecast period, reaching \$87 per

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<sup>5</sup> The price of West Texas Intermediate has fallen \$3 per barrel from its level at the time of the October Tealbook, closing on December 4 at \$88 per barrel.

barrel at the end of 2015, a path consistent with the downward slope of the Brent futures curve.

On balance, nonfuel commodity prices are little changed from the time of the October Tealbook, as lower prices for agricultural products and, in particular, a fall in the price of soybeans on an improved outlook for global supply were balanced by higher metals prices, with prices for steel and iron ore moving up sharply on market expectations for stronger Chinese infrastructure investment. Going forward, nonfuel commodity prices are projected to remain relatively flat through 2015.

## **RECENT DEVELOPMENTS AND THE NEAR-TERM OUTLOOK**

After rising at an annual rate of 2¾ percent in the third quarter, real GDP is projected to increase 1 percent in the fourth quarter, reflecting the effects of Hurricane Sandy and a sharp swing in federal government purchases. Looking ahead to the first quarter, the anticipated expiration of both the payroll tax cut and the EUC program at the end of this year is expected to reduce households' disposable income and thus restrain real PCE growth considerably. In contrast, farm output is projected to rebound from last summer's drought, and activity that had been depressed by the hurricane is expected to recuperate. As a result, we expect real GDP to increase at an annual rate of 1¾ percent next quarter.

### **The Labor Market**

The labor market appears to be improving at a slightly faster pace than we had expected in the October Tealbook. Private payroll employment increased 184,000 in October, and upward revisions to previous months brought the average increase over the three months ending in October to 150,000, up 40,000 from what we had written down in October. And, while the unemployment rate edged back up to 7.9 percent in October, it was still a little below its third-quarter average. Meanwhile, the workweek held steady at 34.4 hours in October, down a bit from earlier in the year.<sup>6</sup>

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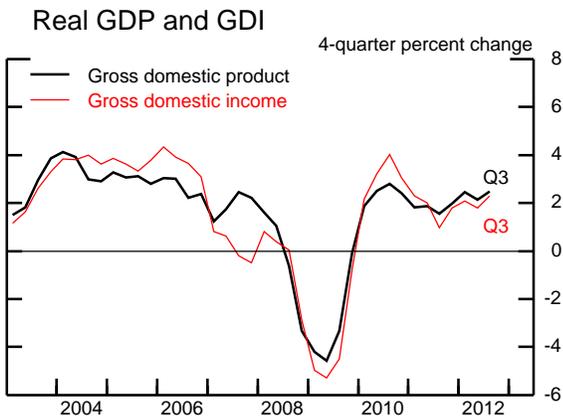
<sup>6</sup> The Affordable Care Act mandates that, beginning in 2014, businesses with more than 50 full-time-equivalent workers provide their full-time workers (those employed at least 30 hours a week) with affordable health insurance or pay a fine based on the number of full-time employees not obtaining health insurance from the firm. Some anecdotes suggest that employers in industries where part-time employment is common and employer-provided health insurance relatively rare (for example, lodging and food services) are already reducing employee hours to below 30 hours per week to test how shorter workweeks would affect their business operations. Thus far, aggregate data on weekly hours and the share of part-time employment in the retail and food services sectors do not show any downward shift in weekly hours in

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

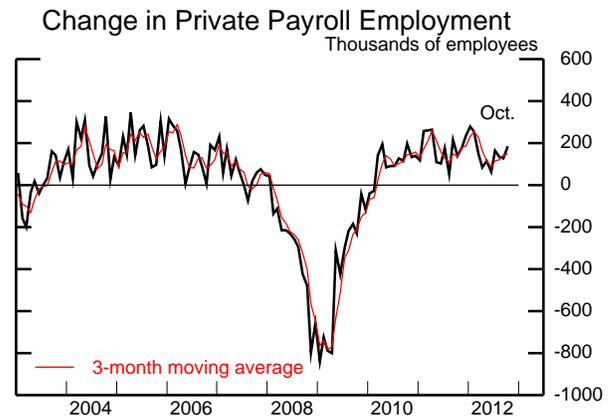
Measure	2012:Q3		2012:Q4		2013:Q1	
	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook
<b>Real GDP</b>	<b>2.0</b>	<b>2.8</b>	<b>2.0</b>	<b>.9</b>	<b>1.8</b>	<b>1.7</b>
Private domestic final purchases	2.1	1.3	3.1	2.9	1.4	1.1
Personal consumption expenditures	2.3	1.4	3.1	2.1	1.1	.6
Residential investment	14.3	13.8	13.9	14.8	13.4	17.0
Business fixed investment	-2.5	-2.2	.8	5.4	1.0	1.1
Government purchases	.6	4.0	-1.6	-3.5	-1.5	-1.8
<i>Contributions to change in real GDP</i>						
Inventory investment <sup>1</sup>	.1	.8	.0	-.8	.8	.9
Net exports <sup>1</sup>	.0	.1	-.2	.0	.1	.2
<b>Unemployment Rate<sup>2</sup></b>	<b>8.1</b>	<b>8.1</b>	<b>8.0</b>	<b>8.0</b>	<b>8.0</b>	<b>7.9</b>
<b>PCE Chain Price Index</b>	<b>1.7</b>	<b>1.6</b>	<b>2.1</b>	<b>1.5</b>	<b>.9</b>	<b>1.1</b>
Ex. food and energy	1.2	1.1	1.4	1.2	1.6	1.7

- 1. Percentage points.
- 2. Percent.

**Recent Nonfinancial Developments (1)**



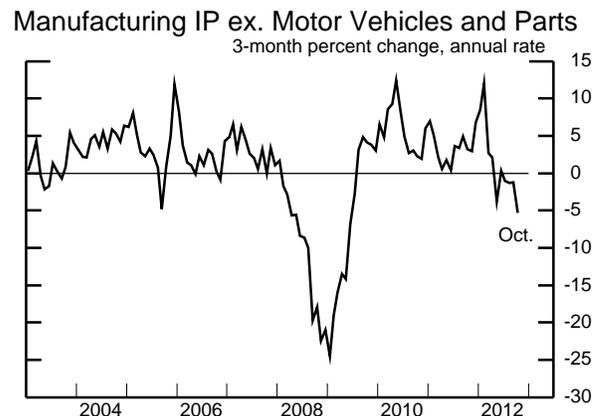
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.



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



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



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

Going forward, a number of temporary influences will likely buffet employment growth, making it difficult to discern the underlying trend. For example, a spike in initial claims for unemployment insurance in the first half of November suggests that Hurricane Sandy likely held down employment last month (we have penciled in a hurricane effect of negative 75,000). Going in the other direction, distortions to published seasonal factors stemming from the recent recession will likely increase published payroll employment gains in November and December and reduce published increases in the first quarter. Looking through these temporary influences, and pending Friday's employment report, our projection of underlying employment growth is close to 150,000 per month in the fourth and first quarters, up about 15,000 from the October Tealbook. Meanwhile, the unemployment rate is projected to edge up to 8.0 percent in November and December and then slip back to 7.9 percent in the first quarter.<sup>7</sup>

### **The Industrial Sector**

Manufacturing production fell nearly 1 percent in October, reflecting disruptions associated with Hurricane Sandy. However, nearly all of the facilities idled by the storm are now back on line, and some undoubtedly have raised output to make up for production lost during the hurricane. Excluding the effects of the hurricane, manufacturing IP is estimated to have been little changed in October after declining at an annual rate of 1 percent in the third quarter. November readings on the new orders indexes from the national ISM and regional manufacturing surveys, on balance, suggest only sluggish growth in factory output going forward. As a result, we project manufacturing IP to be little changed this quarter and then to rise moderately in the first quarter, the latter increase reflecting the post-hurricane bounceback in factory output and some boost to production from rebuilding efforts.

### **Household Spending**

Consumer spending appears to be increasing at a noticeably slower pace than we had expected in the October Tealbook. In the third quarter, real PCE rose at an annual rate of 1½ percent, 1 percentage point below our October projection, and weaker-than-

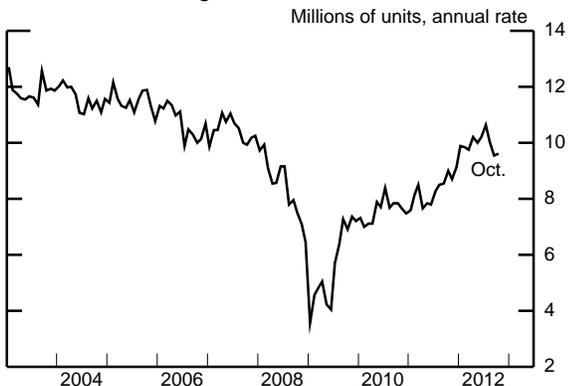
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either absolute terms or relative to other industries. However, it is possible that we will see a shift in the composition of hours worked toward greater employment and fewer hours per worker in these industries as the effective date of the mandate approaches.

<sup>7</sup> The expected expiration of the EUC program by the beginning of next year is anticipated to contribute to the reduction in measured unemployment, as some unemployed workers currently receiving EUC benefits drop out of the labor force once these benefits expire.

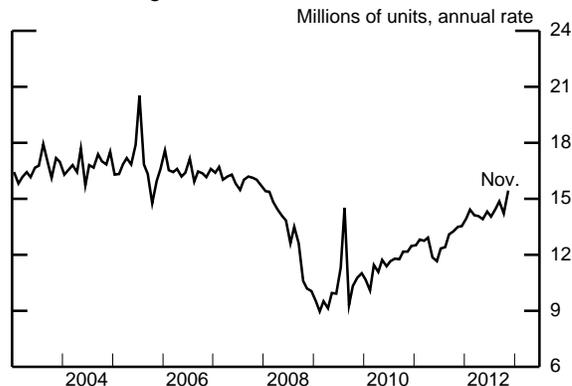
Recent Nonfinancial Developments (2)

Production of Light Motor Vehicles



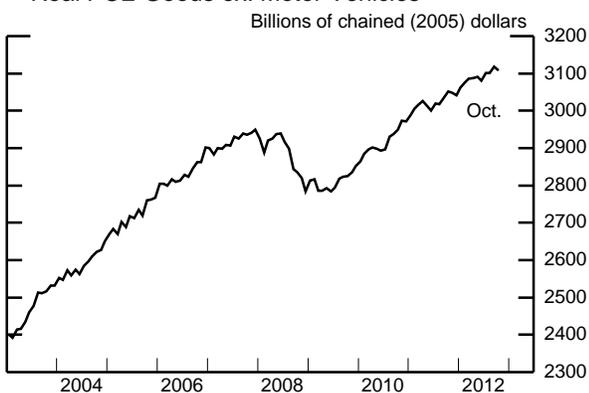
Source: Ward's Auto Infobank.

Sales of Light Motor Vehicles



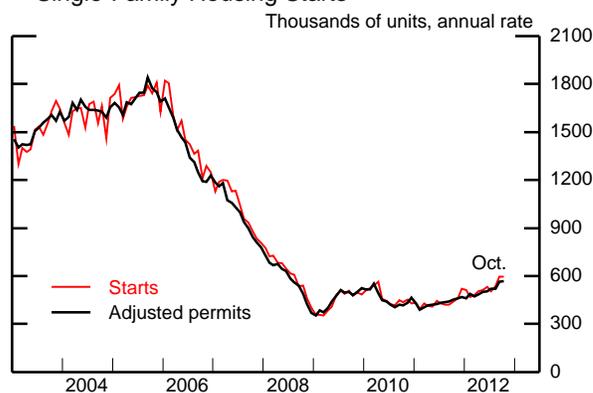
Source: Ward's Auto Infobank.

Real PCE Goods ex. Motor Vehicles



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

Single-Family Housing Starts



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

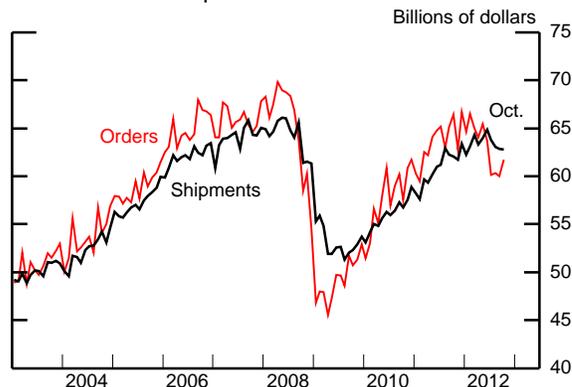
Source: U.S. Census Bureau.

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.

expected news about income points to less spending going forward as well.<sup>8</sup> As a result, excluding hurricane effects, real PCE is expected to increase 2¼ percent in the current quarter and ½ percent in the first quarter, ¾ percentage point weaker, on average, than in the October Tealbook.<sup>9</sup> As in the previous Tealbook, the sharp deceleration in real PCE in the first quarter reflects our fiscal policy assumptions, including the anticipated expiration of the payroll tax cut and the EUC program.

Housing activity has continued to strengthen, although the level of activity remains quite low. Following a large jump in September, single-family housing starts were roughly unchanged in October, while multifamily starts rose to their highest level since 2008. Data on house prices, home sales, and builder and realtor sentiment, as well as expected rebuilding following Hurricane Sandy, all point to continued increases in residential construction activity going forward, though we expect the pace of increase to be restrained by tight mortgage credit for some households, a still large inventory of vacant homes, and concerns about the economic outlook. All told, total housing starts are projected to rise from an annual rate of 780,000 units in the third quarter to 940,000 units in the first quarter.<sup>10</sup>

## Business Investment

Investment in equipment and software (E&S) looks to increase at an annual rate of 2 percent in the second half of the year, up a bit from the October Tealbook. Both new orders and shipments of nondefense capital goods excluding aircraft were stronger than expected in October. Nevertheless, orders remain below the level of shipments, and surveys of capital spending plans have remained soft. In addition, concerns about the fiscal cliff, the European situation, and the slow pace of the recovery will likely continue to inhibit investment; expiration at the turn of the year of bonus depreciation is also expected to weigh on investment next quarter. As a result, we project growth in E&S spending to change little in the first quarter.

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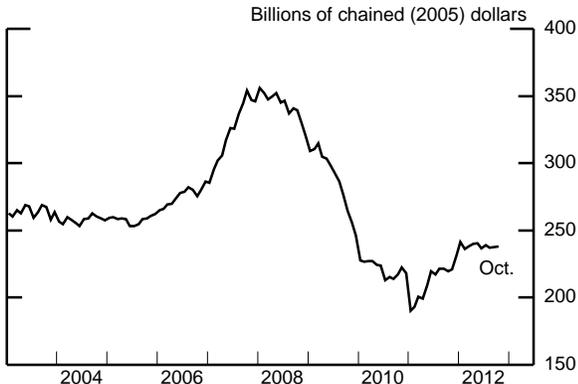
<sup>8</sup> Data on income through October suggest that fourth-quarter nominal disposable income will be \$90 billion lower than what we had written down in October, with lower labor compensation accounting for all of the revision.

<sup>9</sup> In October, Hurricane Sandy pushed down sales of motor vehicles and other goods as well as the consumption of energy services. Motor vehicle sales snapped back sharply in November, and we expect that the other affected components of PCE also posted strong increases last month. In all, hurricane effects are expected to subtract ¼ percentage point from real PCE growth in the current quarter and add a similar amount to growth in the first quarter.

<sup>10</sup> We expect rebuilding from Hurricane Sandy (largely improvements to existing structures rather than starts) to boost the annual rate of residential investment by about 4 percentage points in the first quarter.

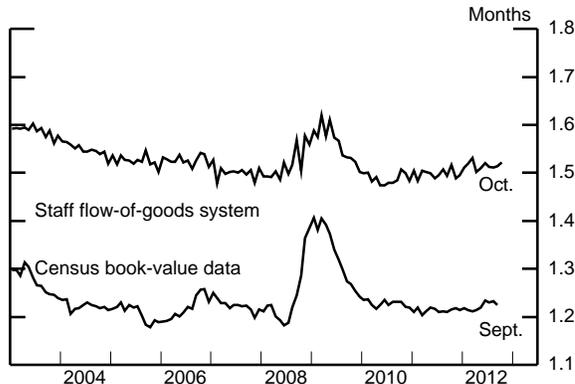
### Recent Nonfinancial Developments (3)

Nonresidential Construction Put in Place



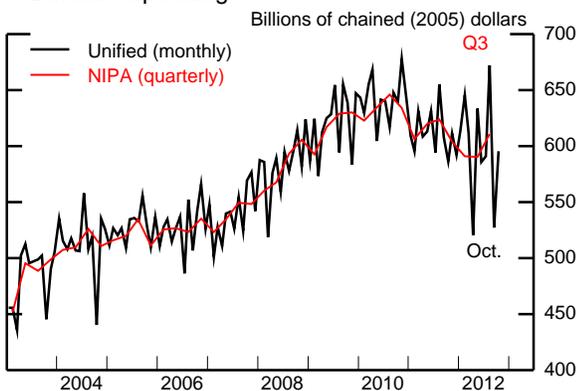
Note: Nominal CPIP deflated by BEA prices through 2012:Q2 and by staff's estimated deflator thereafter.  
Source: U.S. Census Bureau.

Inventory Ratios ex. Motor Vehicles



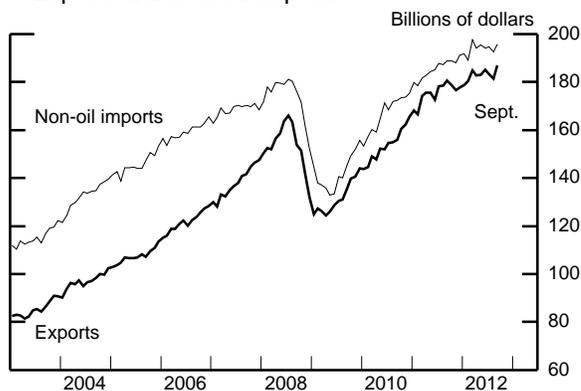
Note: Flow-of-goods system covers total industry ex. motor vehicles and parts, and inventories are relative to consumption. Census data cover manufacturing and trade ex. motor vehicles and parts, and inventories are relative to sales.  
Source: U.S. Census Bureau; staff calculation.

Defense Spending



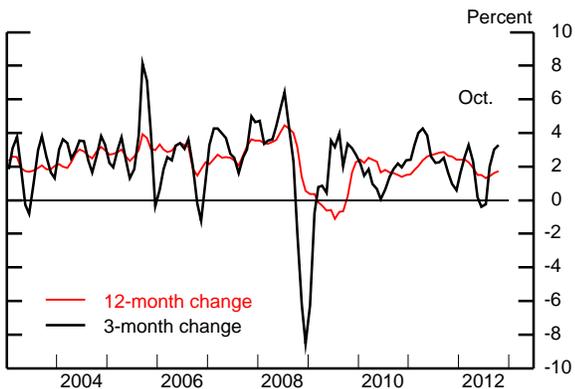
Note: The unified series is seasonally adjusted and deflated by BEA prices. The NIPA series excludes the consumption of fixed capital.  
Source: *Monthly Treasury Statement*; U.S. Dept. of Commerce, Bureau of Economic Analysis.

Exports and Non-Oil Imports



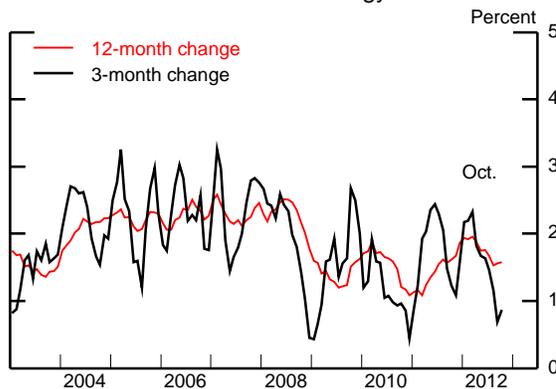
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis; U.S. Census Bureau.

Total PCE Prices



Note: 3-month changes are at an annual rate.  
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

PCE Prices ex. Food and Energy



Note: 3-month changes are at an annual rate.  
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

We estimate that real nonresidential building investment declined 2 percent last quarter, and data on nominal spending through October suggest another small decrease this quarter. Both declines are smaller than we had expected in the October Tealbook. Readings from the architectural billings index—a useful leading indicator—have moved up into neutral territory recently, and rebuilding in the wake of Hurricane Sandy should provide a small boost to outlays going forward. As a result, we expect nonresidential building investment to edge up in the first quarter. In the drilling and mining sector, continued application of new drilling technologies and recent increases in natural gas prices lead us to project solid gains in structures investment over the near term.

Nonfarm business inventory investment moved up sharply in the third quarter, adding 1¼ percentage points to real GDP growth, a larger contribution than was projected in the October Tealbook. Inventory-to-sales ratios from Census Bureau book-value data and the staff's flow-of-goods system, as well as reports on dealer inventories of motor vehicles, do not point to significant inventory imbalances. But given the slow pace of final sales growth that we project this quarter and next, we expect nonfarm inventory investment to move lower, on net, over the fourth and first quarters.

## **Government**

With defense spending rising sharply in the third quarter, total real federal purchases increased at a much-stronger-than-expected annual rate of 9½ percent. However, recent monthly data on defense outlays suggest that much of the third-quarter surprise will be unwound in the current quarter, and thus we have marked down our projection of real federal purchases to show a decline of about 9 percent. In the first quarter, real federal purchases are expected to fall about 5 percent, a pace that would be consistent with our assumptions about budget appropriations for discretionary federal spending.

After declining over the preceding two and a half years, real state and local government purchases look to have flattened out in the second half of this year, largely in line with our expectations in the October Tealbook. Real state and local purchases are estimated to have edged up at an annual rate of ½ percent in the third quarter, and recent data on employment and construction outlays suggest that purchases by these governments will remain close to flat in the fourth and first quarters.

## Foreign Trade

Real exports of goods and services grew only 1 percent in the third quarter (held back in part by a steep falloff in exports to the euro area), but are expected to increase at an annual rate of 3 percent in the current quarter and then accelerate to a 5 percent pace in the first quarter of 2013. This projection is supported by continued growth in emerging market economies as well as by the lagged effect of past declines in the dollar. Real imports of goods and services were about flat in the third quarter; in both the fourth and first quarters, they are expected to increase a little less than 3 percent, supported by a rebound in imports of oil and computers. Overall, the external sector is expected to be about neutral for GDP growth in the current quarter and then add  $\frac{1}{4}$  percentage point to growth in the first quarter of next year; these contributions are more positive than in the previous Tealbook, largely reflecting the depressing effect on imports of the lower projection for U.S. GDP growth. This projection includes a modest adjustment for the port strike on the West Coast, which is assumed to depress trade slightly in the current quarter and boost trade early next year.

## Prices and Wages

Total PCE inflation is projected to dip temporarily from an annual rate of  $1\frac{1}{2}$  percent in the second half of this year to about 1 percent in the first quarter, reflecting a deceleration in consumer energy prices. After increasing at the end of the summer, gasoline prices are projected to fall sharply over the last two months of the year in response to both falling crude prices and some further expected reduction in retail margins.<sup>11</sup> As a result, PCE energy prices are projected to increase at an annual rate of  $4\frac{1}{2}$  percent this quarter (versus 12 percent in the October Tealbook) and then fall about 9 percent in the first quarter, similar to our projection in October.

Food prices—after increasing at an annual rate of only  $\frac{1}{2}$  percent in the third quarter—rose 0.3 percent in October and are projected to increase at an annual rate of  $2\frac{1}{2}$  percent for the fourth quarter as a whole, close to what we had expected in the October Tealbook. We think that October's increase in food prices reflects the beginning of the pass-through to consumer food prices of the sharp run-up in crop prices from the summer's drought. We expect this pass-through to continue in the first quarter and to push up food price inflation to  $3\frac{1}{2}$  percent. Given the relatively small share of food in

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<sup>11</sup> While Hurricane Sandy has disrupted gasoline retailing and electricity supply in the New York and New Jersey area, we expect it to have little effect on energy prices at the national level.

PCE (less than 8 percent), the effect on total PCE prices from the step-up in food price inflation should be small.

The recent data on core PCE prices have been largely as we had anticipated in the October Tealbook. After rising at an annual rate of 1¼ percent over the second half of this year, core PCE prices are projected to increase at a 1¾ percent rate next quarter, as some transitory factors currently holding down inflation fade.<sup>12</sup>

Wages continue to increase at modest rates. Average hourly earnings were unchanged in October after increasing 0.3 percent in September, while two broader measures of compensation—nonfarm business compensation per hour and the Employment Cost Index for private-sector workers—increased at annual rates of just 1 percent and 1¾ percent, respectively, in the third quarter. The latest data were somewhat softer than we had expected and have led us to trim our projection for all three measures of compensation growth over the fourth and first quarters, when we expect nonfarm business compensation to rise about [2] percent on average.

## THE MEDIUM-TERM OUTLOOK

We have trimmed our projection for real GDP growth over the medium term in response to somewhat less supportive financial conditions and our expectation that some of the near-term weakness in consumer spending and real income will persist. As noted earlier, we assume that investor surprise at the size of the Federal Reserve's asset purchases will put a small amount of upward pressure on longer-term interest rates and the exchange value of the dollar, and a little downward pressure on equity prices. All told, real GDP is projected to increase 2½ percent next year, 3¼ percent in 2014, and 3½ percent in 2015.<sup>13</sup> The slower pace of growth over the projection leaves the level of real GDP ¾ percentage point lower at the end of 2015 than in the October Tealbook.

Nevertheless, the broad contour of our medium-term forecast remains similar to that in recent Tealbooks. We continue to expect real GDP to accelerate gradually over the projection period as a number of restraining factors ease in an environment of highly

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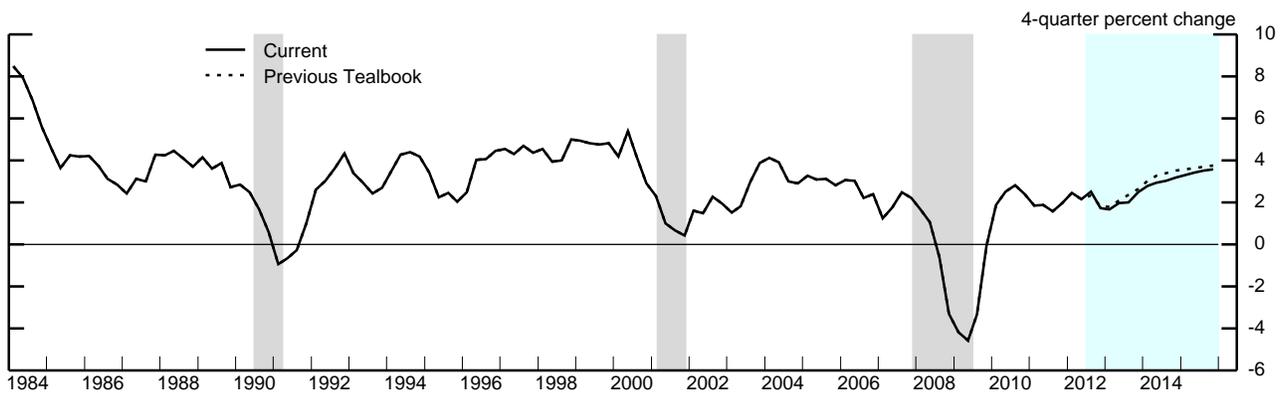
<sup>12</sup> In part, our expectation of a little faster core inflation next quarter is due to our prediction that the pattern in recent years of weak year-end inflation followed by higher readings early in the succeeding year (often termed residual seasonality) will continue. Also contributing to the step-up in first-quarter inflation is our expectation that the destruction of automobiles caused by Hurricane Sandy will temporarily boost prices of used cars.

<sup>13</sup> Recovery from last summer's drought and Hurricane Sandy are each forecast to contribute a little under ¼ percentage point to real GDP growth next year.

**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>1.6</b>	<b>1.8</b>	<b>2.5</b>	<b>3.2</b>	<b>3.6</b>
Previous Tealbook	2.0	1.6	2.0	2.6	3.5	3.7
Final sales	1.7	2.1	1.8	2.3	3.1	3.6
Previous Tealbook	1.7	2.1	2.0	2.5	3.5	
Personal consumption expenditures	1.9	2.0	1.8	2.2	3.3	3.6
Previous Tealbook	1.9	2.0	2.7	2.8	3.7	
Residential investment	3.9	14.3	14.3	16.8	11.8	12.7
Previous Tealbook	3.9	14.3	14.1	14.8	13.2	
Nonresidential structures	6.9	6.6	.4	2.9	2.5	2.1
Previous Tealbook	6.9	6.6	-4.2	2.7	2.3	
Equipment and software	11.4	5.1	2.0	6.1	7.0	6.2
Previous Tealbook	11.4	5.1	.5	4.2	7.5	
Federal purchases	-4.2	-2.3	.0	-4.5	-4.3	-2.3
Previous Tealbook	-4.2	-2.3	-1.4	-4.2	-4.2	
State and local purchases	-2.7	-1.6	.3	.3	.9	1.2
Previous Tealbook	-2.7	-1.6	.0	.3	.9	
Exports	4.3	4.8	2.1	5.1	5.9	7.3
Previous Tealbook	4.3	4.8	1.1	5.1	6.2	
Imports	3.5	2.9	1.3	3.8	4.8	5.2
Previous Tealbook	3.5	2.9	1.4	3.9	5.0	
<b>Contributions to change in real GDP (percentage points)</b>						
Inventory change	.3	-.4	.0	.2	.1	.0
Previous Tealbook	.3	-.4	.1	.2	.0	
Net exports	.0	.1	.1	.0	.0	.1
Previous Tealbook	.0	.1	-.1	.0	.0	

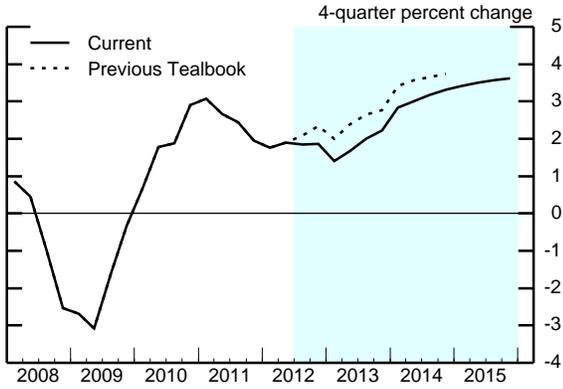
Real GDP



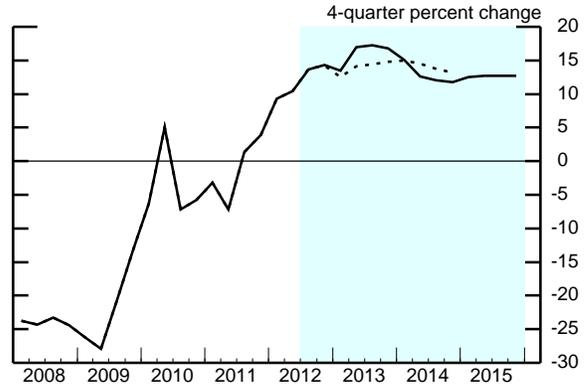
Note: The gray shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research.  
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

### Components of Final Demand

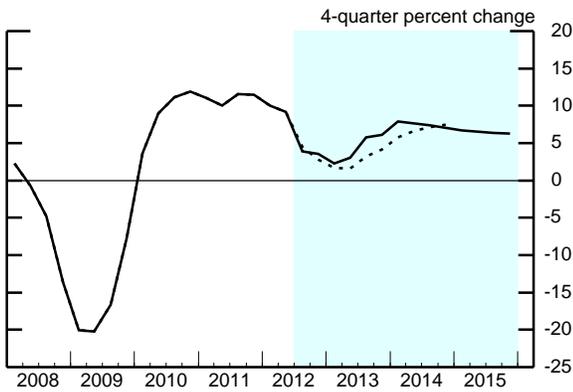
#### Personal Consumption Expenditures



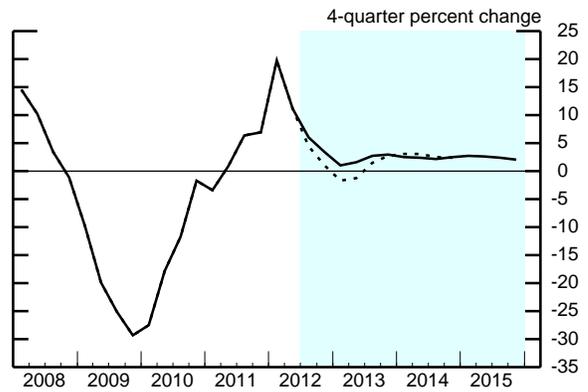
#### Residential Investment



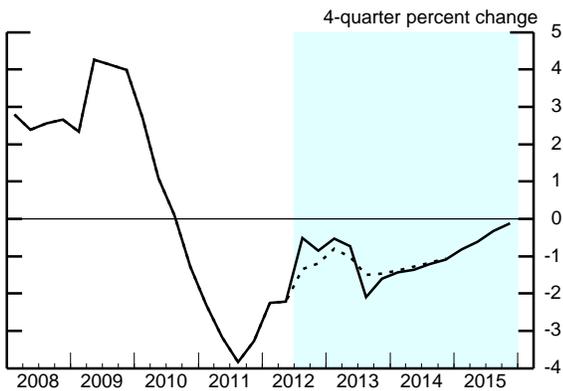
#### Equipment and Software



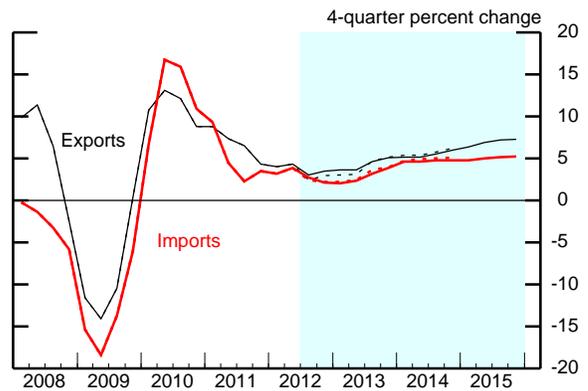
#### Nonresidential Structures



#### Government Consumption & Investment



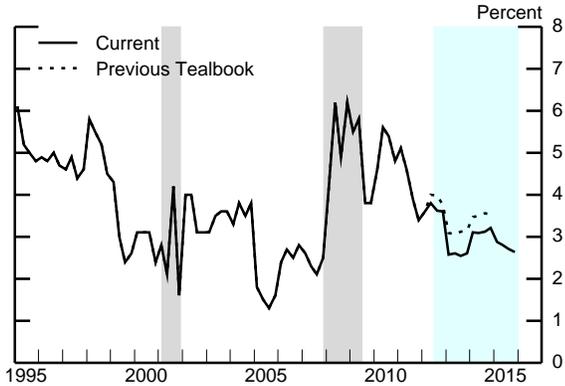
#### Exports and Imports



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

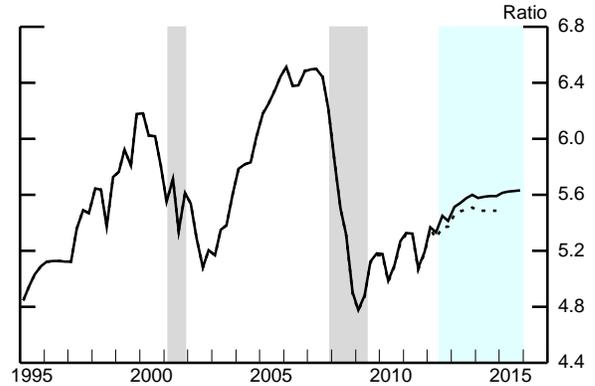
## Aspects of the Medium-Term Projection

Personal Saving Rate



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

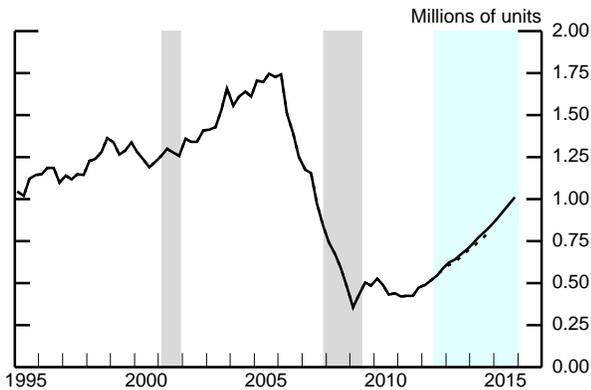
Wealth-to-Income Ratio



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

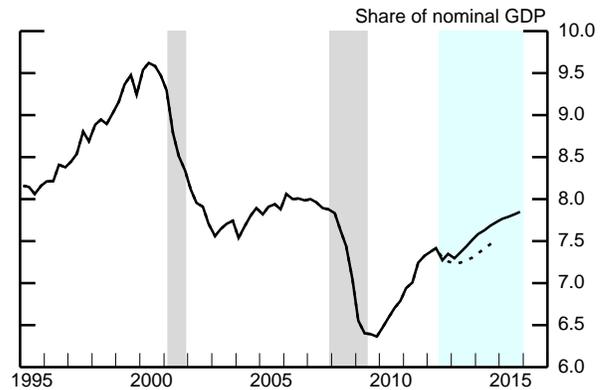
Source: For net worth, Federal Reserve Board, flow of funds data; for income, Dept. of Commerce, Bureau of Economic Analysis.

Single-Family Housing Starts



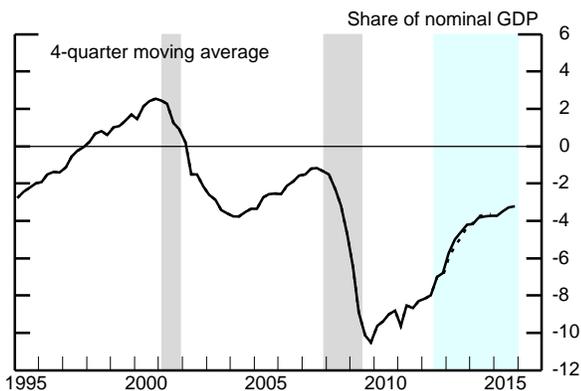
Source: U.S. Census Bureau.

Equipment and Software Spending



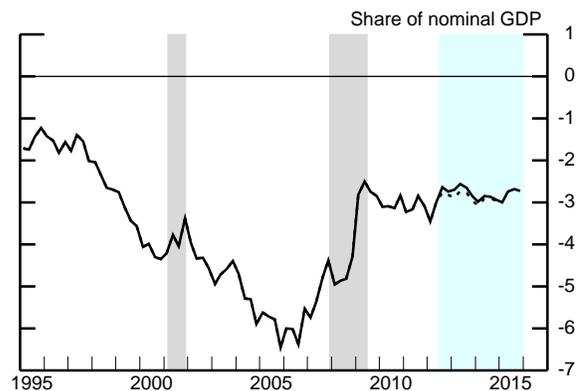
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

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.

accommodative monetary policy. We assume that European financial and economic conditions will improve gradually, and that the restraint from the tightening of U.S. federal fiscal policy will diminish considerably after next year. In a similar vein, the creditworthiness of households and firms should continue to slowly improve, and lenders' willingness to extend credit to riskier borrowers should increase, as the economic outlook brightens. Finally, the drag on new construction from the overhang of vacant homes should diminish further, as the foreclosure process continues and these properties are gradually sold off. 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 to lower asset risk premiums, boost consumer and business confidence, and contribute to greater household consumption as well as business investment and hiring. These improvements in economic activity are then expected to lead to a self-reinforcing cycle in which faster job and sales growth contribute to further improvements in consumer and business confidence, credit availability, employment gains, and economic growth.

The largest portion of the fiscal drag that we anticipate next year, reflecting the expiration of the payroll tax cut and the EUC program, is expected to show through in the form of restraint on households' disposable income and thus their spending. Nevertheless, these drags are offset by the reduction in concerns about U.S. fiscal policy and developments in Europe that we anticipate to occur later next year, which—together with our assumption that many households will increasingly come to believe that the recovery is on a firmer trajectory than they previously thought—are projected to boost consumer confidence, job growth, and household wealth. Thus, we project a small step-up in real PCE growth next year to a still relatively modest rate of 2¼ percent. In 2014 and 2015, as the effects of fiscal restraint on growth fade and the effects on income and job growth from the self-reinforcing cycle take hold, we expect real PCE to increase around 3½ percent.

The eventual fading of downside risks and a gradual pickup in expected sales growth are also anticipated to lead to an acceleration in E&S spending to roughly 7 percent per year over the medium term. However, because of still-elevated vacancy rates, low prices of commercial real estate, and difficulties in financing new construction, nonresidential building investment is expected to accelerate much more slowly, reaching only 3¼ percent growth by 2015.

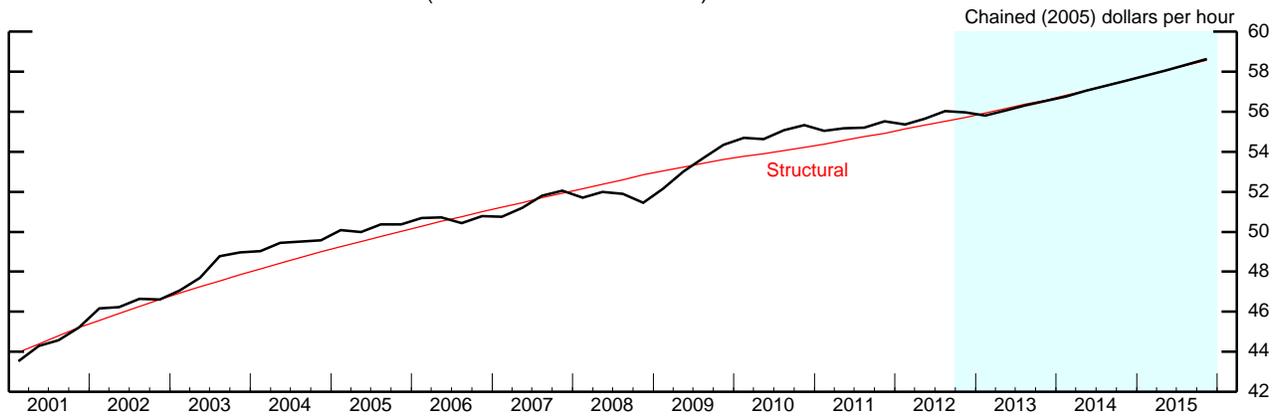
**Decomposition of Potential GDP**  
(Percent change, Q4 to Q4, except as noted)

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	2.0	2.1	2.2
Previous Tealbook	3.0	3.4	2.2	1.5	1.8	2.0	2.1	
<i>Selected contributions<sup>1</sup></i>								
Structural labor productivity	1.4	2.6	2.1	1.3	1.4	1.6	1.7	1.8
Previous Tealbook	1.4	2.6	2.1	1.3	1.4	1.6	1.7	
Capital deepening	.7	1.5	.7	.4	.5	.6	.7	.8
Previous Tealbook	.7	1.5	.7	.4	.5	.6	.6	
Multifactor productivity	.5	.8	1.2	.8	.9	.9	.9	.9
Previous Tealbook	.5	.8	1.2	.8	.9	.9	1.0	
Structural hours	1.5	1.0	.6	.5	.6	.6	.6	.7
Previous Tealbook	1.5	1.0	.6	.5	.6	.6	.6	
Labor force participation	.4	.0	-.3	-.4	-.3	-.3	-.3	-.4
Previous Tealbook	.4	.0	-.3	-.4	-.3	-.3	-.3	

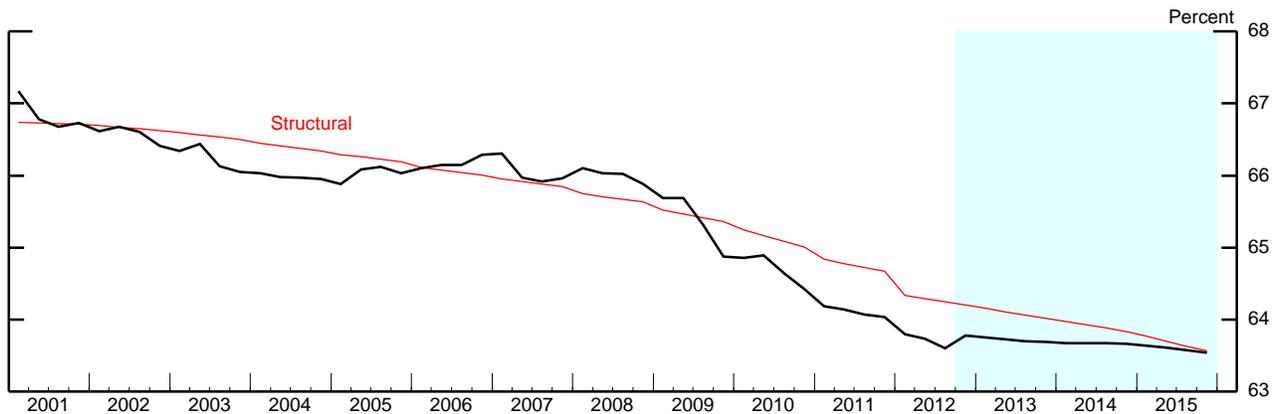
Note: For multiyear periods, the percent change is the annual average from Q4 of the year preceding the first year shown to Q4 of the last year shown.

1. Percentage points.

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



**Structural and Actual Labor Force Participation Rate**



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

Growth in residential construction spending is also projected to benefit from the fading of downside risks and the self-reinforcing cycle described previously; in addition, this sector should receive support from a slow reduction in the overhang of vacant homes. However, these effects are offset to some extent by a substantial increase in mortgage interest rates over the medium term as well as by a continued tight supply of mortgage credit to less-creditworthy borrowers. As a result, we expect the recovery in housing to be gradual. Although residential investment is forecast to increase an average of 14 percent per year over the medium term, the level of starts even at the end of 2015 (at 1½ million units) is only sufficient to roughly absorb what we estimate to be the demographically generated demand for additional housing units.

The downward trend in real federal purchases is projected to continue over the medium term, reflecting fiscal policy actions intended to reduce the federal deficit and the winding down of spending on overseas military operations. These expected declines in federal purchases are only partially offset by a gradual acceleration in state and local spending, which we anticipate will be supported by rising income- and sales-tax revenues. In all, decreases in total real government purchases are expected to subtract ¼ percentage point from real GDP growth in both 2013 and 2014. In 2015, total government purchases are anticipated to be about flat.

Meanwhile, the external sector is expected to be neutral for growth in 2013 and 2014 and then to make a small positive contribution to growth in 2015. Both exports and imports are projected to accelerate over the medium term reflecting strengthening economic growth at home and abroad, while the dollar's expected depreciation helps support exports over imports. Our projection for net exports is little changed from the October Tealbook, as the negative effect of a higher path for the dollar is largely offset by weaker import growth stemming from the downward revision to U.S. growth.

## **AGGREGATE SUPPLY, THE LABOR MARKET, AND INFLATION**

### **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. We continue to expect that a gradual increase in investment (and hence capital deepening), as well as a reduction in the natural rate of unemployment in 2015, will boost potential output growth from 1¾ percent this year to 2 percent in both 2013 and 2014, and to 2¼ percent in 2015. The natural rate of unemployment is projected to remain at 6 percent through 2014. In 2015—with the

## The Outlook for the Labor Market and Resource Utilization

(Percent change from final quarter of preceding period)

Measure	2011	2012		2013	2014	2015
		H1	H2			
Output per hour, nonfarm business	.6	.7	1.2	1.0	1.8	1.9
Previous Tealbook	.6	.7	1.1	1.3	1.6	
Nonfarm private employment <sup>1</sup>	175	157	153	158	200	262
Previous Tealbook	175	157	137	170	249	
Labor force participation rate <sup>2</sup>	64.0	63.7	63.8	63.7	63.7	63.5
Previous Tealbook	64.0	63.7	63.6	63.6	63.6	
Civilian unemployment rate <sup>2</sup>	8.7	8.2	8.0	7.8	7.4	6.5
Previous Tealbook	8.7	8.2	8.0	7.8	7.2	6.2
Memo: GDP gap <sup>3</sup>	-4.0	-4.1	-4.1	-3.6	-2.6	-1.3
Previous Tealbook	-4.0	-4.1	-4.0	-3.4	-2.0	

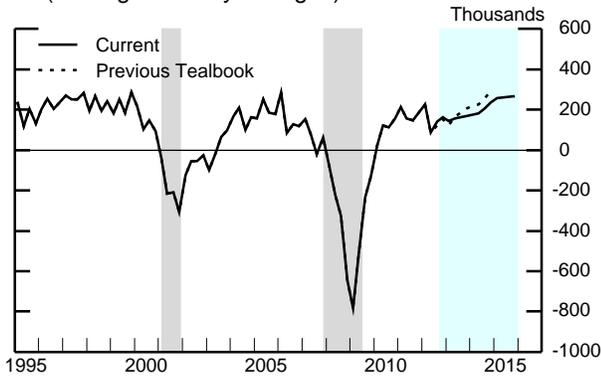
1. Thousands, average monthly changes.

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

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

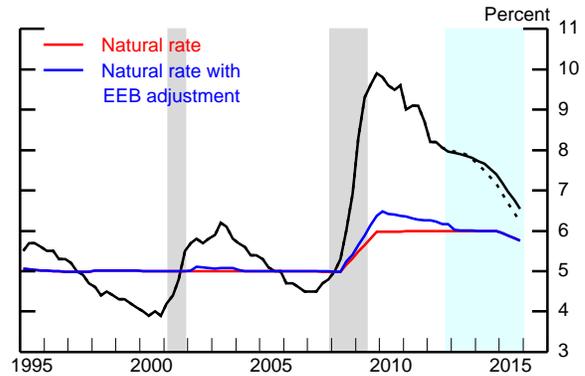
Source: U.S. Department of Labor, BLS; staff assumptions.

**Nonfarm Private Employment**  
(Average monthly changes)



Source: U.S. Dept. of Labor, BLS.

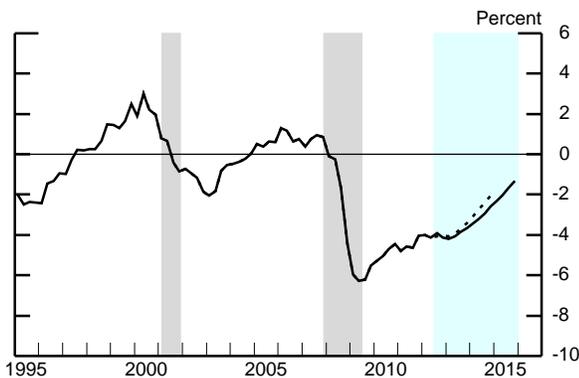
**Unemployment Rate**



Note: The EEB adjustment is the staff estimate of the effect of extended and emergency unemployment compensation programs on the natural rate of unemployment.

Source: U.S. Dept. of Labor, BLS; staff assumptions.

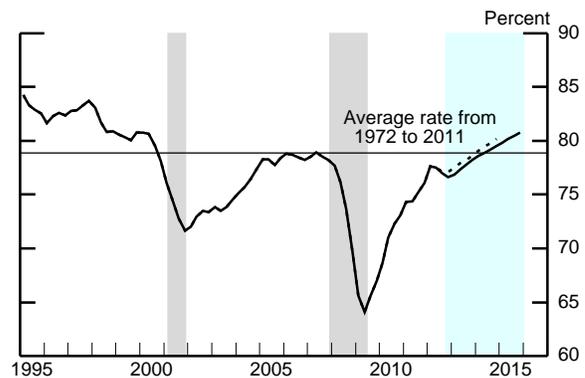
**GDP Gap**



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.

disparities between supply and demand in various labor markets no longer as extreme as during the recession and early recovery—we expect functioning in the labor market to improve and the natural rate to edge down to 5¾ percent by the end of that year, on its way toward 5¼ percent later in the decade.<sup>14</sup>

### **Productivity and the Labor Market**

We estimate that the level of labor productivity was a little over 1 percent above its longer-run trend in the third quarter, consistent with our view that firms' apprehension about the outlook has made them reluctant to add further to their workforces. We expect this apprehension to fade over time, increasing labor demand and damping productivity growth a little relative to its trend.

Our projected path for gains in payroll employment growth reflects this fading apprehension as well as the anticipated acceleration in real GDP. We expect private payroll employment gains to continue to average 150,000 per month during the first half of 2013 and then to pick up modestly to an average pace of 165,000 per month in the second half of the year. As real GDP accelerates further after 2013, net hiring continues to strengthen to 200,000 per month in 2014 and 260,000 per month in 2015. The figures for 2013 and 2014 are down about 10,000 and 50,000, respectively, from the October Tealbook, reflecting the somewhat slower pace of output growth in this projection. In 2013, the still-modest expected gains in employment (combined with above-trend growth of the labor force) result in only a small reduction in the unemployment rate. After 2013, the faster pace of net hiring causes the unemployment rate to fall to 6½ percent by the end of 2015.

### **Resource Utilization**

The level of real GDP is expected to be 4 percent below its potential level at the end of this year, and this estimated gap is projected to narrow only slowly to 1¼ percent by the end of 2015. Similarly, the estimated margin between the unemployment rate and its natural rate falls from 2 percentage points currently to ¾ percentage point at the end of 2015. There appears to be less slack in the manufacturing sector than in the broader economy, largely as a result of the steep drop in capacity from 2007 to 2010.<sup>15</sup> The

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<sup>14</sup> We estimate that the boost to the “effective” natural rate of unemployment from the emergency and extended unemployment insurance programs has diminished markedly and is currently worth less than ¼ percentage point. This effect is expected to dissipate completely next year as benefits from these programs wind down.

<sup>15</sup> Unlike the staff's measure of potential GDP, which directly incorporates trends in labor input, our concept of capacity for the industrial sector focuses on the capability of plants to produce with the

**Inflation Projections**

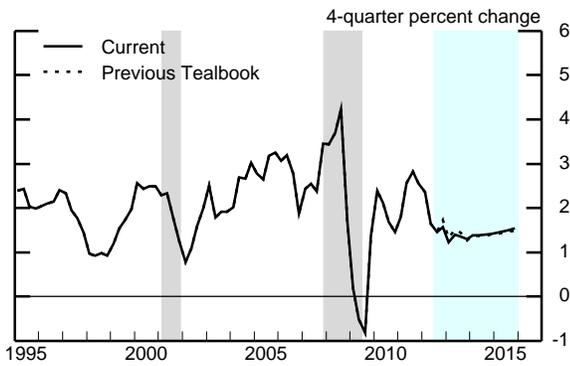
(Percent change at annual rate from final quarter of preceding period)

Measure	2011	2012		2013	2014	2015
		H1	H2			
PCE chain-weighted price index	2.5	1.6	1.6	1.3	1.4	1.5
Previous Tealbook	2.5	1.6	1.9	1.3	1.4	1.5
Food and beverages	5.1	1.0	1.5	2.3	1.1	1.5
Previous Tealbook	5.1	1.0	1.6	2.4	1.0	1.5
Energy	11.9	-3.3	7.5	-4.4	-1.7	-1.6
Previous Tealbook	11.9	-3.3	11.0	-4.7	-2.3	-1.6
Excluding food and energy	1.7	2.0	1.2	1.6	1.6	1.7
Previous Tealbook	1.7	2.0	1.3	1.6	1.7	1.7
Prices of core goods imports <sup>1</sup>	4.3	.5	-.1	1.1	1.5	1.5
Previous Tealbook	4.3	.5	-.9	1.4	1.5	1.5

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

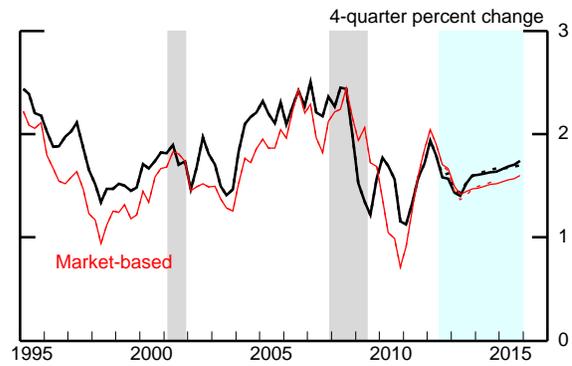
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

Total PCE Prices



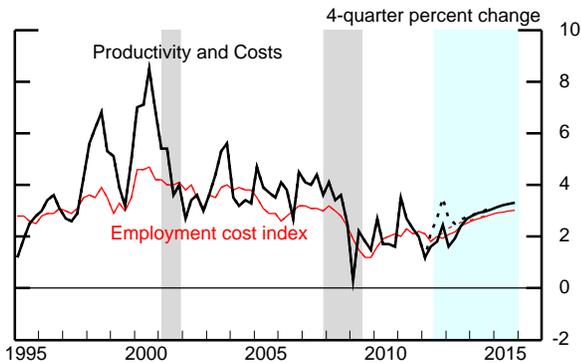
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

PCE Prices ex. Food and Energy



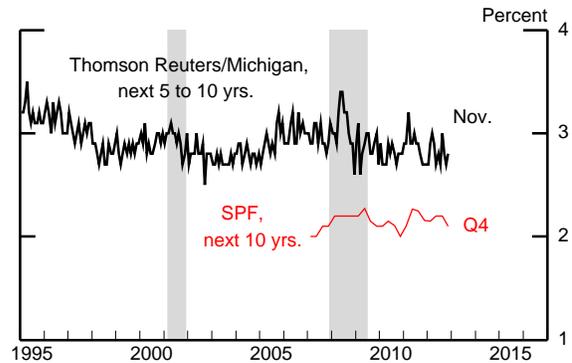
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

Compensation per Hour



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

Long-Term Inflation Expectations



Note: The Survey of Professional Forecasters (SPF) projection is for the PCE price index.

Source: Thomson Reuters/University of Michigan Surveys of Consumers; Federal Reserve Bank of Philadelphia.

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

factory operating rate is expected to move up over the next few years and to surpass its 1972–2011 average in early 2014.

### **Compensation and Prices**

Our projection for price and wage inflation is little changed from the October Tealbook. Over the medium term, inflation is expected to remain subdued, reflecting stable long-run inflation expectations, the relatively small movements projected for commodity and import prices, and persistent slack in resource utilization. In response to a modest reduction in resource slack over the medium term, core PCE inflation edges up from 1.6 percent in both 2013 and 2014 to 1.7 percent in 2015. Total PCE inflation is somewhat lower than core inflation over the medium term, averaging 1.4 percent per year, reflecting anticipated declines in energy prices. Growth in compensation per hour rises gradually over the medium term, from 2¾ percent in 2013 to 3¼ percent in 2015 as the labor market gradually tightens.

Our forecast of continued moderate inflation is importantly influenced by recent readings on inflation expectations, which have remained in the relatively narrow range occupied over the last several years. Median 5-to-10-year inflation expectations in the Michigan survey of consumers ticked up to 2.8 percent in November, while the median expectation of average PCE inflation over the next 10 years reported in the quarterly Philadelphia Fed Survey of Professional Forecasters edged down a tenth to 2.1 percent. TIPS-based measures of inflation compensation for the next five years and for 5-to-10 years ahead remain close to their values as of the time of the October Tealbook.

Prices of imported core goods—which also play a key role in the inflation outlook—are expected to change little, on net, over the second half of the year. They are then projected to rise at an annual rate of just under 1½ percent during the remainder of the projection—making them a neutral influence on domestic inflation—in line with the relatively flat trajectory for commodity prices and the assumed pace of dollar depreciation.

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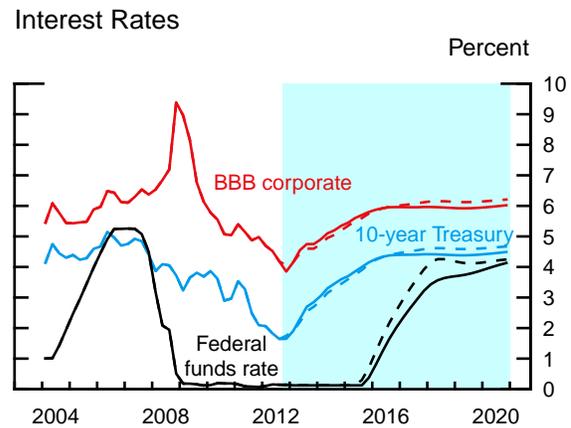
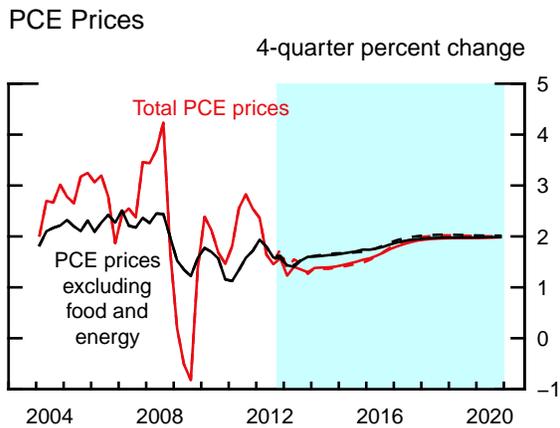
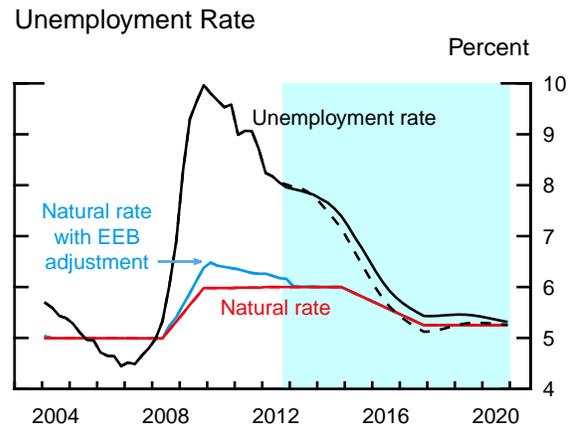
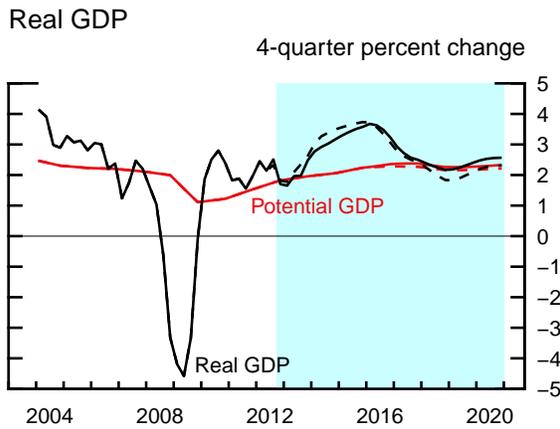
equipment that is in place and ready to produce; it does not take account of the potential workforce, either inside the industrial sector or outside it.

# 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	3.2	2.5	2.5
Previous Tealbook	1.8	2.6	3.5	3.7	3.1	2.4	2.5
Civilian unemployment rate <sup>1</sup>	8.0	7.8	7.4	6.5	5.8	5.4	5.2
Previous Tealbook	8.0	7.8	7.2	6.2	5.5	5.1	5.2
PCE prices, total	1.6	1.3	1.4	1.5	1.8	1.9	2.0
Previous Tealbook	1.7	1.3	1.4	1.5	1.8	2.0	2.0
Core PCE prices	1.6	1.6	1.6	1.7	1.8	1.9	2.0
Previous Tealbook	1.6	1.6	1.7	1.7	1.9	2.0	2.0
Federal funds rate <sup>1</sup>	.2	.1	.1	.4	2.0	3.2	4.3
Previous Tealbook	.1	.1	.1	.7	2.6	3.9	4.3
10-year Treasury yield <sup>1</sup>	1.7	2.8	3.6	4.2	4.4	4.4	5.1
Previous Tealbook	1.8	2.7	3.5	4.1	4.4	4.6	5.1

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.

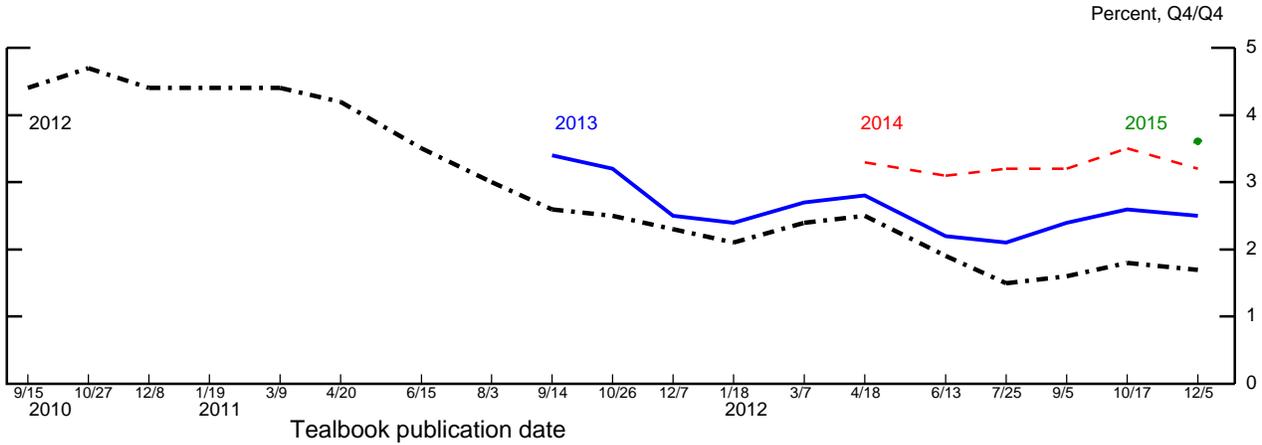
## THE LONG-TERM OUTLOOK

We have extended the staff's forecast through 2020 using the FRB/US model and our assumptions about long-run supply-side conditions, fiscal policy, and other factors. The contour of the long-term outlook depends on the following key assumptions:

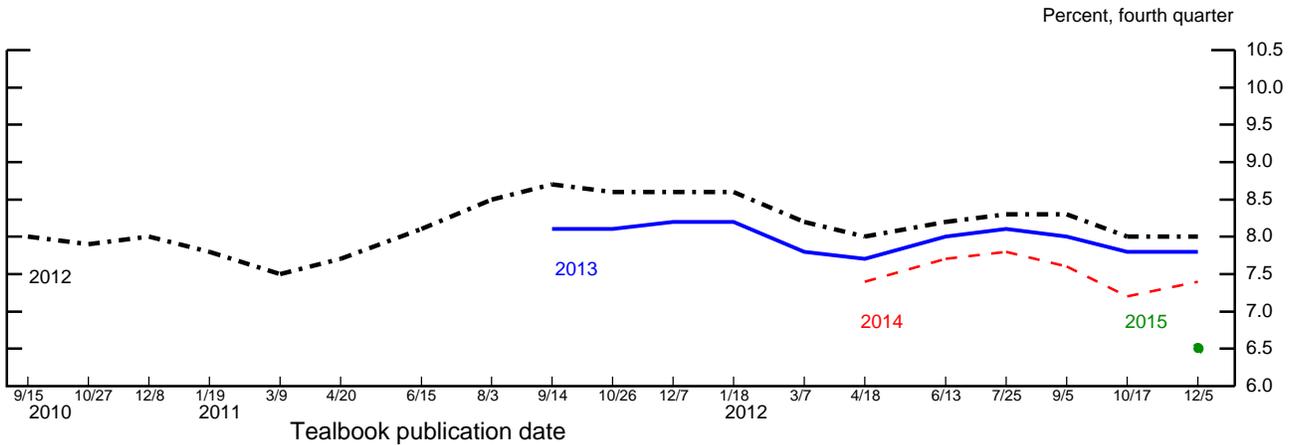
- Monetary policy seeks to stabilize PCE inflation at 2 percent over the longer term, consistent with the Committee's strategy statement after the January 2012 meeting. The federal funds rate is set according to the estimated outcome-based rule, adjusted to be consistent with the Committee's recent forward policy guidance.
- 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 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) narrows further to about 3 percent of GDP in 2016 but widens thereafter, primarily reflecting fast-rising transfer payments for retirement and health-care programs. Federal debt stabilizes temporarily at around 75 percent of GDP but then rises to 78 percent of GDP by the end of the decade.
- The real foreign exchange value of the dollar depreciates 1¾ percent per year in 2016 and 2017 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 3¼ 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 conditions in the labor market improve; it remains at that level in the longer run. Potential GDP increases at an average annual rate of just over

### Evolution of the Staff Forecast

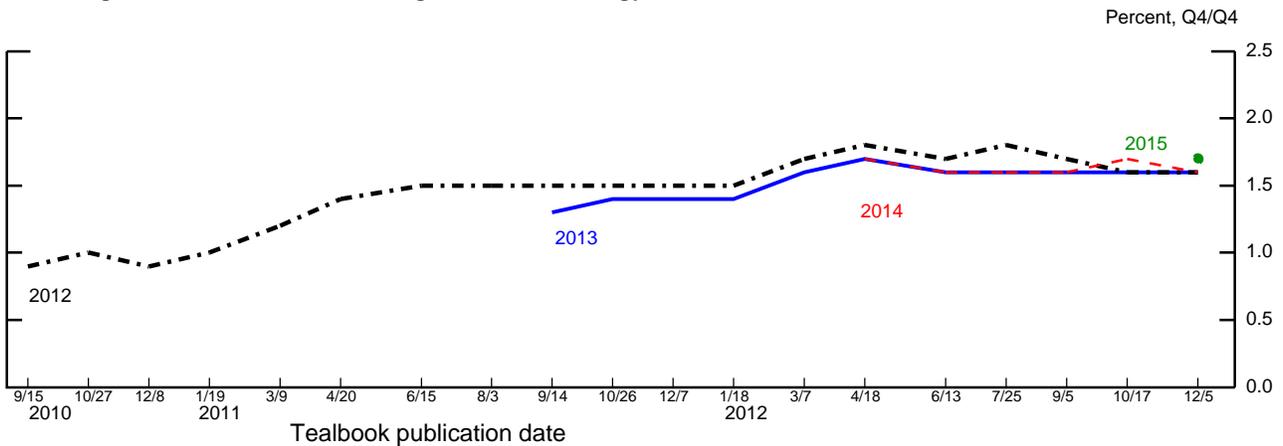
Change in Real GDP



Unemployment Rate



Change in PCE Prices excluding Food and Energy



2¼ percent in the 2016–20 period and moves up to a 2½ percent pace in the longer run.

The economy is projected to enter 2016 with output still below its potential level, unemployment above its natural rate, and inflation below the long-run objective of the 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 at an average annual rate of 3 percent in 2016 and 2017. With real GDP expanding more quickly than potential output, labor market conditions improve further, and the unemployment rate ends 2017 below 5½ 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. Later in the decade, real GDP rises at a pace close to potential, the unemployment rate converges to its long-run natural rate, and inflation holds steady at close to 2 percent. The nominal federal funds rate rises to 4 percent by the end of the decade and eventually stabilizes at around 4¼ percent.

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## International Economic Developments and Outlook

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Foreign economic growth remained weak at a 1¾ percent annual rate in the third quarter, a bit lower than estimated in the October Tealbook. We see a pickup to a still-subdued 2 percent pace in the current quarter. Exports and manufacturing indicators for the emerging market economies (EMEs) have improved somewhat in recent months, but foreign growth remains restrained by an ongoing recession in the euro area and the tepid pace of recovery in the United States. Financial stresses in Europe have eased slightly since the time of the October Tealbook, as European and IMF officials managed to reach agreement on aid to Greece. However, we expect financial conditions to remain a drag on euro-area growth in coming months and to improve sufficiently to allow a rebound in activity only later next year.

Aggregate foreign growth is projected to rise to nearly 3 percent in 2013, roughly its trend pace, and to 3½ percent by 2015 as the euro-area economy recovers and the U.S. expansion strengthens. This projection is little changed from the October Tealbook. We marked up our forecast of growth in the euro area, in part reflecting lower financial stresses, and in emerging Asia, on stronger-than-expected data. These markups were partly offset by downward revisions for Canada, Japan, and the United Kingdom, where recent data surprised on the downside. Moreover, the lower path for U.S. GDP has weighed on our outlook for many foreign economies.

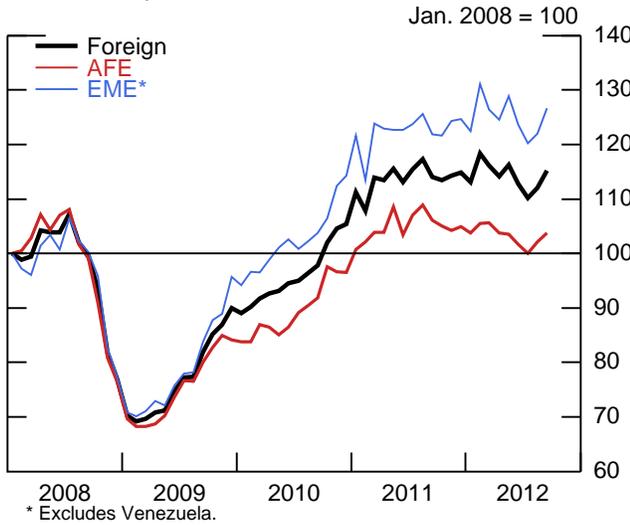
Substantial risks remain for both the euro area and other parts of the world, as explored in the Risks and Uncertainty section. Although financial conditions in Europe have improved since the summer, there is still a nonnegligible chance of an intensification of the European crisis with severe spillovers to the rest of the world. Additionally, although we are heartened by indications that growth in the EMEs is picking up, we remain concerned that this progress could stall, perhaps owing to stronger-than-anticipated effects from the weakness in advanced economies.

Foreign inflation edged up to 2¼ percent in the third quarter and is projected to rise to 2½ percent in the current quarter, a little lower than in the October Tealbook. Thereafter, inflation is expected to remain near that pace, restrained by economic slack in the advanced foreign economies (AFEs) and quiescent prices for oil and other commodities.

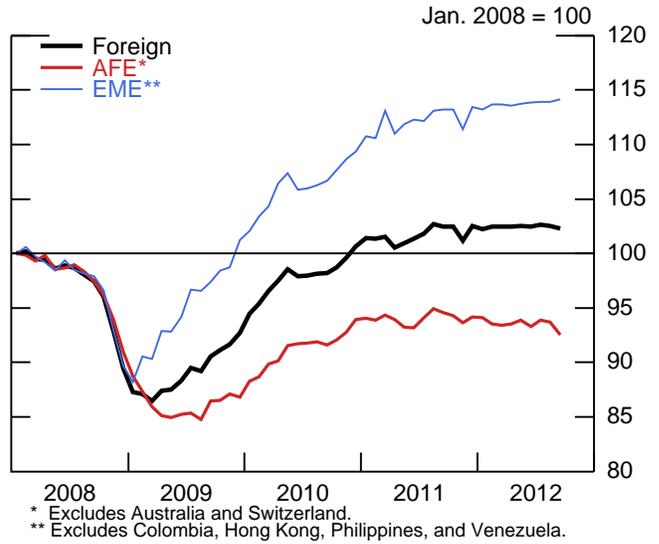
### Recent Foreign Indicators

Int'l Econ Devel & Outlook

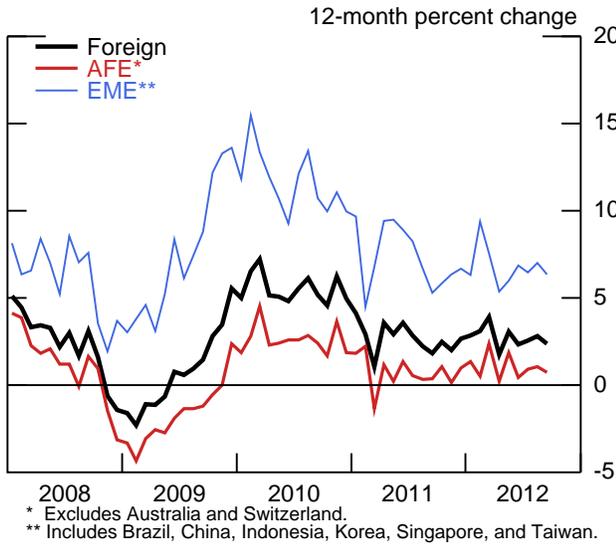
Nominal Exports



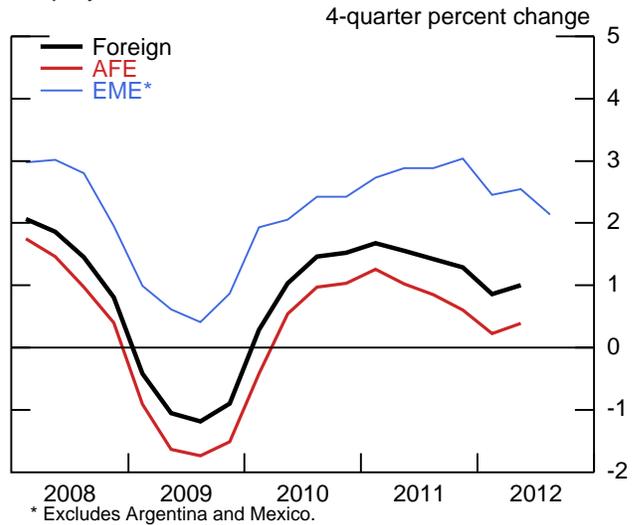
Industrial Production



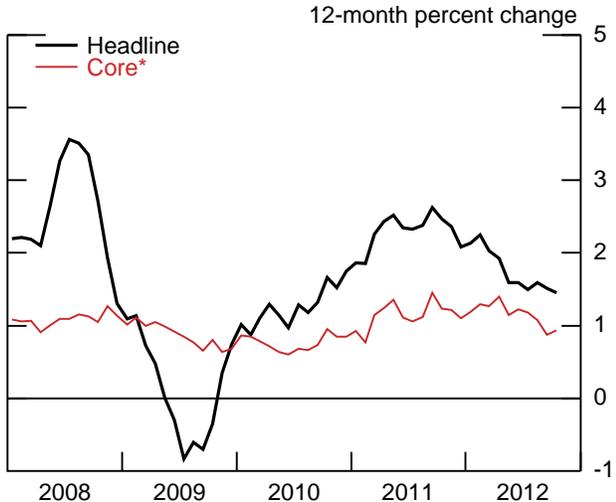
Retail Sales



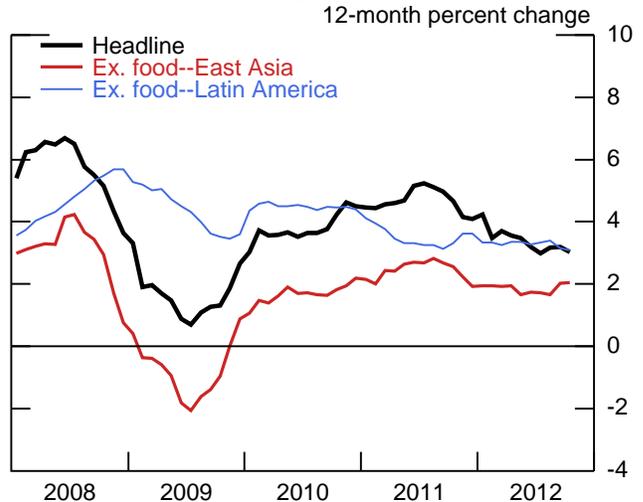
Employment



Consumer Prices: Advanced Foreign Economies



Consumer Prices: Emerging Market Economies



## The Foreign Outlook

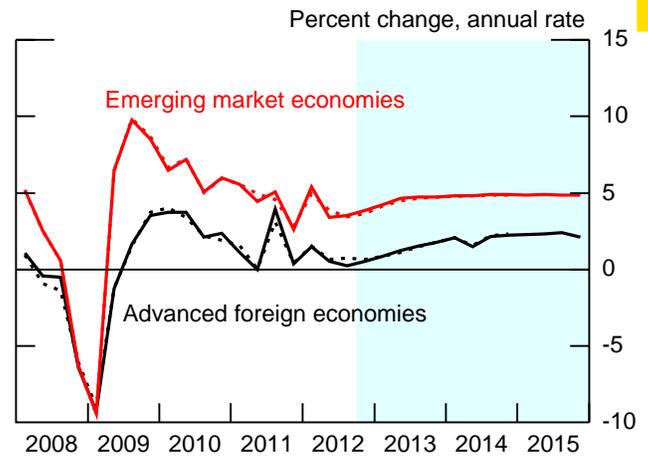
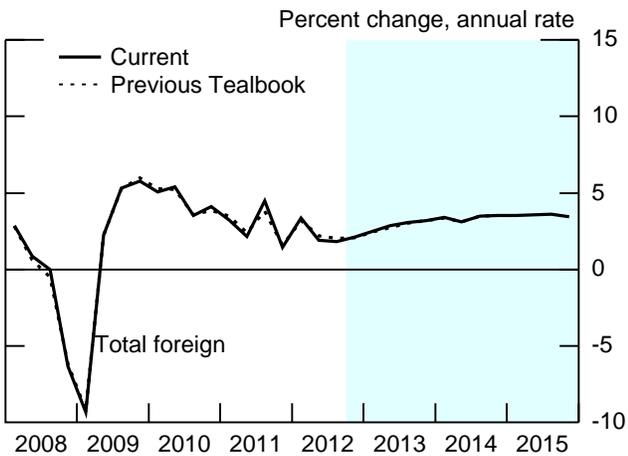
(Percent change, annual rate)

	2011	2012				2013			2014	2015
		Q1	Q2	Q3	Q4	Q1	Q2	H2		
<b>Real GDP</b>										
Total foreign	2.8	3.4	1.9	1.8	2.1	2.5	2.9	3.1	3.4	3.5
Previous Tealbook	2.8	3.2	2.2	2.0	2.1	2.4	2.7	3.1	3.4	n.a.
Advanced foreign economies	1.3	1.5	.5	.2	.5	.8	1.2	1.6	2.0	2.3
Previous Tealbook	1.3	1.5	.6	.7	.6	.9	1.1	1.6	2.0	n.a.
Emerging market economies	4.4	5.4	3.4	3.5	3.9	4.2	4.6	4.7	4.9	4.9
Previous Tealbook	4.5	5.0	3.9	3.4	3.6	4.1	4.5	4.7	4.8	n.a.
<b>Consumer Prices</b>										
Total foreign	3.4	2.6	1.9	2.2	2.5	2.3	2.2	2.2	2.5	2.6
Previous Tealbook	3.4	2.6	1.9	2.2	2.7	2.3	2.2	2.2	2.5	n.a.
Advanced foreign economies	2.2	2.1	.6	.8	1.7	1.2	1.2	1.2	1.6	1.7
Previous Tealbook	2.2	2.1	.6	.7	1.8	1.3	1.2	1.2	1.7	n.a.
Emerging market economies	4.3	2.9	3.0	3.3	3.1	3.1	3.0	3.1	3.2	3.3
Previous Tealbook	4.3	2.9	3.0	3.3	3.3	3.1	3.1	3.1	3.2	n.a.

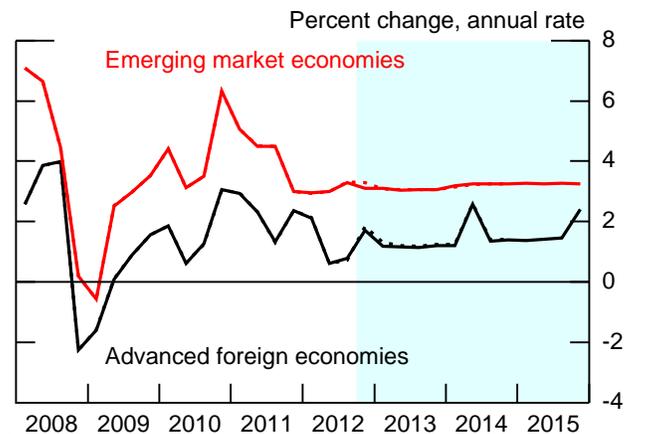
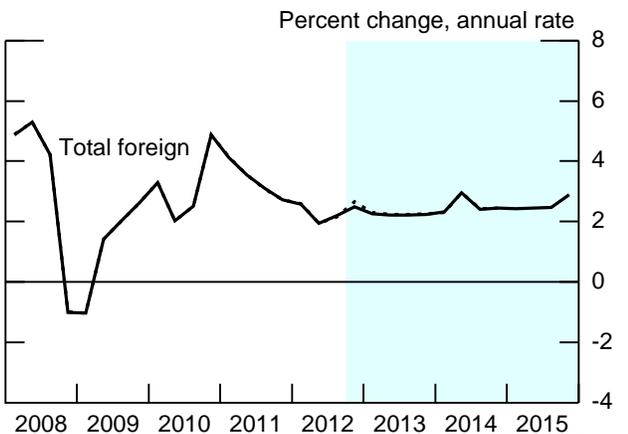
n.a. Not available.

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

### Real GDP



### Consumer Prices



With inflation contained and growth prospects still subdued, monetary policy is generally expected to remain accommodative. The Bank of England (BOE) and Bank of Japan (BOJ) took further, albeit modest, easing actions during the intermeeting period, and we expect the European Central Bank (ECB) to lower rates one more time in coming months. In the EMEs, several central banks reduced policy rates, and we expect further easing over the forecast period.

## ADVANCED FOREIGN ECONOMIES

Real GDP in the AFEs rose a meager  $\frac{1}{4}$  percent in the third quarter,  $\frac{1}{2}$  percentage point less than we had estimated in the October Tealbook. Euro-area GDP continued to contract, albeit less sharply than we had expected, while Canadian activity stalled and Japanese GDP plunged an unexpectedly sharp  $3\frac{1}{2}$  percent. We project AFE growth to pick up only slightly in the current quarter, with GDP declining further in the euro area and Japan. AFE growth should then recover to  $1\frac{1}{4}$  percent in 2013 and  $2\frac{1}{4}$  percent by 2015, supported by the projected abatement of financial stresses and fiscal drag in Europe as well as the firming of the global recovery. This projection is about unchanged from the October Tealbook, as a slightly stronger outlook for the euro area offsets correspondingly weaker prospects elsewhere.

We continue to expect AFE inflation to step up from  $\frac{3}{4}$  percent at an annual rate in the third quarter to  $1\frac{3}{4}$  percent in the current quarter, reflecting a bounceback in inflation readings in Canada, a large hike in university tuition fees in the United Kingdom, and the stabilization of Japanese food prices following sharp declines. Thereafter, we project that AFE inflation will average about  $1\frac{1}{2}$  percent, held down by sizable resource slack and the absence of commodity price pressure.

### Euro Area

According to the preliminary estimate, euro-area GDP contracted just 0.2 percent at an annual rate in the third quarter. The pace of contraction was  $\frac{1}{2}$  percentage point less than we had anticipated, as consumption spending showed surprising resilience in France and Germany. However, in October, euro-area retail sales dropped and the unemployment rate rose to a record-high 11.7 percent. Moreover, consumer confidence in October and November was below its third-quarter average and the composite PMI through November remained solidly in contractionary territory. As such, we continue to expect GDP to fall a further 1 percent at an annual rate in the current quarter.

Euro-area financial conditions eased a bit over the intermeeting period. Market participants remained concerned about the Spanish government's reluctance to request a financial assistance program, the potentially destabilizing Italian elections in the spring, and unsettled discussions over the direct recapitalization of banks by the European Stability Mechanism. However, the agreement by Greece's official creditors to provide more funds and ease Greece's debt burden put off the risk of a disorderly Greek exit from the euro area. (See the box "Recent Policy Developments in the Euro Area.") We still judge that financial tensions will remain elevated in the coming months, but by later next year, we assume a more sustained process of financial normalization will ensue against the backdrop of some progress toward banking union, continued efforts by the Spanish government to reduce its fiscal deficit and shore up its banking system, and further adjustment in other peripheral economies. This normalization will allow the euro area to climb out of recession, although continued fiscal drag and tight credit conditions will restrain the growth of euro-area GDP to only ½ percent in 2013 and hold it to 1½ percent in 2014 and 1¾ percent in 2015. This outlook is marginally stronger than in the October Tealbook, as we assume financial conditions will be a touch more favorable than we envisaged in October.

Recent data suggest that euro-area inflation will remain around 2¼ percent at an annual rate in the current quarter. The projected further decline in oil prices and additional widening of the output gap are expected to reduce inflation in 2013 to 1½ percent, where it should remain throughout the forecast period. This path is about unchanged from the October Tealbook. We expect the ECB to continue providing significant liquidity support to banks and to cut its benchmark policy rate 25 basis points to 0.5 percent in the first quarter of 2013 in response to persistently weak economic conditions.

## Japan

According to the initial estimate, Japanese GDP fell 3.5 percent in the third quarter. The contraction was substantially larger than we had estimated in the October Tealbook; exports dropped surprisingly sharply, and, to a lesser extent, private domestic demand was weaker than anticipated. The downturn reflected the slowing in global manufacturing activity, heightened tensions with China that are weighing on Japan's exports, and diminished support from fiscal stimulus measures. These headwinds are still present in the current quarter. In October, real merchandise exports and retail sales continued to drop, and in November, the manufacturing PMI fell to its lowest level since

## Recent Policy Developments in the Euro Area

Since the time of the October Tealbook, financial stresses in Europe have moderated a touch (see lower-left figure on the next page), in part as the Greek government and official creditors came to agreement regarding Greece's assistance program. Investors did not react strongly to the Spanish government's continued reluctance to request financial support and the lack of progress toward European banking union.

In early November, the Greek Parliament approved an ambitious program of further austerity measures and structural reforms, thus satisfying the preconditions for an additional disbursement of funds by official creditors. EU and IMF officials subsequently extended the Greek government's deadline for achieving a primary surplus of 4.5 percent of GDP from 2014 to 2016. However, this concession, together with worse-than-expected macroeconomic outcomes and delays in the implementation of fiscal consolidation measures in the current year, resulted in an estimated funding gap for the Greek government of about €30 billion over the next four years. Extending the deadline for the fiscal target also helped push the projected level of Greece's debt to 144 percent of GDP in 2020, well above the IMF's original requirement of 120 percent.

After protracted negotiations, on November 26, European and IMF authorities ultimately agreed to disburse at least €43.7 billion by March 2013, to be made in four installments, as well as a strategy to cover Greek funding needs over the next several years and provide more-favorable debt financing terms. Under the plan, European authorities will reduce by 100 basis points the interest rate charged on their bilateral loans, defer interest payments on European Financial Stability Facility (EFSF) loans by 10 years, extend maturities on both types of loans by 15 years, and transfer the Eurosystem's profits on Greek bonds purchased under its Securities Markets Programme to the Greek government. The plan also sets aside €10 billion for a buyback of privately held Greek sovereign debt at a sizable discount, to be completed before the first installment is disbursed.<sup>1</sup> All told, these efforts will reduce the likelihood of a near-term Greek exit from the euro zone. That said, Greece will face daunting challenges meeting its program targets in the face of a deepening recession, mounting fatigue with austerity, and still-high debt levels. Even with the debt-relief measures, we still expect Greek debt to remain at nearly 150 percent of GDP in 2020 (see lower-right figure on the next page), well above the official estimates, reflecting the staff's less optimistic growth and fiscal assumptions. Thus, the recent agreement alleviates but does not fully resolve Greece's difficulties.

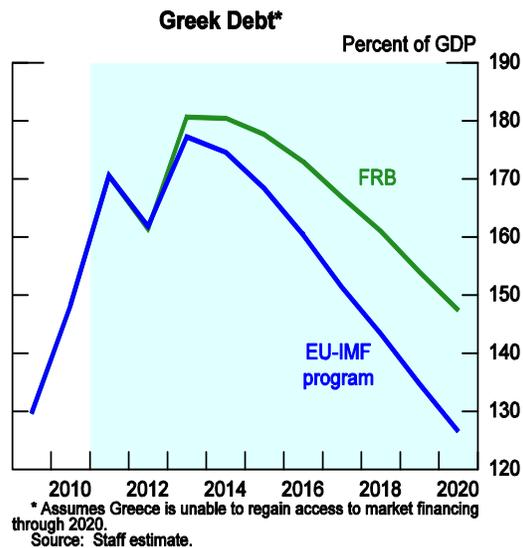
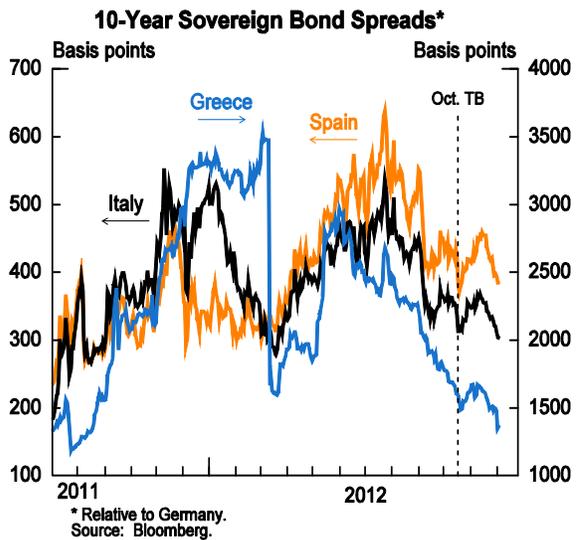
Elsewhere in the periphery, the Spanish government remains reluctant to seek an official aid program necessary for the ECB to begin purchasing Spanish bonds under its Outright Monetary Transactions program. The European Commission recently

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<sup>1</sup> To help finance the debt buyback, euro-area governments reallocated EFSF funds originally earmarked to retire Treasury bills and augment the Greek government's cash buffer.

stated that Spain's plans to reduce the deficit and to implement structural reforms may be sufficient to meet the conditionality associated with a financial assistance program. However, Spanish authorities continue to be deterred by the possible stigma associated with a request for aid; concerns that the ECB would not intervene in Spanish debt markets with sufficient force to make a request worthwhile; and recent improvements in financial conditions, which diminish the apparent need for external assistance. Even so, Spain's situation remains challenging. The Spanish government is likely to miss its fiscal target for the year, an outcome that could trigger increases in its funding costs. In addition, gains by separatist parties in recent Catalan elections highlighted the difficulties Spain faces in reining in spending by regional governments. Spain's fiscal situation will likely remain challenging in the coming year as its recession deepens. On a positive note, the recapitalization of Spain's four weakest banks, which is expected to total about €40 billion, is proceeding according to plan.

Political and legal hurdles continue to impede progress toward European banking union and direct recapitalization of banks by the European Stability Mechanism (ESM). Disagreement continues over the ECB's role as potential supervisor, primarily in the scope and coverage of ECB supervision and the powers that will be conferred on the ECB. Although leaders remain committed to the transfer of at least some supervisory responsibilities to the ECB in early 2013, it will take time before the ECB can become fully operational in its new role. Meanwhile, the establishment of pan-European deposit insurance and bank resolution schemes remains tabled, increasing doubts about prospects for the near-term creation of an effective backstop for banks. In addition, European authorities have yet to agree on the conditions for direct recapitalization of banks by the ESM, a step critical to reducing the fiscal burden on governments of vulnerable euro-area countries with extensive banking-sector problems.



April 2011. Accordingly, we now project that GDP will decline ½ percent at an annual rate in the fourth quarter, also weaker than in the previous Tealbook. Next year, as the global recovery firms, GDP growth should turn positive and gradually pick up to 1½ percent by year-end, but it falls back below 1 percent in 2014 and 2015 in response to two planned consumption tax hikes.

The pace of deflation accelerated to 2 percent at an annual rate in the third quarter, as food prices fell substantially. With recent data indicating that food prices have leveled off, deflation should moderate to ½ percent in the current quarter. Inflation is projected to remain slightly negative in 2013 before being boosted to an average of 1½ percent in 2014 and 2015 by the consumption tax hikes.

Faced with persistent deflation and weaker growth prospects, the BOJ expanded its asset purchase program by ¥11 trillion (about 2¼ percent of GDP) at the end of October. It also launched a new facility to provide loans to the nonfinancial sector modeled after the BOE's Funding for Lending Scheme. We continue to assume only modest further increases in the size of the BOJ's asset purchase program, but the BOJ may be pushed toward more-aggressive policies. Shinzo Abe, the favorite to become prime minister after the upcoming election of Japan's Lower House of Parliament, has called for the inflation target to be raised to 2 to 3 percent, and he would be charged with replacing BOJ Governor Shirakawa and his two deputies early next year.

## United Kingdom

U.K. GDP expanded a solid 4 percent in the third quarter following three consecutive quarterly declines. However, the acceleration in activity largely reflected a temporary boost to demand from the London Olympics and payback from the loss of a working day in June to mark the Queen's Diamond Jubilee. Recent domestic indicators suggest less underlying economic momentum than we had assumed. Retail sales stood below their third-quarter average in October, while the composite PMI slid to an October–November average around 50. Consequently, we revised down our near-term GDP growth projection a bit, and we now expect GDP to stagnate in the fourth quarter. Recovery in the euro area and supportive monetary conditions should lift GDP growth to 1½ percent in 2013 and to 2½ percent by 2015.

Inflation readings in September and October were higher than we had anticipated, even after accounting for the planned hike in tuition fees, leading us to revise up inflation

to a 3½ percent pace in the second half of 2012. We still expect substantial economic slack and falling oil prices to keep inflation in check at around 1¾ percent thereafter. On November 9, U.K. authorities announced the gradual transfer to the government of the cash accumulating at the BOE's Asset Purchase Facility, which should result in a small easing of monetary conditions as the government will now need to issue less debt to finance its deficit over the medium term. For this reason, we no longer expect the central bank to expand its asset purchase program from its current level of £375 billion (25 percent of GDP). According to the first set of quarterly statistics on usage of the BOE's Funding for Lending Scheme, only 6 of the 35 participating institutions had drawn a combined total of £4.4 billion by the end of September.

## Canada

Canada's real GDP growth stepped down from 1.7 percent in the second quarter to 0.6 percent in the third quarter. The slowdown was driven by a sharp drop in exports and by a greater-than-anticipated effect of maintenance shutdowns in the oil, gas, and mining sector. Although we expect some payback in the current quarter from the restoration of production, we left our fourth-quarter estimate of GDP growth unchanged at just under 2 percent because U.S. growth was revised down and some recent indicators were relatively weak. Notably, the manufacturing PMI declined for a fifth consecutive month in November to just above 50. We expect growth to remain around 2 percent in 2013 before picking up to 2½ percent in 2014 and nearly 3 percent in 2015 as global economic conditions improve. This projection is a touch weaker than in the October Tealbook, reflecting softer U.S. growth prospects.

Recent data on consumer prices suggest that inflation is on track to rebound from about zero in the third quarter to 2 percent in the fourth. Given a moderate but persistent output gap, inflation should average less than 2 percent through 2015. We continue to expect no rise in the Bank of Canada's target for the overnight rate, currently at 1 percent, until mid-2014.

## EMERGING MARKET ECONOMIES

With the bulk of the data releases in hand, we estimate that real GDP in the EMEs grew at an annual rate of only 3½ percent in the third quarter, well below its historical trend. This estimate is roughly in line with the downward-revised pace in the previous quarter and about unchanged from our October Tealbook forecast. It incorporates the surprisingly strong GDP release for China, which was reported just after the October

Tealbook. But this positive surprise was roughly offset by markdowns for some other EMEs, such as Brazil and Mexico.

The tone of the incoming data for the fourth quarter—such as PMIs and exports—has been more encouraging, and we expect EME growth to increase to almost 4 percent in the current quarter,  $\frac{1}{4}$  percentage point higher than in the October Tealbook. EME exports to the advanced economies still remain weak. However, the effects of EME policy accommodation, as well as the positive implications of China's momentum for its trading partners, should help support growth in the fourth quarter. We anticipate that GDP growth will step up further to  $4\frac{1}{4}$  percent in the first quarter of 2013 and average  $4\frac{3}{4}$  percent over the remainder of the forecast period, supported by the recovery in the advanced economies and accommodative domestic policies. The medium-term outlook is little changed from the October Tealbook, with the somewhat greater momentum we are seeing in the EMEs offset by the negative effects of a lower U.S. growth outlook.

We expect EME inflation to edge down to 3 percent in the fourth quarter from  $3\frac{1}{4}$  percent in the third. Food price pressures have generally waned, although, in some Latin American economies, more slowly than we had anticipated at the time of the October Tealbook. Inflation is expected to remain at around 3 percent next year, held down by some further unwinding of food price pressures, before edging up to  $3\frac{1}{4}$  percent in 2014 and 2015. The central banks of Colombia, Israel, and the Philippines lowered policy rates during the intermeeting period, and we expect further monetary easing in China, India, and Korea.

## China

Chinese real GDP, released right after the close of the October Tealbook, grew nearly  $8\frac{1}{2}$  percent at an annual rate in the third quarter,  $1\frac{1}{2}$  percentage points faster than anticipated and up from a downward-revised  $6\frac{1}{2}$  percent in the second quarter. Monthly data suggest that the economy's rebound has solidified; retail sales, industrial production, and investment growth picked up in October. In addition, the manufacturing PMI in November increased for the third straight month. Consequently, we revised up our projection of Chinese growth in the current quarter and next year. We now call for GDP growth to remain around 8 percent throughout the forecast period rather than gradually picking up to that pace by the end of next year. Growth in China will be supported by some modest additional monetary and fiscal policy stimulus and a gradual improvement in global demand. However, overcapacity in some sectors, including the property

market, and the potential for stresses in the banking sector continue to pose downside risks to our forecast.

Chinese consumer price inflation edged lower in October, as food prices further retraced their previous run-up. We expect headline inflation to rise in coming quarters as food prices stabilize and wages continue to grow strongly. Accordingly, we project inflation to edge up to a 2 percent annual rate in the current quarter and then increase to 3 percent by 2014.

In mid-November, new Chinese leadership was unveiled at the 18th National Party Congress of the Communist Party of China. As expected, Xi Jinping and Li Keqiang were appointed to the top two posts and will become the president and premier of the country, respectively, in March. We do not expect economic policies, including the pace of reforms, to change appreciably, at least over the next few years, as a result of this change in leadership.

### **Other Emerging Asia**

In the rest of emerging Asia, real GDP growth moved up to 2¾ percent in the third quarter but was still well below potential. Growth was in line with our October forecast, as positive surprises in Hong Kong, the Philippines, Taiwan, and Thailand were offset by negative surprises in India, Korea, Malaysia, and Singapore. India's third-quarter GDP release suggested that the economy remains in the doldrums, with moderating service-sector growth compounded by weakness in the agriculture, manufacturing, and mining sectors. Lackluster exports to Europe continued to weigh on activity in the region and appeared to spill over into domestic demand, particularly investment. For the current quarter, however, improved readings on PMIs and exports support our view that activity has been improving, albeit gradually. With firming Chinese growth also providing some impetus, we now expect the pace of expansion in the rest of emerging Asia to rise to 3¼ percent in the current quarter, ½ percentage point higher than in our October Tealbook forecast. Thereafter, growth in the region should increase further to 4 percent in the first half of 2013 and 4¾ percent by the end of the forecast period, supported by recovering advanced-economy demand and accommodative macroeconomic policies.

Inflation in the region is expected to step up to an annual rate of 4 percent in the current quarter from 2¾ percent in the third, largely reflecting a spike in Hong Kong

inflation in October following the removal of a housing subsidy. With food price pressures that had boosted inflation earlier this year gradually unwinding, inflation is expected to moderate to 3 percent by mid-2013 and should stay at around that rate over the remainder of the forecast period.

## Latin America

In Mexico, real GDP growth slowed to an annual rate of  $1\frac{3}{4}$  percent in the third quarter, down from about  $4\frac{1}{2}$  percent in the first half of this year, in part reflecting the contraction in U.S. manufacturing output. This figure was  $\frac{1}{2}$  percentage point below our October Tealbook estimate and a little lower than would have been suggested by the third-quarter data on manufacturing output, construction and retail sales. We expect growth in Mexico to step up to  $2\frac{1}{2}$  percent in the current quarter: Exports, which had been sluggish since the first quarter, picked up in October, and the manufacturing PMI remained in expansionary territory through November. Even so, current-quarter growth is  $\frac{1}{2}$  percentage point lower than in the October Tealbook, reflecting the downward revision to U.S. manufacturing output, which was depressed by Hurricane Sandy. As U.S. manufacturing picks up, Mexican GDP growth should move up to  $3\frac{3}{4}$  percent by the middle of next year and stay there for the rest of the forecast period.

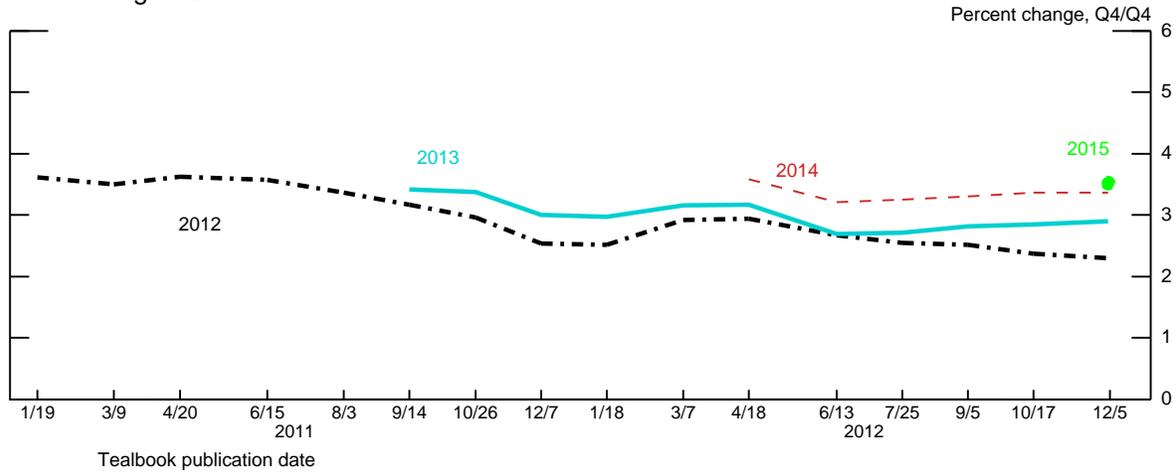
In South America, real GDP is estimated to have risen at an annual rate of  $3\frac{1}{4}$  percent in the third quarter,  $\frac{1}{4}$  percentage point higher than in the October Tealbook and up from  $2\frac{1}{2}$  percent in the second quarter. In Brazil, where growth had been lackluster for over a year, real GDP growth picked up to  $2\frac{1}{2}$  percent in the third quarter, but this rise was still somewhat weaker than we had anticipated, as fixed investment declined. However, a large positive surprise to growth in Chile, which came in at  $5\frac{3}{4}$  percent in the third quarter, more than offset the effect of the miss in Brazil. We expect that growth in South America will average about  $3\frac{3}{4}$  percent over the forecast period, as the recovery in Brazil gains a surer footing.

In Mexico, inflation is expected to step down to an annual rate of less than 4 percent in the current quarter, reflecting some reversal of food price pressures that had pushed inflation up to  $6\frac{1}{2}$  percent in the third quarter. Mexican inflation is expected to moderate further and average about  $3\frac{1}{4}$  percent over the forecast period, little changed from the October Tealbook. We see inflation in Brazil remaining elevated at a  $6\frac{3}{4}$  percent annual rate in the current quarter, as food price inflation is still quite high.

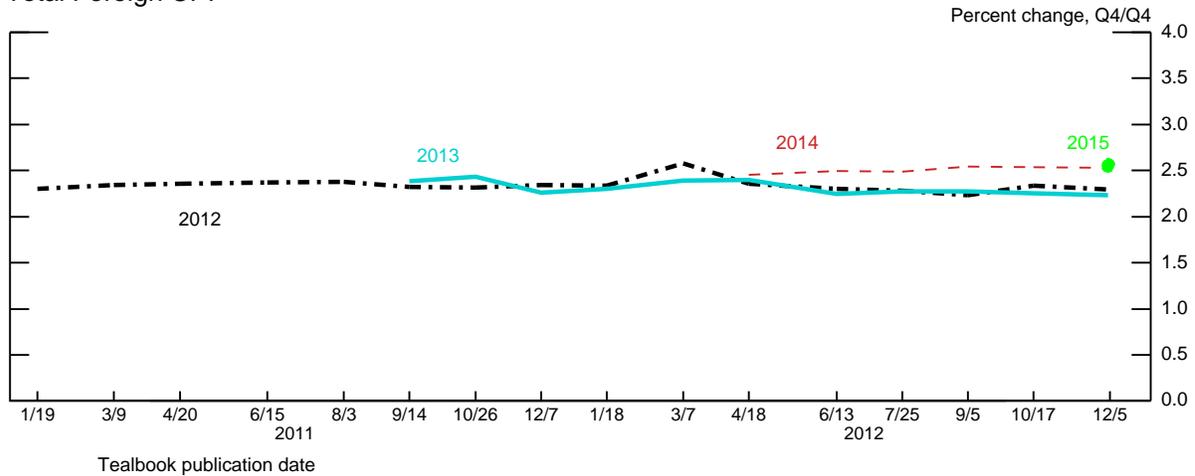
We expect inflation to decline to 5½ percent in the first half of next year and stay at about that rate over the rest of the forecast period.

### Evolution of Staff's International Forecast

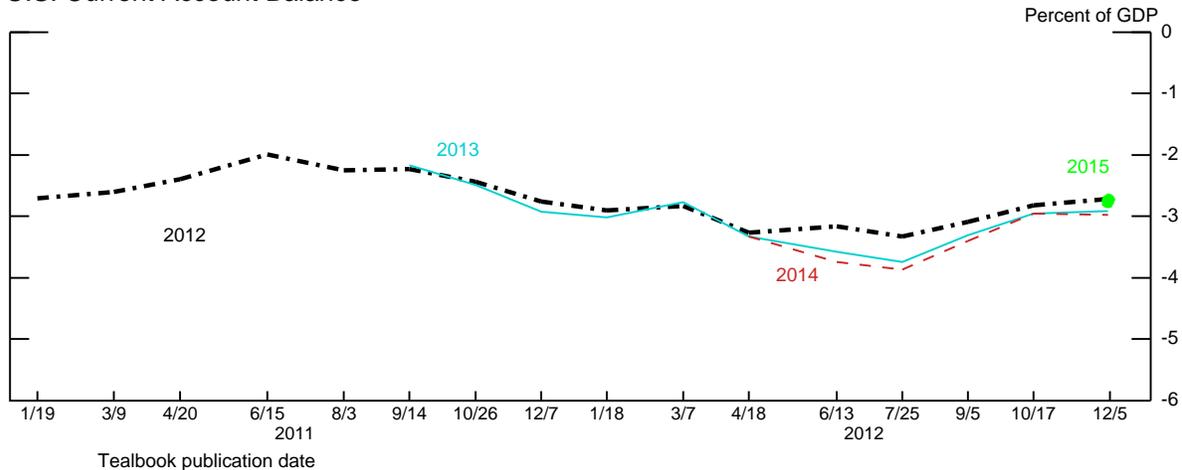
Total Foreign GDP



Total Foreign CPI



U.S. Current Account Balance



## Financial Developments

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Financial market sentiment deteriorated somewhat over the intermeeting period, importantly reflecting market participants' assessment of the possible implications of the "fiscal cliff" negotiations for the U.S. economic outlook. Concern about the fiscal situation reportedly intensified just after the presidential election but subsequently eased somewhat, apparently on the view that, despite little concrete progress in the negotiations, policymakers will ultimately reach an agreement that would avoid an outsized fiscal tightening in the new year. Other developments, such as the evolving European situation and global economic growth prospects, appeared to leave a smaller imprint on domestic financial markets, and investors seemed to take little signal, on balance, from incoming domestic economic data.

On net over the intermeeting period, market-based measures of expectations for the path of the federal funds rate rotated down. Information from interest rate derivatives suggests that market participants now expect the federal funds rate to begin to rise in the first quarter of 2015, two quarters later than at the time of the October FOMC meeting. Yields on longer-dated Treasury securities and on agency mortgage-backed securities (MBS) declined, and TIPS-based measures of inflation compensation showed mixed changes. Broad indexes of U.S. equity prices were about unchanged, spreads on corporate bonds relative to comparable-maturity Treasury securities moved up modestly, and the broad foreign exchange value of the dollar was little changed.

Historically low interest rates continued to support financing flows to the nonfinancial corporate sector and, to a lesser extent, to the household sector. Corporate bond issuance increased further in October and November, and commercial and industrial (C&I) loans continued to grow briskly. In the household sector, nonrevolving consumer credit again expanded significantly in the third quarter, while revolving credit remained about flat. Mortgage refinancing activity edged up in October and November, but conventional mortgages remained difficult to obtain for households without stellar credit scores, and aggregate home mortgage debt contracted further in the third quarter.

### **POLICY EXPECTATIONS AND TREASURY YIELDS**

Reportedly due in part to the heightened concerns about the fiscal outlook and its implications for the U.S. economy, the expected path of the federal funds rate derived

### Policy Expectations and Treasury Yields

#### Selected Interest Rates



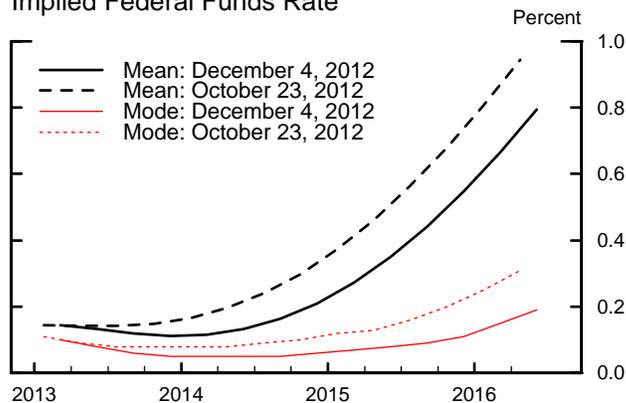
Note: 5-minute intervals. 8:00 a.m. to 4:00 p.m. No adjustments for term premiums.  
Source: Bloomberg.

#### Inflation Compensation



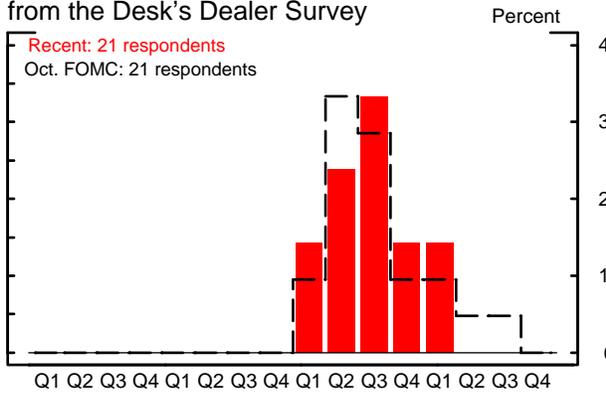
Note: Estimates based on smoothed nominal and inflation-indexed Treasury yield curves.  
\*Adjusted for the indexation-lag (carry) effect.  
Source: Barclays PLC and staff estimates.

#### Implied Federal Funds Rate



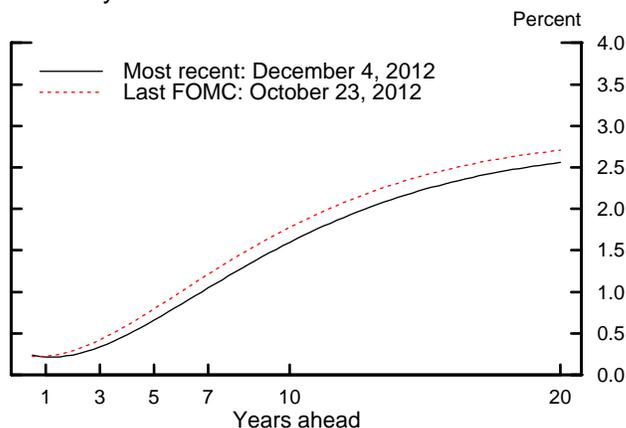
Note: Mean is estimated using overnight index swap quotes. Mode is estimated from the distribution of federal funds rate implied by interest rate caps. Both include a term premium of zero basis points per month.  
Source: Bloomberg and CME Group.

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



Source: Desk's dealer survey from December 3, 2012.

#### 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.

from overnight index swap (OIS) rates shifted down beyond early 2013 on net. The expected path now suggests that investors anticipate the federal funds rate will first rise above the current target range in the first quarter of 2015, about two quarters later than at the time of the October FOMC meeting. Much of this decline came following the election and likely reflected greater investor certainty that monetary policy will remain accommodative in light of the increased concern about the fiscal cliff. The modal policy path—the most likely values for future federal funds rates based on caps-implied risk-neutral distributions—remains within the current target range through the second quarter of 2016.<sup>1</sup>

In contrast to the market-based measures, results from the Open Market Desk's latest survey of primary dealers indicated a slight upward shift in medium-term policy rate expectations, consistent with the small improvement in dealers' assessment of the labor market outlook.<sup>2</sup> Survey respondents continued to view the second half of 2015 as the most likely time of the first target rate increase. Dealers anticipate only about a 10 percent probability that the FOMC will adopt threshold guidance for the federal funds rate at the upcoming meeting, but they assign slightly better-than-even odds to the prospect that the Committee will adopt the thresholds at one of the next three meetings. Regarding asset purchases, all survey respondents expected the FOMC to announce new open-ended Treasury purchases after the conclusion of the maturity extension program and to continue current open-ended MBS purchases, with an estimated monthly pace of purchase of about \$45 billion for Treasury securities and about \$40 billion for agency MBS over the next three meetings. Dealers continued to view the first quarter of 2014 as the most likely time for the end of those purchases, and the expected amount of SOMA holdings by the end of 2013 was largely unchanged from the October survey.

FOMC communications over the intermeeting period were largely in line with market expectations and elicited little price reaction. However, investors were apparently struck by the discussion in the FOMC minutes regarding the possible adoption of threshold values for inflation and the unemployment rate to provide more-explicit forward guidance on the timing of the initial increase in the federal funds rate.

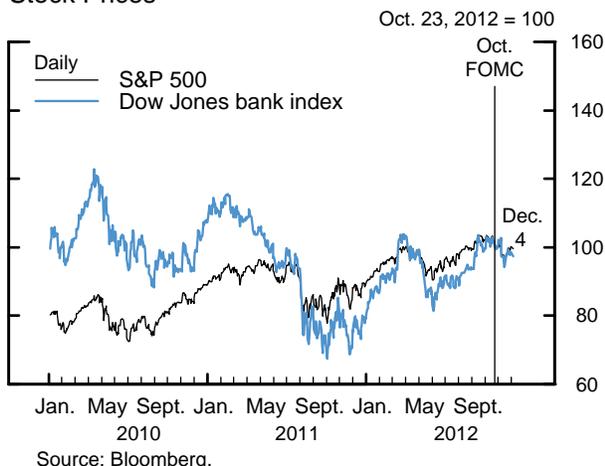
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<sup>1</sup> The effective federal funds rate averaged 16 basis points over the intermeeting period, with the intraday standard deviation averaging about 4 basis points.

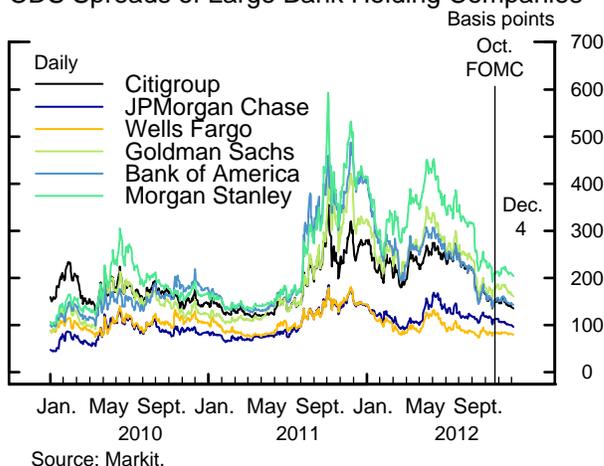
<sup>2</sup> The upward revision in dealer expectations for the federal funds rate reflected a change in the views of only a few dealers; most dealer forecasts of the federal funds rate were little changed.

### Financial Institutions and Short-Term Dollar Funding Markets

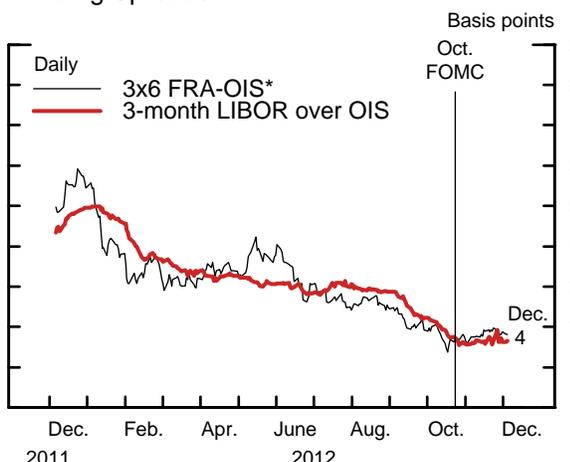
Stock Prices



CDS Spreads of Large Bank Holding Companies



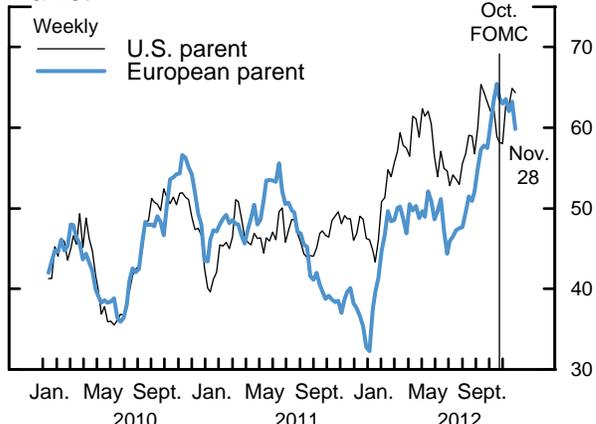
Funding Spreads



\* 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.

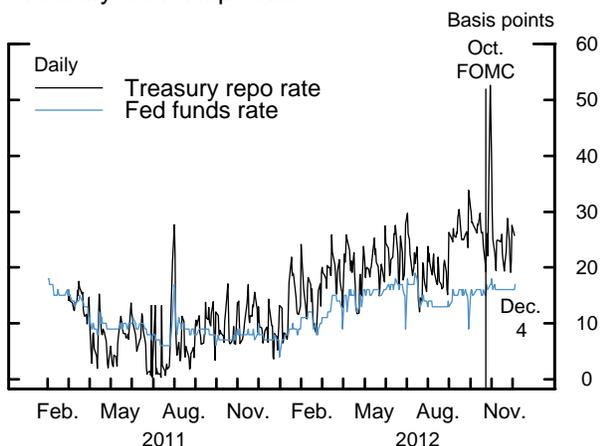
Source: Bloomberg.

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



Source: Federal Reserve Board staff calculations based on data from the Depository Trust & Clearing Corporation.

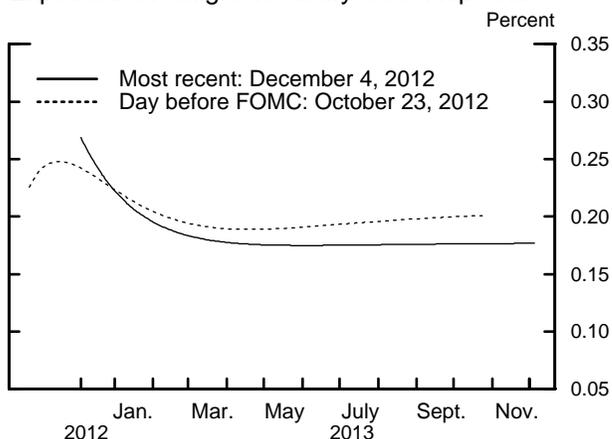
Treasury GCF Repo Rate



Note: Weighted average of interest rates paid on general collateral finance (GCF) repurchase agreements (repos) based on Treasury securities.

Source: Depository Trust & Clearing Corporation.

Expected Overnight Treasury GCF Repo Rate



Source: Federal Reserve Board staff calculations based on general collateral finance (GCF) Treasury repurchase agreement (repo) futures quotes from Bloomberg.

Financial Developments

Treasury yields decreased, on net, over the intermeeting period, with 5-year yields dropping 14 basis points and 10-year yields declining 18 basis points, reflecting the downward revision in the market-based measures of policy expectations and perhaps also some flight-to-quality demands related to concerns surrounding the fiscal outlook. Inflation compensation measures showed mixed changes, with 5-year TIPS-based inflation compensation edging up, on net, and the 5-year forward measure declining 13 basis points. Swaps-based forward measures of inflation compensation were about unchanged, and survey-based measures of inflation expectations changed little, on balance, over the intermeeting period.

The Desk's outright purchases and sales of Treasury securities under the maturity extension program continued to proceed as planned and did not appear to have material adverse effects on Treasury market functioning.<sup>3</sup> Measures of liquidity conditions in the Treasury market remained stable. Over the intermeeting period, the Desk purchased \$98 billion of agency MBS under the open-ended MBS purchase program and the reinvestment program. Overall, MBS market functioning indicators over the period showed no signs of material stress despite increased settlements by the Desk.<sup>4</sup>

## FINANCIAL INSTITUTIONS AND SHORT-TERM FUNDING MARKETS

Conditions in short-term dollar funding markets were little changed, on net, over the intermeeting period, with no reports of major trading or operational disruptions following Hurricane Sandy. The spread between three-month LIBOR and comparable-maturity OIS rates was about unchanged, on balance, since the October FOMC meeting, as was the spread between the three-month forward rate agreement three months ahead and the corresponding forward OIS rate (a forward-looking measure of potential funding strains). Unsecured commercial paper (CP) spreads paid by financial U.S. and European issuers remained stable, and European financial institutions appeared

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<sup>3</sup> The Federal Reserve purchased \$60 billion, and sold \$54 billion, of Treasury securities over the intermeeting period under the maturity extension program; there were minimal redemptions over the period. The average maturity of SOMA Treasury holdings has lengthened by about four years since the beginning of the program last September.

<sup>4</sup> The Desk settled approximately \$64 billion of MBS purchases in November, up from an average of roughly \$25 billion prior to the announcement of additional purchases. For most TBA contracts, dollar roll implied financing rates continue to moderate, and the Desk's dollar roll activity is lower since September. The Desk postponed Treasury and MBS operations on October 30, following the decision by the Securities Industry and Financial Markets Association to close the fixed-income market; both operations were subsequently completed.

to continue to be able to issue unsecured CP at maturities similar to those of such CP issued by their U.S. counterparts.

Money markets showed some modest signs of year-end pressures arising from both typical factors and special factors, such as the end of the maturity extension program and the expiration of the FDIC's unlimited insurance of noninterest-bearing transaction deposits at year-end.<sup>5</sup> (See the box "Expiration of Unlimited FDIC Deposit Insurance.") Yields on Treasury bills maturing immediately after year-end are noticeably lower than the yields on such bills maturing immediately before; the yield differentials are slightly higher than those in the past four years but well below those in late 2007, when investor demands for high-quality, liquid assets were especially intense. In the interbank market, the crossing of the one-month LIBOR contract over December 31 implied a premium of about 5 basis points for funding over year-end, a modest value by historical standards. The implied premium from the foreign exchange basis swap market showed a bit more anticipated year-end funding pressure, comparable to what was seen last year.

Conditions in secured funding markets were about unchanged over the intermeeting period, and market participants do not appear to anticipate significant year-end strains. General collateral finance (GCF) repo rates spiked in the immediate aftermath of Hurricane Sandy—as some smaller dealers reportedly experienced difficulty funding their positions—but those pressures were short lived.<sup>6</sup> On average, rates in this market have remained elevated relative to last year and well above the effective federal funds rate, but quotes on GCF repo futures contracts indicate that market participants expect GCF repo rates to decline some by early 2013. In asset-backed commercial paper (ABCP) markets, amounts outstanding have remained stable for programs with sponsors domiciled in the United States and Europe. Overnight spreads on ABCP were little changed, on net, and spreads on most European ABCP issues remain close to those on U.S. issues.

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<sup>5</sup> Many aspects of global and U.S. regulatory reform are anticipated to increase the demand for high-quality liquid assets, including, most notably, central clearing for standardized OTC derivatives transactions, margin requirements for non-centrally-cleared derivatives trades, and the Basel III liquidity rules. In particular, the U.S. regulatory agencies are in the process of finalizing rules that will likely require clearing of certain interest rate and credit swaps beginning in March 2013.

<sup>6</sup> GCF repo is the trading of standardized generic CUSIP of U.S. government securities between dealers on a blind basis using interdealer brokers. GCF repo transactions are netted by the Fixed Income Clearing Corporation as central counterparty and settled on a treaty basis via clearing banks (Bank of New York Mellon or JPMorgan Chase).

Responses to the December 2012 Senior Credit Officer Opinion Survey on Dealer Financing Terms (SCOOS) generally suggested little change in credit terms over the past three months for important classes of dealer counterparties (see appendix). Continuing a recent trend, a large net fraction of respondents indicated having increased the resources and attention devoted to management of exposures to central counterparties and other financial market utilities. While respondents noted that the use of leverage by counterparties had remained basically unchanged, they reported an uptick in demand for funding of various types of securitization products.

Indicators of the health of domestic financial institutions, such as firms' stock prices and CDS spreads, mostly remained in their recent ranges. Equity prices of large and regional domestic banks edged down over the intermeeting period. Nonetheless, the CDS spreads of most large domestic bank holding companies (BHCs) ended the period modestly lower, reportedly owing to reduced perceptions of tail risk.

## FOREIGN DEVELOPMENTS

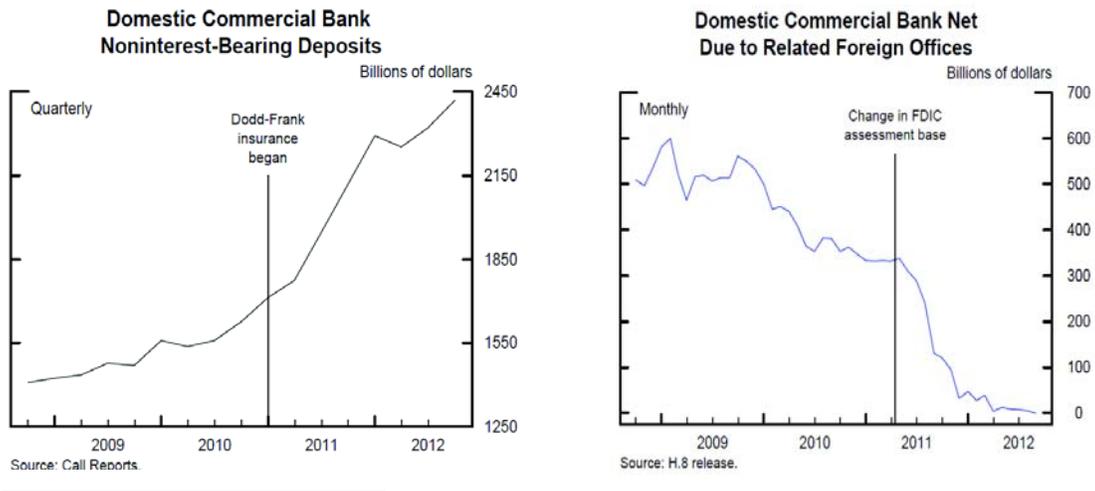
Foreign financial market conditions have improved, on balance, since the previous FOMC meeting. In the first half of the period, the prices of most risky assets declined and the dollar appreciated, as concerns over the fiscal cliff in the United States intensified, some foreign economic indicators fell short of investor expectations, and European and IMF officials struggled to reach agreement on arrangements to finance further aid to Greece. However, market prices have more than retraced their earlier movements since mid-November on the apparent easing of fiscal cliff concerns, the attainment of an agreement on Greek aid, and positive reaction to the terms announced by Greece for its debt buyback.

Over the intermeeting period, the foreign exchange value of the dollar was little changed on average. European currencies rose against the dollar, on net, as financial tensions in the euro area ended the period a bit lower. By contrast, the Japanese yen depreciated sharply against the dollar and other currencies in reaction to statements from Shinzo Abe—who is likely to become Japan's next prime minister after elections in December—that the Bank of Japan (BOJ) should employ “unlimited easing” to achieve an inflation target of 2 to 3 percent, above the 1 percent goal the BOJ currently pursues. In addition, the Brazilian *real* depreciated in reaction to weak economic data, leading the authorities to intervene to support the *real*. On December 3, Credit Suisse announced

## Expiration of Unlimited FDIC Deposit Insurance

The substantial increase in noninterest-bearing transaction account balances since the end of 2010 has been driven, in part, by the provision for unlimited insurance on these accounts under the Dodd–Frank Wall Street Reform and Consumer Protection Act (Dodd–Frank Act) (see lower-left figure). The stock of these deposits with balances over \$250,000 has increased roughly \$700 billion and currently stands at around \$1.7 trillion. The insured amount is set to revert to \$250,000 per account when this provision expires on January 1, 2013.<sup>1</sup> Estimates by the Board’s staff suggest that a modest portion of the \$700 billion increase in noninterest-bearing deposits, perhaps along the lines of \$100 billion to \$200 billion, could flow out of the banking sector early next year in response.

While unlimited insurance appeared to spur some of the increase in noninterest-bearing transaction deposits, several other factors may have contributed to this growth, importantly including the change in the FDIC assessment base. In April 2011, the FDIC changed its base for deposit insurance assessments, with the outcome that offshore deposits were no longer excluded from the base. As a result, the incentive for banks to book deposits in foreign offices to avoid deposit insurance assessments was eliminated. Indeed, one large bank holding company reported that it shifted just over \$100 billion of intracompany deposits from one of its foreign offices to its domestically chartered commercial bank as a direct result of this change. The marked decline in domestic banks’ “net due to” related foreign offices directly following the change suggests that such activity may have accounted for about a \$300 billion shift in deposits to domestic commercial banks in aggregate, with much of that shift likely resulting in an increase in noninterest-bearing transactions deposits (see lower-right figure).<sup>2</sup> Because the change in the assessment base is permanent, it seems likely that any associated increase in noninterest-bearing deposits will not be reversed once the unlimited deposit insurance program expires.



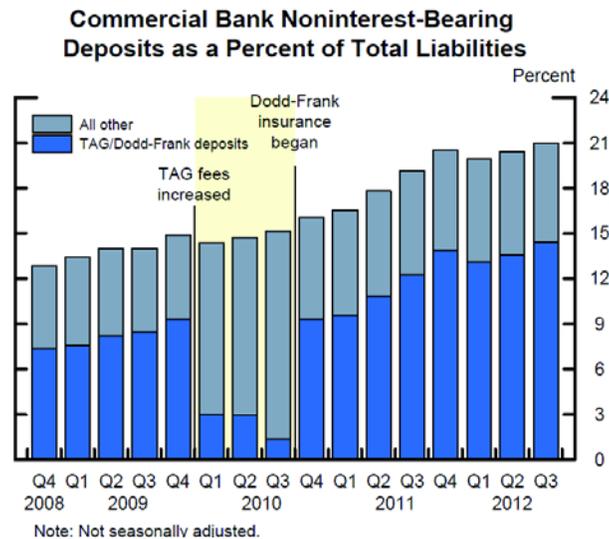
<sup>1</sup> Recently, Senate Majority Leader Harry Reid proposed legislation that would provide for a two-year extension of the unlimited insurance; however, expiration at year-end still appears to be the most likely scenario.

<sup>2</sup> A deposit with a foreign-related office of a domestic bank results initially in a deposit in the domestic bank’s Federal Reserve account and an associated liability of the domestic bank due to its foreign-related office. When such a deposit is rebooked from a domestic bank’s foreign-related office to the domestic bank itself, the domestic bank’s liability to its foreign-related office declines commensurately. “Net due to” measures the net liabilities of a domestic commercial bank due to its foreign-related offices.

Discussions with a small number of banks that experienced substantial increases in noninterest-bearing transaction accounts suggested that the large increases over recent years were the result not only of the change in insurance coverage, but also of investor preference for liquidity and safety in an environment of low yields on alternative assets amid significant uncertainty about the economic outlook.<sup>3</sup> The outcome of these discussions suggests that it is unlikely the full \$700 billion run-up in noninterest-bearing deposits following the inception of unlimited insurance under the Dodd–Frank Act will fully unwind upon its expiration.

From late 2008 through the end of 2010, the FDIC provided unlimited insurance for noninterest-bearing deposits under the Transaction Account Guarantee (TAG) Program. However, for a period in 2010 (highlighted in yellow in the figure below), participants in the TAG Program became subject to additional fees. As a result, many institutions chose to opt out of the insurance scheme, and the proportion of insured deposits in the banking system accordingly declined. However, the overall quantity of noninterest-bearing deposits remained relatively steady, suggesting that the aggregate response to the upcoming insurance expiration is likely to be fairly limited.<sup>4</sup>

Indeed, market commentary and surveys indicate that only a modest portion of noninterest-bearing transaction account balances are likely to be reallocated to money market products when the unlimited insurance expires. For example, the December SCOOS included special questions about dealers’ expectations regarding changes in cash management practices because of the expiration of the unlimited deposit insurance.<sup>5</sup> Responses generally pointed to expectations for moderate or limited reductions in deposit holdings by both levered and unlevered clients, with the funds flowing to repurchase agreements, money market funds, and Treasury securities. Anecdotal reports have suggested that some depositors could shift balances held at smaller banking institutions toward larger banking institutions, which may be perceived as safer.

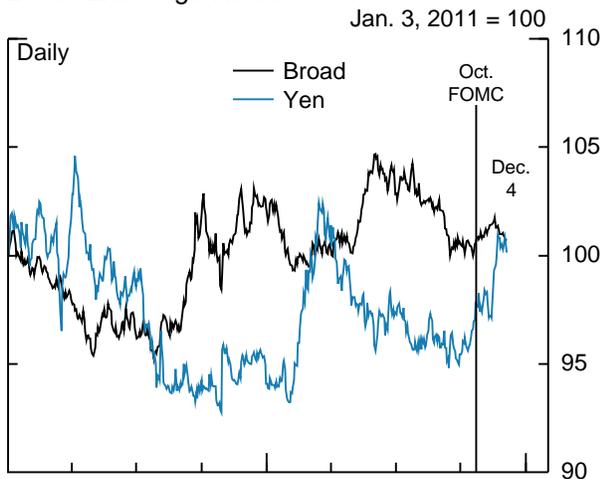


<sup>3</sup> See the box “Bank Funding Consultations” in the September 2012 Tealbook for more information.  
<sup>4</sup> The TAG Program was replaced at the end of 2010 by unlimited insurance provided under the Dodd–Frank Act. Insured depository institutions could not opt out of the Dodd–Frank insurance; as a result, the level of insured deposits increased dramatically at the end of 2010.  
<sup>5</sup> See the December “Senior Credit Officer Opinion Survey on Dealer Financing Terms” appendix in the Financial Developments section of Tealbook, Book A.

Financial Developments

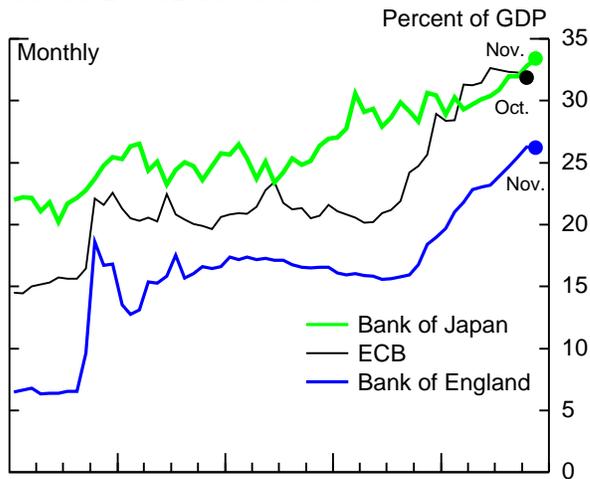
### Foreign Developments

Dollar Exchange Rates



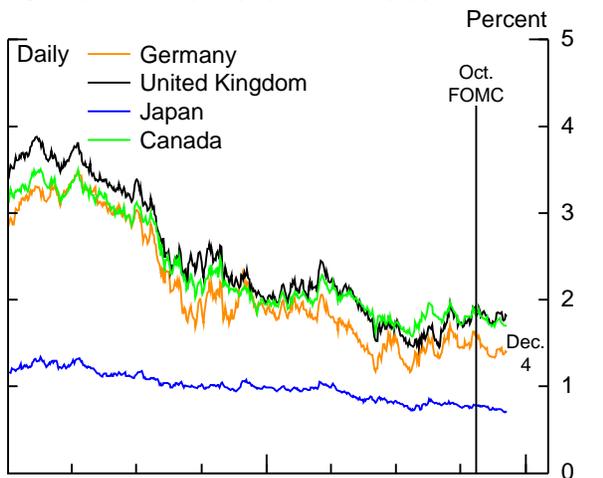
Source: Federal Reserve Board; Bloomberg.

Central Bank Balance Sheets



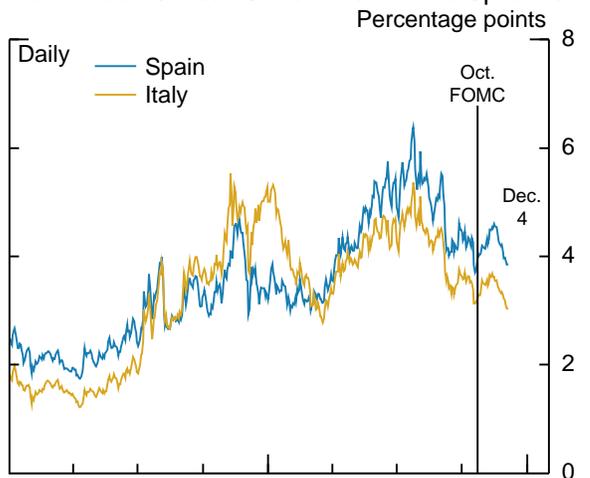
Source: European Central Bank (ECB), Bank of Japan, and Bank of England.

10-Year Nominal Benchmark Yields



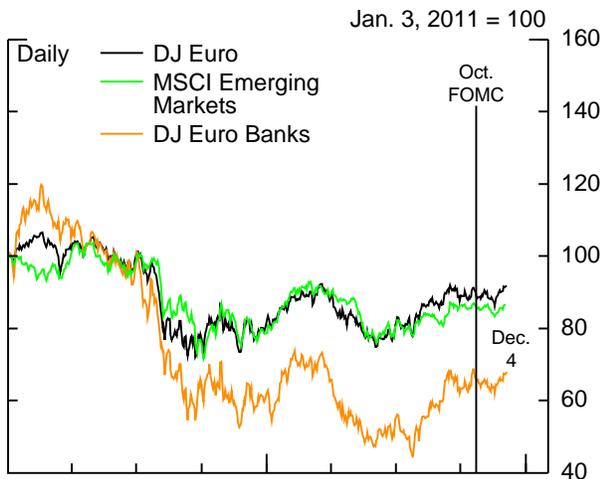
Source: Bloomberg.

Euro-Area 10-Year Government Bond Spreads



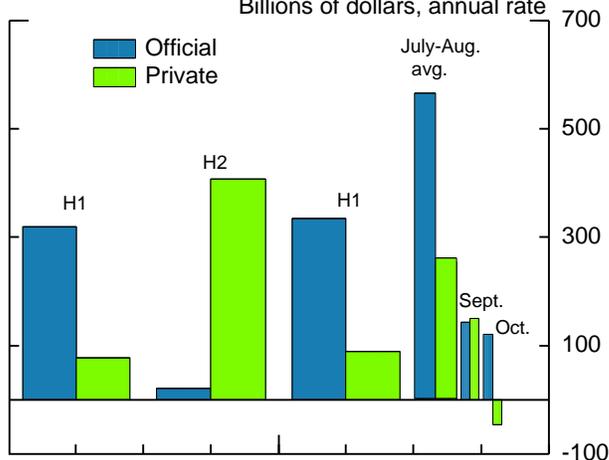
Note: Spread over German bunds. Source: Bloomberg.

Stock Price Indexes



Source: Bloomberg.

Foreign Net Purchases of U.S. Treasury Securities



Source: Treasury International Capital data adjusted for staff estimates. October data are embargoed until December 17, 2012.

Financial Developments

that it would start applying negative interest rates on some Swiss franc deposit accounts, prompting a notable depreciation of the Swiss franc against the euro.

Yields on foreign benchmark sovereign bonds declined over the period. The BOJ expanded its asset purchase program by ¥11 trillion (about \$140 billion), and, although the ECB did not take any new policy actions, expected overnight rates in the euro area fell a bit. While the Bank of England did not increase the size of its asset purchase program, it announced that going forward it will transfer all net cash earnings from the program, including cumulative earnings to date, to the U.K. Treasury. Cumulative earnings through March 2013 are projected to be £35 billion (2¼ percent of U.K. GDP), and the transfer of these earnings should reduce future gilt issuance, thereby exerting some downward pressure on yields. Elsewhere, the Reserve Bank of Australia and several emerging market central banks also eased policy.

Italian and Spanish sovereign bond spreads narrowed modestly over the period, in part after European authorities acted to diminish the risk of a disorderly exit of Greece from the euro area by agreeing to disburse more than €40 billion to Greece, to reduce its debt service burden, and to provide the country with financing to purchase up to €10 billion worth of debt at a substantial discount. Positive euro-area developments boosted stock prices in Europe, and prospects for more-stimulative monetary policy in Japan lifted Japanese stock prices.

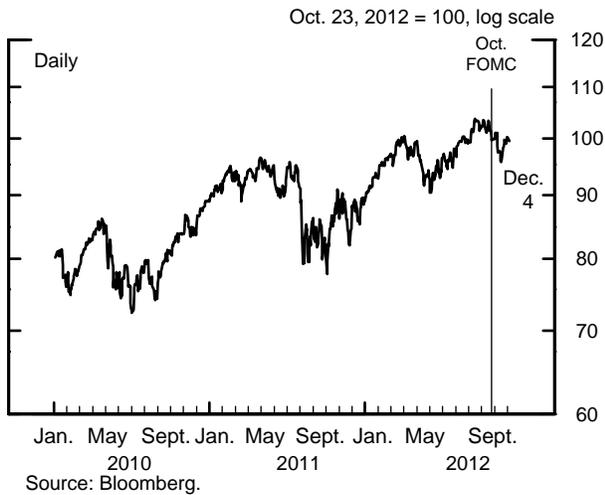
Foreign demand for U.S. Treasury securities, both official and private, eased in September and October, according to the latest TIC data. Foreign private investors also showed limited demand for U.S. corporate securities, on net, over the two months. U.S. private investors stepped up their net purchases of foreign bonds. FRBNY custody data for November indicate that official purchases of U.S. Treasury securities remained subdued.

## **OTHER DOMESTIC ASSET MARKET DEVELOPMENTS**

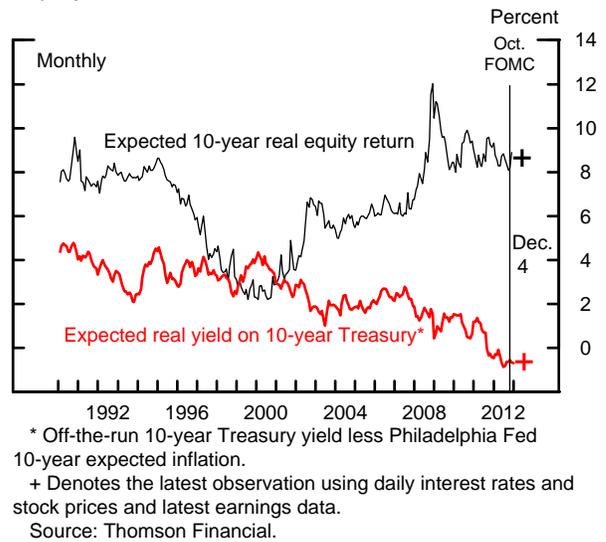
Broad U.S. equity price indexes were little changed, on net, over the intermeeting period. The S&P 500 index dropped sharply immediately after the presidential election but subsequently reversed the decline. The staff estimate of the spread between the expected real equity return for the S&P 500 index over the next 10 years and the real 10-year Treasury yield—a gauge of the equity premium—rose a bit and continued to remain very wide by historical standards. The VIX, an index of option-implied volatility

### Other Domestic Asset Market Developments

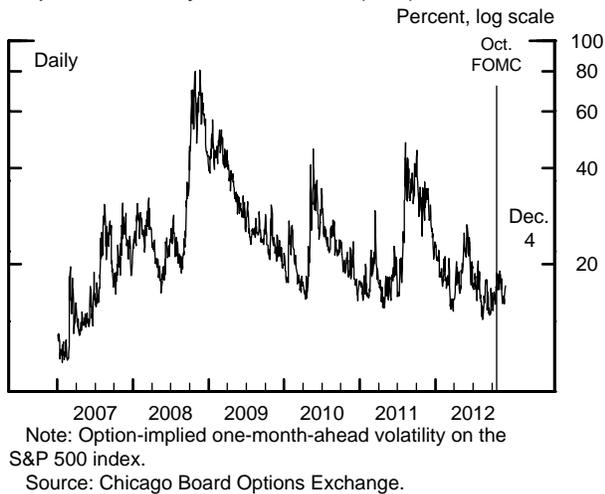
S&P 500 Stock Price Index



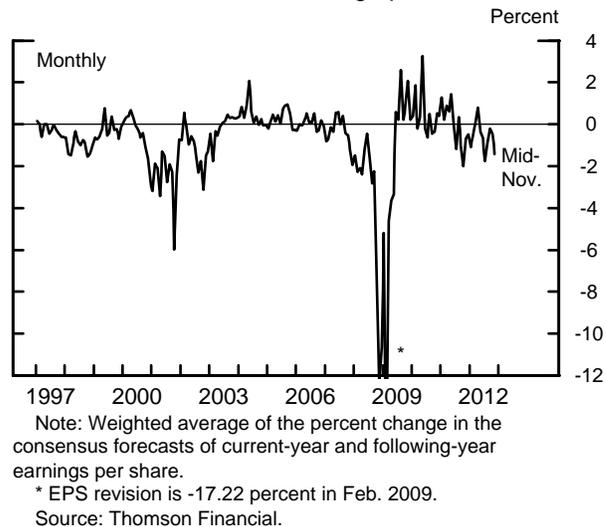
Equity Risk Premium



Implied Volatility on S&P 500 (VIX)

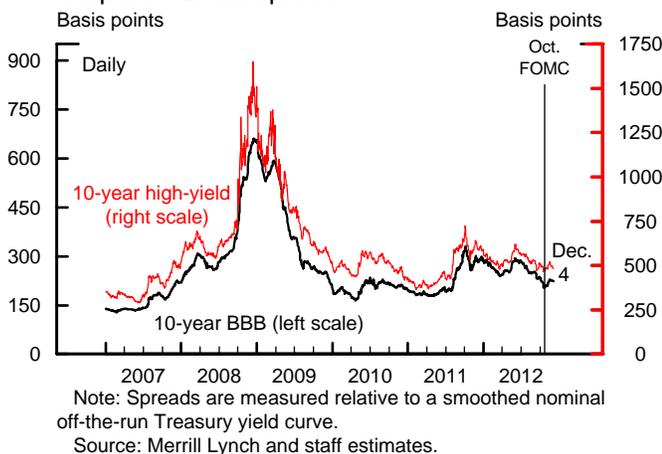


Revisions to S&P 500 Earnings per Share

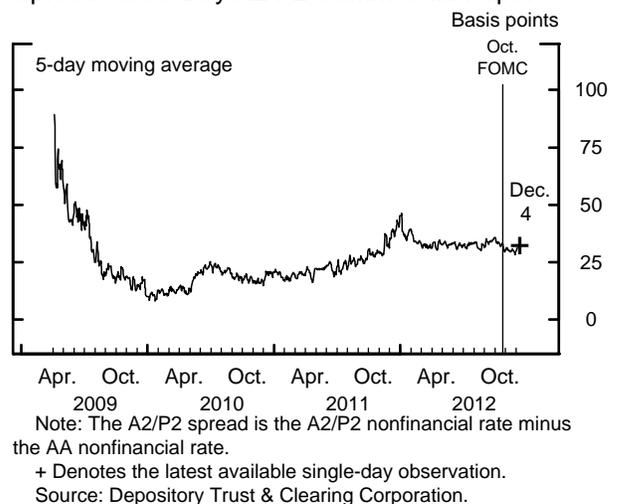


Financial Developments

Corporate Bond Spreads



Spread on 30-Day A2/P2 Commercial Paper



for returns on the S&P 500 index over the next month, rose 1½ percentage points in the immediate aftermath of the U.S. election but declined moderately, on net, over the intermeeting period. Although the VIX is at a relatively low level, equity market volatility measures for longer maturities are higher than historical averages that exclude the financial crisis period.

The reporting season for third-quarter earnings drew to a close over the intermeeting period, and the last wave of reports did not leave a visible imprint on aggregate stock market prices. Although the majority of firms in the S&P 500 index reported earnings that were higher than private-sector forecasts, many reported revenues that failed to meet expectations. And, while the overall level of earnings for S&P 500 firms increased a bit on a quarterly basis, it was little changed from its year-ago level. An index of revisions to analysts' forecasts of year-ahead earnings for S&P 500 firms declined a bit through mid-November, primarily reflecting downward revisions for nonfinancial firms.

Over the intermeeting period, yields on investment-grade corporate bonds were little changed, and spreads of yields on such bonds to those on comparable-maturity Treasury securities widened moderately; for speculative-grade bonds, yields fell to historical lows and spreads were about unchanged. The spreads of yields on A2/P2 unsecured CP issued by nonfinancial firms to those on AA-rated nonfinancial issues were little changed.

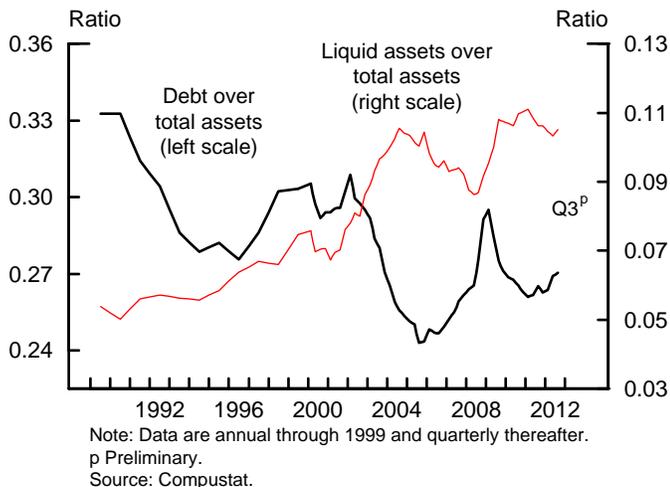
The HFR Global Hedge Fund Index moved in line with the S&P 500 index on a total return basis over the intermeeting period, and hedge fund assets increased in the third quarter. In the SCOOS, a few dealers noted an increase in the intensity of efforts by hedge funds to negotiate more favorable price and nonprice terms. Respondents also indicated that the current use of leverage by hedge funds had remained basically unchanged, on net, over the past three months.

## **BUSINESS FINANCE**

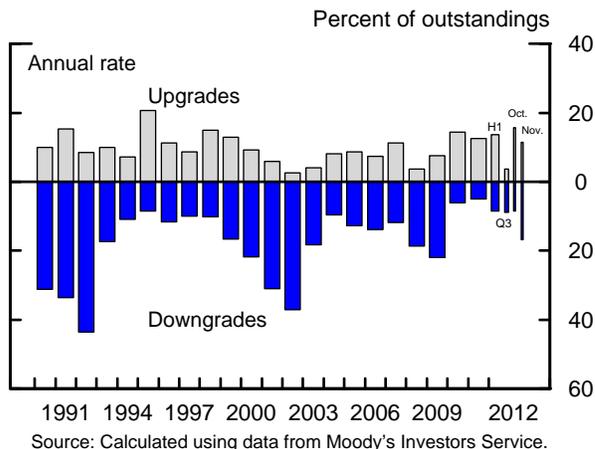
Available indicators suggest that the credit quality of nonfinancial corporations continues to be solid. The aggregate liquid asset ratio edged up some in the third quarter and stands near its highest level in 20 years, while the aggregate ratio of debt to assets was largely unchanged and remains at low levels. On balance over October and November, the volume of nonfinancial corporate bonds upgraded by Moody's Investors

**Business Finance**

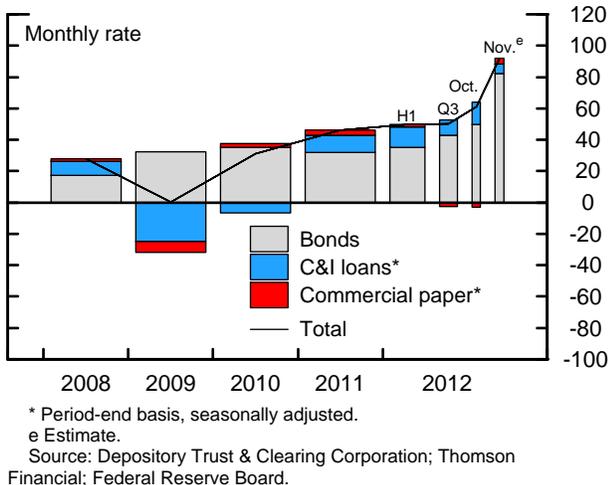
**Financial Ratios for Nonfinancial Corporations**



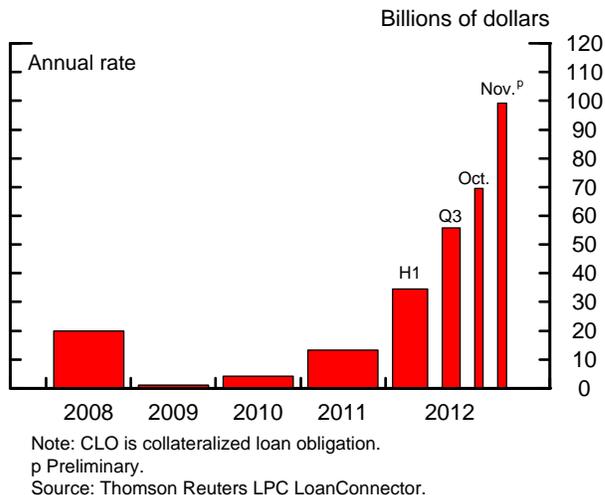
**Bond Ratings Changes of Nonfinancial Firms**



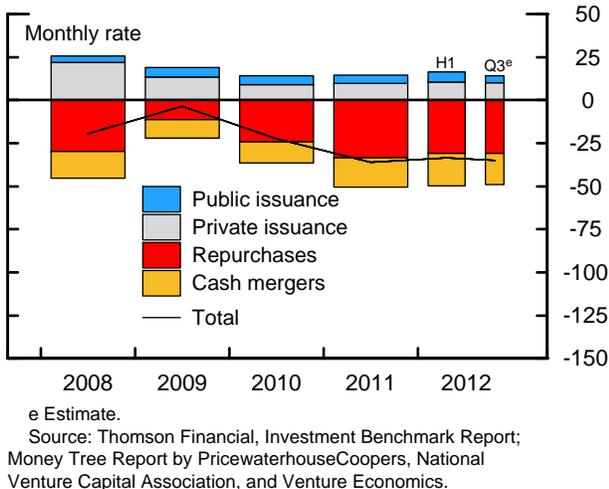
**Selected Components of Net Debt Financing, Nonfinancial Firms**



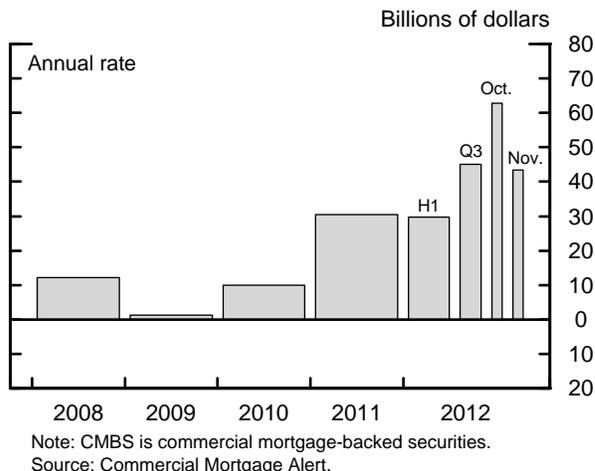
**U.S. CLO Issuance**



**Selected Components of Net Equity Issuance, Nonfinancial Firms**



**CMBS Issuance**



Financial Developments

Service was roughly equal to the volume of downgrades. The six-month trailing bond default rate for nonfinancial firms stayed low in October, and the C&I loan delinquency rate continued to trend down in the third quarter. The KMV expected year-ahead default rate for nonfinancial firms was little changed in November, remaining low by historical standards.

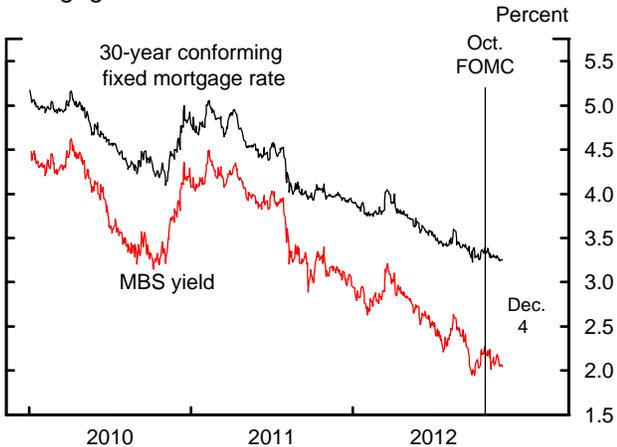
Net debt issuance by nonfinancial firms continued to be very strong over the intermeeting period, supported by low interest rates. Bond issuance by nonfinancial firms increased from the already robust pace seen in the third quarter, as some firms reportedly sought to issue new debt before the end of the year. While high-yield bond issuance slowed some in November from its rapid pace in October, this reduction was more than offset by a pickup in investment-grade issuance. Many high-yield bond issuers reportedly plan to use the proceeds to retire existing debt. The volume of C&I loans outstanding expanded notably in both October and November. The volume of nonfinancial CP outstanding increased some in November following a small decline in October.

In the syndicated leveraged loan market, institutional issuance surged in October before subsiding somewhat in November, albeit to a still-robust level, supported by continued strong demand on the part of institutional investors such as insurance companies, pension funds, and CLOs. Indeed, CLO issuance has totaled nearly \$50 billion so far this year, surpassing issuance for the previous four years combined, but still remains at about half of its pre-crisis peak. While some signs of erosion of underwriting standards and pressures on credit terms and deal structures continue to be evident, there are indications that recently investors have pushed back against some of the more aggressive deals.

Gross public issuance of equity by nonfinancial firms maintained its solid pace in October and November. While IPO activity surged in October, it slowed in November to the more subdued levels seen in the third quarter. In contrast, seasoned equity offerings picked up in November. Retirements of equity were strong in the third quarter due to robust share repurchases and cash-financed mergers, resulting in deeply negative net equity issuance. In the fourth quarter, completions and announcements of cash-financed mergers have continued apace, and, although announcements of new repurchase programs have slowed a bit, the pace of equity retirements likely has remained rapid. Anecdotal reports suggest that dividend payments to shareholders—which are not a

### Household Finance

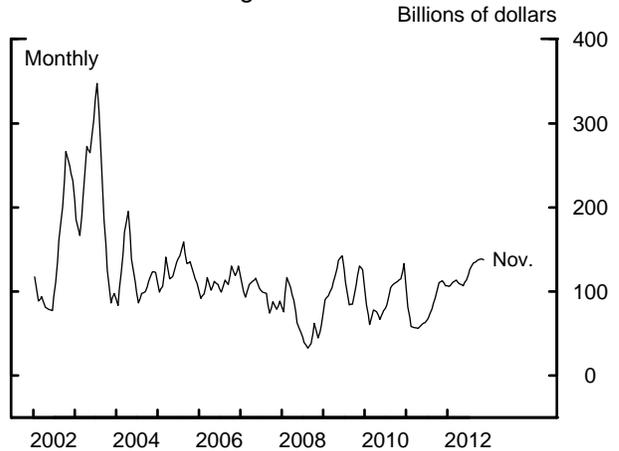
Mortgage Rate and MBS Yield



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.

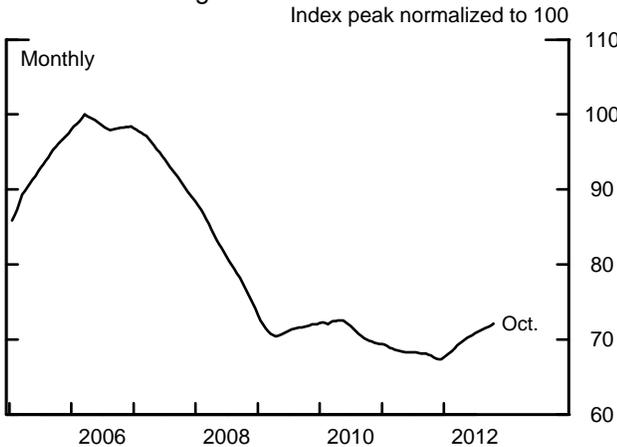
Source: For MBS yield, Barclays; for mortgage rate, Freddie Mac (before 2010) and Loansifter (from 2010).

Refinance Loan Originations



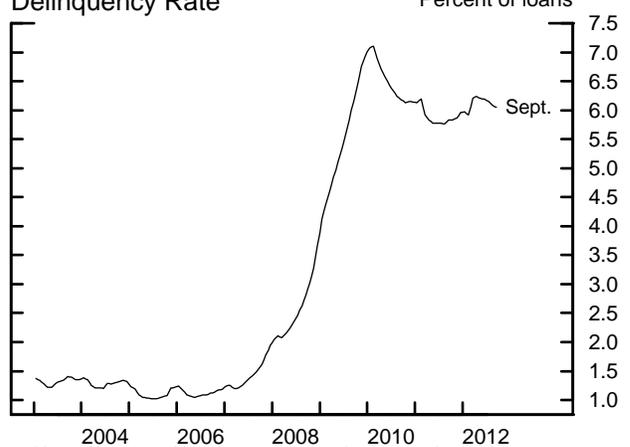
Note: Seasonally adjusted by FRB staff.  
Source: Staff estimates.

Prices of Existing Homes



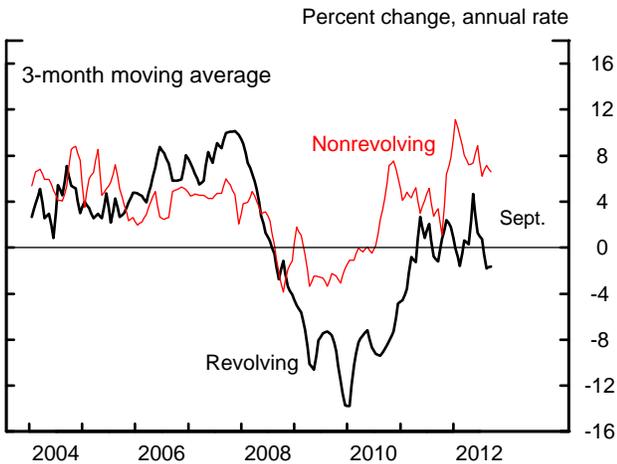
Source: CoreLogic.

Delinquencies on Prime Mortgages, Delinquency Rate



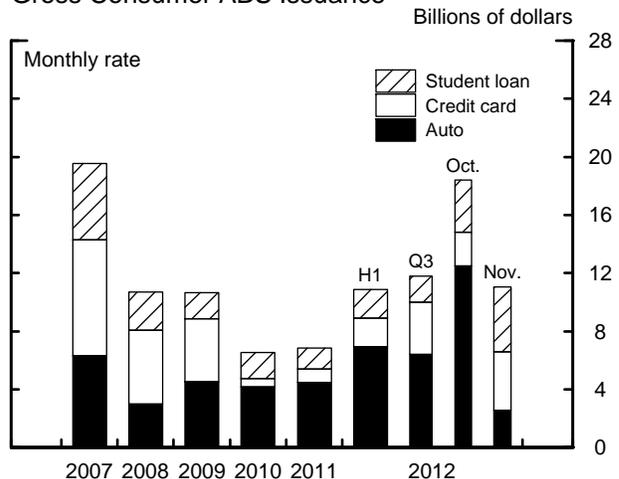
Note: Percent of loans 90 or more days past due or in foreclosure.  
Source: LPS Applied Analytics.

Consumer Credit



Source: Federal Reserve Board.

Gross Consumer ABS Issuance



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

component of net equity issuance—may accelerate in the fourth quarter as some firms decide to issue special dividends or move dividend payments from January 2013 to December 2012 in anticipation of possibly higher tax rates on dividend income next year.

Financial conditions in the commercial real estate (CRE) sector remained strained amid elevated vacancy and delinquency rates. However, some indicators have pointed to modest improvement in the sector. Prices for CRE properties continued to increase in the third quarter and now stand 10 percent above their low from early last year. CMBS issuance remained on pace for another solid quarter, reportedly driven by strong investor demand for this class of securities, which has narrowed their spreads and made CMBS more competitive with portfolio lenders.

## HOUSEHOLD FINANCE

Mortgage rates fluctuated around historical lows during the intermeeting period, with the interest rate on 30-year fixed-rate conforming mortgages near 3¼ percent, about 10 basis points below its level as of the October FOMC meeting. Agency MBS yields declined in line with comparable-maturity Treasury securities. The spread between primary and secondary rates remained wide over the intermeeting period, due in part to continued capacity constraints at mortgage originators. Refinance originations increased a bit further in October and November. However, originations remained subdued relative to the predictions of staff models based on past behavior, as tight underwriting conditions, consolidation in the mortgage origination sector, and low levels of home equity continued to limit access to credit for households without stellar credit records.

Aggregate indexes of house prices continued to increase in September and October, even as the share of properties sold through foreclosures or short sales moved up. The CoreLogic house price index is now 7¼ percent higher than the low reached near the end of last year. The fraction of existing mortgages that are seriously delinquent fell in the third quarter but remained elevated by historical standards. During the intermeeting period, the FHA announced in its annual report to the Congress that elevated delinquency rates—primarily on loans in the 2006–08 vintages—have contributed to a decrease in its cash reserves and that it will address this shortfall by increasing insurance premiums, among other changes. Recent industry reports suggest that about one-fourth of home sales have been financed by FHA-insured mortgages.

Consumer credit expanded briskly again in September as sizable increases in auto loans and student loans pushed up nonrevolving balances. Revolving credit decreased in September, although it has been about unchanged, on net, over the past few months. Consumer ABS issuance continued on pace for another strong quarter, supported by low interest rates. Auto ABS issuance has been strong in recent months, particularly in October, as low default rates and high recovery rates have attracted investors. Consumer credit delinquency rates, with the notable exception of student loans, remained low. The particularly low delinquency rate for credit card loans appears to reflect the compositional shift toward higher-quality borrowers due to still-tight credit conditions.

## GOVERNMENT FINANCE

Since the October FOMC meeting, the Treasury Department has auctioned \$200 billion in nominal securities and \$13 billion in 10-year TIPS. The auctions were generally well received, with bid-to-cover ratios and indirect bidding ratios mostly close to their recent averages.<sup>7</sup>

Despite continued fiscal pressures facing state and local governments, gross issuance of long-term municipal bonds was robust in October and November. Moreover, net issuance of long-term bonds turned positive in October and November following a negative third quarter. Industry reports suggest that, reflecting the uncertainty about the fiscal cliff negotiations, some municipalities are pulling bond issuance forward to avoid the possibility that funding conditions will become more difficult past year-end.

The credit quality of municipal bonds deteriorated somewhat over the intermeeting period. Ratings downgrades continued outpacing upgrades in the third quarter of 2012, and incoming data suggest that downgrades will likely continue outpacing upgrades through the rest of the year. CDS spreads for states were roughly unchanged, on net, over the intermeeting period, staying around their average levels over

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<sup>7</sup> Investors do not appear to be anticipating significant strains in the Treasury market around year-end, when the federal debt limit is expected to be reached. In extraordinary circumstances, the Treasury can declare a “debt issuance suspension period.” During this period, the Treasury can suspend daily reinvestment of the Treasury securities held by the Government Securities Investment Fund, redeem existing and suspend new investments in the Civil Service Retirement and Disability Fund, suspend the daily reinvestment of Treasury securities held by the Exchange Stabilization Fund, and replace a small amount of Treasury securities subject to the debt limit with debt issued by the Federal Financing Bank. Based on current projections, these actions would allow the Treasury to continue operating without an increase in the debt limit through early March 2013.

the past four years. Yields on 20-year general obligation municipal bonds moved down markedly over the period and reached new record lows. Some of this decline might be due to a greater perceived likelihood that the federal deduction for state and local taxes would be trimmed back as part of the fiscal cliff negotiations, but with existing bonds grandfathered. The ratio of yields on long-term general obligation municipal bonds to yields on comparable-maturity Treasury securities decreased some on net.

## COMMERCIAL BANKING AND MONEY

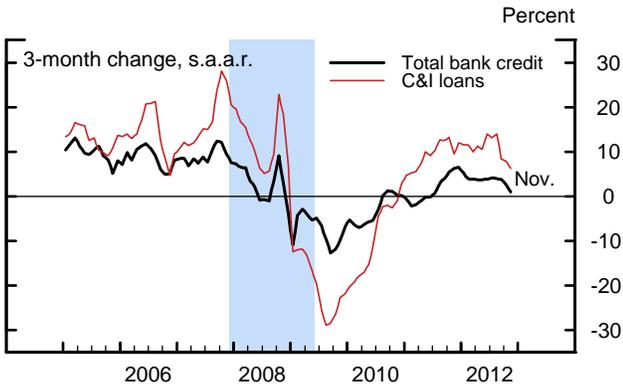
Bank credit was about flat, on balance, over October and November. Growth of C&I loans remained robust over the period despite a decline in C&I loans held by branches and agencies of foreign banks, particularly those with European parents. Over the past three months, CRE loans have posted small monthly gains—the first since February 2009—as originations at small domestic banks have reportedly picked up. Sales of closed-end mortgages to the GSEs reportedly outpaced brisk origination volumes, and on-balance-sheet holdings of such loans decreased. The ongoing declines in home equity loans accelerated, reportedly in part because banks charged off some loans in response to the implementation of recent regulatory guidance and because a few large banks reduced principal as part of a national mortgage settlement reached in February 2012. Consumer loans grew modestly over October and November because of increases in nonrevolving loans that were partially offset by declines in credit card loans. Growth in total securities slowed, on net, as rapid increases in holdings of Treasury securities at large domestic banks were partially offset by sizable sales of agency MBS at all bank groups.

The Survey of Terms of Business Lending that was conducted in November suggested some easing in loan pricing and terms. Spreads on C&I loans were little changed overall but narrowed for larger loans, matching reports in recent results of the Senior Loan Officer Opinion Survey on Bank Lending Practices that competition among banks for large business credits has been increasing. Moreover, the average maturity of C&I loans originated during the survey week lengthened to a level that is considerably higher than its pre-recession peak.

On a seasonally adjusted basis, standard measures of profitability for BHCs were little changed in the third quarter of 2012. Those measures remained well below pre-crisis levels even though provisioning for loan losses has stabilized in recent quarters at only slightly elevated levels. BHCs' net interest margins are depressed, reportedly

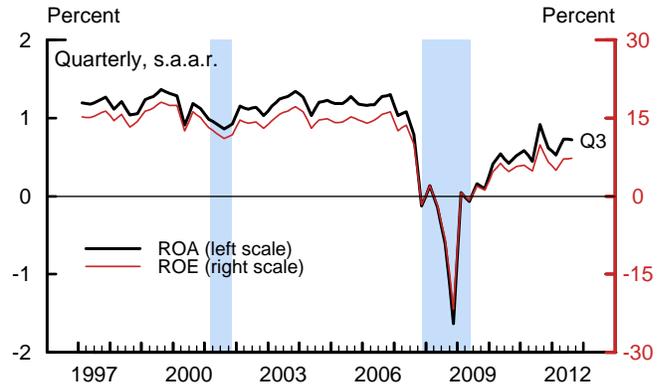
### Commercial Banking and Money

Changes in Bank Credit



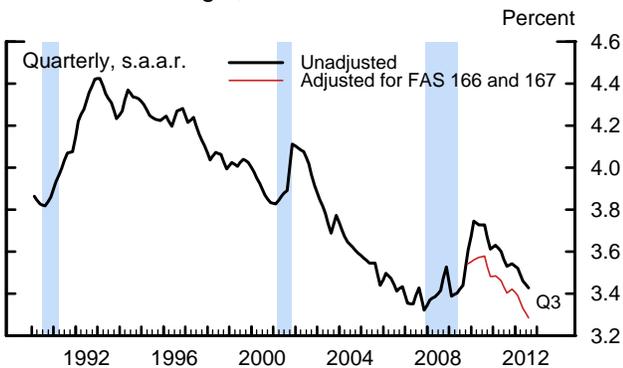
Note: The data have been adjusted to remove the estimated effects of certain changes to accounting standards and nonbank structure activity of \$5 billion or more.  
Source: Federal Reserve Board.

Return on Assets and Return on Equity



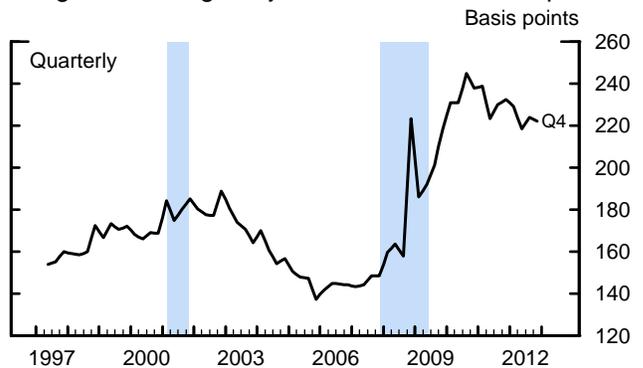
Source: Federal Reserve Board, FR Y-9C, Consolidated Financial Statements for Bank Holding Companies.

Net Interest Margin, All Banks



Note: FAS 166 and 167 required banks to consolidate some off-balance-sheet vehicles. Net interest margins are adjusted to reflect the interest income and expense associated with the consolidation of credit card assets.  
Source: Call Report.

Weighted-Average Adjusted C&I Loan Rate Spread



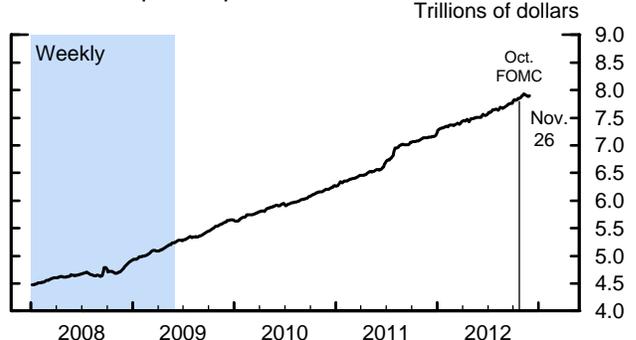
Note: The rate on commercial and industrial (C&I) loans of less than \$25 million over the interest rate on a market instrument of comparable maturity, adjusted for changes in nonprice loan characteristics.  
Source: Survey of Terms of Business Lending.

Growth of M2 and Its Components

Percent, s.a.a.r.	M2	Liquid deposits	Small time deposits	Retail MMFs	Curr.
2011	9.7	15.4	-18.4	-2.1	8.8
2012:H1	6.7	10.3	-16.8	-9.1	9.3
2012:Q3	6.7	10.1	-18.0	-6.9	7.6
Oct.&Nov.(e)	8.5	11.0	-20.0	9.5	7.4

Note: Retail MMFs are retail money market funds.  
e Staff estimate.  
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.

pressured by the low-interest-rate environment, a flattening of the yield curve, and competition. Delinquency and charge-off rates generally continued to improve for most types of loans in the third quarter but rose significantly for junior-lien residential mortgages and home equity lines of credit, reflecting the regulatory guidance and mortgage settlement noted earlier. Growth in core lending—the sum of C&I loans, consumer loans, and loans secured by real estate—at commercial banks continued to be well below the predictions generated by historical statistical relationships between loan growth and various macroeconomic and financial market indicators. Regulatory capital ratios based on current definitions remained very high in the third quarter, and a measure of banks' reliance on short-term money as a source of funding decreased further.

M2 grew at an annual rate of about 8½ percent, on average, over October and November. Liquid deposits, the largest component of M2, continued to expand briskly, likely reflecting low yields on alternative investments. Both foreign and domestic demand for U.S. bank notes supported robust currency growth over the period. Reserves increased, in part because of the settlement of the ongoing MBS purchases announced at the September FOMC meeting. The monetary base expanded in line with the gains in currency and reserves.

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## Appendix

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

Responses to the December 2012 Senior Credit Officer Opinion Survey on Dealer Financing Terms generally suggested little change in the credit terms applicable to important classes of counterparties covered by the survey over the past three months.<sup>1</sup> However, continuing a trend observed in previous 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; a smaller net share reported an increase in the amount of resources and attention devoted to the management of exposures to dealers and other financial intermediaries. Overall, respondents noted that the use of financial leverage by important classes of counterparties had remained basically unchanged over the past three months.

As in previous surveys, respondents indicated that most nonprice terms incorporated in new or renegotiated over-the-counter (OTC) derivatives master agreements were broadly 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 terms applicable to the funding of the various types of securities covered in the survey were reported to have generally changed little over the past three months, an uptick in demand for financing was evident. Almost one-third of dealers reported increased demand for funding of agency residential mortgage-backed securities (RMBS). Modest net fractions of respondents indicated increased demand for term funding (that is, funding with a maturity of 30 days or more) of agency and non-agency RMBS, commercial mortgage-backed securities (CMBS), and consumer asset-backed securities (ABS). Nearly one-third of respondents noted that the liquidity and functioning of the underlying markets for non-agency RMBS and CMBS had improved somewhat during the previous three months.

In response to a set of special questions on collateral transformation trades, small to moderate fractions of dealers reported some current activity with most of the client types covered

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<sup>1</sup> The December 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 transaction volumes and interest in collateral transformation trades, and a second set of special questions on prospects for changes in cash management strategies upon the expiration of the provision in the Dodd-Frank Wall Street Reform and Consumer Protection Act that extended unlimited deposit insurance on noninterest-bearing transaction accounts at the end of this year. 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 November 13, 2012, to November 26, 2012. The core questions ask about changes between September 2012 and November 2012.

in the survey.<sup>2</sup> However, for all client types, a greater share of dealers indicated having frequent or at least some discussion with clients on prospective transactions regarding collateral transformation trades. Respondents reported that the volume of collateral transformation trades had remained basically unchanged since the start of the year.

A second set of special questions asked about likely changes in cash management strategies upon expiration at year-end of the Federal Deposit Insurance Corporation's (FDIC) unlimited guarantee of noninterest-bearing transaction accounts. Four-fifths of respondents indicated that their own institutions are unlikely to reduce the volume of deposits held at commercial banks. However, dealers expected their clients to be more responsive to the expiration of the unlimited guarantee. Large fractions of dealers noted that they expected moderate or limited reduction in their clients' holdings of commercial bank deposits, while a few dealers expected a reallocation of balances across banking institutions. The clients who respondents anticipated would reduce deposits held at commercial banks were expected to increase their use of repurchase agreements, money market funds, and Treasury bills and other government securities.

## COUNTERPARTY TYPES

### Dealers and Other Financial Intermediaries

In the December survey, about one-fourth of respondents indicated that they had increased the amount of resources and attention devoted to management of concentrated exposures to dealers and other financial intermediaries over the past three months. (See the exhibit "Management of Concentrated Credit Exposures and Indicators of Supply of Credit.") This share was similar for the nine "broad-scope" dealers, defined as those firms which have a significant presence in essentially all of the business areas covered in the survey. 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 since the June survey.

### Central Counterparties and Other Financial Utilities

About two-thirds 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. All but one of the broad-scope dealers reported an increase. In light of the approaching implementation of new regulatory requirements mandating increased central clearing of many OTC contracts, continued focus on this issue is unsurprising. Of note, all but one of the broad-scope dealers reported an increase. About one-fourth of all of the respondents indicated

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<sup>2</sup> Collateral transformation entails the lending of securities collateralized with other securities. Such transactions may be used by certain market participants to obtain higher-quality collateral—for example, to post pursuant to OTC derivatives transactions. In turn, lenders of the high-quality collateral can boost the effective return on owning such assets by temporarily exchanging such instruments for higher-yielding securities.

that changes in the practices of central counterparties, including changes in margin requirements and haircuts, had influenced to some extent the credit terms the dealer applied to clients on bilateral transactions that are not cleared.

### **Hedge Funds**

As in September, respondents to the December survey 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 unchanged over the past three months. Almost one-fifth of dealers 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 decline in the trend observed in previous surveys. Respondents indicated that the current use of leverage had changed little, on net, over the past three months. (See the exhibit “Use of Financial Leverage.”) However, among the broad-scope dealers, one-third reported an increase in the use of leverage. Respondents also indicated that the availability of additional leverage under agreements currently in place had remained basically unchanged, although a few dealers pointed to an increase.

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

Most respondents to the December survey reported that price and nonprice terms offered to trading real estate investment trusts (REITs) had remained broadly unchanged over the past three months.<sup>3</sup> A few dealers indicated that price terms had tightened somewhat, for which diminished availability of dealer balance sheet or capital was the most cited reason. Over four-fifths of respondents reported that the use of financial leverage by trading REITS had remained broadly unchanged, while the remainder (none of which were broad-scope dealers) reported that the use of leverage had increased somewhat. Respondents indicated 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 December 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 effort by clients to negotiate more-favorable terms were also reported to be little changed, as was the use of financial leverage.

### **Insurance Companies**

As in the previous survey, respondents to the December 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

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

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**

As in the previous survey, nearly all of the dealers reported in the December 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.

### **Nonfinancial Corporations**

Respondents to the December survey indicated that both price and nonprice terms offered to nonfinancial corporations had remained essentially unchanged over the past three months. A few 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 December 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 reported that the volume of disputes with dealers and other financial intermediaries had decreased somewhat over the same period.

## **OVER-THE-COUNTER DERIVATIVES**

As in previous surveys, nonprice terms incorporated in new or renegotiated OTC derivatives master agreements were reported to be broadly unchanged, on net, over the past three months.<sup>4</sup> A few dealers indicated that requirements, timelines, and thresholds for posting additional margin had tightened somewhat. 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, nearly all of the dealers indicated that the volume, duration, and persistence of mark and collateral disputes remained basically unchanged over the past three months. However, one-fifth of respondents reported that the volume of mark and collateral disputes had decreased for contracts referencing interest rates.

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<sup>4</sup> The survey asks specifically about requirements 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.

## 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. The only exception was equities, for which a few survey respondents indicated that they had increased the maximum amount of funding for their clients.

For all securities types, the large majority of dealers reported that demand for funding was broadly unchanged over the past three months. (See the exhibit “Measures of Demand for Funding and Market Functioning.”) However, moderate net fractions of respondents noted an increase in demand for funding of securitized products. In particular, almost one-third of dealers reported increased demand for funding of agency RMBS. In addition, fractions of respondents ranging between one-fifth and one-fourth pointed to increased demand for term funding (not shown separately)—that is, funding with a maturity of 30 days or more—for agency RMBS, non-agency RMBS, CMBS, and consumer ABS.

Nearly one-third of respondents indicated that the liquidity and functioning of the underlying markets for non-agency RMBS and CMBS had improved somewhat during the previous three months.<sup>5</sup> For other collateral types covered in the survey, liquidity and functioning of the underlying markets were generally characterized as little changed on net. These results are similar to those in the September survey.

Finally, as in previous surveys, 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 COLLATERAL TRANSFORMATION TRADES

Market commentary suggests that investors are increasingly interested in collateral transformation trades—that is, the lending of high-quality securities collateralized with other securities. Frequently cited motivations for such transactions include the need for some institutions to obtain pristine collateral, including for purposes of posting collateral pursuant to their OTC trades with dealers and central counterparties, and the desires of other institutions for the returns associated with effectively providing financing for higher-risk securities. A set of special questions queried dealers about the change in the volume of such transactions relative to the beginning of 2012 as well as the current level of interest in collateral transformation across various client types.

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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.

Relative to the beginning of 2012, dealers indicated that the volume of collateral transformation transactions through which clients source and provide pristine collateral had remained basically unchanged on net.

With regard to the level of interest in trades that allow clients to *source* pristine collateral, roughly one-fourth of survey respondents reported some current activity on the part of dealers and other financial intermediaries, mutual funds and ETFs, pension plans and endowments, and insurance companies. (See the exhibit “Collateral Transformation Transactions.”) Despite the lack of significant current activity, between about one-third and two-thirds of respondents reported frequent or at least some discussion of prospective transactions with all client types covered in the survey.

With regard to the level of interest in collateral transformation transactions that allow clients to *provide* pristine collateral, roughly one-fifth of survey respondents reported some current activity on the part of dealers and other financial intermediaries, pension plans and endowments, and insurance companies. Between about one-fourth and one-half of respondents pointed to frequent or at least some discussion of prospective transactions with all client types covered in the survey.

Overall, the clients reported to be most likely to be either currently active in collateral transformation transactions or engaged in discussions on prospective transactions are dealers and other financial intermediaries, hedge funds, insurance companies, and pension funds and endowments. Of note, hedge funds and insurance companies are more likely to be engaged in discussions about sourcing pristine collateral. For other client types, reported levels of interest appear more balanced between sourcing and providing pristine collateral.

### **SPECIAL QUESTION ON EXPIRATION OF THE FEDERAL DEPOSIT INSURANCE CORPORATION UNLIMITED GUARANTEE ON TRANSACTION ACCOUNTS**

The FDIC’s unlimited guarantee on noninterest-bearing transaction accounts is scheduled to expire at the end of 2012.<sup>6</sup> Its expiration raises the prospect that some market participants will adjust their cash management strategies. A second set of special questions asked about the likely changes in strategies by the respondent’s institution as well as the likely response of the respondent’s clients. In particular, respondents were queried about the likelihood of reductions in the amount of deposits held at commercial banking institutions on credit risk management grounds because of the expiration of the unlimited FDIC guarantee and, conditional on such reductions, about the likelihood of increased use of alternative cash management strategies.

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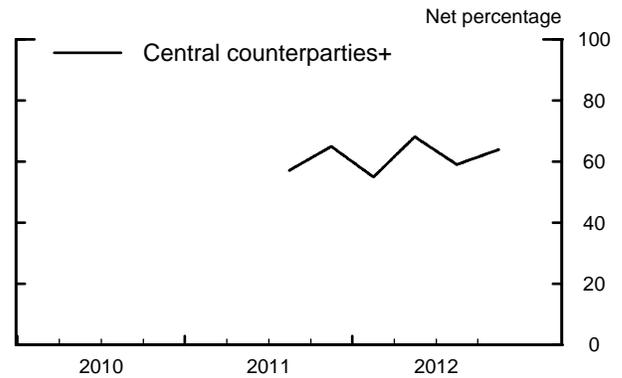
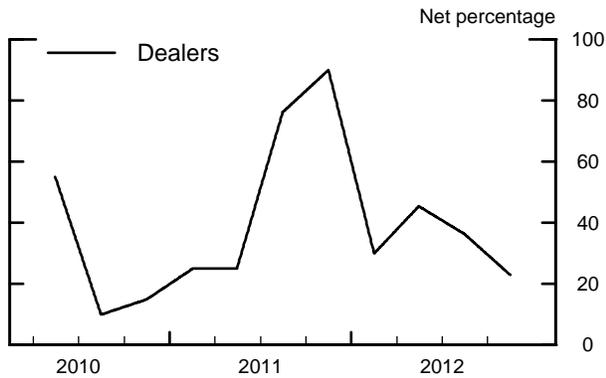
<sup>6</sup> On January 1, 2013, the insurance limit on noninterest-bearing transaction accounts is scheduled to revert to \$250,000. In market commentary, the unlimited guarantee is often referred to as the Transaction Account Guarantee (TAG) Program, and the wording of the special questions in this survey followed that convention. However, the TAG Program properly refers to an earlier FDIC program that expired at the end of 2010.

Four-fifths of respondents indicated that their own institutions are unlikely to reduce the amount of deposits held at commercial banks. The remainder reported that only moderate or limited reductions, or targeted reductions at specific institutions, are likely. Among the institutions foreseeing reductions, the alternative cash management strategies cited the most were reallocation of deposits to different commercial banks and repurchase agreements.

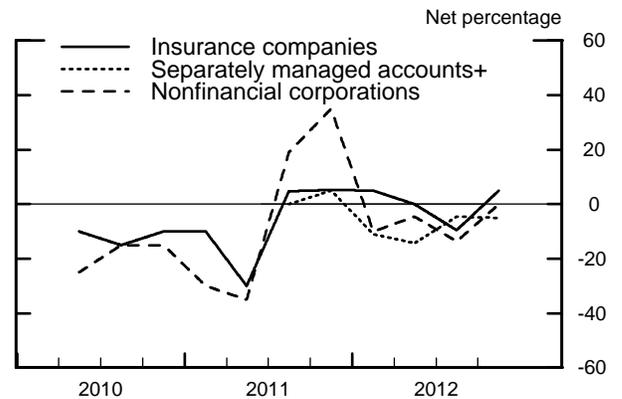
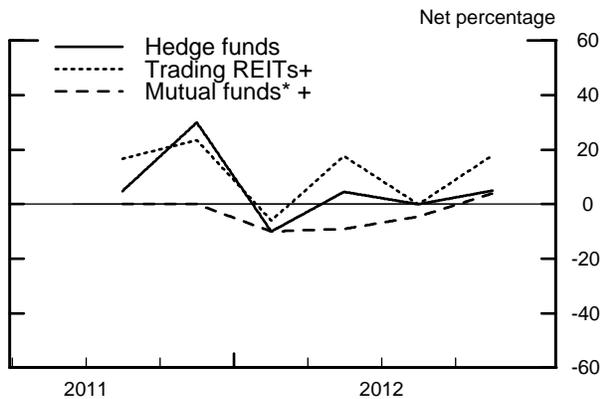
By contrast, dealers expected many of their clients to respond at least somewhat to the expiration of the unlimited guarantee. About three-fourths of dealers anticipated reductions in deposits held at commercial banks by traditionally unlevered investors, such as insurance companies; mutual funds, ETFs, pension plans and endowments; and asset managers. The remainder of respondents anticipated no reductions or targeted reductions at some specific institutions. Nearly two-thirds of respondents anticipated reductions of deposits held at commercial banks by nonfinancial corporations, with a couple of dealers suggesting significant reductions were likely. With regard to levered investors, nearly one-half of dealers indicated that they anticipated moderate or limited reductions of deposits held at commercial banks on the part of hedge funds, and over two-thirds of respondents expected similar reductions by trading REITs. For every client type, the fraction reporting that reductions are likely was higher for the subsample of broad-scope dealers than for the full sample. With regard to the alternative cash management strategies listed in the survey, the clients who respondents expected would reduce deposits held at commercial banks were seen as responding by reallocating deposits to other commercial banks or by increasing their use of repurchase agreements, money market funds, Treasury bills and longer-dated Treasury securities or agency securities. Among the alternatives listed in the survey question, only direct investment in commercial paper was expected to garner little interest.

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

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

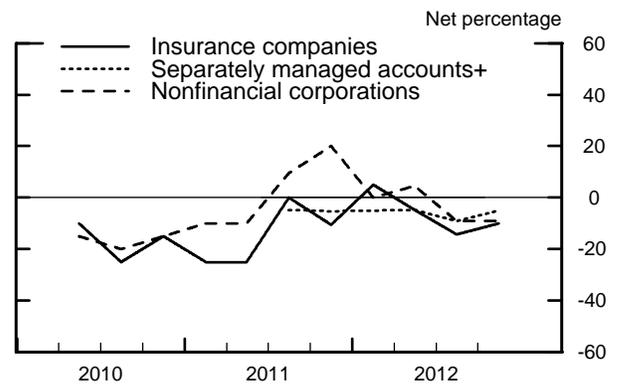
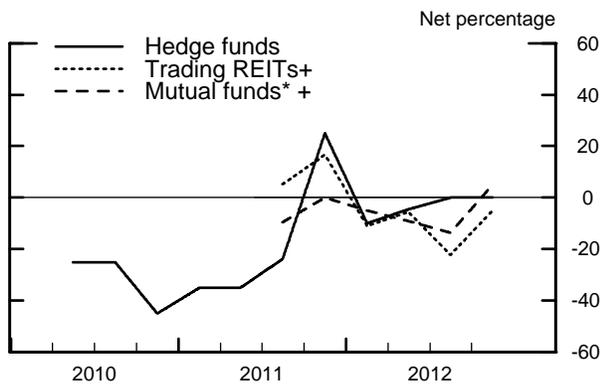


**Respondents tightening price terms to:**



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

**Respondents tightening nonprice terms to:**



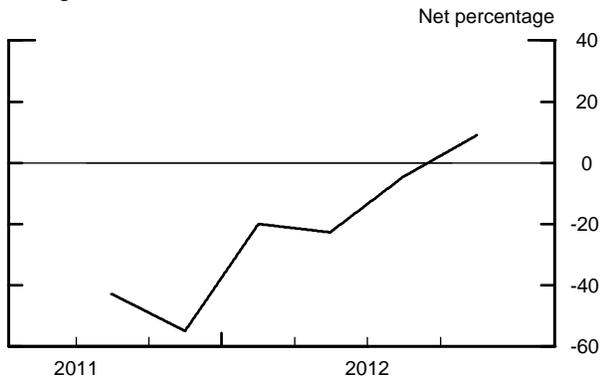
\* Includes mutual funds, exchange-traded funds, pension plans, and endowments.

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

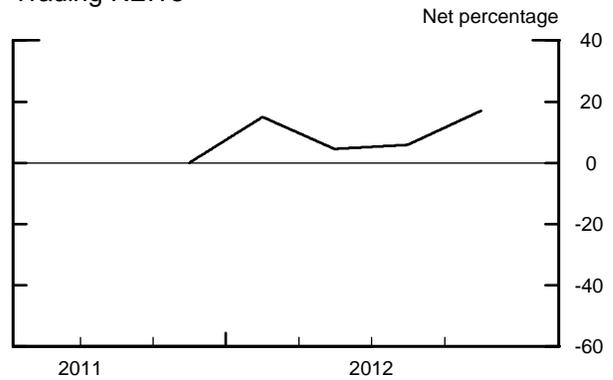
### Use of Financial Leverage

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

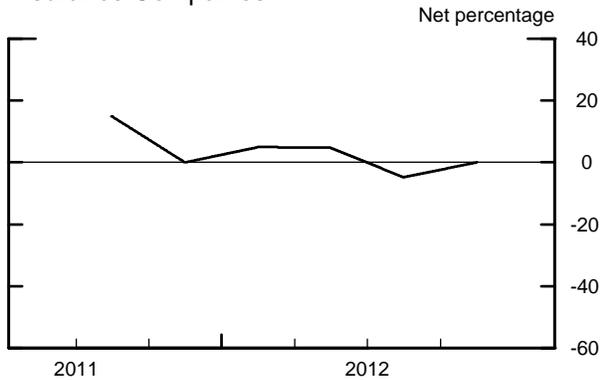
Hedge Funds



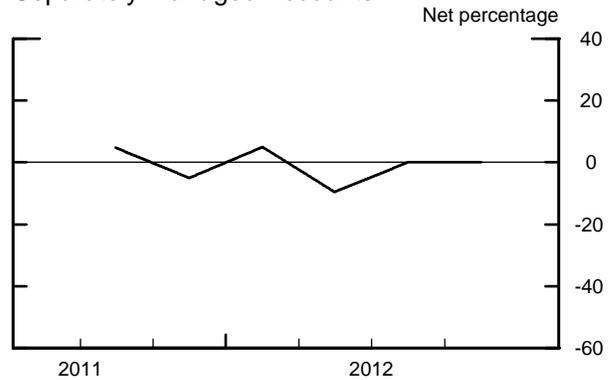
Trading REITs



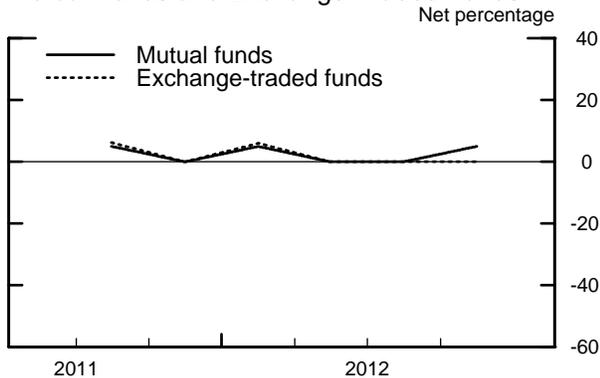
Insurance Companies



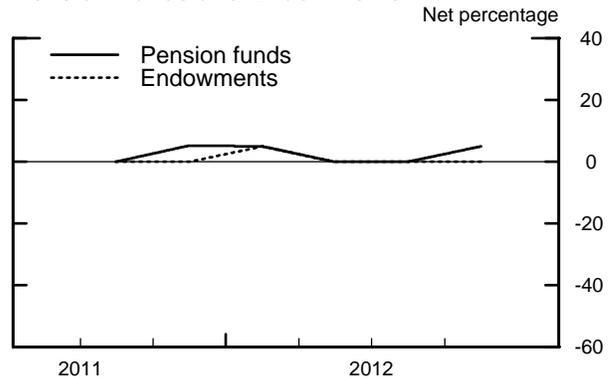
Separately Managed Accounts



Mutual Funds and Exchange-Traded Funds



Pension Funds and Endowments

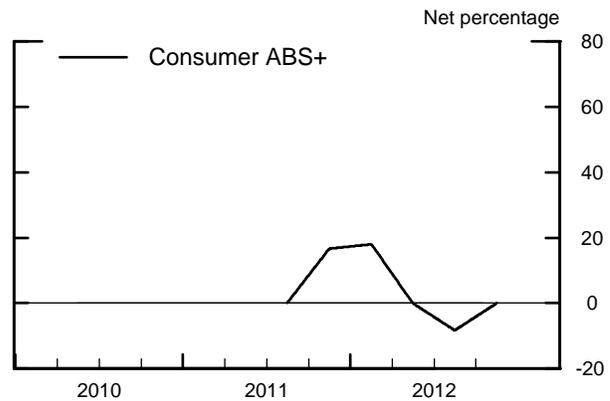
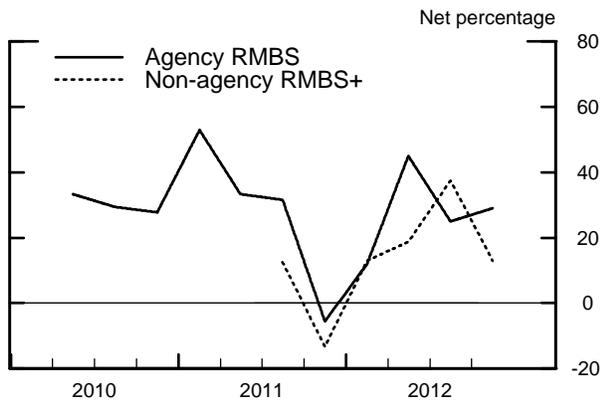
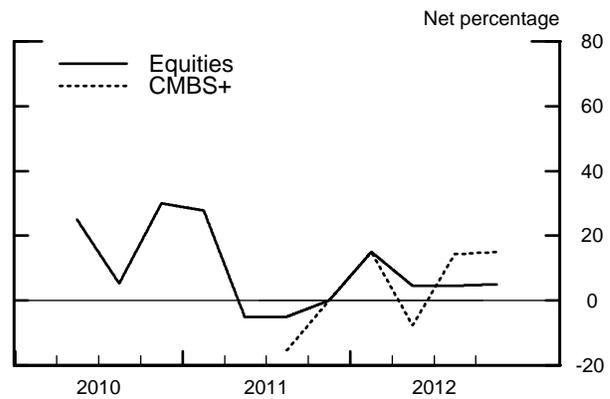
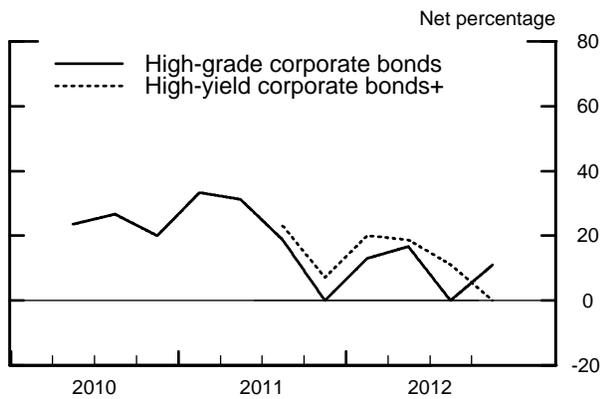


Note: This question was added in the September 2011 survey.

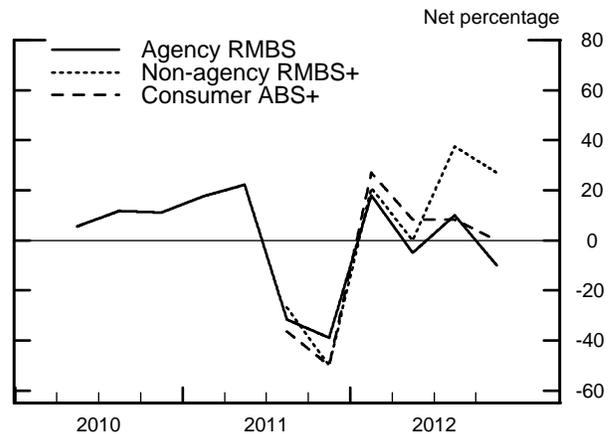
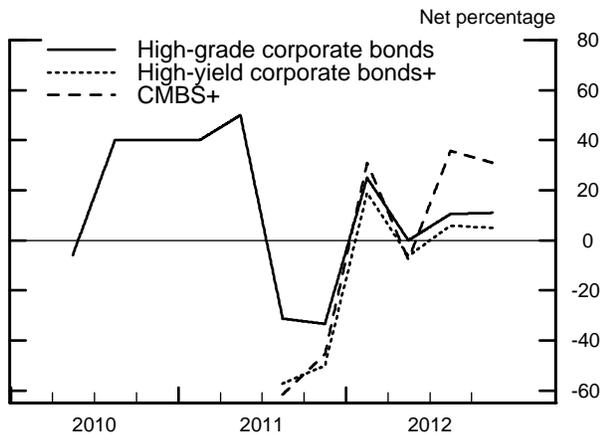


**Measures of Demand for Funding and Market Functioning**

**Respondents reporting increased demand for funding of:**

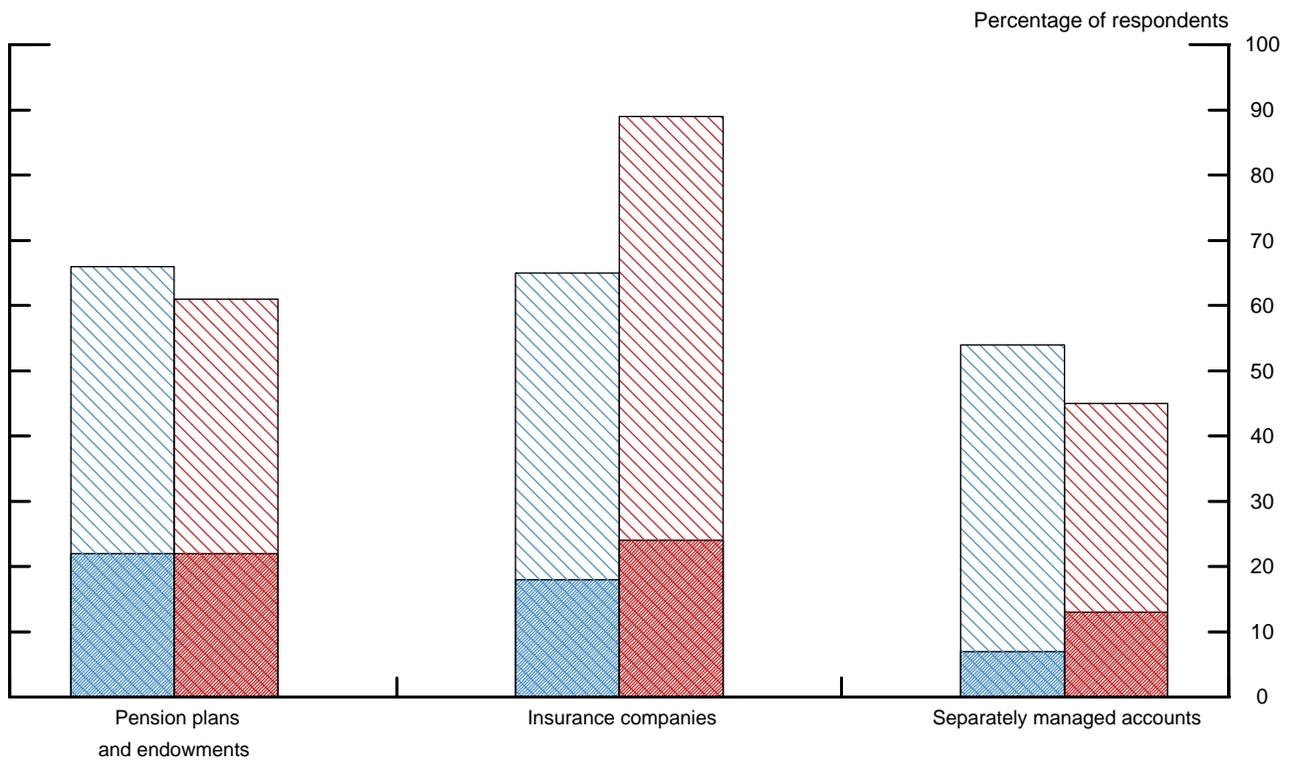
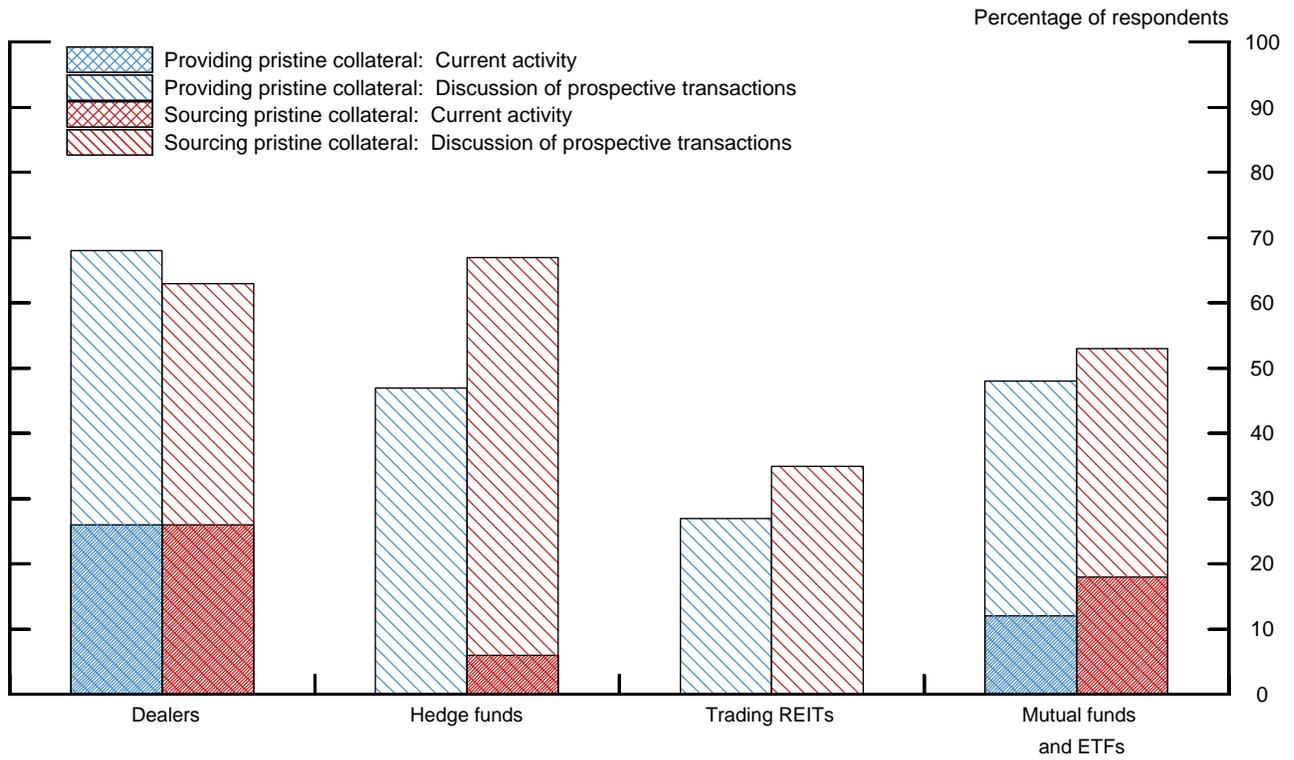


**Respondents reporting an improvement in liquidity and functioning in the underlying markets for:**



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

### Collateral Transformation Transactions



Financial Developments

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## Risks and Uncertainty

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### ASSESSMENT OF FORECAST UNCERTAINTY

We continue to view the uncertainty around our projection for economic activity as elevated, although only somewhat more so than the average high-volatility experience of the past 20 years (the benchmark used by the FOMC).<sup>1</sup> In part, this assessment reflects 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. It also derives from the uncertainty associated with the current federal budget situation, which poses a significant downside risk as fiscal policymakers, by choice or by gridlock, could impose far more restraint on aggregate demand next year than we have assumed. We also continue to see appreciable risks related to the fiscal and financial situation in Europe. Although recent policy developments in the euro area appear to have reduced some of those risks, we still see a significant possibility that the European situation could deteriorate more than we have assumed, with substantial spillover effects on the U.S. economy. In addition, U.S. monetary policy has limited capacity to counteract the effects of either a severe economic downturn in Europe or a substantial tightening of U.S. fiscal policy. We continue to assess the risks to domestic economic activity as skewed to the downside.

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 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 execute a timely exit from the current stance of policy, could cause inflation to rise, as could a stronger-than-expected recovery or a larger amount of damage to the supply side of the

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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 financial crisis and its aftermath, the size of the estimated standard errors for out-year projections of the unemployment rate has almost doubled. 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	2012	2013	2014	2015	2016-17
	H2				
<i>Real GDP</i>					
Extended Tealbook baseline	1.8	2.5	3.2	3.6	2.9
Fiscal cliff	1.8	1.1	2.3	3.4	3.9
Robust housing recovery	1.8	2.7	3.8	3.7	2.5
Housing reverberations	1.8	4.4	4.1	2.8	2.0
Headwinds	1.8	2.1	2.4	2.6	2.9
Higher inflation with unanchored expectations	1.8	2.4	3.1	3.2	2.8
European crisis with severe spillovers	1.7	-3.3	.5	3.9	3.6
Weaker growth in emerging market economies	1.8	1.7	2.4	3.6	3.4
<i>Unemployment rate<sup>1</sup></i>					
Extended Tealbook baseline	8.0	7.8	7.4	6.5	5.4
Fiscal cliff	8.0	8.3	8.5	7.8	5.9
Robust housing recovery	8.0	7.7	7.1	6.0	5.3
Housing reverberations	8.0	7.2	6.1	5.4	5.3
Headwinds	8.0	7.9	7.9	7.4	6.5
Higher inflation with unanchored expectations	8.0	7.8	7.5	6.7	5.8
European crisis with severe spillovers	8.0	9.7	10.7	9.8	7.9
Weaker growth in emerging market economies	8.0	8.1	8.0	7.2	5.8
<i>Total PCE prices</i>					
Extended Tealbook baseline	1.6	1.3	1.4	1.5	1.8
Fiscal cliff	1.6	1.2	1.2	1.0	1.3
Robust housing recovery	1.6	1.3	1.4	1.6	1.9
Housing reverberations	1.6	1.3	1.6	1.9	2.2
Headwinds	1.6	1.3	1.3	1.3	1.4
Higher inflation with unanchored expectations	1.6	2.1	2.8	2.5	2.3
European crisis with severe spillovers	1.5	-1.3	.2	1.5	2.1
Weaker growth in emerging market economies	1.6	.6	.5	1.2	1.9
<i>Core PCE prices</i>					
Extended Tealbook baseline	1.2	1.6	1.6	1.7	1.9
Fiscal cliff	1.2	1.5	1.4	1.2	1.4
Robust housing recovery	1.2	1.6	1.6	1.8	2.0
Housing reverberations	1.2	1.6	1.8	2.1	2.3
Headwinds	1.2	1.6	1.5	1.5	1.5
Higher inflation with unanchored expectations	1.2	2.4	3.0	2.7	2.4
European crisis with severe spillovers	1.2	.3	.6	1.4	2.0
Weaker growth in emerging market economies	1.2	1.3	1.2	1.4	1.9
<i>Federal funds rate<sup>1</sup></i>					
Extended Tealbook baseline	.2	.1	.1	.4	3.2
Fiscal cliff	.2	.1	.1	.1	2.4
Robust housing recovery	.2	.1	.2	1.2	3.4
Housing reverberations	.2	.3	1.4	2.0	3.4
Headwinds	.2	.1	.1	.1	1.3
Higher inflation with unanchored expectations	.2	.1	.8	1.7	3.6
European crisis with severe spillovers	.1	.1	.1	.1	.8
Weaker growth in emerging market economies	.1	.1	.1	.1	2.4

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

economy than assumed in the baseline. On the downside, there is the possibility that weaker-than-anticipated economic conditions, further subdued increases in unit labor costs, and low levels of resource utilization could cause actual and expected inflation to decrease over time.

## **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 examines the consequences of sharper fiscal contraction next year than is assumed in the baseline. The next two scenarios consider some upside risks to aggregate demand. In the first, recent positive developments in the housing market are assumed to lead to a faster recovery in residential construction and house prices, but the spillover effects to the broader economy are limited. The next scenario builds on the previous one by assuming that the stronger housing recovery also contributes to improvements in consumer and business confidence, employment, credit availability, and aggregate spending that lead to a more robust expansion in the overall economy. In contrast, the fourth scenario explores the downside risk that we have underestimated the persistence of the headwinds restraining the recovery. The fifth scenario focuses on the risk that a near-term increase in actual inflation could feed into higher inflation expectations, resulting in inflation persistently above the FOMC's longer-run objective through the rest of the decade. The last 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 the pace of economic growth in emerging market economies (EMEs) could slow markedly.

We generate the first five scenarios using the FRB/US model and the last two scenarios using the multicountry SIGMA model. For the FRB/US simulations, we use the estimated outcome-based rule—adjusted to take into account the Committee's forward guidance—to govern deviations of the federal funds rate from its baseline path; for the SIGMA simulations, we use a broadly similar policy rule that employs an alternative concept of resource utilization.<sup>2</sup> In these scenarios, we have assumed that the size and composition of the SOMA portfolio follow their baseline paths.

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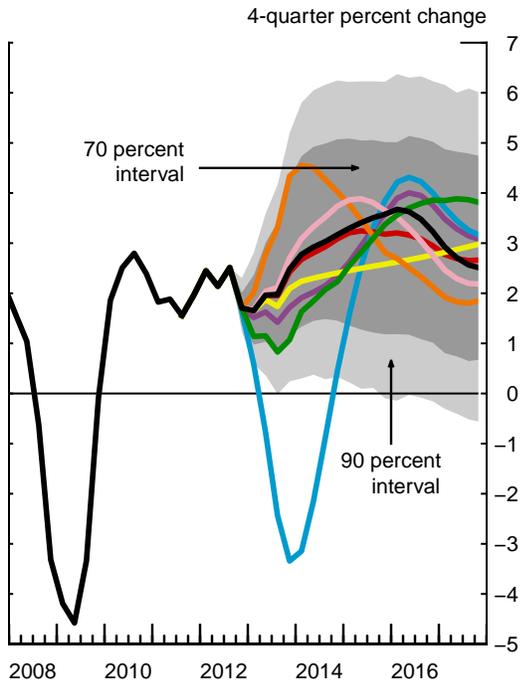
<sup>2</sup> The SIGMA policy rule uses a measure of slack equal to the difference between actual output and the model's estimate of the level of output that would occur in the absence of slow adjustment of wages and prices.

## Forecast Confidence Intervals and Alternative Scenarios

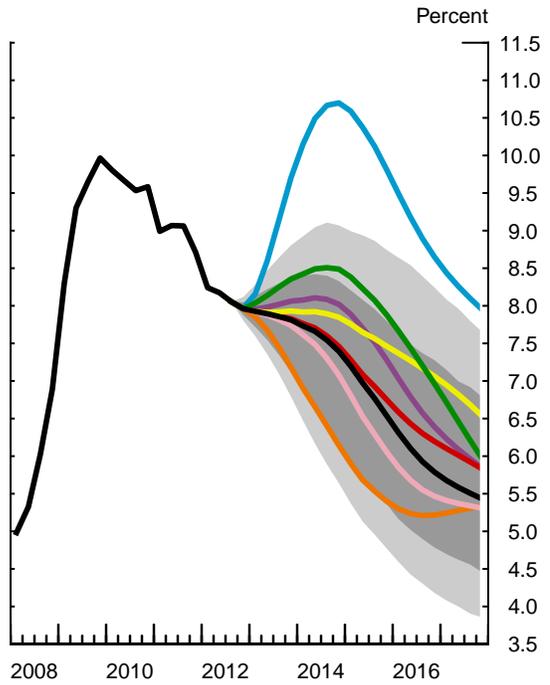
Confidence Intervals Based on FRB/US Stochastic Simulations

- Extended Tealbook baseline
- Housing reverberations
- European crisis with severe spillovers
- Fiscal cliff
- Headwinds
- Weaker growth in emerging market economies
- Robust housing recovery
- Higher inflation with unanchored expectations

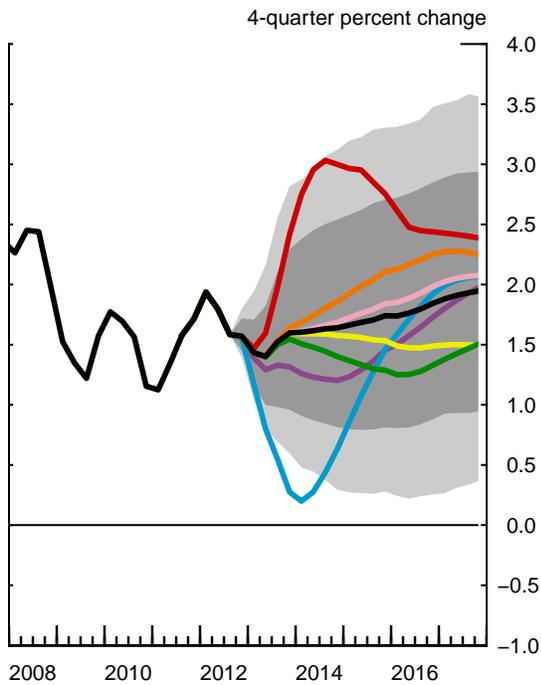
Real GDP



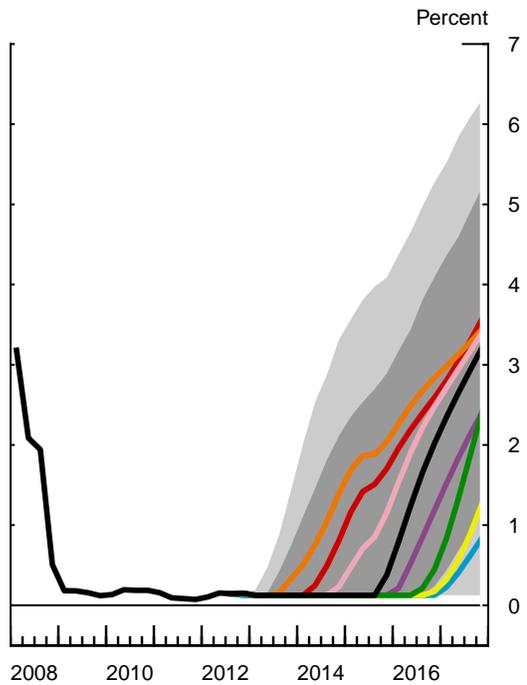
Unemployment Rate



PCE Prices excluding Food and Energy



Federal Funds Rate



Risks & Uncertainty

## Fiscal Cliff

Our baseline projection assumes that the Congress and the Administration will avert the fiscal cliff in its most severe form by extending most of the tax cuts initially enacted in 2001 and 2003, continuing to shield the majority of taxpayers from the alternative minimum tax, and extending a number of other non-stimulus-related tax reductions. In contrast, this scenario assumes that none of these actions are taken, thereby increasing total tax payments by households and businesses next year about 2½ percent of GDP relative to the baseline. In addition, the automatic spending cuts required by the Budget Control Act's sequestration provisions are assumed to take full effect in 2013, further reducing federal purchases by about ¼ percent of GDP relative to the baseline.<sup>3</sup> Moreover, these fiscal policy developments are assumed to weigh on consumer and business confidence more than in the baseline.<sup>4</sup> As a result, real GDP expands only about 1 percent in 2013 and 2¼ percent in 2014, on average 1¼ percentage points per year less than in the baseline.<sup>5</sup> The unemployment rate rises to around 8½ percent in 2013 and 2014. With a wider margin of resource slack, inflation declines to 1 percent in 2015, and the federal funds rate does not begin to increase from its effective lower bound until late 2016.

## Robust Housing Recovery

The recent increases in house prices, housing starts, and home sales may be pointing to a more robust housing-market recovery than is assumed in the baseline. In this scenario, residential construction is assumed to increase 25 percent in both 2013 and 2014, about 10 percentage points above baseline on average, bringing the share of residential construction spending in aggregate output more rapidly to its long-run average. Moreover, house prices recover more quickly, reaching 10 percent above baseline by late 2014. As a result, real GDP accelerates to an average annual growth rate

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<sup>3</sup> After 2014, both tax revenues and government spending are assumed to gradually return to their baseline trajectories, leading eventually to budget deficits that are about the same as in the baseline. However, because those deficits follow a period of greater fiscal restraint, the ratio of government debt to GDP is lower over the longer term in the alternative scenario.

<sup>4</sup> This scenario assumes that the federal debt ceiling is raised, thereby avoiding a default on Treasury debt and delays in payments on other federal obligations, but it is possible to envision an even worse outcome that could reduce consumer and business confidence substantially further and cause considerable financial market disruptions.

<sup>5</sup> Although taxes increase by more than 2 percent of GDP in 2013 in this scenario, the negative effect on real GDP next year is smaller because households in the FRB/US model adjust their spending gradually in response to the decline in their disposable income; accordingly, real GDP growth in 2014 is also restrained.

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

Measure	2012	2013	2014	2015	2016	2017
<i>Real GDP</i>						
<i>(percent change, Q4 to Q4)</i>						
Projection	1.7	2.5	3.2	3.6	3.2	2.5
Confidence interval						
Tealbook forecast errors	1.2–2.2	.7–4.2	1.3–5.0	...	...	...
FRB/US stochastic simulations	1.4–2.0	1.2–4.3	1.5–5.1	1.2–5.0	1.0–5.0	.7–4.7
<i>Civilian unemployment rate</i>						
<i>(percent, Q4)</i>						
Projection	8.0	7.8	7.4	6.5	5.8	5.4
Confidence interval						
Tealbook forecast errors	7.8–8.1	7.1–8.5	6.2–8.6	...	...	...
FRB/US stochastic simulations	7.9–8.0	7.1–8.4	6.2–8.3	5.4–7.8	4.8–7.3	4.5–6.8
<i>PCE prices, total</i>						
<i>(percent change, Q4 to Q4)</i>						
Projection	1.6	1.3	1.4	1.5	1.8	1.9
Confidence interval						
Tealbook forecast errors	1.3–1.8	.0–2.6	.1–2.7	...	...	...
FRB/US stochastic simulations	1.4–1.8	.4–2.3	.3–2.6	.4–2.8	.6–3.0	.7–3.1
<i>PCE prices excluding food and energy</i>						
<i>(percent change, Q4 to Q4)</i>						
Projection	1.6	1.6	1.6	1.7	1.8	1.9
Confidence interval						
Tealbook forecast errors	1.3–1.8	.9–2.3	.8–2.5	...	...	...
FRB/US stochastic simulations	1.4–1.7	1.0–2.3	.8–2.5	.8–2.7	.9–2.8	1.0–2.9
<i>Federal funds rate</i>						
<i>(percent, Q4)</i>						
Projection	.2	.1	.1	.4	2.0	3.2
Confidence interval						
FRB/US stochastic simulations	.1–.1	.1–.8	.1–2.1	.1–2.9	.2–4.1	1.2–5.2

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.

of 3¼ percent in 2013 and 2014, and the unemployment rate falls to 6 percent by late 2015. Liftoff of the federal funds rate occurs in early 2015.

### **Housing Reverberations**

The stronger housing market in the previous scenario could lead to a more vigorous recovery if it reverberates more broadly throughout the economy. In this scenario, the stronger housing recovery sparks a cycle of increased consumer and business confidence, faster hiring, improved financial conditions that lead to greater credit availability, and more rapid spending by households and firms. As a result, real GDP rises at an average annual rate of 4¼ percent in 2013 and 2014, and the unemployment rate falls to below 5½ percent by late 2015. Upward pressure on inflation is initially tempered by the effects of increased capital investment on labor productivity and unit labor costs. But, with less resource slack, unit labor costs eventually rise more rapidly than in the baseline, and inflation increases to 2¼ percent later in the decade. In response to higher inflation and the stronger pace of real activity, the federal funds rate lifts off earlier and stays higher than in the baseline.

### **Headwinds**

In this scenario, the unfavorable baseline assumptions for fiscal policy, foreign economic conditions, and credit availability turn out to have a more restrictive effect on aggregate demand than anticipated. As a result, the pace of the recovery does not pick up: Real GDP rises only 2¼ percent per year, on average, in 2013 and 2014, and growth remains below baseline until late 2016. Because margins of resource slack remain high, inflation stays close to 1¼ percent rather than rising as in the baseline. With inflation persistently below the FOMC's longer-run objective and the unemployment rate far above its natural rate, the federal funds rate remains at its effective lower bound until late 2016.<sup>6</sup>

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<sup>6</sup> As noted earlier, we assume that the size and composition of the SOMA portfolio in these alternative scenarios are the same as in the baseline. However, if the recovery were to prove as anemic as shown in the Headwinds scenario, the FOMC might choose to purchase a larger amount of securities than assumed in the baseline. One ad hoc way to account for this possibility might be to assume that the FOMC continues adding to its SOMA portfolio through the end of next year, increasing the amount of purchases in 2013 by \$500 billion relative to the baseline. FRB/US simulations of the effect of large-scale asset purchases (LSAPs) on the economy suggest that these purchases would lower the unemployment rate by roughly ¼ percentage point by late 2015 relative to the Headwinds scenario, while judgmental assessments of the impact of LSAPs by the staff suggest a somewhat smaller effect. Similar considerations could apply to all of the scenarios.

## Higher Inflation with Unanchored Expectations

In recent years, inflation has sometimes spiked on account of sharp increases in the prices of oil, other commodities, or imported goods, but these developments have proved to be temporary as longer-term inflation expectations have remained stable. In this scenario, consumer prices rise significantly, pushing headline inflation up to around 3 percent by 2014. But in this case, long-run inflation expectations become unmoored, possibly from a loss of confidence associated with the large and expanding Federal Reserve balance sheet and a misinterpretation of the Committee's stated intention of keeping monetary policy highly accommodative for a time after the recovery has strengthened. As a result, both headline and core inflation run substantially above baseline for several years, even after the original impetus to consumer prices has passed. Largely reflecting these more inflationary conditions, the federal funds rate begins to rise in mid-2014 and real GDP growth is somewhat slower than in the baseline. The unemployment rate finishes 2015 at 6¾ percent, ¼ percentage point above the baseline.

## European Crisis with Severe Spillovers

In this simulation, the improvements witnessed in European financial markets over the past few months are assumed to be short-lived, and Europe plunges into a bout of severe stress, much worse than seen to date during this crisis. While we believe that the likelihood of such an outcome has declined somewhat in recent months, it could still occur, possibly triggered by a disorderly sovereign default, the failure of a large European financial institution, or a further loss of confidence by the public in the ability of European governments to resolve the crisis. In this scenario, the greater stress prompts both private and most sovereign borrowing costs in Europe to soar—with corporate bond spreads rising 400 basis points above baseline—and the confidence of European households and businesses plummets. Real GDP in Europe declines about 8¼ percent relative to baseline by the first 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 more than 300 basis points, equity prices plunge, credit availability is restricted, 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, U.S. real GDP falls 3¼ percent next year and barely increases in 2014. The unemployment rate rises to 10¾ percent in 2014 before beginning to gradually decline. With substantially greater resource slack and lower import prices, overall U.S. consumer prices decrease 1¼ percent

in 2013; prices begin to rise in 2014 as economic activity starts to recover. Under these conditions, the SIGMA policy rule keeps the federal funds rate at its effective lower bound until early 2017.

### **Weaker Growth in Emerging Market Economies**

Although real GDP growth in the EMEs has slowed substantially so far this year, to 3½ percent in the third quarter, we expect that economic growth will resume at a 4¾ percent pace in 2013 and 2014, close to its historical trend. However, it is conceivable that the adverse spillover effects on growth in the EMEs from the weakness in the advanced economies will be larger than anticipated in the baseline. In this scenario, despite stimulative government policies, real GDP growth in the EMEs falls below its baseline pace to only 3 percent over the next two years as weakness in the advanced economies leads to a greater reduction in consumer confidence, lower investment, and tighter credit conditions in the EMEs than in the baseline. Moreover, we assume that the slowdown in the EMEs has pronounced spillover effects on other major U.S. trading partners. As foreign economies respond to their weakness with monetary easing, the trade-weighted exchange value of the dollar appreciates about 5 percent relative to baseline. U.S. real net exports decline relative to baseline in response to weaker foreign growth and the higher dollar. U.S. real GDP expands only about 1¾ percent in 2013, and the unemployment rate remains near 8 percent until late 2014, about ½ percentage point higher than in the baseline. Core PCE inflation declines to 1¼ percent in 2013 and 2014 because of both the appreciation in the foreign exchange value of the dollar and lower resource utilization. The liftoff of the federal funds rate from its effective lower bound is delayed until early 2016.

**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	1.8	1.7	2.6	2.5	3.5	3.2
FRB/US	1.4	1.7	1.9	1.4	3.1	2.9
EDO	2.0	1.7	3.2	3.0	3.2	3.3
Blue Chip	1.7	1.7	2.3	2.3	...	...
<i>Unemployment rate<sup>1</sup></i>						
Staff	8.0	8.0	7.8	7.8	7.2	7.4
FRB/US	8.1	8.0	8.5	8.3	8.1	8.1
EDO	8.1	8.0	7.7	7.7	7.4	7.3
Blue Chip	8.1	7.9	7.8	7.6	...	...
<i>Total PCE prices</i>						
Staff	1.7	1.6	1.3	1.3	1.4	1.4
FRB/US	1.8	1.6	1.2	1.0	1.0	1.1
EDO	1.6	1.6	1.5	1.3	1.6	1.5
Blue Chip <sup>2</sup>	1.9	2.0	2.1	2.0	...	...
<i>Core PCE prices</i>						
Staff	1.6	1.6	1.6	1.6	1.7	1.6
FRB/US	1.7	1.6	1.5	1.3	1.3	1.3
EDO	1.6	1.6	1.5	1.3	1.6	1.5
Blue Chip	...	...	...	...	...	...
<i>Federal funds rate<sup>1</sup></i>						
Staff	.1	.2	.1	.1	.1	.1
FRB/US	.3	.2	.5	.2	1.6	1.3
EDO	.3	.2	1.2	.9	1.9	1.7
Blue Chip <sup>3</sup>	.1	.1	.2	.2	...	...

Note: Blue Chip forecast completed on November 10, 2012.

1. Percent, average for Q4.

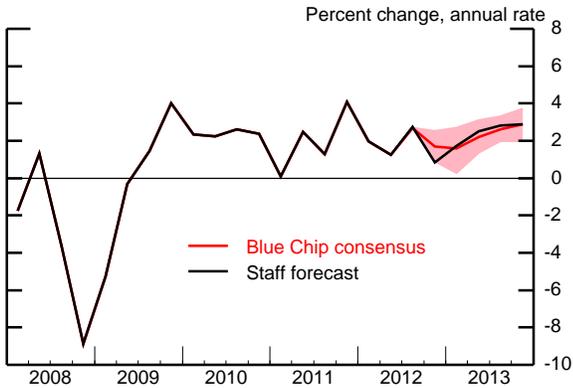
2. Consumer price index.

3. Treasury bill rate.

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

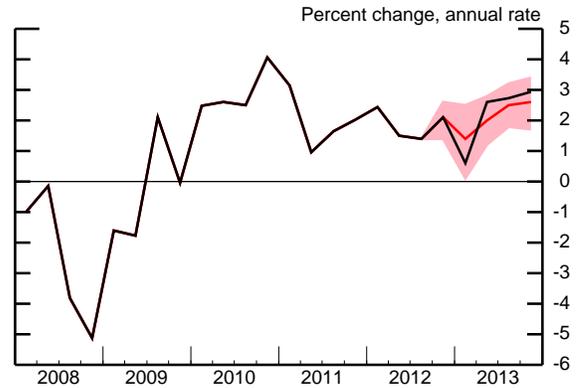
### Tealbook Forecast Compared with Blue Chip (Blue Chip survey released November 10, 2012)

Real GDP

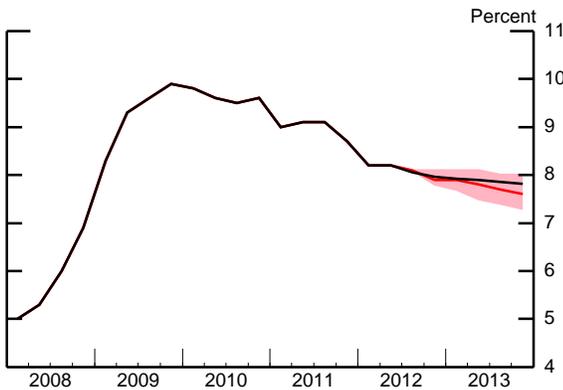


Note: The shaded area represents the area between the Blue Chip top 10 and bottom 10 averages.

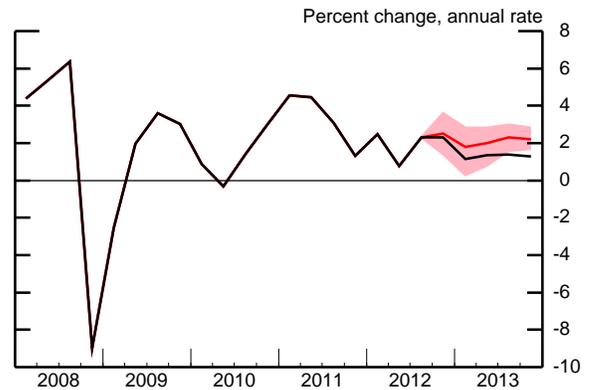
Real PCE



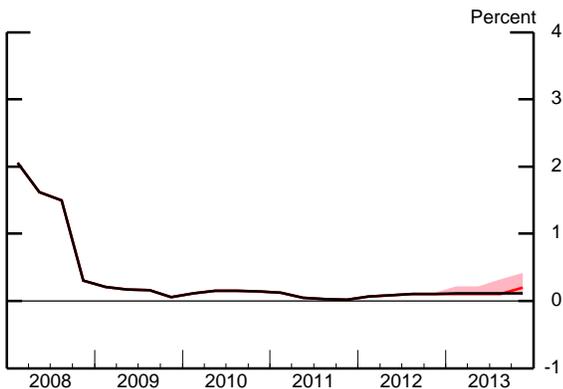
Unemployment Rate



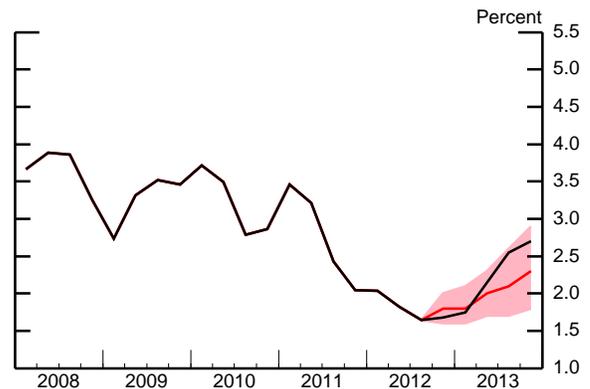
Consumer Price Index



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—2013:Q4)

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	.04	.03	.10	.09
Previous Tealbook	.06	.07	.11	.14
<i>Less than 1 percent</i>				
Current Tealbook	.36	.47	.30	.13
Previous Tealbook	.29	.26	.32	.09

### Probability of Unemployment Events

(4 quarters ahead—2013:Q4)

Probability that the unemployment rate will ...	Staff	FRB/US	EDO	BVAR
<i>Increase by 1 percentage point</i>				
Current Tealbook	.02	.13	.17	.02
Previous Tealbook	.02	.15	.17	.01
<i>Decrease by 1 percentage point</i>				
Current Tealbook	.04	.00	.28	.18
Previous Tealbook	.04	.00	.29	.30

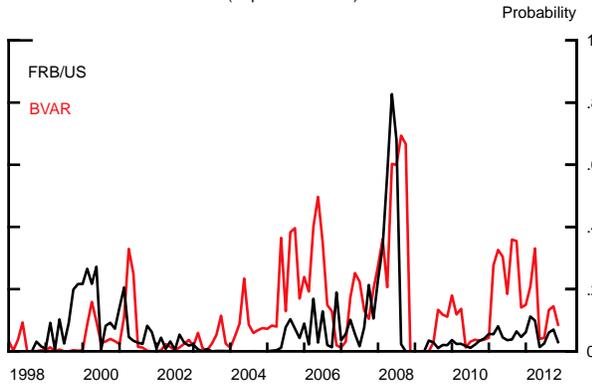
### Probability of Near-Term Recession

Probability that real GDP declines in each of 2013:Q1 and 2013:Q2	Staff	FRB/US	EDO	BVAR	Factor Model
Current Tealbook	.03	.05	.05	.04	.25
Previous Tealbook	.03	.06	.06	.03	.19

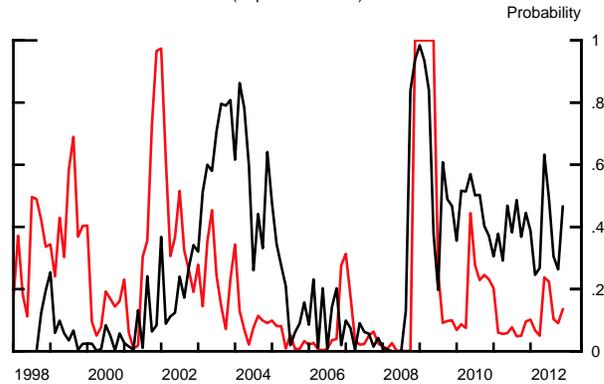
Note: “Staff” represents Tealbook forecast errors applied to the Tealbook baseline; baselines for FRB/US, BVAR, EDO, and the factor model are generated by those models themselves, up to the current-quarter estimate. The current quarter is taken as data from the staff estimate for the second Tealbook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

## Assessment of Key Macroeconomic Risks (2)

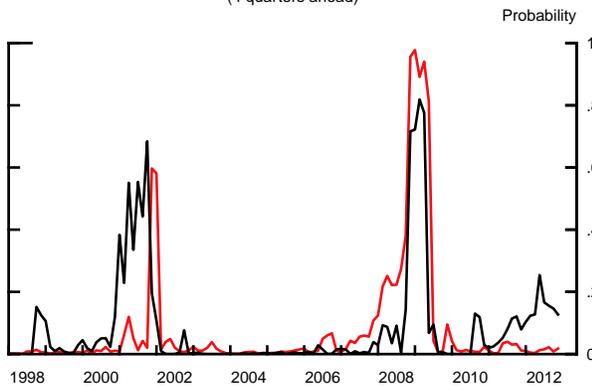
Probability that Total PCE Inflation Is above 3 Percent  
(4 quarters ahead)



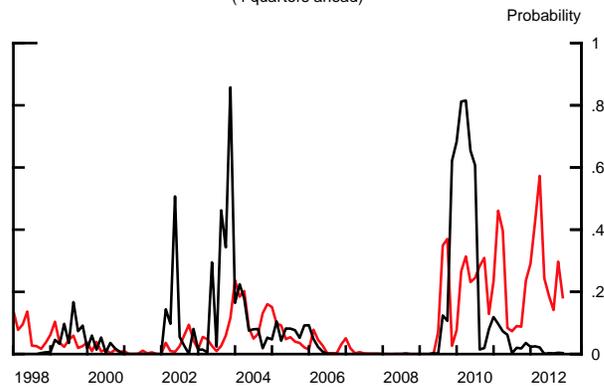
Probability that Total PCE Inflation Is below 1 Percent  
(4 quarters ahead)



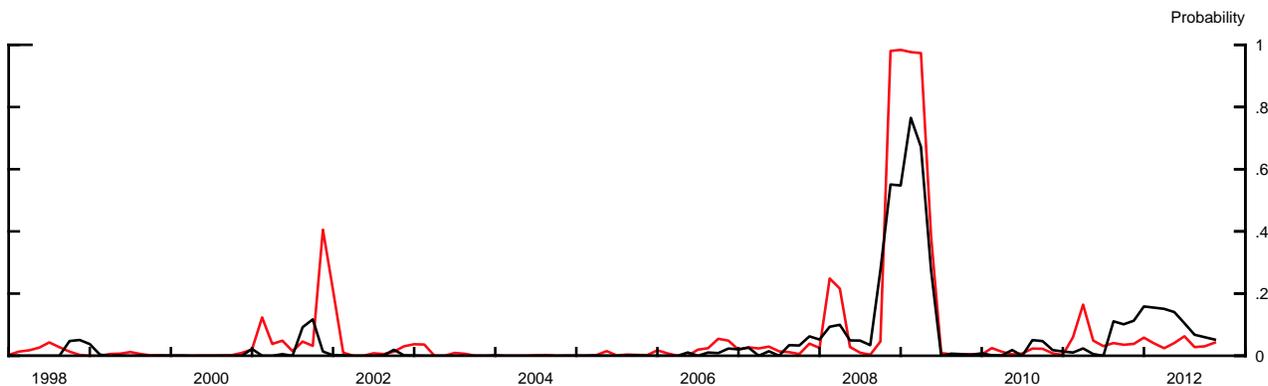
Probability that the Unemployment Rate Increases 1 ppt  
(4 quarters ahead)



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>	
	10/17/12	12/05/12	10/17/12	12/05/12	10/17/12	12/05/12	10/17/12	12/05/12	10/17/12	12/05/12
<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	5.2	5.7	2.0	2.8	1.7	1.6	1.2	1.1	8.1	8.1
Q4	4.3	2.6	2.0	.9	2.1	1.5	1.4	1.2	8.0	8.0
2013:Q1	2.8	3.1	1.8	1.7	.9	1.1	1.6	1.7	8.0	7.9
Q2	4.0	3.9	2.5	2.5	1.4	1.4	1.6	1.6	8.0	7.9
Q3	4.4	4.2	3.0	2.8	1.4	1.4	1.6	1.6	7.9	7.9
Q4	4.5	4.2	3.1	2.9	1.3	1.3	1.6	1.5	7.8	7.8
2014:Q1	4.9	4.4	3.4	2.9	1.4	1.5	1.7	1.7	7.6	7.7
Q2	5.0	4.6	3.5	3.1	1.4	1.4	1.7	1.6	7.5	7.7
Q3	5.0	4.7	3.5	3.3	1.4	1.4	1.7	1.7	7.3	7.5
Q4	5.1	4.9	3.6	3.4	1.4	1.4	1.7	1.6	7.2	7.4
<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	4.7	4.1	2.0	1.8	1.9	1.6	1.3	1.2	-2	-2
2013:Q2	3.4	3.5	2.2	2.1	1.2	1.2	1.6	1.6	.0	-1
Q4	4.5	4.2	3.1	2.8	1.4	1.3	1.6	1.6	-2	-1
2014:Q2	5.0	4.5	3.4	3.0	1.4	1.4	1.7	1.7	-3	-1
Q4	5.0	4.8	3.5	3.3	1.4	1.4	1.7	1.6	-3	-3
<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	-9	-9
2012:Q4	4.1	3.8	1.8	1.7	1.7	1.6	1.6	1.6	-7	-7
2013:Q4	3.9	3.9	2.6	2.5	1.3	1.3	1.6	1.6	-2	-2
2014:Q4	5.0	4.6	3.5	3.2	1.4	1.4	1.7	1.6	-6	-4
2015:Q4	...	5.2	3.7	3.6	1.5	1.5	1.7	1.7	-1.0	-9
<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	4.1	4.1	2.2	2.2	1.8	1.8	1.7	1.7	8.1	8.1
2013	3.9	3.7	2.2	2.0	1.4	1.3	1.5	1.5	7.9	7.9
2014	4.8	4.4	3.3	3.0	1.4	1.4	1.6	1.6	7.4	7.6
2015	...	5.0	3.7	3.4	1.5	1.5	1.7	1.7	6.6	6.9

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

Greensheets

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

Item	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	2.8	.9		1.7	2.5	2.8	2.9	2.9	3.1	3.3	3.4	1.7	2.5	3.2	3.6
<i>Previous Tealbook</i>	1.3	2.0	2.0		1.8	2.5	3.0	3.1	3.1	3.5	3.5	3.6	1.8	2.6	3.5	3.7
Final sales	1.7	2.0	1.7		.8	2.8	2.8	2.6	2.6	3.1	3.5	3.3	1.9	2.3	3.1	3.6
<i>Previous Tealbook</i>	1.7	1.9	2.1		1.0	2.7	3.2	3.0	3.0	3.4	3.7	3.6	2.0	2.5	3.5	
Priv. dom. final purch.	1.9	1.3	2.9		1.1	3.7	3.6	3.7	3.6	3.9	4.0	4.1	2.4	3.0	3.9	4.1
<i>Previous Tealbook</i>	1.9	2.1	3.1		1.4	3.5	4.0	4.1	4.1	4.3	4.4	4.4	2.7	3.2	4.3	
Personal cons. expend.	1.5	1.4	2.1		.6	2.6	2.7	2.9	2.9	3.1	3.4	3.5	1.9	2.2	3.3	3.6
<i>Previous Tealbook</i>	1.5	2.3	3.1		1.1	3.0	3.4	3.5	3.5	3.7	3.8	3.8	2.3	2.8	3.7	
Durables	-2	8.7	9.1		-1	10.4	9.4	9.8	9.8	9.1	9.2	8.8	7.2	7.3	9.0	8.5
Nondurables	.6	1.1	1.8		.8	1.2	1.6	1.9	1.9	2.2	2.6	2.7	1.3	1.4	2.5	2.9
Services	2.1	.3	1.1		.7	1.8	2.0	2.2	2.2	2.4	2.6	2.7	1.2	1.7	2.6	3.0
Residential investment	8.5	13.8	14.8		17.0	22.6	14.7	13.0	13.0	10.3	12.3	12.7	14.3	16.8	11.8	12.7
<i>Previous Tealbook</i>	8.5	14.3	13.9		13.4	14.9	15.6	15.2	15.2	14.1	13.1	12.9	14.2	14.8	13.2	
Business fixed invest.	3.6	-2.2	5.4		1.1	6.4	6.7	6.5	6.5	5.7	5.9	5.7	3.5	5.2	5.7	5.0
<i>Previous Tealbook</i>	3.6	-2.5	.8		1.0	3.7	5.2	5.2	5.2	6.0	6.2	5.9	2.3	3.8	6.0	
Equipment & software	4.8	-3.1	7.3		.4	7.9	7.8	8.5	8.5	7.5	6.7	7.0	3.5	6.1	7.0	6.2
<i>Previous Tealbook</i>	4.8	-1.0	2.0		1.0	4.2	5.5	6.1	6.1	7.5	7.3	7.4	2.8	4.2	7.5	
Nonres. structures	.6	-.2	.9		2.9	2.8	4.0	1.8	1.8	1.3	2.6	3.0	3.4	2.9	2.5	2.1
<i>Previous Tealbook</i>	.6	-6.1	-2.2		.9	2.7	4.4	3.0	3.0	2.4	2.3	2.3	1.0	2.7	2.3	
Net exports <sup>2</sup>	-407	-403	-403		-395	-393	-390	-396	-396	-403	-402	-393	-407	-393	-397	-379
<i>Previous Tealbook<sup>2</sup></i>	-407	-406	-413		-409	-406	-402	-408	-408	-416	-416	-408	-411	-406	-411	
Exports	5.3	1.1	3.1		5.1	5.3	4.8	5.0	5.0	5.4	5.2	6.3	3.4	5.1	5.9	7.3
Imports	2.8	.1	2.5		2.8	4.0	3.4	5.2	5.2	5.8	4.1	3.8	2.1	3.8	4.8	5.2
Gov't cons. & invest.	-7	4.0	-3.5		-1.8	-1.5	-1.6	-1.5	-1.5	-1.1	-1.2	-1.0	-8	-1.6	-1.1	-1
<i>Previous Tealbook</i>	-7	.6	-1.6		-1.5	-1.5	-1.4	-1.4	-1.4	-1.1	-1.1	-1.0	-1.2	-1.5	-1.1	
Federal	-2	9.5	-8.6		-4.7	-4.1	-4.6	-4.5	-4.5	-4.2	-4.4	-4.2	-1.1	-4.5	-4.3	-2.3
Defense	-2	12.9	-11.7		-6.0	-5.1	-4.7	-5.4	-5.4	-4.7	-5.2	-4.9	-1.9	-5.3	-5.0	-2.0
Nondefense	-4	2.9	-2.2		-2.0	-2.1	-4.5	-2.8	-2.8	-3.2	-2.8	-2.8	.5	-2.9	-2.9	-2.8
State & local	-1.0	.4	.1		.2	.3	.3	.4	.4	.8	.9	.9	-.7	.3	.9	1.2
Change in bus. inventories <sup>2</sup>	41	61	35		75	66	66	74	74	83	83	77	49	70	81	75
<i>Previous Tealbook<sup>2</sup></i>	41	48	48		74	69	64	70	70	80	83	76	49	69	78	
Nonfarm <sup>2</sup>	53	90	64		69	58	59	67	67	78	78	72	67	63	76	75
Farm <sup>2</sup>	-8	-19	-19		7	7	7	7	7	5	5	5	-12	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	1.8	2.6	3.5	3.7
Final sales	2.8	2.4	-2.6	-5	1.7	1.7	1.9	2.3	3.1	3.6
<i>Previous Tealbook</i>	2.8	2.4	-2.6	-5	1.7	1.7	2.0	2.5	3.5	
Priv. dom. final purch.	2.4	1.2	-4.5	-2.8	3.2	2.9	2.4	3.0	3.9	4.1
<i>Previous Tealbook</i>	2.4	1.2	-4.5	-2.8	3.2	2.9	2.7	3.2	4.3	
Personal cons. expend.	3.2	1.7	-2.5	-3	2.9	1.9	1.9	2.2	3.3	3.6
<i>Previous Tealbook</i>	3.2	1.7	-2.5	-3	2.9	1.9	2.3	2.8	3.7	
Durables	7.0	4.6	-13.0	3.0	9.5	5.9	7.2	7.3	9.0	8.5
Nondurables	2.9	.8	-3.1	.4	3.0	1.4	1.3	1.4	2.5	2.9
Services	2.6	1.4	-.5	-1.1	1.9	1.5	1.2	1.7	2.6	3.0
Residential investment	-15.7	-20.7	-24.4	-13.3	-5.7	3.9	14.3	16.8	11.8	12.7
<i>Previous Tealbook</i>	-15.7	-20.7	-24.4	-13.3	-5.7	3.9	14.2	14.8	13.2	
Business fixed invest.	7.8	7.9	-9.4	-15.7	7.7	10.2	3.5	5.2	5.7	5.0
<i>Previous Tealbook</i>	7.8	7.9	-9.4	-15.7	7.7	10.2	2.3	3.8	6.0	
Equipment & software	6.0	3.9	-13.6	-7.8	11.9	11.4	3.5	6.1	7.0	6.2
<i>Previous Tealbook</i>	6.0	3.9	-13.6	-7.8	11.9	11.4	2.8	4.2	7.5	
Nonres. structures	13.0	17.3	-1.2	-29.4	-1.8	6.9	3.4	2.9	2.5	2.1
<i>Previous Tealbook</i>	13.0	17.3	-1.2	-29.4	-1.8	6.9	1.0	2.7	2.3	
Net exports <sup>1</sup>	-729	-649	-495	-355	-420	-408	-407	-393	-397	-379
<i>Previous Tealbook</i> <sup>1</sup>	-729	-649	-495	-355	-420	-408	-411	-406	-411	
Exports	10.2	10.1	-2.5	.3	8.8	4.3	3.4	5.1	5.9	7.3
Imports	4.1	.8	-5.9	-6.1	10.9	3.5	2.1	3.8	4.8	5.2
Gov't. cons. & invest.	1.5	1.9	2.7	4.0	-1.3	-3.3	-.8	-1.6	-1.1	-1
<i>Previous Tealbook</i>	1.5	1.9	2.7	4.0	-1.3	-3.3	-1.2	-1.5	-1.1	
Federal	2.2	3.1	8.8	5.1	2.3	-4.2	-1.1	-4.5	-4.3	-2.3
Defense	4.4	2.6	9.8	4.1	1.0	-4.0	-1.9	-5.3	-5.0	-2.0
Nondefense	-2.3	4.2	6.8	7.2	5.2	-4.6	.5	-2.9	-2.9	-2.8
State & local	1.2	1.2	-.9	3.3	-3.6	-2.7	-.7	.3	.9	1.2
Change in bus. inventories <sup>1</sup>	59	28	-36	-139	51	31	49	70	81	75
<i>Previous Tealbook</i> <sup>1</sup>	59	28	-36	-139	51	31	49	69	78	
Nonfarm <sup>1</sup>	63	29	-38	-138	58	36	67	63	76	75
Farm <sup>1</sup>	-4	-1	1	-1	-6	-4	-12	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	2.8	.9		1.7	2.5	2.8	2.9	2.9	3.1	3.3	3.4	1.7	2.5	3.2	3.6
	1.3	2.0	2.0		1.8	2.5	3.0	3.1	3.4	3.5	3.5	3.6	1.8	2.6	3.5	3.7
Final sales <i>Previous Tealbook</i>	1.7	2.0	1.7		.8	2.8	2.8	2.6	2.6	3.1	3.4	3.3	1.9	2.3	3.1	3.6
	1.7	1.9	2.1		1.0	2.7	3.1	3.0	3.1	3.4	3.7	3.6	2.0	2.5	3.4	
Priv. dom. final purch. <i>Previous Tealbook</i>	1.6	1.1	2.4		1.0	3.0	3.0	3.1	3.0	3.2	3.4	3.4	2.0	2.5	3.3	3.5
	1.6	1.7	2.6		1.2	2.9	3.3	3.4	3.6	3.6	3.7	3.7	2.2	2.7	3.6	
Personal cons. expend. <i>Previous Tealbook</i>	1.1	1.0	1.5		.4	1.8	1.9	2.1	2.2	2.3	2.4	2.5	1.3	1.6	2.3	2.6
	1.1	1.7	2.2		.8	2.2	2.4	2.5	2.6	2.6	2.7	2.7	1.7	2.0	2.7	
Durables	.0	.7	.7		.0	.8	.7	.7	.7	.7	.7	.7	.5	.6	.7	.7
Nondurables	.1	.2	.3		.1	.2	.3	.3	.3	.4	.4	.4	.2	.2	.4	.4
Services	1.0	.2	.5		.3	.9	1.0	1.0	1.1	1.2	1.3	1.3	.6	.8	1.2	1.4
Residential investment <i>Previous Tealbook</i>	.2	.3	.3		.4	.6	.4	.4	.3	.4	.4	.4	.3	.4	.3	.4
	.2	.3	.3		.3	.4	.4	.4	.4	.4	.4	.4	.3	.4	.4	
Business fixed invest. <i>Previous Tealbook</i>	.4	-.2	.5		.1	.6	.7	.7	.6	.6	.6	.6	.4	.5	.6	.5
	.4	-.3	.1		.1	.4	.5	.5	.6	.6	.6	.6	.2	.4	.6	
Equipment & software <i>Previous Tealbook</i>	.4	-.2	.5		.0	.6	.6	.6	.5	.5	.5	.5	.3	.4	.5	.5
	.4	-.1	.1		.1	.3	.4	.4	.5	.5	.6	.5	.2	.3	.5	
Nonres. structures <i>Previous Tealbook</i>	.0	.0	.0		.1	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1
	.0	-.2	-.1		.0	.1	.1	.1	.1	.1	.1	.1	.0	.1	.1	
Net exports <i>Previous Tealbook</i>	.2	.1	.0		.2	.1	.1	-.2	-.2	.0	.2	.0	.1	.0	.0	.1
	.2	.0	-.2		.1	.1	.1	-.2	-.3	.0	.2	.1	.0	.0	.0	
Exports	.7	.2	.4		.7	.7	.7	.7	.8	.7	.9	1.0	.5	.7	.8	1.0
Imports	-.5	.0	-.4		-.5	-.7	-.6	-.9	-.1	-.7	-.6	-.9	-.4	-.7	-.8	-.9
Gov't. cons. & invest. <i>Previous Tealbook</i>	-.1	.8	-.7		-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.3	-.2	.0
	-.1	.1	-.3		-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.3	-.2	
Federal	.0	.7	-.7		-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.1	-.3	-.3	-.2
Defense	.0	.6	-.6		-.3	-.3	-.2	-.3	-.2	-.2	-.2	-.2	-.1	-.3	-.2	-.1
Nondefense	.0	.1	-.1		-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	-.1	-.1	-.1
State & local	-.1	.1	.0		.0	.0	.0	.0	.1	.1	.1	.1	-.1	.0	.1	.1
Change in bus. inventories <i>Previous Tealbook</i>	-.5	.8	-.8		.9	-.3	.0	.3	.3	.0	-.2	.1	-.2	.2	.1	.0
	-.5	.1	.0		.8	-.2	-.1	.2	.3	.1	-.2	.0	-.2	.2	.0	
Nonfarm	-.3	1.2	-.8		.2	-.3	.0	.2	.3	.0	-.2	.1	-.1	.0	.1	.0
Farm	-.2	-.4	.0		.7	.0	.0	.0	.0	.0	.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	1.7		1.4	1.4	1.4	1.3	1.5	1.4	1.4	1.4	2.0	1.3	1.4	1.5
PCE chain-wt. price index <i>Previous Tealbook</i>	.7	1.7	1.5		1.1	1.4	1.4	1.3	1.5	1.4	1.4	1.4	1.6	1.3	1.4	1.5
Energy <i>Previous Tealbook</i>	-13.6	10.5	4.6		-9.3	-3.7	-2.4	-1.9	-1.4	-1.7	-2.0	-1.8	1.9	-4.4	-1.7	-1.6
Food <i>Previous Tealbook</i>	.7	.6	2.4		-10.7	-3.0	-2.6	-2.4	-2.1	-2.4	-2.5	-2.1	3.6	-4.7	-2.3	
Ex. food & energy <i>Previous Tealbook</i>	.7	.6	2.6		3.4	2.8	2.1	1.1	.9	1.0	1.1	1.3	1.2	2.3	1.1	1.5
Ex. food & energy, market based <i>Previous Tealbook</i>	1.7	1.1	1.2		3.5	2.9	2.2	1.0	.8	.9	1.0	1.2	1.3	2.4	1.0	
CPI	1.7	1.2	1.4		1.7	1.6	1.6	1.5	1.7	1.6	1.7	1.6	1.6	1.6	1.6	1.7
Ex. food & energy <i>Previous Tealbook</i>	1.8	1.3	1.3		1.6	1.5	1.5	1.4	1.6	1.5	1.5	1.4	1.7	1.5	1.5	1.6
ECL, hourly compensation <sup>2</sup> <i>Previous Tealbook</i> <sup>2</sup>	1.8	1.3	1.2		1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.5	1.6	1.5	1.5	1.6
Nonfarm business sector Output per hour <i>Previous Tealbook</i>	.8	2.3	2.3		1.2	1.3	1.4	1.3	1.4	1.4	1.4	1.4	2.0	1.3	1.4	1.5
Compensation per hour <i>Previous Tealbook</i>	.8	2.3	2.9		.8	1.5	1.4	1.3	1.3	1.3	1.4	1.4	2.1	1.2	1.4	
Unit labor costs <i>Previous Tealbook</i>	2.6	1.5	1.8		2.0	1.7	1.7	1.6	1.8	1.8	1.8	1.7	2.0	1.7	1.7	1.8
Core goods imports chain-wt. price index <sup>3</sup> <i>Previous Tealbook</i> <sup>3</sup>	2.6	1.5	1.7		1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	2.0	1.7	1.8	
	2.1	1.7	2.1		2.3	2.5	2.6	2.7	2.7	2.8	2.9	2.9	1.9	2.5	2.8	3.0
	2.1	2.3	2.4		2.5	2.6	2.7	2.7	2.7	2.8	2.9	3.0	2.1	2.6	2.9	
Nonfarm business sector Output per hour <i>Previous Tealbook</i>	1.9	3.0	-6		-1.0	1.9	1.7	1.5	1.7	1.9	1.8	1.9	.9	1.0	1.8	1.9
Compensation per hour <i>Previous Tealbook</i>	1.9	1.6	.7		.4	1.7	1.7	1.2	1.5	1.7	1.6	1.6	.9	1.3	1.6	
Unit labor costs <i>Previous Tealbook</i>	1.3	.9	1.8		2.4	2.6	2.8	2.9	2.9	3.0	3.1	3.2	2.4	2.7	3.0	3.3
Core goods imports chain-wt. price index <sup>3</sup> <i>Previous Tealbook</i> <sup>3</sup>	3.5	2.2	2.4		2.6	2.7	2.8	2.9	2.9	3.0	3.1	3.2	3.5	2.8	3.1	
	-5	-2.0	2.4		3.5	.7	1.1	1.3	1.2	1.1	1.3	1.2	1.5	1.7	1.2	1.4
	1.6	.6	1.7		2.2	1.0	1.1	1.6	1.4	1.4	1.5	1.6	2.6	1.5	1.5	
	1.2	-2.4	2.2		1.5	.8	1.0	1.1	1.3	1.4	1.7	1.4	.2	1.1	1.5	1.5
	1.2	-3.4	1.6		1.8	1.1	1.4	1.3	1.4	1.4	1.7	1.4	-2	1.4	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	2.0 2.2	1.3 1.3	1.4 1.4	1.5
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 1.7	1.3 1.3	1.4 1.4	1.5 1.5
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	1.9 3.6	-4.4 -4.7	-1.7 -2.3	-1.6
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	1.2 1.3	2.3 2.4	1.1 1.0	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	1.6 1.6	1.6 1.6	1.6 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	1.7 1.6	1.5 1.5	1.5 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	2.0 2.1	1.3 1.2	1.4 1.4	1.5
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	2.0 2.0	1.7 1.7	1.7 1.8	1.8
ECI, 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 2.1	2.5 2.6	2.8 2.9	3.0
Nonfarm business sector Output per hour <i>Previous Tealbook</i>	.8 .8	2.5 2.5	-1.1 -1.1	5.6 5.6	1.8 1.8	.6 .6	.9 .9	1.0 1.3	1.8 1.6	1.9
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	2.0 2.0	2.4 3.5	2.7 2.8	3.0 3.1	3.3
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	1.4 1.4	1.5 2.6	1.7 1.5	1.2 1.5	1.4
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	.2 -2	1.1 1.4	1.5 1.5	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>	.3	.4	.5	.5	.4	.5	.5	.5	.5	.6	.7				
Nonfarm payroll employment <sup>2</sup>	8.2	8.1	8.0	7.9	7.9	7.9	7.8	7.7	7.7	7.5	7.4	8.0	7.8	7.4	6.5	
Unemployment rate <sup>3</sup>	8.2	8.1	8.0	8.0	8.0	7.9	7.8	7.6	7.5	7.3	7.2	8.0	7.8	7.2	6.2	
<i>Previous Tealbook<sup>3</sup></i>	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.8	
Natural rate of unemployment <sup>3</sup>	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
<i>Previous Tealbook<sup>3</sup></i>	4.1	3.9	4.1	4.2	4.1	3.9	3.6	3.4	3.2	2.9	2.6	4.1	3.6	2.6	-1.3	
GDP gap <sup>4</sup>	4.1	4.1	4.0	4.1	3.9	3.7	3.4	3.1	2.7	2.4	2.0	4.0	3.4	2.0	-2.0	
<i>Previous Tealbook<sup>4</sup></i>	2.3	.0	1.0	4.0	4.6	4.2	3.8	3.7	3.6	3.6	3.9	2.3	4.2	3.7	4.0	
Industrial production <sup>5</sup>	2.6	-4	2.8	5.0	3.7	3.4	3.6	4.0	3.9	3.7	3.9	2.7	4.0	3.9	4.3	
<i>Previous Tealbook<sup>5</sup></i>	.7	-1.1	-3	2.9	4.4	4.3	4.2	4.0	3.9	3.9	4.3	2.2	4.0	4.0	4.3	
Manufacturing industr. prod. <sup>5</sup>	1.0	-9	1.6	4.0	3.7	3.6	4.0	4.5	4.3	4.1	4.3	2.8	3.8	4.3	80.7	
<i>Previous Tealbook<sup>5</sup></i>	77.5	77.0	76.6	76.8	77.3	77.8	78.2	78.6	78.9	79.1	79.5	76.6	78.2	79.5	80.7	
Capacity utilization rate - mfg. <sup>3</sup>	77.5	77.1	77.1	77.5	77.9	78.2	78.7	79.1	79.4	79.8	80.1	77.1	78.7	80.1	80.1	
<i>Previous Tealbook<sup>3</sup></i>	.7	.8	.9	.9	1.0	1.0	1.1	1.2	1.2	1.3	1.3	.8	1.0	1.2	1.4	
Housing starts <sup>6</sup>	14.1	14.5	14.9	14.6	14.9	15.0	15.3	15.6	15.7	16.0	16.1	14.4	15.0	15.9	16.4	
Light motor vehicle sales <sup>6</sup>	2.8	5.7	2.6	3.1	3.9	4.2	4.2	4.4	4.6	4.7	4.9	3.8	3.9	4.6	5.2	
<i>Income and saving</i>	2.2	.5	2.1	-3.5	2.8	2.5	3.2	5.3	3.3	3.6	4.0	2.1	1.2	4.0	3.1	
Nominal GDP <sup>5</sup>	3.1	2.0	2.1	-1.6	3.0	3.6	3.7	5.1	3.9	4.0	3.8	2.7	2.2	4.2	2.6	
Real disposable pers. income <sup>5</sup>	3.8	3.6	3.6	2.6	2.6	2.5	2.6	3.1	3.1	3.1	3.2	3.6	2.6	3.2	2.6	
<i>Previous Tealbook<sup>5</sup></i>	4.0	4.0	3.8	3.1	3.1	3.1	3.1	3.5	3.5	3.6	3.5	3.8	3.1	3.5	2.6	
Personal saving rate <sup>3</sup>	4.7	14.7	-2.3	-12.7	.8	3.6	1.6	-3.9	.9	3.5	4.2	1.3	-1.9	1.1	2.5	
<i>Previous Tealbook<sup>3</sup></i>	12.1	12.4	12.3	11.8	11.7	11.7	11.6	11.4	11.3	11.3	11.2	12.3	11.6	11.2	11.0	
Corporate profits <sup>7</sup>	-1,115	-1,074	-1,151	-834	-821	-796	-779	-745	-737	-731	-732	-1,100	-808	-736	-625	
Profit share of GNP <sup>3</sup>	-124	-139	-134	-127	-105	-95	-86	-90	-69	-62	-53	-131	-103	-69	-28	
Net federal savings <sup>8</sup>	12.3	12.5	12.0	12.5	12.7	12.8	13.0	13.1	13.2	13.3	13.4	12.0	13.0	13.4	14.0	
Net state & local saving <sup>8</sup>	-4	.0	-6	.1	.2	.4	.6	.8	.9	1.0	1.2	-6	.6	1.2	2.0	
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.

Greensheets

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	1.8	1.9	1.9	2.4	3.2
Unemployment rate <sup>2</sup>	4.5	4.8	6.9	9.9	9.6	8.7	8.0	7.8	7.4	6.5
<i>Previous Tealbook<sup>2</sup></i>	4.5	4.8	6.9	9.9	9.6	8.7	8.0	7.8	7.2	6.2
Natural rate of unemployment <sup>2</sup>	5.0	5.0	5.3	6.0	6.0	6.0	6.0	6.0	6.0	5.8
<i>Previous Tealbook<sup>2</sup></i>	5.0	5.0	5.3	6.0	6.0	6.0	6.0	6.0	6.0	6.0
GDP gap <sup>3</sup>	.8	.8	-4.4	-5.5	-4.4	-4.0	-4.1	-3.6	-2.6	-1.3
<i>Previous Tealbook<sup>3</sup></i>	.8	.8	-4.4	-5.5	-4.4	-4.0	-4.0	-3.4	-2.0	-2.0
Industrial production <sup>4</sup>	2.1	2.5	-9.0	-5.7	6.3	4.1	2.3	4.2	3.7	4.0
<i>Previous Tealbook<sup>4</sup></i>	2.1	2.5	-9.0	-5.7	6.3	4.1	2.7	4.0	3.9	4.3
Manufacturing industr. prod. <sup>4</sup>	1.8	2.8	-11.8	-6.5	6.5	4.2	2.2	4.0	4.0	4.3
<i>Previous Tealbook<sup>4</sup></i>	1.8	2.8	-11.8	-6.5	6.5	4.2	2.8	3.8	4.3	4.3
Capacity utilization rate - mfg. <sup>2</sup>	78.2	78.2	69.7	67.0	73.1	76.1	76.6	78.2	79.5	80.7
<i>Previous Tealbook<sup>2</sup></i>	78.2	78.2	69.7	67.0	73.1	76.1	77.1	78.7	80.1	80.1
Housing starts <sup>5</sup>	1.8	1.4	.9	.6	.6	.6	.8	1.0	1.2	1.4
Light motor vehicle sales <sup>5</sup>	16.5	16.1	13.1	10.4	11.5	12.7	14.4	15.0	15.9	16.4
<i>Income and saving</i>										
Nominal GDP <sup>4</sup>	5.3	4.9	-1.2	.4	4.3	4.0	3.8	3.9	4.6	5.2
Real disposable pers. income <sup>4</sup>	4.6	1.6	1.0	-3.0	3.5	.3	2.1	1.2	4.0	3.1
<i>Previous Tealbook<sup>4</sup></i>	4.6	1.6	1.0	-3.0	3.5	.3	2.7	2.2	4.2	4.2
Personal saving rate <sup>2</sup>	2.8	2.5	6.2	3.8	4.8	3.4	3.6	2.6	3.2	2.6
<i>Previous Tealbook<sup>2</sup></i>	2.8	2.5	6.2	3.8	4.8	3.4	3.8	3.1	3.5	3.5
Corporate profits <sup>6</sup>	3.7	-8.1	-33.5	57.0	17.3	9.2	1.3	-1.9	1.1	2.5
Profit share of GNP <sup>2</sup>	11.6	10.1	6.8	10.7	12.0	12.5	12.3	11.6	11.2	11.0
Net federal saving <sup>7</sup>	-204	-245	-613	-1229	-1308	-1237	-1100	-808	-736	-625
Net state & local saving <sup>7</sup>	51	12	-72	-113	-90	-102	-131	-103	-69	-28
Gross national saving rate <sup>2</sup>	16.5	13.9	12.6	11.0	12.1	12.4	12.0	13.0	13.4	14.0
Net national saving rate <sup>2</sup>	4.4	1.7	-6	-2.3	-6	-3	-6	.6	1.2	2.0

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>	Seasonally adjusted annual rates															
Receipts <sup>1</sup>	2,449	2,794	2,999	3,225	509	760	625	630	595	855	715	677	631	936	756	724
Outlays <sup>1</sup>	3,538	3,535	3,630	3,804	966	885	810	930	890	869	846	917	928	902	883	970
Surplus/deficit <sup>1</sup>	-1,089	-741	-630	-579	-457	-125	-185	-300	-296	-14	-131	-241	-297	34	-127	-246
<i>Previous Tealbook</i>	-1,089	-795	-617	-554	-457	-125	-185	-324	-317	-26	-128	-233	-294	28	-118	-237
On-budget	-1,151	-752	-634	-571	-458	-187	-160	-316	-277	-61	-98	-262	-274	-10	-89	-263
Off-budget	62	11	4	-8	1	62	-25	16	-18	46	-33	21	-23	44	-38	17
Means of financing																
Borrowing	1,152	732	710	659	398	198	230	276	280	15	161	261	317	-14	147	266
Cash decrease	-27	15	0	0	42	-48	6	26	30	-31	-10	0	0	0	0	0
Other <sup>2</sup>	-36	-6	-80	-80	17	-25	-51	-1	-15	30	-20	-20	-20	-20	-20	-20
Cash operating balance, end of period	85	70	70	70	43	91	85	60	30	60	70	70	70	70	70	70
<b>NIPA federal sector</b>	Seasonally adjusted annual rates															
Receipts	2,635	2,904	3,135	3,356	2,665	2,659	2,683	2,679	2,942	2,978	3,017	3,054	3,123	3,159	3,205	3,246
Expenditures	3,743	3,804	3,884	4,016	3,724	3,775	3,757	3,830	3,776	3,799	3,813	3,833	3,869	3,897	3,936	3,978
Consumption expenditures	1,062	1,060	1,030	1,008	1,056	1,055	1,086	1,070	1,064	1,057	1,048	1,040	1,034	1,026	1,019	1,012
Defense	709	703	679	663	703	701	728	711	706	700	694	688	682	676	671	665
Nondefense	353	357	351	345	352	354	358	359	358	357	354	352	351	350	348	347
Other spending	2,681	2,745	2,854	3,008	2,668	2,720	2,671	2,760	2,712	2,742	2,765	2,792	2,835	2,871	2,917	2,966
Current account surplus	-1,108	-901	-748	-660	-1,059	-1,115	-1,073	-1,151	-834	-821	-796	-779	-745	-737	-731	-732
Gross investment	156	146	137	131	152	156	155	150	147	144	143	140	138	136	134	132
Gross saving less gross investment <sup>3</sup>	-1,123	-902	-738	-641	-1,071	-1,130	-1,087	-1,158	-837	-821	-793	-773	-736	-725	-717	-714
<b>Fiscal indicators<sup>4</sup></b>																
High-employment (HEB) surplus/deficit	-901.3	-666.5	-544.2	-508.8	-851.8	-910.1	-876.9	-938.9	-592.0	-579.4	-555.6	-544.5	-542.6	-542.7	-547.0	-560.8
Change in HEB, percent of potential GDP	-1.0	-1.6	-0.8	-0.3	-0.8	0.3	-0.3	0.3	-2.1	-1.1	-0.2	-1.1	0.0	0.0	0.0	0.1
Fiscal impetus (FI), percent of GDP	-0.5	-1.2	-0.5	-0.3	-0.7	-0.7	0.3	-1.0	-2.1	-1.1	-0.9	-0.8	-0.6	-0.5	-0.5	-0.4
<i>Previous Tealbook</i>	-0.6	-1.2	-0.5	-0.3	-0.7	-0.7	-0.3	-0.6	-2.0	-1.1	-0.9	-0.8	-0.6	-0.6	-0.5	-0.4

1. Budget receipts, outlays, and surplus/deficit include corresponding social security (OASDI) categories. The OASDI surplus and the Postal Service surplus are 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				2014			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Real GDP</b> <sup>1</sup>												
Total foreign	3.4	1.9	1.8	2.1	2.5	2.9	3.1	3.2	3.4	3.1	3.5	3.5
<i>Previous Tealbook</i>	3.2	2.2	2.0	2.1	2.4	2.7	3.0	3.2	3.4	3.1	3.5	3.5
Advanced foreign economies	1.5	.5	.2	.5	.8	1.2	1.5	1.8	2.1	1.5	2.1	2.2
Canada	1.7	1.7	.6	1.9	1.7	1.8	2.1	2.2	2.4	2.5	2.7	2.8
Japan	5.2	.3	-3.5	-6	.8	1.1	1.2	1.5	2.9	-2.7	1.4	1.3
United Kingdom	-1.2	-1.5	3.9	-1	.8	1.3	1.8	2.0	2.1	2.2	2.3	2.4
Euro area	.0	-7	-2	-1.0	-5	.3	.7	1.1	1.2	1.2	1.6	1.7
Germany	2.0	1.1	.9	-3	.2	.9	1.2	1.7	1.7	1.8	2.1	2.1
Emerging market economies	5.4	3.4	3.5	3.9	4.2	4.6	4.7	4.7	4.8	4.8	4.9	4.9
Asia	6.3	3.8	4.6	4.9	5.0	5.6	5.6	5.7	5.8	5.8	5.9	5.9
Korea	3.5	1.1	.6	2.7	3.0	3.7	3.8	4.0	4.1	4.2	4.3	4.4
China	7.0	6.5	8.4	8.2	8.0	8.0	8.0	8.0	8.1	8.1	8.2	8.2
Latin America	4.6	3.0	2.3	2.8	3.4	3.7	3.8	3.8	3.8	3.8	3.8	3.8
Mexico	5.4	3.3	1.8	2.5	3.4	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Brazil	.2	1.0	2.4	3.3	3.4	3.5	3.8	3.8	3.9	3.9	4.1	4.1
<b>Consumer prices</b> <sup>2</sup>												
Total foreign	2.6	1.9	2.2	2.5	2.3	2.2	2.2	2.2	2.3	3.0	2.4	2.4
<i>Previous Tealbook</i>	2.6	1.9	2.2	2.7	2.3	2.2	2.2	2.3	2.3	3.0	2.4	2.5
Advanced foreign economies	2.1	.6	.8	1.7	1.2	1.2	1.1	1.2	1.2	2.6	1.4	1.4
Canada	2.1	.1	.1	2.0	1.5	1.5	1.6	1.6	1.7	1.8	1.9	1.9
Japan	2.3	-9	-2.0	-5	-2	-2	-2	-1	-1	7.0	.0	.0
United Kingdom	1.8	1.1	3.0	4.2	1.8	1.5	1.5	2.0	1.4	1.5	1.6	2.1
Euro Area	2.4	2.0	2.3	2.3	1.5	1.5	1.3	1.4	1.4	1.4	1.5	1.5
Germany	2.2	1.3	2.0	2.2	2.1	2.0	1.7	1.7	1.7	1.7	1.8	1.9
Emerging market economies	2.9	3.0	3.3	3.1	3.1	3.0	3.1	3.1	3.2	3.2	3.3	3.3
Asia	2.3	3.2	2.0	2.6	2.9	2.9	2.9	2.9	3.0	3.1	3.1	3.1
Korea	1.6	1.2	1.0	2.6	2.7	2.8	2.8	2.8	3.0	3.0	3.0	3.1
China	2.0	2.5	1.7	1.9	2.8	2.8	2.8	2.8	3.0	3.0	3.0	3.0
Latin America	4.6	2.6	6.3	4.2	3.6	3.5	3.5	3.5	3.6	3.7	3.7	3.7
Mexico	4.5	2.5	6.5	3.8	3.3	3.2	3.2	3.2	3.4	3.4	3.4	3.4
Brazil	4.0	3.8	7.3	6.8	5.2	5.4	5.6	5.6	5.6	5.6	5.5	5.5

<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	4.5	2.8	2.3	2.9	3.4	3.5	
<i>Previous Tealbook</i>	4.3	-9	.9	4.5	2.8	2.4	2.8	3.4	...	
Advanced foreign economies	2.5	-1.6	-1.5	3.0	1.3	.7	1.3	2.0	2.3	
Canada	2.3	.0	-1.6	3.6	2.4	1.5	2.0	2.6	2.9	
Japan	1.6	-4.8	-6	3.4	-6	.3	1.1	.7	.7	
United Kingdom	3.8	-4.6	-9	1.5	.7	.2	1.5	2.3	2.4	
Euro area	2.3	-2.1	-2.3	2.2	.6	-5	.4	1.4	1.8	
Germany	2.4	-1.9	-2.2	4.2	1.9	.9	1.0	1.9	2.2	
Emerging market economies	6.7	.4	3.5	6.2	4.4	4.0	4.6	4.9	4.9	
Asia	8.9	.8	8.0	7.7	4.9	4.9	5.5	5.8	5.9	
Korea	5.8	-3.2	6.3	5.0	3.4	2.0	3.6	4.2	4.6	
China	13.7	7.7	11.3	9.7	8.8	7.5	8.0	8.1	8.0	
Latin America	4.4	-2	-8	4.5	3.8	3.2	3.7	3.8	3.8	
Mexico	3.5	-1.1	-2.2	4.1	3.9	3.2	3.7	3.8	3.8	
Brazil	6.6	.9	5.3	5.3	1.4	1.7	3.6	4.0	4.1	
<b>Consumer prices</b> <sup>2</sup>										
Total foreign	3.7	3.3	1.3	3.2	3.4	2.3	2.2	2.5	2.6	
<i>Previous Tealbook</i>	3.7	3.3	1.3	3.2	3.4	2.3	2.3	2.5	...	
Advanced foreign economies	2.2	2.0	.2	1.7	2.2	1.3	1.2	1.6	1.7	
Canada	2.5	1.8	.8	2.2	2.7	1.1	1.5	1.8	1.9	
Japan	.5	1.1	-2.0	-3	-3	-3	-2	1.7	1.2	
United Kingdom	2.1	3.9	2.2	3.4	4.7	2.5	1.7	1.6	1.8	
Euro Area	2.9	2.3	.4	2.0	2.9	2.2	1.4	1.5	1.6	
Germany	3.1	1.7	.3	1.6	2.6	1.9	1.9	1.8	1.9	
Emerging market economies	5.1	4.6	2.1	4.3	4.3	3.1	3.1	3.2	3.3	
Asia	5.5	3.6	1.3	4.3	4.4	2.5	2.9	3.1	3.1	
Korea	3.4	4.5	2.4	3.2	4.0	1.6	2.8	3.0	3.2	
China	6.7	2.5	.6	4.6	4.6	2.0	2.8	3.0	3.0	
Latin America	4.2	6.7	3.9	4.4	3.9	4.4	3.5	3.7	3.7	
Mexico	3.8	6.2	4.0	4.3	3.5	4.3	3.2	3.4	3.4	
Brazil	4.3	6.3	4.3	5.6	6.7	5.4	5.4	5.6	5.5	

<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.

... Not applicable.

U.S. Current Account

Quarterly Data

	2012				2013				Projected			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>U.S. current account balance</b>	<b>-534.5</b>	<b>-469.6</b>	<b>-418.4</b>	<b>-436.3</b>	<b>-432.0</b>	<b>-415.0</b>	<b>-433.8</b>	<b>-471.6</b>	<b>-500.2</b>	<b>-482.0</b>	<b>-489.1</b>	<b>-508.2</b>
<i>Previous Tealbook</i>	-534.5	-469.6	-436.6	-449.4	-465.7	-442.9	-455.3	-490.0	-516.8	-495.5	-499.9	-515.4
Current account as percent of GDP	-3.5	-3.0	-2.6	-2.7	-2.7	-2.6	-2.7	-2.9	-3.0	-2.9	-2.9	-2.9
<i>Previous Tealbook</i>	-3.5	-3.0	-2.8	-2.8	-2.9	-2.7	-2.8	-3.0	-3.1	-2.9	-2.9	-3.0
Net goods & services	-593.5	-557.3	-511.2	-514.6	-512.1	-483.7	-482.2	-505.1	-529.9	-503.1	-495.1	-507.1
Investment income, net	197.4	229.7	236.2	221.2	221.5	206.2	189.1	176.5	171.1	158.6	146.8	141.8
Direct, net	282.9	305.5	300.4	277.5	275.2	264.5	258.4	257.9	262.2	261.6	262.9	269.9
Portfolio, net	-85.6	-75.8	-64.1	-56.4	-53.7	-58.3	-69.3	-81.5	-91.1	-103.0	-116.2	-128.0
Other income and transfers, net	-138.4	-142.0	-143.4	-142.9	-141.4	-137.5	-140.8	-142.9	-141.4	-137.5	-140.8	-142.9

Billions of dollars, s.a.a.r.

Annual Data

	Projected										
	2007	2008	2009	2010	2011	2012	2013	2014	2015		
<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>-464.7</b>	<b>-438.1</b>	<b>-494.9</b>	<b>-497.7</b>	...	
<i>Previous Tealbook</i>	-710.3	-677.1	-381.9	-442.0	-465.9	-472.5	-463.5	-506.9	...	...	
Current account as percent of GDP	-5.1	-4.7	-2.7	-3.0	-3.1	-3.0	-2.7	-2.9	-2.8	-2.8	
<i>Previous Tealbook</i>	-5.1	-4.7	-2.7	-3.0	-3.1	-3.0	-2.8	-3.0	-3.0	...	
Net goods & services	-696.7	-698.3	-379.2	-494.7	-559.9	-544.1	-495.8	-508.8	-493.0	-493.0	
Investment income, net	111.1	157.8	127.6	191.0	235.0	221.1	198.3	154.6	134.9	134.9	
Direct, net	244.6	284.3	253.0	297.9	321.7	291.6	264.0	264.1	293.2	293.2	
Portfolio, net	-133.5	-126.5	-125.4	-106.9	-86.7	-70.5	-65.7	-109.6	-158.3	-158.3	
Other income and transfers, net	-124.7	-136.6	-130.3	-138.2	-141.1	-141.7	-140.6	-140.6	-139.6	-139.6	

Billions of dollars

... Not applicable.

## Abbreviations

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ABCP	asset-backed commercial paper
ABS	asset-backed securities
AFE	advanced foreign economy
BHC	bank holding company
BOE	Bank of England
BOJ	Bank of Japan
CDS	credit default swap
C&I	commercial and industrial
CLO	collateralized loan obligation
CMBS	commercial mortgage-backed securities
CP	commercial paper
CRE	commercial real estate
ECB	European Central Bank
EFSF	European Financial Stability Facility
EME	emerging market economy
E&S	equipment and software
ETF	exchange-traded funds
EUC	emergency unemployment compensation
FDIC	Federal Deposit Insurance Corporation
FHA	Federal Housing Administration
FOMC	Federal Open Market Committee; also, the Committee
FRBNY	Federal Reserve Bank of New York
GCF	general collateral finance
GDP	gross domestic product
GSE	government-sponsored enterprise
HFR	Hedge Fund Research
IMF	International Monetary Fund

IP	industrial production
IPO	initial public offering
ISM	Institute for Supply Management
LIBOR	London interbank offered rate
MBS	mortgage-backed securities
MEP	maturity extension program
Michigan survey	Thomson Reuters/University of Michigan Surveys of Consumers
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
repo	repurchase agreement
RMBS	residential mortgage-backed securities
SCOOS	Senior Credit Officer Opinion Survey on Dealer Financing Terms
SOMA	System Open Market Account
S&P	Standard & Poor's
TIC	Treasury International Capital
TIPS	Treasury inflation-protected securities
VIX	Chicago Board Options Exchange Market Volatility Index