

## **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

June 15, 2011

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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

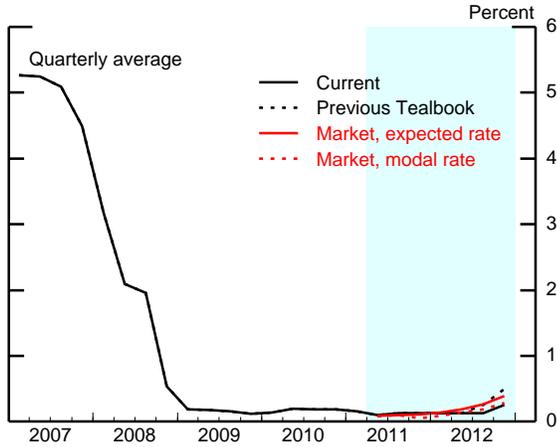
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The information on economic activity we have received since the April Tealbook has been weaker than we had expected. Part of the downside surprise reflects a larger transitory effect of the Japan earthquake on second-quarter motor vehicle production than we had assumed previously. But we also read the incoming data as suggesting that the underlying pace of recovery is less vigorous than we had anticipated in the April projection. In particular, income growth over the fourth and first quarters is now reported to have been substantially weaker than we had thought, employment growth slowed noticeably in May, and initial claims for unemployment insurance remain above levels reached earlier in the year. Moreover, consumer spending outside of motor vehicles has increased only modestly in recent months, the construction sector remains depressed, and indicators of business sentiment and production have softened of late. As a result, we now project real GDP to increase at an annual rate of just 2 percent this quarter before moving up to a 4 percent pace next quarter, as supply chain disruptions dissipate and motor vehicle production rebounds.

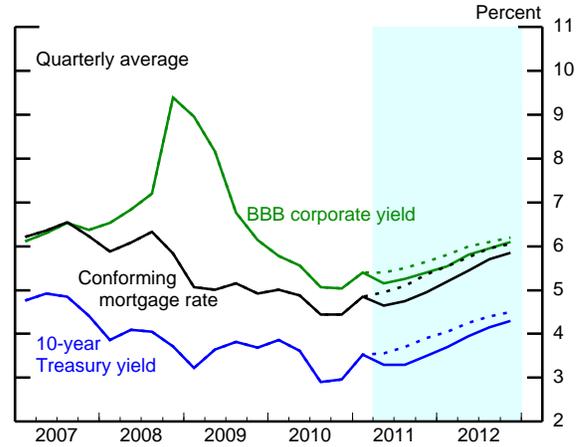
With economic activity showing less momentum than previously seemed to be the case, we have revised down our projection for output growth over the medium term as well. While the factors driving an expected acceleration in activity over the forecast period—accommodative monetary policy, improved credit availability, and some improvement in business and consumer confidence—are the same as in previous forecasts, the recent data suggest that the pace of the recovery is being held back by some combination of less impetus from these factors and greater restraints on spending from other factors. Changes in other key conditioning factors since the April Tealbook provide a small offset to the apparently weaker thrust in economic activity, with reductions in the expected paths of interest rates and oil prices slightly outweighing lower stock market prices in their projected effect on output growth. On net, we now expect real GDP excluding Japan effects to increase 3 percent over the second half of the year and 3½ percent in 2012, both down ¾ percentage point from the April Tealbook. With output growth weaker, the unemployment rate is projected to decline more gradually than in the April Tealbook, remaining close to 9 percent for the remainder of this year before falling to nearly 8 percent—about ½ percentage point above the April Tealbook projection—by the end of 2012.

## Key Background Factors underlying the Baseline Staff Projection

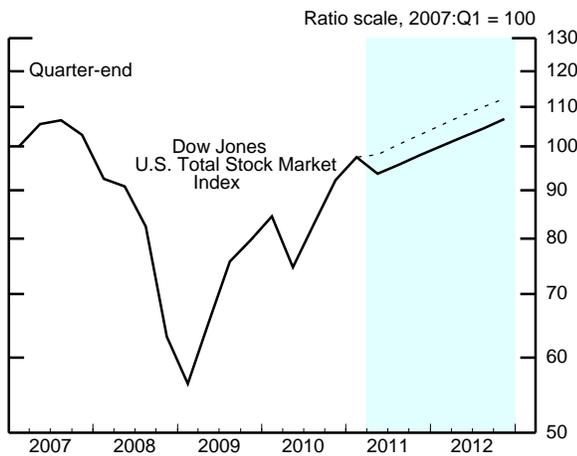
Federal Funds Rate



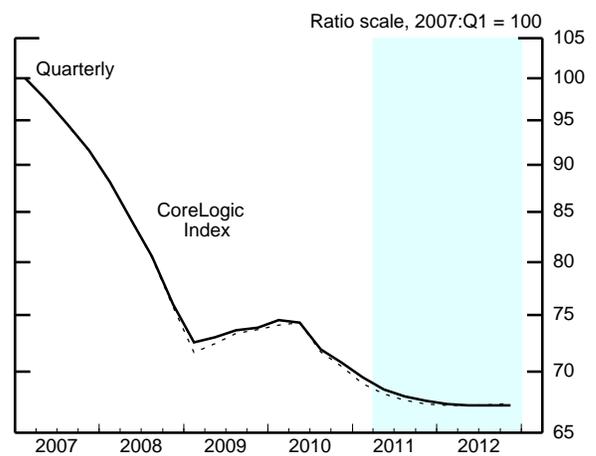
Long-Term Interest Rates



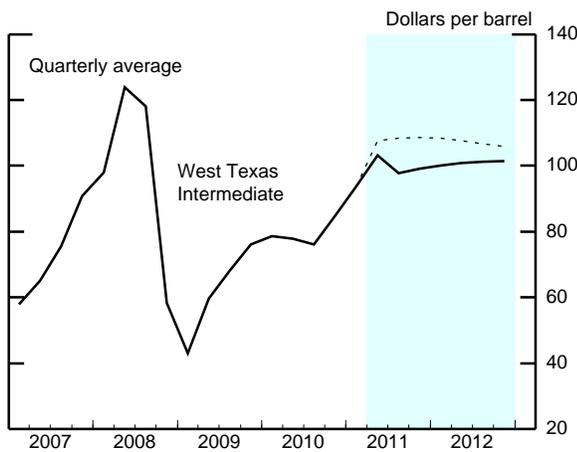
Equity Prices



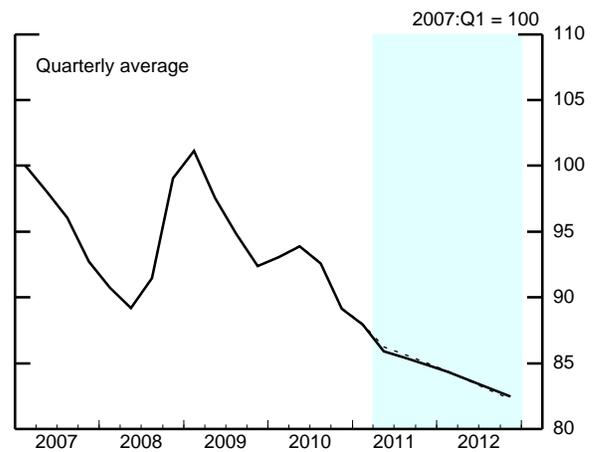
House Prices



Crude Oil Prices



Broad Real Dollar



The incoming data on core inflation have been above our expectations. Although we still think that part of the recent acceleration in core prices reflects transitory factors, we have taken a bit more signal from the data for the path of inflation going forward. In contrast, energy and commodity prices have surprised us to the downside, and we have lowered our projection of resource utilization over the medium term. In all, we revised up our projection of total PCE inflation 0.1 percentage point this year, to 2.3 percent, and 0.3 percentage point in 2012, to 1.5 percent. The projected deceleration in total PCE prices largely reflects the expected leveling out of energy prices next year.

## **KEY BACKGROUND FACTORS**

### **Monetary Policy**

In light of the significantly weaker outlook for real GDP, offset only in part by the upward revision to inflation, we now assume that the FOMC will hold the target federal funds rate in the current range of 0 to ¼ percent until the fourth quarter of 2012, one quarter later than we assumed in the April Tealbook. Regarding nonconventional monetary policy, we assume that the FOMC will complete the expansion of its holdings of Treasury securities by the end of this month and will not undertake any further portfolio expansion. In addition, we assume that the Federal Reserve will reinvest principal payments from its securities holdings until the first quarter of 2012—also one quarter later than assumed last round—and then will commence a gradual removal of nonconventional policy accommodation by allowing principal payments to reduce its securities holdings over time.

### **Financial Conditions**

The yield on 10-year Treasury securities has dropped about 30 basis points since the date of the April Tealbook, as market participants appeared to become less optimistic about the outlook for economic activity and as investor demand shifted toward relatively safe assets. Although we have lowered the projected path of the 10-year Treasury yield this round, we continue to anticipate a sizable increase in that yield over the next year and a half. The projected increase importantly reflects the movement of the valuation window through the period of near-zero short-term interest rates. In addition, we expect the term premium to rise, as the normalization of the Federal Reserve's balance sheet adds to the available supply of longer-dated Treasury bonds, and as investors regain

confidence in the durability of the economic recovery and reduce their demand for low-risk assets.

Yields on investment-grade corporate bonds and interest rates on conforming fixed-rate mortgages also decreased over the intermeeting period, though by a little less than yields on Treasury securities, implying a small increase in spreads. While we raised slightly our projection for those spreads this round, the projected levels of corporate bond yields and mortgage rates lie noticeably below those in the April Tealbook.

The Dow Jones U.S. Total Stock Market Index has decreased about 3 percent since the April Tealbook. This decline left the projected level of stock prices at the end of this quarter close to 5 percent lower than we had forecast in the previous round, and we reduced the medium-term projection by this amount. Nonetheless, we continue to expect stock prices to appreciate at an annual rate close to 9 percent through the end of next year—a pace that we expect to bring the implied equity risk premium down toward longer-run norms.

The latest data from CoreLogic showed another noticeable decrease in house prices in April, but one that was in line with our expectations. Thus, as in the April Tealbook, we anticipate that house prices will fall 4½ percent this year and then be little changed in 2012.

## **Fiscal Policy**

Our fiscal policy assumptions are unrevised in this projection. We continue to expect federal fiscal policy actions to be a roughly neutral influence on aggregate demand in 2011, as the impetus from the one-year cut in payroll taxes is about offset by the expiration of the Making Work Pay tax cut at the end of last year and some reduction in stimulus-related grants to state and local governments. In 2012, federal fiscal actions are expected to impose a drag on aggregate demand of about 1 percent of GDP, as the temporary payroll tax cut expires, the Emergency Unemployment Compensation program is phased out, the stimulus grants for states and localities are essentially exhausted, and real federal purchases decline.

Recent income tax collections have been a little stronger than expected, which has led us to nudge down our projection of the fiscal year 2011 deficit to \$1.3 trillion (about 8½ percent of GDP) from \$1.4 trillion in the April Tealbook. The deficit is still projected

to narrow to \$1.1 trillion in fiscal 2012 (about 7 percent of GDP), primarily reflecting the further tapering of stimulus-related policies and continued gains in tax receipts as the pace of economic activity picks up. Federal debt is projected to rise to more than 70 percent of GDP at the end of fiscal 2012.

## Foreign Activity and the Dollar

Foreign real GDP accelerated in the first quarter to an annual pace of 4 percent, nearly  $\frac{1}{2}$  percentage point greater than we projected in April. Surprisingly strong activity in many emerging market economies and the euro area more than offset a much sharper-than-expected contraction of Japanese activity following the March 11 earthquake. Data through May, however, show a deceleration in global manufacturing activity, and we expect foreign GDP growth to step down to a  $2\frac{3}{4}$  percent pace in the second quarter, slightly softer than in the April projection. As Japan recovers from its post-earthquake slump and the effects of supply chain disruptions on other economies wane, foreign growth is projected to rebound to  $3\frac{3}{4}$  percent in the third quarter and to average about  $3\frac{1}{2}$  percent for the remainder of the forecast period. This outlook is a bit lower than the April Tealbook projection, largely reflecting the lower trajectory for U.S. economic activity.

The starting point of our projected path for the broad real dollar is about  $\frac{1}{4}$  percent lower than we anticipated in the April forecast. From this slightly lower level, the dollar is assumed to depreciate at an annual rate of about 3 percent over the forecast period, a pace that is little changed from what we had written down in April. Most of the dollar's projected decline occurs against the currencies of the emerging market economies.

## Oil and Other Commodity Prices

Oil prices have declined since April, with the spot price of West Texas Intermediate (WTI) crude oil closing on June 14 at \$99 per barrel, \$8 dollars per barrel lower than at the time of the previous forecast. The price of all grades of crude oil fell sharply in early May, likely reflecting diminished expectations for the strength of global oil demand. Last week, disagreement within OPEC prevented an anticipated increase in oil production quotas, but rumors have surfaced that Saudi Arabia may be raising its oil production anyway. Consistent with futures prices, we project that the spot price of WTI will edge up to \$102 per barrel by the end of 2012. Compared with the April Tealbook

projection, this path is about \$10 lower in the second half of this year and \$4 lower at the end of next year.

As with oil, prices of many other commodities, particularly industrial metals, fell sharply in early May amid mounting concerns about the strength of global demand. In contrast, corn and soybean prices have moved up in recent weeks on worries about growing conditions in the United States. We project that nonfuel commodity prices will remain near their current elevated levels, consistent with quotes from futures markets. (See the box “Forecasting Commodity Prices” for further discussion.)

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

We have revised down our near-term projection of economic activity. We now think that the effects of the Japan disaster will weigh more heavily on U.S. real GDP this quarter than we thought at the time of the April Tealbook, although much of this effect is expected to be unwound next quarter. In addition, we have marked down our near-term projection of consumption in response to weaker data on real incomes, employment, and spending. In all, we project real GDP to increase at an annual rate of 2 percent this quarter and 4 percent in the third quarter, down  $\frac{3}{4}$  percentage point, on average, from the April Tealbook; excluding the effects of the Japan disaster, real GDP is projected to increase around  $2\frac{3}{4}$  percent in both quarters.

Almost all of the effect on U.S. economic activity resulting from the Japan disaster appears to be concentrated in the motor vehicle sector.<sup>1</sup> Following the disaster, shortages of auto parts forced several Japanese firms to slow production at their U.S. assembly plants this quarter, lowering domestic motor vehicle production by about 1 million units at an annual rate. However, industry reports suggest that bottlenecks in parts supplies have started to ease in recent weeks, and assembly plans point to a substantial increase of  $1\frac{1}{2}$  million units in the third quarter.

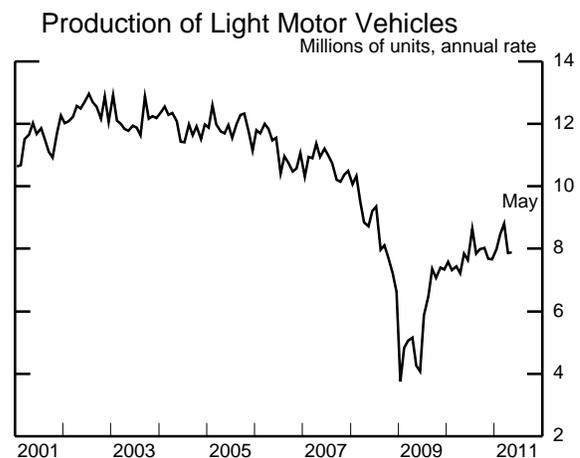
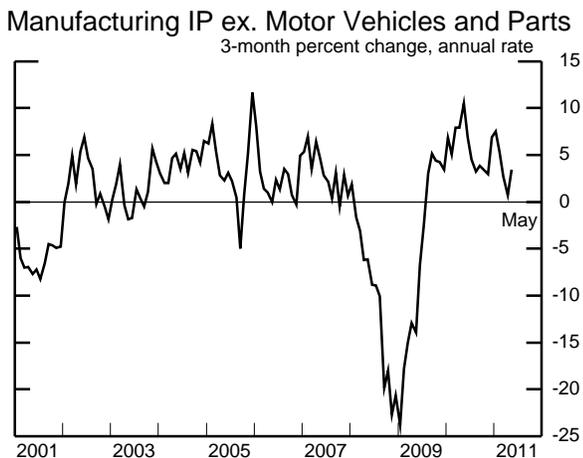
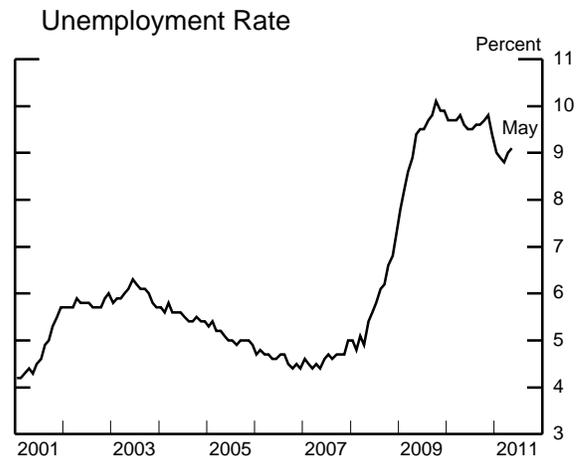
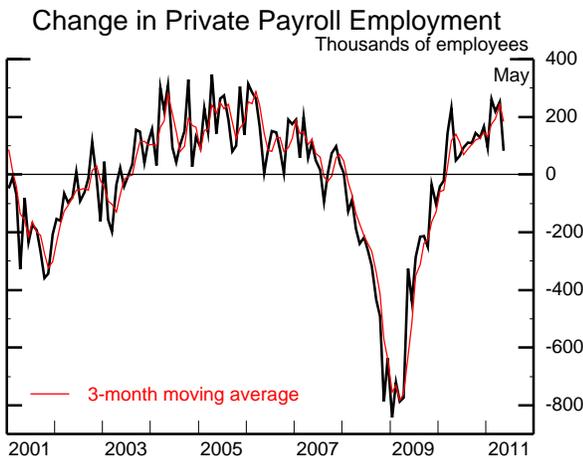
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<sup>1</sup> We have not yet seen any significant direct effect on domestic IT production from the Japan earthquake, but the full ramifications of the disaster are still uncertain. Although high inventories of electronic components have likely mitigated the effects of the disaster, there are still supply chain concerns going forward, as manufacturers will soon begin to ramp up production in advance of the back-to-school and holiday season increases in demand. In addition, some major high-tech companies have noted that adjusting to the disruptions in the supply chain has been costly. However, prices for some components that had been moving higher in the weeks following the earthquake stabilized in the second half of May.

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

Measure	2011:Q1		2011:Q2		2011:Q3	
	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook
<b>Real GDP</b>	<b>1.7</b>	<b>2.1</b>	<b>3.1</b>	<b>1.9</b>	<b>4.1</b>	<b>3.9</b>
Private domestic final purchases	2.3	2.2	3.6	2.1	3.8	3.4
Personal consumption expenditures	2.5	2.3	3.0	1.5	3.1	2.6
Residential investment	-1.8	-2.9	.4	1.3	2.6	1.6
Nonres. structures	-17.3	-15.2	-1.4	6.1	-.7	-.6
Equipment and software	10.1	10.1	12.2	7.0	12.6	13.2
Federal purchases	-11.5	-7.9	8.0	2.1	3.9	4.7
State and local purchases	-3.9	-3.9	-1.2	-2.3	-.4	-1.3
Contribution to change in real GDP (percentage points)						
Inventory investment	1.1	1.3	-.3	-.6	1.1	1.2
Net exports	.1	.1	-.1	.9	-.4	-.4

**Recent Nonfinancial Developments (1)**



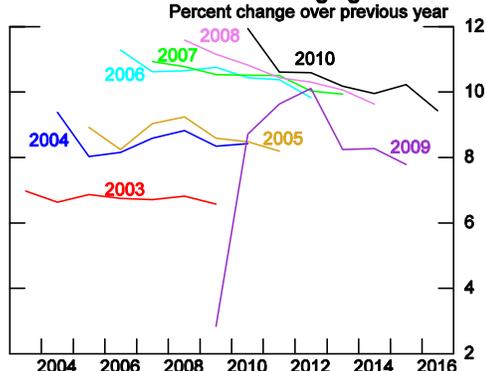
## Forecasting Commodity Prices

The Tealbook forecasts for oil and non-fuel commodity prices are based on quotes from futures markets. Futures prices should, in principle, embody all available information affecting commodity prices, including developments specific to individual commodities as well as those shaping the global economy more generally. As is well known, however, futures prices have a poor track record in predicting commodity price movements. Here we summarize recent work conducted in the Division of International Finance to assess the forecasting properties of commodity futures, with the goal of improving our forecasting methodology.<sup>1</sup>

To assess the fundamental drivers of commodity prices, we evaluated several reduced-form equations that model commodity prices as a function of macroeconomic variables. Although many variables should affect (and be affected by) commodity prices, the key determinants we identified are world economic activity and the exchange value of the dollar. In addition, activity in the emerging market economies, which is relatively intensive in the use of commodities, is particularly informative.

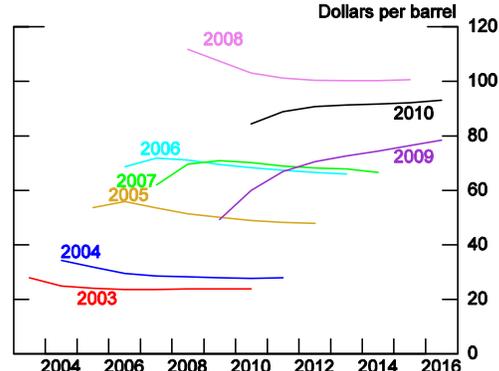
By incorporating expectations about these fundamentals, futures should provide a reasonable forecast of commodity prices. Yet, on average over long periods of time, futures prices barely outperform a random walk, as they frequently trace out a relatively flat trajectory, similar to a random walk forecast. Considering the centrality of global economic growth to commodity prices, it may appear surprising that futures curves remain flat even though global demand is steadily increasing. Theoretically, however, such a configuration of forward prices is justified when market participants can arbitrage away differences in spot and futures prices through adjustments in commodity inventories or supply decisions. For example, expectations that strong demand will push up commodity prices in the future will induce market participants to boost current holdings of commodities, thus pushing up spot prices. When either the costs or the benefits of holding inventories are particularly high, however, futures prices can differ greatly from spot prices, resulting in a meaningful slope in the futures curve. Our empirical analysis indicates that futures

**Consensus Forecasts for Emerging Asian IP\***



\*Each line represents futures prices or forecasts made in April of the indicated year.  
Source: Consensus Economics and staff estimates based on GDP weights.

**WTI Crude Oil Futures\***



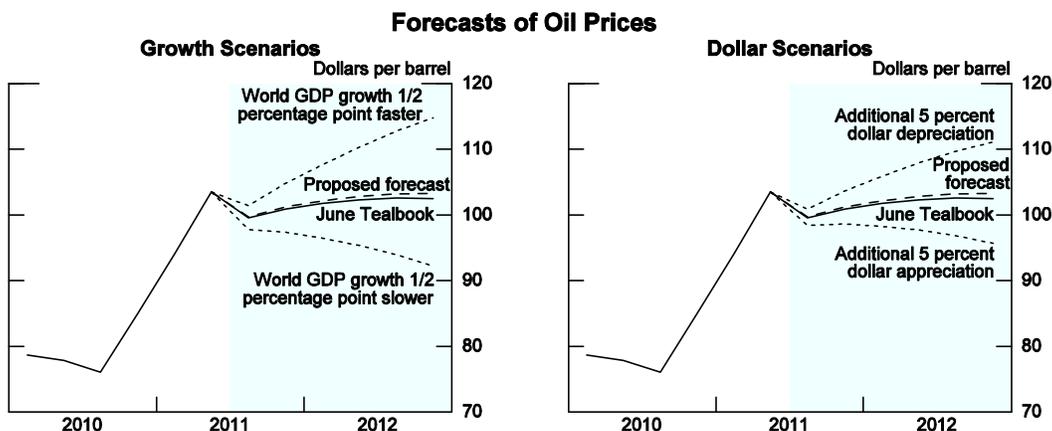
Source: Bloomberg.

<sup>1</sup> See the following memorandums dated June 14, 2011: Joseph Gruber, “Modeling Commodity Prices”; Robert Vigfusson, “Evaluating the Forecasting Performance of Commodity Futures Prices”; and David Bowman and Joseph Gruber, “Revisions to Economic Forecasts and Commodity Prices.”

prices outperform a random walk forecast by a considerable margin when there is a sizable difference between spot and futures prices. Thus, futures prices contain useful information for forecasting commodity prices.

Where futures go astray is that they are often conditioned on expectations of the fundamentals that subsequently prove to be incorrect. As shown in the lower-left figure on the facing page, market analysts repeatedly underestimated the rate of growth in emerging Asian economies over much of the last decade as the forecast path was regularly revised up. Coinciding with these demand surprises, as shown in the lower-right figure on the facing page, were analogous upward revisions to the path of crude oil futures prices. Futures curves for other commodities were revised in a similar manner. More generally, we find that *surprises* to analysts' expectations for global activity explain much more of the variation in commodity prices than do underlying trends. Additionally, changes in the dollar (which presumably are largely unanticipated) are also quite influential.

Based on these results, we propose an alternative forecasting methodology for commodity prices to be introduced in the August Tealbook. It starts with the futures curve, but then adjusts that curve in light of how much market participants would be surprised if the staff's Tealbook forecasts of economic growth and exchange rates prove correct, as determined by the divergence between the Tealbook forecast and private forecasts. As shown in the two panels below, at present, the proposed forecast for oil prices lies slightly above the futures path, largely reflecting the staff's expectation of further dollar depreciation. On average over the past decade, this alternative approach would have done only about as well as simply using futures prices, as both the staff and private forecasters were surprised by the rate of acceleration in emerging market economies over this period. However, this alternative approach has the advantage that it incorporates both market information and the staff's forecast of activity and exchange rates in a conceptually coherent way. An added benefit of this approach is that it provides a simple framework for assessing the risks to commodity prices in terms of their underlying drivers. For example, the dotted lines in the two figures below show a range of oil price paths that might prevail under different assumptions for how market participants could be surprised by the evolution of global activity and the dollar.



The constraints on motor vehicle production led to a sharp drop in vehicle inventories, and days' supply for domestic autos dipped to 39 days at the end of April, one of the lowest levels on record. The limited availability of some vehicle models, particularly smaller cars produced by the Japanese automakers, curtailed light-vehicle sales, accounting for much of the 1¼ million unit drop in May (bringing the total to an annual rate of 11.8 million units). However, some of the decline in sales may have also reflected recent increases in gasoline prices as well as weakness in other factors affecting consumer demand. As production rebounds and inventories are rebuilt, we project sales to move back up to a 13¼ million unit pace in the third quarter.

### **The Industrial Sector**

We expect growth in manufacturing IP to step down from a robust annual rate of 6½ percent in the first quarter (2½ percentage points below our estimate in the April Tealbook) to only 1½ percent this quarter. Although the effects of the Japan disaster on motor vehicle production account for much of this deceleration, the most recent indicators—such as diffusion indexes of new orders from the manufacturing ISM survey and the various regional manufacturing surveys, as well as adjusted orders for durable goods—suggest a slowing in the pace of manufacturing activity more broadly. Given the projected rebound in motor vehicle production, we expect manufacturing IP to rise at an annual rate of 8½ percent next quarter. However, the weaker tone of recent indicators has led us to revise down our projection of the average annual rate of increase in manufacturing output outside the motor vehicle sector over the second and third quarters to 3¾ percent, ¾ percentage point lower than in the April Tealbook.

### **The Labor Market**

After increasing by an average of 200,000 in the first four months of the year, private nonfarm payroll employment increased only 83,000 in May. The step-down in private employment gains last month was widespread across industries. Meanwhile, employment in the state and local government sector fell an average of 23,000 in April and May, similar to the average pace of decline since the middle of 2009. Recent indicators of labor market activity suggest that employment growth in coming months will move above the pace in May but fall shy of the increases we had expected in the April Tealbook. Although the help-wanted index remained near recent highs last month and initial claims for unemployment insurance have moved lower in recent weeks, the most recent readings on initial claims are still above levels seen earlier in the year, and

the pace of hiring remains low. Factoring in these data, we expect private employment to increase 150,000 in June and to average gains of about 200,000 per month in the third quarter, 50,000 lower than we had written down in the April Tealbook. The unemployment rate has hovered around 9 percent since the beginning of the year, and the labor force participation rate has been flat at a depressed level. With labor demand projected to increase only modestly in the near term, we expect the unemployment rate to stay near 9 percent through the third quarter and the participation rate to only edge up.

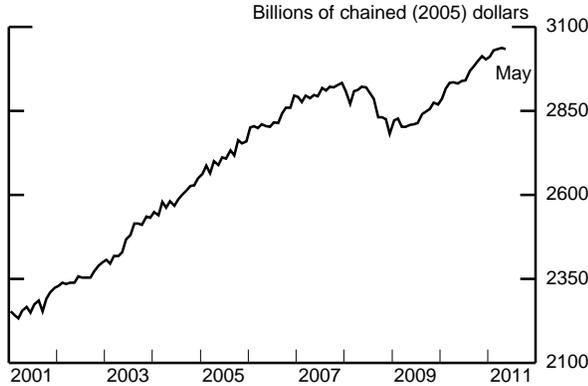
## Household Spending

Consumer spending looks to be rising at a significantly slower pace in the first half of the year than we had expected in the April Tealbook. As described previously, part of this weakness is due to what we believe to be a temporary reduction in motor vehicle purchases. However, spending for other goods and services has also come in weaker than expected, as has disposable personal income (DPI). We estimate that real spending in the control category of personal consumption expenditures increased at an annual rate of about 1½ percent in the three months ending in May, down noticeably from rates around the turn of the year. Moreover, the BEA now estimates that real DPI increased at only a 1 percent average annual rate over the fourth and first quarters, leaving the published first-quarter level nearly \$70 billion lower than we had projected in the April Tealbook. In addition, while the Michigan survey's measure of consumer sentiment has reversed some of the plunge in March that accompanied higher gasoline prices, it remains at a low level. Putting these pieces together, we project that after increasing at an annual rate of 2¼ percent in the first quarter, real PCE will rise a modest 1½ percent in the current quarter before picking up to a 2½ percent pace in the third quarter as motor vehicle sales step back up. Our projection of consumption growth in the second and third quarters is 1 percentage point lower, on average, than we had written down in the April Tealbook.

Housing activity remains moribund. Single-family housing starts edged down to an extremely depressed annual rate of about 400,000 units in April. Similarly, sales of new single-family homes remained near recent lows. High vacancy rates for existing homes, tight underwriting standards for mortgage loans, and uncertainty about future home prices will likely continue to constrain demand for new homes over the near term, while limited availability of credit for builders is reportedly impeding supply in the few areas where demand is improving. As a result, we expect single-family housing starts to

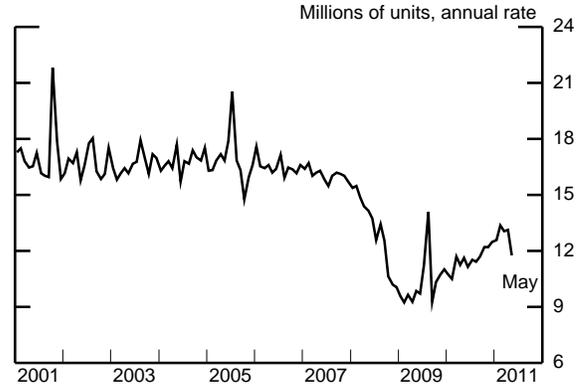
## Recent Nonfinancial Developments (2)

Real PCE Goods ex. Motor Vehicles



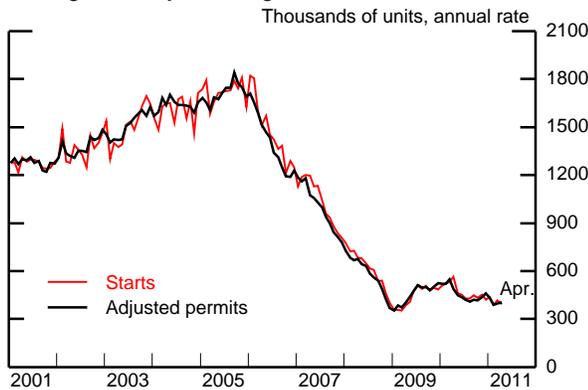
Note: Figures for March, April, and May are staff estimates based on available source data.  
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

Sales of Light Motor Vehicles



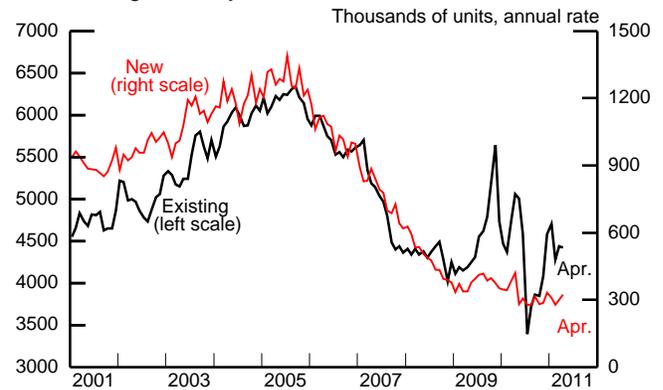
Source: Ward's Auto Infobank.

Single-Family Housing Starts



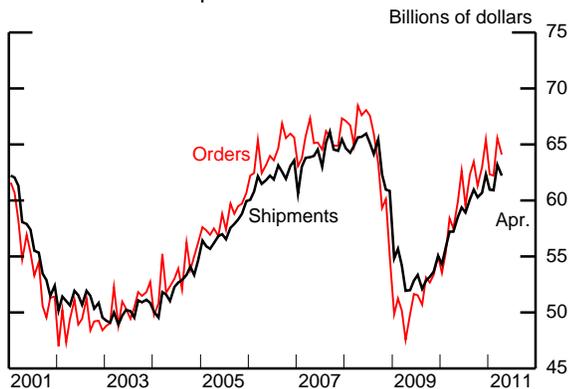
Note: Adjusted permits equal permits plus starts outside of permit-issuing areas.  
Source: U.S. Census Bureau.

Single-Family Home Sales



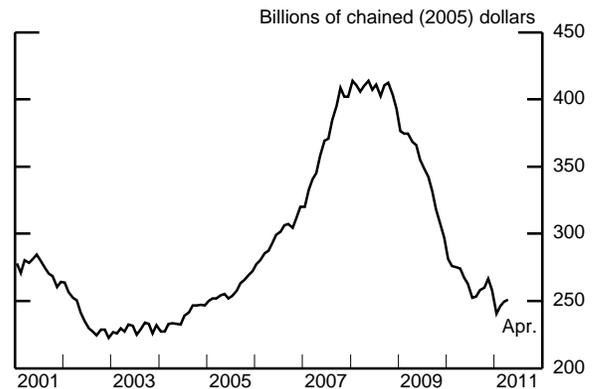
Source: For existing, National Association of Realtors; for new, U.S. Census Bureau.

Nondefense Capital Goods ex. Aircraft



Source: U.S. Census Bureau.

Nonresidential Construction Put in Place



Source: U.S. Census Bureau.

remain relatively flat over the near term at a level similar to our projection in the April Tealbook. In contrast, starts in the multifamily sector are expected to edge up in coming months, as demand shifts toward rental units and away from owner-occupied single-family homes.

## **Business Investment**

After rising at a robust annual rate of 10 percent in the first quarter, real business spending on equipment and software (E&S) is projected to increase 7 percent in the current quarter. Some of the step-down in growth reflects the transitory effect of the Japan earthquake on business purchases of motor vehicles. However, the incoming data on orders and shipments of nondefense capital goods (excluding aircraft), together with the recent downturn in indicators of business sentiment, also led us to reduce slightly our near-term forecast of spending for other types of business equipment. In all, we now project growth in real E&S spending to pick up to a 13 percent pace in the third quarter—boosted by the rebound in motor vehicle purchases—putting the average rate of increase in the second and third quarters at 10 percent, still a robust pace but nonetheless 2¼ percentage points lower than in the April Tealbook.

Real business outlays on nonresidential structures remain at a low level. After falling at an annual rate of 25 percent in the first quarter, outlays for buildings appear to be edging up in the current quarter. However, with financing still tight, vacancies elevated, and architectural work for new projects having softened some, we expect building outlays to edge lower next quarter. In contrast, outlays for drilling and mining structures rose at an annual rate of 10 percent in the first quarter, and high oil prices and recent increases in drilling rigs point to continued strong growth in the second and third quarters.

Inventory investment outside of the motor vehicle sector is projected to subtract a small amount, on average, from real GDP growth in the second and third quarters. Book-value inventory-to-sales ratios outside of the motor vehicle sector remain near pre-recession norms, and the staff's flow-of-goods system reveals no evidence of significant imbalances. As noted previously, the effects of the Japan earthquake have led to a sharp drop in motor vehicle inventories in the current quarter, but the projected rebound in third-quarter production is expected to result in a substantial rebuilding of inventories next quarter.

## Government

Consistent with incoming data for defense spending in April and May, we project total real federal purchases to rise at an annual rate of about 2 percent in the current quarter after falling 8 percent in the first quarter, when defense expenditures declined significantly. Assuming that defense spending continues to move closer to a level consistent with enacted appropriations, we expect real federal purchases to rise at an annual rate of almost 5 percent in the third quarter.

At the state and local level, real purchases have continued to decrease as budget conditions have remained tight. While recent declines in state and local employment have been about as expected, construction spending has been much weaker than anticipated, and we now project that real state and local purchases will decline at an annual rate of about 2 percent in the current quarter, compared with the roughly 1 percent reduction we foresaw in the April Tealbook. We expect both employment and construction spending to continue to fall in the third quarter; as a result, total real state and local purchases are projected to contract again next quarter—albeit less rapidly than in the first half of the year.

## Foreign Trade

Exports were surprisingly strong in March and April, especially in the categories of industrial supplies and capital goods. We now estimate that real exports of goods and services rose at an annual pace of  $7\frac{3}{4}$  percent in the first quarter and will accelerate to about  $10\frac{1}{4}$  percent in both the second and third quarters, supported by continued robust foreign demand and the lower value of the dollar. These estimates are roughly  $1\frac{1}{2}$  percentage points above those projected in April.

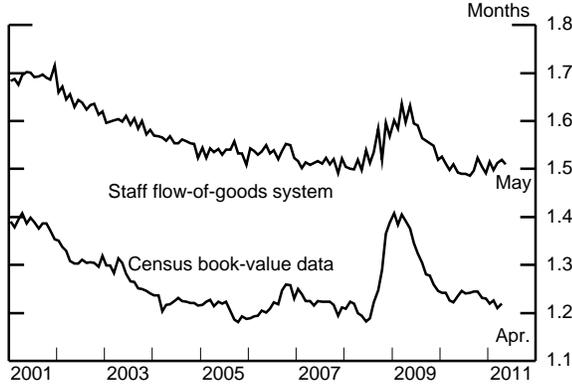
After rising at a  $5\frac{1}{2}$  percent annual rate in the first quarter, real imports of goods and services are projected to decelerate to a  $2\frac{3}{4}$  percent rate of growth in the current quarter. Our second-quarter projection is down 5 percentage points from the April Tealbook, as disruptions to automobile imports from Japan now appear to be more severe than we anticipated in April and U.S. economic activity is now projected to be weaker.<sup>2</sup>

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<sup>2</sup> Some of the downward revision also reflects our expectation that the BEA will change its seasonal adjustment of oil imports when it publishes the advance estimate of second-quarter GDP this summer.

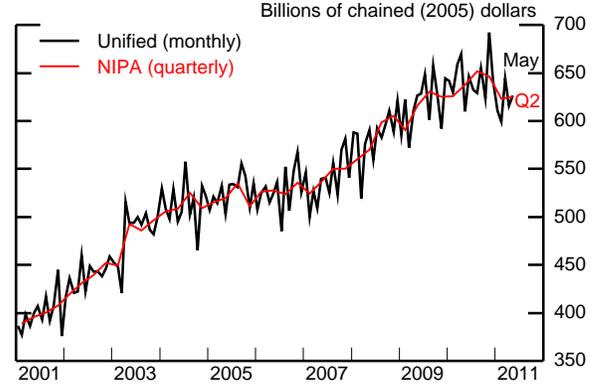
### Recent Nonfinancial Developments (3)

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



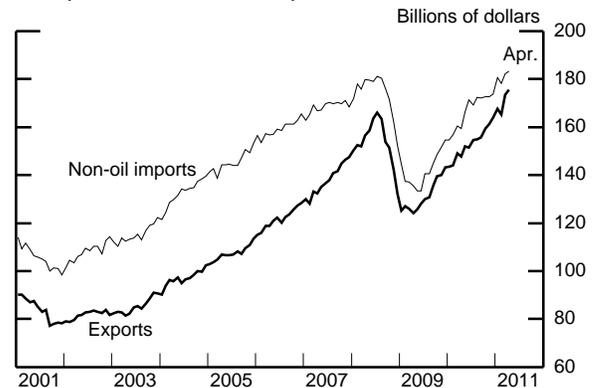
Note: The unified series is seasonally adjusted and deflated by BEA prices. The NIPA series excludes the consumption of fixed capital.  
Source: *Monthly Treasury Statement*; U.S. Dept. of Commerce, Bureau of Economic Analysis.

Trade Balance



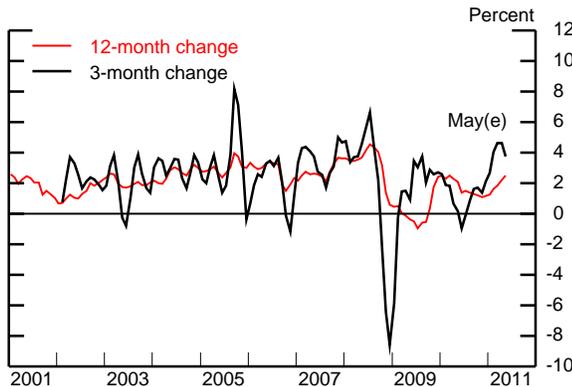
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis; U.S. Census Bureau.

Exports and Non-Oil Imports



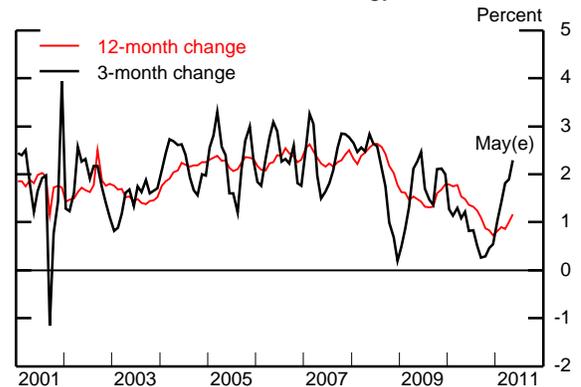
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis; U.S. Census Bureau.

Total PCE Prices



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

For the third quarter, we project that real imports will rebound to close to an 11 percent pace, as motor vehicle production in Japan bounces back and U.S. activity strengthens.

In the current quarter, we expect the external sector's contribution to real GDP growth to be nearly 1 percentage point, compared with a roughly neutral contribution in the April Tealbook. As imports rebound, we expect the external sector to subtract nearly  $\frac{1}{2}$  percentage point from GDP growth in the third quarter, little changed from the previous Tealbook.

## Prices and Wages

Total PCE price inflation is expected to edge down from an annual rate of  $3\frac{3}{4}$  percent in the first quarter to  $3\frac{1}{2}$  percent in the current quarter and then to slow considerably further to  $\frac{3}{4}$  percent in the third quarter. The projected step-down in inflation over the middle of the year reflects the recent sharp deceleration in consumer energy prices—which is expected to continue into the third quarter—as well as a projected reduction in food price inflation. (See the box “The Outlook for Consumer Food Prices” for further discussion.) In reaction to higher-than-expected incoming data, we have revised up our projection of core PCE inflation  $\frac{3}{4}$  percentage point in the second quarter and  $\frac{1}{2}$  percentage point in the third quarter, to annual rates of  $2\frac{1}{4}$  and  $1\frac{3}{4}$  percent respectively. The projected slowing in core PCE inflation next quarter reflects our view that some of the step-up in second-quarter inflation is due to transitory factors. For example, extremely low motor vehicle inventories contributed to higher motor vehicle prices in April and May, and this influence should lessen as inventories are rebuilt. Upward pressures from the prices of commodities and other imports also appear to have been a factor; given the recent drop in commodity prices, these pressures should start to fade in coming months.

The incoming data on labor compensation have remained quite soft. Hourly compensation in the fourth quarter of 2010 was revised lower after the BEA incorporated data from unemployment insurance tax records and now is estimated to have been about unchanged. Growth in compensation per hour in the first quarter of 2011, at  $2\frac{1}{2}$  percent, was also a little weaker than we expected, as was that quarter's rise in the employment cost index. Monthly data on average hourly earnings through May suggest that compensation per hour will increase at annual rates of close to 2 percent in the middle two quarters of the year.

## THE MEDIUM-TERM OUTLOOK

The accumulation of weaker data on spending and production over the past several months suggests less underlying momentum in economic activity than we previously thought. Accordingly, we marked down our projection of output growth in the second half of this year and in 2012. That said, the forces shaping the recovery and its general contour—a gradual and modestly paced upturn—are largely the same as in the April Tealbook. Acting to boost growth are accommodative monetary policy, easing credit conditions, and improvements in business and consumer confidence; acting to restrain it are the increasing drag from federal fiscal policy (reflecting, in part, the winding down of grants to state and local governments) and a large overhang of vacant residential and nonresidential buildings. All told, excluding Japan effects, we now project real GDP growth to move up from an annual rate of 2½ percent in the first half of this year to 3 percent in the second half and to 3½ percent in 2012, with the latter two figures both ¾ percentage point lower than in the April Tealbook.

A key area of concern is the labor market. In a more normal economic environment, current high levels of profitability would typically be associated with stronger hiring than we have seen recently. But in the current uncertain environment, firms seem reluctant to expand their workforces, and—aided, perhaps, by the strong bargaining position generated by a depressed labor market—seem focused instead on increasing returns from existing workforces. As uncertainty about the outlook diminishes and credit availability improves, we expect businesses to become more aggressive in their hiring, leading job growth to gradually strengthen over the medium term. Nevertheless, the recent labor market data have led us to conclude that businesses remain exceedingly cautious about adding to payrolls and will remain so for longer than we had projected in the April Tealbook.

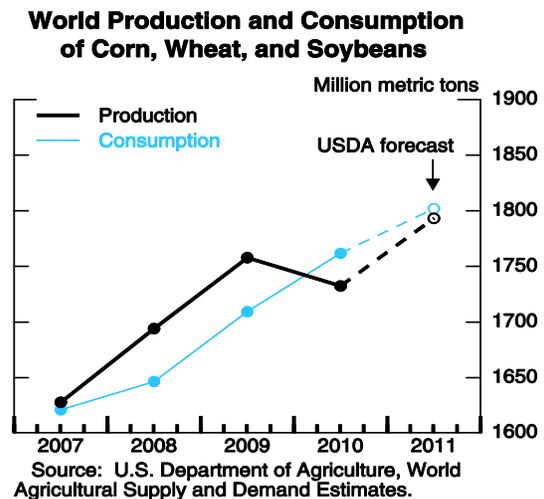
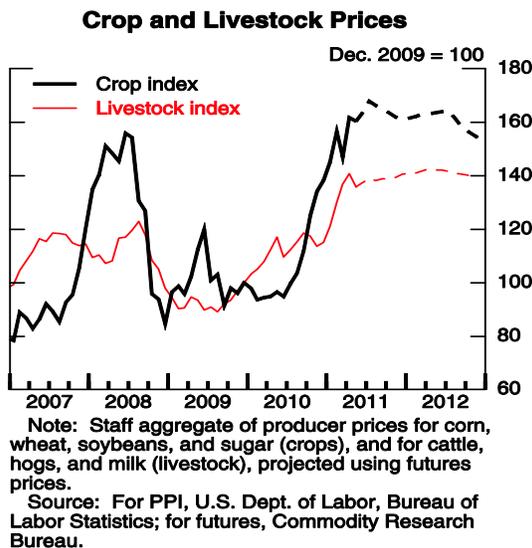
The slow pace of improvement in the labor market influences our projection for consumer spending. As job growth picks up and the effects of energy price increases earlier in the year fade, household incomes and confidence should rise, driving a modest acceleration in consumption over the medium term. However, the projected pace of acceleration is considerably slower than in the April Tealbook, with our forecast of consumption growth marked down ½ percentage point in the second half of this year, to an annual rate of 2¼ percent (excluding Japan effects), and 1 percentage point in 2012, to 2¾ percent. In addition to the influence of the weaker medium-term paths for

## The Outlook for Consumer Food Prices

After rising modestly last year, the prices of PCE food and beverages have accelerated; we currently estimate that they will have increased at an annual rate of about 6½ percent in the first half of this year. As with energy prices, we view these increases in food prices as being driven importantly by developments in international commodity markets. We expect that food price increases will slow appreciably in the second half of this year and in 2012, contributing to the projected slowdown of overall consumer price inflation.

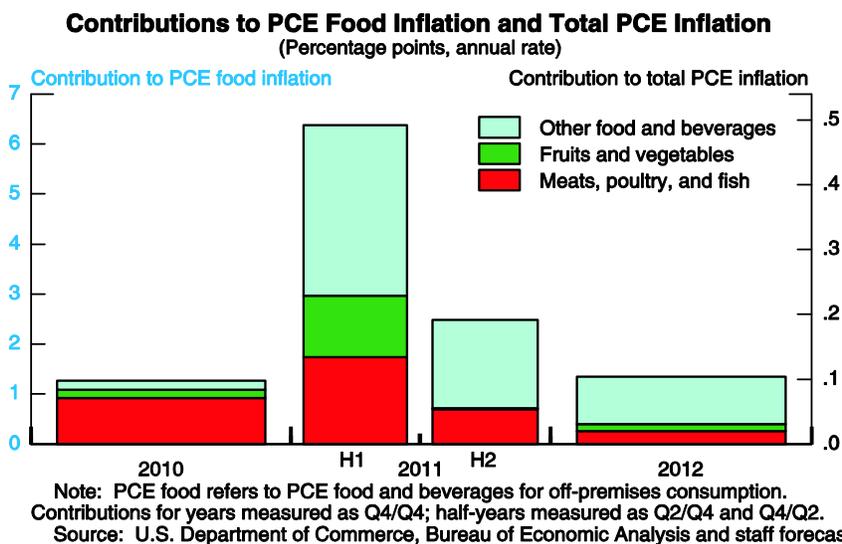
Farm commodity prices have surged over the past year as the emerging recovery in the global economy has coincided with poor harvests in several major producing countries. For key crops (corn, wheat, soybeans, and sugar), prices are up roughly 60 percent since the middle of 2010 (the black line in the lower-left figure). Weather has been unusually troublesome, causing the 2010 grain harvest to drop below world consumption (lower-right figure) and pushing world inventories down to very low levels. As the extent of these production shortfalls became apparent last year, crop prices moved up sharply. Meanwhile, livestock prices (the red line in the lower-left figure) have increased about 40 percent since the end of 2009, owing to robust global demand and the rising cost of feed grains.

Reflecting the recent surge in the prices of crops and livestock, PCE prices for meats and a wide range of other more-processed foods have risen appreciably (see the figure on the facing page). In addition, a freeze-related swing in consumer prices for fruits and vegetables—unrelated to the price increases for other crops—temporarily boosted PCE food prices earlier this year. All told, the recent increases in the prices of PCE food and beverages are estimated to contribute ½ percentage point to total PCE inflation in the first half of this year (right scale).



Looking ahead, the relatively flat trajectories for crop and livestock prices implied by futures markets appear consistent with current U.S. Department of Agriculture (USDA) projections of expanding production of crops and livestock this year. Given the speed at which farm prices are estimated to pass through to retail prices of food, we expect that the upward pressure on consumer food prices coming from farm commodities will ease significantly later this year. In addition, the prices of fruits and vegetables have already started to retreat as spring-season supplies have come on line. In all, food price inflation is projected to slow to an annual rate of about 2½ percent in the second half of this year and to rise about in line with core inflation next year (left scale). The deceleration in food prices is expected to contribute 0.4 percentage point to our projected slowing in the overall rate of PCE inflation.

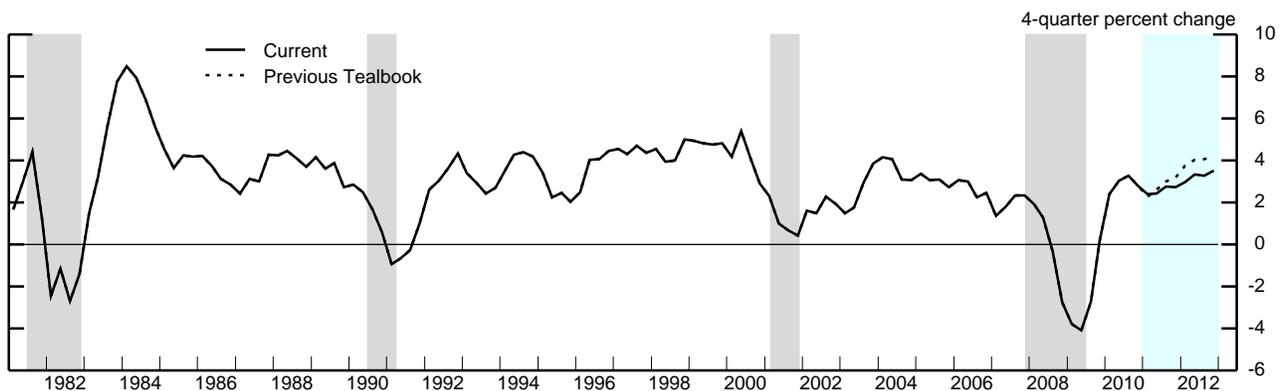
While we anticipate that the recent rapid increases in food prices will be transitory, significant risks are associated with this projection. Given the very low levels of inventories and the mediocre start for this season’s grain crop in the United States, the most prominent risk is that commodity prices could continue to rise appreciably because of further adverse supply developments. While the risks at this point to our projected path for farm commodity prices seem to be skewed to the upside, a significant chance remains that better-than-expected growing conditions over the rest of the year would boost expected yields and would put downward pressure on crop prices.



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

Measure	2010	2011		2012
		H1	H2	
<b>Real GDP</b>	<b>2.8</b>	<b>2.0</b>	<b>3.4</b>	<b>3.5</b>
Previous Tealbook	2.8	2.4	4.0	4.2
Final sales	2.4	1.7	3.1	3.2
Previous Tealbook	2.4	1.9	3.9	3.9
Personal consumption expenditures	2.6	1.9	2.5	2.8
Previous Tealbook	2.6	2.8	3.1	3.7
Residential investment	-4.6	-8	2.2	6.0
Previous Tealbook	-4.6	-7	4.0	8.7
Nonresidential structures	-4.0	-5.1	.0	-.8
Previous Tealbook	-4.0	-9.7	.0	-.4
Equipment and software	16.9	8.6	11.4	8.0
Previous Tealbook	16.9	11.1	13.0	9.1
Federal purchases	4.8	-3.0	2.1	-.8
Previous Tealbook	4.8	-2.2	1.7	-.8
State and local purchases	-1.3	-3.1	-.9	.1
Previous Tealbook	-1.3	-2.6	-.3	.4
Exports	9.0	9.1	10.0	9.0
Previous Tealbook	9.0	7.6	9.4	9.0
Imports	11.0	4.0	5.8	4.0
Previous Tealbook	11.0	6.0	3.9	5.1
<b>Contributions to change in real GDP (percentage points)</b>				
Inventory change	.4	.4	.3	.3
Previous Tealbook	.4	.4	.0	.3
Net exports	-.6	.5	.4	.6
Previous Tealbook	-.6	.0	.6	.4

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.

employment and income growth, the downward adjustment to the consumption outlook reflects the lagged effects of the downward revisions to income in recent quarters and our sense that a recovery in consumer confidence will be slower to materialize than we had previously been anticipating. In this environment, the personal saving rate is projected to remain about flat over the medium term.<sup>3</sup>

Rising income and confidence should eventually support a gradual increase in the demand for housing as well. But, with house prices projected to continue declining through the first part of next year, demand will likely be restrained by fears of purchasing into a falling market. Moreover, a substantial part of the expected increase in housing demand will likely be satisfied by the large stock of low-priced vacant homes and less expensive dwellings in multiunit buildings, rather than new single-family housing. Indeed, single-family starts are projected to move up to an annual rate of only 500,000 units by the end of next year, less than half of the average rate over the past 40 years. We expect residential investment to edge up at an annual rate of about 2 percent over the second half of this year and to rise only 6 percent next year, slightly less than our projection in the April Tealbook.

High vacancy rates, as well as tight financing, will also likely restrain business investment in nonresidential buildings over the medium term. In addition, because of substantial planning lags and other factors, the sector typically trails the rest of the economy, and we expect this pattern to hold in the current recovery as well. As a result, we project investment in nonresidential structures to continue to edge lower through 2012. In contrast, any overhang in equipment and software capital was likely quickly eliminated by the dramatic plunge in investment during the recession and by the relatively fast depreciation rates of E&S capital. Thus, as uncertainty about the economic outlook diminishes and credit becomes more widely available, we expect E&S investment to continue its relatively robust expansion, supported by the resumption of projects deferred during the recession as well as the need to replace aging equipment and expand capital to keep pace with rising sales.

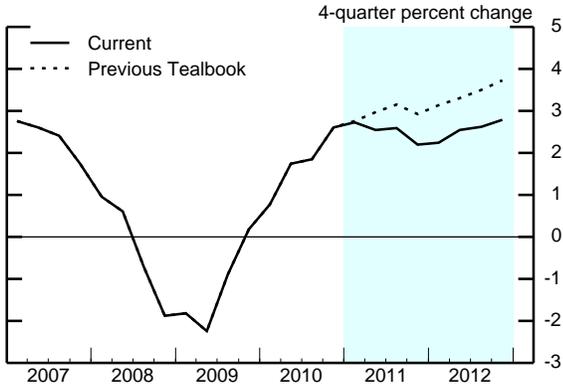
In the government sector, budgetary pressures will likely continue to restrict spending over the medium term. At the federal level, a tightened environment for

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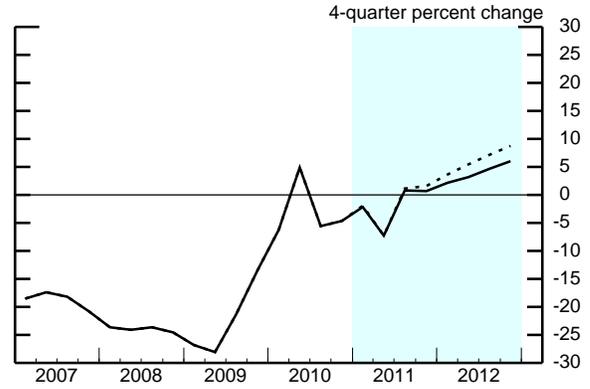
<sup>3</sup> The temporary drop in the saving rate in the first quarter of 2012 reflects the expected gradual response of consumption to the projected sharp rebound in taxes following the expiration of the 2011 payroll tax cut.

## Components of Final Demand

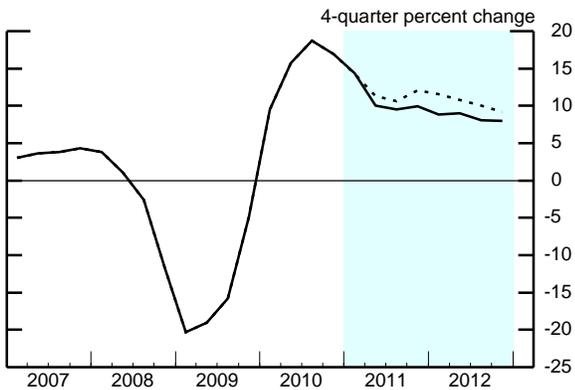
Personal Consumption Expenditures



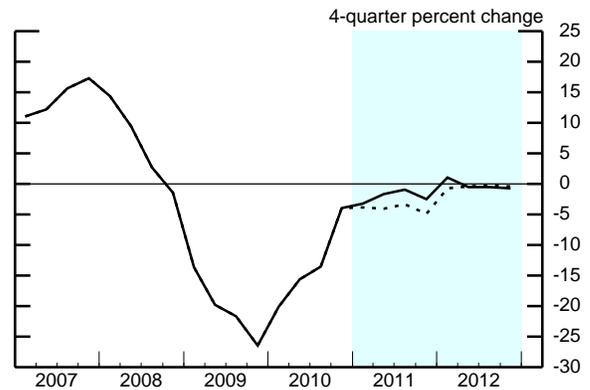
Residential Investment



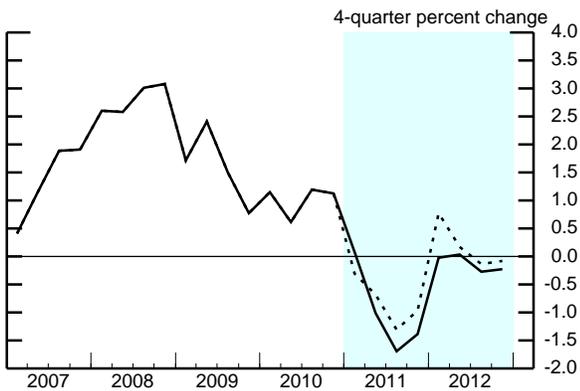
Equipment and Software



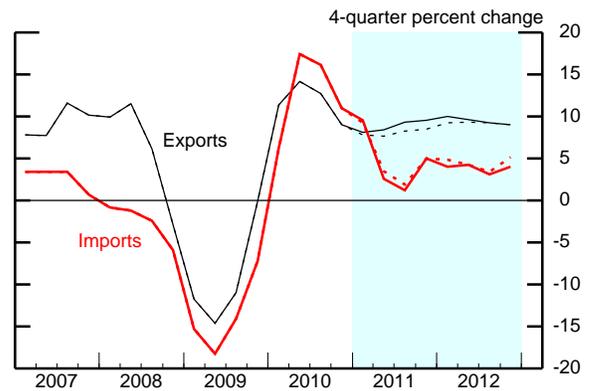
Nonresidential Structures



Government Consumption & Investment



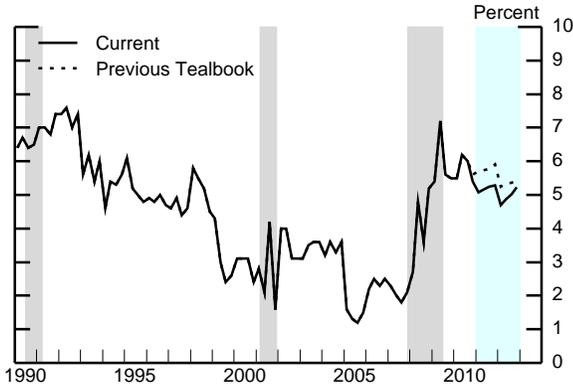
Exports and Imports



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

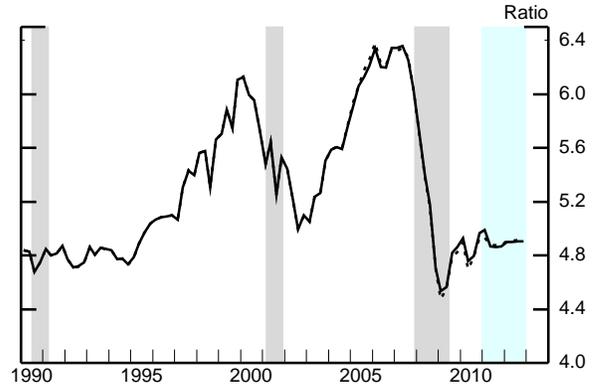
## Aspects of the Medium-Term Projection

Personal Saving Rate



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

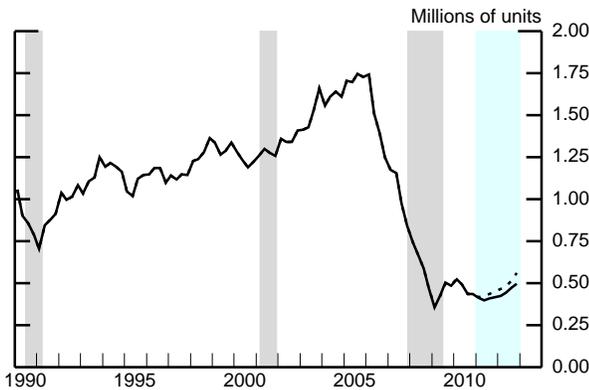
Wealth-to-Income Ratio



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

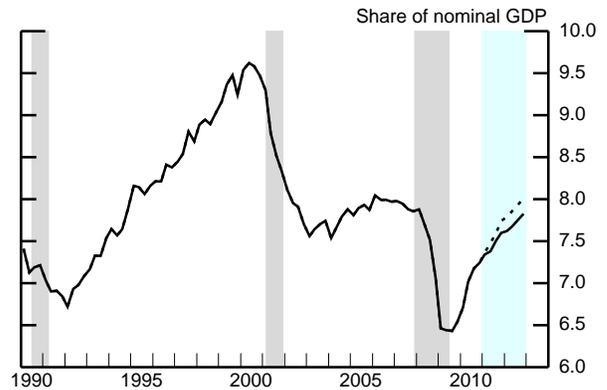
Source: For net worth, Federal Reserve Board, flow of funds data; for income, Dept. of Commerce, Bureau of Economic Analysis.

Single-Family Housing Starts



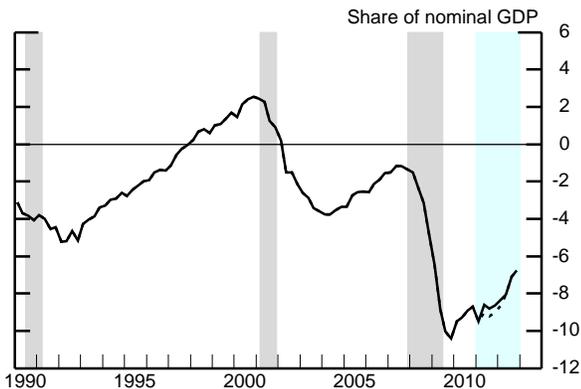
Source: U.S. Census Bureau.

Equipment and Software Spending



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

Federal Surplus/Deficit

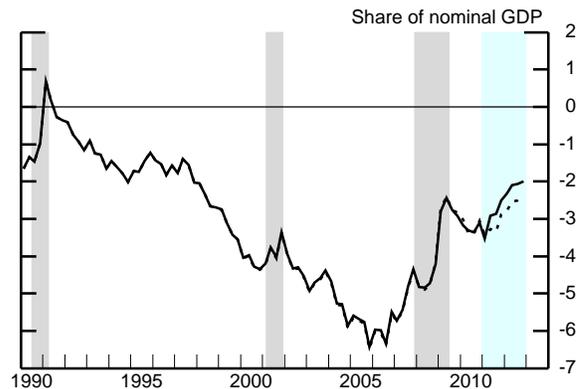


Note: Share of federal government surplus/deficit is shown as a 4-quarter moving average.

Source: *Monthly Treasury Statement*.

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

Current Account Surplus/Deficit



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

discretionary appropriations, the phasing out of stimulus-related nondefense spending, and anticipated reductions in spending related to overseas military operations are projected to cause real federal purchases to decelerate from a modest increase in the second half of 2011 to a small decline in 2012. At the state and local level, tight budgets appear to have exerted more restraint on spending than we had anticipated in the April Tealbook, and we now expect real state and local purchases to decrease at an annual rate of 1 percent in the second half of this year, a slightly steeper decline than in the April Tealbook. Although states' tax receipts have continued to rise and should move up further over the projection period, federal stimulus payments will mostly wind down next year, and we project spending in the state and local sector to be about flat in 2012.

Net exports are expected to contribute about  $\frac{1}{2}$  percentage point to GDP growth in both 2011 and 2012, up from the April Tealbook largely in response to the effect of weaker U.S. economic activity on imports. Continued modest dollar depreciation and solid increases in foreign activity should support an annual rate of real export growth of close to 9 percent over the medium term. Real imports are projected to rise at only about a  $4\frac{1}{2}$  percent pace, on average, over this period, as the effects of strengthening U.S. demand are tempered by the drag from the depreciating dollar.

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

### **Potential GDP and the NAIRU**

We project that potential output will increase  $2\frac{1}{4}$  percent this year and  $2\frac{1}{2}$  percent in 2012, and that structural labor productivity will rise 2 percent this year and next. We have maintained our assumption that the NAIRU will remain at 6 percent through 2012.<sup>4</sup>

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

After increasing at an annual rate of  $2\frac{1}{4}$  percent in the first quarter, labor productivity is anticipated to edge down this quarter; despite the small decline, we judge that actual productivity continues to remain above its structural level. As firms become more aggressive in expanding their workforces next year, seeking to attract new workers

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<sup>4</sup> Our estimate of the "effective" NAIRU, which includes the influence of extended and emergency unemployment benefits and is the level of the unemployment rate that we view as being consistent with no slack in resource utilization, is unrevised from the April projection and is now about  $6\frac{1}{2}$  percent. As before, we expect the effective NAIRU to decline to around 6 percent by the end of 2012 when the extended and emergency unemployment benefit programs wind down.

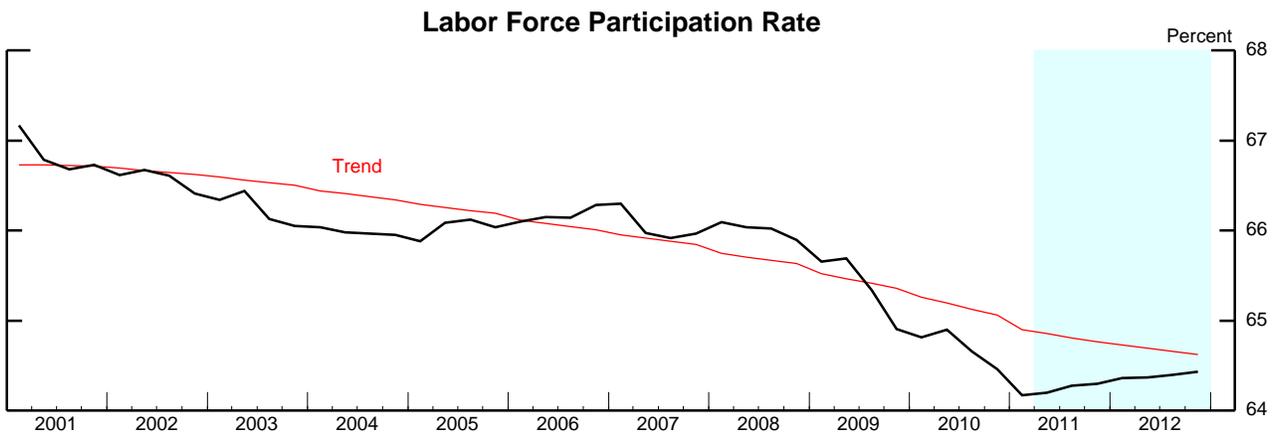
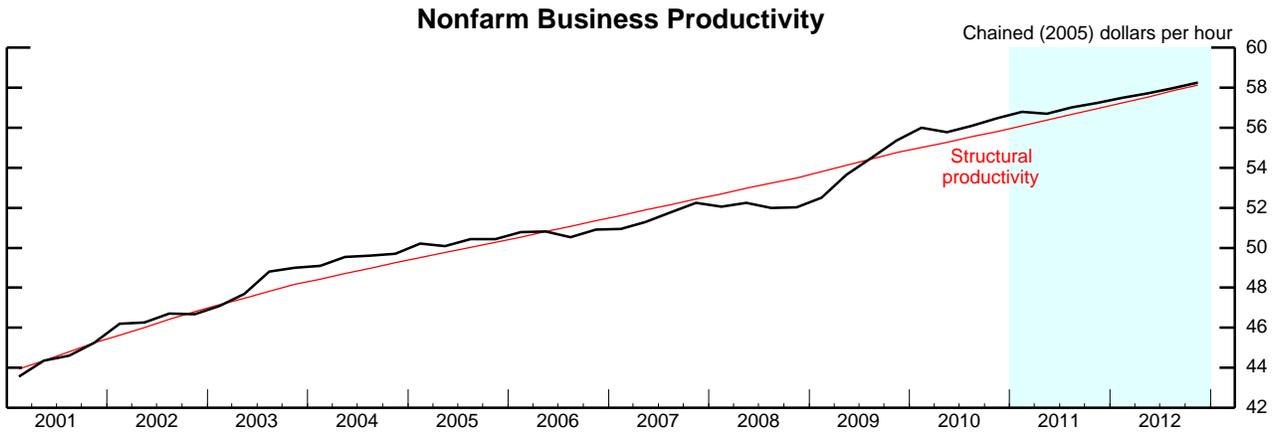
**Decomposition of Potential GDP**  
(Percent change, Q4 to Q4, except as noted)

Measure	1974-1995	1996-2000	2001-2008	2009	2010	2011	2012
Potential GDP	3.0	3.5	2.7	1.9	1.9	2.3	2.4
Previous Tealbook	3.0	3.5	2.7	2.0	2.0	2.3	2.5
<i>Selected contributions<sup>1</sup></i>							
Structural labor productivity	1.5	2.7	2.5	2.3	2.0	2.0	2.1
Previous Tealbook	1.5	2.7	2.5	2.3	1.9	1.9	2.0
Capital deepening	.7	1.5	.7	.3	.4	.5	.7
Previous Tealbook	.7	1.5	.7	.3	.4	.6	.8
Multifactor productivity	.5	.9	1.6	1.9	1.4	1.3	1.3
Previous Tealbook	.5	.9	1.6	1.9	1.3	1.2	1.2
Trend hours	1.5	1.0	.8	-.2	.5	.6	.7
Previous Tealbook	1.5	1.0	.8	-.1	.5	.6	.7
Labor force participation	.4	.0	-.2	-.4	-.4	-.3	-.2
Previous Tealbook	.4	.0	-.2	-.3	-.4	-.3	-.2

Note: Components may not sum to totals because of rounding. 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.

Source: Staff assumptions.



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

### The Outlook for the Labor Market (Percent change, Q4 to Q4, except as noted)

Measure	2009	2010	2011	2012
Output per hour, nonfarm business	6.5	2.0	1.3	1.7
Previous Tealbook	6.5	2.0	1.1	1.8
Nonfarm private employment	-5.0	.9	2.1	2.4
Previous Tealbook	-5.0	.9	2.5	2.9
Labor force participation rate <sup>1</sup>	64.9	64.5	64.3	64.4
Previous Tealbook	64.9	64.5	64.3	64.4
Civilian unemployment rate <sup>1</sup>	10.0	9.6	8.9	8.1
Previous Tealbook	10.0	9.6	8.7	7.7
Memo: GDP gap <sup>2</sup>	-6.4	-5.7	-5.2	-4.2
Previous Tealbook	-6.6	-5.9	-5.0	-3.5

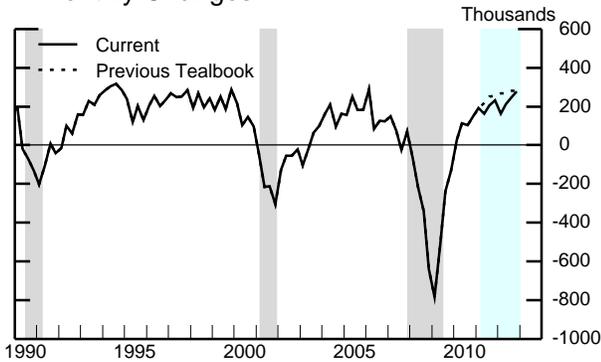
Note: A negative number indicates that the economy is operating below potential.

1. Percent, average for the fourth quarter.

2. Percent difference between actual and potential GDP in the fourth quarter of the year indicated.

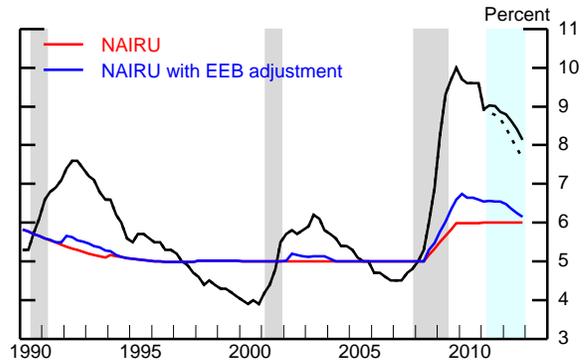
Source: U.S. Department of Labor, Bureau of Labor Statistics; staff assumptions.

Private Payroll Employment, Average Monthly Changes



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

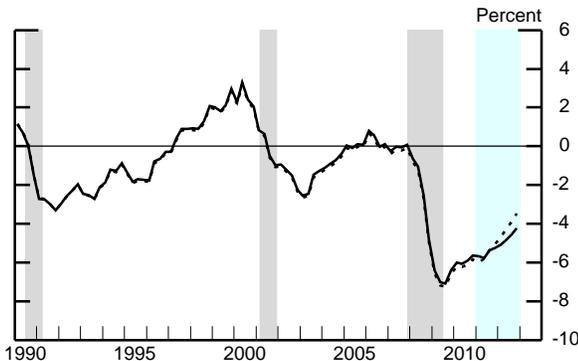
Unemployment Rate



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

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

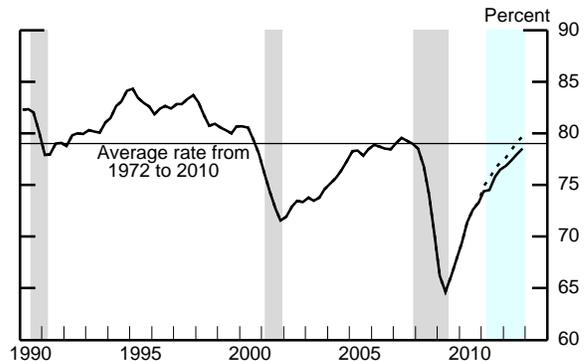
GDP Gap



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, Bureau of Economic Analysis; 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.

and retain existing ones, they will likely ease some of the pressures on workers that seem to have boosted productivity above its structural level during the recovery. Thus, we project productivity to increase at about its structural rate of 2 percent in the second half of this year before rising 1¾ percent next year, somewhat below its structural rate.

As noted above, our projection of employment growth is weaker than in the April Tealbook. Specifically, we now project that average monthly private employment gains will edge up from 175,000 in the first half of this year to 220,000 in the second half—30,000 less than in the April Tealbook—and then to 225,000 in 2012—50,000 lower than in our previous projection. We expect government employment to trend lower through the middle of next year. With job opportunities expected to be more limited over the medium term, the projected path for the unemployment rate is higher than anticipated in the April Tealbook.

### **Resource Utilization**

Our estimates now show somewhat more economic slack than was anticipated in the April Tealbook. We judge the unemployment rate to be 2½ percentage points above the “effective” NAIRU in the current quarter, and at the end of next year, we project the unemployment rate gap to be 2 percentage points, about ½ percentage point wider than in the April Tealbook. This extended period of labor market slack is likely to be associated with below-trend labor force participation, a high percentage of workers who are involuntarily on part-time schedules, and an unusually large concentration of workers experiencing long-duration spells of unemployment. Indeed, almost half of all currently unemployed workers have been unemployed for longer than 6 months. We have also widened our estimate of the GDP gap over the projection period, leaving the output gap at the end of 2012 at 4¼ percent, about ¾ percentage point wider than in the April Tealbook. Capacity utilization in the manufacturing sector returns to close to its longer run average by the end of 2012. The difference in gaps between the industrial sector and the economy as a whole reflects more-modest increases in industrial capacity relative to potential output over the recovery as well as faster growth in industrial output than in the rest of the economy.

### **Compensation and Prices**

With the unemployment rate projected to be somewhat higher than in the previous forecast over the medium term, we have nudged down our projection of the increase in

compensation per hour in 2011 and 2012, to 2 and 2½ percent respectively. We have also made a small downward revision to our projection of changes in the employment cost index. Given our forecast for productivity, these low projected rates of compensation growth limit the anticipated rise in unit labor costs to ¾ percent in 2011 and 2012.

Prices for imported core goods (which exclude fuels, computers, and semiconductors) are estimated to have increased at an annual rate of 8 percent in the first quarter, reflecting the rise in commodity prices, elevated foreign inflation, and the depreciation of the dollar. We expect core import prices to post another sizable increase in the current quarter and then to decelerate substantially to a rate of 1½ percent in 2012, as commodity prices level out, foreign inflation subsides, and dollar depreciation slows from its brisk pace of the past several quarters.

Recent readings on inflation expectations have been mixed but generally suggest that longer-term expectations have remained stable. Median 5-to-10-year-ahead expected inflation from the Michigan survey was 2.9 percent in May, unchanged from the previous month and well within the range seen over the past decade.<sup>5</sup> Meanwhile, in the second-quarter reading from the Survey of Professional Forecasters, median expectations of PCE inflation over the next 10 years moved up to 2.3 percent from 2.1 percent in the first quarter. In contrast, TIPS-based measures of inflation compensation over the next 5 years and 5 to 10 years ahead have both declined about ¼ percentage point since the April Tealbook.

We see the higher-than-expected incoming data on core inflation as suggesting that inflationary pressures will be somewhat greater over the medium term than anticipated in the April Tealbook. However, next year these influences are partly offset in our forecast by the lower projected paths of crude oil and commodity prices and our expectation of greater economic slack. On net, we project that core PCE prices will rise 1.7 percent in 2011 and 1.5 percent in 2012, up 0.3 and 0.1 percentage point, respectively, from our previous forecast.

The contour of core inflation over the medium term reflects opposing influences: With inflation expectations projected to remain stable, the anticipated narrowing of the unemployment rate gap implies a reduction in the downward pressure on production costs

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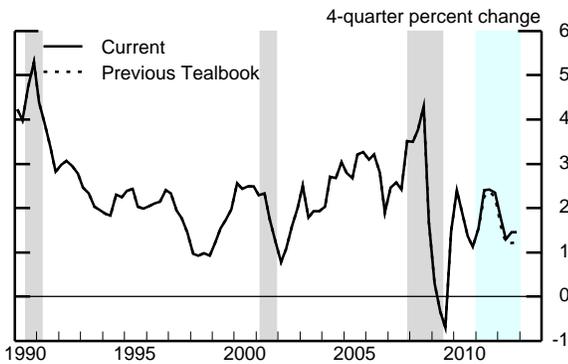
<sup>5</sup> The preliminary reading for June will be published on Friday.

### Inflation Projections (Percent change, Q4 to Q4)

Measure	2009	2010	2011	2012
PCE chain-weighted price index	1.5	1.1	2.3	1.5
Previous Tealbook	1.5	1.1	2.2	1.2
Food and beverages	-1.6	1.3	4.5	1.4
Previous Tealbook	-1.6	1.3	4.3	1.4
Energy	2.7	5.9	9.6	1.0
Previous Tealbook	2.7	5.9	12.9	-1.1
Excluding food and energy	1.7	.8	1.7	1.5
Previous Tealbook	1.7	.8	1.4	1.4
Prices of core goods imports <sup>1</sup>	-1.9	2.7	5.0	1.4
Previous Tealbook	-1.9	2.7	4.9	1.4

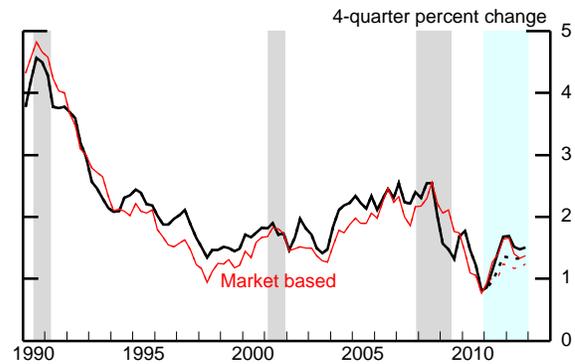
1. Core goods imports exclude computers, semiconductors, oil, and natural gas.  
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

**Total PCE Prices**



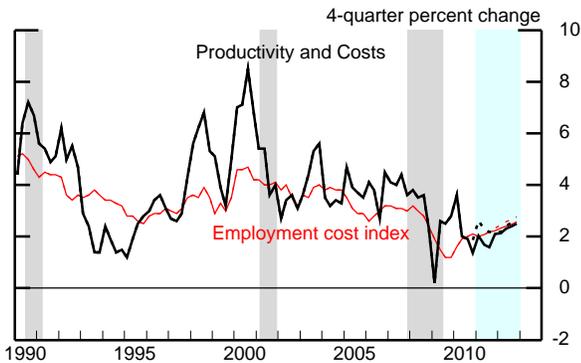
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

**PCE Prices ex. Food and Energy**



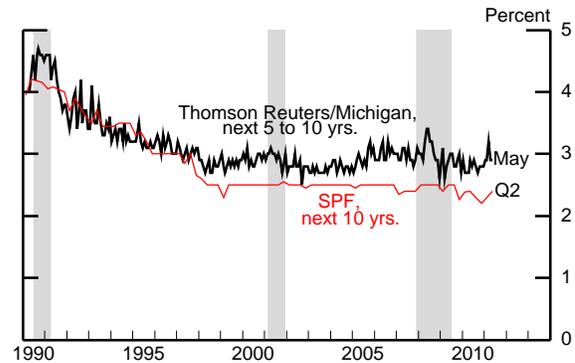
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

**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 CPI.  
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.

and hence inflation from resource slack, but we also expect the impetus to core inflation from higher import and energy prices to diminish as we move into next year. Reflecting an expected deceleration in consumer energy and food prices, headline PCE price inflation is projected to step down from 2¼ percent in 2011 to 1½ percent in 2012.

## THE LONG-TERM OUTLOOK

We have extended the staff forecast to 2015 using the FRB/US model and staff assessments of long-run supply-side conditions, fiscal policy, and other factors. The contour of the long-run outlook depends on the following key assumptions:

- Monetary policy aims to stabilize PCE inflation at 2 percent in the long run, consistent with the majority of longer-term inflation projections provided by FOMC participants at the April meeting.
- The Federal Reserve's holdings of securities follow the baseline portfolio projections reported in Book B. The projected longer-run decline in the System's holdings is forecast to contribute about 20 basis points to the rise in the 10-year Treasury yield over the period from 2013 to 2015.
- Beyond 2012, risk premiums on corporate equities decline gradually to normal levels and banks ease their lending standards somewhat further.
- As in the April Tealbook, the federal government budget deficit (NIPA basis) narrows from about 7 percent of GDP in 2012 to 4½ percent of GDP in 2015. While the effects of the economic recovery on tax receipts make a large contribution to this narrowing of the deficit, about 1 percentage point reflects our assumption of policy actions starting in 2013 that will restrain spending and boost taxes relative to a "current policy" budget. With this trajectory for the budget deficit, the ratio of debt to GDP would rise from its current level of 65 percent to about 75 percent in 2015. If the budget deficit were to remain around 4½ percent of GDP, the debt-to-GDP ratio would continue to rise, approaching 80 percent by the end of the decade.
- The real foreign exchange value of the dollar is assumed to depreciate 2 percent in 2013 and then decline 1 percent in both 2014 and 2015. The price of WTI crude oil is roughly flat at slightly more than \$100 per barrel

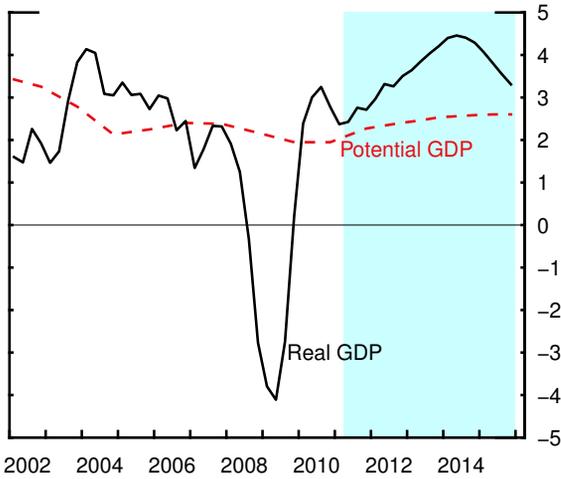
## The Long-Term Outlook

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

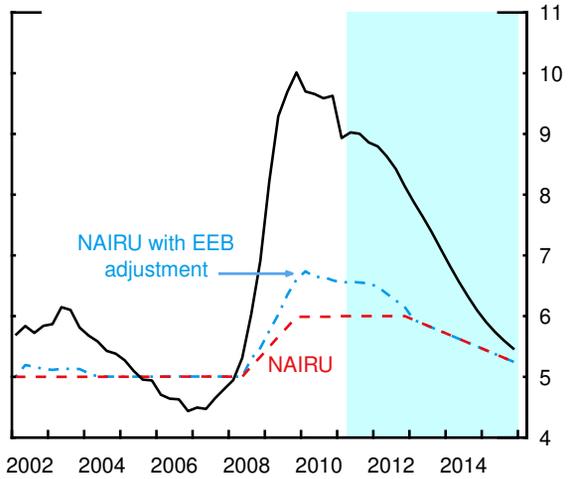
Item	2010	2011	2012	2013	2014	2015
Real GDP	2.8	2.7	3.5	4.2	4.3	3.3
Civilian unemployment rate <sup>1</sup>	9.6	8.9	8.1	7.1	6.1	5.5
PCE prices, total	1.1	2.3	1.5	1.5	1.6	1.7
Core PCE prices	.8	1.7	1.5	1.5	1.6	1.7
Federal funds rate <sup>1</sup>	.2	.1	.2	1.4	3.1	3.9
10-year Treasury yield <sup>1</sup>	3.0	3.5	4.3	4.5	4.8	4.9

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

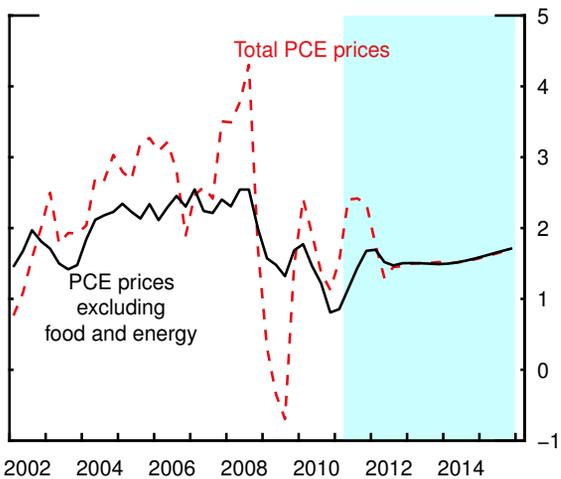
**Real GDP**  
4-quarter percent change



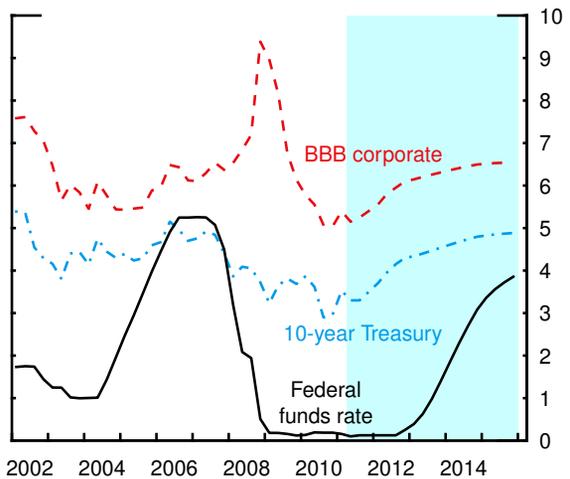
**Unemployment Rate**  
Percent



**PCE Prices**  
4-quarter percent change



**Interest Rates**  
Percent



Note: In each panel, shading represents the projection period.

during the extension period, consistent with futures prices. Foreign real GDP expands, on average,  $3\frac{1}{4}$  percent per year from 2013 through 2015, a bit above its trend rate.

- The NAIRU declines from 6 percent in late 2012 to  $5\frac{1}{4}$  percent by 2015 as the functioning of the labor market improves. Potential GDP expands  $2\frac{1}{2}$  percent per year.

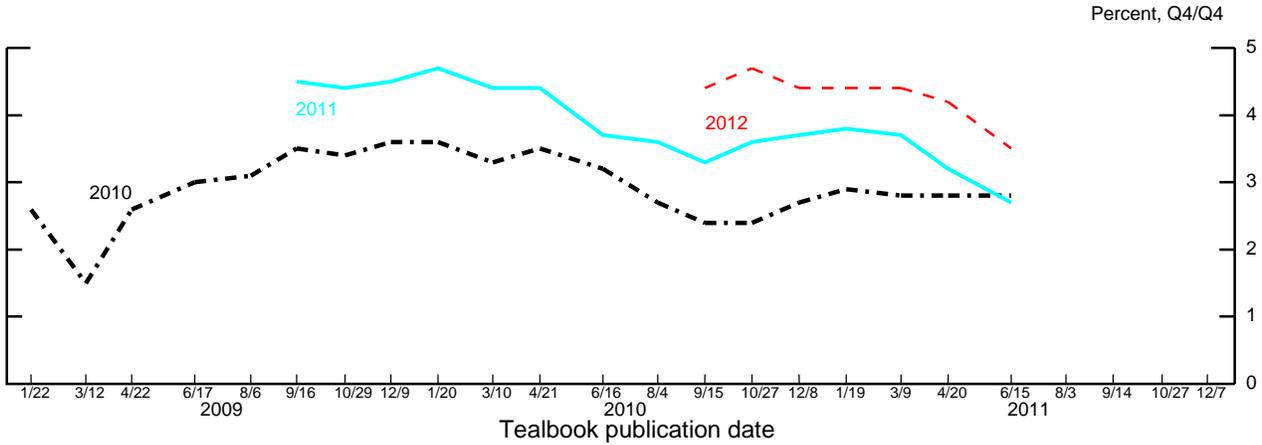
The economy enters 2013 with output still considerably below its potential, the unemployment rate well above the projected NAIRU, and inflation below the assumed objective. In the long-run forecast, improving confidence, diminishing uncertainty, and supportive financial conditions eventually enable the level of aggregate demand to catch up with aggregate supply. In this environment, real GDP rises at an average annual rate of  $4\frac{1}{4}$  percent in 2013 and 2014, considerably faster than its potential pace; as a result, unemployment declines appreciably and inflation edges up. By 2015, with improvements in confidence and financial conditions largely complete, and with the nominal federal funds rate approaching 4 percent, gains in real GDP are more moderate.<sup>6</sup> Nevertheless, overall economic growth remains robust enough relative to potential to bring the unemployment rate close to the NAIRU by late 2015 while core inflation edges up to 1.7 percent.

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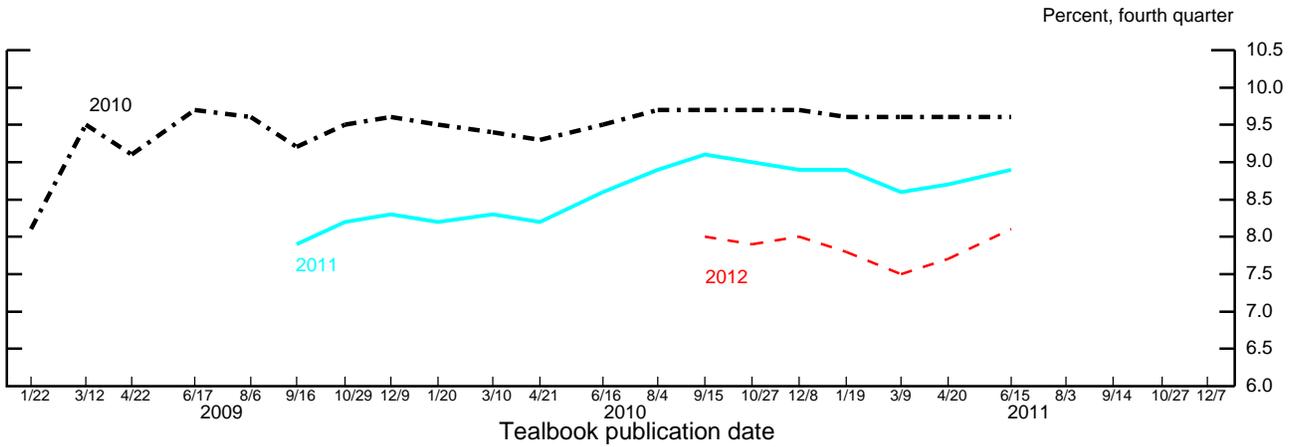
<sup>6</sup> In the long-run outlook, the federal funds rate follows the prescriptions of the outcome-based rule, which is described in the appendix on policy rules in Book B.

### Evolution of the Staff Forecast

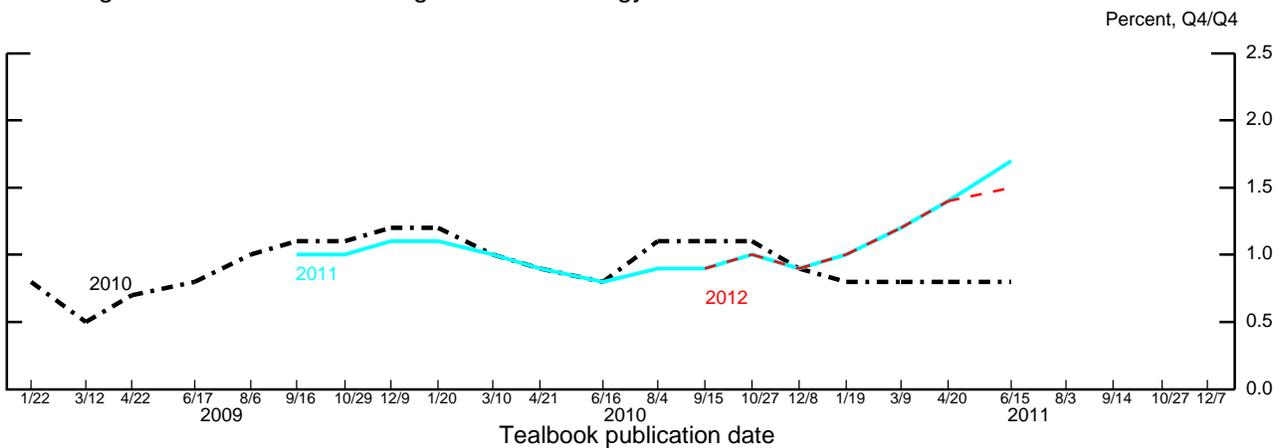
Change in Real GDP



Unemployment Rate



Change in PCE Prices excluding Food and Energy\*



\*Because the core PCE price index was redefined as part of the comprehensive revisions to the NIPA, projections prior to the August 2009 Tealbook are not strictly comparable with more recent projections.

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## International Economic Developments and Outlook

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Recent information on economic activity abroad has been mixed. Foreign real GDP expanded at a 4 percent annual rate in the first quarter, nearly  $\frac{1}{2}$  percentage point more than we projected in April, as strength in emerging market economies (EMEs) and the euro area more than offset a sharper-than-expected contraction in Japan following the March 11 earthquake.<sup>1</sup> Data through May show a softening in global manufacturing activity, and we expect foreign GDP growth to step down to a  $2\frac{3}{4}$  percent pace in the second quarter. This slowing was largely anticipated in the April projection and mostly reflects further contraction in Japan and moderation in EME growth to a more sustainable pace. As Japan recovers from its post-earthquake slump and the effects of supply chain disruptions on other economies wane, foreign growth is projected to rebound to about a  $3\frac{1}{2}$  percent rate for the remainder of the forecast period.

This outlook is a bit lower than in the April Tealbook, largely owing to the weaker path for U.S. GDP growth. However, the softer tone of incoming U.S. data highlights the possibility that the pace of recovery abroad could be substantially weaker going forward than we have written down. Other risks are that financial tensions in the euro area will intensify if financing for Greece does not come through as expected and that unrest in the Middle East and North Africa will trigger another run-up in oil prices.

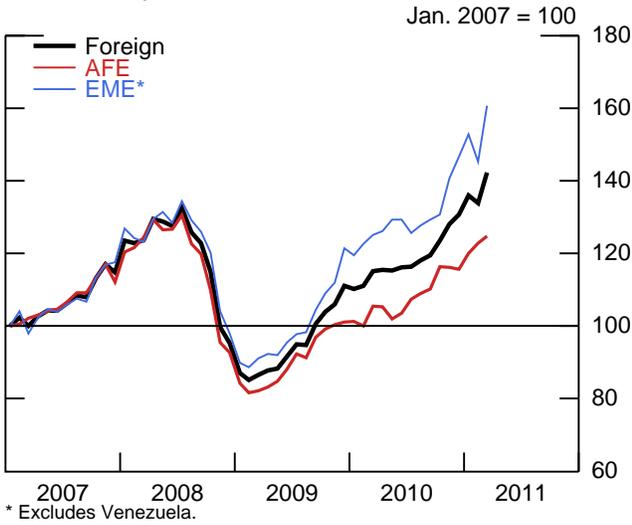
Foreign consumer price inflation is expected to ease in the current quarter to an annual rate of around 3 percent from about  $4\frac{1}{2}$  percent in the first quarter, largely reflecting a recent slowing in food and energy prices, and to average a little less than  $2\frac{1}{2}$  percent over the rest of the forecast period. Emerging market central banks have continued to tighten monetary policy to contain inflation. In the advanced foreign economies (AFEs), monetary policy has remained accommodative, although the European Central Bank (ECB) has signaled that it will likely raise official rates again at its July meeting, and the Bank of England (BOE) and the Bank of Canada (BOC) are both expected to raise rates later this year. Even so, we now expect these central banks to tighten monetary policy at a slower pace than assumed in April.

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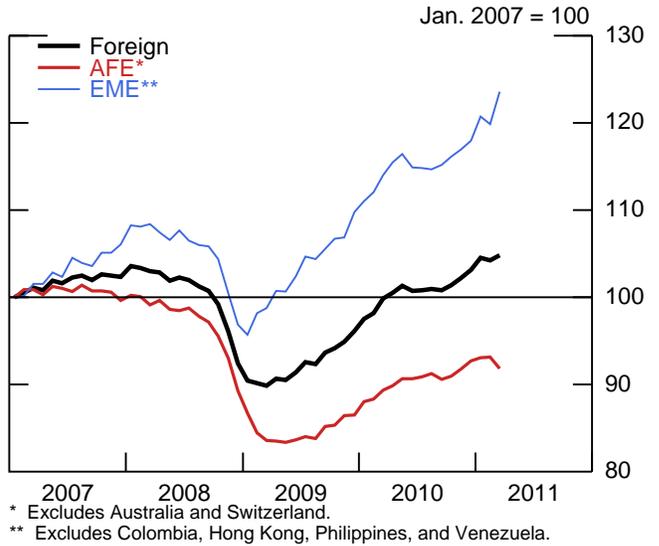
<sup>1</sup> Note that our April Tealbook estimate of foreign growth has been adjusted to be consistent with changes in country weights and methodology adopted for the June Tealbook.

### Recent Foreign Indicators

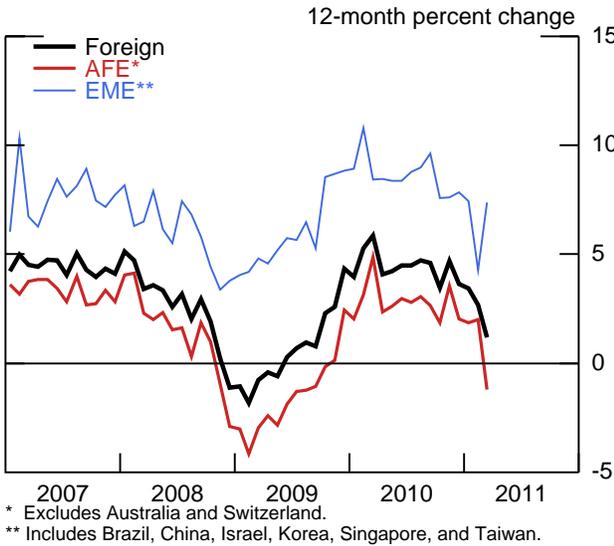
Nominal Exports



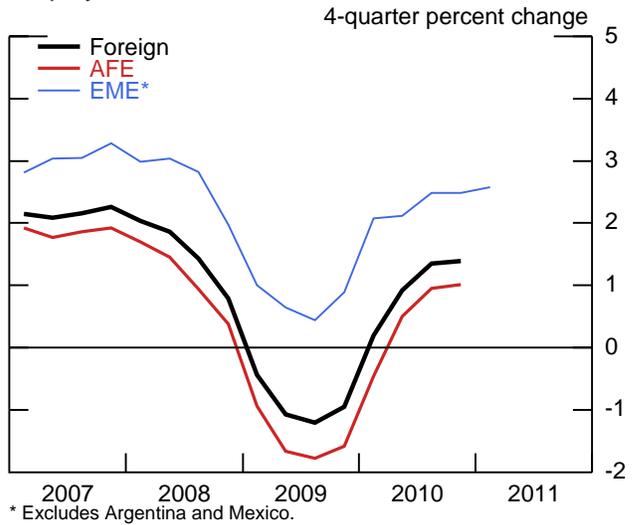
Industrial Production



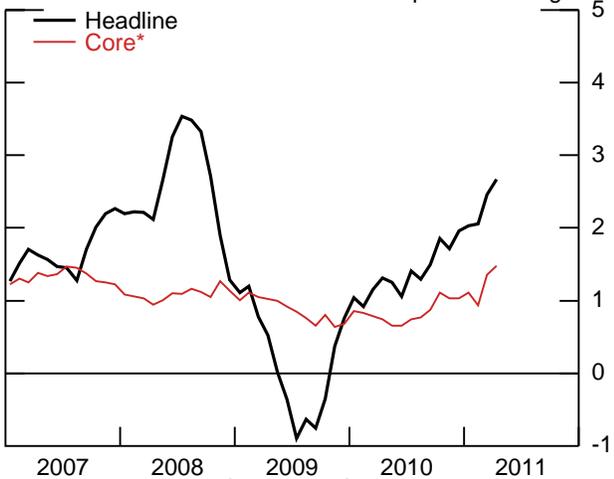
Retail Sales



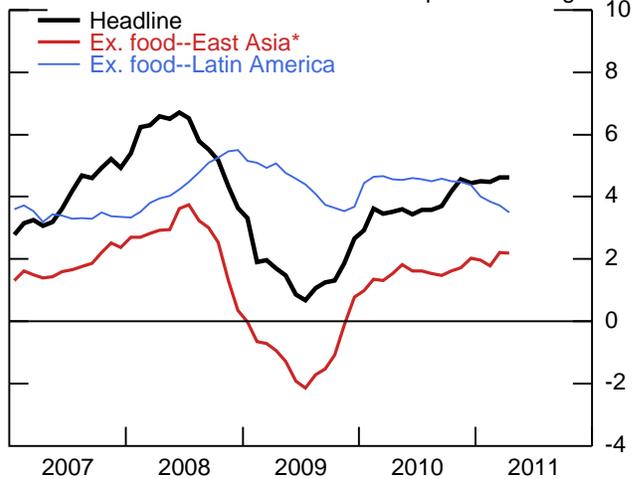
Employment



Consumer Prices: Advanced Foreign Economies



Consumer Prices: Emerging Market Economies



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

# The Foreign Outlook

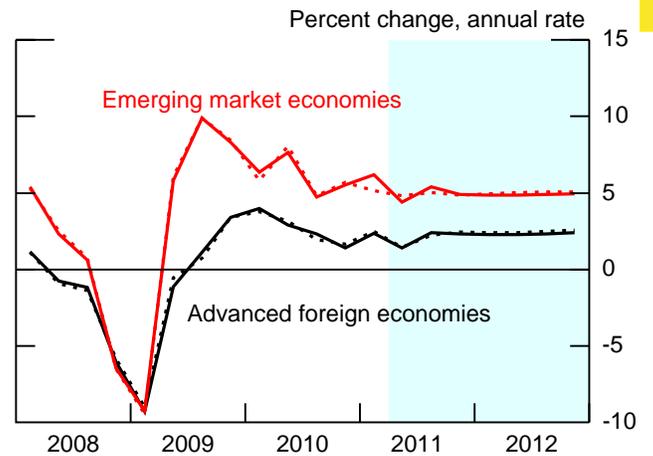
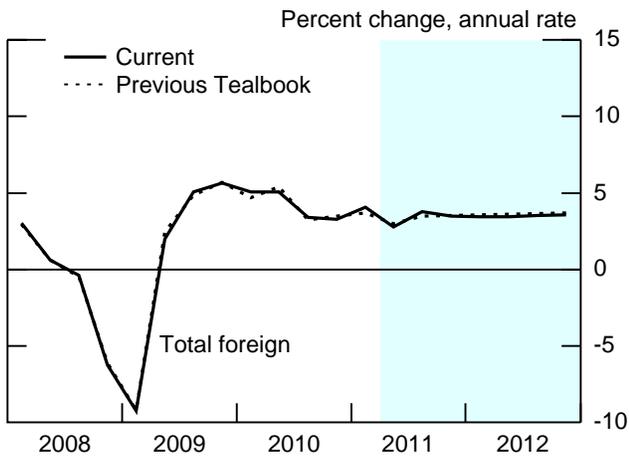
(Percent change, annual rate)

	2010			2011			2012
	H1	Q3	Q4	Q1	Q2	H2	
<b>Real GDP</b>							
Total foreign	5.1	3.4	3.3	4.1	2.8	3.6	3.5
Previous Tealbook	5.0	3.2	3.5	3.7	3.0	3.5	3.6
Advanced foreign economies	3.5	2.3	1.4	2.3	1.4	2.4	2.3
Previous Tealbook	3.5	2.0	1.7	2.5	1.5	2.3	2.4
Emerging market economies	7.0	4.7	5.5	6.2	4.4	5.1	4.9
Previous Tealbook	6.9	4.8	5.7	5.1	4.8	4.9	5.0
<b>Consumer Prices</b>							
Total foreign	2.6	2.4	5.3	4.4	2.9	2.4	2.4
Previous Tealbook	2.5	2.4	5.3	4.4	3.3	2.5	2.4
Advanced foreign economies	1.3	1.1	3.5	3.4	2.4	1.3	1.4
Previous Tealbook	1.3	1.1	3.5	3.4	2.3	1.5	1.4
Emerging market economies	3.6	3.4	6.7	5.3	3.3	3.3	3.1
Previous Tealbook	3.4	3.5	6.9	5.3	4.0	3.3	3.1

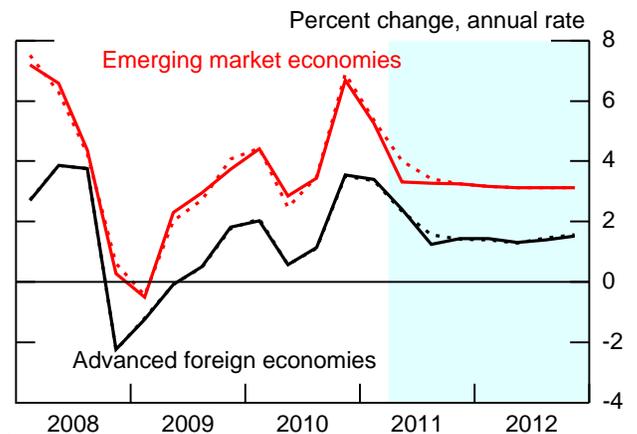
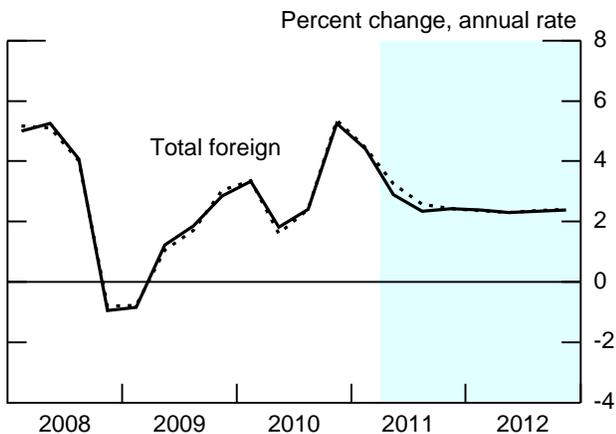
Note: Annualized percent change from final quarter of preceding period to final quarter of period indicated.

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## Real GDP



## Consumer Prices



## ADVANCED FOREIGN ECONOMIES

GDP in the AFEs rose at a 2¼ percent annual rate in the first quarter. Economic performance was uneven across the major economies, however, with output expanding briskly in Canada and the euro area, rising modestly in the United Kingdom, and contracting in Japan. As projected in the April Tealbook, incoming data are consistent with a step-down in GDP growth to about 1½ percent in the second quarter, with activity being held down in Japan and elsewhere by supply chain disruptions associated with the earthquake. GDP growth is expected to rebound to about a 2¼ percent pace over the remainder of the forecast period as these disruptions wane. Relative to the April Tealbook, our GDP outlook for 2012 is slightly weaker, largely reflecting some modest drag from a softer U.S. outlook.

We estimate that AFE headline inflation fell to 2½ percent in the second quarter from a first-quarter rate of 3½ percent, which had been boosted in part by the January VAT increase in the United Kingdom. The appreciation of AFE currencies in recent months and the fall in oil prices should lead inflation to moderate further, to 1¼ percent in the third quarter, a bit lower than previously anticipated, and to average just below 1½ percent over the remainder of the forecast period.

### Japan

The March 11 Japanese earthquake disrupted economic activity more severely than we had anticipated in the April Tealbook. Japanese GDP dropped 3.5 percent in the first quarter, a substantial slide given that pre-earthquake data were consistent with a moderate expansion. As a result of damaged production facilities and disrupted supply chains, real merchandise exports dropped 14 percent over March and April even as imports were little changed, indicating that the external sector will likely be a major drag on second-quarter GDP. More recent news has been encouraging, however. Real consumption rose 2½ percent in April. Industrial output, which had plummeted in March, edged up in April, and manufacturers reported plans for increasing production by 16 percent over May and June. In addition, the electricity shortages expected this summer should be less severe than previously feared. The resumption in economic activity should also benefit from a surge in government spending as well as from a bounceback in exports and inventory accumulation.

All told, data suggest that activity bottomed out in April and that a recovery is already under way. Even so, we expect real GDP to decline 3¾ percent in the second quarter, a touch weaker than in the April Tealbook forecast, because of the plunge in output in March. Although we revised up the pace of the rebound from the earthquake, the level of real GDP at the end of 2012 is forecast to be 1 percent lower than in the previous Tealbook, mainly reflecting the larger-than-expected effect of the earthquake. Japanese consumer prices rose nearly ½ percent in the first quarter, boosted by commodity price increases, but we project deflation to return in the current quarter and to persist at about a ½ percent rate this year and next.

We continue to assume that the Japanese Diet will approve a fiscal stimulus package equivalent to 1 percent of GDP later this year. Monetary policy should also become more supportive of activity, as we expect the Bank of Japan to increase the size of its asset purchase program from ¥10 trillion to ¥15 trillion (about \$180 billion, or 3 percent of GDP) in the third quarter.

## **Euro Area**

Euro-area GDP expanded at a stronger-than-expected 3.4 percent pace in the first quarter, largely reflecting strong domestic demand. Germany and France posted 6 percent and 4 percent growth respectively. GDP managed mild increases in Italy, Spain, and Greece but contracted in Portugal.

With the run-up in euro-area growth in the first quarter boosted in part by a rebound in construction after severe weather at the end of last year, we expect GDP growth to slow to 1½ percent in the second quarter. Recent indicators support our expectation of slowing, as business confidence and the composite PMI declined in May, albeit to a level consistent with moderate expansion. In addition, the underlying trend of retail sales is weak, consumer confidence has been flat, and the unemployment rate remains near its peak. We project that GDP growth will average 1½ percent in the second half of 2011 as restrictive fiscal policy, tight bank lending conditions, and a strong currency weigh on the recovery. GDP growth should rise to 2¼ percent by the end of 2012 as some of these headwinds dissipate.

Sovereign spreads over German bunds for Greece, Portugal, and Ireland rose sharply as investors worried about a potential restructuring of Greek debt (see the box “Developments in Greece”), although spillovers to Spain, Italy, and core European banks

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## Developments in Greece

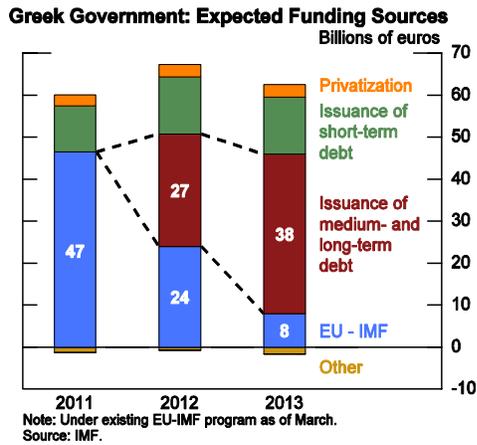
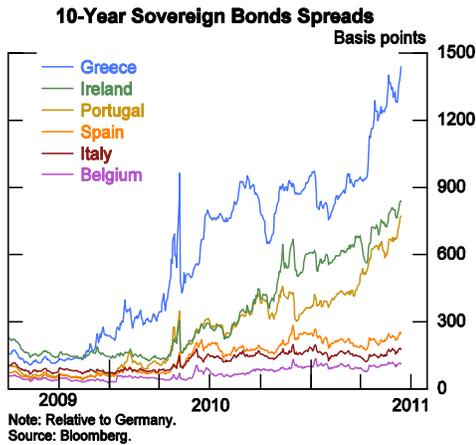
Greek sovereign spreads have soared to new heights since mid-April (see lower-left figure on the facing page), reflecting mounting concerns about the government's ability to finance its debt. Greece's planned return to the market next year for substantial medium- and long-term debt financing (see lower-right figure on the facing page) now seems highly unlikely. The country is scheduled to run out of funds by mid-July without the next disbursement under its European Union–International Monetary Fund (EU-IMF) program, but the IMF has indicated it will not be able to approve further disbursements until a plan for filling the financing gap for at least the next 12 months is in place. In recent weeks, European officials, the IMF, and the Greek government have been negotiating over additional fiscal measures, enhanced official-sector financing, and potential burden sharing with private creditors in order to fill the financing gap.

On June 3, the European Commission, the European Central Bank (ECB), and the IMF reached preliminary agreement with Greek authorities on stepped-up policies to meet program objectives. First, the government committed to further austerity measures to reduce its deficit to 7½ percent of GDP in 2011 and to below 3 percent of GDP by 2014. These measures include significant public-sector job cuts, a rationalization of entitlements, reductions in tax exemptions, and enhanced efforts to fight tax evasion. Second, the government agreed to increase and accelerate its privatization program, which now aims to raise revenues of €50 billion by the end of 2015. Third, the government will continue structural reforms designed to reinvigorate growth. However, as of this writing, securing approval by the Greek Parliament appears to be a substantial political challenge, and a parliamentary vote is not expected until late June.

To further address the Greek government's financing gap, since May, European policymakers have publicly debated whether a restructuring of Greek debt owed to the private sector should be pursued in tandem with enhanced official-sector support. Some officials, notably the German finance minister, have advocated a limited restructuring, possibly via bond swaps to extend the maturity of outstanding Greek sovereign bonds. However, officials at the ECB have repeatedly declared their opposition to such a restructuring, warning of dire consequences for the financial stability of the euro area. Moreover, they have even threatened to stop accepting Greek bonds as collateral if rating agencies conclude that a restructuring constitutes default. Some officials at the ECB have instead expressed openness to a less coercive approach, such as encouraging financial institutions to voluntarily maintain their credit exposures to the Greek government.

A plan to fully address Greece’s financing needs has yet to be finalized. Our forecast for the euro area assumes that European authorities ultimately manage the Greek debt crisis in a manner that limits broader disruptions. In the near term, we expect that additional official financing will be pledged in time to avert a disorderly default in July, likely involving an expression of intent to elicit contributions from private creditors. Although some combination of additional official financing, private-creditor contributions, privatization receipts, and fiscal measures may cover Greece for some time to come, ultimately, more ambitious steps will likely be needed to put Greece’s debt on a sustainable basis.

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have been modest. Notably, Portugal's spreads climbed even though it secured a €78 billion (\$114 billion) financing package from the European Union (EU) and International Monetary Fund. EU policymakers have yet to implement their pledge made earlier in the spring to increase the effective lending capacity of the European Financial Stability Facility (EFSF) to €440 billion. Moreover, they have not yet reached agreement on key terms of the European Stability Mechanism, the EFSF's permanent successor.

Euro-area 12-month consumer price inflation edged down to 2.7 percent in May. Looking ahead, we expect headline inflation to moderate to 1¾ percent in 2012 amid lower energy prices and persistent slack. The ECB left its key policy rate unchanged at its June 9 meeting, but President Trichet signaled that a rate increase was likely in July. In addition, he announced that the ECB will continue to conduct its refinancing operations as fixed-rate tenders with full allotment at least until this fall. We now expect the ECB to raise its main policy rate to 2 percent by the end of 2012, ¼ percentage point less than assumed in the April Tealbook.

## Canada

Canadian GDP expanded 3.9 percent in the first quarter, boosted by strong investment activity and faster inventory accumulation. Output should expand at a more moderate 2¼ percent pace in the second quarter, ¼ percentage point less than projected in the April Tealbook. Although employment and production advanced through May, softer U.S. demand for Canadian exports and the more disruptive effect of the Japanese earthquake on Canadian automobile production likely weighed on activity. Going forward, we expect Canadian GDP growth to hover around 2½ percent.

Twelve-month headline inflation edged up to 3.4 percent in April, boosted by higher gasoline prices. Excluding volatile components and taxes, inflation remained contained at 1.7 percent. The Bank of Canada kept its target rate unchanged at 1 percent in May and stated that excess capacity is rapidly vanishing. However, the BOC also stressed the downside risks to growth presented by a strong currency. This concern, along with subdued core inflation and a softer U.S. outlook, led us to pencil in a slightly slower rise in policy rates over the forecast period.

## United Kingdom

U.K. GDP rose a disappointing 1.9 percent in the first quarter, barely enough to erase its losses from the previous quarter. Consumption was pushed down by the January

value-added tax hike, and construction spending collapsed. Some rebound in construction should help lift GDP growth to about 2¼ percent in the second quarter, but incoming data on employment and production have been softer than anticipated. Going forward, domestic demand growth is projected to remain weak as government spending falls and households further repair their balance sheets. External demand should offer some relief as U.K. exporters continue to take advantage of the low value of sterling. Even so, GDP growth averages only 2¼ percent this year and next.

Headline inflation remained at 4.5 percent in May on a 12-month basis and is projected to stay near that level for most of this year, before tumbling toward the 2 percent target as the effects of tax increases, energy price hikes, and the weak sterling dissipate. Although oil prices have receded of late, there remains a risk that utility companies could hike prices later this year to reestablish margins. Given weak domestic demand and downside risks to growth stemming from fiscal consolidation plans, we now expect the BOE to lift the bank rate to only 1½ percent by the end of 2012, ¼ percentage point less than assumed in the April Tealbook.

## **EMERGING MARKET ECONOMIES**

Aggregate real GDP in the EMEs expanded at a strong 6¼ percent pace in the first quarter, 1 percentage point faster than estimated in the April Tealbook. We expect growth to moderate in the current quarter, albeit to a still-solid rate of 4½ percent. The slowing partly reflects a step-down from the unsustainable pace of growth in the first quarter, and we had anticipated some of that in the April Tealbook. In addition, we have lowered our second-quarter projection a little in reaction to softer readings on exports, industrial production, and PMIs, which likely reflect spillovers from Japan's earthquake and slower U.S. growth. In the third quarter, we see EME growth rebounding to 5½ percent, up ½ percentage point from our previous projection, as U.S. growth improves and the Japanese earthquake effects unwind. Thereafter, we see growth averaging roughly 5 percent, close to potential and slightly lower than the April Tealbook forecast, reflecting the markdown in the path for U.S. GDP growth.

We project inflation in the EMEs to decline further in the current quarter to an annual rate of 3¼ percent from 5¼ percent in the first, reflecting the general easing of commodity prices. With little slack remaining, inflation is projected to bottom out at about 3 percent through 2012. Since the time of the April Tealbook, central banks in

several EMEs have tightened monetary policy, and we expect further tightening over the forecast period to keep inflation in check.

## China

Chinese economic growth appears to be slowing in line with our projection in the April Tealbook, owing to tighter monetary policy and the effects of the Japanese earthquake. We estimate that real GDP is expanding at an 8 percent pace in the current quarter, down from 8¾ percent in the first. Although the trade surplus widened over April and May, industrial production growth moderated and the PMI edged down. In the second half of the year and in 2012, we expect real GDP growth of 8½ percent, with Chinese monetary policy walking a fine line between allowing the economy to overheat and pushing down growth too sharply.

The People's Bank of China raised the reserve requirement ratio another 100 basis points since April. The renminbi has appreciated about 1 percent against the dollar since the April Tealbook and about 5 percent over the past year, but it has depreciated on a real trade-weighted basis since last June. We assume that the Chinese authorities will allow a gradual appreciation of the renminbi against the dollar over the forecast period, resulting in a real effective appreciation as well.

In May, headline inflation ticked up to 5.5 percent on a 12-month basis, but monthly increases in prices have been moderating. With the economy having slowed in recent quarters, monetary policy continuing to tighten, and global commodity prices lower, inflation should fall to 2¾ percent next year.

## Other Emerging Asia

Elsewhere in emerging Asia, GDP growth was surprisingly buoyant in the first quarter, with India, Hong Kong, and Taiwan all posting double-digit increases. In the current quarter, we expect some payback, as well as a drag from the deceleration in global activity and spillover effects of Japan's earthquake, to slow growth in the region to about 4 percent; recent data on exports, industrial production, and PMIs have come in soft. Beyond this quarter, growth should move back up to average about 4¾ percent over the forecast period. This projection is ¼ percentage point lower than the April Tealbook forecast in reaction to the weaker path for U.S. growth.

We estimate that inflation in the region will decline sharply to an annual rate of 2¾ percent in the current quarter from 7 percent in the first, as food price pressures have

dissipated. We expect inflation to average about 3 percent for the remainder of the forecast period, restrained by monetary policy tightening. Central banks in India, Malaysia, the Philippines, South Korea, and Thailand have raised policy rates since the time of the April Tealbook.

## Latin America

Economic performance in Mexico has continued to lag that of other EMEs, with reported real GDP increasing at an annual rate of only 2 percent in the first quarter, although monthly indicators pointed to somewhat greater underlying strength. Accordingly, we estimate that growth picked up to 3 percent in the second quarter. This estimate is  $\frac{3}{4}$  percentage point less than in the April Tealbook, as problems obtaining supplies from Japan depressed auto exports and U.S. manufacturing activity was marked down. With the unwinding of the Japanese effect and the accompanying bounceback in U.S. manufacturing, we expect Mexico's growth to rebound to 5 percent in the third quarter, about  $1\frac{1}{2}$  percentage points higher than previously projected. Thereafter, growth should moderate to about  $3\frac{3}{4}$  percent.

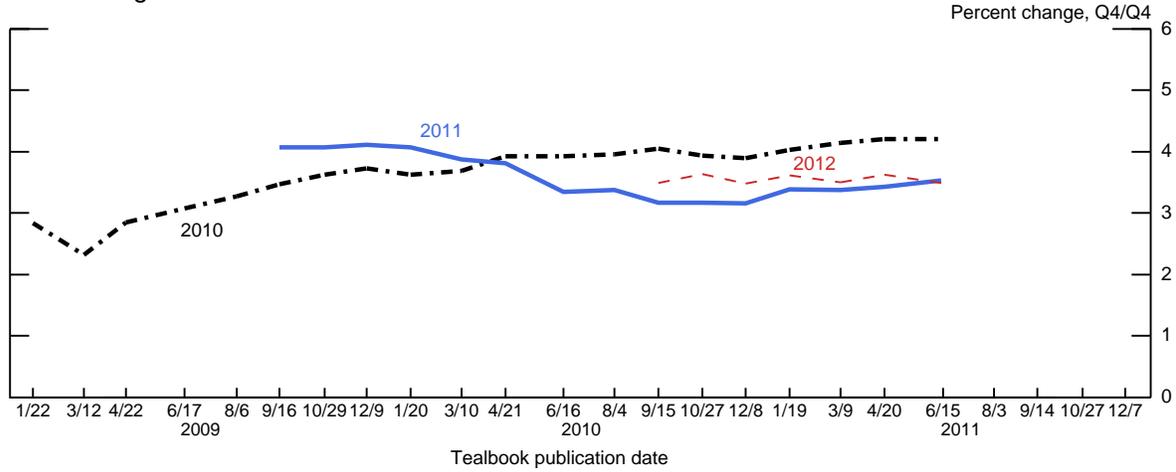
Real GDP in South America grew at a surprisingly fast 7 percent pace in the first quarter. We expect growth to step down to a still healthy  $4\frac{1}{4}$  percent in the second quarter, partly reflecting reduced impetus from commodity prices, and to remain near this pace in the second half of this year and in 2012.

We expect inflation in Mexico to decline to an annual rate of 2 percent in the current quarter from  $3\frac{1}{2}$  percent in the first, largely reflecting lower food prices. With food prices bottoming out and core prices continuing to rise, we project Mexican inflation to average  $3\frac{3}{4}$  percent over the remainder of the forecast period. In South America, by contrast, we expect inflation to decline from an estimated  $6\frac{1}{2}$  percent in the current quarter to a relatively high rate of  $5\frac{1}{2}$  percent in the second half of this year and in 2012. Reflecting continued concerns over inflationary pressures, central banks in Brazil, Chile, and Colombia have raised their policy rates since the time of the April Tealbook.

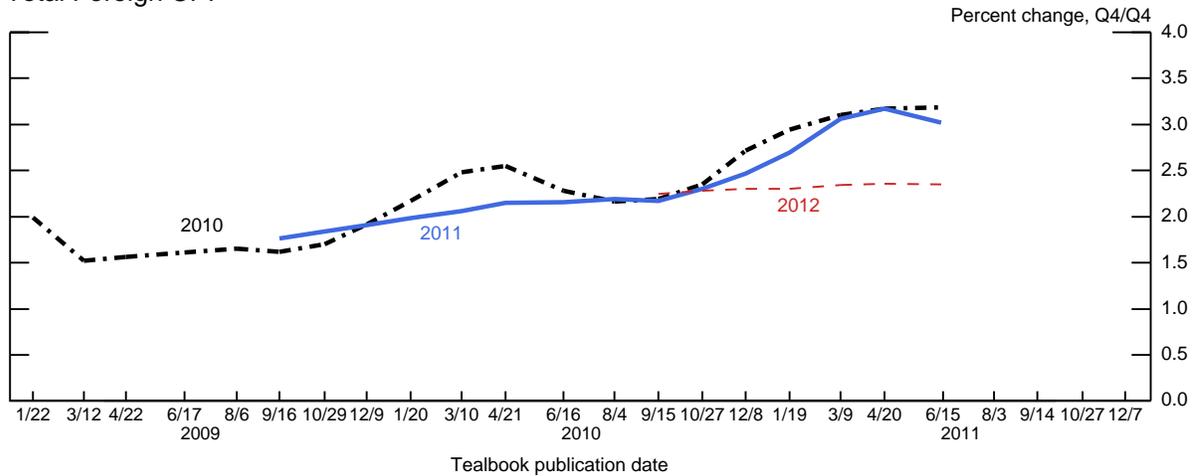
Int'l Econ Devel & Outlook

### Evolution of Staff's International Forecast

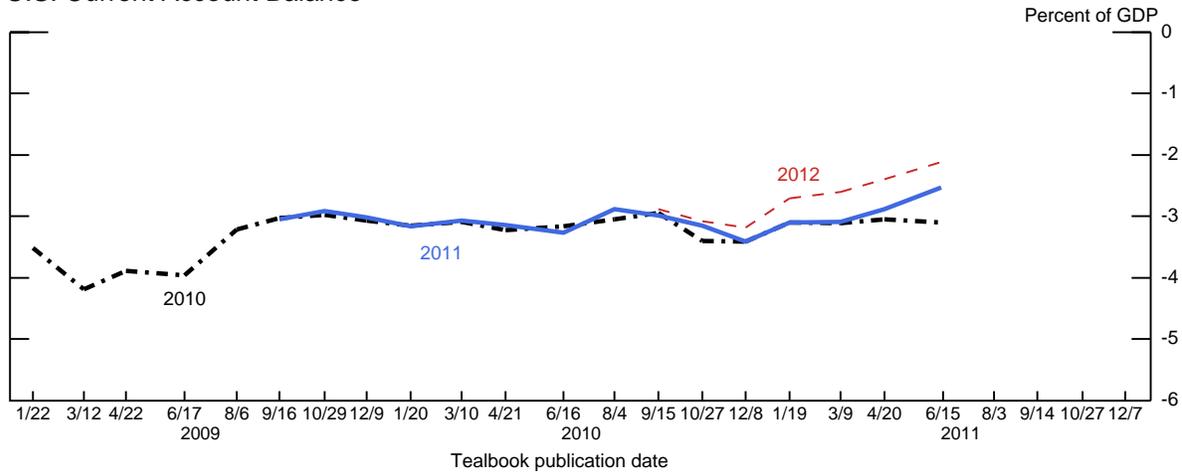
Total Foreign GDP



Total Foreign CPI



U.S. Current Account Balance



## Financial Developments

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The economic news received over the intermeeting period indicated that the recovery in economic activity was proceeding at a slower pace than market participants had anticipated, prompting a broad pullback from riskier financial assets. Concerns about a moderation in global growth and the challenges faced by peripheral European economies also weighed on market sentiment. The expected path for the federal funds rate, yields on nominal Treasury securities, and TIPS-based inflation compensation all declined appreciably. Equity markets saw a broad selloff, and spreads between yields on corporate bonds and those on comparable-maturity Treasury securities widened.

Information on credit flows and financial intermediation over the intermeeting period suggests that financing flows remained supportive of growth outside of real estate sectors that remain under stress. Since the April FOMC meeting, most indicators of business credit quality have improved further. Net debt financing by nonfinancial corporations has been robust, driven by record-high bond issuance in May. Commercial and industrial (C&I) loans have also increased briskly in recent months, though overall bank lending was about flat, held down mainly by declines in holdings of real estate loans. Real estate price indexes hit new post-crisis lows in April, and both residential and commercial mortgage debt contracted further in the first quarter of this year. M2 continued to grow at a robust pace in April and May, fueled again by solid increases in liquid deposits and currency.

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

Money market futures rates and Treasury yields declined modestly following the release of the April FOMC statement and the Chairman's subsequent press briefing; these communications suggested a somewhat weaker outlook than investors had anticipated. Interest rates declined significantly further over the remainder of the intermeeting period, as the majority of economic data were more downbeat than had been expected.

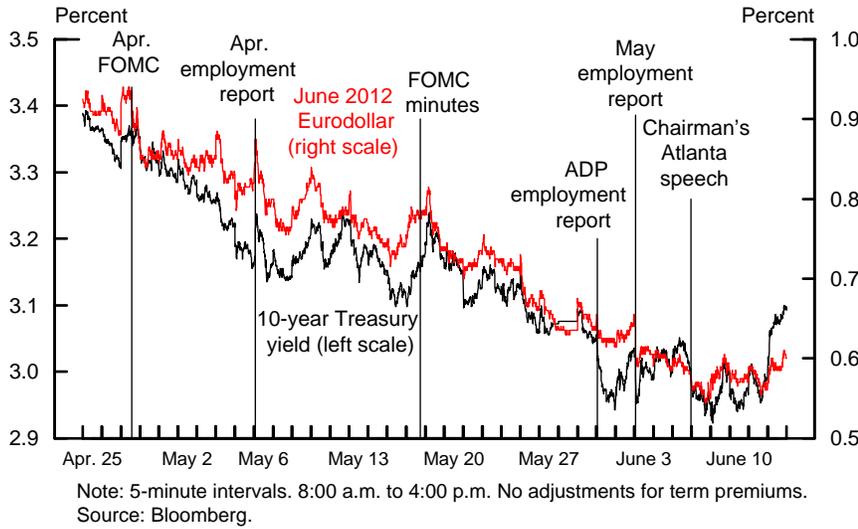
Both the mean and modal paths of the expected federal funds rate over the next two years moved down over the period.<sup>1</sup> The mean path implied by futures quotes (with

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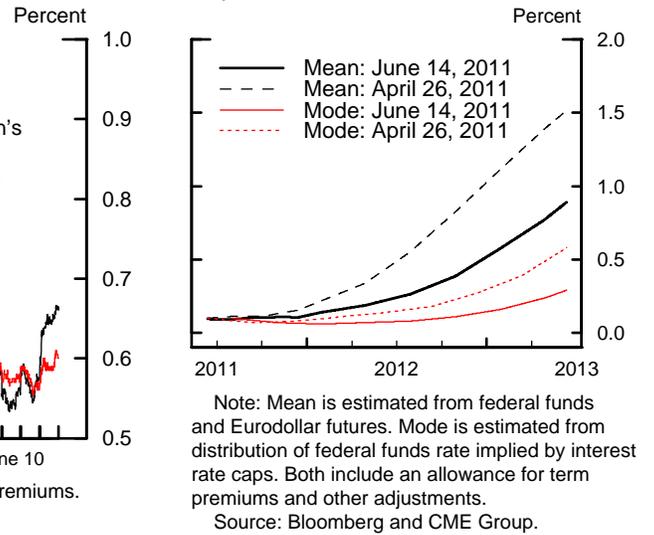
<sup>1</sup> The effective federal funds rate averaged 9 basis points over the intermeeting period, with the intraday standard deviation averaging about 3 basis points.

### Policy Expectations and Treasury Yields

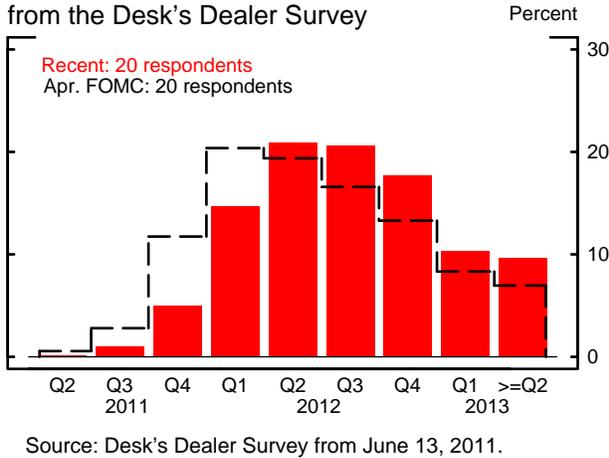
Selected Interest Rates



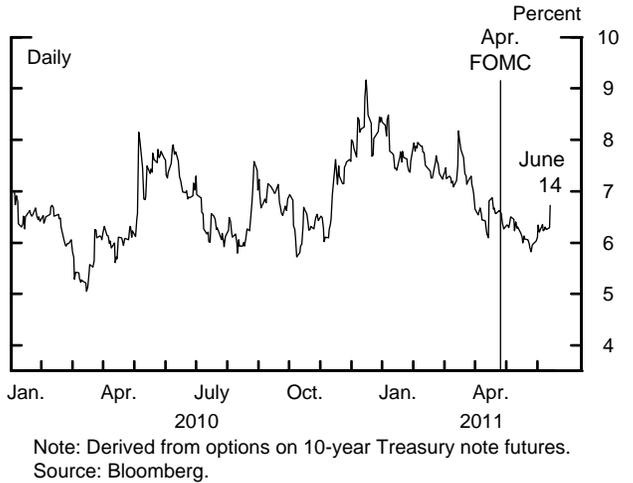
Implied Federal Funds Rate



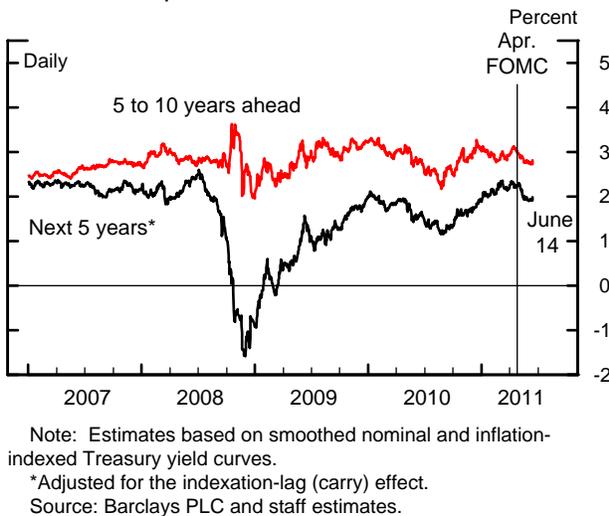
Distribution of the Quarter of First Rate Increase from the Desk's Dealer Survey



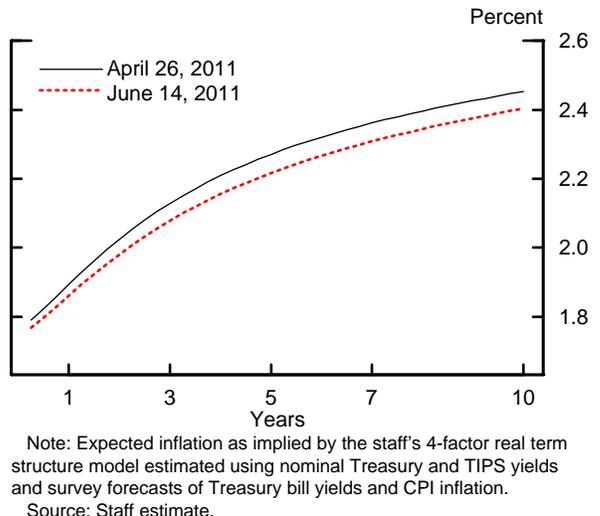
Long-Term Interest Rate Implied Volatility



Inflation Compensation



Model-Implied Expected Inflation



Financial Developments

the usual staff assumptions for term premiums) now rises above the current target range in the third quarter of 2012, two quarters later than at the time of the April FOMC meeting. The modal path for the federal funds rate derived from interest rate caps suggests that the policy outcome market participants now see as most likely would involve no liftoff before mid-2013. The smaller decline in the modal path relative to that in the mean path likely reflects a drop in the perceived probability of aggressive policy tightening in 2012. Staff analysis suggests that part of the decrease in futures rates might also reflect a lower term premium, consistent with the decline in market-based measures of policy uncertainty over the intermeeting period.

Results from the Open Market Desk's latest survey of primary dealers also suggested a modest decline in the anticipated policy path, with the second and third quarters of 2012 seen as the most likely time for liftoff—about one quarter later than at the time of the April survey. Respondents did not anticipate major changes to the language of the statement at the upcoming FOMC meeting beyond an acknowledgment of the softness in recent economic data. Dealers revised up slightly their forecasts of core PCE inflation through 2012 and downgraded somewhat their forecasts of GDP growth over the same period.

Yields on nominal Treasury securities fell significantly, with 5- and 10-year yields decreasing about 35 basis points and 25 basis points respectively. Market-based measures of uncertainty about long-term Treasury yields edged up slightly on net. Despite speculation by some investors about the potential for a jump in Treasury yields following the completion of the Federal Reserve's \$600 billion purchase program at the end of this month, futures and options quotes do not suggest that much weight is attached to such a scenario. Moreover, as discussed later in the box "Debt Subject to Limit," investors do not appear to be pricing in any financial market disruption that could result if the debt ceiling were not increased prior to the anticipated exhaustion of the Treasury's "extraordinary measures" in early August.

TIPS-based inflation compensation over the next 5 years and 5 to 10 years ahead decreased about 25 basis points and 15 basis points respectively. Staff models suggest that the decrease in inflation compensation reflects both lower expected inflation and lower inflation risk premiums. A lower path for expected inflation is consistent with the weaker-than-expected economic data and the decrease in oil and other commodity prices

over the period. Swap-based measures of inflation compensation also declined, though by a touch less than TIPS-based measures.

## ASSET MARKET DEVELOPMENTS

In response to the disappointing economic data, broad stock price indexes dropped about 4½ percent, on net, over the intermeeting period. Stock prices of financial firms underperformed the broader market, and some of the largest banks' CDS spreads widened, reflecting the weaker economic outlook, potential credit rating downgrades, and the heightened concerns about the expected capital surcharge for systemically important financial institutions. Even so, option-implied volatility on the S&P 500 index moved up only modestly. The staff's estimate of the spread between the expected real equity return for the S&P 500 index and the real 10-year Treasury yield—a gauge of the equity premium—widened noticeably.

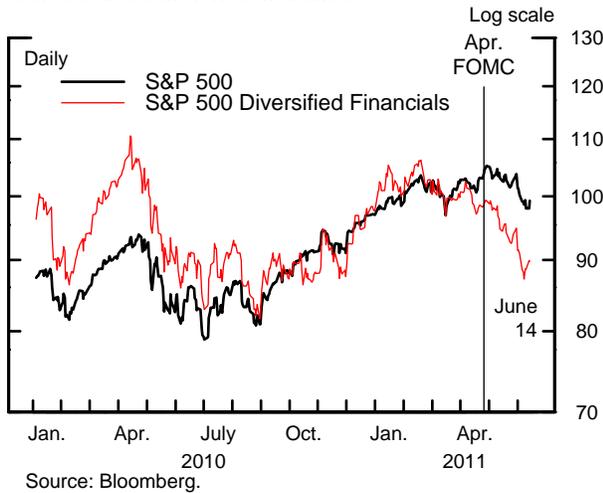
The broad pullback from risk also affected legacy RMBS and CMBS markets. In recent weeks, as investors tried to reduce their exposures to these assets, liquidity dried up in these markets and CDS index prices of legacy MBS declined. The price declines were reportedly exacerbated by the Federal Reserve sales of mortgage securities in the Maiden Lane II LLC portfolio.

Yields on BBB-rated corporate bonds fell modestly over the period, and those on speculative-grade corporate bonds moved a bit higher; thus, across the rating spectrum, spreads relative to yields on comparable-maturity Treasury securities widened. In the secondary market for syndicated loans, conditions changed little over the intermeeting period, with the average bid price for leveraged loans holding about steady in a range near par.

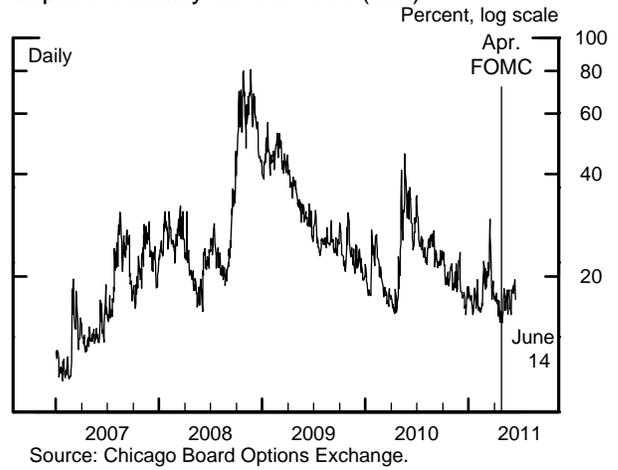
Conditions in short-term funding markets were little changed over the intermeeting period. Spreads between Libor and OIS rates edged down at one- and three-month tenors and were generally fairly low. Activity in markets for repurchase agreements was up slightly over the intermeeting period, although it remains below the post-crisis peak of last November. On net over the intermeeting period, spreads of yields on A2/P2-rated and asset-backed commercial paper relative to those on AA-rated paper were stable at low levels, while spreads for financial institutions with parents based in peripheral European countries remained elevated. Quarter-end pressures in money markets appeared quite muted.

### Asset Market Developments

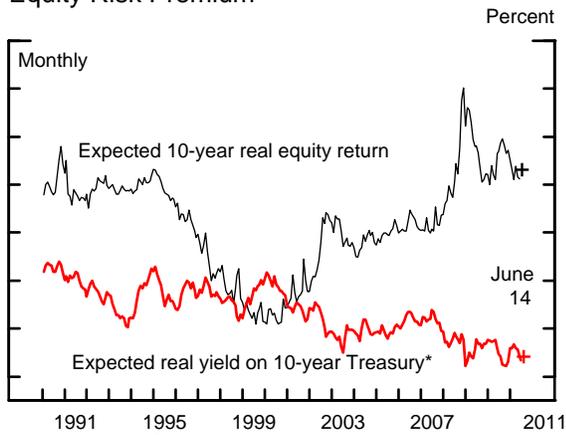
Selected Stock Price Indexes



Implied Volatility on S&P 500 (VIX)

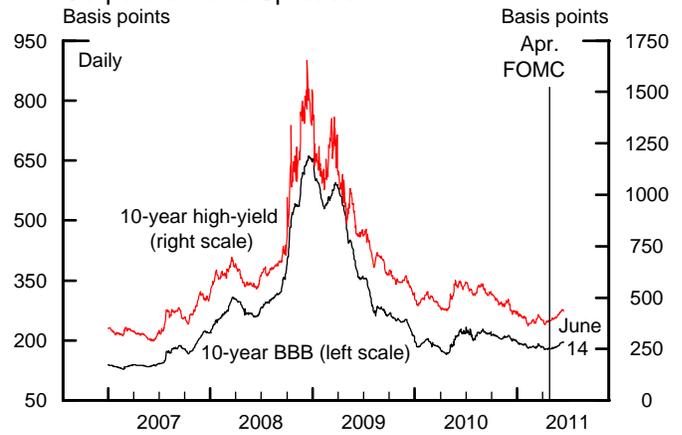


Equity Risk Premium



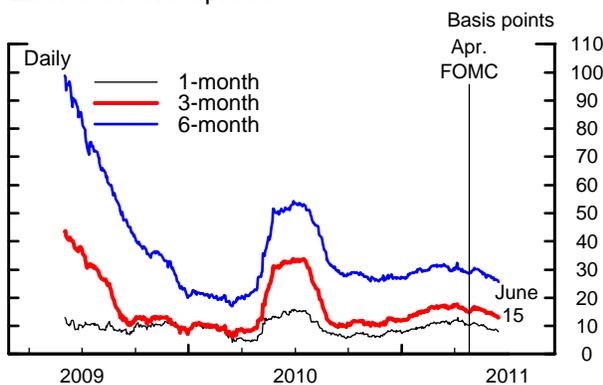
\* Off-the-run 10-year Treasury yield less Philadelphia Fed 10-year expected inflation.  
+ Denotes the latest observation using daily interest rates and stock prices and latest earnings data from I/B/E/S.  
Source: Thomson Financial.

Corporate Bond Spreads



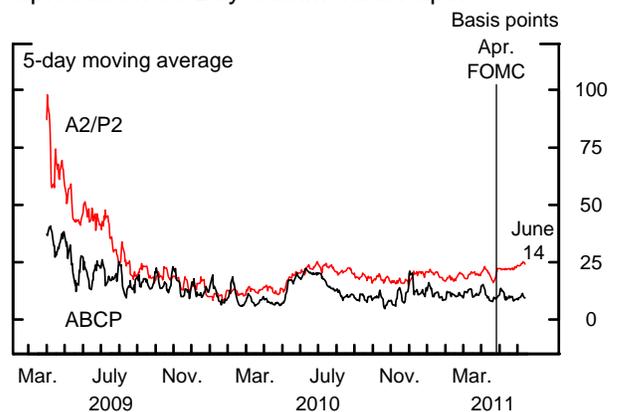
Note: Measured relative to a smoothed nominal off-the-run Treasury yield curve.  
Source: Merrill Lynch and staff estimates.

Libor over OIS Spreads



Note: OIS is an overnight index swap.  
Source: British Bankers' Association and Prebon.

Spreads on 30-Day Commercial Paper



Note: The ABCP spread is the AA ABCP rate minus the AA nonfinancial rate. The A2/P2 spread is the A2/P2 nonfinancial rate minus the AA nonfinancial rate.  
Source: Depository Trust & Clearing Corporation.

Overall, respondents to the June 2011 Senior Credit Officer Opinion Survey on Dealer Financing Terms pointed to a continued gradual easing in credit terms with respect to major classes of counterparties over the past three months (see the appendix). Dealers also noted that demand for funding for almost all types of securities (with the exception of equities) had increased over the same period. In response to a special question, the current use of leverage was generally characterized as “roughly in the middle”—that is, between the pre-crisis peak and the post-crisis trough. In recent weeks, however, against a backdrop of weak performance and increasing uncertainties about the pace of the economic recovery, levered investors have reportedly pulled back from risk-taking and reduced their exposures.

## FOREIGN DEVELOPMENTS

Investor concerns about an apparent moderation in the pace of global growth have weighed on foreign equity prices and bond yields over the intermeeting period. At the same time, ongoing concerns about the possibility of a Greek debt restructuring added to the market’s sense of risk and placed downward pressure on the euro.

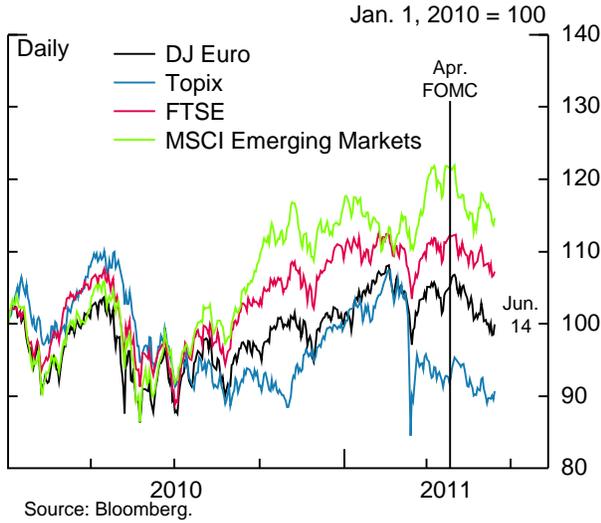
In response to signs of a global slowdown, headline equity indexes have fallen between 3 and 6 percent in most economies, and 10-year sovereign yields have fallen 10 to 20 basis points. The anticipated pace of monetary policy tightening in the advanced foreign economies has also been pared back. Market-based expectations of policy rates at the end of 2012 are now 40 to 60 basis points lower for the ECB, the Bank of England, and the Bank of Canada.

The dollar appreciated over most of May as concerns about peripheral Europe prompted some flight to safety, halting several months of dollar depreciation. However, relatively weak U.S. economic data helped push the dollar down later in the period, leaving the broad nominal dollar index little changed, on net, since the April FOMC meeting.

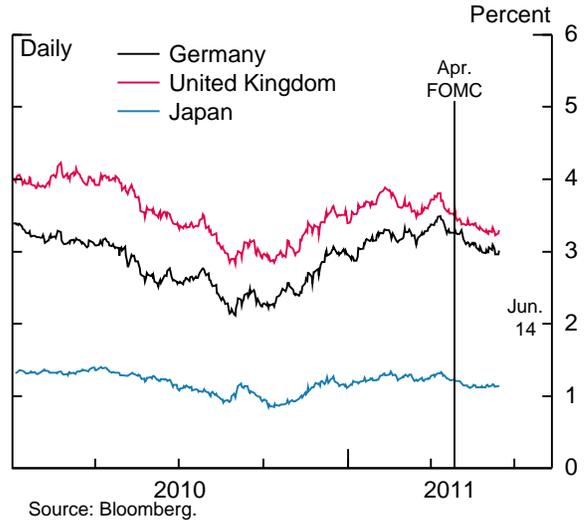
Spreads of yields on Greek, Irish, and Portuguese sovereign debt over yields on German bunds rose to record highs over the period. There were also signs of some increased funding pressures in Europe, as implied basis spreads from euro-dollar foreign exchange swaps widened for most of the period. Implied volatilities on the euro-dollar exchange rate and European equity markets also increased. These measures reversed

### Foreign Developments

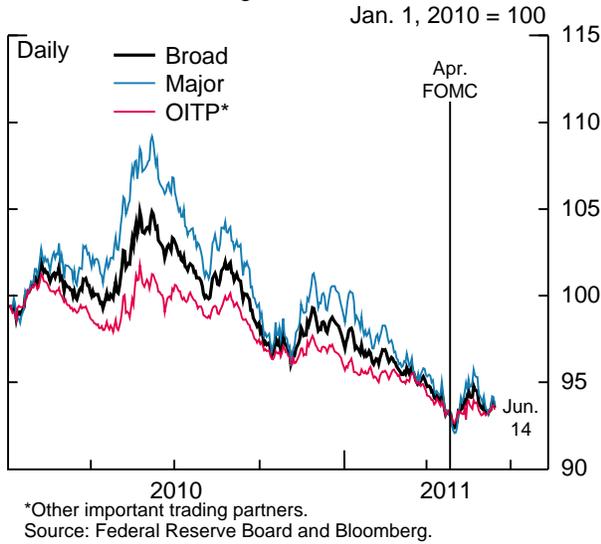
Stock Price Indexes



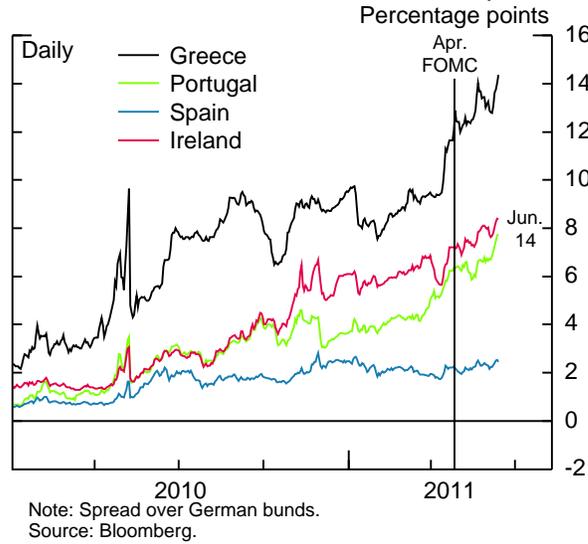
Nominal 10-Year Government Bond Yields



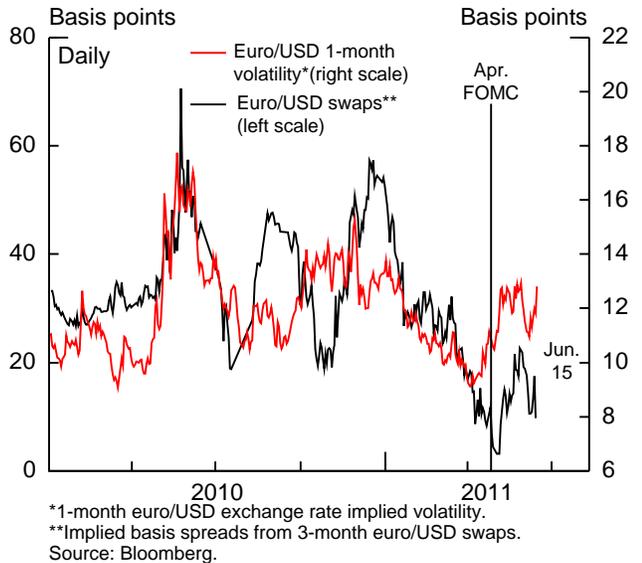
Nominal Trade-Weighted Dollar Indexes



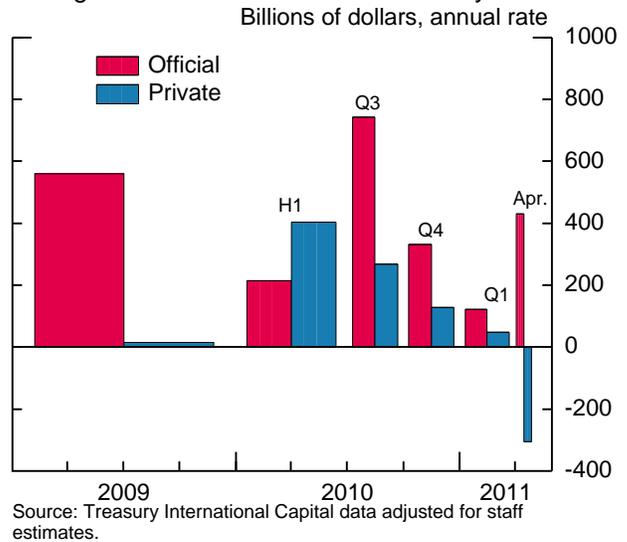
Euro-Area 10-Year Government Bond Spreads



Selected Market Stress Indicators



Foreign Net Purchases of U.S. Treasury Securities



Financial Developments

some of their increases as a new package of aid for Greece appeared more likely, but they began to rise again as negotiations bogged down.

Flows to emerging market equity funds turned negative in May as investors' sense of risk increased, but inflows resumed modestly in June and several emerging market monetary authorities apparently stepped up intervention to restrain appreciation of their currencies. Monetary authorities in China further increased required reserve ratios, and a number of other central banks in the emerging market economies also continued to tighten policy.

Foreign official purchases of U.S. securities were robust in April, but data on custody holdings at the Federal Reserve Bank of New York suggest that the pace of these purchases softened again in May. Foreign private investors have shown little appetite for U.S. debt securities this year, but their purchases of U.S. equities have remained strong.

## **BUSINESS FINANCE**

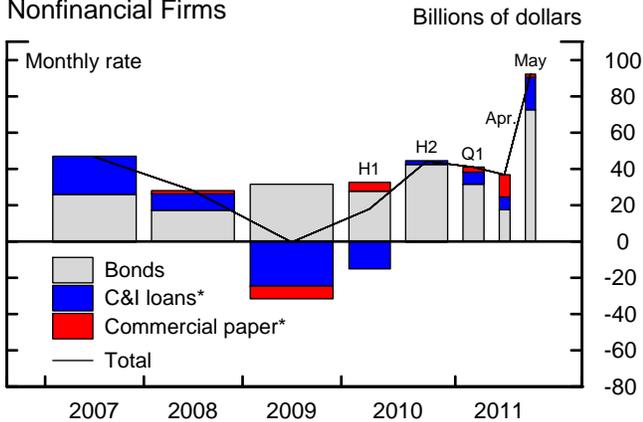
Net debt financing by nonfinancial corporations was robust in April and surged in May. Gross bond issuance by nonfinancial corporations hit a record high in May, reflecting very strong issuance of investment-grade bonds and record-high issuance of speculative-grade bonds, before slowing somewhat in early June. The strength in bond issuance appears to have been driven mainly by firms' desire to refinance existing debt and lock in new funding at current low yields. In addition, in recent months, speculative-grade issuance earmarked for acquisition activity for and payments to equity holders has increased.

Nonfinancial commercial paper and C&I loans outstanding posted solid gains in April and May. Supported by strong demand for floating-rate assets from institutional investors, issuance of syndicated leveraged loans reportedly continued to be robust over the two months. Refinancing deals remain the main driver in the market, but M&A activity appears to be picking up. In addition, the CLO market has shown modest signs of revival, as a few new CLOs have been brought to market lately.

So far this year, gross public equity issuance by nonfinancial firms has maintained a solid pace, boosted by strength in IPOs. In the first quarter, net equity issuance remained deeply negative, reflecting the continued strength of share repurchases and cash-financed mergers. Announcements of share repurchases and cash-financed mergers

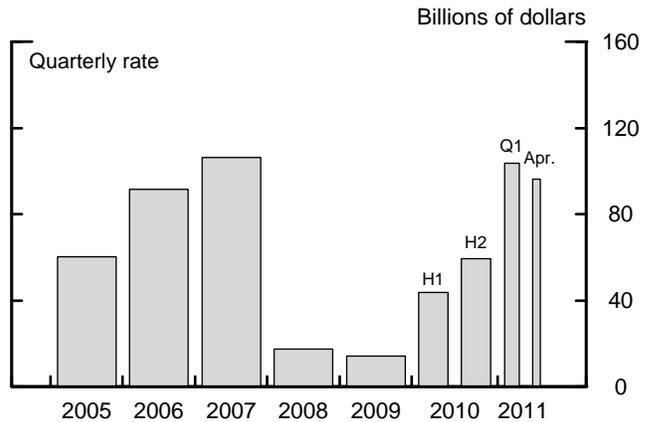
### Business Finance

Selected Components of Net Debt Financing, Nonfinancial Firms



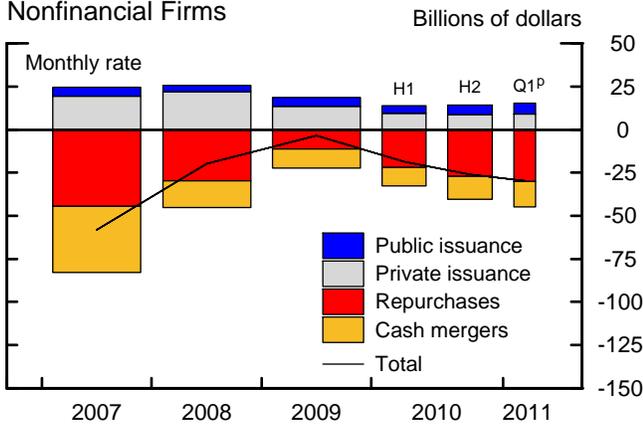
\* Period-end basis, seasonally adjusted.  
 Source: Depository Trust & Clearing Corporation; Thomson Financial; Federal Reserve Board.

Institutional Leveraged Loan Issuance



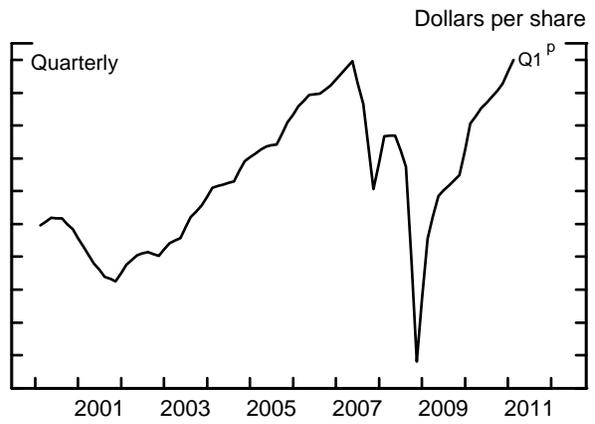
Source: Reuters Loan Pricing Corporation.

Selected Components of Net Equity Issuance, Nonfinancial Firms



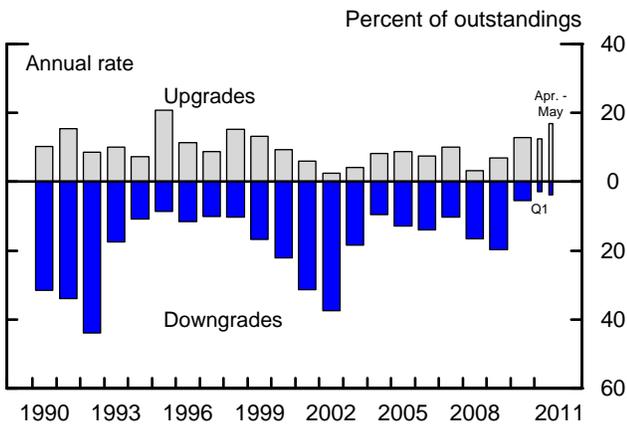
p Preliminary.  
 Source: Thomson Financial, Investment Benchmark Report; Money Tree Report by PricewaterhouseCoopers, National Venture Capital Association, and Venture Economics.

S&P 500 Earnings Per Share



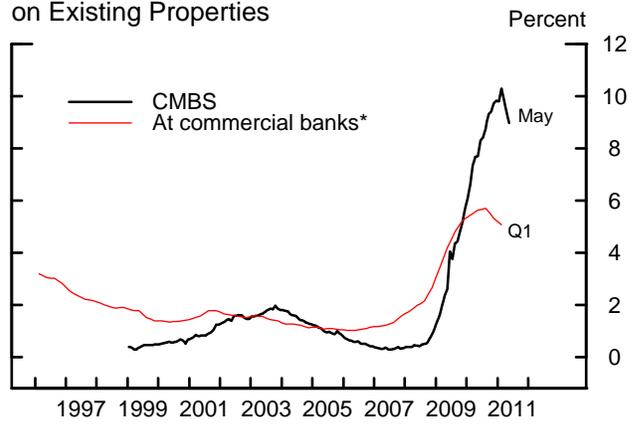
Note: Data are seasonally adjusted by staff.  
 p Preliminary.  
 Source: Thomson Financial.

Bond Ratings Changes of Nonfinancial Firms



Source: Calculated using data from Moody's Investors Service.

Delinquency Rates on Commercial Mortgages on Existing Properties



Note: CMBS are commercial mortgage-backed securities. All series are seasonally adjusted.  
 \* Excluding farmland.  
 Source: Citigroup; Call Report.

Financial Developments

suggest that net equity issuance may move deeper into negative territory in the second quarter.

Aggregate operating earnings per share for S&P 500 firms increased a brisk 6 percent at a quarterly rate in the first quarter of 2011. Over the four weeks ending in mid-May, Wall Street analysts' forecasts of year-ahead earnings for S&P 500 firms continued to be revised up; however, our indicators suggest that the streak of positive revisions may end this month.

Indicators of the credit quality of nonfinancial firms improved further over the intermeeting period. Liquid assets remained at record-high levels in the first quarter, and leverage, as measured by the aggregate debt-to-asset ratio, has yet to turn up. In April and May, many more nonfinancial corporate bonds were upgraded than downgraded, and the six-month trailing bond default rate for nonfinancial firms remained close to zero. The delinquency rate on C&I loans fell again in the first quarter—to about the middle of its range over the past two decades.

There continue to be tentative signs of stabilization in commercial mortgage markets. In recent months, delinquency rates for commercial real estate loans have come off their recent peaks. However, commercial real estate markets remain extremely weak. Property sales have been tepid, prices have remained at depressed levels, and mortgage debt has continued to contract. Issuance of commercial CMBS slowed somewhat in the second quarter. In addition, CDS index prices of legacy CMBS have retreated noticeably since the April FOMC meeting, in part reflecting the broader pullback from risky assets.

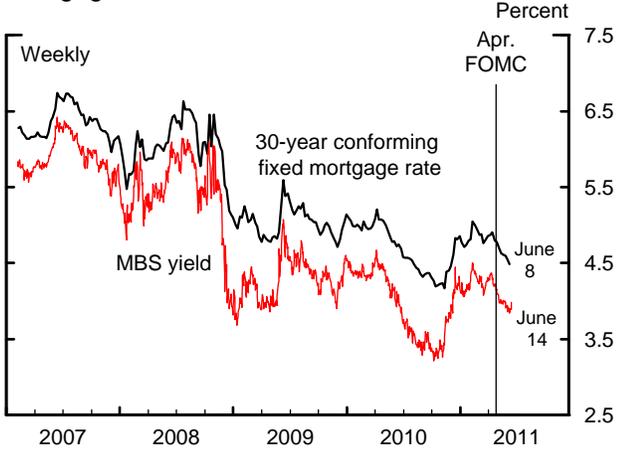
## HOUSEHOLD FINANCE

Mortgage interest rates and yields on current-coupon agency MBS declined during the intermeeting period, roughly in line with the decrease in longer-term Treasury yields. Mortgage refinancing activity edged up in recent weeks but remained subdued because of tight underwriting and low levels of home equity.

Mortgage debt contracted further in the first quarter of 2011. Amid a large inventory of unsold properties and tight mortgage underwriting, the CoreLogic repeat-sales house price index fell in April for the 11th consecutive month, reaching its lowest level since 2003. Rates of serious mortgage delinquency—defined as the percentage of mortgage loans that are 90 days past due or in foreclosure—for subprime and prime

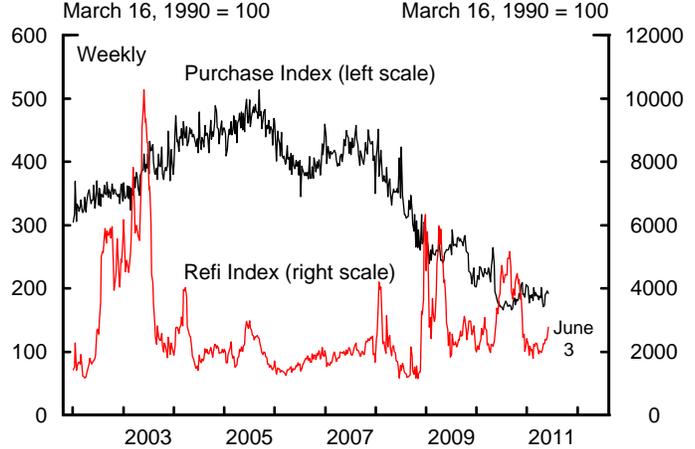
### Household Finance

Mortgage Rate and MBS Yield



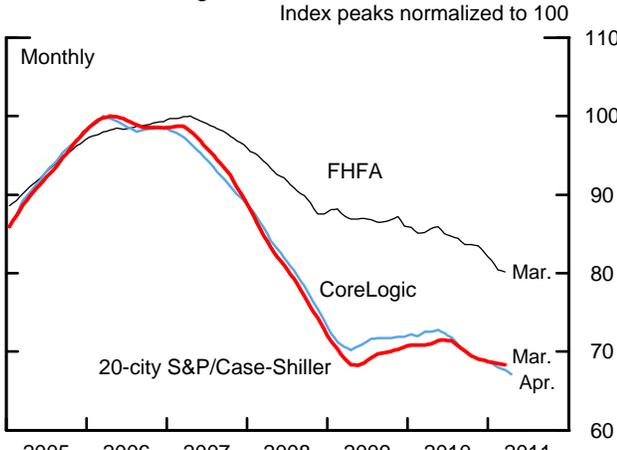
Note: For mortgage-backed securities (MBS) yield, Fannie Mae 30-year current coupon rate.  
 Source: For mortgage rate, Freddie Mac; for MBS yield, Bloomberg.

Purchase and Refinance Activity



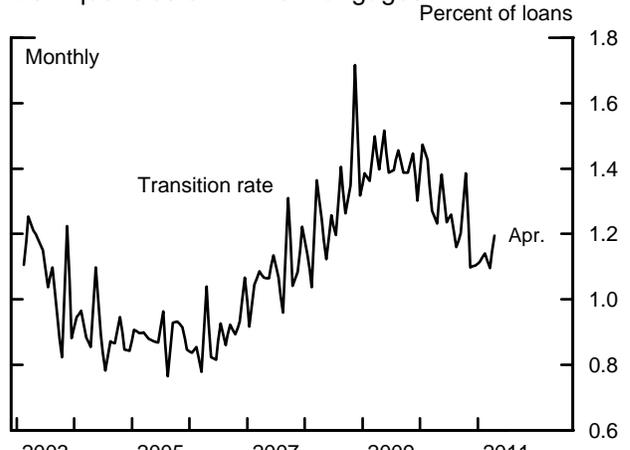
Note: Seasonally adjusted by FRB staff.  
 Source: Mortgage Bankers Association.

Prices of Existing Homes



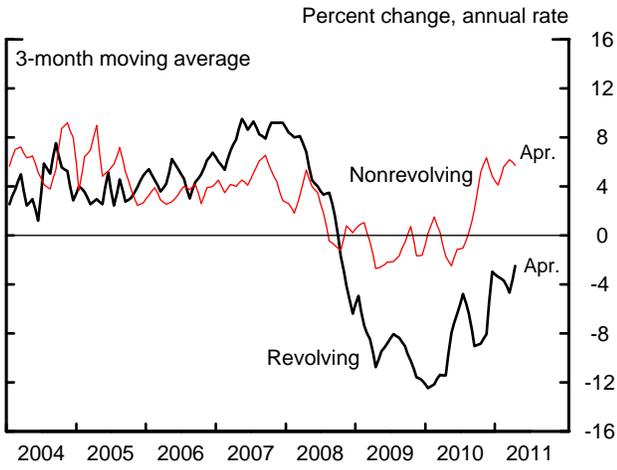
Source: For FHFA, Federal Housing Finance Agency; for CoreLogic, CoreLogic; for S&P/Case-Shiller, Standard & Poor's.

Delinquencies on Prime Mortgages



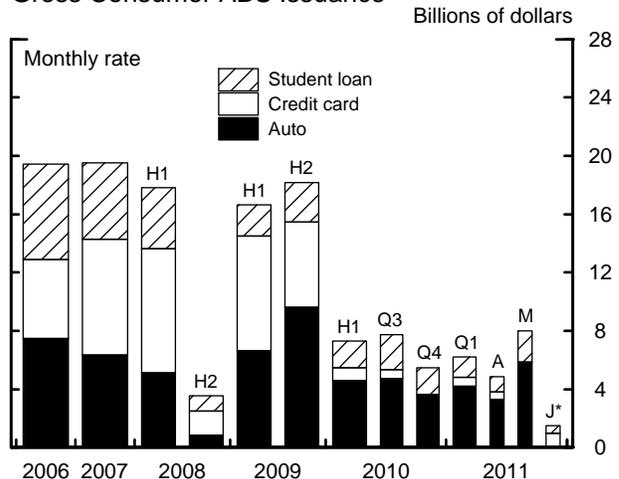
Note: Percent of previously current mortgages that transition to being at least 30 days delinquent each month.  
 Source: LPS Applied Analytics.

Consumer Credit



Source: Federal Reserve Board.

Gross Consumer ABS Issuance



\* Through June 10, 2011.  
 Source: Inside MBS & ABS; Merrill Lynch; Bloomberg; Federal Reserve Board.

Financial Developments

mortgages were little changed at elevated levels. The rate of new delinquencies on prime mortgages ticked up in April but remained well below the level of a few months ago. Delinquencies on FHA-backed mortgages declined noticeably in March and April.

On the whole, conditions in consumer credit markets have continued to improve. Consumer credit increased at an annual rate of 3 percent in April, reflecting another solid gain in nonrevolving credit and a contraction in revolving credit that was much smaller than in previous quarters. Over the intermeeting period, issuance of consumer credit ABS remained robust. Delinquency rates for various types of consumer debt have moved down further in recent months, with some back to levels not seen since before the recession. The number of credit card offers mailed to households edged down slightly in April but remained on a general upward trend. That said, credit card terms are still somewhat tight relative to historical norms, especially for households with weaker credit histories, and the volume of credit card mail offerings sent to low-income consumers remains well below pre-crisis levels.

## **GOVERNMENT FINANCE**

During the intermeeting period, the Treasury Department issued about \$300 billion of nominal coupon securities across the maturity spectrum and \$11 billion of TIPS; these auctions were generally well received. On May 16, Treasury debt reached its statutory limit, and the Treasury began to implement so-called extraordinary measures that are expected to allow it to continue to finance the federal deficit into early August. (See the box “Debt Subject to Limit.”)

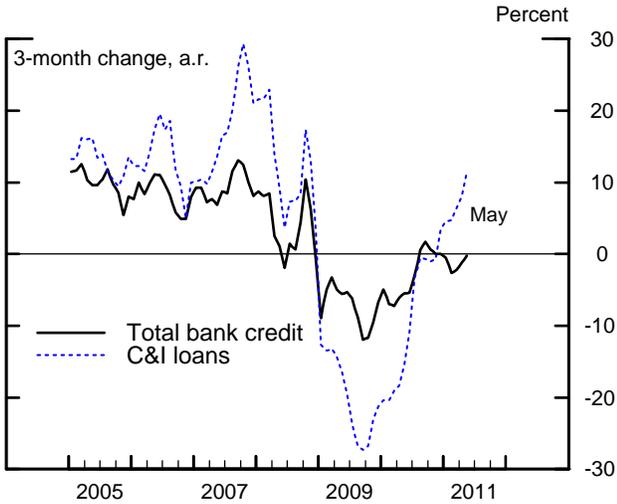
Although concerns remain about the financial health of state and local governments, over the intermeeting period conditions in the municipal bond market showed modest signs of improvement. Yields on long-term general obligation bonds fell notably, and their ratios to yields on comparable-maturity Treasury securities and to those on AAA-rated corporate bonds—gauges of the relative risk of municipal bonds—narrowed. Issuance of municipal bonds picked up slightly in May but remained quite sluggish by historical standards.

## **COMMERCIAL BANKING AND MONEY**

Bank credit has remained flat, on balance, since the end of the first quarter, but core loans have decreased. C&I loans increased briskly over the past two months, and in

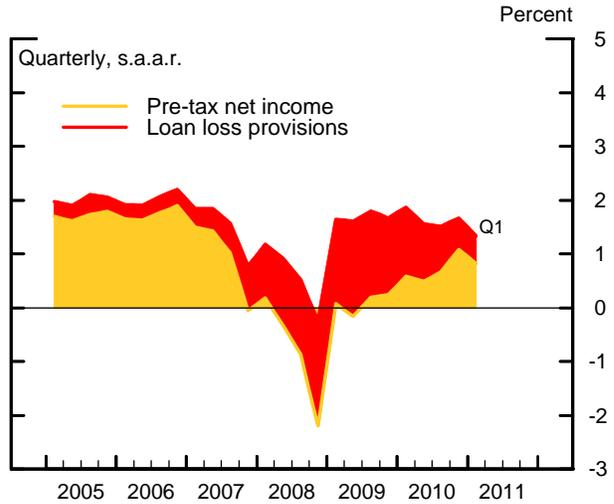
### Commercial Banking and Money

Changes in Bank Credit



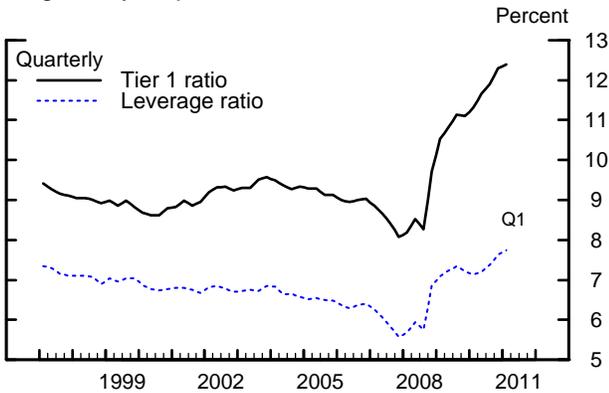
Source: Federal Reserve Board, Statistical Release H.8, "Assets and Liabilities of Commercial Banks in the United States."

Pre-Tax Net Income and Loan Loss Provisions



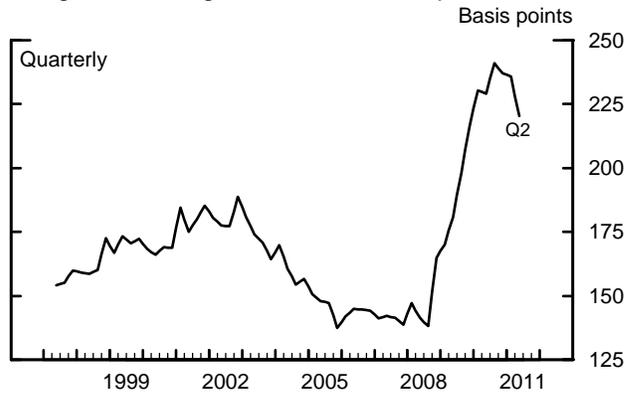
Source: Federal Reserve Board, FR Y-9C, Consolidated Financial Statements for Bank Holding Companies.

Regulatory Capital Ratios



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

Weighted-Average C&I Loan Rate Spread



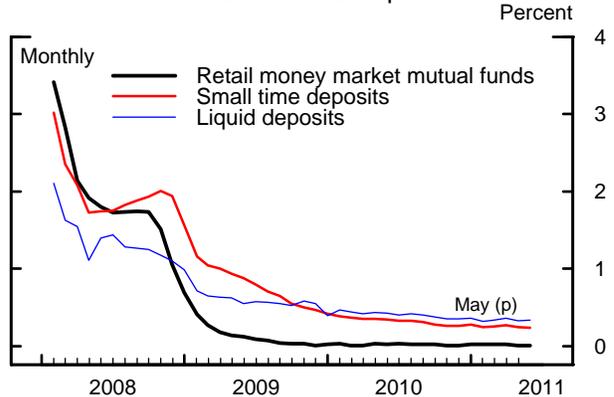
Note: The rate on C&I loans of less than \$25 million over a market interest rate on an instrument of comparable maturity, adjusted for changes in nonprice loan characteristics.  
Source: Survey of Terms of Business Lending.

Growth of M2 and Its Components

Percent, s.a.a.r.	M2	Liquid deposits	Small time deposits	RMMMFF	Curr.
2009	5.0	17.1	-15.7	-22.1	6.9
2010	3.2	11.0	-21.6	-15.6	5.9
2011					
Q1	4.3	9.6	-23.0	-9.1	7.7
Apr.	4.5	7.7	-17.9	-9.6	13.7
May(p)	7.3	10.6	-20.0	4.7	12.3

Note: RMMMFF are retail money market mutual funds.  
p Preliminary.  
Source: Federal Reserve Board.

Interest Rates on Selected Components of M2



Note: Interest rates on small time deposits and liquid deposits reflect the deposit-weighted average interest rate paid at banks and thrifts for each component.  
p Preliminary.  
Source: Federal Reserve Board.

Financial Developments

## Debt Subject to Limit

Over the intermeeting period, the Treasury began using extraordinary accounting measures to avoid breaching the \$14.294 trillion debt limit. As of June 15, the Board staff estimates that the Treasury has used approximately \$45 billion of the roughly \$245 billion in total capacity provided by the extraordinary measures.

All forecasts for the date when the Treasury's extraordinary measures are exhausted are uncertain, and a critical factor affecting the projections is the assumed level of June tax receipts. As shown in the top figure on the facing page, the Board staff currently estimates that on August 2 the Treasury will exhaust the capacity provided by the extraordinary measures. On August 3, the staff projects that the Treasury will not have enough cash balances to meet that day's large payments, including about \$20 billion in Social Security payments.

There have been some reports of major financial firms beginning to develop contingency plans in case the debt ceiling is not raised. However, such efforts are not widespread or well coordinated at this time. Market participants generally do not appear to be pricing in any financial market disruptions in early August, apparently because they have confidence that the debt ceiling will be raised in time to avoid any delays in the receipt of funds associated with Treasury debt and other payments. As shown in the middle and bottom figures on the facing page, the Treasury bill yield curve does not exhibit sharp spikes around August 3, and spreads on five-year U.S. credit default swaps were little changed over the intermeeting period (although the illiquidity of this market makes it difficult to use this information to draw inferences regarding investor expectations).

Various observers have noted that the Treasury has a few other options available for postponing the date that a payment would be missed. First, the Treasury Secretary could extend the Debt Issuance Suspension Period (DISP), which would free up some additional borrowing capacity.<sup>1</sup> However, each month that the DISP is extended provides only about \$7 billion in additional capacity, so the Treasury would need a lengthy DISP extension to obtain a sizable amount of funds. Second, the Treasury could sell gold. In this case, the Treasury would sell gold at market prices and redeem its gold certificate liabilities held at the Federal Reserve, valued at \$42 per ounce.<sup>2</sup> Third, the Treasury could increase the pace of its sales of mortgage-backed securities (MBS).<sup>3</sup> Fourth, the Treasury could request early payment of Federal Reserve remittances or legislation could require the Federal

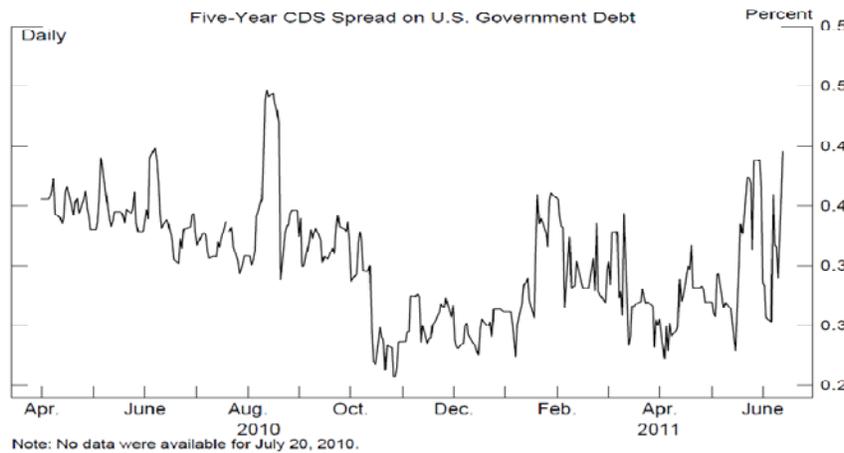
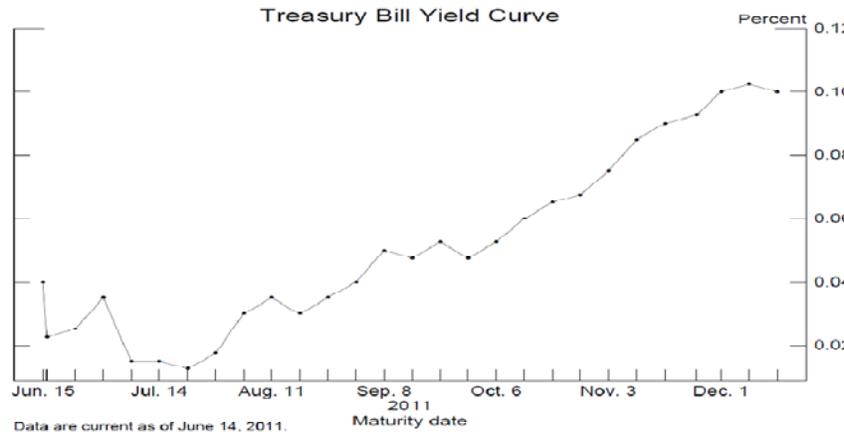
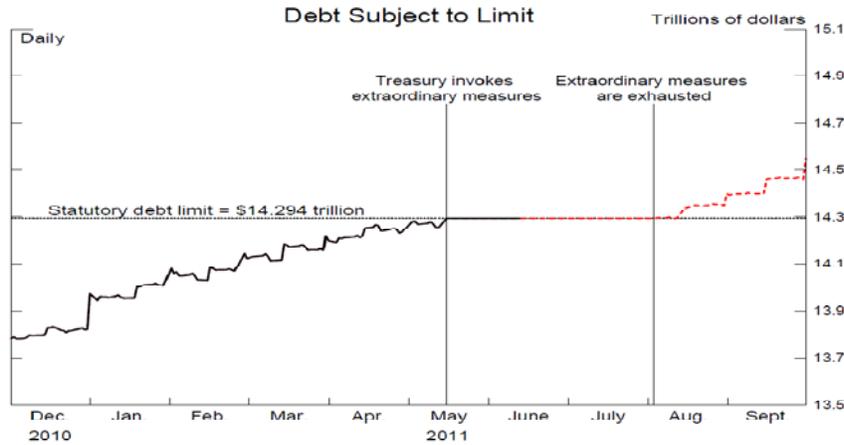
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<sup>1</sup> The DISP allows the Treasury to redeem existing Treasury securities in the Civil Service Retirement and Disability Fund (CSRDF) up to the amount of civil service benefit payments authorized to be made during the DISP and to suspend new investments. Extending the DISP would provide roughly \$7 billion of additional capacity for each month that the DISP is extended.

<sup>2</sup> The Treasury does have a small amount of unmonetized gold that it could sell without redeeming gold certificates. In principle, the Treasury might be able to raise about \$387 billion in cash from gold sales. However, the possible adverse response of gold prices and broader financial markets to such sales would be a significant risk.

<sup>3</sup> There is a lag between the sales of MBS and the settlement of the cash, so accelerated sales would have to begin shortly to raise additional cash before August. However, the Treasury previously announced that MBS sales would be conducted at a gradual and orderly pace to protect the process of repair of the housing market. A rapid pace of sales could prompt an adverse response of MBS prices, causing strains on the functioning of financial markets.

Reserve to transfer surplus to the Treasury.<sup>4</sup> Currently, none of these actions are included in the Board staff's projection.



<sup>4</sup> For example, in 1985 the Treasury requested early interest payments on Federal Reserve notes, and in 2000 legislation required the transfer of \$3.752 billion of the Federal Reserve surplus to the Treasury. The Federal Reserve surplus is currently \$26 billion.

Financial Developments

May the strength broadened to include small domestic banks. In contrast, the ongoing contraction in commercial real estate loans has continued unabated, while closed-end residential mortgage loans held by banks dropped significantly, partly owing to substantial loan sales to the GSEs. In addition, outstanding home equity loan balances fell in May at the fastest pace since the start of the recession in 2007—consistent with the further reduction in home equity lines of credit reported in the first quarter. On a somewhat positive note, the contraction in both credit card and other consumer loans held by banks slowed markedly over the past two months.

On a seasonally adjusted basis, Call Report data for bank holding companies showed that industry profitability edged down in the first quarter of 2011 and remained at a somewhat depressed level. A decline in pre-provision net revenue was about offset by a further reduction in loan loss provisions, which likely reflected an improvement in most measures of the quality of banks' assets. Nonetheless, net charge-offs exceeded provisions for the fifth consecutive quarter, and loan loss reserves remained quite low relative to delinquent loans and charge-offs. The regulatory capital ratios of bank holding companies continued to rise, with large institutions likely continuing to prepare for more-stringent requirements associated with the implementation of Basel II and Basel III as well as the expected capital surcharge for systemically important institutions required by the Dodd–Frank Act.

The most recent Survey of Terms of Business Lending, conducted the week of May 2, showed that banks had eased some terms on C&I loans. Spreads of C&I loan rates over banks' cost of funds decreased further but remain quite elevated. Of note, the weighted-average spread on C&I loans at small domestic banks—an indicator of lending conditions faced by small firms—fell to its lowest level since the fourth quarter of 2008. Moreover, the survey suggested that the average size of loan commitments at domestic banks and their average maturity have trended up in recent quarters.

M2 expanded at an annual rate of 6 percent, on average, in April and May. Liquid deposits, the largest component of M2, continued to increase markedly, while small time deposits and retail money market mutual funds, whose yields remain extremely low, shrank to their lowest levels since 2005. In the past two months, currency advanced significantly, likely reflecting solid domestic demand and strengthening demand from abroad. Meanwhile, the monetary base rose considerably as the Federal

Reserve's ongoing purchases of Treasury securities boosted the level of reserve balances.  
(See the box "Balance Sheet Developments over the Intermeeting Period.")

## Balance Sheet Developments over the Intermeeting Period

Over the intermeeting period, total assets of the Federal Reserve increased \$140 billion to reach a level of about \$2.8 trillion (see table on the facing page). Purchases of Treasury securities associated with the Federal Reserve's large scale asset purchase program accounted for the entire increase in total assets.

Since the April FOMC meeting, the Open Market Desk at the Federal Reserve Bank of New York (FRBNY) conducted 30 permanent operations, purchasing \$161 billion in longer-term Treasury securities.<sup>1</sup> To provide flexibility in conducting the asset purchase program, late last year, the Desk temporarily relaxed its per-issue limit on System Open Market Account (SOMA) holdings of individual Treasury issues. As of mid-June, SOMA holdings of 15 Treasury issues exceed 50 percent of the total outstanding for each issue, of which 2 issues have reached 70 percent of the total outstanding for these issues.

In other asset categories, loans outstanding under the Term Asset-Backed Securities Loan Facility (TALF) fell about \$4 billion, reflecting additional prepayments of loans extended under the TALF program. Foreign central bank liquidity swaps remained at zero. Finally, the net portfolio holdings of Maiden Lane LLC and Maiden Lane III LLC were little changed, while the holdings of Maiden Lane II LLC declined a bit reflecting recent sales of assets. Although initial auctions of Maiden Lane II assets went smoothly, the most recent auctions have experienced less attractive bids with declining prices in the non-agency RMBS markets.

On the liability side of the Federal Reserve's balance sheet, Federal Reserve notes in circulation increased \$10 billion over the period. The Treasury's general account, which is highly volatile from month to month, fell \$95 billion on net. The Treasury's Supplementary Financing Account remained at the \$5 billion level. Reflecting these factors and the effects of the asset purchase program, reserve balances of depository institutions rose \$215 billion over the period. The increase in reserve balances was again concentrated at the U.S. branches and agencies of foreign banks.

The Federal Reserve continued its program of conducting regular auctions of term deposits, with \$5 billion of 28-day term deposits auctioned in late May.<sup>2</sup> In addition, the FRBNY conducted a series of small-scale, real-value reverse repurchase transactions that included 32 additional money market mutual fund counterparties. Overall, the Federal Reserve now has 110 counterparties to participate in reverse repurchase agreement operations. The FRBNY also announced the eligibility criteria for government-sponsored enterprises to serve as counterparties for reverse repurchase agreement operations.

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<sup>1</sup> These operations include purchases in a range of maturities for nominal securities as well as three operations in TIPS conducted between April 28 and June 14, 2011. During this period, \$157 billion in Treasury securities purchases settled on the balance sheet, and agency debt and MBS holdings declined \$16 billion.

<sup>2</sup> The table on the facing page shows a net of change of zero because the deposits that matured on May 5 are offset by the deposits that settled on June 2.

**Federal Reserve Balance Sheet**  
Billions of dollars

	Change since last FOMC	Current (06/13/11)
<b>Total assets</b>	<b>140</b>	<b>2,830</b>
Selected assets:		
Liquidity programs for financial firms	+0	+0
Primary, secondary, and seasonal credit	+0	+0
Foreign central bank liquidity swaps	0	0
Term Asset-Backed Securities Loan Facility (TALF)	-4	13
Net portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC	-2	62
Securities held outright*	140	2,605
U.S. Treasury securities	157	1,568
Agency debt securities	-7	119
Agency mortgage-backed securities	-9	918
<b>Total liabilities</b>	<b>140</b>	<b>2,777</b>
Selected liabilities:		
Federal Reserve notes in circulation	10	981
Reverse repurchase agreements	10	66
Foreign official and international accounts	7	63
Others	3	3
Reserve balances of depository institutions**	215	1,657
Term deposits held by depository institutions	+0	5
U.S. Treasury, general account	-95	37
U.S. Treasury, supplementary financing account	+0	5
Funds from AIG asset dispositions, held as agent	0	0
Other deposits	+0	2
<b>Total capital</b>	<b>+0</b>	<b>53</b>

Note: +0 (-0) denotes positive (negative) value rounded to zero.

\* Par value.

\*\* Includes required clearing balances and overdrafts. Excludes as-of adjustments.

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## Appendix

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

Overall, respondents to the June 2011 Senior Credit Officer Opinion Survey on Dealer Financing Terms pointed to a continued gradual easing in credit terms with respect to major classes of counterparties, including hedge funds and other private pools of capital, insurance companies and other institutional investors, and nonfinancial firms.<sup>1</sup> Reasons cited as most important across the major classes of counterparties in explaining the changes were more-aggressive competition from other institutions and an improvement in general market liquidity and functioning. Most dealers also indicated that the time and attention devoted to managing concentrated credit exposures to other dealers remained basically unchanged, although a minority of respondents reported an increase in resources allocated to such management. As in prior surveys, responses to questions regarding over-the-counter (OTC) derivatives trades pointed to little change over the past three months in the terms for both “plain vanilla” and customized derivatives. With respect to securities financing, respondents reported an easing of some financing terms for a broad spectrum of securities, including high-grade corporate bonds, equities, agency residential mortgage-backed securities (RMBS), and asset-backed securities (ABS) other than RMBS. As in the March 2011 survey, the reported easing of terms over the past three months was generally evident for both average and most-favored clients but much more pronounced for the latter group. Dealers also noted that demand for funding for almost all types of securities covered in the survey, with the exception of equities, had increased over the past three months. The results of the June survey also indicated that the volume of mark and collateral disputes, often viewed as a leading indicator of market stress, remained generally unchanged across the entire range of counterparty and transaction types covered by the survey.

The June survey also contained special questions focused on three topics: unused funding capacity available to clients under existing agreements, the financing of less-liquid assets, and the current deployment of leverage relative to the pre-crisis peak and post-crisis trough. With respect to additional funding capacity under existing agreements, large net fractions of respondents indicated that there was significant unused capacity for all types of institutional clients and that unused capacity had generally increased since the beginning of 2011. With regard to funding of less-liquid assets, respondents generally reported an increase in such funding

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<sup>1</sup> The June 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 current levels and changes since the beginning of 2011 in clients’ unused financing capacity under the terms of existing agreements; a second set of special questions focused on changes over the past year in funding of less-liquid assets by classes of counterparties and product types; and a final special question asked for respondents’ assessments of the current use of leverage by client types adopting the pre-crisis peak and post-crisis trough as reference points. The 20 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 May 23, 2011, to June 3, 2011. The core questions ask about changes between March 2011 and May 2011.

over the past year for all specified types of counterparties. In characterizing the types of less-liquid collateral being funded in greater amounts, high-yield corporate bonds, legacy non-agency RMBS, and legacy commercial mortgage-backed securities (CMBS) were most frequently cited. Finally, the current use of leverage was generally characterized as “roughly in the middle”—between the pre-crisis peak and the post-crisis trough.

## COUNTERPARTY TYPES

### Dealers and Other Financial Intermediaries

As in previous surveys, a significant majority of respondents reported that the amount of resources and attention devoted to management of concentrated exposures to dealers and other financial intermediaries had remained basically unchanged over the past three months, although one-fourth of respondents pointed to an increase. More than one-half of respondents also characterized the volume of mark and collateral disputes with dealers and other financial intermediaries as basically unchanged over the previous three months. A modest net fraction of dealers, however, pointed to a decrease.

### Hedge Funds, Private Equity Firms, and Other Similar Pools of Capital

As has been true since the inaugural survey in June of last year, dealers reported, on net, that they had provided somewhat more-favorable credit terms over the past three months to hedge funds, private equity firms, and other similar private pools of capital (private pools of capital) across all types of transactions covered in the survey.<sup>2</sup> Forty percent of respondents eased somewhat their price terms, including, most importantly, financing rates. A similar fraction of institutions indicated that they had eased somewhat their nonprice terms, which include haircuts, maximum maturity, covenants, cure periods, cross-default provisions, or other documentation features. As in previous surveys, the institutions that reported an easing of terms pointed to more-aggressive competition from other institutions, an improvement in general market liquidity and functioning, and, to a lesser extent, an improvement in the current or expected financial strength of counterparties as the main reasons for the changes.<sup>3</sup> More than one-half of the respondents to the June survey noted an increase in the intensity of efforts by private pools of capital to negotiate more-favorable price and nonprice terms over the past three months. Looking forward over the next three months, a majority of dealers expected price and nonprice terms applicable to private

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<sup>2</sup> For questions that ask about credit terms, reported net percentages equal the percentage of institutions that reported tightening terms (“tightened considerably” or “tightened somewhat”) minus the percentage of institutions that reported easing terms (“eased considerably” or “eased somewhat”). For questions that ask about demand, reported net fractions equal the percentage of institutions that reported increased demand (“increased considerably” or “increased somewhat”) minus the percentage of institutions that reported decreased demand (“decreased considerably” or “decreased somewhat”).

<sup>3</sup> An ordinal ranking of reasons for loosening or tightening is produced by adding the number of respondents characterizing each reason as “very important” to the number characterizing the reason as “somewhat important” and then sorting the sums in descending order. For reasons with the same ranking based on the sums, the response that the greater number of dealers characterizes as “very important” takes priority.

pools of capital to remain basically unchanged, while one-fifth of respondents, on balance, indicated that they anticipated further easing of terms.

### **Insurance Companies, Pension Funds, and Other Institutional Investors**

The survey responses indicated that, on balance, dealers also provided more-favorable credit terms for insurance companies, pension funds, and other institutional investors (institutional investors) over the past three months. About one-third of respondents indicated that they had eased price terms for such counterparties, while one-fourth of dealers noted an easing of nonprice terms. The most important reasons cited for the easing of credit terms were more-aggressive competition from other institutions and an improvement in general market liquidity and functioning. Increased willingness to take on risk was also noted as an important reason for the change. Nearly one-third of dealers reported an increase in the intensity of efforts by institutional investors to negotiate more-favorable price and nonprice terms over the past three months. Looking forward over the next three months, one-fifth of respondents, on net, expected credit terms applicable to institutional investors to ease somewhat further.

### **Nonfinancial Corporations**

The responses to questions about credit terms applicable to nonfinancial corporations also pointed to some net easing over the past three months. About one-third of respondents indicated that they had eased price terms for such counterparties; by contrast, nonprice terms were generally little changed. As was the case for private pools of capital and institutional investors, the most important reasons cited for the easing were more-aggressive competition from other institutions and an improvement in general market liquidity and functioning. An improvement in the current or expected financial strength of counterparties was also cited as an important reason for the change. One-fourth of respondents indicated that there had been an increase in the intensity of efforts by nonfinancial corporations to negotiate more-favorable price and nonprice terms over the past three months. Looking forward over the next three months, the majority of dealers noted that they expected credit terms to remain basically unchanged, although one-fourth of respondents, on balance, indicated that they anticipate somewhat looser terms.

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

As has been the case since the inaugural survey in June of last year, responses to questions dealing with OTC derivatives trades pointed to little change over the past three months in the terms for plain vanilla and customized derivatives across different types of underlying asset classes (underlyings)—foreign exchange, interest rates, equities, credit, commodities, and total return swaps (TRS) referencing nonsecurities (such as syndicated loans). However, a small fraction of dealers indicated that they had eased somewhat initial margin requirements on trades with interest rates and credit as the underlying (for plain vanilla derivatives). In addition, with regard to TRS referencing nonsecurities as the underlying, nearly one-half of the dealers active in this market reported having reduced somewhat initial margin requirements, and a few respondents also noted that they had eased somewhat the range of acceptable reference assets, maximum maturity, and triggers and covenants. Despite significant decline in some commodity

markets during the reference period for the survey, there was no clear evidence of an increase in mark or collateral disputes or of an increase in initial margin requirements.

## SECURITIES FINANCING

As in the previous surveys, responses to questions focused on securities financing pointed to an easing of certain terms under which a broad spectrum of securities was being funded.<sup>4</sup> The reported loosening of terms over the past three months was generally evident for both average and most-favored clients. For average clients, the easing of terms was most visible in the reduction of the financing rates applicable to funding of high-grade corporate bonds and agency RMBS, and in an increase in the maximum amount of funding and maximum maturity of funding for ABS other than agency RMBS. For the most-favored clients—the focus of the remainder of this paragraph—the trend toward easing was more pronounced. With regard to terms applicable to the funding of high-grade corporate bonds, net fractions of survey respondents ranging between 25 and about 40 percent reported an increase in the maximum amount of funding, an extension in the maximum maturity, and a decline in financing rates. With respect to terms applicable to the financing of equities (including through repo-like stock loan transactions), net fractions of dealers ranging between 15 and 20 percent indicated that they had increased the maximum amount of funding and extended the maximum maturity. Regarding terms for the funding of agency RMBS, net portions of respondents ranging between about 20 and 35 percent noted that they had extended the maximum maturity, increased the maximum amount of funding, reduced the financing rate, and decreased haircuts provide to most-favored clients. With respect to terms under which ABS other than agency RMBS are funded, net fractions of dealers ranging between about 25 and 50 percent reported an increase in the maximum amount of funding, an extension in the maximum maturity, a decline in financing rates, and a decrease in haircuts.

Survey respondents indicated that demand for funding for almost all types of securities considered in the survey had increased over the past three months. The only exception was equities, for which the demand for funding was reported as essentially unchanged. On balance, about one-third of dealers that lend against high-grade corporate bonds and agency RMBS reported an increase in demand for funding in the June survey, while nearly one-half of survey respondents that lend against ABS other than agency RMBS indicated that demand for funding such securities had increased. Small net fractions of respondents reported an increase in the amount of “vendor” financing—that is, the funding on preferential terms of securities that the financing dealer has played a role in bringing to market—provided for high-grade corporate bonds, agency RMBS, and ABS other than agency RMBS.

Respondents indicated that liquidity and functioning of several markets had improved over the past three months.<sup>5</sup> One-half of dealers pointed to an improvement in liquidity and

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<sup>4</sup> In this survey, securities financing includes lending to clients collateralized by high-grade corporate bonds, equities, agency RMBS, and other ABS.

<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.

functioning in the high-grade corporate bond market, and 40 percent of respondents noted an improvement in the market for ABS other than agency RMBS. About 20 percent of dealers reported an improvement in the agency RMBS market.

As in the March 2011 survey, respondents generally reported that the volume of collateral and mark disputes with clients related to the funding of collateral of all types had remained unchanged.

### **SPECIAL QUESTIONS ON ADDITIONAL FUNDING CAPACITY UNDER TERMS OF EXISTING AGREEMENTS**

Some counterparties reportedly maintain significant unused financing capacity under the terms of existing agreements, allowing them, for example, to fund additional assets or withdraw excess collateral left at the dealer. Thus, the leverage used by these counterparties is constrained not by the availability of additional funding but by their risk appetite and investment objectives. A set of special questions sought information regarding the amount of additional capacity currently available to different classes of counterparties as well as changes in this capacity since the beginning of 2011. Overall, large net fractions of respondents indicated that there was some degree of unused capacity for all types of clients listed in the survey.<sup>6</sup> Of note, substantial capacity was reported by nearly 40 percent of dealers with respect to most-favored hedge funds, and by about 30 percent of dealers with respect to other hedge funds, asset managers (representing holders of separately managed accounts), and mutual funds and pension funds. Respondents indicated that the unused funding capacity available to several types of clients had increased since the beginning of 2011. In particular, one-half of dealers reported an increase in unused funding capacity for most-favored hedge funds, while nearly one-half noted such an increase for trading real estate investment trusts (REITs).<sup>7</sup> In addition, about 30 percent of respondents pointed to an increase in such funding capacity for other hedge funds. More-modest net fractions of dealers indicated an increase in unused funding capacity over the same period for asset managers and insurance companies.

### **SPECIAL QUESTIONS ON FUNDING OF LESS-LIQUID ASSETS**

The gradual increase in leverage evident over the past year appears to have been driven by incremental funding of relatively liquid assets. But, reportedly, there has also been some limited increase in the funding of less-liquid asset types using various mechanisms, including securities financing trades, prime brokerage accounts, and TRS that replicate the economics of collateralized lending. Another set of special questions sought information about changes in the amount of funding of less-liquid assets by different types of counterparties over the past year and in the types of less-liquid assets being funded. Overall, respondents reported an increase over the

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<sup>6</sup> This question was posed with respect to eight types of counterparties: most-favored hedge funds; other hedge funds; private equity firms; trading real estate investment trusts (REITs); asset managers; mutual funds and pension plans; insurance companies; and exchange-traded funds (ETFs), unit investment trusts (UITs), special purpose vehicles (SPVs), and similar entities.

<sup>7</sup> Trading REITs invest in assets backed by real estate, rather than directly in real estate.

past year by all specified classes of counterparties listed in the survey.<sup>8</sup> In particular, nearly three-fourths of respondents reported an increase for most-favored hedge funds, while around one-half of dealers noted an increase for other hedge funds, trading REITs, and private equity firms. When asked about the types of less-liquid collateral being funded, net fractions of respondents ranging between about 50 and 80 percent pointed to an increase in funding for legacy CMBS, legacy RMBS, and high-yield corporate bonds over the past year. A smaller number of respondents, about 40 percent, on net, also cited an increase in the funding of legacy collateralized loan obligations, or CLOs.

### **SPECIAL QUESTION ON OVERALL USE OF LEVERAGE**

The use of financial leverage has reportedly increased modestly since it approached its apparent nadir in wake of the financial crisis. One final special question asked about the current use of leverage by specific types of counterparties relative to both the post-crisis trough in late 2009 and pre-crisis peak in late 2006. Respondents were asked to assess leverage using a seven-point scale, with responses ranging from “at or below the trough level” to “at or above the peak level.” Overall, a large majority of respondents reported that leverage was roughly in the middle of the range between the peak and trough levels for all types of counterparties listed in the survey.<sup>9</sup> With regard to insurance companies, however, one-third of dealers noted that leverage was only moderately above the trough level.

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<sup>8</sup> The question was posed with respect to the same eight types of counterparties as was the prior question on unused funding capacity.

<sup>9</sup> Again, the question was posed with respect to the same eight types of counterparties as were the prior questions on unused funding capacity and financing of less-liquid assets.

## Risks and Uncertainty

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### ASSESSMENT OF FORECAST UNCERTAINTY

We continue to see the risks around our projection for economic activity as elevated relative to the average experience of the past 20 years (the benchmark used by the Committee). Because the financial crisis and the subsequent recession were both large and historically unusual, the relative influences of supply and demand in generating the contraction are difficult to gauge, implying elevated uncertainty with regard to the level of slack and to the timing and strength of the recovery. In particular, the restraint being imposed by the impaired balance sheets of households and financial institutions is hard to judge, as is the pace at which those balance sheets will be repaired. In addition, it is difficult to discern with confidence how much of the recent slowdown in activity stems from factors that likely will have little or no influence on the long-run level of U.S. economic activity (such as the supply disruptions associated with the earthquake in Japan), from factors that likely have had a more lasting effect on the level of activity (such as higher energy prices), and from forces that may have more-persistent effects on the growth rate of activity going forward.

We now judge the risks to our projection for real activity as skewed to the downside. Although we have made a sizable downward adjustment to our projection of real GDP growth in the medium term in this Tealbook, the breadth of the weakness in the recent data leaves us concerned that the contractionary forces that have weighed on the economy over the past several years may prove to be more persistent than we assumed or might even intensify. In addition, we see downside tail risks emanating from sovereign debt concerns in Europe, from the chance that the Congress fails to enact a timely increase in the debt limit, and from the possibility that financial market participants may become increasingly concerned that U.S. fiscal policy will remain on an unsustainable path.

We also see the risks around our baseline projection for inflation as elevated relative to the experience of the past 20 years, in part because the prospects for inflation expectations appear unusually uncertain. On the one hand, very low levels of resource utilization, meager gains in labor costs, and more-pessimistic views on the economic outlook could result in some downshift in inflation expectations. On the other hand,

renewed increases in commodity prices, a more-pronounced weakening in the exchange value of the dollar, and concerns about undisciplined fiscal policy could cause inflation expectations to move up at some point. In addition, the federal funds rate is near zero and the Federal Reserve's balance sheet is historically large. Moreover, the difficulties associated with gauging economic slack in the wake of an unusually deep recession imply large risks—in both directions—to our assessment of the role that slack will play in influencing inflation going forward. Weighing these risks to both the upside and downside, we continue to see the risks around our inflation projection as roughly balanced. (See the box “Uncertainty about the Macroeconomic Outlook” for a discussion of some empirical measures of uncertainty.)

## ALTERNATIVE SCENARIOS

To illustrate some of the risks to the outlook, we consider several alternatives to the baseline projection using simulations of staff models. We begin with a simulation in which the NAIRU increases as the labor market remains distressed, lowering the level of potential output relative to the baseline projection, and thereby setting the stage for higher inflation and weaker activity. We next consider the possibility that we have taken too much signal from the weak recent data and have underestimated the underlying strength of the recovery that is currently under way. The third scenario considers the opposite risk—that we have taken too little signal from the recent softness in the spending indicators and that the recovery will be even more sluggish than we expect. The fourth scenario builds on this weakness by further assuming that, in an environment in which the unemployment rate remains persistently elevated, inflation will move down noticeably. The fifth scenario assumes that a credible budget plan is enacted that halts the rise in the ratio of the debt to GDP and then puts it on a downward trajectory back toward its current level. The final two scenarios consider risks arising from sovereign debt problems in Europe, including one that imbeds financial spillover effects to the United States and our major non-European trading partners. We generate the first five scenarios using the FRB/US model and an estimated policy rule. The last two scenarios are generated using the multicountry SIGMA model, which uses a different policy rule for the federal funds rate that employs an alternative concept of resource utilization.<sup>1</sup>

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<sup>1</sup> In the FRB/US simulations, the federal funds rate follows the outcome-based rule described in the appendix on policy rules in Book B. In the case of SIGMA, its rule is broadly similar but responds to slack as gauged by the difference between actual output and the model's estimate of the level that would occur in the absence of a slow adjustment in wages and prices.

**Alternative Scenarios**

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

Measure and scenario	2011		2012	2013	2014-15
	H1	H2			
<i>Real GDP</i>					
Extended Tealbook baseline	2.0	3.4	3.5	4.2	3.8
Labor market damage	2.0	3.2	3.2	3.8	3.4
Stronger recovery	2.0	3.9	4.4	4.7	3.1
Weaker recovery	2.0	2.7	2.2	3.2	4.6
Weaker recovery, further disinflation	2.0	2.6	2.1	3.1	4.7
Fiscal consolidation	2.0	3.3	3.4	4.2	3.9
Mild recession in Europe	2.0	3.3	3.2	4.2	3.9
Severe recession in Europe	2.0	2.7	1.6	3.9	4.3
<i>Unemployment rate<sup>1</sup></i>					
Extended Tealbook baseline	9.0	8.9	8.1	7.1	5.5
Labor market damage	9.0	9.0	8.4	7.6	6.3
Stronger recovery	9.0	8.8	7.6	6.2	5.1
Weaker recovery	9.0	9.0	8.7	8.3	6.4
Weaker recovery, further disinflation	9.0	9.0	8.8	8.4	6.4
Fiscal consolidation	9.0	8.9	8.2	7.2	5.6
Mild recession in Europe	9.0	8.9	8.2	7.3	5.6
Severe recession in Europe	9.0	9.0	8.9	8.2	6.2
<i>Core PCE prices</i>					
Extended Tealbook baseline	1.8	1.5	1.5	1.5	1.6
Labor market damage	1.8	1.6	1.7	1.7	1.8
Stronger recovery	1.8	1.5	1.5	1.6	1.9
Weaker recovery	1.8	1.5	1.4	1.3	1.1
Weaker recovery, further disinflation	1.8	1.4	1.1	.5	.3
Fiscal consolidation	1.8	1.5	1.4	1.4	1.5
Mild recession in Europe	1.8	1.4	1.3	1.4	1.6
Severe recession in Europe	1.8	1.1	.5	1.1	1.5
<i>Federal funds rate<sup>1</sup></i>					
Extended Tealbook baseline	.1	.1	.2	1.4	3.9
Labor market damage	.1	.1	.4	1.8	3.9
Stronger recovery	.1	.3	1.2	2.8	4.2
Weaker recovery	.1	.1	.1	.1	3.1
Weaker recovery, further disinflation	.1	.1	.1	.1	1.8
Fiscal consolidation	.1	.1	.2	1.0	3.3
Mild recession in Europe	.1	.1	.1	1.2	3.7
Severe recession in Europe	.1	.1	.1	.4	3.1

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

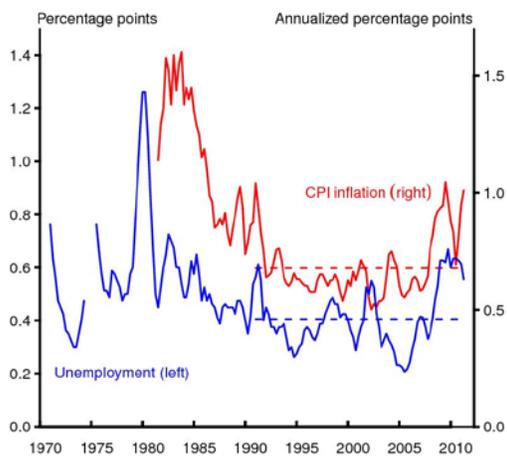
## Uncertainty about the Macroeconomic Outlook

A variety of indicators, both survey-based and statistical, suggest that uncertainty about the outlook for real activity and inflation—although generally down from the very high levels that prevailed during the recession—remains somewhat above the typical level of uncertainty experienced over the past two decades.

Survey-based measures provide one indication that uncertainty remains elevated. For example, responses to the Survey of Professional Forecasters (SPF) can be used to examine the degree to which private forecasters disagree about the outlook for real GDP growth, the unemployment rate, and inflation. Although such disagreement is conceptually distinct from uncertainty, it seems likely that wider disagreement is correlated with greater uncertainty, in part because opinions about the correct interpretation of incoming data are likely to be more diverse than normal when the economy has been hit by unusual disturbances. Currently, disagreement among SPF participants, as measured by the interquartile range of their forecasts, is elevated relative to the average of the past 20 years for both the unemployment rate and CPI inflation (as shown in the lower-left figure).<sup>1</sup>

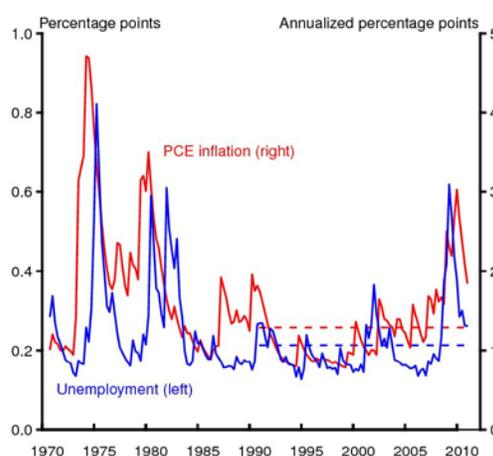
A more statistical approach to assessing uncertainty uses time-series models that allow for shifts in the volatility of shocks to activity, inflation, and other factors. One such approach assumes that the shocks to a simple regression model

**Forecast Disagreement  
(Interquartile range)**



Note: Dashed lines represent 20-year averages.  
Source: Survey of Professional Forecasters.

**Standard Deviation of Residuals  
from a Statistical Model**



Note: Dashed lines represent 20-year averages.  
Source: Staff calculations.

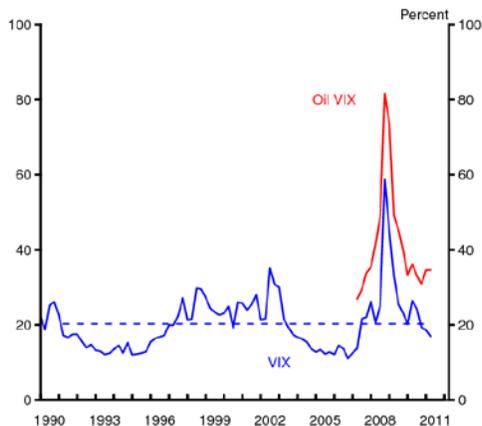
<sup>1</sup> The interquartile range refers to the dispersion across SPF participants in their four-quarter-ahead forecast for the unemployment rate and quarterly inflation measured at an annual rate. The figure shows forecasts for the CPI; comparable information for PCE prices is available only for a very recent sample period.

explaining either real activity or inflation have a standard deviation that varies over time; movements in these estimated standard deviations provide a simple metric of changes in uncertainty about the economic outlook.<sup>2</sup> Results from such an exercise for the unemployment rate and PCE inflation are reported in the lower-right figure on the facing page. These estimates indicate that uncertainty about the unemployment rate increased sharply at the onset of the recession; this uncertainty has since moderated but remains somewhat elevated relative to historical norms. The results also indicate a sharp increase over the last few years in uncertainty about the inflation outlook: Although the estimated standard deviation of shocks to headline PCE inflation is down from its peak last year, it remains near the high end of the range observed since the late 1980s.

Another set of indicators can be derived from prices in options markets. As shown in the figure below, the S&P implied volatility index (VIX) and the analogous measure for oil prices, which we call the “oil VIX,” have both fallen substantially from their crisis peaks and are currently at relatively low levels. Although these readings could be consistent with low macroeconomic uncertainty, the evidence is only suggestive. For one, the VIX and oil VIX pertain to variables *related* to real activity and consumer prices but do not pertain to real activity and consumer prices themselves. For another, movements in variables like the VIX and oil VIX reflect the price of risk as well as the level of risk.

All told, these indicators present a diverse picture, but on balance we view them as continuing to suggest somewhat elevated uncertainty regarding the outlook for both real activity and inflation.

### S&P VIX and Oil VIX



Note: Dashed line represents 20-year average.  
Source: Standard and Poor's.

<sup>2</sup> The particular approach used here assumes that the unemployment rate and headline PCE price inflation follow an autoregressive process and that the standard deviation of the errors follows a T-GARCH (threshold generalized autoregressive conditional heteroskedasticity) process.

## Labor Market Damage

The unusual depth and breadth of the downturn and the prolonged state of high unemployment may have impaired labor-market efficiency and boosted the NAIRU by more than assumed in the baseline projection, perhaps by creating the need for unusually large and costly intersectoral reallocations of productive resources or through the adverse effects of prolonged unemployment on individuals' reemployment possibilities. In this scenario, we assume that the NAIRU is 6¾ percent currently, ¾ percentage point above baseline; although it declines gradually after 2012, it remains above baseline by that amount. In addition, persistently poor labor market prospects could lead to weaker attachments to the labor force and hence to lower potential employment through a lower trend labor force participation rate. We thus also assume that trend labor force participation declines more rapidly than the staff estimates, so that labor force participation is 0.6 percentage point below baseline by the end of 2015. With the lower levels of potential labor input, output, and income, and their attendant effects on consumption and investment, real GDP and employment expand less rapidly than in the baseline, causing the unemployment rate to fall more slowly and to reach only 6¼ percent by late 2015. Nevertheless, because of the higher NAIRU, there is less slack in labor markets, leading to cost pressures that are greater than in the baseline, with the result that core PCE prices increase about ¼ percentage point a year faster than in the baseline over the next few years. Over time, as policymakers take on board the evidence of less-favorable supply-side conditions, monetary policy tightens a bit faster than in the baseline.

## Stronger Recovery

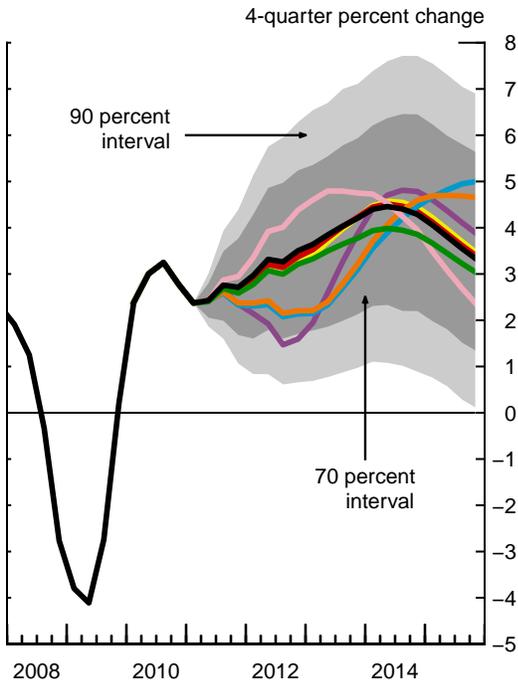
In the baseline, we have interpreted the disappointing news on spending and the labor market as signaling that the economic recovery will be persistently more sluggish than we had previously envisioned. In this scenario, the disappointing news instead reflects, to a greater degree than in the baseline, the effects of transitory factors that are masking the emergence of a more robust recovery. As a result, real GDP rises at an annual rate of about 4 percent in the second half of this year and 4½ percent in 2012, boosting the demand for labor enough to push the unemployment rate down to about 7½ percent by late next year. Initially, the stronger pace of the recovery has little effect on inflation because higher investment increases labor productivity and therefore holds down unit labor costs and because long-run inflation expectations are well anchored. In time, however, tighter labor and product markets cause inflation to move up more than in

# Forecast Confidence Intervals and Alternative Scenarios

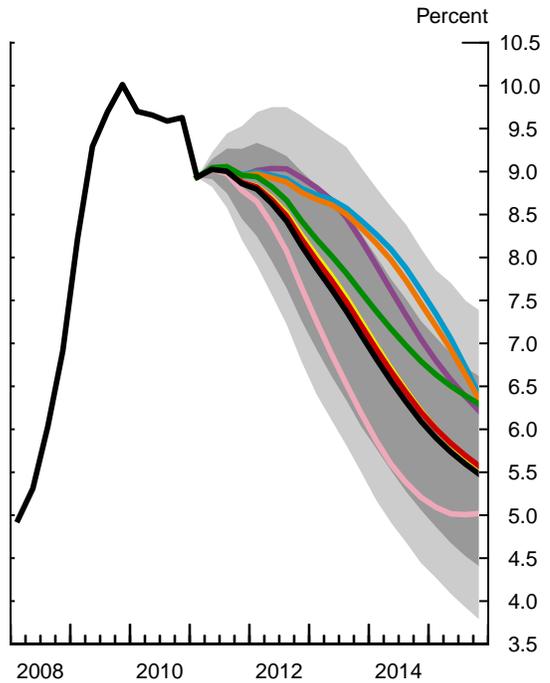
Confidence Intervals Based on FRB/US Stochastic Simulations

- Extended Tealbook baseline
- Stronger recovery
- Weaker recovery
- Weaker recovery, further disinflation
- Mild recession in Europe
- Fiscal consolidation
- Severe recession in Europe
- Labor market damage

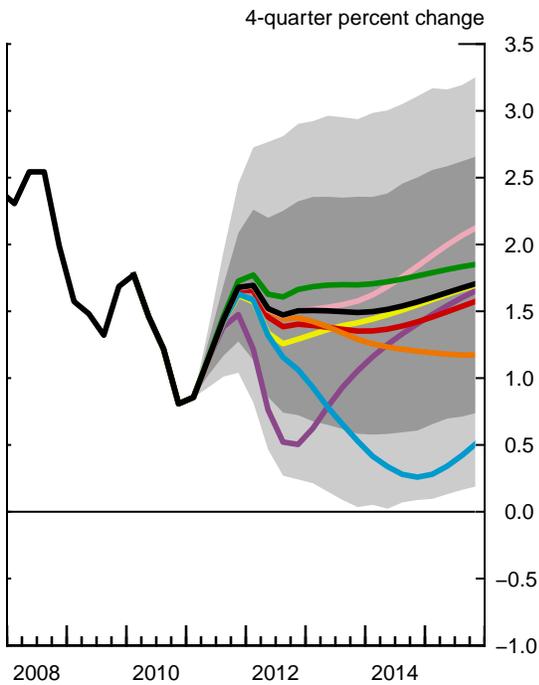
Real GDP



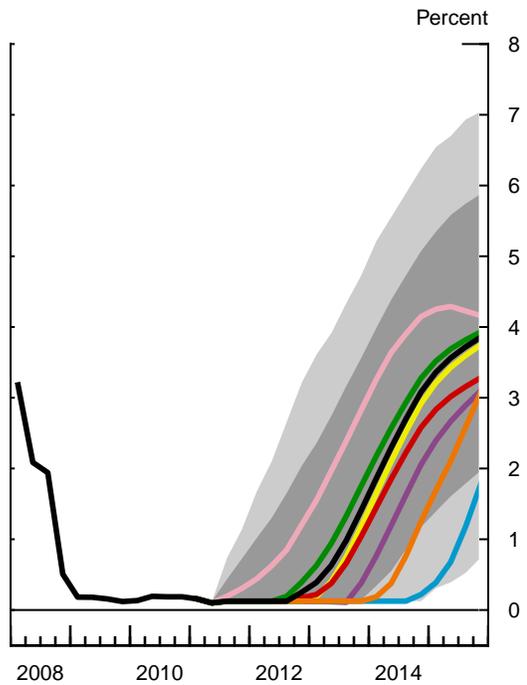
Unemployment Rate



PCE Prices excluding Food and Energy



Federal Funds Rate



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

Measure	2011	2012	2013	2014	2015
<i>Real GDP</i>					
<i>(percent change, Q4 to Q4)</i>					
Projection	2.7	3.5	4.2	4.3	3.3
Confidence interval					
Tealbook forecast errors	1.4–4.0	1.7–5.3	...	...	...
FRB/US stochastic simulations	1.7–3.8	1.7–5.2	2.1–5.9	2.2–6.5	1.3–5.6
<i>Civilian unemployment rate</i>					
<i>(percent, Q4)</i>					
Projection	8.9	8.1	7.1	6.1	5.5
Confidence interval					
Tealbook forecast errors	8.4–9.4	7.3–8.9	...	...	...
FRB/US stochastic simulations	8.4–9.3	7.3–9.0	6.0–8.3	5.1–7.3	4.4–6.6
<i>PCE prices, total</i>					
<i>(percent change, Q4 to Q4)</i>					
Projection	2.3	1.5	1.5	1.6	1.7
Confidence interval					
Tealbook forecast errors	1.6–3.1	.2–2.7	...	...	...
FRB/US stochastic simulations	1.6–3.1	.3–2.7	.2–2.7	.2–2.8	.4–3.0
<i>PCE prices excluding food and energy</i>					
<i>(percent change, Q4 to Q4)</i>					
Projection	1.7	1.5	1.5	1.6	1.7
Confidence interval					
Tealbook forecast errors	1.2–2.1	.8–2.2	...	...	...
FRB/US stochastic simulations	1.3–2.1	.7–2.3	.6–2.4	.6–2.5	.7–2.7
<i>Federal funds rate</i>					
<i>(percent, Q4)</i>					
Projection	.1	.2	1.4	3.1	3.9
Confidence interval					
FRB/US stochastic simulations	.1–.7	.1–2.0	.1–3.6	1.2–5.1	2.0–5.9

Note: Shocks underlying FRB/US stochastic simulations are randomly drawn from the 1969–2009 set of model equation residuals.

Intervals derived from Tealbook forecast errors are based on projections made from 1979–2009, except for PCE prices excluding food and energy, where the sample is 1981–2009.

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

the baseline. Largely in response to stronger real activity, the federal funds rate lifts off from its effective lower bound at the end of this year.

### **Weaker Recovery**

As a mirror image of the previous scenario, this scenario considers the possibility that we did not react enough to the recent incoming data, and that balance sheet difficulties and other factors will weigh more heavily on household and business spending, and hence overall production and hiring, for longer than assumed in the baseline. Consistent with these developments, corporate equity prices fall rather than rise, reflecting both poorer earnings prospects and higher risk premiums, with the result that stock market wealth is about 15 percent below baseline by late next year. Under these conditions, households limit their spending by enough to boost the personal saving rate close to 6 percent by the end of 2012, about  $\frac{3}{4}$  percentage point higher than in the baseline. In addition, business investment is about 7 percent below baseline by late next year. As a result, real GDP expands only  $2\frac{3}{4}$  percent on average in 2012 and 2013, causing the improvement in labor market conditions to be even slower so that the unemployment rate is still at  $8\frac{1}{4}$  percent by the end of 2013. With such an anemic recovery, core inflation gradually moves down to about 1 percent by 2015, and the federal funds rate stays near zero until mid-2014.

### **Weaker Recovery with Further Disinflation**

In the previous scenario, despite persistent economic slack, core inflation declines only modestly relative to baseline because long-run inflation expectations are assumed to remain well anchored. But the relative stability of various measures of expected inflation over the past several years may be misleading us about the potential for further disinflation, particularly if the unemployment rate remains elevated. In this scenario, inflation expectations become unanchored and core inflation falls below  $\frac{1}{2}$  percent by mid-decade. Outcomes for real GDP and unemployment are similar to those in the preceding scenario, largely because long-term nominal interest rates decline with actual and expected inflation, implying little effective change in financial conditions. In response to continued disinflation and high unemployment, the federal funds rate remains near zero until the end of 2014.

## **Fiscal Consolidation**

Although the baseline incorporates more fiscal restraint beyond 2012 than would be implied by a “current policy” assumption, federal debt nonetheless rises from about 65 percent of GDP this year to 75 percent by 2015 and to around 80 percent at the end of the decade. In this scenario, however, the Congress and the Administration agree this summer on a credible budget plan that gradually raises taxes and cuts government spending by enough to bring the budget deficit down from about 7 percent of GDP in 2012 to less than 3 percent by 2015 and somewhat further thereafter. Such a pace of deficit reduction would be broadly consistent with the proposal from the National Commission on Fiscal Responsibility and Reform that aims first to halt the rise in the debt-to-GDP ratio and then to bring it back down to near its current level a decade from now. In this scenario, the public is assumed to understand fully and promptly the economic implications of the new fiscal policy and to respond accordingly. As a result, long-term interest rates fall about 30 basis points this summer in anticipation of lower short-term interest rates later in the decade as fiscal restraint builds. These and other financial market effects cushion the decline in real activity that would otherwise occur; as a result, unemployment is only a little higher and inflation a little lower. Under these conditions, monetary policy tightens more slowly and the federal funds rate is about 50 basis points below baseline in 2015.

## **Mild Recession in Europe**

In the baseline forecast, we project that European economies will expand at a modest pace while financial stresses remain largely confined to the euro-area periphery. In this scenario, we assume those financial stresses intensify, perhaps reflecting concerns about how debt problems in Greece and other peripheral countries will be resolved, and spillovers push Europe into a mild recession by the second half of this year. Specifically, a heightening of investor concerns not only elevates many European sovereign spreads but also leads to a 200 basis point rise in European corporate bond spreads, a tightening of consumer credit, and weakened confidence. Consequently, European real GDP declines about 2½ percent relative to baseline by the second half of 2012, notwithstanding a real depreciation of the European currencies of about 10 percent against the dollar. The stronger dollar and weaker foreign activity cause U.S. real net exports to fall relative to baseline, but the overall effects of the recession in Europe for the United States are limited in the absence of significant spillovers to U.S. financial markets. All told, U.S. real GDP rises about 3¼ percent in 2012, only a ¼ percentage

point lower than in the baseline. Lower import prices and greater resource slack push down core PCE inflation to 1¼ percent in 2012, and the federal funds rate remains near zero until early 2013.

## Severe Recession in Europe

In this scenario, we assume a much larger rise in European sovereign and private spreads than in the previous scenario—perhaps triggered by a disorderly default on Greek debt—and a much larger decline in the European currencies. Specifically, European corporate spreads rise about 400 basis points relative to baseline in the second half of this year, and the euro plummets more than 30 percent against the dollar. With domestic demand contracting sharply, European GDP falls more than 5 percent relative to baseline by the end of next year. Moreover, the problems in Europe are assumed to have pronounced spillover effects on financial markets throughout the world, including in the United States. U.S. net exports are depressed by weaker foreign activity and the stronger dollar, which is buoyed by flight-to-safety flows. Domestic demand is restrained by rising U.S. corporate bond yields, declining stock prices, and falling confidence. Altogether, U.S. real GDP growth dips below 2 percent in 2012, and the unemployment rate remains near 9 percent next year. The greater resource slack, coupled with lower import prices, pushes down core PCE inflation to around ½ percent in 2012. The federal funds rate remains near zero until the end of 2013.<sup>2</sup>

## OUTSIDE FORECASTS

In its June survey, the Blue Chip consensus forecast for this year's increase in real GDP revised down 0.4 percentage point compared with the April release that was available at the time of the previous Tealbook. The consensus forecast is now at 2.8 percent, essentially the same as the staff projection. The consensus projection anticipates a 3.1 percent rise in real GDP in 2012, about ½ percentage point below the staff projection. Nonetheless, the Blue Chip forecast for the unemployment rate at the end of 2012 is 8.0 percent, a touch lower than the staff's projection. Regarding inflation, the Blue Chip anticipates that the overall CPI will increase 3.4 percent over the four

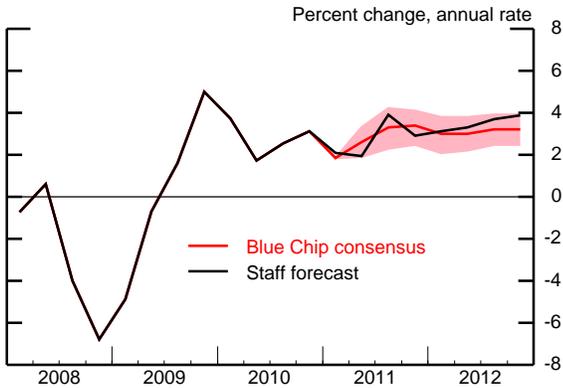
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<sup>2</sup> The liftoff of the federal funds rate is several quarters earlier in this scenario than in the "Weaker Recovery" scenarios, notwithstanding that both output growth and inflation fall more sharply in the former. This difference arises because the funds rate paths in the two European recession scenarios are generated using SIGMA's policy rule, which differs from the rule used in the FRB/US model.

quarters of 2011 and 2.2 percent in 2012, rates that are faster than the staff projection by 0.6 and 0.7 percentage point, respectively.

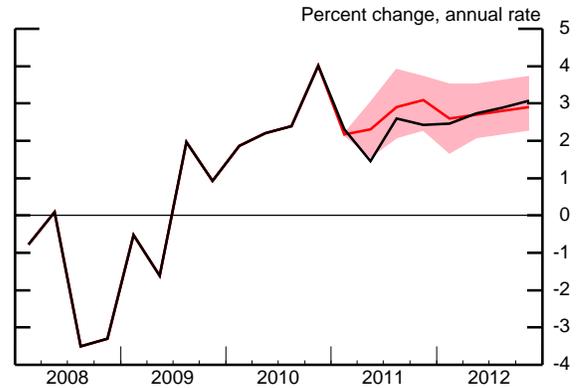
### Tealbook Forecast Compared with Blue Chip (Blue Chip survey released June 10, 2011)

Real GDP

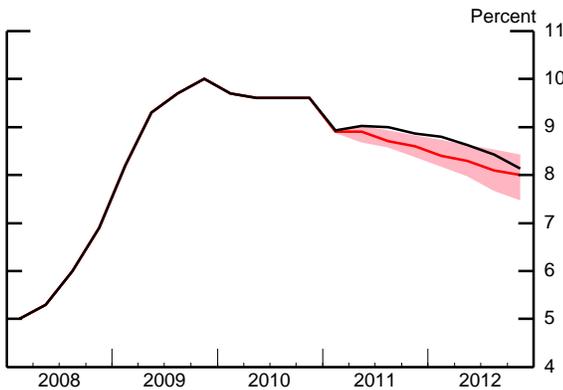


Note: The shaded area represents the area between the Blue Chip top 10 and bottom 10 averages.

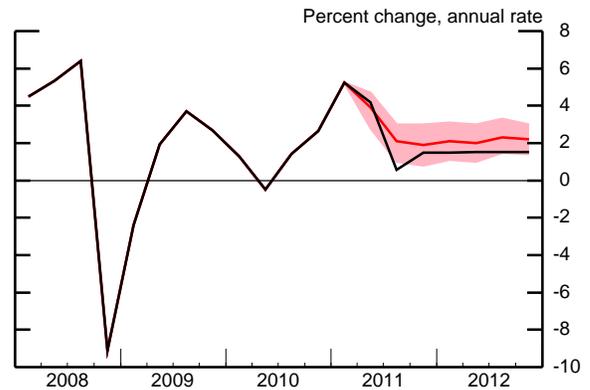
Real PCE



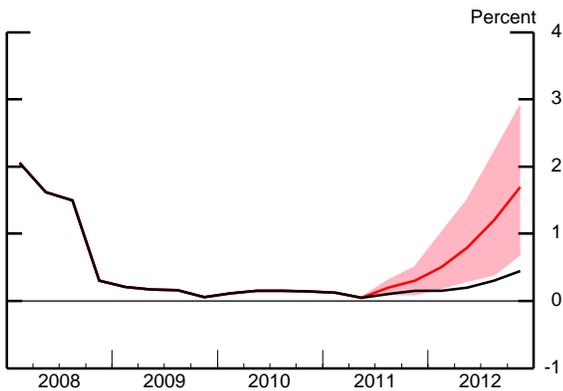
Unemployment Rate



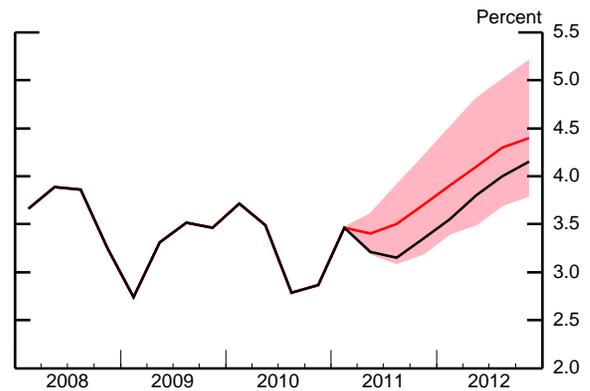
Consumer Price Index



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.

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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>	
	04/20/11	06/15/11	04/20/11	06/15/11	04/20/11	06/15/11	04/20/11	06/15/11	04/20/11	06/15/11
<i>Quarterly</i>										
2010:Q1	4.8	4.8	3.7	3.7	2.1	2.1	1.2	1.2	9.7	9.7
Q2	3.7	3.7	1.7	1.7	.0	.0	1.0	1.0	9.6	9.6
Q3	4.6	4.6	2.6	2.6	.8	.8	.5	.5	9.6	9.6
Q4	3.5	3.5	3.1	3.1	1.7	1.7	.4	.4	9.6	9.6
2011:Q1	3.6	4.1	1.7	2.1	3.8	3.8	1.4	1.4	8.9	8.9
Q2	6.1	5.8	3.1	1.9	2.8	3.4	1.5	2.2	8.9	9.0
Q3	5.4	5.6	4.1	3.9	1.2	.8	1.3	1.7	8.8	9.0
Q4	5.1	4.3	3.8	2.9	1.2	1.4	1.2	1.4	8.7	8.9
2012:Q1	5.5	4.7	4.0	3.1	1.2	1.4	1.3	1.5	8.5	8.8
Q2	5.6	4.8	4.2	3.3	1.2	1.5	1.4	1.5	8.2	8.6
Q3	5.6	5.2	4.2	3.7	1.2	1.5	1.4	1.5	7.9	8.4
Q4	5.7	5.4	4.3	3.9	1.3	1.5	1.4	1.5	7.7	8.1
<i>Two-quarter<sup>2</sup></i>										
2010:Q2	4.3	4.3	2.7	2.7	1.0	1.0	1.1	1.1	-4	-4
Q4	4.1	4.1	2.8	2.8	1.2	1.2	.5	.5	.0	.0
2011:Q2	4.8	4.9	2.4	2.0	3.3	3.6	1.4	1.8	-7	-6
Q4	5.3	4.9	4.0	3.4	1.2	1.1	1.3	1.5	-2	-1
2012:Q2	5.6	4.8	4.1	3.2	1.2	1.5	1.4	1.5	-5	-3
Q4	5.7	5.3	4.2	3.8	1.2	1.5	1.4	1.5	-5	-5
<i>Four-quarter<sup>3</sup></i>										
2009:Q4	.6	.6	.2	.2	1.5	1.5	1.7	1.7	3.1	3.1
2010:Q4	4.2	4.2	2.8	2.8	1.1	1.1	.8	.8	-4	-4
2011:Q4	5.0	4.9	3.2	2.7	2.2	2.3	1.4	1.7	-9	-7
2012:Q4	5.6	5.1	4.2	3.5	1.2	1.5	1.4	1.5	-1.0	-8
<i>Annual</i>										
2009	-1.7	-1.7	-2.6	-2.6	.2	.2	1.5	1.5	9.3	9.3
2010	3.8	3.8	2.9	2.9	1.7	1.7	1.3	1.3	9.6	9.6
2011	4.5	4.5	2.8	2.6	2.1	2.2	1.1	1.3	8.8	9.0
2012	5.5	5.0	4.0	3.3	1.3	1.5	1.3	1.5	8.1	8.5

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

## Changes in Real Gross Domestic Product and Related Items

(Percent, annual rate except as noted)

Item	2010				2011				2012				2010'	2011'	2012'
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
	Real GDP	3.7	1.7	2.6	3.1	2.1	1.9	3.9	2.9	3.1	3.3	3.7			
<i>Previous Tealbook</i>	3.7	1.7	2.6	3.1	1.7	3.1	4.1	3.8	4.0	4.2	4.2	4.3	2.8	3.2	4.2
Final sales	1.1	.9	.9	6.7	.8	2.5	2.6	3.5	3.2	3.2	3.1	3.4	2.4	2.4	3.2
<i>Previous Tealbook</i>	1.1	.9	.9	6.7	.5	3.4	3.0	4.9	3.6	3.9	3.8	4.2	2.4	2.9	3.9
Priv. dom. final purch.	2.1	4.4	2.3	4.4	2.2	2.1	3.4	3.0	2.6	3.1	3.5	3.7	3.3	2.7	3.2
<i>Previous Tealbook</i>	2.1	4.4	2.3	4.2	2.3	3.6	3.8	4.0	3.7	4.2	4.4	4.6	3.2	3.4	4.2
Personal cons. expend.	1.9	2.2	2.4	4.0	2.3	1.5	2.6	2.4	2.5	2.7	2.9	3.1	2.6	2.2	2.8
<i>Previous Tealbook</i>	1.9	2.2	2.4	4.0	2.5	3.0	3.1	3.1	3.3	3.7	3.9	4.0	2.6	2.9	3.7
Durables	8.8	6.8	7.6	21.1	9.0	-.7	7.8	7.1	9.9	10.5	11.6	10.5	10.9	5.7	10.6
Nondurables	4.2	1.9	2.5	4.1	1.1	.1	1.5	1.1	.8	.7	.5	.6	3.2	1.0	.7
Services	.1	1.6	1.6	1.5	1.7	2.3	2.2	2.1	1.9	2.2	2.3	2.7	1.2	2.1	2.3
Residential investment	-12.3	25.7	-27.3	3.3	-2.9	1.3	1.6	2.7	3.0	5.5	7.3	8.3	-4.6	.7	6.0
<i>Previous Tealbook</i>	-12.3	25.7	-27.3	3.3	-1.8	.4	2.6	5.3	6.1	7.8	9.3	11.8	-4.6	1.6	8.7
Business fixed invest.	7.8	17.2	10.0	7.7	2.9	6.8	9.5	7.2	3.7	5.6	6.9	6.8	10.6	6.6	5.7
<i>Previous Tealbook</i>	7.8	17.2	10.0	7.7	2.2	8.6	9.2	10.2	5.7	7.0	7.3	7.3	10.6	7.5	6.8
Equipment & software	20.4	24.8	15.4	7.7	10.1	7.0	13.2	9.5	5.6	7.8	9.3	9.2	16.9	10.0	8.0
<i>Previous Tealbook</i>	20.4	24.8	15.4	7.7	10.1	12.2	12.6	13.4	8.0	9.3	9.6	9.7	16.9	12.1	9.1
Nonres. structures	-17.8	-.5	-3.5	7.6	-15.2	6.1	-.6	.7	-1.8	-.7	-.3	-.3	-4.0	-2.6	-.8
<i>Previous Tealbook</i>	-17.8	-.5	-3.5	7.6	-17.3	-1.4	-.7	.8	-1.4	-.3	.1	.1	-4.0	-5.0	-.4
Net exports <sup>2</sup>	-338	-449	-505	-398	-393	-364	-374	-338	-305	-283	-273	-258	-422	-367	-279
<i>Previous Tealbook</i> <sup>2</sup>	-338	-449	-505	-398	-393	-396	-407	-357	-336	-321	-316	-302	-422	-388	-319
Exports	11.4	9.1	6.8	8.6	7.8	10.4	10.3	9.7	9.5	9.0	8.7	8.6	9.0	9.5	9.0
Imports	11.2	33.5	16.8	-12.6	5.5	2.6	10.6	1.3	1.7	3.6	5.7	4.9	11.0	4.9	4.0
Gov't. cons. & invest.	-1.6	3.9	3.9	-1.7	-5.6	-.5	1.1	-.4	-.3	-.3	-.2	-.2	1.1	-1.4	-.2
<i>Previous Tealbook</i>	-1.6	3.9	3.9	-1.7	-7.0	2.4	1.3	-.3	-.3	.0	.1	-.1	1.1	-1.0	-.1
Federal	1.8	9.1	8.8	-.3	-7.9	2.1	4.7	-.4	-.4	-.7	-.7	-1.2	4.8	-.5	-.8
Defense	.4	7.4	8.5	-2.2	-11.7	1.6	7.3	.1	.4	.0	.0	-.2	3.4	-.9	-.1
Nondefense	5.0	12.8	9.5	3.7	-.1	3.3	-.2	-1.3	-2.1	-2.2	-2.2	-3.3	7.7	-.5	-2.4
State & local	-3.8	.6	.7	-2.6	-3.9	-2.3	-1.3	-.5	-.1	.0	.2	.4	-1.3	-2.0	.1
Change in bus. inventories <sup>2</sup>	44	69	121	16	57	38	76	58	57	60	78	93	63	57	72
<i>Previous Tealbook</i> <sup>2</sup>	44	69	121	16	51	44	79	46	58	66	78	80	63	55	70
Nonfarm <sup>2</sup>	37	61	117	15	59	35	73	55	54	57	74	90	57	55	69
Farm <sup>2</sup>	8	8	5	1	-1	4	4	4	4	4	4	4	5	2	4

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	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	3.1	2.7	2.4	2.3	-2.8	.2	2.8	2.7	3.5
<i>Previous Tealbook</i>	3.1	2.7	2.4	2.3	-2.8	.2	2.8	3.2	4.2
Final sales	2.8	2.7	2.8	2.5	-1.9	-3	2.4	2.4	3.2
<i>Previous Tealbook</i>	2.8	2.7	2.8	2.5	-1.9	-3	2.4	2.9	3.9
Priv. dom. final purch.	4.2	3.1	2.5	1.3	-3.8	-2.0	3.3	2.7	3.2
<i>Previous Tealbook</i>	4.2	3.1	2.5	1.3	-3.8	-2.0	3.2	3.4	4.2
Personal cons. expend.	3.5	2.7	3.3	1.7	-1.9	.2	2.6	2.2	2.8
<i>Previous Tealbook</i>	3.5	2.7	3.3	1.7	-1.9	.2	2.6	2.9	3.7
Durables	5.5	2.1	6.3	3.9	-12.3	4.8	10.9	5.7	10.6
Nondurables	3.0	3.3	3.2	.8	-2.9	1.1	3.2	1.0	.7
Services	3.4	2.6	2.8	1.7	.3	-8	1.2	2.1	2.3
Residential investment	6.6	5.3	-15.7	-20.7	-24.6	-13.4	-4.6	.7	6.0
<i>Previous Tealbook</i>	6.6	5.3	-15.7	-20.7	-24.6	-13.4	-4.6	1.6	8.7
Business fixed invest.	7.0	4.4	7.8	8.2	-8.3	-12.7	10.6	6.6	5.7
<i>Previous Tealbook</i>	7.0	4.4	7.8	8.2	-8.3	-12.7	10.6	7.5	6.8
Equipment & software	8.8	6.1	6.0	4.3	-11.8	-4.9	16.9	10.0	8.0
<i>Previous Tealbook</i>	8.8	6.1	6.0	4.3	-11.8	-4.9	16.9	12.1	9.1
Nonres. structures	1.7	-1	13.0	17.3	-1.5	-26.5	-4.0	-2.6	-8
<i>Previous Tealbook</i>	1.7	-1	13.0	17.3	-1.5	-26.5	-4.0	-5.0	-4
Net exports <sup>1</sup>	-688	-723	-729	-655	-504	-363	-422	-367	-279
<i>Previous Tealbook</i> <sup>1</sup>	-688	-723	-729	-655	-504	-363	-422	-388	-319
Exports	7.1	6.7	10.2	10.1	-2.9	-1	9.0	9.5	9.0
Imports	10.9	5.2	4.1	.7	-6.0	-7.2	11.0	4.9	4.0
Gov't. cons. & invest.	.6	.7	1.5	1.9	3.1	.8	1.1	-1.4	-2
<i>Previous Tealbook</i>	.6	.7	1.5	1.9	3.1	.8	1.1	-1.0	-1
Federal	2.3	1.2	2.2	3.1	9.2	3.6	4.8	-5	-8
Defense	2.4	.4	4.4	2.6	9.5	3.3	3.4	-9	.1
Nondefense	2.3	2.6	-2.3	4.2	8.5	4.5	7.7	.5	-2.4
State & local	-4	.4	1.2	1.2	-4	-1.0	-1.3	-2.0	.1
Change in bus. inventories <sup>1</sup>	66	50	59	28	-38	-113	63	57	72
<i>Previous Tealbook</i> <sup>1</sup>	66	50	59	28	-38	-113	63	55	70
Nonfarm <sup>1</sup>	58	50	63	29	-39	-117	57	55	69
Farm <sup>1</sup>	8	0	-4	-1	1	3	5	2	4

1. Billions of chained (2005) dollars.

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

Item	2010				2011				2012				2010 <sup>1</sup>	2011 <sup>1</sup>	2012 <sup>1</sup>
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
	Real GDP	3.7	1.7	2.6	3.1	2.1	1.9	3.9	2.9	3.1	3.3	3.7			
<i>Previous Tealbook</i>	3.7	1.7	2.6	3.1	1.7	3.1	4.1	3.8	4.0	4.2	4.2	4.3	2.8	3.2	4.2
Final sales	1.1	.9	.9	6.5	.8	2.5	2.7	3.5	3.2	3.2	3.1	3.4	2.4	2.4	3.2
<i>Previous Tealbook</i>	1.1	.9	.9	6.5	.5	3.3	3.0	4.8	3.6	3.9	3.8	4.2	2.4	2.9	3.9
Priv. dom. final purch.	1.7	3.6	1.9	3.6	1.8	1.7	2.8	2.5	2.2	2.6	2.9	3.0	2.7	2.2	2.7
<i>Previous Tealbook</i>	1.7	3.6	1.9	3.5	1.9	3.0	3.2	3.3	3.1	3.5	3.7	3.8	2.7	2.8	3.5
Personal cons. expend.	1.3	1.5	1.7	2.8	1.6	1.0	1.9	1.7	1.7	1.9	2.0	2.2	1.9	1.6	2.0
<i>Previous Tealbook</i>	1.3	1.5	1.7	2.8	1.7	2.2	2.2	2.2	2.4	2.6	2.7	2.8	1.9	2.1	2.6
Durables	.6	.5	.5	1.5	.7	-.1	.6	.5	.7	.8	.9	.8	.8	.4	.8
Nondurables	.7	.3	.4	.7	.2	.0	.3	.2	.1	.1	.1	.1	.5	.2	.1
Services	.0	.8	.7	.7	.8	1.1	1.0	1.0	.9	1.0	1.1	1.3	.6	1.0	1.1
Residential investment	-.3	.6	-.8	.1	-.1	.0	.0	.1	.1	.1	.2	.2	-.1	.0	.1
<i>Previous Tealbook</i>	-.3	.6	-.8	.1	.0	.0	.1	.1	.1	.2	.2	.3	-.1	.0	.2
Business fixed invest.	.7	1.5	.9	.7	.3	.7	.9	.7	.4	.6	.7	.7	1.0	.6	.6
<i>Previous Tealbook</i>	.7	1.5	.9	.7	.2	.8	.9	1.0	.6	.7	.7	.7	1.0	.7	.7
Equipment & software	1.2	1.5	1.0	.5	.7	.5	.9	.7	.4	.6	.7	.7	1.1	.7	.6
<i>Previous Tealbook</i>	1.2	1.5	1.0	.5	.7	.9	.9	1.0	.6	.7	.7	.7	1.1	.9	.7
Nonres. structures	-.5	.0	-.1	.2	-.4	.2	.0	.0	.0	.0	.0	.0	-.1	-.1	.0
<i>Previous Tealbook</i>	-.5	.0	-.1	.2	-.5	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	.0
Net exports	-.3	-.3	-.5	-.1	.1	.9	-.4	1.1	1.0	.7	.3	.4	-.6	.4	.6
<i>Previous Tealbook</i>	-.3	-.3	-.5	-.1	.1	-.1	-.4	1.6	.6	.4	.1	.4	-.6	.3	.4
Exports	1.3	1.1	.8	1.1	1.0	1.3	1.4	1.3	1.3	1.3	1.2	1.2	1.1	1.3	1.3
Imports	-1.6	-4.6	-2.5	2.2	-.9	-.4	-1.8	-.2	-.3	-.6	-1.0	-.8	-1.6	-.8	-.7
Gov't. cons. & invest.	-.3	.8	.8	-.3	-1.2	-.1	.2	-.1	.0	.0	.0	.0	.2	-.3	.0
<i>Previous Tealbook</i>	-.3	.8	.8	-.3	-1.5	.5	.3	-.1	-.1	.0	.0	.0	.2	-.2	.0
Federal	.2	.7	.7	.0	-.7	.2	.4	.0	.0	-.1	-.1	-.1	.4	.0	-.1
Defense	.0	.4	.5	-.1	-.7	.1	.4	.0	.0	.0	.0	.0	.2	-.1	.0
Nondefense	.1	.3	.3	.1	.0	.1	.0	.0	-.1	-.1	-.1	-.1	-.2	.0	-.1
State & local	-.5	.1	.1	-.3	-.5	-.3	-.2	-.1	.0	.0	.0	.1	-.2	-.2	.0
Change in bus. inventories	2.6	.8	1.6	-.3	1.3	-.6	1.2	-.6	.0	.1	.6	.5	.4	.3	.3
<i>Previous Tealbook</i>	2.6	.8	1.6	-.3	1.1	-.3	1.1	-1.0	.4	.2	.4	.1	.4	.2	.3
Nonfarm	2.6	.8	1.7	-.3	1.4	-.8	1.2	-.6	.0	.1	.5	.5	.5	.3	.3
Farm	.1	.0	-.1	-.2	-.1	.2	.0	.0	.0	.0	.0	.0	-.1	.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	2010				2011				2012				2010 <sup>1</sup>	2011 <sup>1</sup>	2012 <sup>1</sup>
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
	GDP chain-wt. price index <i>Previous Tealbook</i>	1.0	1.9	2.1	.4	2.0	3.8	1.6	1.3	1.6	1.5	1.5			
PCE chain-wt. price index <i>Previous Tealbook</i>	2.1	.0	.8	1.7	3.8	3.4	.8	1.4	1.4	1.5	1.5	1.5	1.1	2.3	1.5
Energy <i>Previous Tealbook</i>	16.4	-17.5	5.4	24.3	40.6	17.1	-13.1	1.0	1.0	1.3	1.0	.5	5.9	9.6	1.0
Food <i>Previous Tealbook</i>	1.8	1.6	.3	1.4	6.3	6.7	3.0	2.0	1.4	1.3	1.4	1.4	1.3	4.5	1.4
Ex. food & energy <i>Previous Tealbook</i>	1.2	1.0	.5	.4	1.4	2.2	1.7	1.4	1.4	1.3	1.4	1.4	1.3	4.3	1.4
Ex. food & energy, market based <i>Previous Tealbook</i>	.7	1.0	1.1	.3	1.3	2.4	1.7	1.2	1.4	1.4	1.4	1.4	.8	1.6	1.4
CPI <i>Previous Tealbook</i>	.7	1.0	1.1	.3	1.3	1.4	1.2	1.1	1.2	1.2	1.3	1.3	.8	1.2	1.2
Ex. food & energy <i>Previous Tealbook</i>	1.3	-.5	1.4	2.6	5.2	4.2	.6	1.5	1.5	1.5	1.5	1.5	1.2	2.8	1.5
ECI, hourly compensation <sup>2</sup> <i>Previous Tealbook</i> <sup>2</sup>	1.3	-.5	1.4	2.6	5.2	3.7	1.2	1.2	1.2	1.2	1.2	1.3	1.2	2.8	1.2
Nonfarm business sector Output per hour <i>Previous Tealbook</i>	.0	.8	1.1	.6	1.7	2.4	1.9	1.4	1.4	1.5	1.6	1.6	.6	1.8	1.6
Compensation per hour <i>Previous Tealbook</i>	.0	.8	1.1	.6	1.7	1.8	1.3	1.2	1.4	1.4	1.5	1.5	.6	1.5	1.5
Unit labor costs <i>Previous Tealbook</i>	2.6	1.8	1.8	2.2	2.1	2.2	2.3	2.3	2.5	2.5	2.6	2.6	2.1	2.2	2.6
Core goods imports chain-wt. price index <sup>3</sup> <i>Previous Tealbook</i> <sup>3</sup>	2.6	1.8	1.8	1.8	2.5	2.2	2.3	2.3	3.0	2.7	2.7	2.7	2.1	2.3	2.8
Nonfarm business sector Output per hour <i>Previous Tealbook</i>	4.6	-1.7	2.3	2.9	2.2	-.8	2.4	1.5	1.8	1.6	1.7	1.9	2.0	1.3	1.7
Compensation per hour <i>Previous Tealbook</i>	4.6	-1.7	2.3	2.9	.8	.0	2.0	1.5	1.7	1.8	1.8	1.9	2.0	1.1	1.8
Unit labor costs <i>Previous Tealbook</i>	-2	3.1	2.5	.1	2.5	1.7	2.1	2.2	2.6	2.4	2.4	2.5	1.4	2.1	2.5
Unit labor costs <i>Previous Tealbook</i>	-2	3.1	2.5	2.1	2.8	1.7	2.1	2.2	2.8	2.6	2.6	2.7	1.9	2.2	2.7
Unit labor costs <i>Previous Tealbook</i>	-4.6	4.9	.1	-2.7	.3	2.5	-.3	.6	.8	.9	.7	.7	-.6	.8	.7
Unit labor costs <i>Previous Tealbook</i>	-4.6	4.9	.1	-.8	2.0	1.7	.1	.7	1.1	.8	.8	.8	-.2	1.1	.9
Core goods imports chain-wt. price index <sup>3</sup> <i>Previous Tealbook</i> <sup>3</sup>	4.2	3.1	-.8	4.3	8.1	7.2	3.5	1.5	1.4	1.5	1.5	1.5	2.7	5.0	1.4
Core goods imports chain-wt. price index <sup>3</sup> <i>Previous Tealbook</i> <sup>3</sup>	4.2	3.1	-.8	4.3	8.2	5.7	3.6	2.0	1.5	1.4	1.4	1.4	2.7	4.9	1.4

1. Change from fourth quarter of previous year to fourth quarter of year indicated.  
 2. Private-industry workers.  
 3. Core goods imports exclude computers, semiconductors, oil, and natural gas.

## Greensheets

## Changes in Prices and Costs

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

Item	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP chain-wt. price index <i>Previous Tealbook</i>	3.2 3.2	3.5 3.5	2.9 2.9	2.6 2.6	2.1 2.1	.5 .5	1.3 1.3	2.2 1.8	1.5 1.4
PCE chain-wt. price index <i>Previous Tealbook</i>	3.0 3.0	3.3 3.3	1.9 1.9	3.5 3.5	1.7 1.7	1.5 1.5	1.1 1.1	2.3 2.2	1.5 1.2
Energy <i>Previous Tealbook</i>	18.6 18.6	21.5 21.5	-3.7 -3.7	19.4 19.4	-9.0 -9.0	2.7 2.7	5.9 5.9	9.6 12.9	1.0 -1.1
Food <i>Previous Tealbook</i>	2.7 2.7	1.5 1.5	1.7 1.7	4.8 4.8	6.9 6.9	-1.6 -1.6	1.3 1.3	4.5 4.3	1.4 1.4
Ex. food & energy <i>Previous Tealbook</i>	2.2 2.2	2.3 2.3	2.3 2.3	2.4 2.4	2.0 2.0	1.7 1.7	.8 .8	1.7 1.4	1.5 1.4
Ex. food & energy, market based <i>Previous Tealbook</i>	1.9 1.9	2.1 2.1	2.2 2.2	2.2 2.2	2.2 2.2	1.7 1.7	.8 .8	1.6 1.2	1.4 1.2
CPI <i>Previous Tealbook</i>	3.4 3.4	3.7 3.7	2.0 2.0	4.0 4.0	1.6 1.6	1.5 1.5	1.2 1.2	2.8 2.8	1.5 1.2
Ex. food & energy <i>Previous Tealbook</i>	2.2 2.2	2.1 2.1	2.7 2.7	2.3 2.3	2.0 2.0	1.7 1.7	.6 .6	1.8 1.5	1.6 1.5
ECI, hourly compensation <sup>1</sup> <i>Previous Tealbook</i> <sup>1</sup>	3.8 3.8	2.9 2.9	3.2 3.2	3.0 3.0	2.4 2.4	1.2 1.2	2.1 2.1	2.2 2.3	2.6 2.8
Nonfarm business sector Output per hour <i>Previous Tealbook</i>	1.5 1.5	1.4 1.4	.9 .9	2.6 2.6	-4 -4	6.5 6.5	2.0 2.0	1.3 1.1	1.7 1.8
Compensation per hour <i>Previous Tealbook</i>	3.3 3.3	3.5 3.5	4.5 4.5	3.6 3.6	2.3 2.3	2.8 2.8	1.4 1.9	2.1 2.2	2.5 2.7
Unit labor costs <i>Previous Tealbook</i>	1.9 1.9	2.0 2.0	3.5 3.5	.9 .9	2.7 2.7	-3.5 -3.5	-.6 -.2	.8 1.1	.7 .9
Core goods imports chain-wt. price index <sup>2</sup> <i>Previous Tealbook</i> <sup>2</sup>	3.6 3.6	2.2 2.2	2.5 2.5	2.9 2.9	3.5 3.5	-1.9 -1.9	2.7 2.7	5.0 4.9	1.4 1.4

1. Private-industry workers.

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

Other Macroeconomic Indicators

Item	2010				2011				2012				2010 <sup>1</sup>	2011 <sup>1</sup>	2012 <sup>1</sup>
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
	<i>Employment and production</i>														
Nonfarm payroll employment <sup>2</sup>	-1	.6	-1	.2	.4	.5	.5	.6	.5	.6	.7	.8	.7	2.0	2.5
Unemployment rate <sup>3</sup>	9.7	9.6	9.6	9.6	8.9	9.0	9.0	8.9	8.8	8.6	8.4	8.1	9.6	8.9	8.1
<i>Previous Tealbook<sup>3</sup></i>	9.7	9.6	9.6	9.6	8.9	8.9	8.8	8.7	8.5	8.2	7.9	7.7	9.6	8.7	7.7
NAIRU <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>	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
GDP gap <sup>4</sup>	-6.0	-6.1	-5.9	-5.7	-5.7	-5.8	-5.4	-5.2	-5.1	-4.9	-4.6	-4.2	-5.7	-5.2	-4.2
<i>Previous Tealbook<sup>4</sup></i>	-6.2	-6.2	-6.1	-5.9	-6.0	-5.8	-5.4	-5.0	-4.7	-4.3	-3.9	-3.5	-5.9	-5.0	-3.5
Industrial production <sup>5</sup>	8.1	7.1	6.7	3.1	4.2	2.0	7.6	4.5	3.0	3.7	4.1	4.0	6.2	4.5	3.7
<i>Previous Tealbook<sup>5</sup></i>	8.1	7.1	6.7	3.2	6.0	5.4	5.7	3.6	3.1	4.7	5.1	4.3	6.3	5.2	4.3
Manufacturing industr. prod. <sup>5</sup>	7.1	8.7	5.1	3.4	6.5	1.4	8.4	4.7	3.3	4.3	4.6	4.6	6.1	5.2	4.2
<i>Previous Tealbook<sup>5</sup></i>	7.1	8.7	5.1	3.5	9.1	5.0	6.3	4.2	4.0	5.6	5.6	4.8	6.1	6.1	5.0
Capacity utilization rate - mfg. <sup>3</sup>	69.4	71.4	72.6	73.3	74.4	74.5	75.8	76.5	76.8	77.4	77.9	78.5	73.3	76.5	78.5
<i>Previous Tealbook<sup>3</sup></i>	69.4	71.4	72.6	73.3	74.9	75.6	76.6	77.2	77.6	78.4	79.1	79.7	73.3	77.2	79.7
Housing starts <sup>6</sup>	.6	.6	.6	.5	.6	.5	.6	.6	.7	.7	.8	.8	.6	.6	.7
Light motor vehicle sales <sup>6</sup>	11.0	11.3	11.6	12.3	13.0	12.3	13.2	13.3	13.7	14.1	14.6	14.9	11.5	13.0	14.3
<i>Income and saving</i>															
Nominal GDP <sup>5</sup>	4.8	3.7	4.6	3.5	4.1	5.8	5.6	4.3	4.7	4.8	5.2	5.4	4.2	4.9	5.1
Real disposable pers. income <sup>5</sup>	1.3	5.6	1.0	1.1	.8	1.7	3.0	2.6	.1	3.6	3.6	4.1	2.2	2.0	2.8
<i>Previous Tealbook<sup>5</sup></i>	1.3	5.6	1.0	1.9	2.7	3.2	3.3	3.7	.5	4.2	4.0	4.5	2.4	3.2	3.3
Personal saving rate <sup>3</sup>	5.5	6.2	6.0	5.4	5.1	5.2	5.3	5.3	4.7	4.9	5.0	5.2	5.4	5.3	5.2
<i>Previous Tealbook<sup>3</sup></i>	5.5	6.2	6.0	5.6	5.7	5.7	5.8	5.9	5.3	5.3	5.4	5.5	5.6	5.9	5.5
Corporate profits <sup>7</sup>	48.9	12.7	6.6	9.7	9.0	12.1	8.8	5.6	4.7	4.2	5.1	4.7	18.3	8.9	4.7
Profit share of GNP <sup>3</sup>	10.7	10.9	11.0	11.2	11.3	11.4	11.5	11.5	11.5	11.5	11.5	11.5	11.2	11.5	11.5
Net federal savings <sup>8</sup>	-1,314	-1,337	-1,343	-1,340	-1,280	-1,264	-1,263	-1,257	-1,093	-1,046	-1,028	-1,005	-1,333	-1,266	-1,043
Net state & local saving <sup>8</sup>	29	16	48	40	9	14	22	16	30	32	42	45	33	15	37
Gross national saving rate <sup>3</sup>	11.1	11.7	11.6	11.4	11.2	11.6	12.0	12.1	12.4	12.8	13.0	13.2	11.4	12.1	13.2
Net national saving rate <sup>3</sup>	-1.8	-1.1	-1.1	-1.3	-1.4	-1.4	-1.4	-2.2	.1	.6	.8	1.1	-1.3	-2	1.1

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	2004	2005	2006	2007	2008	2009	2010	2011	2012
<i>Employment and production</i>									
Nonfarm payroll employment <sup>1</sup>	2.0	2.4	2.1	1.2	-2.8	-5.6	.7	2.0	2.5
Unemployment rate <sup>2</sup>	5.4	5.0	4.5	4.8	6.9	10.0	9.6	8.9	8.1
<i>Previous Tealbook<sup>2</sup></i>	5.4	5.0	4.5	4.8	6.9	10.0	9.6	8.7	7.7
NAIRU <sup>2</sup>	5.0	5.0	5.0	5.0	5.3	6.0	6.0	6.0	6.0
<i>Previous Tealbook<sup>2</sup></i>	5.0	5.0	5.0	5.0	5.3	6.0	6.0	6.0	6.0
GDP gap <sup>3</sup>	-4	.1	.1	.1	-4.8	-6.4	-5.7	-5.2	-4.2
<i>Previous Tealbook<sup>3</sup></i>	-5	-1	.0	-1	-4.9	-6.6	-5.9	-5.0	-3.5
Industrial production <sup>4</sup>	3.1	2.3	2.3	2.5	-9.1	-5.5	6.2	4.5	3.7
<i>Previous Tealbook<sup>4</sup></i>	3.1	2.3	2.3	2.5	-9.1	-5.5	6.3	5.2	4.3
Manufacturing industr. prod. <sup>4</sup>	3.7	3.4	2.0	2.8	-11.8	-6.1	6.1	5.2	4.2
<i>Previous Tealbook<sup>4</sup></i>	3.7	3.4	2.0	2.8	-11.8	-6.1	6.1	6.1	5.0
Capacity utilization rate - mfg. <sup>2</sup>	77.3	78.5	78.4	79.0	70.1	67.7	73.3	76.5	78.5
<i>Previous Tealbook<sup>2</sup></i>	77.3	78.5	78.4	79.0	70.1	67.7	73.3	77.2	79.7
Housing starts <sup>5</sup>	2.0	2.1	1.8	1.4	.9	.6	.6	.6	.7
Light motor vehicle sales <sup>5</sup>	16.8	16.9	16.5	16.1	13.1	10.3	11.5	13.0	14.3
<i>Income and saving</i>									
Nominal GDP <sup>4</sup>	6.4	6.3	5.4	5.0	-7	.6	4.2	4.9	5.1
Real disposable pers. income <sup>4</sup>	3.5	.6	4.6	1.5	1.0	.4	2.2	2.0	2.8
<i>Previous Tealbook<sup>4</sup></i>	3.5	.6	4.6	1.5	1.0	.4	2.4	3.2	3.3
Personal saving rate <sup>2</sup>	3.6	1.5	2.5	2.1	5.2	5.5	5.4	5.3	5.2
<i>Previous Tealbook<sup>2</sup></i>	3.6	1.5	2.5	2.1	5.2	5.5	5.6	5.9	5.5
Corporate profits <sup>6</sup>	21.9	19.6	3.7	-8.1	-31.9	42.5	18.3	8.9	4.7
Profit share of GNP <sup>2</sup>	10.5	11.8	11.6	10.1	6.9	9.8	11.2	11.5	11.5
Net federal saving <sup>7</sup>	-379	-283	-204	-245	-616	-1252	-1333	-1266	-1043
Net state & local saving <sup>7</sup>	-8	26	51	12	-47	-20	33	15	37
Gross national saving rate <sup>2</sup>	14.3	15.5	16.3	13.6	11.8	10.8	11.4	12.1	13.2
Net national saving rate <sup>2</sup>	2.7	3.5	4.2	1.3	-1.4	-2.3	-1.3	-2	1.1

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			2010				2011				2012				
	2009 <sup>a</sup>	2010 <sup>a</sup>	2011	2012	Q1 <sup>a</sup>	Q2 <sup>a</sup>	Q3 <sup>a</sup>	Q4 <sup>a</sup>	Q1 <sup>a</sup>	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	Not seasonally adjusted															
<b>Unified budget</b>																
Receipts <sup>1</sup>	2105	2163	2324	2543	466	643	565	532	488	712	592	561	548	767	667	641
Outlays <sup>1</sup>	3518	3456	3657	3671	795	930	855	901	949	880	927	923	973	909	865	963
Surplus/deficit <sup>1</sup>	-1413	-1293	-1333	-1128	-329	-287	-290	-369	-460	-168	-336	-362	-425	-143	-198	-322
<i>Previous Tealbook</i>	-1413	-1293	-1393	-1132	-329	-287	-290	-369	-460	-228	-335	-360	-419	-155	-199	-324
On-budget	-1550	-1370	-1362	-1176	-359	-351	-267	-390	-451	-221	-300	-380	-416	-199	-179	-360
Off-budget	137	77	29	48	30	64	-23	21	-10	53	-36	19	-9	57	-19	37
Means of financing																
Borrowing	1743	1474	1093	1342	478	344	390	368	260	113	352	501	430	183	228	327
Cash decrease	96	-35	194	-135	-25	-71	-20	-33	225	23	-20	-120	15	-20	-10	15
Other <sup>2</sup>	-427	-146	45	-80	-124	14	-80	34	-24	32	4	-20	-20	-20	-20	-20
Cash operating balance, end of period	275	310	115	250	219	290	310	343	118	95	115	235	220	240	250	235
<b>NIPA federal sector</b>																
Receipts	2261	2334	2493	2751	2323	2365	2417	2436	2478	2520	2539	2564	2772	2812	2854	2898
Expenditures	3355	3660	3780	3856	3637	3701	3761	3776	3758	3784	3802	3821	3865	3857	3882	3903
Consumption expenditures	977	1030	1063	1091	1017	1038	1062	1056	1052	1065	1080	1084	1091	1094	1096	1097
Defense	659	691	705	728	684	695	711	703	696	703	717	720	727	730	734	736
Nondefense	318	339	359	363	333	343	350	354	356	362	363	364	364	363	362	360
Other spending	2378	2630	2717	2765	2620	2663	2699	2720	2706	2719	2721	2737	2774	2764	2786	2807
Current account surplus	-1094	-1326	-1287	-1106	-1314	-1337	-1343	-1340	-1280	-1264	-1263	-1257	-1093	-1046	-1028	-1005
Gross investment	151	165	176	177	161	168	172	182	171	173	177	177	177	177	178	178
Gross saving less gross investment <sup>3</sup>	-1122	-1363	-1326	-1138	-1348	-1376	-1385	-1390	-1316	-1300	-1300	-1292	-1126	-1077	-1057	-1032
<b>Fiscal indicators<sup>4</sup></b>																
High-employment (HEB) surplus/deficit	-813	-1020	-1010	-850	-1010	-1035	-1051	-1062	-999	-982	-998	-994	-828	-792	-786	-780
Change in HEB, percent of potential GDP	2.0	1.2	-3	-1.2	.1	.1	.0	.0	-.5	-.2	.0	-.1	-1.1	-.3	-.1	-.1
Fiscal impetus (FI), percent of GDP	1.2	0.6	-0.0	-1.1	1.0	1.0	0.6	-0.2	-0.3	0.2	0.3	-0.3	-1.5	-1.0	-1.0	-0.8
<i>Previous Tealbook</i>	1.2	0.6	-0.0	-1.1	1.0	1.0	0.6	-0.2	-0.6	0.6	0.3	-0.3	-1.6	-0.9	-0.9	-0.8

1. Budget receipts, outlays, and surplus/deficit include corresponding social security (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 NAIRU. 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.

**Change in Debt of the Domestic Nonfinancial Sectors**  
(Percent)

Period <sup>1</sup>	Total	Households			Business	State and local governments	Federal government	Memo: Nominal GDP
		Total	Home mortgages	Consumer credit				
<i>Year</i>								
2005	9.5	11.1	13.3	4.5	8.6	10.2	7.0	6.3
2006	9.0	10.0	11.1	4.1	10.6	8.3	3.9	5.4
2007	8.6	6.7	6.8	5.8	13.1	9.5	4.9	5.0
2008	6.0	.2	-5	1.5	5.5	2.3	24.2	-7
2009	3.0	-1.7	-1.5	-4.4	-2.7	4.8	22.7	.6
2010	4.2	-1.9	-2.8	-1.8	.3	4.4	20.2	4.2
2011	4.3	-6	-2.0	3.8	3.6	-0	13.1	4.9
2012	5.2	1.7	-2	7.9	4.2	4.1	11.0	5.1
<i>Quarter</i>								
2009:1	4.6	-7	-2	-3.7	-3	5.6	24.4	-3.9
2	4.5	-1.8	-1.8	-4.8	-2.3	4.2	28.9	-4
3	2.1	-2.3	-2.6	-3.9	-4.3	5.7	19.0	2.3
4	.9	-1.9	-1.3	-5.6	-3.9	3.6	11.9	4.7
2010:1	3.7	-3.0	-5.2	-4.1	-4	5.7	20.5	4.8
2	4.4	-2.2	-2.2	-3.1	-1.3	-1.4	24.4	3.7
3	3.9	-2.0	-2.6	-1.9	1.1	5.4	16.0	4.6
4	4.6	-6	-1.1	2.0	1.9	7.9	14.6	3.5
2011:1	2.3	-2.0	-3.4	2.4	4.0	-2.9	7.8	4.1
2	3.6	-8	-2.0	2.9	4.0	-4.3	11.3	5.8
3	4.4	.1	-1.4	4.7	3.0	1.4	12.6	5.6
4	6.5	.3	-1.2	5.2	3.3	5.8	18.3	4.3
2012:1	5.5	1.1	-6	6.5	3.7	4.1	13.3	4.7
2	5.6	1.5	-3	7.3	4.1	4.1	12.4	4.8
3	4.1	1.9	.0	8.3	4.3	4.0	6.6	5.2
4	5.3	2.1	.1	8.6	4.4	4.0	10.1	5.4

Note: Quarterly data are at seasonally adjusted annual rates.  
 1. Data after 2011:Q1 are staff projections. Changes are measured from end of the preceding period to end of period indicated except for annual nominal GDP growth, which is calculated from Q4 to Q4.

**Flow of Funds Projections: Highlights**  
(Billions of dollars at seasonally adjusted annual rates except as noted)

Category	2009	2010	2011	2012	2010				2011				2012				
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
<i>Domestic nonfinancial sectors</i>																	
Net funds raised																	
Total	957.9	1178.9	1172.1	1624.5	1039.2	1277.5	496.5	925.1	1237.6	2029.4	1758.0	1804.4	1239.9	1695.6			
Net equity issuance	-64.6	-279.2	-368.0	-340.0	-338.4	-363.1	-331.9	-380.0	-380.0	-380.0	-320.0	-320.0	-360.0	-360.0			
Net debt issuance	1022.4	1458.1	1540.1	1964.5	1377.6	1640.6	828.4	1305.1	1617.6	2409.4	2078.0	2124.4	1599.9	2055.6			
<i>Borrowing indicators</i>																	
Debt (percent of GDP) <sup>1</sup>	241.6	241.3	240.7	240.2	241.0	241.5	241.1	239.5	238.6	239.3	240.1	240.6	240.4	240.1			
Borrowing (percent of GDP)	7.2	9.9	10.0	12.2	9.3	11.0	5.5	8.6	10.5	15.4	13.2	13.3	9.9	12.5			
<i>Households</i>																	
Net borrowing <sup>2</sup>	-232.6	-262.7	-79.8	220.3	-270.6	-76.1	-270.9	-102.0	7.4	46.2	141.6	198.6	257.9	282.9			
Home mortgages	-153.7	-285.6	-199.6	-19.7	-268.4	-110.2	-341.4	-199.4	-138.9	-118.7	-59.1	-29.5	0.0	9.8			
Consumer credit	-115.3	-44.2	93.7	199.6	-47.1	47.7	58.5	70.0	115.3	130.9	163.9	188.3	216.6	229.8			
Debt/DPI (percent) <sup>3</sup>	124.4	118.7	112.9	109.2	117.7	116.5	114.8	113.0	111.9	110.8	110.6	109.6	108.7	107.7			
<i>Business</i>																	
Financing gap <sup>4</sup>	-44.7	69.2	62.2	184.0	156.4	56.8	37.8	58.6	86.6	66.0	125.9	153.9	203.1	253.0			
Net equity issuance	-64.6	-279.2	-368.0	-340.0	-338.4	-363.1	-331.9	-380.0	-380.0	-380.0	-320.0	-320.0	-360.0	-360.0			
Credit market borrowing	-298.0	35.7	393.1	474.2	123.1	205.4	435.1	436.6	333.0	367.8	421.8	469.1	492.3	513.7			
<i>State and local governments</i>																	
Net borrowing	109.1	105.0	-0.6	101.7	129.1	191.2	-71.6	-106.3	33.7	141.7	101.7	101.7	101.7	101.7			
Current surplus <sup>5</sup>	248.2	304.5	246.6	278.2	327.4	321.2	233.1	245.8	255.7	251.7	267.7	271.7	284.0	289.4			
<i>Federal government</i>																	
Net borrowing	1443.9	1580.2	1226.6	1168.3	1395.9	1320.2	735.8	1076.7	1243.5	1853.6	1412.9	1355.0	747.9	1157.2			
Net borrowing (n.s.a.)	1443.9	1580.2	1226.6	1168.3	390.1	367.9	260.2	113.2	351.9	501.4	430.2	182.7	228.0	327.3			
Unified deficit (n.s.a.)	1471.3	1275.1	1325.7	1088.3	290.2	369.0	460.4	167.8	335.6	361.9	425.2	142.7	198.0	322.3			
<i>Depository institutions</i>																	
Funds supplied	-633.7	-192.7	118.4	299.3	719.6	-507.1	-301.3	180.4	297.6	296.8	290.8	296.4	322.3	287.7			

Note: Data after 2011:Q1 are staff projections.

1. Average debt levels in the period (computed as the average of period-end debt positions) divided by nominal GDP.

2. Includes change in liabilities not shown in home mortgages and consumer credit.

3. Average debt levels in the period (computed as the average of period-end debt positions) divided by disposable personal income.

4. For corporations, excess of capital expenditures over U.S. internal funds.

5. NIPA state and local government saving plus consumption of fixed capital and net capital transfers.

n.s.a. Not seasonally adjusted.

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

Measure and country	2010				2011				Projected			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Real GDP</b> <sup>1</sup>												
Total foreign	5.1	5.1	3.4	3.3	4.1	2.8	3.8	3.5	3.4	3.5	3.5	3.6
<i>Previous Tealbook</i>	4.7	5.4	3.2	3.5	3.7	3.0	3.5	3.5	3.6	3.6	3.6	3.7
Advanced foreign economies	4.0	2.9	2.3	1.4	2.3	1.4	2.4	2.3	2.3	2.3	2.3	2.4
Canada	5.6	2.3	2.5	3.1	3.9	2.4	2.5	2.5	2.4	2.4	2.5	2.5
Japan	9.4	-0	3.6	-2.9	-3.5	-3.8	4.5	4.3	3.5	2.9	2.5	2.2
United Kingdom	.8	4.3	2.9	-1.9	1.9	2.2	2.1	2.2	2.2	2.3	2.3	2.4
Euro area	1.3	3.9	1.6	1.0	3.4	1.6	1.5	1.4	1.5	1.7	1.9	2.3
Germany	2.1	8.7	3.2	1.5	6.1	2.0	1.6	1.6	1.9	2.1	2.3	2.6
Emerging market economies	6.4	7.7	4.7	5.5	6.2	4.4	5.4	4.9	4.9	4.9	4.9	4.9
Asia	10.6	7.2	6.6	5.9	8.8	5.4	6.2	5.7	5.9	5.9	6.0	6.0
Korea	8.6	5.7	2.6	2.0	5.4	3.5	4.0	3.8	3.9	4.1	4.3	4.3
China	9.3	8.9	10.1	10.0	8.7	8.1	8.5	8.5	8.4	8.4	8.3	8.3
Latin America	2.3	8.6	2.6	4.4	3.6	3.3	4.7	4.1	3.8	3.8	3.8	3.8
Mexico	1.3	8.4	2.8	4.6	2.1	2.9	5.0	4.2	3.8	3.8	3.8	3.8
Brazil	8.9	6.4	1.8	3.2	5.4	3.4	3.5	3.5	3.6	3.6	3.6	3.6
<b>Consumer prices</b> <sup>2</sup>												
Total foreign	3.3	1.8	2.4	5.3	4.4	2.9	2.4	2.4	2.4	2.3	2.3	2.4
<i>Previous Tealbook</i>	3.4	1.6	2.4	5.3	4.4	3.3	2.6	2.4	2.4	2.3	2.4	2.4
Advanced foreign economies	2.0	.6	1.1	3.5	3.4	2.4	1.3	1.4	1.4	1.3	1.4	1.5
Canada	2.2	-1	2.4	4.4	3.6	3.5	1.6	2.1	2.1	1.8	1.9	1.9
Japan	.7	-1.2	-1.3	2.3	.4	-4	-7	-6	-5	-5	-4	-3
United Kingdom	4.8	2.6	1.9	4.4	7.6	4.1	2.0	2.1	2.1	1.6	1.9	3.2
Euro Area	1.9	1.7	1.2	3.3	3.7	2.5	1.7	1.6	1.6	1.6	1.7	1.7
Germany	1.4	.7	1.0	3.2	3.8	2.6	1.8	1.7	1.7	1.7	1.8	1.8
Emerging market economies	4.4	2.8	3.4	6.7	5.3	3.3	3.3	3.3	3.2	3.1	3.1	3.1
Asia	3.6	2.7	3.6	7.4	5.5	3.6	3.1	2.9	2.9	2.8	2.8	2.8
Korea	2.5	3.0	3.8	5.2	5.7	3.2	2.9	2.8	2.8	2.8	2.8	2.7
China	2.9	3.2	4.1	8.6	4.6	4.1	3.1	2.8	2.7	2.7	2.7	2.7
Latin America	6.9	3.1	2.9	5.0	4.3	2.6	3.8	4.1	4.0	3.9	3.9	3.9
Mexico	6.9	2.5	2.9	4.8	3.6	2.0	3.5	3.9	3.7	3.7	3.7	3.7
Brazil	7.4	5.9	1.1	7.4	9.5	7.7	5.1	4.9	4.9	4.9	4.9	4.9

<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	2004	2005	2006	2007	2008	2009	2010	-----Projected-----	
								2011	2012
<b>Real GDP</b> <sup>1</sup>									
Total foreign	3.9	4.0	4.2	4.2	-8	.7	4.2	3.5	3.5
<i>Previous Tealbook</i>	3.9	4.0	4.1	4.3	-8	.7	4.2	3.4	3.6
Advanced foreign economies	2.6	2.8	2.6	2.4	-1.7	-1.6	2.7	2.1	2.3
Canada	3.7	3.1	1.9	2.5	-7	-1.4	3.3	2.8	2.5
Japan	1.0	2.9	2.1	1.8	-4.7	-1.8	2.4	.3	2.8
United Kingdom	2.4	2.4	2.7	2.4	-2.7	-2.8	1.5	2.1	2.3
Euro area	1.8	2.1	3.7	2.2	-2.1	-2.1	1.9	1.9	1.8
Germany	.2	1.7	4.5	1.8	-1.9	-2.0	3.8	2.8	2.2
Emerging market economies	5.6	5.8	6.3	6.7	.4	3.4	6.1	5.2	4.9
Asia	6.0	7.6	7.8	8.8	.9	7.9	7.5	6.5	5.9
Korea	2.7	5.2	4.6	5.8	-3.2	6.3	4.7	4.2	4.1
China	9.9	10.3	12.8	13.7	7.7	11.4	9.6	8.4	8.3
Latin America	5.2	3.9	4.8	4.4	-4	-9	4.4	3.9	3.8
Mexico	4.6	3.6	4.1	3.5	-1.2	-2.3	4.2	3.5	3.8
Brazil	6.1	2.2	4.8	6.6	.8	5.0	5.0	4.0	3.6
<b>Consumer prices</b> <sup>2</sup>									
Total foreign	2.8	2.3	2.2	3.7	3.3	1.3	3.2	3.0	2.4
<i>Previous Tealbook</i>	2.8	2.3	2.2	3.7	3.3	1.3	3.2	3.2	2.4
Advanced foreign economies	1.8	1.6	1.4	2.2	2.0	.2	1.8	2.1	1.4
Canada	2.3	2.3	1.4	2.5	1.8	.8	2.2	2.7	1.9
Japan	.5	-1.0	.3	.5	1.0	-1.9	.1	-.3	-.4
United Kingdom	1.4	2.1	2.7	2.1	3.9	2.1	3.4	3.9	2.2
Euro Area	2.3	2.3	1.8	2.9	2.3	.4	2.0	2.4	1.6
Germany	2.1	2.2	1.3	3.1	1.7	.3	1.6	2.5	1.7
Emerging market economies	3.9	3.0	2.9	5.1	4.6	2.1	4.3	3.8	3.1
Asia	3.1	2.5	2.4	5.5	3.6	1.3	4.3	3.8	2.8
Korea	3.4	2.5	2.1	3.4	4.5	2.4	3.6	3.7	2.8
China	3.2	1.4	2.1	6.7	2.5	.6	4.7	3.7	2.7
Latin America	5.6	3.8	4.2	4.2	6.7	3.9	4.5	3.7	4.0
Mexico	5.3	3.1	4.1	3.8	6.2	4.0	4.3	3.2	3.7
Brazil	7.2	6.1	3.2	4.3	6.2	4.2	5.4	6.8	4.9

<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.



## Abbreviations

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ABS	asset-backed securities
AFE	advanced foreign economy
BEA	Bureau of Economic Analysis, Department of Commerce
BOC	Bank of Canada
BOE	Bank of England
CDS	credit default swap
C&I	commercial and industrial
CLO	collateralized loan obligation
CMBS	commercial mortgage-backed securities
CPI	consumer price index
DISP	Debt Issuance Suspension Period
DPI	disposable personal income
ECB	European Central Bank
EDO Model	Estimated Dynamic Optimization-Based Model
EFSF	European Financial Stability Facility
EME	emerging market economy
E&S	equipment and software
EU	European Union
FHA	Federal Housing Administration, Department of Housing and Urban Development
FOMC	Federal Open Market Committee; also, the Committee
FRBNY	Federal Reserve Bank of New York
GDP	gross domestic product
GSE	government-sponsored enterprise
IMF	International Monetary Fund
IP	industrial production
IPO	initial public offering
ISM	Institute for Supply Management

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IT	information technology
Libor	London interbank offered rate
LLC	limited liability company
M&A	merger and acquisition
MBS	mortgage-backed securities
Michigan survey	Thomson Reuters/University of Michigan Surveys of Consumers
NAIRU	non-accelerating inflation rate of unemployment
NIPA	national income and product accounts
OIS	overnight index swap
OPEC	Organization of the Petroleum Exporting Countries
OTC	over the counter
PCE	personal consumption expenditures
PMI	purchasing managers index
REIT	real estate investment trust
RMBS	residential mortgage-backed securities
SCOOS	Senior Credit Officer Opinion Survey on Dealer Financing Terms
SFA	Supplementary Financing Account
SOMA	System Open Market Account
SPF	Survey of Professional Forecasters
TALF	Term Asset-Backed Securities Loan Facility
TGA	Treasury's General Account
TIPS	Treasury inflation-protected securities
TRS	total return swaps
VAT	value-added tax
VIX	volatility index
WTI	West Texas Intermediate