Monetary Policy and Economic Developments

As required by section 2B of the Federal Reserve Act, the Federal Reserve Board submits written reports to the Congress that contain discussions of "the conduct of monetary policy and economic developments and prospects for the future." The *Monetary Policy Report to the Congress,* submitted semiannually to the Senate Committee on Banking, Housing, and Urban Affairs and to the House Committee on Banking and Financial Services, is delivered concurrently with testimony from the Federal Reserve Board Chairman.

The following discussion is an annual review of U.S. monetary policy and economic developments in 2011. It includes the text, tables, and selected figures from the February 29, 2012, report; the figures have been renumbered, and therefore the figure numbers differ from those in the report. Also included are the text and table from Parts 1–3 of the July 13, 2011, report; Part 4 of that report is identical to the addendum to the minutes of the June 21−22, 2011, meeting of the Federal Open Market Committee (FOMC) and is presented with those minutes in the "Minutes" section of this annual report.

The complete *Monetary Policy Report*s are available on the Board's website. Other materials in this annual report related to the conduct of monetary policy include the minutes of the 2011 meetings of the FOMC (see the "Minutes" section on page 173) and statistical tables 1–4 (see the "Statistical Tables" section on page 311).

Monetary Policy Report of February 2012

Part 1
Overview: Monetary Policy and the Economic Outlook

Economic activity in the United States expanded at a moderate rate in the second half of 2011 following an anemic gain in the first half, and the moderate pace of expansion appears to have continued into the opening months of 2012. Activity was held down in the first half of 2011 by temporary factors, particularly supply chain disruptions stemming from the earthquake in Japan and the damping effect of higher energy prices on consumer spending. As the effects of these factors waned over the second half of the year, economic activity picked up. Conditions in the labor market have improved since last summer, with an increase in the pace of job gains and a noticeable reduction in the unemployment rate. Meanwhile, consumer price inflation has stepped down from the temporarily high levels observed over the first half of 2011, as commodity and import prices retreated and as longer-term inflation expectations remained stable. Looking ahead, growth is likely to be modest during the coming year, as several factors appear likely to continue to restrain activity, including restricted access to credit for many households and small businesses, the still-depressed housing market, tight fiscal policy at all levels of government, and some slowing in global economic growth.

In light of these conditions, the Federal Open Market Committee (FOMC) took a number of steps during the second half of 2011 and early 2012 to provide additional monetary policy accommodation and thereby support a stronger economic recovery in the context of price stability. These steps included modifying the forward rate guidance included in postmeeting statements, increasing the average maturity of the Federal Reserve's securities holdings, and shifting the reinvestment of principal payments on agency securities from Treasury securities to agency-guaranteed mortgage-backed securities (MBS).

Throughout the second half of 2011 and early 2012, participants in financial markets focused on the fiscal and banking crisis in Europe. Concerns regarding the potential for spillovers to the U.S. economy and financial markets weighed on investor sentiment, contributing to significant volatility in a wide range of asset prices and at times prompting sharp pullbacks from risk-taking. Strains eased somewhat in a

number of financial markets in late 2011 and early this year as investors seemed to become more confident that European policymakers would take the steps necessary to address the crisis. The more positive market sentiment was bolstered by recent U.S. data releases, which pointed to greater strength, on balance, than investors had expected. Nonetheless, market participants reportedly remain cautious about risks in the financial system, and credit default swap spreads for U.S. financial institutions have widened, on net, since early last summer.

After rising at an annual rate of just ¾ percent in the first half of 2011, real gross domestic product (GDP) is estimated to have increased at a 2¼ percent rate in the second half.[1] The growth rate of real consumer spending also firmed a bit in the second half of the year, although the fundamental determinants of household spending improved little: Real household income and wealth stagnated, and access to credit remained tight for many potential borrowers. Consumer sentiment has rebounded from the summer's depressed levels but remains low by historical standards. Meanwhile, real investment in equipment and software and exports posted solid gains over the second half of the year. In contrast, the housing market remains depressed, weighed down by the large inventory of vacant houses for sale, the substantial volume of distressed sales, and homebuyers' concerns about the strength of the recovery and the potential for further declines in house prices. In the government sector, real purchases of goods and services continued to decline over the second half of the year.

Labor market conditions have improved. The unemployment rate moved down from around 9 percent over the first eight months of 2011 to 8¼ percent in January 2012. However, even with this improvement, the jobless rate remains quite elevated. Furthermore, the share of the unemployed who have been jobless for more than six months, although down slightly from its peak, was still above 40 percent in January—roughly double the fraction that prevailed during the economic expansion of the previous decade. Meanwhile, private payroll employment gains averaged 165,000 jobs per month in the second half of 2011, a bit slower than the pace in the first half of the year, but gains in December and January were more robust, averaging almost 240,000 per month.

[1] The numbers in this report are based on the Bureau of Economic Analysis's (BEA) advance estimate of fourth-quarter GDP, which was released on January 27, 2012. The BEA will release a revised estimate on February 29, 2012.

Consumer price inflation stepped down in the second half of 2011. After rising at an annual rate of 3½ percent in the first half of the year, prices for personal consumption expenditures (PCE) rose just 1½ percent in the second half. PCE prices excluding food and energy also decelerated, rising at an annual rate of roughly 1½ percent in the second half of 2011, compared with about 2 percent in the first half. The decline in inflation was largely in response to decreases in global commodity prices following their surge early in 2011, as well as a restoration of supply chains for motor vehicle production that had been disrupted after the earthquake in Japan and some deceleration in the prices of imported goods other than raw commodities.

The European fiscal and banking crisis intensified in the second half of the year. During the summer, the governments of Italy and Spain came under significant financial pressure and borrowing costs increased for many euro-area governments and banks. In early August, the European Central Bank (ECB) responded by resuming purchases of marketable debt securities. Although yields on the government debt of Italy and Spain temporarily moved lower, market conditions deteriorated in the fall and funding pressures for some governments and banks increased further. Over the second half of the year, European leaders worked toward bolstering the financial backstop for euro-area governments, reinforcing the fiscal discipline of those governments, and strengthening the capital and liquidity positions of banks. Additionally, the ECB made a significant injection of euro liquidity via its first three-year refinancing operation, and central banks agreed to reduce the price of U.S. dollar liquidity based on swap lines with the Federal Reserve. Since December, following these actions, yields on the debt of vulnerable European governments declined to some extent and funding pressures on European banks eased.

A number of sources of investor anxiety—including the European crisis, concerns about the sustainability of U.S. fiscal policy, and a slowdown in global growth—weighed on U.S. financial markets early in the second half of 2011. More recently, these concerns eased somewhat, reflecting actions taken by global central banks as well as U.S. data releases that pointed to greater strength, on balance, than market participants had anticipated. Broad equity prices fell notably in August but subsequently retraced, and they are now little changed, on net, since early July. Corporate bond spreads remain elevated. Partly as a result of the forward guidance and ongoing maturity

extension program provided by the Federal Reserve, market participants expect the target federal funds rate to remain low for a longer period than they thought early last July, and Treasury yields have moved down significantly. Meanwhile, measures of inflation compensation over the next five years derived from yields on nominal and inflation-indexed Treasury securities are little changed, on balance, though the forward measure 5-to-10 years ahead remains below its level in the middle of last year.

Among nonfinancial corporations, larger and higher-credit-quality firms with access to capital markets took advantage of generally attractive financing conditions to raise funds in the second half of 2011. On the other hand, for smaller firms without access to credit markets and those with less-solid financial situations, borrowing conditions remained more challenging. Reflecting these developments, investment-grade nonfinancial corporations continued to issue debt at a robust pace while speculative-grade issuance declined, as investors' appetite for riskier assets diminished. Similar issuance patterns were evident in the market for syndicated loans, where investment-grade issuance continued to be strong while that of higher-yielding leveraged loans fell back. In addition, commercial and industrial (C&I) loans on banks' books expanded strongly, particularly for larger domestic banks that are most likely to lend to big firms. According to the January Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS), domestic banks eased terms on C&I loans and experienced increased loan demand during the fourth quarter of the year, the latter development in part reflecting a shift in some borrowing away from European banks.[2] By contrast, although credit supply conditions for smaller firms appear to have eased somewhat in the last several months, they remained tighter relative to historical norms than for larger firms. Commercial mortgage debt continued to decline through the third quarter of 2011, albeit at a more moderate pace than in 2010.

Household debt appears to have declined at a slightly slower pace in the second half of 2011 than in the first half, with the continued contraction in mortgage debt partially offset by growth in consumer credit. Even though mortgage rates continued to be near historically low levels, the volume of new mortgage loans remained muted. The smaller quantity of new mortgage origination reflects potential buyers' lack of either the down payment or credit history required to qualify for these loans, and many appear reluctant to buy a house now because of concerns about their income prospects and employment status, as well as the risk of further declines in house prices. Delinquency rates on most categories of residential mortgages edged lower but stayed near recent highs, and the number of properties in the foreclosure process remained elevated. Issuance of consumer asset-backed securities in the second half of 2011 ran at about the same rate as it had over the previous 18 months. A modest net fraction of SLOOS respondents to both the October and January surveys indicated that they had eased their standards on all categories of consumer loans.

Measures of the profitability of the U.S. banking industry have edged up, on net, since mid-2011, as indicators of credit quality continued to show signs of improvement and banks trimmed noninterest expenses. Meanwhile, banks' regulatory capital ratios remained at historically high levels, as authorities continued to take steps to enhance their regulation of financial institutions. Nonetheless, conditions in unsecured interbank funding markets deteriorated. Strains were particularly evident for European financial institutions, with funding costs increasing and maturities shortening, on balance, as investors focused on counterparty credit risk amid growing anxiety about the ongoing crisis in Europe. Given solid deposit growth and modest expansion in bank credit across the industry, most domestic banks reportedly had limited need for unsecured funding.

Concerns about the condition of financial institutions gave rise to heightened investor anxiety regarding counterparty exposures during the second half of 2011. Responses to the December Senior Credit Officer Opinion Survey on Dealer Financing Terms, or SCOOS, indicated that dealers devoted increased time and attention to the management of concentrated credit exposures to other financial intermediaries over the previous three months, and 80 percent of dealers reported reducing credit limits for some specific counterparties.[3] Respondents also reported a broad but moderate tightening of credit terms applicable to important classes of counterparties over the previous three months, importantly reflecting a worsening in general market liquidity and functioning as well as a reduced willingness to take on risk.

[2] The SLOOS is available on the Federal Reserve Board's website at www.federalreserve.gov/boarddocs/SnLoanSurvey.

[3] The SCOOS is available on the Federal Reserve Board's website at www.federalreserve.gov/econresdata/releases/scoos.htm.

In order to support a stronger economic recovery and help ensure that inflation, over time, is at levels consistent with its dual mandate, the FOMC provided additional monetary policy accommodation during the second half of 2011 and early 2012. In August, the Committee modified its forward rate guidance, noting that economic conditions were likely to warrant exceptionally low levels for the federal funds rate at least through mid-2013. The FOMC decided at its September meeting to extend the average maturity of its Treasury holdings, and to reinvest principal payments from its holdings of agency debt and agency MBS in agency MBS rather than in Treasury securities.[4] Finally, at the Committee's January 2012 meeting, the FOMC modified its forward guidance to indicate that it expected economic conditions to warrant exceptionally low levels for the federal funds rate at least through late 2014. The Committee noted that it would regularly review the size and composition of its securities holdings and is prepared to adjust those holdings as appropriate to promote a stronger economic recovery in the context of price stability.

In addition to these policy actions, the Federal Reserve took further steps to improve communications regarding its monetary policy decisions and deliberations. At the Committee's January 2012 meeting, the FOMC released a statement of its longer-run goals and policy strategy in an effort to enhance the transparency, accountability, and effectiveness of monetary policy and to facilitate well-informed decisionmaking by households and businesses. The statement emphasizes the Federal Reserve's firm commitment to pursue its congressional mandate to promote maximum employment, stable prices, and moderate long-term interest rates. To clarify how it seeks to achieve these objectives, the FOMC stated that inflation at the rate of 2 percent, as measured by the annual change in the PCE price index, is most consistent over the longer run with the Federal Reserve's statutory mandate. While noting that the Committee's assessments of the maximum level of employment are necessarily uncertain and subject to revision, the statement indicated that the central tendency of FOMC participants' current estimates of the longer-run normal rate of unemployment is between 5.2 and 6.0 percent. It stressed that the Federal Reserve's statutory objectives are generally complementary, but when they are not, the Committee will follow a balanced approach in its efforts to return both inflation and employment to levels consistent with its mandate.

In addition, the January Summary of Economic Projections (SEP) provided information for the first time about FOMC participants' individual assessments of the appropriate timing of the first increase in the target federal funds rate given their view of the economic situation and outlook, as well as participants' assessments of the appropriate level of the target federal funds rate in the fourth quarter of each year through 2014 and over the longer run. The SEP also included qualitative information regarding individual participants' expectations for the Federal Reserve's balance sheet under appropriate monetary policy.

The economic projections in the January SEP (presented in Part 4 of this report) indicated that FOMC participants (the members of the Board of Governors and the presidents of the 12 Federal Reserve Banks) generally anticipated aggregate output to increase at a somewhat faster pace in 2012 than in 2011. Although the participants marked down their GDP growth projections slightly compared with those prepared in November, they stated that the economic information received since that time showed continued gradual improvement in the pace of economic activity during the second half of 2011, as the influence of the temporary factors that damped activity in the first half of the year subsided. However, a number of additional factors, including ongoing weakness in the housing sector, modest growth in real disposable income, and the restraining effects of fiscal consolidation, suggested that the pace of the recovery would be modest in coming quarters. Participants also read the information on economic activity abroad, particularly in Europe, as pointing to weaker demand for U.S. exports. As these factors wane, FOMC participants anticipated that the pace of the economic expansion will gradually strengthen over the 2013–14 period, pushing the rate of increase in real GDP above their estimates of the longer-run rate of output growth. With real GDP expected to increase at a modest rate in 2012, the unemployment rate was projected to decline only a little this year. Participants expected further gradual improvement in labor market conditions over 2013 and 2014 as the pace of output growth picks up. They also noted that inflation expectations had remained stable over the past year despite fluctuations in headline inflation. Most participants anticipated that both headline and

[4] Between the August 2010 and September 2011 FOMC meetings, principal payments from securities held on the Federal Reserve balance sheet had been reinvested in longer-term Treasury securities.

core inflation would remain subdued over the 2012–14 period at rates at or below the FOMC's longer-run objective of 2 percent.

With the unemployment rate projected to remain elevated over the projection period and inflation expected to be subdued, most participants expected that the federal funds rate would remain extraordinarily low for some time. Six participants anticipated that, under appropriate monetary policy, the first increase in the target federal funds rate would occur after 2014, and five expected policy firming to commence during 2014. The remaining six participants judged that raising the federal funds rate sooner would be required to forestall inflationary pressures or avoid distortions in the financial system. All of the individual assessments of the appropriate target federal funds rate over the next few years were below the participants' estimates of the longer-run level of the federal funds rate. Eleven of the 17 participants placed the target federal funds rate at 1 percent or lower at the end of 2014, while 5 saw the appropriate rate as 2 percent or higher.

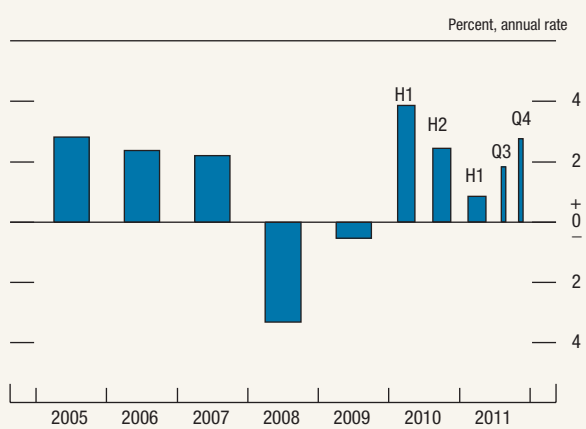
A sizable majority of participants continued to judge the level of uncertainty associated with their projections for real activity and the unemployment rate as exceeding the average of the past 20 years. Many also attached a greater-than-normal level of uncertainty to their forecasts for inflation. As in November, many participants saw downside risks attending their forecasts of real GDP growth and upside risks to their forecasts of the unemployment rate; most participants viewed the risks to their inflation projections as broadly balanced. Participants also reported their assessments of the values to which key macroeconomic variables would be expected to converge over the longer term under appropriate monetary policy and in the absence of further shocks to the economy. The central tendencies of these longer-run projections were 2.3 to 2.6 percent for real GDP growth and 5.2 to 6.0 percent for the unemployment rate. In light of the 2 percent inflation that is the objective included in the statement of longer-run goals and policy strategy adopted at the January meeting, the range and central tendency of participants' projections of longer-run inflation were all equal to 2 percent.

Part 2
Recent Economic and Financial Developments

Real gross domestic product (GDP) increased at an annual rate of 2¼ percent in the second half of 2011, according to the advance estimate prepared by the Bureau of Economic Analysis, following growth of less than 1 percent in the first half (figure 1). Activity was held down in the first half of the year by temporary factors, particularly supply chain disruptions stemming from the earthquake in Japan and the damping effect of higher energy prices on consumer spending. As the effects of these factors waned over the second half of the year, the pace of economic activity picked up. But growth remained quite modest compared with previous economic expansions, and a number of factors appear likely to continue to restrain the pace of activity into 2012; these factors include restricted access to credit for many households and small businesses, the depressed housing market, tight fiscal policy, and the spillover effects of the fiscal and financial difficulties in Europe.

Conditions in the labor market have improved since last summer. The pace of private job gains has increased, and the unemployment rate has moved lower. Nonetheless, at 8¼ percent, the jobless rate is still quite elevated. Meanwhile, consumer price infla-

Figure 1. Change in real gross domestic product, 2005–11



Note: Here and in subsequent figures, except as noted, change for a given period is measured to its final quarter from the final quarter of the preceding period.

Source: Department of Commerce, Bureau of Economic Analysis.

tion stepped down from the higher levels observed over the first half of last year, as commodity and import prices retreated while longer-term inflation expectations remained stable.

The fiscal and banking crisis in Europe was a primary focus of financial markets over the course of the second half of 2011 and early 2012. Growing concerns regarding the potential for spillovers to the U.S. economy and financial markets weighed on investor sentiment, contributing to significant volatility in a wide range of asset prices. Nonetheless, developments in financial markets have been mixed, on balance, since July. Unsecured dollar funding markets became significantly strained, particularly for European institutions, though U.S. institutions generally did not appear to face substantial funding difficulties. Risk spreads on corporate debt stayed elevated, on net, but yields on corporate bonds generally moved lower. Broad equity prices, which declined significantly in July and August, subsequently returned to levels near those seen in early July. Credit conditions for most large nonfinancial firms were accommodative and corporate profit growth remained strong.

In response to a pace of economic growth that was somewhat slower than expected, the Federal Reserve provided additional monetary policy accommodation during the second half of 2011 and early 2012. Partly as a result, Treasury yields moved down significantly, and market participants pushed out the date at which they expect the federal funds rate to move above its current target range of 0 to ¼ percent and built in expectations of a more gradual pace of increase in the federal funds rate after liftoff.

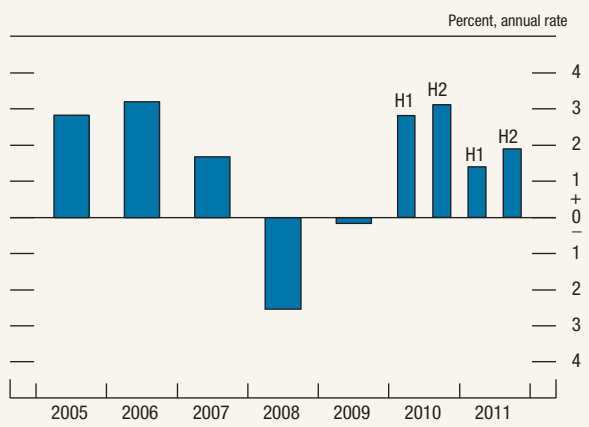
Domestic Developments

The Household Sector

Consumer Spending and Household Finance

Real personal consumption expenditures (PCE) rose at an annual rate of about 2 percent in the second half of 2011, following a rise of just 1½ percent in the first half of the year (figure 2). Part of the spending gain was attributable to a fourth-quarter surge in purchases of motor vehicles following very weak spending last spring and summer stemming from the damping effects of the earthquake in Japan on motor vehicle supply. Even with the step-up, however, PCE growth was modest compared with previous business cycle recoveries. This subpar performance reflects the continued weakness in the underlying determinants of consumption, including sluggish income growth,

Figure 2. Change in real personal consumption expenditures, 2005–11



Note: The data are quarterly and extend through 2011:Q4.

Source: Department of Commerce, Bureau of Economic Analysis.

sentiment that remains relatively low despite recent improvements, the lingering effects of the earlier declines in household wealth, and tight access to credit for many potential borrowers. With consumer spending subdued, the saving rate, although down from its recent high point, remained above levels that prevailed prior to the recession.

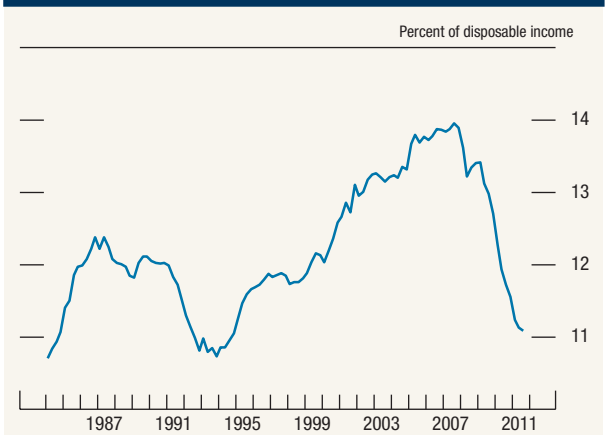
Real income growth is currently estimated to have been very weak in 2011. After rising 2 percent in 2010, aggregate real disposable personal income (DPI)—personal income less personal taxes, adjusted for price changes—was essentially flat in 2011. The wage and salary component of real DPI, which reflects both the number of hours worked and average hourly wages adjusted for inflation, rose at an annual rate of 1 percent in 2011. The increase in real wage and salary income reflected the continued, though tepid, recoveries in both employment and hours worked; in contrast, hourly pay was little changed in real terms.

The ratio of household net worth to DPI dropped back a little in the second half of 2011, reflecting further declines in house prices and equity values. The wealth-to-income ratio has hovered close to 5 in recent years, roughly the level that prevailed prior to the late 1990s, but well below the highs recorded during the boom in house prices in the mid-2000s. Consumer sentiment, which dropped sharply last summer, has rebounded since then; nevertheless, these gains only moved sentiment back to near the top of the range that has prevailed since late 2009.

Household debt—the sum of both mortgage and consumer debt—continued to move lower in the second half of 2011. Since peaking in 2008, household debt has fallen a total of 5 percent. The drop in debt in the second half of 2011 reflected a continued contraction in mortgage debt that was only partially offset by a modest expansion in consumer credit. Largely due to the reduction in overall household debt levels in 2011, the debt service ratio—the aggregate required principal and interest payment on existing mortgages and consumer debt relative to income—also decreased further and now is at a level last seen in 1994 and 1995 (figure 3).

The moderate expansion in consumer credit in the second half of 2011, at an annual rate of about 4½ percent, has been driven primarily by an increase in nonrevolving credit, which accounts for about two-thirds of total consumer credit and is composed mainly of auto and student loans. Revolving consumer credit (primarily credit card lending), while continuing to lag, appeared to pick up somewhat toward the end of the year. The increase in consumer credit is consistent with recent responses to the Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS). Indeed, modest net fractions of banks in both the October and January surveys reported that they had eased standards on all major categories of consumer loans, and that demand had strengthened for auto and credit cards loans on balance. However, data on credit card solicitations suggest that lenders in that area are primarily interested in pursuing higher-quality borrowers.

Figure 3. Household debt service, 1984–2011



Note: The data are quarterly and extend through 2011:Q3. Debt service payments consist of estimated required payments on outstanding mortgage and consumer debt.

Source: Federal Reserve Board, "Household Debt Service and Financial Obligations Ratios," statistical release.

Indicators of consumer credit quality generally improved. Delinquency rates on credit card loans moved down in the second half of 2011 to the low end of the range observed in recent decades. Delinquencies and charge-offs on nonrevolving consumer loans also generally improved. Moreover, a majority of respondents to the January SLOOS reported that they expect further improvement in the quality of credit card and other consumer loans this year.

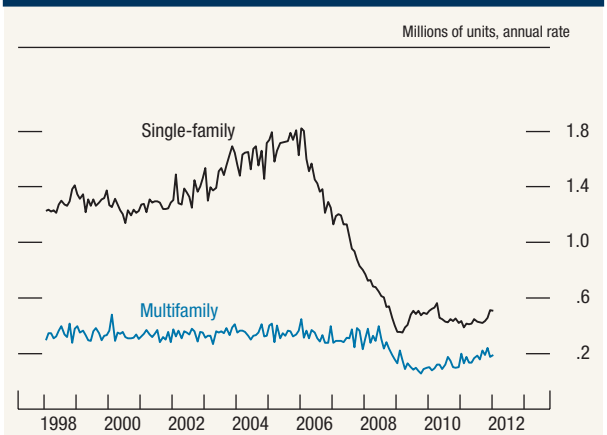
Interest rates on consumer loans held fairly steady, on net, in the second half of 2011 and into 2012. Interest rates on new-auto loans continued to be quite low, while rates on credit card loans remained stubbornly high. Indeed, spreads of credit card interest rates to the two-year Treasury yield are very elevated.

Consumer asset-backed securities (ABS) issuance in the second half of 2011 was in line with that of the previous 18 months. Securities backed by auto loans continued to dominate the market, while issuance of credit card ABS remained weak, as growth of credit card loans has remained subdued and most major banks have chosen to fund such loans on their balance sheets. Yields on ABS and their spreads over comparable-maturity swap rates were little changed, on net, over the second half of 2011 and early 2012 and remained in the low range that has prevailed since early 2010.

Housing Activity and Finance

Activity in the housing sector remains depressed by historical standards (figure 4). Although affordability has been boosted by declines in house prices and his-

Figure 4. Private housing starts, 1998–2012



Note: The data are monthly and extend through January 2012.

Source: Department of Commerce, Bureau of the Census.

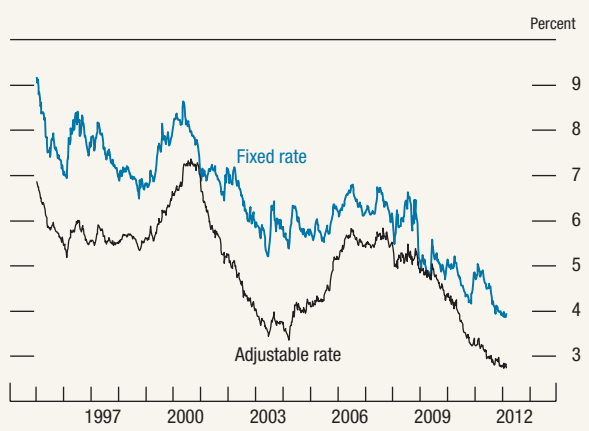
torically low interest rates for conventional mortgages, many potential buyers either lack the down payment and credit history to qualify for loans or are discouraged by ongoing concerns about future income, employment, and the potential for further declines in house prices. Yet other potential buyers—even those with sufficiently good credit records to qualify for a mortgage insured by one of the housing government-sponsored enterprises (GSEs)—continue to face difficulty in obtaining mortgage financing. Moreover, much of the demand that does exist has been channeled to the abundant stock of relatively inexpensive, vacant single-family houses, thereby limiting the need for new construction activity. Given the magnitude of the pipeline of delinquent and foreclosed homes, this factor seems likely to continue to weigh on activity for some time.

Nonetheless, recent indicators of housing construction activity have been slightly more encouraging. In particular, from July 2011 to January 2012, new single-family homes were started at an average annual rate of about 455,000 units, up a bit from the pace in the first half of 2011. In the multifamily market, demand for apartments appears to be increasing and vacancy rates have fallen, as families who are unable or unwilling to purchase homes are renting properties instead. As a result, starts in the multifamily sector averaged about 200,000 units at an annual rate in the second half of 2011, still below the 300,000-unit rate that had prevailed for much of the previous decade but well above the lows recorded in 2009 and early 2010.

House prices, as measured by several national indexes, fell further over the second half of 2011. One such measure with wide geographic coverage—the CoreLogic repeat-sales index—fell at an annual rate of about 6 percent in the second half of the year. House prices are being held down by the same factors that are restraining housing construction: the high number of distressed sales, the large inventory of unsold homes, tight mortgage credit conditions, and lackluster demand. The inventory of unsold homes likely will remain high for some time, given the large number of homes that are already in the foreclosure pipeline or could be entering the pipeline in the coming months. As a result of the cumulative decline in house prices over the past several years, roughly one in five mortgage holders owe more on their mortgages than their homes are worth.

Indicators of credit quality in the residential mortgage sector continued to reflect strains on homeowners confronting depressed home values and high unemployment. In December, serious delinquency rates on prime and near-prime loans stood at 5 percent and 13 percent for fixed- and variable-rate loans, respectively. While delinquencies on variable-rate mortgages for both prime and subprime borrowers have moved down over the past two years, delinquencies on fixed-rate mortgages have held steady at levels near their peaks in early 2010.[5] Meanwhile, delinquency and charge-off rates on second-lien mortgages held by banks also are at elevated levels, and they have declined only slightly from their peaks.

Figure 5. Mortgage interest rates, 1995–2012



Note: The data, which are weekly and extend through February 22, 2012, are contract rates on 30-year mortgages.

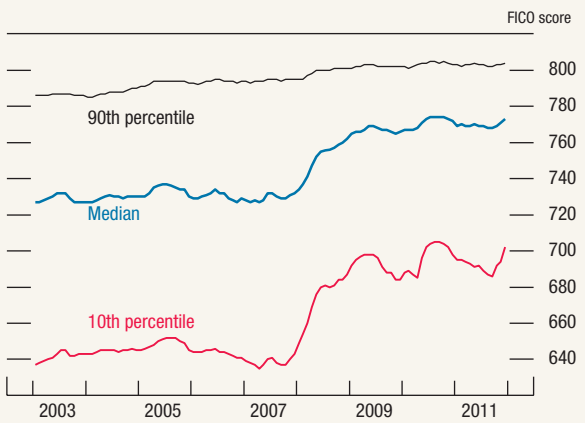
Source: Federal Home Loan Mortgage Corporation.

The number of properties at some stage of the foreclosure process remained elevated in 2011. This high level partly reflected the difficulties that mortgage servicers continued to have with resolving deficiencies in their foreclosure procedures. Resolution of these issues could eventually be associated with a sustained increase in the pace of completed foreclosures as servicers work through the backlog of severely delinquent loans.

Interest rates on fixed-rate mortgages fell steadily during the second half of 2011 and in early 2012 (figure 5), though not as much as Treasury yields, leaving spreads to Treasury securities of comparable maturities wider. The ability of potential borrowers to obtain mortgage credit for purchase transactions or refinancing continued to be limited. In part, the low level of mortgage borrowing reflected character-

[5] A mortgage is defined as seriously delinquent if the borrower is 90 days or more behind in payments or the property is in foreclosure.

Figure 6. Credit scores on new prime mortgages, 2003–11



Note: The data, which include purchase mortgages only, are monthly and extend through December 2011.

Source: LPS Applied Analytics.

istics of the would-be borrowers, most prominently the widespread incidence of negative equity and unemployment. In addition, credit supply conditions remained tight. Indeed, it appeared that some lenders were reluctant to extend mortgages to borrowers with less-than-pristine credit even when the resulting loans would be eligible for purchase or guarantee by GSEs.[6] One manifestation of this constriction was the fact that the distribution of credit scores among borrowers who succeed in obtaining mortgages had shifted up significantly (figure 6). As a result of these influences, the pace of mortgage applications for home purchase declined, on net, over the second half of 2011 and remains very sluggish. The same factors also appear to have limited refinancing activity, which remains subdued compared with the large number of households that would potentially benefit from the low rates available to high-quality borrowers.

The outstanding stock of mortgage-backed securities (MBS) guaranteed by the GSEs was little changed, on net, over the second half of 2011. The securitization market for mortgage loans not guaranteed by a housing-related GSE or the Federal Housing Administration continued to be essentially closed.

[6] For example, only about half of lenders reported to LoanSifter data services that they would offer a conventional fully documented mortgage with a 90 percent loan-to-value ratio for borrowers with FICO scores of 620.

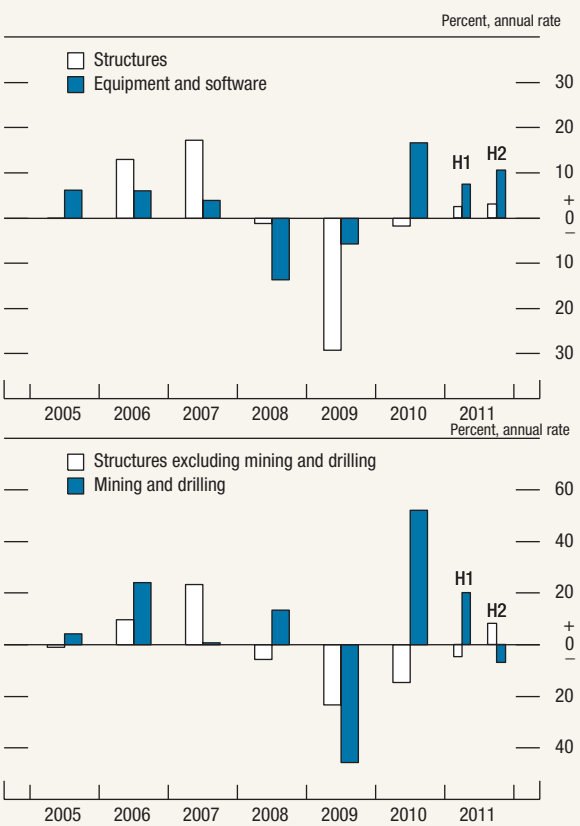
The Business Sector

Fixed Investment

Real spending by businesses for equipment and software (E&S) rose at an annual rate of about 11 percent over the second half of 2011, a pace that was a bit faster than in the first half (figure 7). Much of this strength was recorded in the third quarter. Spending growth dropped back in the fourth quarter, to 5 percent, likely reflecting—among other influences—heightened uncertainty of business owners about global economic and financial conditions. Although spending by businesses for high-tech equipment has held up reasonably well, outlays for a broad range of other E&S slowed appreciably. More recently, however, indicators of business sentiment and capital spending plans generally have improved, suggesting that firms may be in the process of becoming more willing to undertake new investments.

After tumbling throughout most of 2009 and 2010, real investment in nonresidential structures other than drilling and mining turned up last spring, rising

Figure 7. Change in real business fixed investment, 2005–11



Source: Department of Commerce, Bureau of Economic Analysis.

at a surprisingly brisk pace in the second and third quarters of 2011. However, investment dropped back in the fourth quarter. Conditions in the sector remain difficult: Vacancy rates are still high, prices of existing structures are low, and financing conditions for builders are still tight. Spending on drilling and mining structures also dropped back in the fourth quarter, but outlays in this category should continue to be supported by elevated oil prices and advances in technology for horizontal drilling and hydraulic fracturing.

Inventory Investment

Real inventory investment stepped down a bit in the second half of 2011. Stockbuilding outside of motor vehicles increased at a modest pace, and surveys suggest that firms are generally comfortable with their own, and their customers', current inventory positions. In the motor vehicle sector, inventories were drawn down in the second half, as the rise in sales outpaced the rebound in production following the supply disruptions associated with the earthquake in Japan last spring.

Corporate Profits and Business Finance

Operating earnings per share for S&P 500 firms continued to rise in the third quarter of 2011, increasing at a quarterly rate of nearly 10 percent. Fourth-quarter earnings reports by firms in the S&P 500 published through late February indicate that this measure has remained at or near its pre-crisis peaks throughout the second half of 2011.

In the corporate sector as a whole, economic profits, which had been rising rapidly since 2008, increased further in the second half of 2011. This relatively strong profit growth contributed to the continued robust credit quality of nonfinancial firms in the second half of 2011. Although the ratio of liquid assets to total assets on the balance sheets of nonfinancial corporations edged down in the third quarter, it remained at a very high level, and the aggregate ratio of debt to assets—a measure of corporate leverage—stayed low. With corporate balance sheets in generally healthy shape, credit rating upgrades once again outpaced downgrades, and the bond default rate for nonfinancial firms remained low. In addition, the delinquency rate on commercial and industrial (C&I) loans at commercial banks continued to decline and stood at around 1½ percent at year-end, a level near the low end of its historical range. Most banks responding to the January SLOOS reported that they expected further improvements in the credit quality of C&I loans in 2012.

Borrowing by nonfinancial corporations continued at a reasonably robust pace through the second half of 2011, particularly for larger, higher-credit-quality firms. Issuance of investment-grade bonds progressed at a strong pace, similar to that observed in the first half of the year, buoyed by good corporate credit quality, attractive financing conditions, and an improving economic outlook. In contrast to higher-grade bonds, issuance of speculative-grade bonds dropped in the second half of the year as investors' appetite for riskier assets waned. In the market for syndicated loans, investment-grade issuance moved up in the second half of 2011 from its already strong first-half pace, while issuance of higher-yielding syndicated leveraged loans weakened.

C&I loans on banks' books grew steadily over the second half of 2011. Banks reportedly competed aggressively for higher-rated credits in the syndicated leveraged loan market, and some nonfinancial firms reportedly substituted away from bond financing because of volatility in bond spreads. In addition, according to the SLOOS, some domestic banks gained business from customers that shifted away from European banks. Although domestic banks reported little change, on net, in lending standards for C&I loans, they reduced the spreads on these loans as well as the costs of credit lines. Banks that reported having eased their credit standards or terms for C&I loans over the second half of 2011 unanimously cited increased competition from other banks or nonbank sources of funds as a factor.

Borrowing conditions for smaller businesses continued to be tighter than those for larger firms, and their demand for credit remained relatively weak. However, some signs of easing began to emerge. Surveys conducted by the National Federation of Independent Business showed that the net fraction of small businesses reporting that credit had become more difficult to obtain relative to the previous three months declined, on balance, during the second half of 2011. Moreover, the January 2012 SLOOS found that terms for smaller borrowers had continued to ease, and about 15 percent of banks, on net, reported that demand for C&I loans from smaller firms had increased, the highest reading since 2005. Indeed, C&I loans held by regional and community banks—those not in the 25 largest banks and likely to lend mostly to middle-market and small firms—advanced at about a 6 percent annual rate in the second half of 2011, up from a 2½ percent pace in the first half.

Commercial mortgage debt has continued to decline, albeit at a more moderate pace than during 2010. Commercial real estate (CRE) loans held on banks' books contracted further in the second half of 2011 and early 2012, though the runoff appeared to ebb somewhat in 2011. That slowing is more or less consistent with recent SLOOS responses, in which moderate net fractions of domestic banks reported that demand for such loans had strengthened. In the January survey, banks also reported that, for the first time since 2007, they had raised the maximum loan size and trimmed spreads of rates on CRE loans over their cost of funds during the past 12 months. By contrast, life insurance companies reportedly increased their holdings of CRE loans, especially of loans issued to higher-quality borrowers. Although delinquency rates on CRE loans at commercial banks edged down further in the fourth quarter, they remained at high levels, especially on loans for construction and land development; delinquencies on loans held by life insurance companies remained extraordinarily low, as they have done for more than a decade. Vacancy rates for most types of commercial properties are still elevated, exerting downward pressure on property prices and impairing the performance of CRE loans.

Conditions in the market for commercial mortgage-backed securities (CMBS) worsened somewhat in the second half of the year. Risk spreads on highly rated tranches of CMBS moved up, on balance, and about half of the respondents to the December Senior Credit Officer Opinion Survey on Dealer Financing Terms (SCOOS) indicated that liquidity conditions in the markets for such securities had deteriorated somewhat. Issuance of CMBS slowed further, but did not halt completely. Delinquency rates on CRE loans in CMBS pools held steady just below 10 percent.

In the corporate equity market, gross issuance dropped significantly in the third quarter amid substantial equity market volatility, but it retraced a part of that decline in the fourth quarter as some previously withdrawn issues were brought back to the market. Net equity issuance continued to decline in the third quarter, reflecting the continued strength of cash-financed mergers and share repurchases.

The Government Sector

Federal Government

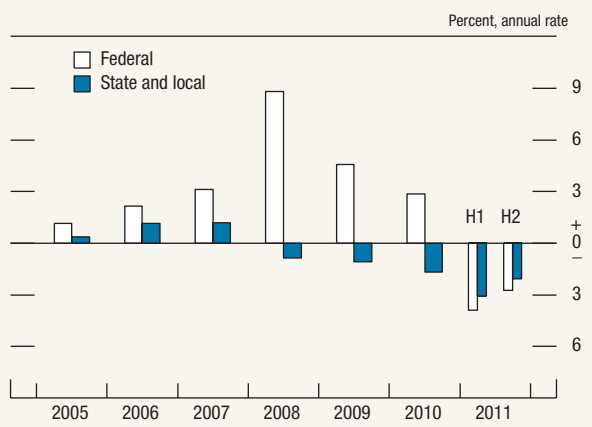
The deficit in the federal unified budget remains very wide. The budget deficit for fiscal year 2011 was $1.3 trillion, or 8½ percent of nominal GDP—a level comparable with deficits recorded in 2009 and 2010 but sharply higher than the deficits recorded prior to the onset of the financial crisis and recession. The budget deficit continued to be boosted by spending that was committed by the American Recovery and Reinvestment Act of 2009 (ARRA) and other stimulus policy actions as well as by the weakness of the economy, which has reduced tax revenues and increased payments for income support.

Tax receipts rose 6½ percent in fiscal 2011. However, the level of receipts remained very low; indeed, at around 15½ percent of GDP, the ratio of receipts to national income is only slightly above the 60-year lows recorded in 2009 and 2010. The rise in revenues in fiscal 2011 was the result of a robust increase of more than 20 percent in individual income tax payments that reflected strong final payments on 2010 income. Social insurance tax receipts fell about 5 percent in fiscal 2011, held down by the temporary 2 percentage point reduction in payroll taxes enacted in 2010. Corporate taxes also fell around 5 percent in 2011, with the decline largely the result of legislation providing more-favorable tax treatment for some business investment. In the first four months of fiscal 2012, total tax receipts increased 4 percent relative to the comparable year-earlier period.

Total federal outlays rose 4 percent in fiscal 2011. Much of the increase relative to last year is attributable to the earlier unwinding of the effects of financial transactions, such as the repayments to the Treasury of obligations for the Troubled Asset Relief Program, which temporarily lowered measured outlays in fiscal 2010. Excluding these transactions, outlays were up about 2 percent in 2011. This small increase reflects reductions in both ARRA spending and unemployment insurance payments as well as a subdued pace of defense and Medicaid spending. By contrast, net interest payments rose sharply, reflecting the increase in federal debt. Spending has remained restrained in the current fiscal year, with outlays (adjusted to exclude financial transactions) down about 5 percent in the first four months of fiscal 2012 relative to the comparable year-earlier period.

As measured in the national income and product accounts (NIPA), real federal expenditures on consumption and gross investment—the part of federal spending that is a direct component of GDP—decreased at an annual rate of about 3 percent in the second half of 2011, a little less rapidly than in the first half of the year (**figure 8**). Defense spending fell

Figure 8. Change in real government expenditures on consumption and investment, 2005–11



Source: Department of Commerce, Bureau of Economic Analysis.

at an annual rate of about 4 percent in the second half of the year, a somewhat sharper pace of decline than in the first half, while nondefense purchases were unchanged over this period.

Federal debt surged in the second half of 2011, after the debt ceiling was raised in early August by the Budget Control Act of 2011.[7] Standard and Poor's (S&P), which had put the U.S. long-term sovereign credit rating on credit watch negative in June, downgraded that rating from AAA to AA+ following the passage of the act, citing the risks of a continued rise in federal government debt ratios over the medium term and declining confidence that timely fiscal measures necessary to place U.S. public finances on a sustainable path would be forthcoming. Other credit rating agencies subsequently posted a negative outlook on their rating of U.S. sovereign debt, on similar grounds, but did not change their credit ratings. These actions do not appear to have affected participation in Treasury auctions, which continued to be well subscribed. Demand for Treasury securities was supported by market participants' preference for the relative safety and liquidity of such securities. Bid-to-cover ratios were within historical ranges, and indicators of foreign participation remained near their recent levels. Federal debt held by the public, as a percentage of GDP, continued to rise in the third quarter, reaching about 68 percent.

State and Local Government

State and local governments remain under significant fiscal strain. Since July, employment in the sector has declined by an average of 15,000 jobs per month, just slightly under the pace of job losses recorded for the first half of 2011. Meanwhile, reductions in real construction expenditures abated after a precipitous drop in the first half of 2011. As measured in the NIPA, real state and local expenditures on consumption and gross investment decreased at an annual rate of about 2 percent in the second half of 2011, a somewhat slower pace of decline than in the first half of the year (figure 8).

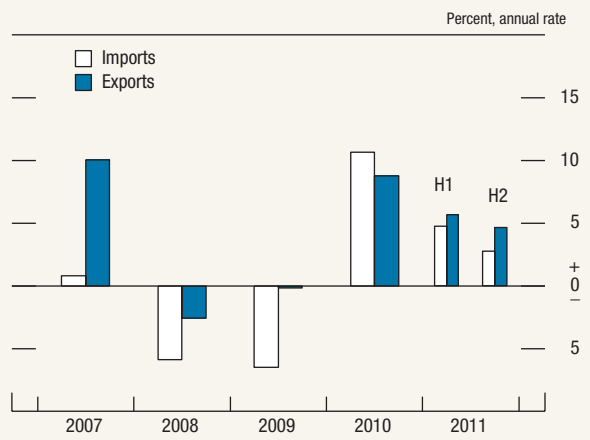
State and local government revenues appear to have increased modestly in 2011. Notably, at the state level, third-quarter tax revenues rose 5½ percent over the year-earlier period, with the majority of the states experiencing gains. However, this increase in tax revenues was partly offset by a reduction in federal stimulus grants. Tax collections have been less robust at the local level. Property tax receipts have been roughly flat, on net, since the start of 2010 (based on data through the third quarter of 2011), reflecting the downturn in home prices. Furthermore, many localities have experienced a decrease in grants-in-aid from their state government.

Issuance of long-term securities by state and local governments moved up in the second half of 2011 to a pace similar to that seen in 2009 and 2010. Issuance had been subdued during the first half of the year, in part because the expiration of the Build America Bonds program led to some shifting of financing from 2011 into late 2010.

Yields on state and local government securities declined in the second half of 2011 and into 2012, reaching levels near the lower end of their range over the past decade, but they fell to a lesser degree than yields on comparable-maturity Treasury securities. The increase in the ratio of municipal bond yields to Treasury yields likely reflected, in part, continued concern regarding the financial health of state and local governments. Indeed, credit default swap (CDS) indexes for municipal bonds rose, on balance, over the second half of 2011 but have narrowed somewhat in early 2012. Credit rating downgrades outpaced upgrades in the second half of 2011, particularly in

[7] On May 16, the federal debt reached the $14.294 trillion limit, and the Secretary of the Treasury declared a "debt issuance suspension period" for the Civil Service Retirement and Disability Fund, permitting the Treasury to redeem a portion of existing Treasury securities held by that fund as investments and to suspend issuance of new Treasury securities to that fund as investments. The Treasury also began suspending some of its daily reinvestment of Treasury securities held as investments by the Government Securities Investment Fund of the Federal Employees' Retirement System Thrift Savings Plan.

Figure 9. Change in real imports and exports of goods and services, 2007–11



Source: Department of Commerce, Bureau of Economic Analysis.

December, following the downgrade of a municipal bond guarantor.[8]

The External Sector

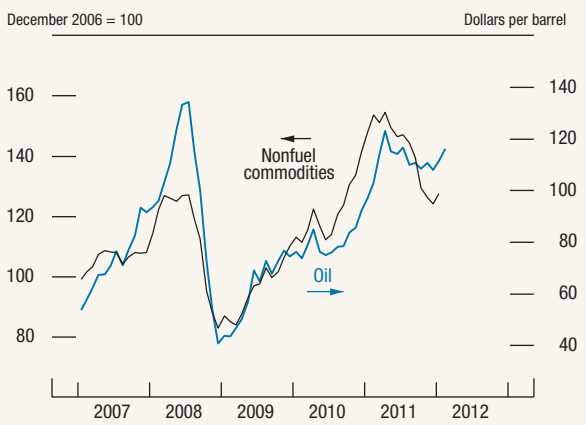
Real exports of goods and services rose at an annual rate of 4¾ percent in the second half of 2011, boosted by continued growth in overall foreign economic activity and the lagged effect of declines in the foreign exchange value of the dollar earlier in the year (figure 9). Exports of aircraft and consumer goods registered some of the largest gains. The increase in export demand was concentrated in the emerging market economies (EMEs), while exports to the euro area declined toward the end of the year.

With growth of economic activity in the United States moderate during the second half of 2011, real imports of goods and services rose at only about a 3 percent annual rate, down from about 5 percent in the first half. Import growth was weak across most trading partners in the second half of last year, with the notable exception of imports from Japan, which grew significantly after dropping sharply in the wake of the March earthquake.

Altogether, net exports contributed about ¼ percentage point to real GDP growth in the second half of 2011, as export growth outpaced import growth. At an annual rate, the current account deficit in the third quarter of 2011 (the latest available data) was $441 billion, or about 3 percent of nominal GDP, a touch narrower than the $470 billion deficit recorded in 2010.

Oil prices moved down, on net, over the second half of last year. The spot price of West Texas Intermediate (WTI) crude oil, which jumped to $110 per barrel last April after a near-complete shutdown of Libyan oil production, subsequently reversed course and declined sharply to an average of just under $86 per barrel in September. The prices of other major benchmark crude oils also fell over this period, although by less than the spot price of WTI (figure 10). The drop in oil prices through September likely was prompted by the winding down of the conflict in Libya as well as growing concern about the strength of global growth as the European sovereign debt crisis intensified, particularly toward the end of summer. From September to January of this year, the price of oil from the North Sea (the Brent benchmark) was essentially flat as the potential implications of increased geopolitical tensions—most notably with Iran—have offset ongoing concern over the strength of global demand and a faster-than-expected rebound in Libyan oil production. In February, the price of Brent moved higher, both with increasing optimism regarding the outlook for global growth as well as a further heightening of tensions with Iran. The spot price of WTI crude oil also increased in February, though by less than Brent, fol-

Figure 10. Prices of oil and nonfuel commodities, 2007–12



Note: The data are monthly. The oil price is the spot price of Brent crude oil, and the last observation is the average for February 1–24, 2012. The price of nonfuel commodities is an index of 45 primary-commodity prices and extends through January 2012.

Source: For oil, the Commodity Research Bureau; for nonfuel commodities, International Monetary Fund.

[8] Downgrades to bond guarantors can affect the ratings of all municipal securities guaranteed by those firms, as the rating of a security is the higher of either the published underlying security rating or the rating of the entity providing the guarantee.

lowing a relatively rapid rise over the final three months of last year.[9]

After peaking early in 2011, prices of many non-oil commodities also moved lower during the remainder of 2011. Despite moving up recently, copper prices remain well below their early 2011 level. In agricultural markets, corn and wheat prices ended 2011 down about 20 percent from their relatively high levels at the end of August as global production reached record levels. In early 2012, however, corn prices edged up on worries about dry growing conditions in South America.

After increasing at an annual rate of 6½ percent in the first half of 2011, prices of non-oil imported goods were flat in the second half. Fluctuations in prices of imported finished goods (such as consumer goods and capital goods) were moderate.

National Saving

Total U.S. net national saving—that is, the saving of U.S. households, businesses, and governments, net of depreciation charges—remains extremely low by historical standards. After having reached 4 percent of nominal GDP in 2006, net national saving dropped over the subsequent three years, reaching a low of negative 2½ percent in 2009. Since then, the national saving rate has increased on balance: In the third quarter of 2011 (the latest quarter for which data are available), net national saving was negative ½ percent of nominal GDP. The recent contour of the saving rate importantly reflects the pattern of federal budget deficits, which widened sharply in 2008 and 2009, but have edged down as a share of GDP since then. National saving will likely remain relatively low this year in light of the continuing large federal budget deficit. If low levels of national saving persist over the longer run, they will likely be associated with both low rates of capital formation and heavy borrowing from abroad, limiting the rise in the standard of living of U.S. residents over time.

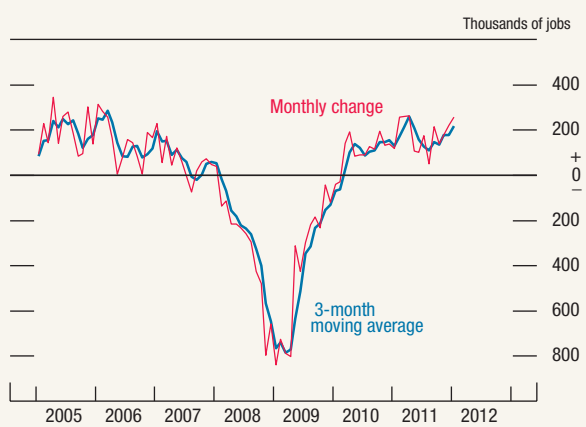
The Labor Market

Employment and Unemployment

Conditions in the labor market have improved some of late. Private payroll employment gains averaged 165,000 jobs per month in the second half of 2011, a bit slower than the pace in the first half of the year, but gains in December and January were more robust, averaging almost 240,000 per month (figure 11). The unemployment rate, which hovered around 9 percent for much of last year, is estimated to have moved down noticeably since September, reaching 8¼ percent in January, the lowest reading in almost three years (figure 12).

Although the recent decline in the jobless rate is encouraging, the level of unemployment remains very elevated. In addition, long-duration joblessness continues to account for an especially large share of the total. Indeed, in January, 5½ million persons among those counted as unemployed—about 43 percent of the total—had been out of work for more than six months, figures that were only a little below record levels (figure 13). Moreover, the number of individuals who are working part time for economic reasons—another indicator of the underutilization of labor—remained roughly twice its pre-recession value.

Figure 11. Net change in private payroll employment, 2005–12

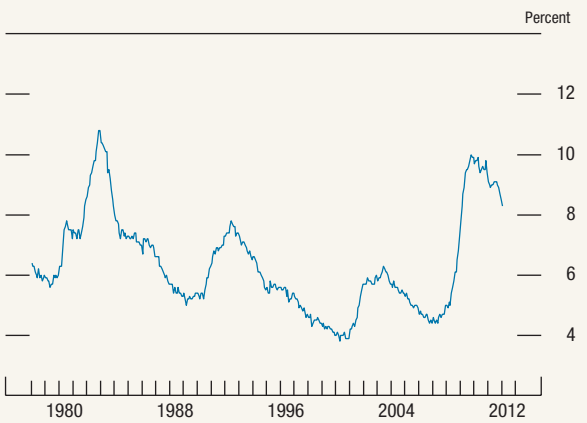


Note: The data are monthly and extend through January 2012.

Source: Department of Labor, Bureau of Labor Statistics.

[9] The more rapid rise of WTI than other grades of crude oil at the end of 2011 reflects the narrowing of a discount that had opened up between WTI and other grades earlier in the year. Throughout most of 2011, continued increases in the supply of oil, primarily from Canada and North Dakota, available to flow into Cushing, Oklahoma (the delivery point for the WTI crude oil), and the lack of transportation infrastructure to pass the supplies on to global markets, depressed the price of WTI relative to other grades of crude oil. In mid-November, however, plans were announced to reverse the flow of a key pipeline that currently transports crude oil from the Gulf Coast into Cushing. By raising the possibility of alleviating the supply glut of crude oil in the Midwest, the announcement of this flow reversal has led spot WTI prices to rise to a level that is more in line with the price of other grades of crude oil.

Figure 12. Civilian unemployment rate, 1978–2012



Note: The data are monthly and extend through January 2012.

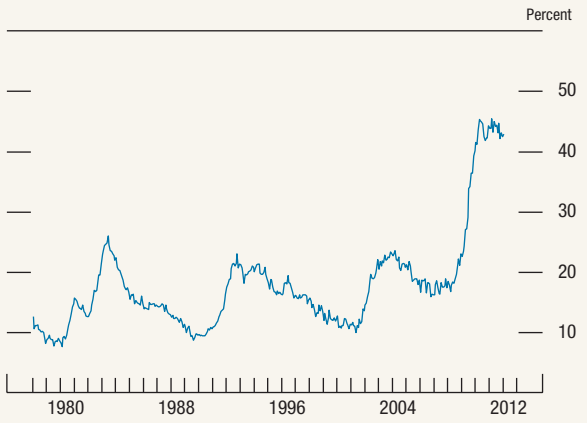
Source: Department of Labor, Bureau of Labor Statistics.

Productivity and Labor Compensation

Labor productivity growth slowed last year. Productivity had risen rapidly in 2009 and 2010 as firms strove to cut costs in an environment of severe economic stress. In 2011, however, with operations leaner and workforces stretched thin, firms needed to add labor inputs to achieve the desired output gains, and output per hour in the nonfarm business sector rose only ½ percent.

Increases in hourly compensation remained subdued in 2011, restrained by the wide margin of labor market slack. The employment cost index, which measures both wages and the cost to employers of providing benefits, for private industry rose just 2¼ percent in nominal terms in 2011. Nominal compensation per hour in the nonfarm business sector—derived from the labor compensation data in the NIPA—is estimated to have increased only 1¾ percent in 2011, well below the average gain of about 4 percent in the years before the recession. Adjusted for the rise in consumer prices, hourly compensation was roughly unchanged in 2011. Unit labor costs rose 1¼ percent in 2011, as the rise in nominal hourly compensation outpaced that of labor productivity in the nonfarm business sector. In 2010, unit labor costs fell almost 1 percent.

Figure 13. Long-term unemployed, 1978–2012



Note: The data are monthly and extend through January 2012. The series shown is the percentage of total unemployed persons who have been unemployed for 27 weeks or more.

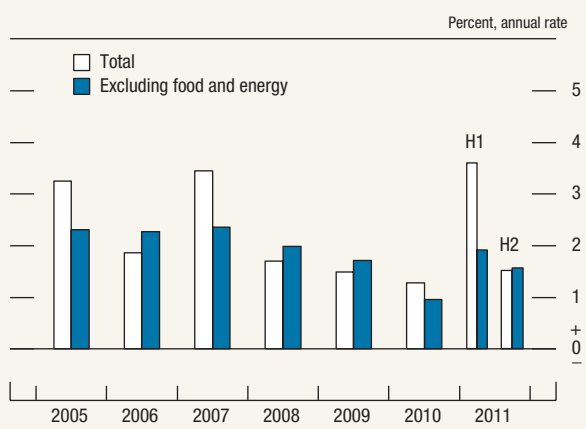
Source: Department of Labor, Bureau of Labor Statistics.

Prices

Consumer price inflation stepped down in the second half of 2011. After rising at an annual rate of 3½ percent in the first half of the year, the overall PCE chain-type price index increased just 1½ percent in the second half (figure 14). PCE prices excluding food and energy also decelerated in the second half of 2011, rising at an annual rate of about 1½ percent, compared with roughly 2 percent in the first half. The recent contour of consumer price inflation has reflected movements in global commodity prices, which rose sharply early in 2011 but have moved lower during the second half of the year. Information from the consumer price index and other sources suggests that inflation remained subdued through January 2012, although energy prices have turned up more recently.

The index of consumer energy prices, which surged in the first half of 2011, fell back in the second half of the year. The contour mainly reflected the rise and subsequent reversal in the price of crude oil; however,

Figure 14. Change in the chain-type price index for personal consumption expenditures, 2005–11



Source: Department of Commerce, Bureau of Economic Analysis.

gasoline prices started to rise again in February following a recent upturn in crude oil prices. Consumer natural gas prices also fell at the end of 2011, as unseasonably mild temperatures and increases in supply from new domestic wells helped boost inventories above typical levels. All told, the overall index of consumer energy prices edged lower during the second half of 2011, compared with an increase of almost 30 percent in the first half of the year.

Consumer prices for food and beverages exhibited a similar pattern as that of energy prices. Prices for farm commodities rose briskly early last year, reflecting the combination of poor harvests in several countries that are major producers along with the emerging recovery in the global economy. These commodity price increases fed through to higher consumer prices for meats and a wide range of other more-processed foods. With the downturn in farm commodity prices late in the summer, the index of consumer food prices rose at an annual rate of just 3¾ percent in the second half of 2011 after increasing 6½ percent in the first half.

Prices for consumer goods and services other than energy and food have also slowed, on net, in recent months. Core PCE prices had been boosted in the spring and summer of 2011 by a number of transitory factors, including the pass-through of the first-half surge in prices of raw commodities and other imported goods and a boost to motor vehicle prices that stemmed from supply shortages following the earthquake in Japan. As the impulse from these factors faded, core PCE price inflation stepped down so that, for 2011 as a whole, core PCE price inflation was just 1¾ percent.

Survey-based measures of near-term inflation expectations are down since the middle of 2011. Median year-ahead inflation expectations as reported in the Thomson Reuters/University of Michigan Surveys of Consumers (Michigan survey), which had risen sharply earlier in the year reflecting the run-up in energy and food prices, subsequently fell back as those prices decelerated. Longer-term expectations have remained generally stable. In the Michigan survey, the inflation rate expected over the next 5 to 10 years was 2.9 percent in February, within the range that has prevailed over the past 10 years; in the Survey of Professional Forecasters, conducted by the Federal Reserve Bank of Philadelphia, expectations for the increase in the price index for PCE over the next 10 years remained at 2¼ percent, in the middle of its recent range.

Measures of inflation compensation derived from yields on nominal and inflation-indexed Treasury securities declined early in the second half of 2011 at both medium-term and longer-term horizons, likely reflecting a worsening in the economic outlook and the intensification of the European fiscal crisis. More recently, inflation compensation estimates over the next five years have edged back up, apparently reflecting investors' more optimistic economic outlook, and is about unchanged, on net, for the period. However, the forward measure of five-year inflation compensation five years ahead remains about 55 basis points below its level in the middle of last year.

Financial Developments

In light of the disappointing pace of progress toward meeting its statutory mandate to promote maximum employment and price stability, the Federal Open Market Committee (FOMC) took a number of steps to provide additional monetary policy accommodation during the second half of 2011 and early 2012. These steps included increasing the average maturity of the Federal Reserve's securities holdings, shifting the reinvestment of principal payments on agency securities from Treasury securities to agency-guaranteed MBS, and strengthening the forward rate guidance included in postmeeting statements.

Financial markets were buffeted over the second half of 2011 and in early 2012 by changes in investors' assessments of the ongoing European crisis as well as in their evaluation of the U.S. economic outlook. As a result, developments in financial market conditions have been mixed since July. Unsecured dollar funding markets, particularly for European institutions, became significantly strained, though domestic financial firms generally maintained ready access to short-term unsecured funding. Corporate bond spreads remained elevated, on net, while broad equity prices were little changed, although they exhibited unusually high volatility. Partially reflecting additional monetary policy accommodation, Treasury yields moved down significantly. Similarly, investors pushed out the date at which they expect the federal funds rate to rise above its current target range, and they are currently anticipating a more gradual pace of increase in the funds rate following liftoff than they did last July.

Monetary Policy Expectations and Treasury Rates

In response to the steps taken by the FOMC to strengthen its forward guidance and provide addi-

Figure 15. Interest rates on Treasury securities at selected maturities, 2004–12

Note: The data are daily and extend through February 24, 2012.

Source: Department of the Treasury.

tional support to the economic recovery, market participants pushed out further the date when they expect the federal funds rate to first rise above its current target range of 0 to ¼ percent and scaled back their expectations of the pace at which monetary policy accommodation will be removed. On balance, quotes on overnight index swap (OIS) contracts, as of late February, imply that investors anticipate the federal funds rate will rise above its current target range in the fourth quarter of 2013, about four quarters later than the date implied in July. Investors expect, on average, that the effective federal funds rate will be about 70 basis points by late 2014, roughly 165 basis points lower than anticipated in mid-2011.[10]

Yields on nominal Treasury securities declined significantly over the second half of 2011 (figure 15). The bulk of this decline occurred in late July and August, in part reflecting weaker-than-anticipated U.S. economic data and increased investor demand for the relative safety and liquidity of Treasury securities amid an intensification of concerns about the situation in Europe. Following the FOMC announcement of the maturity extension program (MEP) at its September meeting, yields on longer-dated Treasury securities declined further, while yields on shorter-dated securities held steady at very low levels.[11] On net, yields on 2-, 5-, and 10-year Treasury notes have declined roughly 10, 65, and 110 basis points from their levels in mid-2011, respectively. The yield on the 30-year bond has dropped about 120 basis points. Though liquidity and functioning in money markets deteriorated notably for several days at the height of the debt ceiling debate last summer, neither the downgrade of the U.S. long-term sovereign credit rating by S&P in August nor the failure of the Joint Select Committee on Deficit Reduction to reach an agreement in November appeared to leave a permanent imprint on the Treasury market. Uncertainty about longer-term interest rates, as measured by the implied volatility on 10-year Treasury securities, moved sideways through most of the second half of 2011 and then declined late in the year and into 2012, reflecting improved sentiment in financial markets following a number of policy actions by central banks and some signs of strengthening in the pace of economic recovery.

Measures of market functioning suggest that the Treasury market has continued to operate smoothly since mid-2011 despite the S&P downgrade in August. Bid–asked spreads for most Treasury securities were roughly unchanged, though they have widened a bit, on net, for the 30-year bond since August. Dealer transaction volumes have remained within historically normal ranges.

Short-Term Funding Markets

Conditions in unsecured short-term dollar funding markets deteriorated, on net, over the second half of 2011 and in early 2012 amid elevated anxiety about the crisis in Europe and its implications for European firms and their counterparties. Funding costs increased and tenors shortened dramatically for European institutions throughout the third and into the fourth quarter. Funding pressures eased somewhat late in the year following the European Central Bank's (ECB) first injection of euro liquidity via a three-year refinancing operation and the reduction of the price of U.S. dollar liquidity offered by the ECB and other central banks; they subsequently eased further following the passage of year-end. On balance, spreads of London interbank offered rates (LIBOR) over comparable-maturity OIS rates—a measure of stress in short-term bank funding markets—have

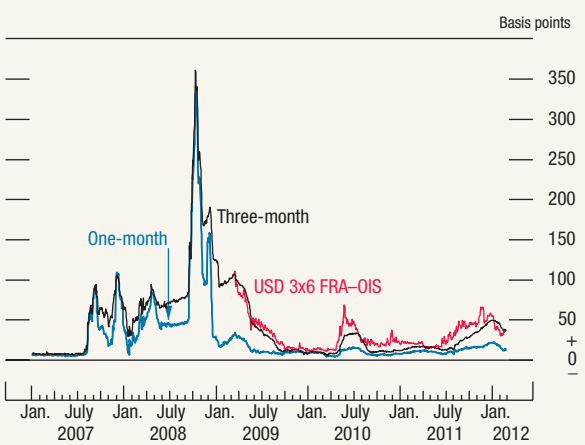
[10] When interest rates are close to zero, determining the point at which financial market quotes indicate that the federal funds rate will move above its current range can be complicated. The path described in the text is the mean of a distribution calculated from OIS rates. Alternatively, one can use similar derivatives to calculate the most likely, or "modal," path of the federal funds rate, a measure that tends to be more stable. This alternative measure has also moved down, on net, since the middle of 2011, but it suggests a flatter overall trajectory for the target federal funds rate, according to which the effective rate does not rise above its current target range through the end of 2015.

[11] As of February 24, the Open Market Desk had sold $223 billion in shorter-term Treasury securities and purchased $211 billion in longer-term Treasury securities.

widened considerably since July, particularly for tenors beyond one month, though they have moved down since late last year. Indeed, throughout much of the third and fourth quarters, many European institutions were reportedly unable to obtain unsecured dollar funding at tenors beyond one week. Additionally, more-forward-looking measures of interbank funding costs—such as the spread between a three-month forward rate agreement and the rate on an OIS contract three to six months ahead—moved up considerably in the second half of 2011 and have only partially retraced in 2012 (**figure 16**). Despite the pressures faced by European financial institutions, U.S. firms generally maintained ready access to short-term unsecured funding markets. Against a backdrop of solid deposit growth and modest expansion in bank credit across the industry, most domestic banks reportedly had limited need for unsecured funding.

Pressures were also evident in the commercial paper (CP) market. Issuance in the United States of unsecured financial CP and negotiable certificates of deposit by entities with European parents declined significantly in the second half of 2011. By contrast, the pace of issuance by U.S. firms edged down only slightly, on net, over the period. On balance, spreads of rates on unsecured A2/P2 commercial paper over equivalent maturity AA-rated nonfinancial CP rose a bit for both overnight and 30-day tenors. AA-rated asset-backed CP spreads increased more notably over the second half of 2011 but largely retraced following year-end.

Figure 16. LIBOR minus overnight index swap rate, 2007–12



Note: The data are daily and extend through February 24, 2012. An overnight index swap (OIS) is an interest rate swap with the floating rate tied to an index of daily overnight rates, in this case the effective federal funds rate. At maturity, the two parties to the swap agreement exchange, on the basis of the agreed notional amount, the difference between interest accrued at the fixed rate and interest accrued by averaging the floating, or index, rate. The U.S. dollar (USD) spread is calculated from a London interbank offered rate (LIBOR) forward rate agreement (FRA) three to six months in the future and the implied forward OIS rate for the same period.

Source: Bloomberg.

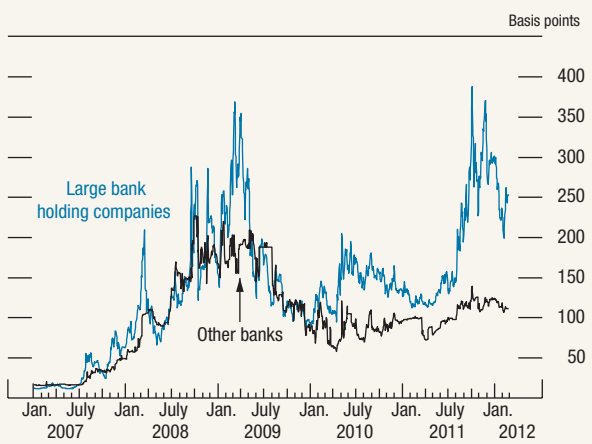
In contrast to unsecured dollar funding markets, signs of stress were largely absent in secured short-term dollar funding markets. For example, in the market for repurchase agreements (repos), bid–asked spreads for most collateral types were little changed. In addition, despite a seasonal dip around year-end, volumes in the triparty repo market were largely stable on balance. That said, the composition of collateral pledged in the repo market moved further away from equities and fixed-income collateral that is not eligible for open market operations, shifting even more heavily toward Treasury and agency securities as counterparty concerns became more evident. Respondents to the SCOOS in both September and December noted a continued increase in demand for funding across collateral types but reported a general tightening in credit terms under which several securities types are financed. In addition, market participants reportedly became somewhat less willing to fund riskier collateral types at longer tenors as year-end approached. However, year-end pressures remained muted overall, with few signs of dislocations in either secured or unsecured short-term markets, and conditions in term funding markets have improved in early 2012.

Money market funds, a major provider of funds to short-term funding markets such as those for CP and for repo, experienced significant outflows across fund categories in July, as investors' focus turned to the deteriorating situation in Europe and to the debt ceiling debate in the United States. Those outflows largely shifted to bank deposits, resulting in significant pressure on the regulatory leverage ratios of a few large banks. However, investments in money market funds rose, on net, over the remainder of 2011, with the composition of those increases reflecting the general tone of increased risk aversion, as government-only funds faced notable inflows while prime funds experienced steady outflows.

Financial Institutions

Market sentiment toward the banking industry declined rapidly early in the second half of 2011 as investors turned their focus on exposures to European sovereigns and financial institutions and on the possible spillover effects of the European crisis. Some large U.S. institutions also remained significantly exposed to legal risks stemming from their mortgage

Figure 17. Spreads on credit default swaps for selected U.S. banking organizations, 2007–12



Note: The data are daily and extend through February 24, 2012. Median spreads for six bank holding companies and nine other banks.

Source: Markit.

banking operations and foreclosure practices.[12] More recently, however, investor sentiment has improved somewhat following the actions of central banks and incoming data suggesting a somewhat better economic outlook in the United States. On balance, equity prices for banking organizations have completely retraced their declines from last summer, while CDS spreads (figure 17)—which reflect investors' assessments of and willingness to bear the risk that these institutions will default on their debt obligations—have declined from their peaks reached in the fall, but not all the way back to mid-2011 levels.

Measures of bank profitability edged up, on net, in recent quarters but remained well below the levels that prevailed before the financial crisis began. Although profits at the largest institutions were supported over that period by reductions in noninterest expenses, net interest margins remained very low, capital markets revenues were subdued, loan loss provisions are still somewhat elevated relative to pre-crisis norms, and a few banks booked large reserves for litigation risks associated with their mortgage portfolios.

[12] On February 9, it was announced that the federal government and 49 state attorneys general had reached a $25 billion agreement with the nation's five largest mortgage servicers to address mortgage loan servicing and foreclosure abuses. The agreement does not prevent state and federal authorities from pursuing criminal enforcement actions related to this or other conduct by the servicers or from punishing wrongful securitization conduct; it also does not prevent any action by individual borrowers who wish to bring their own lawsuits.

Indicators of credit quality at commercial banks continued to show signs of improvement. Aggregate delinquency and charge-off rates moved down, though they remained quite elevated on residential mortgages and both residential and commercial construction loans. Loss provisioning has leveled out in recent quarters near the upper end of its pre-crisis range. Nonetheless, in the January SLOOS, a large fraction of the respondents indicated that they expect credit quality to improve over the next 12 months for most major loan categories if economic activity progresses in line with consensus forecasts.

Credit provided by domestic banks—the sum of loans and securities—increased moderately in the second half of 2011, its first such rise since the first half of 2008. Bank credit grew as holdings of agency MBS expanded steadily and most major loan categories exhibited improvement in the second half of the year. The expansion was consistent with recent SLOOS responses indicating that lending standards and loan terms eased somewhat and that demand for loans from businesses and households increased, on net, in the second half of 2011. In particular, C&I loans showed persistent and considerable strength over the second half of 2011 and into early 2012. Loans to nonbank financial institutions, a category that tends to be volatile, also grew rapidly over that period as did holdings of agency MBS. Consumer loans held by banks edged up in the third and fourth quarters. Those increases offset ongoing declines in commercial real estate and home equity loans, both of which remained very weak.

Regulators continued to take steps to strengthen their oversight of the financial industry. In particular, a variety of measures mandated by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 are being, or are soon to be, implemented, including enhanced capital and liquidity requirements for large banking organizations, annual stress testing, additional risk-management requirements, and the development of early remediation plans (see box 1). As part of those efforts, the Federal Reserve began annual reviews of the capital plans for U.S. bank holding companies with total consolidated assets of $50 billion or more under its Comprehensive Capital Analysis and Review program. Going into those reviews, reported regulatory capital ratios of U.S. banking institutions generally remained at historically high levels over the second half of 2011.

Concerns about the condition of European financial institutions, coupled with periods of heightened

Box 1. Financial Stability at the Federal Reserve

The Federal Reserve's responsibility for promoting financial stability stems from its role in supervising and regulating banks, operating the nation's payments system, and serving as the lender of last resort. In the decades prior to the financial crisis, financial stability policy tended to be overshadowed by monetary policy, which had come to be viewed as the principal function of central banks. However, in the aftermath of the financial crisis, financial stability policy has taken on greater prominence and is now generally considered an equally critical responsibility of central banks. As such, the Federal Reserve has made significant organizational changes and taken other actions to improve its ability to understand and address systemic risk. In addition, its statutory role in maintaining financial stability has been expanded by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank Act).

One key feature of the Dodd-Frank Act is its macroprudential orientation, as reflected in many of the provisions to be implemented by the Federal Reserve and other financial regulators. The macroprudential approach to regulation and supervision still pays close attention to the safety and soundness of individual financial institutions, but it also takes into account the linkages among those entities and the condition of the financial system as a whole. To implement the macroprudential approach, the Dodd-Frank Act established the multiagency Financial Stability Oversight Council (FSOC), which is tasked with promoting a more comprehensive approach to monitoring and mitigating systemic risk. The Federal Reserve is one of 10 voting members of the FSOC.

A significant aspect of the macroprudential approach is the heightened focus on entities whose failure or financial distress could result in outsized destabilizing effects on the rest of the system. Under the Dodd-Frank Act, the Federal Reserve is responsible for the supervision of all systemically important financial institutions (SIFIs), which include both large bank holding companies and nonbank financial firms designated by the FSOC as systemically important. Even before the Dodd-Frank Act was enacted, the Federal Reserve was making organizational changes to facilitate the incorporation of systemic risk considerations into the supervisory process. Notably, it created the Large Institution Supervision Coordinating Committee (LISCC) to bring an interdisciplinary and cross-firm perspective to the supervision of large, complex financial institutions; the LISCC acts to ensure that the financial positions of these large institutions are strong enough to withstand adverse shocks. A similar body has been set up to help in the oversight of systemically important financial market utilities.

The Federal Reserve has also established the Office of Financial Stability Policy and Research (OFS) to help the Federal Reserve more effectively monitor the financial system and develop policies for mitigating systemic risks. The OFS's function is to coordinate and analyze information bearing on financial stability from a wide range of perspectives and to place the supervision of individual institutions within a broader macroeconomic and financial context. In

(continued on next page)

attention paid to U.S. securities dealers, raised investor anxiety regarding counterparty exposure to dealers during the second half of 2011. Indeed, responses to the December SCOOS suggested that dealers devoted increased time and attention to the management of concentrated credit exposures to dealers and other financial intermediaries over the previous three months (**figure 18**).[13] In addition, survey respondents reported that they had reduced aggregate credit limits for certain specific institutions. Investors appeared to be particularly concerned about the stability of funding in the event of financial market stress because most dealer firms are highly reliant on short-term secured funding.

Respondents to the December SCOOS reported a broad but moderate tightening of credit terms applicable to important classes of counterparties over the previous three months. This tightening was especially evident for hedge fund clients and trading real estate investment trusts.[14] The institutions that reported having tightened credit terms pointed to a worsening in general market liquidity and functioning and a reduced willingness to take on risk as the most important reasons for doing so. Indeed, for each type of collateral covered in the survey, notable net fractions of respondents reported that liquidity and functioning in the underlying asset market had deteriorated over the previous three months. Dealers reported that the demand for funding most types of securities continued to increase over the previous

[13] Following the failure of a primary dealer, the Federal Reserve Bank of New York implemented a risk-management program that required primary dealers to post margin on forward-settling agency MBS transactions.

[14] Trading real estate investment trusts invest in assets backed by real estate rather than directly in real estate.

Box 1. Financial Stability at the Federal Reserve—*continued*

addition, the Federal Reserve works with other U.S. agencies and international bodies on a range of issues to strengthen the financial system.

Systemic financial risks can take several forms. Some risks can be described as structural in nature because they are associated with structural features of financial markets and thus are largely independent of economic conditions; these include, for example, the risk posed by a SIFI whose failure can have outsized effects on the financial system or the degree to which money market mutual funds are susceptible to liquidity pressures. Other risks can be described as cyclical in nature and include, for example, elevated asset valuations and excessive credit growth that arise in buoyant economic times but can unwind in destabilizing ways should conditions change. Attentiveness to both types of risk is critical in the monitoring of systemic risk and the formulation of appropriate macroprudential policy responses.

The Federal Reserve has taken steps to identify structural vulnerabilities in the financial system and to devise policies to mitigate the associated risks. For example, in December 2011, the Board released a proposal to strengthen the regulation and supervision of large bank holding companies and systemically important nonbank financial firms. The proposal comprises a wide range of measures, including risk-based capital and leverage requirements, liquidity requirements, stress tests, single-counterparty credit limits, and early remediation requirements. In addition, in October 2011, the Board approved a final rule to implement the resolution plan (living will) requirement of the Dodd-Frank Act, which is intended to reduce the likelihood that the failure of a SIFI—should it occur—would cause serious damage to the financial system. In all of its rulemaking responsibilities, the Federal Reserve is attentive to the international dimension of financial regulation. It is also working with its regulatory counterparts to improve the quality and timeliness of financial data.

The Federal Reserve is likewise moving forward to address cyclical systemic risks. To identify such risks, it routinely monitors a number of items—including, for example, measures of leverage and maturity mismatch at financial intermediaries—and looks for signs of a credit-induced buildup of systemic risk. In addition, it conducts regular stress tests of the nation's largest banking firms; these tests are based on detailed confidential data about the balance sheets of the firms and provide a comprehensive, rigorous assessment of how the firms' financial conditions would likely evolve over a multiyear period under adverse economic and financial scenarios. Meanwhile, efforts are under way to evaluate and develop new macroprudential tools that could help limit future buildups of cyclical systemic risk.

In summary, the Federal Reserve has taken a series of actions to implement the relevant provisions of the Dodd-Frank Act and to meet its broader financial stability responsibilities in a timely way. The Federal Reserve has made important changes to its organizational structure to support a macroprudential approach to supervision and regulation, and it has instituted processes for identifying and responding to sources of systemic risk.

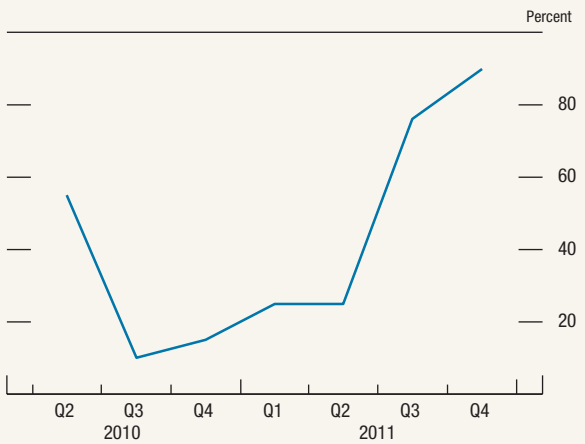
three months, particularly the demand for term funding with a maturity greater than 30 days, which increased for all security types.

Net investment flows to hedge funds in the third and fourth quarters were reportedly significantly smaller than in the first half of the year as hedge funds markedly underperformed the broader market in 2011. Information from a variety of sources suggests that the use of dealer-intermediated leverage has declined, on balance, since mid-2011. Indeed, while the use of dealer-intermediated leverage was roughly unchanged for most types of counterparties according to September and December SCOOS respondents, about half of those surveyed indicated that hedge funds' use of financial leverage, considering the entire range of transactions with such clients, had decreased somewhat.

Corporate Debt and Equity Markets

On net since July of last year, yields on investment-grade corporate bonds have declined notably, while those on speculative-grade corporate debt posted mixed changes. However, reflecting a decline in investor risk-taking amid concerns about the European situation and heightened volatility in financial markets, spreads of these yields to those on comparable-maturity Treasury securities widened notably in the third quarter and have only partly retraced since that time (**figure 19**). In the secondary market for leveraged loans, the average bid price dropped in line with the prices of other risk assets in August but has

Figure 18. Net percentage of dealers reporting increased attention to exposure to other dealers, 2010–11

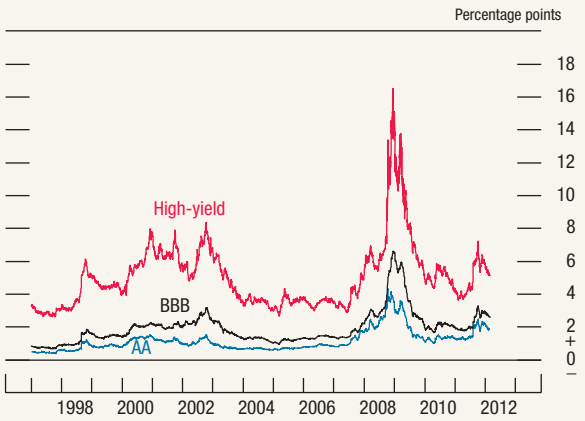


Note: The data are drawn from a survey conducted four times per year; the last observation is from the December 2011 survey, which covers 2011:Q4. Net percentage equals the percentage of institutions that reported increasing attention ("increased considerably" or "increased somewhat") minus the percentage of institutions that reported decreasing attention ("decreased considerably" or "decreased somewhat").

Source: Federal Reserve Board, Senior Credit Officer Opinion Survey on Dealer Financing Terms.

recovered since then, as institutional investors—which include collateralized loan obligations, pension funds, insurance companies and other funds investing in fixed-income instruments—have reportedly continued to exhibit strong appetites for higher-yielding leveraged loans against a backdrop of little new supply of such loans. Liquidity in that market has recovered recently after a sharp deterioration during the summer.

Figure 19. Spreads of corporate bond yields over comparable off-the-run Treasury yields, by securities rating, 1997–2012



Note: The data are daily and extend through February 24, 2012. The spreads shown are the yields on 10-year bonds less the 10-year Treasury yield.

Source: Derived from smoothed corporate yield curves using Merrill Lynch bond data.

Broad equity prices are about unchanged, on balance, since mid-2011 but exhibited an unusually high level of volatility. Equity markets fell sharply in late July and early August in response to concerns about the European crisis, the U.S. debt ceiling debate, and a possible slowdown in global growth. Equity prices roughly retraced these losses during the fourth quarter of 2011 and early 2012, reflecting somewhat better-than-expected economic data in the United States as well as actions taken by major central banks to mitigate the financial strains in Europe. Nonetheless, equity prices have remained highly sensitive to news regarding developments in Europe. Implied volatility for the S&P 500 index, calculated from option prices, ramped up in the third quarter of 2011 but has since reversed much of that rise.

Amid heightened stock market volatility over the course of the second half of 2011, equity mutual funds experienced sizable outflows. Loan funds, which invest primarily in LIBOR-based syndicated leveraged loans, also experienced outflows as retail investors responded to loan price changes following indications that the Federal Reserve would keep interest rates lower for longer than previously anticipated. With declining yields on fixed-income securities boosting the performance of bond mutual funds, these funds, including speculative-grade and municipal bond funds, attracted net inflows.

Monetary Aggregates and the Federal Reserve's Balance Sheet

The M2 monetary aggregate expanded at an annual rate of about 12 percent over the second half of 2011.[15] The rapid growth in M2 appears to be the result of increased demand for safe and liquid assets due to concerns about the European situation, combined with a very low level of interest rates on alter-

[15] M2 consists of (1) currency outside the U.S. Treasury, Federal Reserve Banks, and the vaults of depository institutions; (2) traveler's checks of nonbank issuers; (3) demand deposits at commercial banks (excluding those amounts held by depository institutions, the U.S. government, and foreign banks and official institutions) less cash items in the process of collection and Federal Reserve float; (4) other checkable deposits (negotiable order of withdrawal, or NOW, accounts and automatic transfer service accounts at depository institutions; credit union share draft accounts; and demand deposits at thrift institutions); (5) savings deposits (including money market deposit accounts); (6) small-denomination time deposits (time deposits issued in amounts of less than $100,000) less individual retirement account (IRA) and Keogh balances at depository institutions; and (7) balances in retail money market funds less IRA and Keogh balances at money market funds.

native short-term investments. In addition, a number of regulatory changes have likely boosted M2 of late. In particular, unlimited insurance by the Federal Deposit Insurance Corporation (FDIC) of onshore noninterest-bearing deposits has made these deposits increasingly attractive at times of heightened volatility and uncertainty in financial markets. In addition, the change in the FDIC assessment base in April 2011 added deposits in domestic banks' offshore offices, eliminating some of the benefits to banks of booking deposits abroad and apparently leading, in some cases, to a decision to rebook some of these deposits onshore. Indeed, liquid deposits, the single largest component of M2, grew at an annual rate of 20 percent in the second half of 2011.[16] The currency component of the money stock grew at an annual rate of 7 percent over the second half of 2011, a bit faster than the historical average but a slower pace than in the first half of the year. The monetary base—which is equal to the sum of currency in circulation and the reserve balances of depository institutions held at the Federal Reserve—expanded at an annual rate of 3¾ percent in the second half of the year, as the rise in currency more than offset a slight decrease in reserve balances.[17]

The size of the Federal Reserve's balance sheet remained at a historically high level throughout the second half of 2011 and into early 2012 and stood at about $2.9 trillion as of February 22. The small rise of about $61 billion since July largely reflected increases in temporary U.S. dollar liquidity swap balances with the ECB, which were partially offset by a decline in securities holdings (**table 1**). Holdings of U.S. Treasury securities grew $32 billion over the second half of 2011, as the proceeds from paydowns of agency debt and agency MBS were reinvested in longer-term Treasury securities until the FOMC decision in September to switch the reinvestment of those proceeds to agency MBS; total holdings of MBS declined into the fall. The subsequent small increase in MBS holdings reflects the reinvestment of maturing agency debt into MBS. Agency debt declined about $14 billion over the entire period. The composition of Treasury holdings also changed over this period as a result of the implementation of the MEP. As of February 24, 2012, the Open Market Desk at the Federal Reserve Bank of New York (FRBNY) had purchased $211 billion in Treasury securities with remaining maturities of 6 to 30 years and sold $223 billion in Treasury securities with maturities of 3 years or less.

In the second half of 2011 and early 2012, the Federal Reserve reduced some of its exposure to lending facilities established during the financial crisis to support specific institutions. The portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC—entities that were created during the crisis to acquire certain assets from the Bear Stearns Companies, Inc., and American International Group, Inc., or AIG, to avoid the disorderly failures of those institutions—declined, on net, primarily as a result of asset sales and principal payments. Of note, the FRBNY sold assets with a face amount of $13 billion from the Maiden Lane II portfolio in early 2012 through two competitive processes conducted by the FRBNY's investment manager.[18]

Use of regular discount window lending facilities, such as the primary credit facility, continued to be minimal. Loans outstanding under the Term Asset-Backed Securities Loan Facility declined and stood just below $8 billion in late February.

On November 30, 2011, in order to ease strains in global financial markets and thereby mitigate the effects of such strains on the supply of credit to U.S. households and businesses, the Federal Reserve announced coordinated actions with other central banks to enhance their capacity to provide liquidity support to the global financial system.[19] The FOMC authorized an extension of the existing temporary U.S. dollar liquidity swap arrangements through February 1, 2013, and the rate on these swap arrangements was reduced from the U.S. dollar OIS rate plus 100 basis points to the OIS rate plus 50 basis points.

[16] Regulation Q, which had prohibited the payment of interest on demand deposits, was repealed by the Board on July 14. This repeal may have also contributed, in a small way, to the growth in M2.

[17] The MEP that was announced at the September FOMC meeting was designed to increase the average maturity of the Federal Reserve's securities holdings while leaving the quantity of reserve balances roughly unchanged.

[18] On January 19, 2012, the FRBNY announced the sale of assets with a face amount of $7.0 billion from the Maiden Lane II LLC portfolio through a competitive process. On February 8, 2012, the FRBNY announced the sale of additional assets with a face amount of $6.2 billion from the Maiden Lane II LLC portfolio, also through a competitive process. Proceeds from these two transactions will enable the repayment of the entire remaining outstanding balance of the senior loan from the FRBNY to Maiden Lane II LLC.

[19] The Bank of Canada, the Bank of England, the Bank of Japan, the European Central Bank, the Federal Reserve, and the Swiss National Bank coordinated this action. In addition, as a contingency measure, the FOMC agreed to establish similar temporary swap arrangements with these five central banks to provide liquidity in any of their currencies if necessary.

Table 1. Selected components of the Federal Reserve balance sheet, 2010–12
Millions of dollars

Balance sheet item	Dec. 29, 2010	July 6, 2011	Feb. 22, 2012
Total assets	**2,423,457**	**2,874,049**	**2,935,149**
Selected assets			
Credit extended to depository institutions and dealers			
Primary credit	58	5	3
Central bank liquidity swaps	75	0	107,959
Credit extended to other market participants			
Term Asset-Backed Securities Loan Facility (TALF)	24,704	12,488	7,629
Net portfolio holdings of TALF LLC	665	757	825
Support of critical institutions			
Net portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC[1]	66,312	59,637	30,822
Credit extended to American International Group, Inc.	20,282	...	...
Preferred interests in AIA Aurora LLC and ALICO Holdings LLC	26,057	...	...
Securities held outright			
U.S. Treasury securities	1,016,102	1,624,515	1,656,581
Agency debt securities	147,460	115,070	100,817
Agency mortgage-backed securities (MBS)[2]	992,141	908,853	853,045
Total liabilities	**2,366,855**	**2,822,382**	**2,880,556**
Selected liabilities			
Federal Reserve notes in circulation	943,749	990,861	1,048,004
Reverse repurchase agreements	59,246	67,527	89,824
Deposits held by depository institutions	1,025,839	1,663,022	1,622,800
Of which: Term deposits	5,113	0	0
U.S. Treasury, general account	88,905	67,270	36,033
U.S. Treasury, Supplementary Financing Account	199,963	5,000	0
Total capital	**56,602**	**51,667**	**54,594**

Note: LLC is a limited liability company.

[1] The Federal Reserve has extended credit to several LLCs in conjunction with efforts to support critical institutions. Maiden Lane LLC was formed to acquire certain assets of the Bear Stearns Companies, Inc. Maiden Lane II LLC was formed to purchase residential mortgage-backed securities from the U.S. securities lending reinvestment portfolio of subsidiaries of American International Group, Inc. (AIG). Maiden Lane III LLC was formed to purchase multisector collateralized debt obligations on which the Financial Products group of AIG has written credit default swap contracts.

[2] Includes only MBS purchases that have already settled.

. . . Not applicable.

Source: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks."

The lower cost spurred increased use of those swap lines; the outstanding amount of dollars provided through the swap lines rose from zero in July to roughly $108 billion in late February.

On the liability side of the Federal Reserve's balance sheet, reserve balances held by depository institutions declined roughly $40 billion in the second half of 2011 and early 2012 while Federal Reserve notes in circulation increased roughly $57 billion. The Federal Reserve conducted a series of small-scale reverse repurchase transactions involving all eligible collateral types and its expanded list of counterparties. The Federal Reserve also continued to offer small-value term deposits through the Term Deposit Facility. In July of last year, the Treasury reduced the balance of its Supplementary Financing Account at the Federal Reserve from $5 billion to zero.

International Developments

In the second half of the year, financial market developments abroad were heavily influenced by concerns about the heightened fiscal stresses in Europe and the resultant risks to the global economic outlook. Foreign real GDP growth stepped up in the third quarter, as Japan rebounded from the effects of its March earthquake and tsunami, leading to an easing of supply chain disruptions. In contrast, recent data indicate that foreign economic growth slowed in the fourth quarter, as activity in the euro area appears to have contracted and as flooding in Thailand weighed on growth in several economies in Asia.

International Financial Markets

The foreign exchange value of the dollar has risen since July about 3½ percent on a trade-weighted basis against a broad set of currencies (figure 20).

Figure 20. U.S. dollar nominal exchange rate, broad index, 2007–12

Note: The data, which are in foreign currency units per dollar, are daily. The last observation for the series is February 24, 2012. The broad index is a weighted average of the foreign exchange values of the U.S. dollar against the currencies of a large group of the most important U.S. trading partners. The index weights, which change over time, are derived from U.S. export shares and from U.S. and foreign import shares.

Source: Federal Reserve Board, Statistical Release H.10, "Foreign Exchange Rates."

Most of the appreciation occurred in September as market participants became increasingly pessimistic about the situation in Europe. Safe-haven flows buoyed the yen and the Swiss franc, and in response, the Bank of Japan and the Swiss National Bank separately intervened to counter further appreciation of their currencies.

On net in the second half of the year, government bond yields for Canada, Germany, and the United Kingdom fell over 100 basis points to record lows, driven by safe-haven flows as well as a deteriorating global outlook. By contrast, sovereign bond spreads for Greece rose steeply, and Spanish and Italian sovereign spreads over German bunds also increased. Prices of other risky assets were very volatile over the period as market participants reacted to news about the crisis. (See **box 2**.)

As sovereign funding pressures spread to Italy and Spain in July and August and as concerns also mounted regarding U.S. fiscal policy and the durability of the global recovery, equity prices in the advanced foreign economies (AFEs) generally plunged. Those equity markets remained quite volatile but largely depressed through early December, when market sentiment seemed to take a more concerted turn for the better. Although most AFE equity indexes remain below their midsummer levels, they have risen markedly in the past two months. Emerging markets equity prices followed a path similar to those in the AFEs. Emerging markets bond and equity funds experienced large outflows during periods of heightened concerns about the European crisis, but inflows have resumed more recently.

Euro-area bank stock prices underperformed the broader market, as concerns about the health of European banks intensified over the second half of 2011. The CDS premiums on the debt of many large banks in Europe rose substantially, reflecting market views of increased risk of default. Quarterly earnings for many banks were reduced by write-downs on Greek debt. Although only eight banks failed the European Banking Authority (EBA) European Union–wide stress test in July, concerns about the capital adequacy of large European banks persisted. Partly in response to these concerns, the EBA announced in October that banks would be required to put in place a temporary extraordinary capital buffer by June 2012, boosting their core Tier 1 risk-based capital ratio to 9 percent. As market sentiment about European banks deteriorated over the period, their access to unsecured dollar funding diminished, particularly at tenors beyond one week. (See **box 3**.) European banks also faced pressure in euro funding markets. As banks' willingness to lend excess liquidity to one another decreased, the cost of obtaining funding in the market rose, and banks relied more heavily on the ECB for funding. The first three-year refinancing operation, held by the ECB on December 21, led to a significant injection of new liquidity, and funding conditions in Europe seemed to improve gradually in the weeks that followed. Short-term euro interbank rates declined, euro-area shorter-duration sovereign bond yields fell sharply, and both governments and banks were able to raise funds more easily.

The Financial Account

Financial flows in the second half of 2011 reflected heightened concerns about risk and the pressures in currency markets resulting from the European crisis. Based on data for the third quarter and monthly indicators for the fourth quarter (not shown), foreign private investors flocked to U.S. Treasury securities as a safe-haven investment while selling U.S. corporate securities, especially in months when appetite for risk was particularly weak. U.S. investors also pulled back from investments in Europe, significantly reduc-

Box 2. An Update on the European Fiscal Crisis

The European fiscal crisis intensified in the second half of 2011, as concerns over fiscal sustainability spread to additional euro-area economies amid weakening economic growth prospects and missed fiscal targets. European financial institutions also faced sharply reduced access to funds, given their large exposures to vulnerable sovereigns. In response, policymakers took steps to improve fiscal balances, bolster the region's financial backstop, and address liquidity shortages for banks. On balance, market conditions have improved somewhat since December, but concerns about a possible Greek default and the adequacy of the financial backstop for other vulnerable economies have kept yields on sovereign debt elevated and funding for European financial institutions limited.

The crisis began in smaller euro-area countries with high fiscal deficits or debt and vulnerable banking systems. In 2010 and the first half of 2011, governments in Greece, Ireland, and Portugal suffered reduced access to market funding and required financial assistance from the European Union (EU) and the International Monetary Fund (IMF). Last July, sovereign spreads over German bunds rose markedly for Italy and Spain, as economic growth disappointed, doubts increased over political commitment to fiscal consolidation, and calls for the restructuring of Greek sovereign debt rattled investor confidence. The deterioration of financial conditions led to heightened political tensions in vulnerable economies, contributing to leadership changes in Greece, Italy, and Spain later in the fall.

Financial stresses spread quickly to European banks with large exposures to Italy, Spain, and the other vulnerable economies, and access to funding became limited for all but the shortest maturities and strongest institutions. In turn, concerns over the potential fiscal burdens for governments, should they need to recapitalize financial institutions, caused sovereign yields to rise sharply in the fall for other euro-area countries, including Austria, Belgium, and France.

European leaders responded to these developments with a number of policy measures. In July, amid the growing realization that Greece would need further financial assistance, EU and IMF officials announced plans for a second rescue package, including a call for limited reduction in the value of the debt held by private creditors. In February 2012, in response to Greece's faltering fiscal performance and plunging output, the Greek government and its creditors agreed on an enhanced rescue package, including a larger reduction in private creditors' claims. The Greek government and its creditors are now working to put in place the private-sector debt exchange and the new official-sector support program before a large debt amortization payment comes due in mid-March.

In recent months, European authorities have also made progress on plans to improve fiscal governance within the region. EU members (excluding the United Kingdom and Czech Republic) have agreed on the text of a new fiscal compact treaty designed to strengthen fiscal rules, surveillance, and enforcement. Among other measures, this treaty will require countries to legislate national fiscal rules, which should generally limit structural fiscal deficits to ½ percent of gross domestic product. The treaty is expected to be signed in March, after which national parliaments must ratify it and implement the required legislation.

Leaders also took a number of steps to increase the size of the financial backstop for the euro area. The flexibility, scope, and effective lending capacity of the €440 billion European Financial Stability Facility (EFSF), designed to support vulnerable governments, were increased. Authorities also moved up the introduction of the European Stability Mechanism (ESM), a permanent €500 billion lending facil-

(continued on next page)

ing deposits with European banks and selling securities from euro-area countries. Overall, U.S. purchases of foreign securities edged down in the third quarter.

The large purchases of Treasury securities dominated total private financial flows in the third quarter, a pattern that likely continued in the fourth quarter. Net flows by banks located in the United States were small, but these flows masked large offsetting movements by foreign- and U.S.-owned banks. U.S. branches of European banks brought in substantial funds from affiliates abroad over the course of 2011, building reserve balances in the first half of the year and covering persistent declines in U.S. funding sources. In contrast, U.S. banks, subject to less-severe market stress, sent funds abroad to meet strong dollar demand.

Inflows from foreign official institutions slowed notably in the second half of 2011. A number of advanced countries acquired some U.S. assets, seeking to counteract upward pressure on their currencies by purchasing U.S. dollars in foreign exchange markets. However, inflows from official institutions in the

Box 2. An Update on the European Fiscal Crisis—*continued*

ity, to July 2012, about a year earlier than originally planned. This March, euro-area leaders will consider lifting the €500 billion ceiling on the combined lending of the EFSF and the ESM. In addition, European officials called for an expansion of the IMF's lending capacity and pledged a joint contribution of €150 billion toward that goal. Finally, to improve the functioning of sovereign debt markets, the European Central Bank (ECB) resumed purchases of euro-area marketable debt in August, reportedly including the debt of Italy and Spain.

Policymakers also took steps to support financial markets and institutions affected by the sovereign crisis. To improve transparency and bolster the ability of European banks to withstand losses on sovereign holdings, the European Banking Authority (EBA) conducted a second stress test of large EU financial institutions, the results of which were released in mid-July, along with detailed information about banks' exposures to borrowers in EU countries. Market concerns about bank capital persisted, however, and in October, the EBA announced that large banks would be required to build up "exceptional and temporary" capital buffers to meet a core Tier 1 capital ratio of 9 percent and cover the cost of marking sovereign exposures to market by the end of June 2012. In December, the EBA disclosed that the aggregate required capital buffer for large banks would be €115 billion if risk-weighted assets were to remain at the levels they had reached at the end of September 2011. The banks submitted their capital plans to their national supervisors for approval, and the EBA has now summarized these plans. Excluding the Greek banks and three other institutions that will be recapitalized separately by national authorities, the remaining 62 banks intend to create capital buffers equivalent to €98 billion, about 25 percent larger than their required buffers, and they plan to use direct capital measures (such as retaining earnings, issuing new shares, and converting hybrid instruments to common equity) to achieve €75 billion of their buffer. The remainder of the buffer will be generated by measures that reduce risk-weighted assets—primarily selling assets and switching from the standardized to the advanced approach to measure risk weights. These measures will be subject to supervisory agreement.

To address spillovers to U.S. dollar funding markets from stresses in Europe, in late November the Federal Reserve, the ECB, and four other major central banks agreed to reduce the fee on draws on their dollar liquidity swap lines and extend the duration of such facilities. In early December, the ECB announced a reduction in its policy interest rate and its reserve requirement, an easing of rules on collateral for ECB refinancing operations, and the provision of three-year refinancing to banks to improve their funding situation. Banks borrowed €489 billion at the new facility in December, raising the total amount of outstanding ECB refinancing operations by roughly €200 billion. A second three-year liquidity operation is scheduled for the end of February.

The improved availability of dollar and euro funds late in the year, against the background of the other policies being employed to address the crisis, appears to have partly allayed market concerns about banks as well as governments in vulnerable euro-area countries. Over the past two months, European banks have seen improvements in their access to funding, and in vulnerable economies, credit spreads on the banks and spreads on government bonds have generally declined. Nevertheless, significant risks remain as Europeans struggle to implement the new Greek program and debt exchange, meet targets for budgets and bank capital, and expand the financial backstop. Over the longer term, the region must meet the difficult challenges of achieving sustained fiscal consolidation, stimulating growth, and improving competitiveness.

EMEs trended down significantly in 2011, especially in the third and fourth quarters when the strength of the dollar led to reductions in their intervention activity.

Advanced Foreign Economies

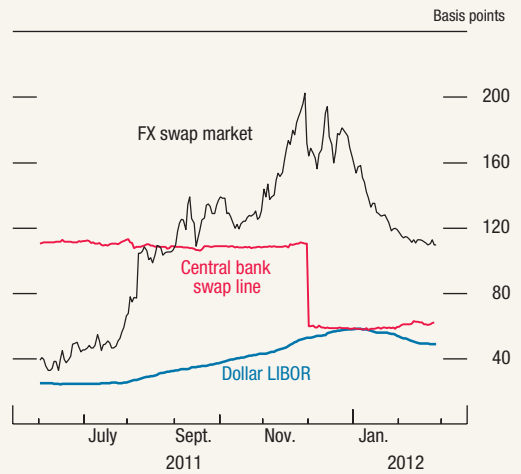
The intensification of the euro-area sovereign debt crisis was accompanied by a widespread slowing of economic activity in the AFEs. In the euro area, financial tensions increased despite the various measures announced by European leaders to combat the crisis. Real GDP contracted in the euro area at the end of last year according to preliminary estimates, and spillovers from the euro area likely contributed to the fourth-quarter GDP decline in the United Kingdom. In Japan, economic activity rebounded rapidly from the disruptions of the March earthquake and tsunami but dipped again in the last quarter of 2011 as exports slumped. In Canada, elevated commodity prices and a resilient labor market have supported economic activity, but the export sector is showing signs of weakening.

Survey indicators suggest that conditions improved somewhat around the turn of the year, with widespread upticks in different countries' purchasing managers indexes. However, uncertainty about the

Box 3. U.S. Dollar Funding Pressures and Dollar Liquidity Swap Arrangements

As the euro-area crisis intensified, European banks faced greater dollar funding pressures. Many European banks were especially vulnerable to changes in investor sentiment through their reliance on short-term dollar-denominated funding. As market sentiment deteriorated, European banks' access to medium- and long-term dollar funding markets diminished markedly, with many unable to obtain unsecured dollar funding at maturities exceeding one week. The pullback of U.S. money market funds (MMFs) from liabilities of euro-area banks beginning in mid-2011 was an important part of the runoff of short-term dollar funds, although MMFs were not the only investors to reduce their exposures to European banks. As a result, many European banks faced higher dollar funding costs. For example, the cost for euro-area banks to obtain three-month dollar funding through the foreign exchange (FX) swap market rose as financial pressures increased. The cost of dollar funding through this market (the black line in figure A), as banks borrow euros at the euro London interbank offered rate (LIBOR) and swap into dollars in the FX swap market, rose from 40 basis points early last summer to about 200 basis points in late November.

Figure A. Costs of three-month dollar funding through the foreign exchange swap market, the central bank swap line, and dollar LIBOR, 2011–12



Note: The data are daily. The last observation for each series is February 24, 2012. Three-month dollar funding through the foreign exchange (FX) swap market assumes that the banks first pay euro LIBOR (London interbank offered rate) to obtain euro funding.

Source: Bloomberg.

Although the effects of these dollar funding strains are difficult to gauge, they pose substantial risks for the U.S. economy. Large European banks borrow heavily in dollars partly because they are active in U.S. markets, purchasing government and corporate securities as well as making loans to U.S. households and businesses. A possible response to dollar funding strains, along with heightened capital requirements, might be for European banks to sell their dollar assets or refrain from further dollar lending, which could in turn result in a reduction of the credit they supply to U.S. firms and households while also reducing credit to European and other foreign firms involved in trade with the United States. Therefore, further stresses on European banks could spill over to the United States by weighing on business and consumer activity, restraining our exports, and adding to pressures on U.S. financial markets and institutions.

To address strains in dollar funding markets, the Federal Reserve, the European Central Bank (ECB), and the central banks of Canada, Japan, Switzerland, and the United Kingdom announced an agreement on November 30 to revise, extend, and expand the U.S. dollar swap lines. The revised agreement lowered the price of dollar funding provided through the swaps (the red line in figure A) to a rate of 50 basis points over the dollar overnight index swap rate, a reduction of 50 basis points in the rate at which the foreign central banks had been providing dollar loans since May 2010.

The reduction in dollar funding costs due to the revised pricing of the central bank swap lines helped strengthen the liquidity positions of European and other foreign banks, thereby benefiting the United States by supporting the continued supply of credit to U.S. households and businesses while mitigating other channels of risk. Draws on the swap lines, especially from the ECB, have been significant. On December 7, at the first three-month dollar tender under the new pricing scheme, the ECB allocated about $51 billion, a substantial increase over previous operations. As of February 24, the ECB, the Bank of Japan, and the Swiss National Bank had about $89 billion, $18 billion, and $0.5 billion outstanding, respectively, from their dollar swap line allotments, for a total of about $108 billion. In an indication that the swap lines have been effective at reducing overall dollar funding pressure, the cost of obtaining dollars in the FX swap market has dropped substantially since November 30. Dollar LIBOR, which measures dollar funding costs in the interbank market for U.S. and foreign institutions, has also declined over the past two months.

resolution of the euro-area crisis continues to affect investors' sentiment, while trade and financial spillovers weigh on activity for all of the AFEs.

Twelve-month headline inflation remained elevated in most of the AFEs through the end of 2011, largely reflecting the run-up in commodity prices earlier last year and, in some countries, currency depreciation and increases in taxes. However, underlying inflation pressures remained contained and, in recent months, inflation rates have begun to turn down, reflecting weaker economic activity and, as in the United States, declines in commodity prices since last spring. As with output, inflation performance differs significantly across countries. Twelve-month headline inflation currently ranges from 3.6 percent in the United Kingdom, partly due to hikes in utility prices, to slightly negative in Japan, where deflation resumed toward the end of 2011 as energy price inflation moderated.

Several foreign central banks in the AFEs eased monetary policy in the second half of last year. The ECB cut its policy rate 50 basis points in the fourth quarter, bringing the main refinancing rate back to 1 percent, where it was at the beginning of the year. At its December meeting, the ECB also expanded its provision of liquidity to the banking sector by introducing two three-year longer-term refinancing operations, reducing its reserve ratio requirement from 2 percent to 1 percent, and easing its collateral requirements. The Bank of England has held the Bank Rate at 0.5 percent but announced a £75 billion expansion of its asset purchase facility in October and a further £50 billion increase in February that will bring total asset holdings to £325 billion upon its completion in May 2012. The Bank of Japan also expanded its asset purchase program, raising it from ¥15 trillion to ¥20 trillion in October and then to ¥30 trillion in February.

Emerging Market Economies

Many EMEs experienced a slowdown in economic growth in the third quarter of last year relative to the pace seen in the first half. Both earlier policy tightening, undertaken amid concerns about overheating, and weakening external demand weighed on growth. However, third-quarter growth in China and Mexico remained strong, supported by robust domestic demand. Recent data indicate that the slowdown continued and broadened in the fourth quarter, as the financial crisis in Europe softened external demand and the floods in Thailand impeded supply chains. In the second half of last year, concerns about the global economy prompted EME authorities either to put monetary policy tightening on hold or, in several cases—such as Brazil, China, Indonesia, and Thailand—to loosen monetary policy.

In China, real GDP growth stepped down to an annual rate of about 8 percent in the fourth quarter. Retail sales and fixed-asset investment slowed a touch but continued to grow briskly, reflecting solid domestic demand. But net exports exerted a small drag on growth, as weak external demand damped exports. Twelve-month headline inflation moderated to about 4½ percent in January, as food prices retreated from earlier sharp rises. With growth slowing and inflation on the decline, Chinese authorities reversed the course of monetary policy toward easing by lowering the reserve requirement for large banks 100 basis points to 20.5 percent. In 2011, the Chinese renminbi appreciated 4½ percent against the dollar and about 6 percent on a real trade-weighted basis; the latter measure gauges the renminbi's value against the currencies of China's major trading partners and adjusts for differences in inflation rates.

In Mexico, economic activity accelerated in the second and third quarters as domestic demand expanded robustly. However, incoming indicators, such as tepid growth of exports to the United States, point to a slowdown in the fourth quarter. Mexican consumer price inflation rose sharply in the second half of the year, driven largely by rising food prices and the removal of electrical energy subsidies. In Brazil, in contrast to most EMEs, GDP contracted slightly in the third quarter, but incoming indicators point to a return to growth in the fourth quarter, partly as a result of several rounds of monetary policy easing that began in August. As the direction of capital flows turned to a net outflow, Brazilian authorities loosened capital controls that had been introduced earlier in the face of massive inflows and associated fears of overheating.

Part 3
Monetary Policy: Recent Developments and Outlook

Monetary Policy over the Second Half of 2011 and Early 2012

To promote the Federal Open Market Committee's (FOMC) objectives of maximum employment and price stability, the Committee maintained a target range for the federal funds rate of 0 to ¼ percent throughout the second half of 2011 and into 2012. With the incoming data suggesting a somewhat slower pace of economic recovery than the Committee had anticipated, and with inflation seen as settling at levels at or below those consistent with its statutory mandate, the Committee took steps during

the second half of 2011 and in early 2012 to provide additional monetary accommodation in order to support a stronger economic recovery and to help ensure that inflation, over time, runs at levels consistent with its mandate. These steps included strengthening its forward rate guidance regarding the Committee's expectations for the period over which economic conditions will warrant exceptionally low levels for the federal funds rate, increasing the average maturity of the Federal Reserve's securities holdings through a program of purchases and sales, and reinvesting principal payments on agency securities in agency-guaranteed mortgage-backed securities (MBS) rather than Treasury securities.

On August 1, the Committee met by videoconference to discuss issues associated with contingencies in the event that the Treasury was temporarily unable to meet its obligations because the statutory federal debt limit was not raised or in the event of a downgrade of the U.S. sovereign credit rating. Participants generally anticipated that there would be no need to make changes to existing bank regulations, the operation of the discount window, or the conduct of open market operations.[20] With respect to potential policy actions, participants agreed that the appropriate response would depend importantly on the actual conditions in markets and should generally consist of standard operations.

The information reviewed at the regularly scheduled FOMC meeting on August 9 indicated that the pace of the economic recovery had remained slow in recent months and that labor market conditions continued to be weak. In addition, revised data for 2008 through 2010 from the Bureau of Economic Analysis indicated that the recent recession had been deeper than previously thought and that the level of real gross domestic product (GDP) had not yet regained its pre-recession peak by the second quarter of 2011. Moreover, downward revisions to first-quarter GDP growth and the slow growth reported for the second quarter indicated that the recovery had been quite sluggish in the first half of 2011. Private nonfarm payroll employment rose at a considerably slower pace in June and July than earlier in the year, and participants noted a deterioration in labor market conditions, slower household spending, a drop in consumer and business confidence, and continued weakness in the housing sector. Inflation, which had picked up earlier in the year as a result of higher prices for some commodities and imported goods as well as supply chain disruptions resulting from the natural disaster in Japan, moderated more recently as prices of energy and some commodities fell back from their earlier peaks. Longer-term inflation expectations remained stable. U.S. financial markets were strongly influenced by developments regarding the fiscal situations in the United States and in Europe and by generally weaker-than-expected readings on economic activity, as foreign economic growth appeared to have slowed significantly. Yields on nominal Treasury securities fell notably, on net, while yields on both investment- and speculative-grade corporate bonds fell a little less than those on comparable-maturity Treasury securities, leaving risk spreads wider. Broad U.S. stock price indexes declined significantly.

Most members agreed that the economic outlook had deteriorated by enough to warrant a Committee response at the August meeting. Those viewing a shift toward more accommodative policy as appropriate generally agreed that a strengthening of the Committee's forward guidance regarding the federal funds rate, by being more explicit about the period over which the Committee expected the federal funds rate to remain exceptionally low, would be a measured response to the deterioration in the outlook over the intermeeting period. The Committee agreed to keep the target range for the federal funds rate at 0 to ¼ percent and to state that economic conditions—including low rates of resource utilization and a subdued outlook for inflation over the medium run—are likely to warrant exceptionally low levels for the federal funds rate at least through mid-2013. That anticipated path for the federal funds rate was viewed as appropriate in light of most members' outlook for the economy.

The data in hand at the September 20–21 FOMC meeting indicated that economic activity continued to expand at a slow pace and that labor market conditions remained weak. Consumer price inflation appeared to have moderated since earlier in the year as prices of energy and some commodities declined from their peaks, but it had not yet come down as much as participants had expected at previous meetings. Industrial production expanded in July and August, real business spending on equipment and software appeared to expand further, and real con-

[20] *Members* of the FOMC consist of the members of the Board of Governors of the Federal Reserve System plus the president of the Federal Reserve Bank of New York and 4 of the remaining 11 Reserve Bank presidents, who serve one-year terms on a rotating basis. *Participants* at FOMC meetings consist of the members of the Board of Governors of the Federal Reserve System and all 12 Reserve Bank presidents.

sumer spending posted a solid gain in July. However, private nonfarm employment rose only slightly in August, and the unemployment rate remained high. Consumer sentiment deteriorated significantly further in August and stayed downbeat in early September. Activity in the housing sector continued to be depressed by weak demand, uncertainty about future home prices, tight credit conditions for mortgages and construction loans, and a substantial inventory of foreclosed and distressed properties. Financial markets were volatile over the intermeeting period as investors responded to somewhat disappointing news, on balance, regarding economic activity in the United States and abroad. Weak economic data contributed to rising expectations among market participants of additional monetary accommodation; those expectations and increasing concerns about the financial situation in Europe led to an appreciable decline in intermediate- and longer-term nominal Treasury yields. Fluctuations in investors' level of concern about European fiscal and financial prospects also contributed to market volatility, particularly in equity markets, and spreads of yields on investment- and speculative-grade corporate bonds over those on comparable-maturity Treasury securities rose significantly over the intermeeting period, reaching levels last registered in late 2009.

In the discussion of monetary policy, most members agreed that the outlook had deteriorated somewhat, and that there were significant downside risks to the economic outlook, including strains in global financial markets. As a result, the Committee decided that providing additional monetary accommodation would be appropriate to support a stronger recovery and to help ensure that inflation, over time, was at a level consistent with the Committee's dual mandate. Those viewing greater policy accommodation as appropriate at this meeting generally supported a maturity extension program that would combine asset purchases and sales to extend the average maturity of securities held in the System Open Market Account without generating a substantial expansion of the Federal Reserve's balance sheet or reserve balances. Specifically, those members supported a program under which the Committee would announce its intention to purchase, by the end of June 2012, $400 billion of Treasury securities with remaining maturities of 6 years to 30 years and to sell an equal amount of Treasury securities with remaining maturities of 3 years or less. They expected this program to put downward pressure on longer-term interest rates and to help make broader financial conditions more accommodative. In addition, to help support conditions in mortgage markets, the Committee decided to reinvest principal received from its holdings of agency debt and agency MBS in agency MBS rather than continuing to reinvest those funds in longer-term Treasury securities as had been the Committee's practice since the August 2010 FOMC meeting. At the same time, the Committee decided to maintain its existing policy of rolling over maturing Treasury securities at auction. In its statement, the Committee noted that it would continue to regularly review the size and composition of its securities holdings and that it was prepared to adjust those holdings as appropriate. The Committee also decided to keep the target range for the federal funds rate at 0 to ¼ percent and to reaffirm its anticipation that economic conditions were likely to warrant exceptionally low levels for the federal funds rate at least through mid-2013.

The information reviewed at the November 1–2 meeting indicated that the pace of economic activity strengthened somewhat in the third quarter, reflecting in part a reversal of the temporary factors that weighed on economic growth in the first half of the year. Global supply chain disruptions associated with the natural disaster in Japan had diminished, and the prices of energy and some commodities had come down from their recent peaks, easing strains on household budgets and likely contributing to a somewhat stronger pace of consumer spending in recent months. Real equipment and software investment expanded appreciably, and real personal consumption expenditures (PCE) rose moderately in the third quarter. However, real disposable income declined in the third quarter and consumer sentiment continued to be downbeat in October. In addition, labor market conditions remained weak as the pace of private-sector job gains in the third quarter as a whole was less than it was in the first half of the year. Overall consumer price inflation was more moderate than earlier in the year, as prices of energy and some commodities declined from their recent peaks, and measures of longer-run inflation expectations remained stable. Financial markets were quite volatile and investor sentiment was strongly influenced by prospects for Europe, as market participants remained highly attuned to developments regarding possible steps to contain the fiscal and banking problems there. Longer-term Treasury yields declined appreciably, on net, over the period, and yields on investment- and speculative-grade corporate bonds moved lower, leaving their spreads to Treasury securities slightly

narrower. Although equity markets were volatile, broad U.S. equity price indexes ended the intermeeting period little changed.

Most FOMC members anticipated that the pace of economic growth would remain moderate over coming quarters, with unemployment declining only gradually and inflation settling at or below levels consistent with the dual mandate. Moreover, the recovery was still seen as subject to significant downside risks, including strains in global financial markets. Accordingly, in the discussion of monetary policy, all Committee members agreed to continue the program of extending the average maturity of the Federal Reserve's holdings of securities as announced in September. The Committee decided to maintain its existing policy of reinvesting principal payments from its holdings of agency debt and agency MBS in agency MBS and of rolling over maturing Treasury securities at auction. In addition, the Committee agreed to keep the target range for the federal funds rate at 0 to ¼ percent and to reiterate its expectation that economic conditions were likely to warrant exceptionally low levels for the federal funds rate at least through mid-2013.

Over subsequent weeks, financial markets appeared to become increasingly concerned that a timely resolution of the European sovereign debt situation might not occur despite the measures that authorities there announced in October; pressures on European sovereign debt markets increased, and conditions in European funding markets deteriorated appreciably. The greater financial stress appeared likely to damp economic activity in the euro area and potentially to pose a risk to the economic recovery in the United States.

On November 28, the Committee met by videoconference to discuss a proposal to amend and augment the Federal Reserve's temporary liquidity swap arrangements with foreign central banks in light of the increased strains in global financial markets. The proposal included a six-month extension of the sunset date and a 50 basis point reduction in the pricing on the existing dollar liquidity swap arrangements with the Bank of Canada, the Bank of England, the Bank of Japan, the European Central Bank (ECB), and the Swiss National Bank. In addition, the proposal included the establishment, as a contingency measure, of swap arrangements that would allow the Federal Reserve to provide liquidity to U.S. institutions in foreign currencies should the need arise. The proposal was aimed at helping to ease strains in financial markets and thereby to mitigate the effects of such strains on the supply of credit to U.S. households and businesses, thus supporting the economic recovery. Most participants agreed that the proposed changes to the swap arrangements would represent an important demonstration of the commitment of the Federal Reserve and the other central banks to work together to support the global financial system. At the conclusion of the discussion, almost all members agreed to support the changes to the existing swap line arrangements and the establishment of the new foreign currency swap agreements.

As of the December 13 FOMC meeting, the data indicated that U.S. economic activity had expanded moderately despite some apparent slowing in the growth of foreign economies and strains in global financial markets. Conditions in the labor market seemed to have improved somewhat, as the unemployment rate dropped in November and private nonfarm employment continued to increase moderately. In October, industrial production rose, and overall real PCE grew modestly following significant gains in the previous month. However, revised estimates indicated that households' real disposable income declined in the second and third quarters, the net wealth of households decreased, and consumer sentiment was still at a subdued level in early December. Activity in the housing market remained depressed by the substantial inventory of foreclosed and distressed properties and by weak demand that reflected tight credit conditions for mortgage loans and uncertainty about future home prices. Overall consumer price inflation continued to be more modest than earlier in the year, and measures of long-run inflation expectations had been stable. The risks associated with the fiscal and financial difficulties in Europe remained the focus of attention in financial markets over the intermeeting period and contributed to heightened volatility in a wide range of asset markets. However, stock prices and longer-term interest rates had changed little, on balance, since the November meeting.

Members viewed the information on U.S. economic activity received over the intermeeting period as suggesting that the economy would continue to expand moderately. Strains in global financial markets continued to pose significant downside risks to economic activity. Members also anticipated that inflation would settle, over coming quarters, at levels at or below those consistent with the Committee's dual mandate. In the discussion of monetary policy for the period immediately ahead, Committee members

generally agreed that their overall assessments of the economic outlook had not changed greatly since their previous meeting. As a result, the Committee decided to continue the program of extending the average maturity of the Federal Reserve's holdings of securities as announced in September, to retain the existing policies regarding the reinvestment of principal payments from Federal Reserve holdings of securities, and to keep the target range for the federal funds rate at 0 to ¼ percent. While several members noted that the reference to mid-2013 in the forward rate guidance might need to be adjusted before long, and a number of them looked forward to considering possible enhancements to the Committee's communications, the Committee agreed to reiterate its anticipation that economic conditions were likely to warrant exceptionally low levels for the federal funds rate at least through mid-2013.

The information reviewed at the January 24–25 meeting indicated that U.S. economic activity continued to expand moderately, while global growth appeared to be slowing. Labor market indicators pointed to some further improvement in labor market conditions, but progress was gradual and the unemployment rate remained elevated. Household spending had continued to advance at a moderate pace despite diminished growth in real disposable income, but growth in business fixed investment had slowed. The housing sector remained depressed. Inflation had been subdued in recent months, there was little evidence of wage or cost pressures, and longer-term inflation expectations had remained stable. Meeting participants observed that financial conditions had improved and financial market stresses had eased somewhat during the intermeeting period: Equity prices were higher, volatility had declined, and bank lending conditions appeared to be improving. Participants noted that the ECB's three-year refinancing operation had apparently resulted in improved conditions in European sovereign debt markets. Nonetheless, participants expected that global financial markets would remain focused on the evolving situation in Europe and they anticipated that further policy efforts would be required to fully address the fiscal and financial problems there.

With the economy facing continuing headwinds and growth slowing in a number of U.S. export markets, members generally expected a modest pace of economic growth over coming quarters, with the unemployment rate declining only gradually. At the same time, members thought that inflation would run at levels at or below those consistent with the Committee's dual mandate. Against this backdrop, members agreed that it would be appropriate to maintain the existing highly accommodative stance of monetary policy. They agreed to keep the target range for the federal funds rate at 0 to ¼ percent, to continue the program of extending the average maturity of the Federal Reserve's holdings of securities as announced in September, and to retain the existing policies regarding the reinvestment of principal payments from Federal Reserve holdings of securities. In light of the economic outlook, most members also agreed to indicate that the Committee expects to maintain a highly accommodative stance for monetary policy and anticipates that economic conditions are likely to warrant exceptionally low levels for the federal funds rate at least through late 2014, longer than had been indicated in recent FOMC statements. The Committee also stated that it is prepared to adjust the size and composition of its securities holdings as appropriate to promote a stronger economic recovery in a context of price stability.

FOMC Communications

Transparency is an essential principle of modern central banking because it appropriately contributes to the accountability of central banks to the government and to the public and because it can enhance the effectiveness of central banks in achieving their macroeconomic objectives. To this end, the Federal Reserve provides to the public a considerable amount of information concerning the conduct of monetary policy. Immediately following each meeting of the FOMC, the Committee releases a statement that lays out the rationale for its policy decision, and detailed minutes of each FOMC meeting are made public three weeks following the meeting. Lightly edited transcripts of FOMC meetings are released to the public with a five-year lag.[21] Moreover, since last April, the Chairman has held press conferences after regularly scheduled two-day FOMC meetings. At the press conferences, the Chairman presents the current economic projections of FOMC participants and provides additional context for its policy decisions.

The Committee continued to consider additional improvements in its communications approach in the second half of 2011 and the first part of 2012. In a discussion on external communications at the September 20–21 FOMC meeting, most participants indicated that they favored taking steps to increase

[21] FOMC statements, minutes, and transcripts, as well as other related information, are available on the Federal Reserve Board's website at www.federalreserve.gov/monetarypolicy/fomc.htm.

further the transparency of monetary policy, including providing more information about the Committee's longer-run policy objectives and the factors that influence the Committee's policy decisions. Participants generally agreed that a clear statement of the Committee's longer-run policy objectives could be helpful; some noted that it would also be useful to clarify the linkage between these longer-run objectives and the Committee's approach to setting the stance of monetary policy in the short and medium runs. Participants generally saw the Committee's postmeeting statements as not well suited to communicate fully the Committee's thinking about its objectives and its policy framework, and they agreed that the Committee would need to use other means to communicate that information or to supplement information in the statement. A number of participants suggested that the Committee's periodic Summary of Economic Projections (SEP) could be used to provide more information about their views on the longer-run objectives and the likely evolution of monetary policy.

At the November 1–2 FOMC meeting, participants discussed alternative monetary policy strategies and potential approaches for enhancing the clarity of their public communications, though no decision was made at that meeting to change the Committee's policy strategy or communications. It was noted that many central banks around the world pursue an explicit inflation objective, maintain the flexibility to stabilize economic activity, and seek to communicate their forecasts and policy plans as clearly as possible. Many participants pointed to the merits of specifying an explicit longer-run inflation goal, but it was noted that such a step could be misperceived as placing greater weight on price stability than on maximum employment; consequently, some suggested that a numerical inflation goal would need to be set forth within a context that clearly underscored the Committee's commitment to fostering both parts of its dual mandate. Most of participants agreed that it could be beneficial to formulate and publish a statement that would elucidate the Committee's policy approach, and participants generally expressed interest in providing additional information to the public about the likely future path of the target federal funds rate. The Chairman asked the subcommittee on communications, headed by Governor Yellen, to give consideration to a possible statement of the Committee's longer-run goals and policy strategy, and he also encouraged the subcommittee to explore potential approaches for incorporating information about participants' assessments of appropriate monetary policy into the SEP.[22]

At the December 13 FOMC meeting, participants further considered ways in which the Committee might enhance the clarity and transparency of its public communications. The subcommittee on communications recommended an approach for incorporating information about participants' projections of appropriate future monetary policy into the SEP, which the FOMC releases four times each year. In the SEP, participants' projections for economic growth, unemployment, and inflation are conditioned on their individual assessments of the path of monetary policy that is most likely to be consistent with the Federal Reserve's statutory mandate to promote maximum employment and price stability, but information about those assessments has not been included in the SEP. Most participants agreed that adding their projections of the target federal funds rate to the economic projections already provided in the SEP would help the public better understand the Committee's monetary policy decisions and the ways in which those decisions depend on members' assessments of economic and financial conditions. At the conclusion of the discussion, participants decided to incorporate information about their projections of appropriate monetary policy into the SEP beginning in January.

Following up on the Committee's discussion of policy frameworks at its November meeting, the subcommittee on communications presented a draft statement of the Committee's longer-run goals and policy strategy. Participants generally agreed that issuing such a statement could be helpful in enhancing the transparency and accountability of monetary policy and in facilitating well-informed decisionmaking by households and businesses, and thus in enhancing the Committee's ability to promote the goals specified in its statutory mandate in the face of significant economic disturbances. However, a couple of participants expressed the concern that a statement that was sufficiently nuanced to capture the diversity of views on the Committee might not, in fact, enhance public understanding of the Committee's actions and intentions. Participants commented on the draft statement, and the Chairman encouraged the subcommittee to make adjustments to the

[22] The subcommittee on communications is chaired by Governor Yellen and includes Governor Raskin and Presidents Evans and Plosser.

Box 4. FOMC Statement Regarding Longer-Run Goals and Monetary Policy Strategy

Following careful deliberations at its recent meetings, the Federal Open Market Committee (FOMC) has reached broad agreement on the following principles regarding its longer-run goals and monetary policy strategy. The Committee intends to reaffirm these principles and to make adjustments as appropriate at its annual organizational meeting each January.

The FOMC is firmly committed to fulfilling its statutory mandate from the Congress of promoting maximum employment, stable prices, and moderate long-term interest rates. The Committee seeks to explain its monetary policy decisions to the public as clearly as possible. Such clarity facilitates well-informed decisionmaking by households and businesses, reduces economic and financial uncertainty, increases the effectiveness of monetary policy, and enhances transparency and accountability, which are essential in a democratic society.

Inflation, employment, and long-term interest rates fluctuate over time in response to economic and financial disturbances. Moreover, monetary policy actions tend to influence economic activity and prices with a lag. Therefore, the Committee's policy decisions reflect its longer-run goals, its medium-term outlook, and its assessments of the balance of risks, including risks to the financial system that could impede the attainment of the Committee's goals.

The inflation rate over the longer run is primarily determined by monetary policy, and hence the Committee has the ability to specify a longer-run goal for inflation. The Committee judges that inflation at the rate of 2 percent, as measured by the annual change in the price index for personal consumption expenditures, is most consistent over the longer run with the Federal Reserve's statutory mandate. Communicating this inflation goal clearly to the public helps keep longer-term inflation expectations firmly anchored, thereby fostering price stability and moderate long-term interest rates and enhancing the Committee's ability to promote maximum employment in the face of significant economic disturbances.

The maximum level of employment is largely determined by nonmonetary factors that affect the structure and dynamics of the labor market. These factors may change over time and may not be directly measurable. Consequently, it would not be appropriate to specify a fixed goal for employment; rather, the Committee's policy decisions must be informed by assessments of the maximum level of employment, recognizing that such assessments are necessarily uncertain and subject to revision. The Committee considers a wide range of indicators in making these assessments. Information about Committee participants' estimates of the longer-run normal rates of output growth and unemployment is published four times per year in the FOMC's Summary of Economic Projections. For example, in the most recent projections, FOMC participants' estimates of the longer-run normal rate of unemployment had a central tendency of 5.2 percent to 6.0 percent, roughly unchanged from last January but substantially higher than the corresponding interval several years earlier.

In setting monetary policy, the Committee seeks to mitigate deviations of inflation from its longer-run goal and deviations of employment from the Committee's assessments of its maximum level. These objectives are generally complementary. However, under circumstances in which the Committee judges that the objectives are not complementary, it follows a balanced approach in promoting them, taking into account the magnitude of the deviations and the potentially different time horizons over which employment and inflation are projected to return to levels judged consistent with its mandate.

draft and to present a revised version for the Committee's further consideration in January.

At the January 24–25 meeting, the subcommittee on communications presented a revised draft of a statement of principles regarding the FOMC's longer-run goals and monetary policy strategy. Almost all participants supported adopting and releasing the revised statement (see **box 4**). It was noted that the proposed statement did not represent a change in the Committee's policy approach. Instead, the statement was intended to help enhance the transparency, accountability, and effectiveness of monetary policy.

In addition, in light of the decision made at the December meeting, the Committee provided in the January SEP information about each participant's assessments of appropriate monetary policy. Specifically, the SEP included information about participants' estimates of the appropriate level of the target federal funds rate in the fourth quarter of the current year and the next few calendar years, and over the longer run; the SEP also reported participants' current projections of the likely timing of the appropriate first increase in the target rate given their projections of future economic conditions. The accompanying narrative described the key factors underlying

those assessments and provided some qualitative information regarding participants' expectations for the Federal Reserve's balance sheet. A number of participants suggested further possible enhancements to the SEP; the Chairman asked the subcommittee to explore such enhancements over coming months.

Part 4
Summary of Economic Projections

The following material appeared as an addendum to the minutes of the January 24–25, 2012, meeting of the Federal Open Market Committee.

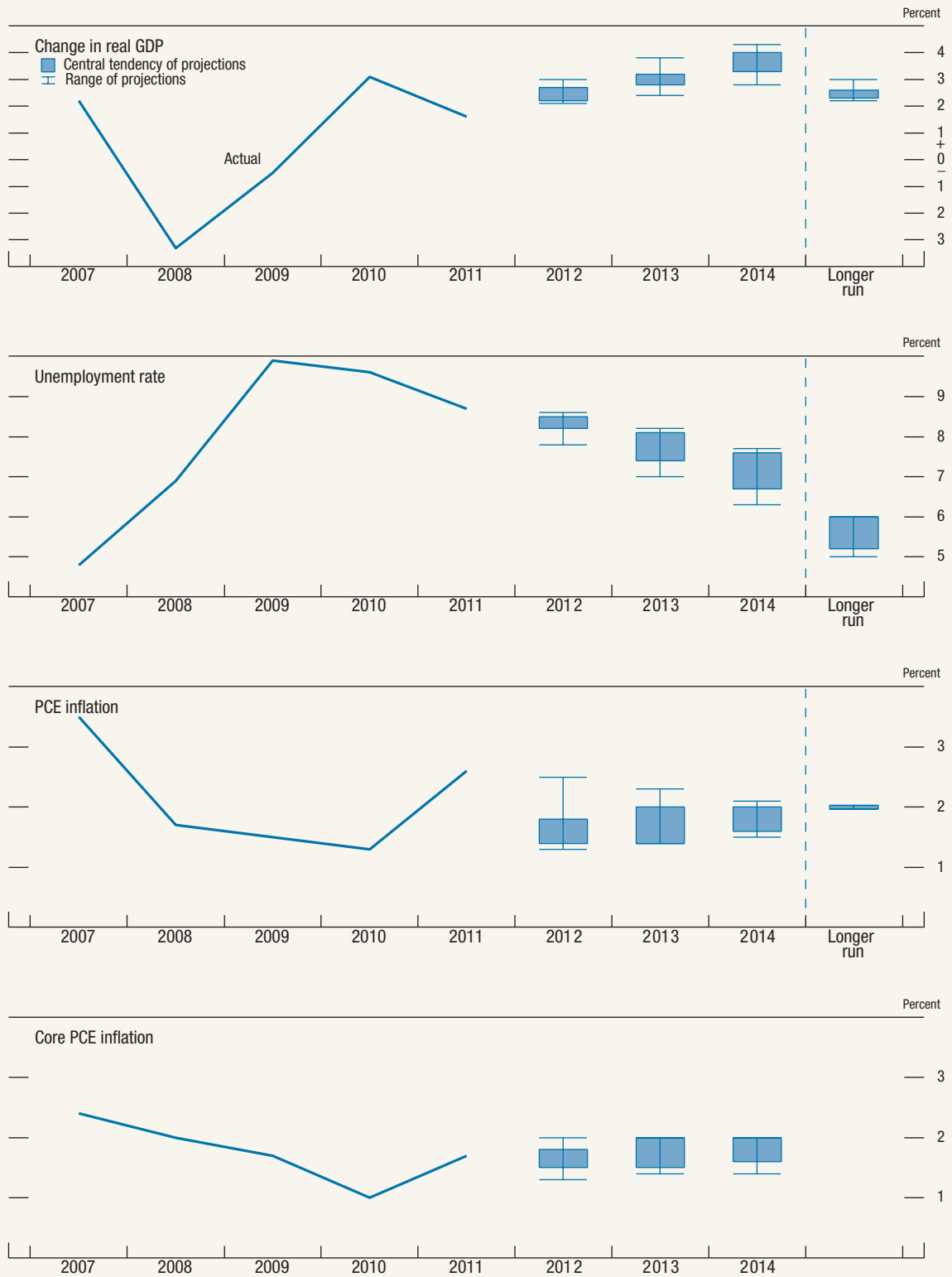
In conjunction with the January 24–25, 2012, Federal Open Market Committee (FOMC) meeting, the members of the Board of Governors and the presidents of the Federal Reserve Banks, all of whom participate in the deliberations of the FOMC, submitted projections for growth of real output, the unemployment rate, and inflation for the years 2012 to 2014 and over the longer run. The economic projections were based on information available at the time of the meeting and participants' individual assumptions about factors likely to affect economic outcomes, including their assessments of appropriate monetary policy. Starting with the January meeting, participants also submitted their assessments of the path for the target federal funds rate that they viewed as appropriate and compatible with their individual economic projections. Longer-run projections represent each participant's assessment of the rate to which each variable would be expected to converge over time under appropriate monetary policy and in the absence of further shocks. "Appropriate monetary policy" is defined as the future path of policy that participants deem most likely to foster outcomes for economic activity and inflation that best satisfy their individual interpretation of the Federal Reserve's objectives of maximum employment and stable prices.

As depicted in **figure 1**, FOMC participants projected continued economic expansion over the 2012–14 period, with real gross domestic product (GDP) rising at a modest rate this year and then strengthening further through 2014. Participants generally anticipated only a small decline in the unemployment rate this year. In 2013 and 2014, the pace of the expansion was projected to exceed participants' estimates of the longer-run sustainable rate of increase in real GDP by enough to result in a gradual further decline in the unemployment rate. However, at the end of 2014, participants generally expected that the unemployment rate would still be well above their estimates of the longer-run normal unemployment rate that they currently view as consistent with the FOMC's statutory mandate for promoting maximum employment and price stability. Participants viewed the upward pressures on inflation in 2011 from factors such as supply chain disruptions and rising commodity prices as having waned, and they anticipated that inflation would fall back in 2012. Over the projection period, most participants expected inflation, as measured by the annual change in the price index for personal consumption expenditures (PCE), to be at or below the FOMC's objective of 2 percent that was expressed in the Committee's statement of longer-run goals and policy strategy. Core inflation was projected to run at about the same rate as overall inflation.

As indicated in **table 1**, relative to their previous projections in November 2011, participants made small downward revisions to their expectations for the rate of increase in real GDP in 2012 and 2013, but they did not materially alter their projections for a noticeably stronger pace of expansion by 2014. With the unemployment rate having declined in recent months by more than participants had anticipated in the previous Summary of Economic Projections (SEP), they generally lowered their forecasts for the level of the unemployment rate over the next two years. Participants' expectations for both the longer-run rate of increase in real GDP and the longer-run unemployment rate were little changed from November. They did not significantly alter their forecasts for the rate of inflation over the next three years. However, in light of the 2 percent inflation that is the objective included in the statement of longer-run goals and policy strategy adopted at the January meeting, the range and central tendency of their projections of longer-run inflation were all equal to 2 percent.

As shown in **figure 2**, most participants judged that highly accommodative monetary policy was likely to be warranted over coming years to promote a stronger economic expansion in the context of price stability. In particular, with the unemployment rate projected to remain elevated over the projection period and inflation expected to be subdued, six participants anticipated that, under appropriate monetary policy, the first increase in the target federal funds rate would occur after 2014, and five expected policy firming to commence during 2014 (the upper panel). The remaining six participants judged that raising the federal funds rate sooner would be required to forestall inflationary pressures or avoid distortions in the financial system. As indicated in the lower panel, all of the individual assessments of the appropriate target federal funds rate over the next several years were below the longer-run level of the

Figure 1. Central tendencies and ranges of economic projections, 2012–14 and over the longer run



Note: Definitions of variables are in the notes to table 1. The data for the actual values of the variables are annual. The data for the change in real GDP, PCE inflation, and core PCE inflation shown for 2011 incorporate the advance estimate of GDP for the fourth quarter of 2011, which the Bureau of Economic Analysis released on January 27, 2012. This information was not available to FOMC meeting participants at the time of their meeting.

Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, January 2012
Percent

Variable	Central tendency[1]				Range[2]			
	2012	2013	2014	Longer run	2012	2013	2014	Longer run
Change in real GDP	2.2 to 2.7	2.8 to 3.2	3.3 to 4.0	2.3 to 2.6	2.1 to 3.0	2.4 to 3.8	2.8 to 4.3	2.2 to 3.0
November projection	2.5 to 2.9	3.0 to 3.5	3.0 to 3.9	2.4 to 2.7	2.3 to 3.5	2.7 to 4.0	2.7 to 4.5	2.2 to 3.0
Unemployment rate	8.2 to 8.5	7.4 to 8.1	6.7 to 7.6	5.2 to 6.0	7.8 to 8.6	7.0 to 8.2	6.3 to 7.7	5.0 to 6.0
November projection	8.5 to 8.7	7.8 to 8.2	6.8 to 7.7	5.2 to 6.0	8.1 to 8.9	7.5 to 8.4	6.5 to 8.0	5.0 to 6.0
PCE inflation	1.4 to 1.8	1.4 to 2.0	1.6 to 2.0	2.0	1.3 to 2.5	1.4 to 2.3	1.5 to 2.1	2.0
November projection	1.4 to 2.0	1.5 to 2.0	1.5 to 2.0	1.7 to 2.0	1.4 to 2.8	1.4 to 2.5	1.5 to 2.4	1.5 to 2.0
Core PCE inflation[3]	1.5 to 1.8	1.5 to 2.0	1.6 to 2.0		1.3 to 2.0	1.4 to 2.0	1.4 to 2.0	
November projection	1.5 to 2.0	1.4 to 1.9	1.5 to 2.0		1.3 to 2.1	1.4 to 2.1	1.4 to 2.2	

Note: Projections of change in real gross domestic product (GDP) and projections for both measures of inflation are from the fourth quarter of the previous year to the fourth quarter of the year indicated. PCE inflation and core PCE inflation are the percentage rates of change in, respectively, the price index for personal consumption expenditures (PCE) and the price index for PCE excluding food and energy. Projections for the unemployment rate are for the average civilian unemployment rate in the fourth quarter of the year indicated. Each participant's projections are based on his or her assessment of appropriate monetary policy. Longer-run projections represent each participant's assessment of the rate to which each variable would be expected to converge under appropriate monetary policy and in the absence of further shocks to the economy. The November projections were made in conjunction with the meeting of the Federal Open Market Committee on November 1–2, 2011.

[1] The central tendency excludes the three highest and three lowest projections for each variable in each year.

[2] The range for a variable in a given year includes all participants' projections, from lowest to highest, for that variable in that year.

[3] Longer-run projections for core PCE inflation are not collected.

federal funds rate, and 11 participants placed the target federal funds rate at 1 percent or lower at the end of 2014. Most participants indicated that they expected that the normalization of the Federal Reserve's balance sheet should occur in a way consistent with the principles agreed on at the June 2011 meeting of the FOMC, with the timing of adjustments dependent on the expected date of the first policy tightening. A few participants judged that, given their current assessments of the economic outlook, appropriate policy would include additional asset purchases in 2012, and one assumed an early ending of the maturity extension program.

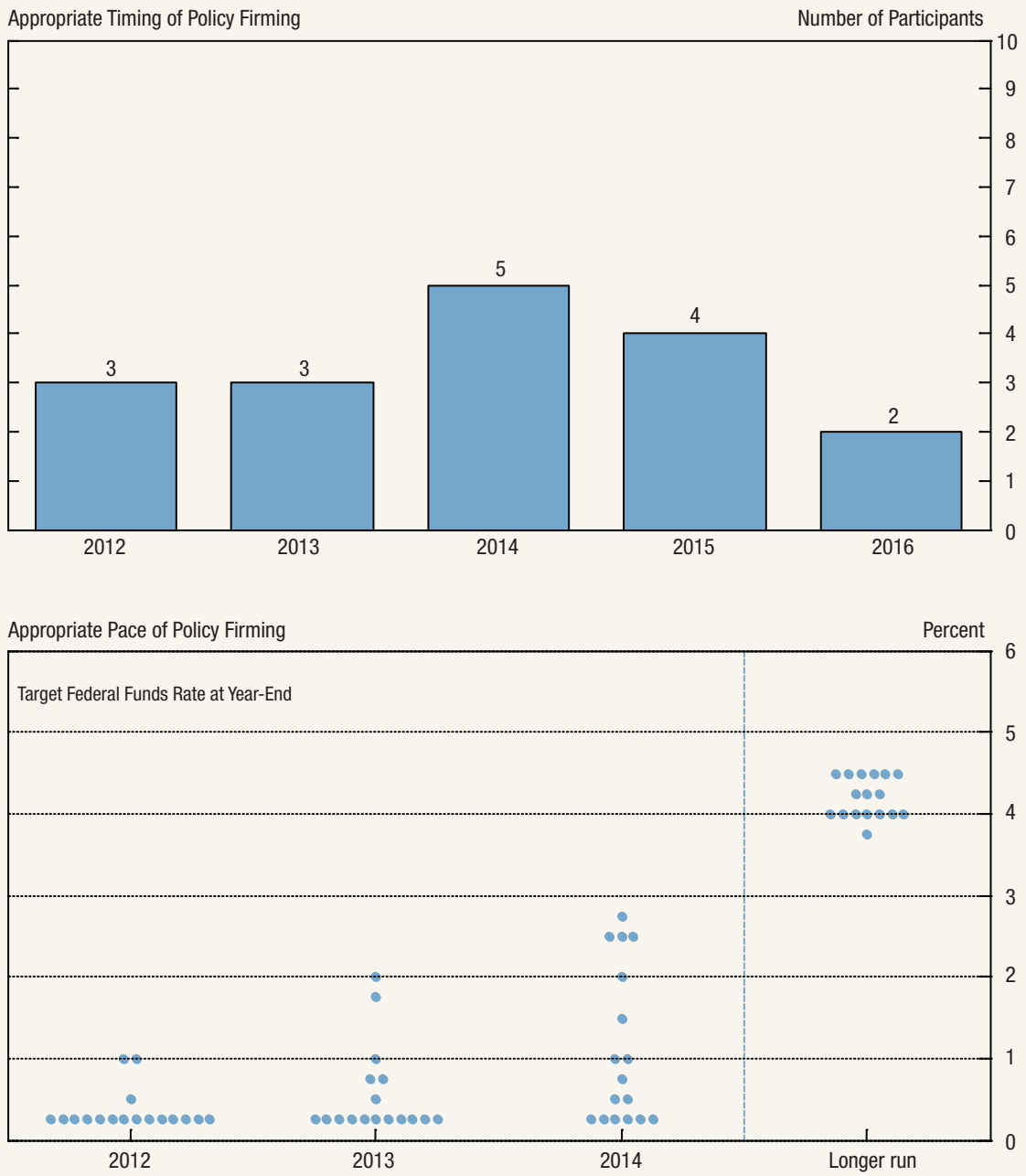
A sizable majority of participants continued to judge the level of uncertainty associated with their projections for real activity and the unemployment rate as unusually high relative to historical norms. Many also attached a greater-than-normal level of uncertainty to their forecasts for inflation, but, compared with the November SEP, two additional participants viewed uncertainty as broadly similar to longer-run norms. As in November, many participants saw downside risks attending their forecasts of real GDP growth and upside risks to their forecasts of the unemployment rate; most participants viewed the risks to their inflation projections as broadly balanced.

The Outlook for Economic Activity

The central tendency of participants' forecasts for the change in real GDP in 2012 was 2.2 to 2.7 percent. This forecast for 2012, while slightly lower than the projection prepared in November, would represent a pickup in output growth from 2011 to a rate close to its longer-run trend. Participants stated that the economic information received since November showed continued gradual improvement in the pace of economic activity during the second half of 2011, as the influence of the temporary factors that damped activity in the first half of the year subsided. Consumer spending increased at a moderate rate, exports expanded solidly, and business investment rose further. Recently, consumers and businesses appeared to become somewhat more optimistic about the outlook. Financial conditions for domestic nonfinancial businesses were generally favorable, and conditions in consumer credit markets showed signs of improvement.

However, a number of factors suggested that the pace of the expansion would continue to be restrained. Although some indicators of activity in the housing sector improved slightly at the end of 2011, new homebuilding and sales remained at depressed levels, house prices were still falling, and mortgage credit remained tight. Households' real disposable income rose only modestly through late 2011. In addition, federal spending contracted toward year-end, and the restraining effects of fiscal consolidation appeared likely to be greater this year than anticipated at the time of the November projections. Participants also read the information on economic activity abroad, particularly in Europe, as pointing to

Figure 2. Overview of FOMC participants' assessments of appropriate monetary policy



Note: In the upper panel, the height of each bar denotes the number of FOMC participants who judge that, under appropriate monetary policy and in the absence of further shocks to the economy, the first increase in the target federal funds rate from its current range of 0 to ¼ percent will occur in the specified calendar year. In the lower panel, each shaded circle indicates the value (rounded to the nearest ¼ percent) of an individual participant's judgment of the appropriate level of the target federal funds rate at the end of the specified calendar year or over the longer run.

weaker demand for U.S. exports in coming quarters than had seemed likely when they prepared their forecasts in November.

Participants anticipated that the pace of the economic expansion would strengthen over the 2013–14 period, reaching rates of increase in real GDP above their estimates of the longer-run rates of output growth. The central tendencies of participants' forecasts for the change in real GDP were 2.8 to 3.2 percent in 2013 and 3.3 to 4.0 percent in 2014. Among the considerations supporting their forecasts, participants cited their expectation that the expansion would be supported by monetary policy accommoda-

tion, ongoing improvements in credit conditions, rising household and business confidence, and strengthening household balance sheets. Many participants judged that U.S. fiscal policy would still be a drag on economic activity in 2013, but many anticipated that progress would be made in resolving the fiscal situation in Europe and that the foreign economic outlook would be more positive. Over time and in the absence of shocks, participants expected that the rate of increase of real GDP would converge to their estimates of its longer-run rate, with a central tendency of 2.3 to 2.6 percent, little changed from their estimates in November.

The unemployment rate improved more in late 2011 than most participants had anticipated when they prepared their November projections, falling from 9.1 to 8.7 percent between the third and fourth quarters. As a result, most participants adjusted down their projections for the unemployment rate this year. Nonetheless, with real GDP expected to increase at a modest rate in 2012, the unemployment rate was projected to decline only a little this year, with the central tendency of participants' forecasts at 8.2 to 8.5 percent at year-end. Thereafter, participants expected that the pickup in the pace of the expansion in 2013 and 2014 would be accompanied by a further gradual improvement in labor market conditions. The central tendency of participants' forecasts for the unemployment rate at the end of 2013 was 7.4 to 8.1 percent, and it was 6.7 to 7.6 percent at the end of 2014. The central tendency of participants' estimates of the longer-run normal rate of unemployment that would prevail in the absence of further shocks was 5.2 to 6.0 percent. Most participants indicated that they anticipated that five or six years would be required to close the gap between the current unemployment rate and their estimates of the longer-run rate, although some noted that more time would likely be needed.

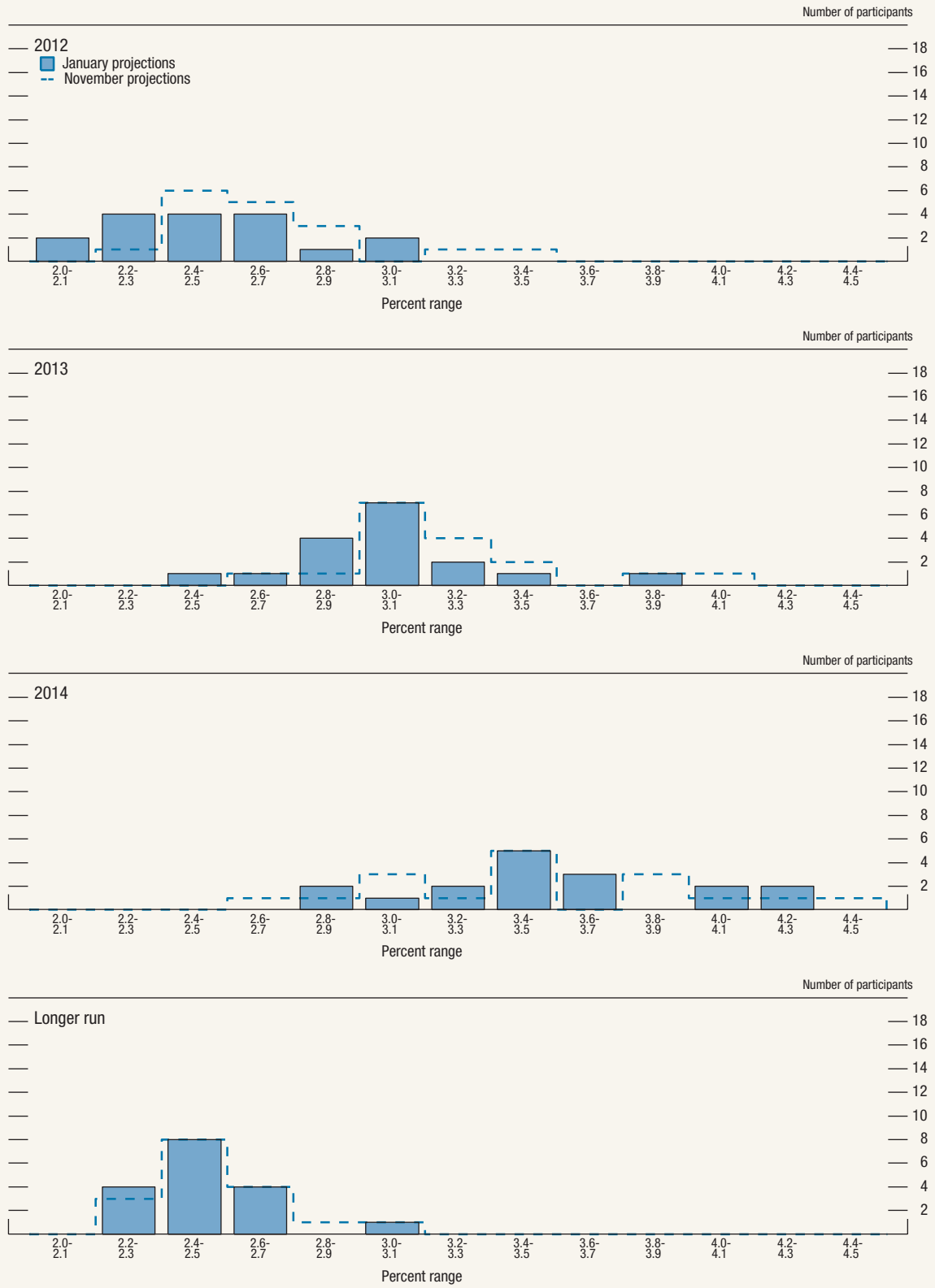
Figures 3.A and **3.B** provide details on the diversity of participants' views regarding the likely outcomes for real GDP growth and the unemployment rate over the next three years and over the longer run. The dispersion in these projections reflected differences in participants' assessments of many factors, including appropriate monetary policy and its effects on economic activity, the underlying momentum in economic activity, the effects of the European situation, the prospective path for U.S. fiscal policy, the likely evolution of credit and financial market conditions, and the extent of structural dislocations in the labor market. Compared with their November projections, the range of participants' forecasts for the change in real GDP in 2012 narrowed somewhat and shifted slightly lower, as some participants reassessed the outlook for global economic growth and for U.S. fiscal policy. Many, however, made no material change to their forecasts for growth of real GDP this year. The dispersion of participants' forecasts for output growth in 2013 and 2014 remained relatively wide. Having incorporated the data showing a lower rate of unemployment at the end of 2011 than previously expected, the distribution of participants' projections for the end of 2012 shifted noticeably down relative to the November forecasts. The ranges for the unemployment rate in 2013 and 2014 showed less pronounced shifts toward lower rates and, as was the case with the ranges for output growth, remained wide. Participants made only modest adjustments to their projections of the rates of output growth and unemployment over the longer run, and, on net, the dispersions of their projections for both were little changed from those reported in November. The dispersion of estimates for the longer-run rate of output growth is narrow, with only one participant's estimate outside of a range of 2.2 to 2.7 percent. By comparison, participants' views about the level to which the unemployment rate would converge in the long run are more diverse, reflecting, among other things, different views on the outlook for labor supply and on the extent of structural impediments in the labor market.

The Outlook for Inflation

Participants generally viewed the outlook for inflation as very similar to that in November. Most indicated that, as they expected, the effects of the run-up in prices of energy and other commodities and the supply disruptions that occurred in the first half of 2011 had largely waned, and that inflation had been subdued in recent months. Participants also noted that inflation expectations had remained stable over the past year despite the fluctuations in headline inflation. Assuming no further supply shocks, most participants anticipated that both headline and core inflation would remain subdued over the 2012–14 period at rates at or below the FOMC's longer-run objective of 2 percent. Specifically, the central tendency of participants' projections for the increase in inflation, as measured by the PCE price index, in 2012 was 1.4 to 1.8 percent, and it edged up to a central tendency of 1.6 to 2.0 percent in 2014; the central tendencies of the forecasts for core PCE inflation were largely the same as those for the total measure.

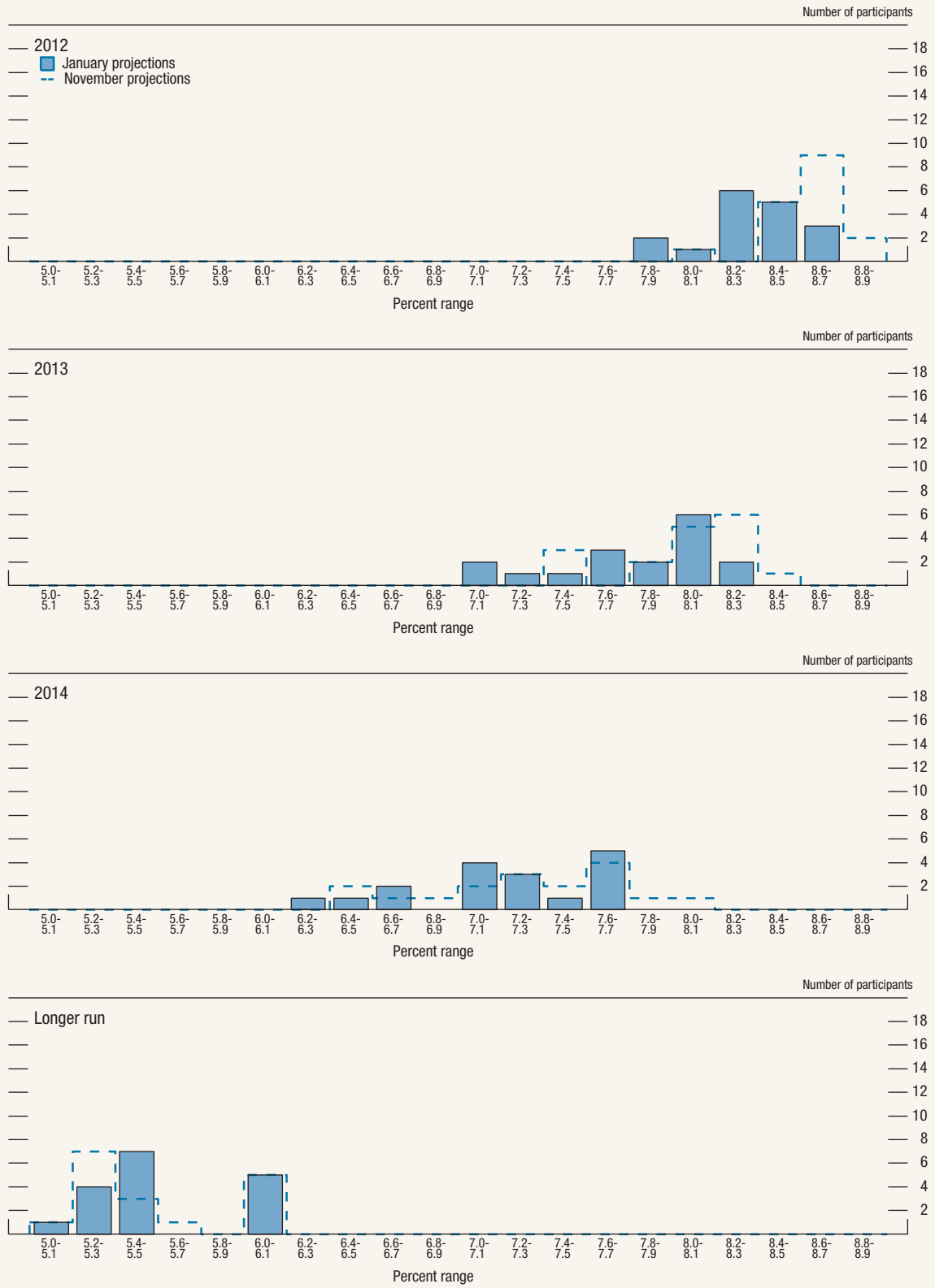
Figures 3.C and **3.D** provide information about the diversity of participants' views about the outlook for inflation. Compared with their November projections, expectations for inflation in 2012 shifted down a bit, with some participants noting that the slowing

Figure 3.A. Distribution of participants' projections for the change in real GDP, 2012–14 and over the longer run



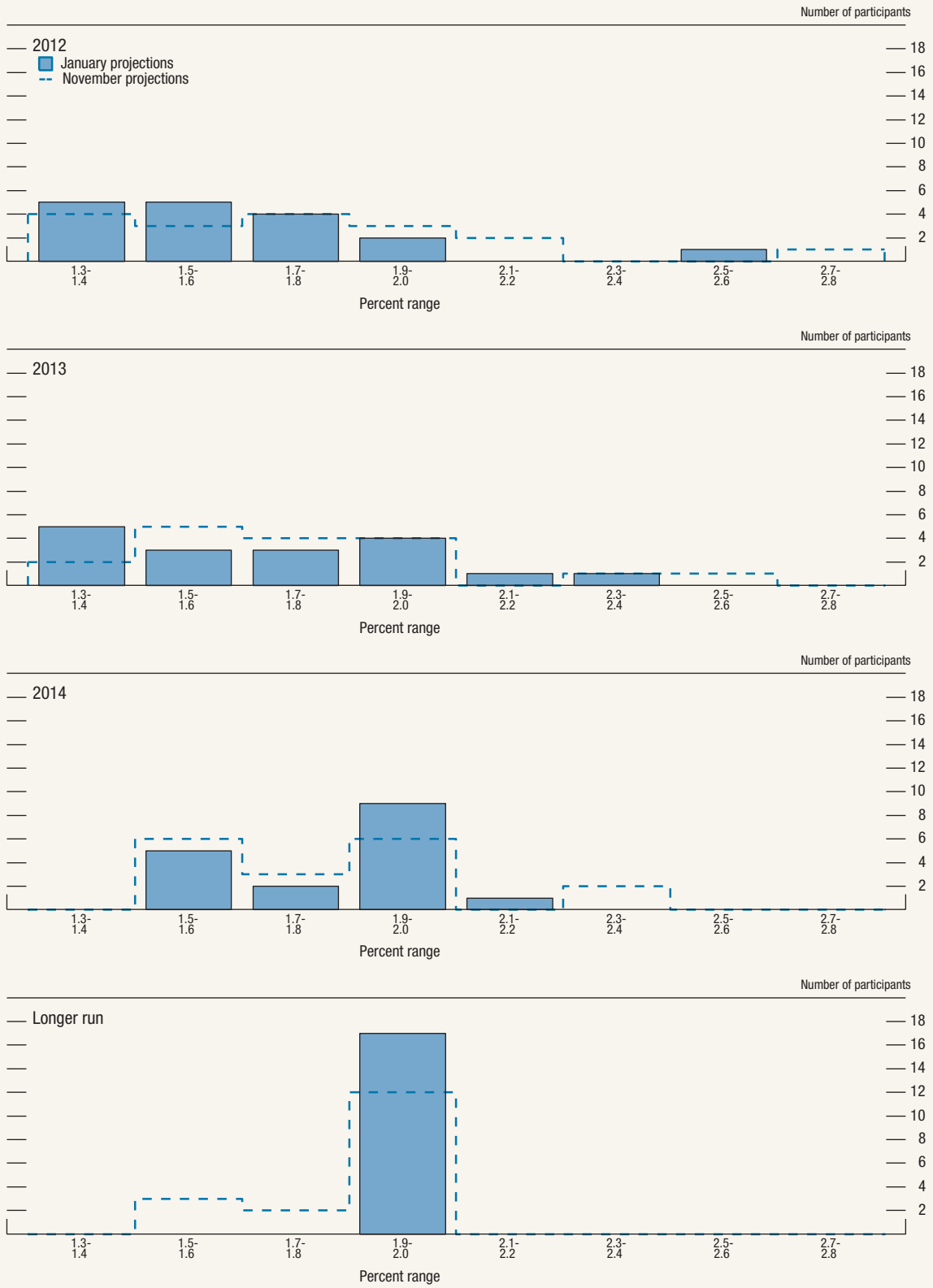
Note: Definitions of variables are in the general note to table 1.

Figure 3.B. Distribution of participants' projections for the unemployment rate, 2012–14 and over the longer run



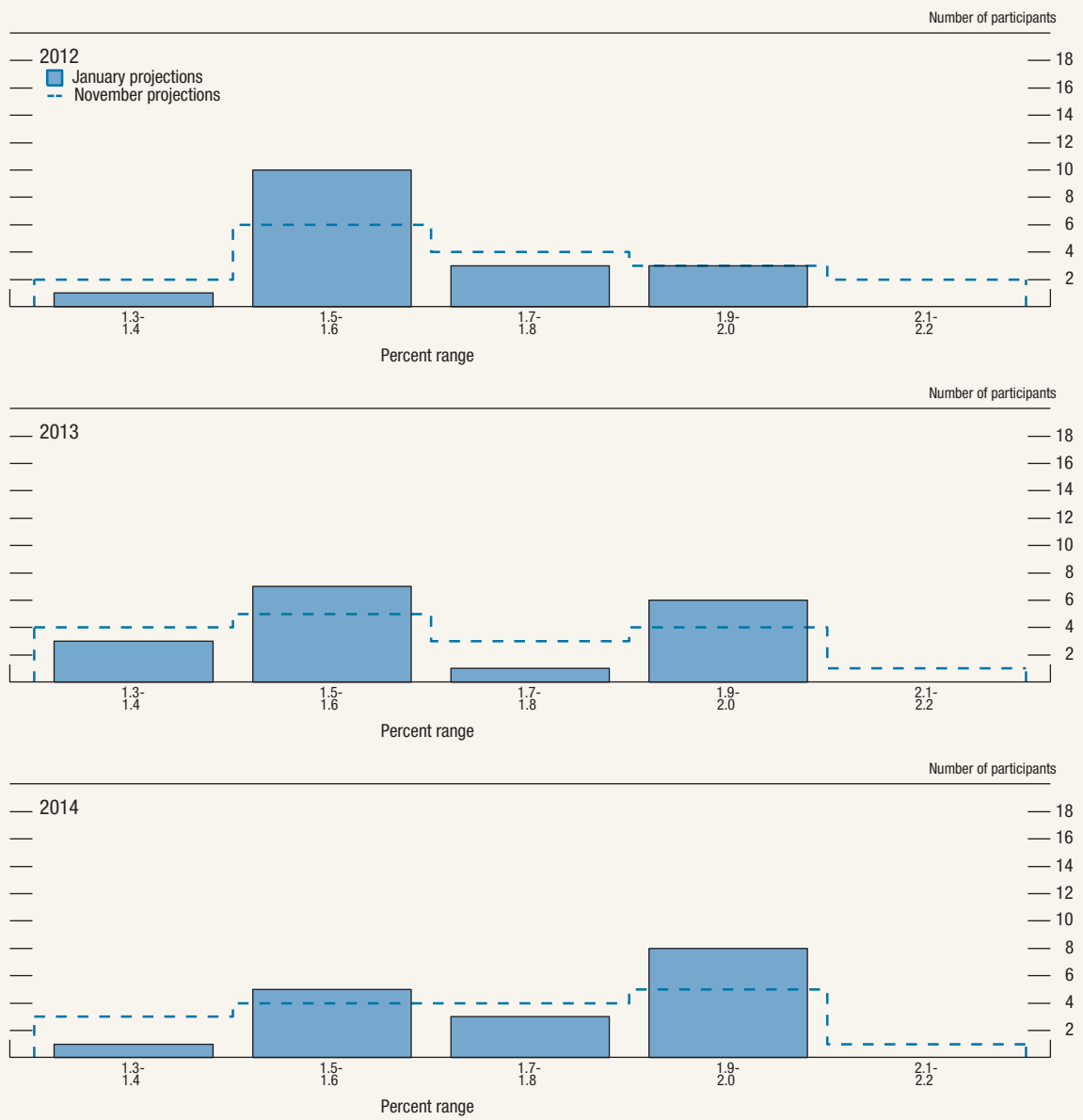
Note: Definitions of variables are in the general note to table 1.

Figure 3.C. Distribution of participants' projections for PCE inflation, 2012–14 and over the longer run



Note: Definitions of variables are in the general note to table 1.

Figure 3.D. Distribution of participants' projections for core PCE inflation, 2012–14



Note: Definitions of variables are in the general note to table 1.

in inflation at the end of 2011 had been greater than they anticipated. Nonetheless, the range of participants' forecasts for inflation in 2012 remained wide, and the dispersion was only slightly narrower in 2013. By 2014, the range of inflation forecasts narrowed more noticeably, as participants expected that, under appropriate monetary policy, inflation would begin to converge to the Committee's longer-run objective. In general, the dispersion of views on the outlook for inflation over the projection period represented differences in judgments regarding the degree of slack in resource utilization and the extent to which slack influences inflation and inflation expectations. In addition, participants differed in their estimates of how the stance of monetary policy would influence inflation expectations.

Appropriate Monetary Policy

Most participants judged that the current outlook—for a moderate pace of economic recovery with the unemployment rate declining only gradually and inflation subdued—warranted exceptionally low levels of the federal funds rate at least until late 2014. In particular, five participants viewed appropriate policy

firming as commencing during 2014, while six others judged that the first increase in the federal funds rate would not be warranted until 2015 or 2016. As a result, those 11 participants anticipated that the appropriate federal funds rate at the end of 2014 would be 1 percent or lower. Those who saw the first increase occurring in 2015 reported that they anticipated that the federal funds rate would be ½ percent at the end of that year. For the two participants who put the first increase in 2016, the appropriate target federal funds rate at the end of that year was 1½ and 1¾ percent. In contrast, six participants expected that an increase in the target federal funds rate would be appropriate within the next two years, and those participants anticipated that the target rate would need to be increased to around 1½ to 2¾ percent at the end of 2014.

Participants' assessments of the appropriate path for the federal funds rate reflected their judgments of the policy that would best support progress in achieving the Federal Reserve's mandate for promoting maximum employment and stable prices. Among the key factors informing participants' expectations about the appropriate setting for monetary policy were their assessments of the maximum level of employment, the Committee's longer-run inflation goal, the extent to which current conditions deviate from these mandate-consistent levels, and their projections of the likely time horizons required to return employment and inflation to such levels. Several participants commented that their assessments took into account the risks to the outlook for economic activity and inflation, and a few pointed specifically to the relevance of financial stability in their policy judgments. Participants also noted that because the appropriate stance of monetary policy depends importantly on the evolution of real activity and inflation over time, their assessments of the appropriate future path of the federal funds rate could change if economic conditions were to evolve in an unexpected manner.

All participants reported levels for the appropriate target federal funds rate at the end of 2014 that were well below their estimates of the level expected to prevail in the longer run. The longer-run nominal levels were in a range from 3¾ to 4½ percent, reflecting participants' judgments about the longer-run equilibrium level of the real federal funds rate and the Committee's inflation objective of 2 percent.

Participants also provided qualitative information on their views regarding the appropriate path of the Federal Reserve's balance sheet. A few participants' assessments of appropriate monetary policy incorporated additional purchases of securities in 2012, and a number of participants indicated that they remained open to a consideration of additional asset purchases if the economic outlook deteriorated. All but one of the participants continued to expect that the Committee would carry out the normalization of the balance sheet according to the principles approved at the June 2011 FOMC meeting. That is, prior to the first increase in the federal funds rate, the Committee would likely cease reinvesting some or all payments on the securities holdings in the System Open Market Account (SOMA), and it would likely begin sales of agency securities from the SOMA sometime after the first rate increase, aiming to eliminate the SOMA's holdings of agency securities over a period of three to five years. Indeed, most participants saw sales of agency securities starting no earlier than 2015. However, those participants anticipating an earlier increase in the federal funds rate also called for earlier adjustments to the balance sheet, and one participant assumed an early end of the maturity extension program.

Figure 3.E details the distribution of participants' judgments regarding the appropriate level of the target federal funds rate at the end of each calendar year from 2012 to 2014 and over the longer run. Most participants anticipated that economic conditions would warrant maintaining the current low level of the federal funds rate over the next two years. However, views on the appropriate level of the federal funds rate at the end of 2014 were more widely dispersed, with two-thirds of participants seeing the appropriate level of the federal funds rate as 1 percent or below and five seeing the appropriate rate as 2 percent or higher. Those participants who judged that a longer period of exceptionally low levels of the federal funds rate would be appropriate generally also anticipated that the pace of the economic expansion would be moderate and that the unemployment rate would decline only gradually, remaining well above its longer-run rate at the end of 2014. Almost all of these participants expected that inflation would be relatively stable at or below the FOMC's longer-run objective of 2 percent until the time of the first increase in the federal funds rate. A number of them also mentioned their assessment that a longer period of low federal funds rates is appropriate when the federal funds rate is constrained by its effective lower bound. In contrast, the six participants who judged that policy firming should begin in 2012 or 2013 indicated that the Committee would need to act decisively to keep inflation at mandate-consistent levels

Figure 3.E. Distribution of participants' projections for the target federal funds rate, 2012–14 and over the longer run

Note: The target funds rate is measured as the level of the target rate at the end of the calendar year or in the longer run.

Table 2. Average historical projection error ranges
Percentage points

Variable	2012	2013	2014
Change in real GDP[1]	±1.3	±1.7	±1.8
Unemployment rate[1]	±0.7	±1.4	±1.8
Total consumer prices[2]	±0.9	±1.0	±1.0

Note: Error ranges shown are measured as plus or minus the root mean squared error of projections for 1991 through 2010 that were released in the winter by various private and government forecasters. As described in box 5, under certain assumptions, there is about a 70 percent probability that actual outcomes for real GDP, unemployment, and consumer prices will be in ranges implied by the average size of projection errors made in the past. Further information is in David Reifschneider and Peter Tulip (2007), "Gauging the Uncertainty of the Economic Outlook from Historical Forecasting Errors," Finance and Economics Discussion Series 2007-60 (Washington: Board of Governors of the Federal Reserve System, November).

[1] For definitions, refer to general note in table 1.

[2] Measure is the overall consumer price index, the price measure that has been most widely used in government and private economic forecasts. Projection is percent change, fourth quarter of the previous year to the fourth quarter of the year indicated.

and to limit the risk of undermining Federal Reserve credibility and causing a rise in inflation expectations. Several were projecting a faster pickup in economic activity, and a few stressed the risk of distortions in the financial system from an extended period of exceptionally low interest rates.

Uncertainty and Risks

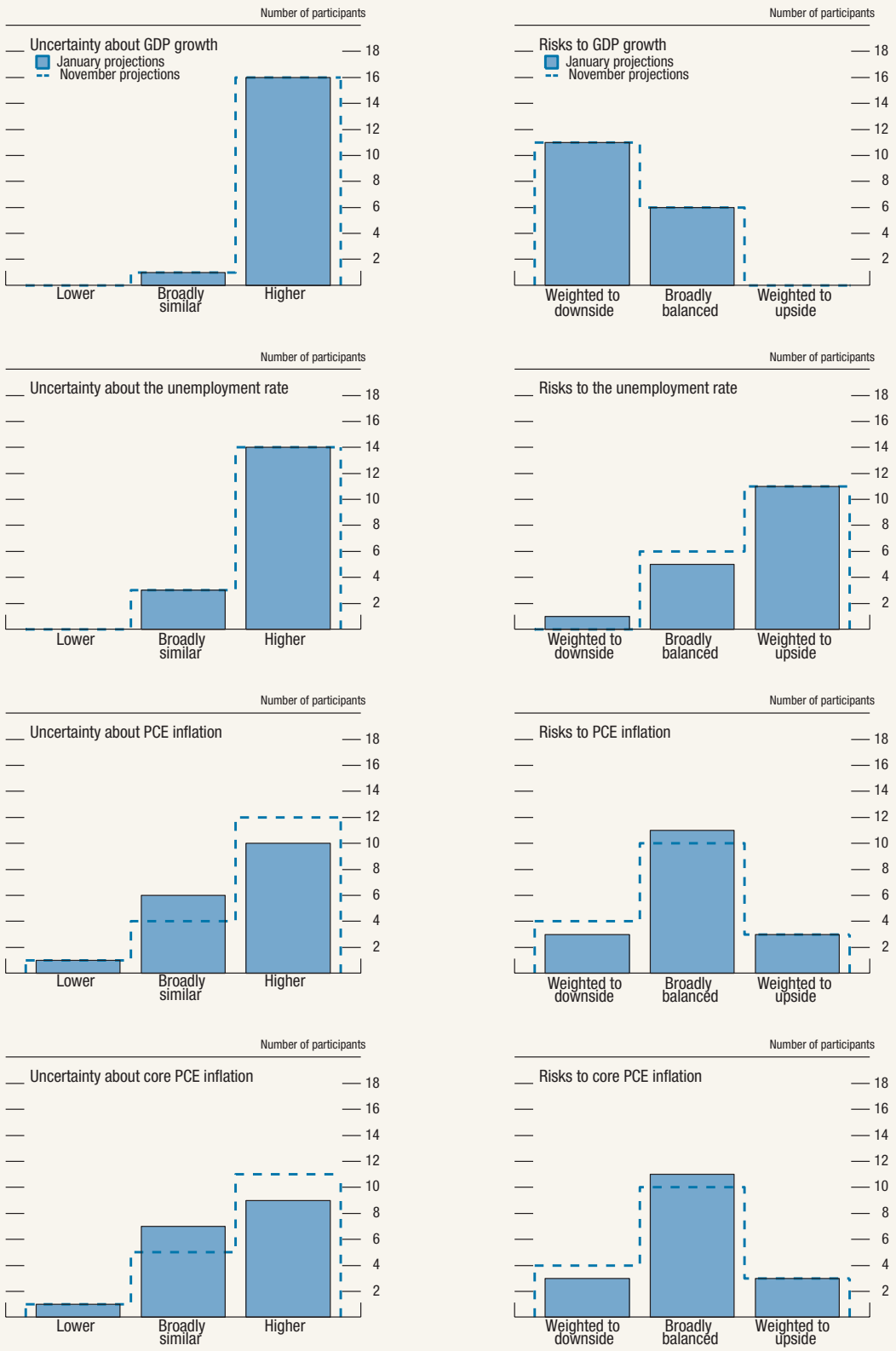
Figure 4 shows that most participants continued to share the view that their projections for real GDP growth and the unemployment rate were subject to a higher level of uncertainty than was the norm during the previous 20 years.[23] Many also judged the level of uncertainty associated with their inflation forecasts to be higher than the longer-run norm, but that assessment was somewhat less prevalent among participants than was the case for uncertainty about real activity. Participants identified a number of factors that contributed to the elevated level of uncertainty about the outlook. In particular, many participants continued to cite risks related to ongoing developments in Europe. More broadly, they again noted difficulties in forecasting the path of economic recovery from a deep recession that was the result of a severe financial crisis and thus differed importantly from the experience with recoveries over the past 60 years. In that regard, participants continued to be uncertain about the pace at which credit conditions would ease and about prospects for a recovery in the housing sector. In addition, participants generally saw the outlook for fiscal and regulatory policies as still highly uncertain. Regarding the unemployment rate, several expressed uncertainty about how labor demand and supply would evolve over the forecast period. Among the sources of uncertainty about the outlook for inflation were the difficulties in assessing the current and prospective margins of slack in resource markets and the effect of such slack on prices.

A majority of participants continued to report that they saw the risks to their forecasts of real GDP growth as weighted to the downside and, accordingly, the risks to their projections for the unemployment rate as skewed to the upside. All but one of the remaining participants viewed the risks to both projections as broadly balanced, while one noted a risk that the unemployment rate might continue to decline more rapidly than expected. The most frequently cited downside risks to the projected pace of the economic expansion were the possibility of financial market and economic spillovers from the fiscal and financial issues in the euro area and the chance that some of the factors that have restrained the recovery in recent years could persist and weigh on economic activity to a greater extent than assumed in participants' baseline forecasts. In particular, some participants mentioned the downside risks to consumer spending from still-weak household balance sheets and only modest gains in real income, along with the possible effects of still-high levels of uncertainty regarding fiscal and regulatory policies that might damp businesses' willingness to invest and hire. A number of participants noted the risk of another disruption in global oil markets that could not only boost inflation but also reduce real income and spending. The participants who judged the risks to be broadly balanced also recognized a number of these downside risks to the outlook but saw them as counterbalanced by the possibility that the resilience of economic activity in late 2011 and the recent drop in the unemployment rate might signal greater underlying momentum in economic activity.

In contrast to their outlook for economic activity, most participants judged the risks to their projections of inflation as broadly balanced. Participants generally viewed the recent decline in inflation as having been in line with their earlier forecasts, and they noted that inflation expectations remain stable. While many of these participants saw the persistence of substantial slack in resource utilization as likely to keep inflation subdued over the projection period, a few others noted the risk that elevated resource slack

[23] **Table 2** provides estimates of the forecast uncertainty for the change in real GDP, the unemployment rate, and total consumer price inflation over the period from 1991 to 2010. At the end of this summary, **box 5** discusses the sources and interpretation of uncertainty in the economic forecasts and explains the approach used to assess the uncertainty and risks attending the participants' projections.

Figure 4. Uncertainty and risks in economic projections



Note: For definitions of uncertainty and risks in economic projections, see box 5. Definitions of variables are in the general note to table 1.

Box 5. Forecast Uncertainty

The economic projections provided by the members of the Board of Governors and the presidents of the Federal Reserve Banks inform discussions of monetary policy among policymakers and can aid public understanding of the basis for policy actions. Considerable uncertainty attends these projections, however. The economic and statistical models and relationships used to help produce economic forecasts are necessarily imperfect descriptions of the real world, and the future path of the economy can be affected by myriad unforeseen developments and events. Thus, in setting the stance of monetary policy, participants consider not only what appears to be the most likely economic outcome as embodied in their projections, but also the range of alternative possibilities, the likelihood of their occurring, and the potential costs to the economy should they occur.

Table 2 summarizes the average historical accuracy of a range of forecasts, including those reported in past *Monetary Policy Report*s and those prepared by the Federal Reserve Board's staff in advance of meetings of the Federal Open Market Committee. The projection error ranges shown in the table illustrate the considerable uncertainty associated with economic forecasts. For example, suppose a participant projects that real gross domestic product (GDP) and total consumer prices will rise steadily at annual rates of, respectively, 3 percent and 2 percent. If the uncertainty attending those projections is similar to that experienced in the past and the risks around the projections are broadly balanced, the numbers reported in table 2 would imply a probability of about 70 percent that actual GDP would expand within a range of 1.7 to 4.3 percent in the current year, 1.3 to 4.7 percent in the second year, and 1.2 to 4.8 in the third year. The corresponding 70 percent confidence intervals for overall inflation would be 1.1 to 2.9 percent in the current year and 1.0 to 3.0 percent in the second and third years.

Because current conditions may differ from those that prevailed, on average, over history, participants provide judgments as to whether the uncertainty attached to their projections of each variable is greater than, smaller than, or broadly similar to typical levels of forecast uncertainty in the past, as shown in table 2. Participants also provide judgments as to whether the risks to their projections are weighted to the upside, are weighted to the downside, or are broadly balanced. That is, participants judge whether each variable is more likely to be above or below their projections of the most likely outcome. These judgments about the uncertainty and the risks attending each participant's projections are distinct from the diversity of participants' views about the most likely outcomes. Forecast uncertainty is concerned with the risks associated with a particular projection rather than with divergences across a number of different projections.

As with real activity and inflation, the outlook for the future path of the federal funds rate is subject to considerable uncertainty. This uncertainty arises primarily because each participant's assessment of the appropriate stance of monetary policy depends importantly on the evolution of real activity and inflation over time. If economic conditions evolve in an unexpected manner, then assessments of the appropriate setting of the federal funds rate would change from that point forward.

might put more downward pressure on inflation than expected. In contrast, some participants noted the upside risks to inflation from developments in global oil and commodity markets, and several indicated that the current highly accommodative stance of monetary policy and the substantial liquidity currently in the financial system risked a pickup in inflation to a level above the Committee's objective. A few also pointed to the risk that uncertainty about the Committee's ability to effectively remove policy accommodation when appropriate could lead to a rise in inflation expectations.

Abbreviations

ABS	asset-backed securities
AFE	advanced foreign economy
AIG	American International Group, Inc.
ARRA	American Recovery and Reinvestment Act
CDS	credit default swap
C&I	commercial and industrial
CMBS	commercial mortgage-backed securities
CP	commercial paper
CRE	commercial real estate
DPI	disposable personal income
EBA	European Banking Authority
ECB	European Central Bank
EME	emerging market economy
E&S	equipment and software
FDIC	Federal Deposit Insurance Corporation
FOMC	Federal Open Market Committee; also, the Committee
FRBNY	Federal Reserve Bank of New York
GDP	gross domestic product
GSE	government-sponsored enterprise
LIBOR	London interbank offered rate
MEP	maturity extension program
MBS	mortgage-backed securities
NIPA	national income and product accounts
OIS	overnight index swap
PCE	personal consumption expenditures
repo	repurchase agreement
SCOOS	Senior Credit Officer Opinion Survey on Dealer Financing Terms
SEP	Summary of Economic Projections
SLOOS	Senior Loan Officer Opinion Survey on Bank Lending Practices
S&P	Standard and Poor's
SOMA	System Open Market Account
WTI	West Texas Intermediate

Monetary Policy Report of July 2011

Part 1
Overview: Monetary Policy and the Economic Outlook

Economic activity continued to recover over the first half of 2011, but the pace of the expansion has been modest. The subdued rate of expansion reflects in part factors that are likely to be temporary, including the damping effect of higher food and energy prices on consumer spending as well as supply chain disruptions associated with the tragic earthquake in Japan. Nonetheless, even after setting aside temporary influences, the growth of economic activity appears to have slowed over the first half of this year. Conditions in the labor market remain weak. Although the average pace of job creation picked up during the early months of the year, employment growth softened in May and June and the unemployment rate edged up. Meanwhile, consumer price inflation increased noticeably in the first part of the year, reflecting in part higher prices for some commodities and imported goods as well as shortages of several popular models of automobiles. The recent rise in inflation is expected to subside as the effects of past increases in the prices of energy and other commodities dissipate in an environment of stable longer-term inflation expectations, and as supply chain disruptions in the automobile industry are remediated.

On net, financial market conditions became somewhat more supportive of economic growth in the first half of 2011, partly reflecting the continued monetary policy accommodation provided by the Federal Reserve. Yields on Treasury securities and corporate debt as well as rates on fixed-rate residential mortgages fell to very low levels, on balance, over the first half of the year, and equity prices rose. Borrowing conditions for households and businesses eased somewhat further, although credit conditions remained tight for some borrowers.

After rising at an annual rate of 2¾ percent in the second half of 2010, real gross domestic product (GDP) increased at about a 2 percent rate in the first quarter of 2011. Available information suggests that the pace of economic growth remained soft in the second quarter. Real consumer spending, which had brightened near the end of 2010, rose at a noticeably slower rate over the first five months of 2011, as household purchasing power was constrained by the weak pace of nominal income growth and by rising fuel and food prices, and as consumers remained downbeat. Meanwhile, the housing market continued to be weighed down by the large inventory of vacant houses for sale, the substantial volume of distressed sales, and by homebuyers' concerns about the strength of the recovery and fears of future declines in house prices. In the government sector, state and local government budgets continued to be very tight, as a reduction in federal assistance to those governments was only partially offset by an increase in tax collections; in addition, federal spending appears to have contracted. In contrast, exports—which have been a bright spot in the recovery—moved up briskly, and businesses continued to increase their outlays for equipment and software.

In the labor market, private payroll employment gains picked up in the first four months of the year, averaging about 200,000 jobs per month, an improvement from the average of 125,000 jobs per month recorded in the second half of 2010. However, private employment gains slowed sharply in May and June, averaging only 65,000 per month, with the step-down widespread across industries. Furthermore, the unemployment rate, which leveled off at around 9 percent in the early months of the year, has edged up since then, reaching 9.2 percent in June. The share of the unemployed who have been jobless for six months or longer remained close to 45 percent, a post–World War II high.

Consumer price inflation picked up noticeably in the first part of 2011. Prices for personal consumption expenditures rose at an annual rate of about 4 percent over the first five months of the year, compared with an annual rate of increase of a little less than 2 percent during the second half of 2010. A significant portion of the rise in inflation was associated with energy and food prices, reflecting the pass-through to retail prices of surges in the costs of crude oil and a wide range of agricultural commodities. Recently, however, these commodity prices have apparently stabilized, a development that should ease pressure on consumer energy and food prices in coming months. Another important source of upward pressure on inflation during the first half of the year was a sharp acceleration in the prices of other imported items. This factor contributed to a pickup in consumer inflation for items other than food and energy; over the first five months of this year, such inflation ran at an annual rate of more than 2 percent, up from an unusually low ½ percent annual rate of increase over the second half of 2010. Despite the

increase in inflation, longer-term inflation expectations remained stable.

In U.S. financial markets, strong corporate profits and investors' perceptions that the economic recovery was firming supported a rise in equity prices and a narrowing of credit spreads in the early part of the year. By May, however, indications that the economic recovery in the United States was proceeding at a slower pace than previously anticipated—as well as a perceived moderation in global economic growth and heightened concerns about the persisting fiscal problems in Europe—weighed on market sentiment, prompting a pullback from riskier financial assets. On net over the first half of the year, yields on longer-term Treasury securities declined. Yields on corporate debt and other fixed-income products as well as rates on fixed-rate residential mortgages fell from already low levels, and credit spreads were little changed. Broad equity price indexes rose significantly, on balance, over the first half of the year; however, stock prices of banks declined.

By early July, investors had marked down their expectations for the path of the federal funds rate relative to the trajectory anticipated at the start of the year in response to economic and financial developments and the reiteration by the Federal Open Market Committee (FOMC) that it expected to maintain exceptionally low levels of the federal funds rate for an extended period. These same factors, as well as safe-haven demands stemming from investor concerns about global economic growth and about developments in Europe, contributed to the decline in nominal Treasury yields. Thus far, uncertainties surrounding the outcome of discussions to raise the U.S. government's statutory debt limit do not appear to have left an appreciable imprint on Treasury prices, but investors have noted statements by major ratings agencies regarding the actions the agencies may take if the fiscal situation is not adequately addressed. Measures of inflation compensation derived from yields on nominal and inflation-indexed Treasury securities fluctuated over the first half of the year in response to changes in commodity prices and the outlook for economic growth. On balance, medium-term inflation compensation edged higher over the first half of the year, but compensation further out was little changed.

Large nonfinancial corporations with access to capital markets took advantage of favorable financial market conditions to issue debt at a robust pace in the first half of the year, and issuance of corporate bonds and syndicated leveraged loans surged. The portfolios of commercial and industrial loans on banks' books expanded as standards and terms for such loans eased further and demand increased. In contrast, despite some improvement over the first half of the year, credit conditions for small businesses appeared to remain tight and demand for credit by such firms was subdued. Financing conditions for commercial real estate assets eased somewhat, but the fundamentals in commercial real estate markets stayed extremely weak.

Household debt continued to contract in the first half of 2011, driven primarily by the ongoing decline in mortgage debt. Even though mortgage rates remained near historically low levels, demand for new mortgage loans was weak, reflecting still-depressed conditions in housing markets and the uncertain outlook for the economic recovery and labor markets. Delinquency rates on most categories of mortgages edged lower but stayed near recent highs. The number of homes entering the foreclosure process declined in the first quarter of 2011, but the number of properties at some point in the foreclosure process remained elevated. Mortgage servicers continued to grapple with deficiencies in their foreclosure procedures; resolution of these issues could eventually be associated with an increase in the number of foreclosure starts as servicers work through the backlog of severely delinquent loans more quickly. Revolving consumer credit—mostly credit card borrowing—also continued to contract, on net, although at a slower pace than in 2010. In contrast, nonrevolving consumer credit, consisting predominantly of auto and student loans, rose appreciably in 2011, as rates on most types of these loans remained near the bottom of their historical ranges and as banks eased standards and terms for such loans. Issuance of consumer asset-backed securities, particularly securities backed by auto loans, was strong.

Conditions in short-term funding markets changed little over the first several months of 2011, although signs of stress for some European financial institutions started to emerge as market participants became more concerned about potential exposures to the debts of peripheral European countries. To continue to support liquidity conditions in global money markets and to help minimize the risk that strains abroad could spread to the United States, the FOMC

in June approved an extension of the temporary U.S. dollar liquidity swap arrangements with a number of foreign central banks until August 1, 2012.

Responses to the Federal Reserve's Senior Credit Officer Opinion Survey on Dealer Financing Terms (SCOOS) indicated that dealers continued to gradually ease price and nonprice terms applicable to major classes of counterparties over the six months ending in May, and that demand for funding for a variety of security types increased over the same period. Investor appetite for risky assets likely supported issuance of some debt instruments (including speculative-grade corporate bonds and syndicated leveraged loans) and contributed to a narrowing of risk spreads evident in the first several months of the year. In addition, information from a variety of sources, including special questions in the SCOOS, suggested that the use of dealer-intermediated leverage increased modestly among both levered investors and traditionally unlevered investors, although the overall use of leverage appeared to be roughly midway between its pre-crisis peak and post-crisis trough. In recent weeks, however, anecdotal information has suggested that investors have pulled back somewhat from risk-taking and that their use of leverage has declined.

With the unemployment rate still elevated and inflation expected to subside to levels at or below those consistent, over the longer run, with the FOMC's dual mandate of maximum employment and price stability, the Committee maintained a target range for the federal funds rate of 0 to ¼ percent throughout the first half of 2011. The Committee reiterated that economic conditions were likely to warrant exceptionally low levels for the federal funds rate for an extended period. At the end of June, the Federal Reserve completed its program of purchasing $600 billion of longer-term Treasury securities that was announced in November. In addition, the Committee maintained its existing policy of reinvesting principal payments from its agency debt and agency mortgage-backed securities (MBS) holdings in longer-term Treasury securities. The Federal Reserve continued to develop and test tools to eventually drain or immobilize large volumes of banking system reserves in order to ensure that it will be able to smoothly and effectively exit from the current accommodative stance of policy at the appropriate time. The Committee will continue to monitor the economic outlook and financial developments, and it will act as needed to best foster maximum employment and price stability.

The size and composition of the Federal Reserve's balance sheet continued to evolve over the first half of the year. As a result of the FOMC's policies of reinvesting principal payments from its securities holdings and purchasing additional longer-term Treasury securities, holdings of Treasury securities rose more than $600 billion and holdings of agency debt and agency MBS declined about $115 billion. Emergency credit provided during the crisis continued to decline: The closing of a recapitalization plan for American International Group, Inc. (AIG), terminated the Federal Reserve's direct assistance to AIG; the Federal Reserve Bank of New York sold some of the securities held in the portfolio of Maiden Lane II LLC, a special purpose vehicle that was established to acquire residential mortgage-backed securities from AIG; and loans outstanding under the Term Asset-Backed Securities Loan Facility continued to decline as improved conditions in securitization markets allowed borrowers to refinance and prepay loans made under the facility. On the liability side of the Federal Reserve's balance sheet, reserve balances held by depository institutions rose to $1.7 trillion, largely as a result of the Federal Reserve's longer-term security purchase program. Federal Reserve notes in circulation also rose. The Treasury Department's Supplementary Financing Account balance at the Federal Reserve declined from $200 billion early in the year to $5 billion as part of the Treasury's efforts to maximize flexibility in its debt management as the statutory debt limit approached.

The economic projections prepared in conjunction with the June FOMC meeting are presented in Part 4 of this report.[1] In broad terms, FOMC participants (the members of the Board of Governors and the presidents of the 12 Federal Reserve Banks) marked down their forecasts for economic growth in 2011 relative to their forecasts in January and April, largely as a result of unexpected weakness in the first half of the year. Nonetheless, participants anticipated a modest acceleration in economic output in both 2012 and 2013 based on the effects of continued monetary policy accommodation, some further easing of credit conditions, a waning in the drag from elevated commodity prices, and some pickup in spending from pent-up demand. Participants expected the unemployment rate to trend down over the near term, though at a slower pace than they anticipated in January and April. They continued to

[1] These projections were prepared in late June and thus did not incorporate more recent economic news.

anticipate that the unemployment rate at the end of 2013 would remain well above their estimates of the longer-run rate that they see as consistent with the Committee's dual mandate. Participants' forecasts indicated a pickup in inflation for 2011 relative to 2010 and their expectations earlier this year. However, most participants expected that the influence on inflation of higher commodity prices and supply disruptions from Japan would be temporary, and that inflation pressures would remain subdued against a backdrop of stable commodity prices, well-anchored inflation expectations, and large margins of slack in labor markets. As a result, they anticipated that overall inflation would step down in 2012 and remain at that lower level in 2013, moving back in line with core inflation at levels at or slightly below participants' estimates of the longer-run, mandate-consistent rate of inflation.

Participants generally reported that the levels of uncertainty attached to their projections for economic growth and inflation had risen since April and were above historical norms. Most participants judged that the balance of risks to economic growth was weighted to the downside, whereas in April, a majority had seen the risks to growth as balanced. Most participants saw the risks surrounding their inflation expectations as broadly balanced, while in April, a majority had judged those risks as skewed to the upside. Participants also reported their assessments of the rates to which macroeconomic variables would be expected to converge over the longer run under appropriate monetary policy and in the absence of further shocks to the economy. The central tendencies of these longer-run projections, which have not changed since April, were 2.5 to 2.8 percent for real GDP growth, 5.2 to 5.6 percent for the unemployment rate, and 1.7 to 2.0 percent for the inflation rate. Because inflation in the long run is largely determined by monetary policy, the longer-run projections for inflation can be viewed as the levels of inflation that FOMC participants consider to be most consistent with the Committee's mandate to foster maximum employment and price stability.

Part 2
Recent Economic and Financial Developments

After increasing at a solid pace in the fourth quarter of 2010, economic activity expanded more slowly over the first half of 2011. In the first quarter of this year, real gross domestic product (GDP) increased at an annual rate of 1.9 percent; preliminary indicators suggest that the pace of the recovery remained soft in the second quarter. Activity in the second quarter was held down by factors that are likely to be temporary, including the damping effect of higher food and energy prices on consumer spending as well as the supply chain disruptions stemming from the earthquake in Japan. But even after setting aside those effects, the pace of economic expansion in the second quarter appears to have been subdued.

In the labor market, employment gains picked up noticeably at the beginning of 2011 but slowed markedly in May and June. The unemployment rate, which fell in late 2010, held close to 9 percent during the early months of the year but then edged up, reaching 9.2 percent in June. Furthermore, long-duration joblessness remained at near-record levels. Meanwhile, consumer price inflation moved up noticeably over the first half of the year, largely in response to rapid increases in the prices of some commodities and imported goods as well as the recent supply chain disruptions. However, longer-term inflation expectations remained stable.

On balance, financial market conditions became somewhat more supportive of economic growth over the first half of 2011, reflecting in part continued monetary policy accommodation provided by the Federal Reserve. In the early part of the year, strong corporate profits and investors' perceptions that the economic recovery was firming supported a rise in equity prices and a narrowing of credit spreads. Since May, however, indications that the U.S. economic recovery was proceeding at a slower pace than previously anticipated, a perceived moderation in global growth, and heightened concerns about the persisting fiscal pressures in Europe weighed on investor sentiment and prompted a pullback from riskier financial assets. On net over the first half of the year, yields on Treasury securities and corporate debt and rates on fixed-rate residential mortgages declined, and equity prices rose significantly. Borrowing conditions for households and businesses eased somewhat further, although credit conditions continued to be tight for some borrowers.

Domestic Developments

The Household Sector

Housing Activity and Finance

The housing market remained exceptionally weak in the first half of 2011. Housing demand continued to be restrained by households' concerns about the

strength of the recovery for incomes and jobs as well as the potential for further declines in house prices; still-tight credit conditions for potential mortgage borrowers with less-than-pristine credit also appear to be damping demand. As a result, sales of single-family homes showed no signs of sustained recovery during the first half of the year. With demand weak, the overhang of vacant properties for sale substantial, distressed sales elevated, and construction financing tight, new units were started at an average annual rate of about 410,000 units between January and May—a bit below the level recorded in the fourth quarter of 2010 and just 50,000 units above the quarterly low reached in the first quarter of 2009.

Activity in the multifamily sector has been a bit more buoyant, as the ongoing reluctance of potential homebuyers to purchase a home, compounded by tight mortgage credit standards, appears to have led to an increase in demand for rental housing. Indeed, vacancy rates for multifamily rental units have dropped noticeably, and rents for apartments in multifamily buildings have moved up. However, construction financing remains difficult to obtain for many potential borrowers. Starts in the multifamily sector averaged 160,000 units at an annual rate in the first five months of 2011, noticeably above the 100,000 units started in the fourth quarter of 2010 but still well below the 300,000-unit rate that had prevailed for much of the previous decade.

House prices fell further over the first half of 2011. The latest readings from national indexes show price declines for existing homes over the past 12 months in the range of 5 to 8 percent. One such measure with wide geographic coverage—the CoreLogic repeat-sales index—fell 8 percent over the 12 months ending in May to a level that is about 4 percent below the previous trough in April of 2009. House prices are being held down by the same factors restraining housing construction—the large inventory of unsold homes, the high number of distressed sales, and lackluster household demand. The inventory of unsold homes will likely put downward pressure on house prices for some time, given the large number of seriously delinquent mortgages that could still enter the foreclosure inventory. As a result of the decline in house prices, the share of mortgages with negative equity has continued to rise: In March 2011, roughly one in four mortgage holders owed more on their mortgages than their homes were worth.

Indicators of credit quality in the residential mortgage sector continued to reflect strains on homeowners confronting depressed home values and high unemployment. Although delinquency rates on most categories of mortgages edged modestly lower in the first part of 2011, they stayed at historically high levels. As of May, serious delinquency rates on loans to prime and near-prime borrowers stood at about 5 percent for fixed-rate loans and 14 percent for variable-rate loans.[2] For subprime loans, as of April (the latest month for which data are available), serious delinquency rates remained near 20 percent for fixed-rate loans and 40 percent for variable-rate loans. The number of homes entering the foreclosure process declined in the first quarter of 2011, but the number of properties at some point in the foreclosure process remained elevated. Mortgage servicers continued to grapple with deficiencies in their foreclosure procedures; resolution of these issues could eventually be associated with an increase in the number of properties entering the foreclosure process as servicers work through the backlog of severely delinquent loans more quickly.[3]

Interest rates on fixed-rate mortgages fell, on net, during the first half of 2011, a move that largely paralleled the decline in Treasury yields over the period. Even with mortgage rates near historically low levels, access to mortgage credit continued to be restrained by negative equity and tight lending standards. For example, the April 2011 Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS) indicated that standards on prime and nontraditional

[2] A mortgage is defined as seriously delinquent if the borrower is 90 days or more behind in payments or the property is in foreclosure.

[3] The Federal Reserve, the Office of the Comptroller of the Currency, the Office of Thrift Supervision, and the Federal Deposit Insurance Corporation conducted an in-depth interagency review of practices at the largest mortgage servicing operations to examine foreclosure practices generally, but with an emphasis on the breakdowns that led to inaccurate affidavits and other questionable legal documents being used in the foreclosure process. The review found, among other things, critical weaknesses in foreclosure-governance practices, foreclosure-documentation processes, and oversight and monitoring of third-party law firms and other vendors. Based on the findings from the review, the agencies issued enforcement actions by consent against 14 mortgage servicers in April 2011 to address the significant deficiencies in mortgage-servicing and foreclosure practices. See Board of Governors of the Federal Reserve System (2011), "Federal Reserve Issues Enforcement Actions Related to Deficient Practices in Residential Mortgage Loan Servicing and Foreclosure Processing," press release, April 13, www.federalreserve.gov/newsevents/press/enforcement/20110413a.htm; and Board of Governors of the Federal Reserve System (2011), "Statement for the Record: On Mortgage Servicing," testimony submitted to the Subcommittees on Financial Institutions and Consumer Credit and on Oversight and Investigations, Committee on Financial Services, U.S. House of Representatives, Washington, July 7, www.federalreserve.gov/newsevents/testimony/statement20110707a.htm.

residential mortgages and home equity loans were about unchanged or moderately tighter during the first quarter, and that demand for these loans continued to decline.[4] The pace of mortgage applications for home purchases remained very sluggish in the first half of the year, probably reflecting the stringency of lending terms and the overall weakness of housing demand. Refinancing activity increased modestly in the second quarter in response to the downward drift in interest rates, but such activity remains subdued compared with that seen in 2010. Overall, mortgage debt outstanding continued to contract.

Net issuance of mortgage-backed securities (MBS) guaranteed by government-sponsored enterprises (GSEs) expanded slightly in the first half of the year but remained relatively low, consistent with the slow pace of mortgage originations to finance home purchases. Net issuance of Ginnie Mae securities remained considerably more robust than net issuance of securities by Fannie Mae and Freddie Mac, reflecting the substantial share of mortgages insured by the Federal Housing Administration (FHA). The securitization market for mortgage loans not guaranteed by a housing-related GSE or the FHA remained essentially closed. Yields on agency MBS fell roughly in line with those on Treasury securities. The Treasury Department announced on March 21 that it would begin to sell its $142 billion agency MBS portfolio at a pace of about $10 billion per month; the announcement appeared to have little lasting effect on spreads of yields on MBS over those on comparable-maturity Treasury securities. Through the end of June, the Treasury had sold MBS with a current face value of about $34 billion.

Consumer Spending and Household Finance

The rate of increase in consumer spending slowed appreciably during the first half of the year. After rising at an annual rate of more than 3 percent in the second half of 2010, real personal consumption expenditures (PCE) stepped down to about a 2 percent rate of increase in the first quarter, and available information suggests that the rise in spending in the second quarter was quite modest as well. Consumer outlays in the second quarter were held down in part by the reduced availability of motor vehicles, especially for those models affected by the supply chain disruptions that followed the earthquake in Japan; purchases of motor vehicles should rebound in coming months as dealer supplies are replenished. More fundamentally, however, continued consumer pessimism and a slower pace of increase in real household income, only partly due to temporarily high energy and food prices, also appear to have weighed on consumption. The saving rate, although continuing to edge down, remains well above levels that prevailed prior to the recession.

Despite a temporary reduction in payroll tax rates beginning in January, aggregate real disposable personal income—personal income less personal taxes, adjusted for price changes—was unchanged, on net, over the first five months of the year after rising 2 percent in 2010. Before taxes, real wage and salary income, which reflects both the number of hours worked and average hourly wages adjusted for inflation, was also flat from December to May after having risen 1¾ percent last year. Wage gains have been restrained by the weakness in the labor market. Moreover, the purchasing power of wages and salaries has been drained by this year's run-up in price inflation. One measure of real wages—average hourly earnings of all employees, adjusted for the rise in PCE prices—fell about 1½ percent at an annual rate over the first five months of 2011 after having increased ½ percent over the 12 months of 2010.

Two other important determinants of consumer outlays are also acting as a restraint on spending. Although the wealth-to-income ratio has trended up since the beginning of 2009, it remains near the low end of the range that has prevailed since the mid-1990s. In addition, consumer sentiment, which had moved up early in 2011, retreated again when gas prices spiked in the spring. More broadly, consumer sentiment seems to have improved little, if any, from the readings that were typical of 2009 and 2010.

Total household debt contracted at an annual rate of about 2 percent in the first quarter of the year, roughly the same pace seen in 2010, as the decline in mortgage debt noted earlier was only partially offset by a moderate increase in consumer credit. Tight credit conditions precluded some households from obtaining credit, and charge-offs remained elevated on many categories of loans. The ongoing reduction in overall household debt levels, combined with low interest rates and a slight increase in personal income, resulted in a further decline in the debt service ratio—the aggregate required principal and interest payment on existing mortgages and consumer debt relative to income. Indeed, as of the first quarter of 2011, the debt service ratio was 11.5 percent, the lowest level seen since 1995.

[4] The SLOOS is available on the Federal Reserve Board's website at www.federalreserve.gov/boarddocs/SnLoanSurvey.

The modest expansion of consumer credit, which began in late 2010, reflects a mixed picture. Nonrevolving consumer credit, which consists largely of auto and student loans and accounts for about two-thirds of total consumer credit, rose at an annual rate of almost 5 percent in the first five months of 2011. The increase is consistent with responses to the April 2011 SLOOS, which indicated a sharp rise in banks' willingness to make consumer installment loans and an ongoing easing of terms and standards on them. However, revolving consumer credit—mostly credit card borrowing—declined through April, albeit at a slower pace than in 2010; early estimates point to an increase in May. Although a net fraction of about 20 percent of banks responding to the April 2011 SLOOS reported an easing of standards for approval of credit card applications, access to credit card loans for borrowers with blemished credit histories remained limited. In addition, the contraction in home equity loans, historically a source of funding for consumer durables and other large household expenditures, appears to have intensified during the first half of 2011, in part owing to declines in home equity and still-stringent lending standards.

Indicators of consumer credit quality generally improved. The delinquency rates on credit card loans, both at commercial banks and in securitized pools, retreated to less than 4 percent in the first quarter and May, respectively—at the low ends of their ranges over recent decades. Delinquencies on nonrevolving consumer loans at commercial banks also edged lower, while delinquencies on auto loans at captive finance companies were flat, on net, over the first four months of the year; both of these measures remained around their historical averages.

Interest rates on consumer loans held fairly steady, on net, in the first half of 2011. Interest rates on new-auto loans continued to linger at historically low levels. Rates on credit card loans are around their historical averages, but the spread of these rates to the two-year Treasury yield is quite wide, in part because of pricing adjustments made in response to the Credit Card Accountability Responsibility and Disclosure Act, or Credit Card Act, of 2009.[5]

In the first half of 2011, issuance of consumer asset-backed securities (ABS) remained at about the same pace as in 2010 but still well below average issuance rates prior to the financial crisis. Securities backed by auto loans made up a large share of the new supply. Issuance of credit card ABS, however, remained weak, as the sharp contraction in credit card lending limited the need for new funding and as last year's accounting rule changes reportedly damped the attractiveness of securitizing these loans, particularly since banks remained awash in other sources of cheap funding.[6] Yields on ABS and the spreads of such yields over comparable-maturity interest rate swap rates were little changed, on net, over the first half of the year, stabilizing at levels only slightly higher than those seen prior to the financial crisis.

The Business Sector

Fixed Investment

Real business spending for equipment and software (E&S) rose at an annual rate of about 10 percent in the first quarter, roughly the same pace as in the second half of 2010. Business purchases of motor vehicles rose briskly, and outlays on information technology (IT) capital and on equipment other than transportation and IT continued to rise at solid rates. More-recent data on orders and shipments for a broad range of equipment categories suggest that E&S spending will likely post another sizable gain in the second quarter. Spending is being boosted by the need to replace older, less-efficient equipment and, in some cases, to expand capacity. One soft spot in the second quarter will likely be in business purchases of motor vehicles, which, like consumer purchases, were held down by the shortages of Japanese nameplate cars in the wake of the earthquake in Japan, but this effect should be reversed during the second half of the year.

By contrast, investment in nonresidential structures remains at a low level. After falling 17 percent in 2010, real business outlays on structures outside of the drilling and mining sector fell at an annual rate of 25 percent in the first quarter. Although the incoming data point to a small increase in outlays in the second quarter, high vacancy rates, continuing price declines in all but a few markets, and difficult financing conditions for builders suggest that spending will

[5] The Credit Card Act includes some provisions that place restrictions on issuers' ability to impose certain fees and to engage in risk-based pricing.

[6] Issued by the Financial Accounting Standards Board (FASB), Statements of Financial Accounting Standards Nos. 166 (*Accounting for Transfers of Financial Assets, an Amendment of FASB Statement No. 140*) and 167 (*Amendments to FASB Interpretation No. 46(R)*) became effective at the start of a company's first fiscal year beginning after November 15, 2009, or, for companies reporting earnings on a calendar-year basis, after January 1, 2010. The amendments required many credit card issuers to bring securitizations onto their balance sheets and therefore to hold more capital against them.

be weak for some time to come. However, spending on drilling and mining structures has continued to rise at a robust pace in response to elevated oil prices and advances in technology for horizontal drilling and hydraulic fracturing.

Inventory Investment

Real inventory investment stepped up in the first quarter, as stockbuilding outside of motor vehicles increased somewhat and motor vehicle inventories were about unchanged following a substantial fourth-quarter runoff. Outside of the motor vehicle sector, the inventory-to-sales ratios for most industries covered by the Census Bureau's book-value data remain near the levels observed before the recession, and surveys suggest that inventory positions for most businesses generally are not perceived as being excessive. In the motor vehicle sector, the effects of the earthquake in Japan and supply constraints on the production of some of the most fuel-efficient domestic nameplate cars led to a sharp drop in inventories in the second quarter, but some significant rebuilding of inventories is likely to occur this quarter.

Corporate Profits and Business Finance

Operating earnings per share for S&P 500 firms continued to rise in the first quarter of 2011, increasing at a quarterly rate of about 6 percent. With the latest rise, aggregate earnings per share advanced to their pre-crisis peak. During much of the first half of the year, analysts marked up their forecasts of year-ahead earnings by a modest amount; however, their forecasts were flat from May to June.

The credit quality of nonfinancial corporations improved further in the first half of 2011 as firms continued to strengthen their balance sheets. Liquid assets remained at record-high levels in the first quarter, and the aggregate ratio of debt to assets—a measure of corporate leverage—edged lower. Credit rating upgrades of corporate debt outpaced downgrades through June, and the six-month trailing bond default rate for nonfinancial firms remained close to zero. The delinquency rate on commercial and industrial (C&I) loans at commercial banks decreased in the first quarter to 2½ percent, about the middle of its range over the past two decades.

Borrowing by nonfinancial corporations remained robust in the first half of the year, reflecting both strong corporate credit quality and favorable financing conditions in capital markets. Gross issuance of nonfinancial corporate bonds rose to a monthly record high in May amid heavy issuance of both investment- and speculative-grade debt. Firms sought to refinance existing debt, lock in new funding at current low yields, and, to a lesser extent, finance merger and acquisition activity. The amount of unsecured nonfinancial commercial paper outstanding also picked up a bit in the first half of the year. Issuance in the syndicated leveraged loan market reached pre-crisis levels, partly owing to heavy refinancing activity and in response to strong demand for floating-rate assets from institutional investors. Likely reflecting in part an increased appetite for higher-yielding debt instruments, the market for collateralized loan obligations (CLOs) showed signs of renewed activity, and issuance picked up.

After declining sharply in 2009 and 2010, C&I loans on banks' books rose at a vigorous pace in the first half of 2011. The SLOOSs of January 2011 and April 2011 showed that banks continued to ease standards and terms for C&I loans. In April, more than half of the survey's respondents reported having trimmed spreads over their cost of funds on loans to firms of all sizes. Respondents also indicated that nonprice loan terms have eased; these results were corroborated by the May 2011 Survey of Terms of Business Lending (STBL), which suggested that the average size of loan commitments at domestic banks and the average maturity of loans drawn on those commitments have trended up in recent quarters. Banks responding to the SLOOS also noted an ongoing firming of demand for C&I loans, particularly by large and medium-sized firms.

For small businesses, borrowing conditions remained tight. The May STBL revealed that the weighted-average spread on C&I loan commitments of less than $1 million stayed stubbornly high in recent quarters, in contrast to a modest decline in the spread on commitments of more than $1 million. However, some signs of improvement in credit availability for small businesses have emerged in recent months. In addition to the easing of terms and standards for C&I loans reported in the April SLOOS, surveys conducted by the National Federation of Independent Business showed that the net fraction of small businesses reporting that credit had become more difficult to obtain than three months ago has declined to its lowest level since the financial crisis, although it remains well above its pre-crisis average. Moreover, the net percentage of respondents expecting credit conditions to become tighter over the next three months remained, on average, lower than in 2010. Demand for credit by small businesses is still weak, with a historically small fraction of such busi-

nesses indicating that they have borrowing needs. In addition, the fraction of businesses that cited credit availability as the most important problem that they faced continued to be small; many firms pointed instead to weak demand from customers as their greatest concern.

The fundamentals in commercial real estate (CRE) markets remained extremely weak in the first half of 2011, although financing conditions for certain CRE assets did see some modest improvement. Banks' holdings of CRE loans continued to contract in the first half of the year, driven by reduced lending for construction and land development and sizable charge-offs on existing loans. Although delinquency rates for CRE loans at commercial banks receded slightly from recent peaks, they remained at historically high levels, while the delinquency rate for loans funded by commercial mortgage-backed securities (CMBS) also continued to be elevated. Responses to questions on CRE lending in the April 2011 SLOOS showed that most domestic banks reported no change in their lending standards for approving CRE loans, although a few large banks and foreign banks reported having eased such standards.

On net, financing conditions for investment-quality properties—roughly, those with stable rent streams in large cities—improved in the first half of the year, although conditions worsened a bit in June with the more general pullback from risky assets. Secondary-market spreads for AAA-rated CMBS declined to multiyear lows through May before retracing somewhat in June, and respondents to the Federal Reserve's June 2011 Senior Credit Officer Opinion Survey on Dealer Financing Terms (SCOOS) indicated that funding for less-liquid legacy CMBS had increased.[7] New issuance of CMBS continued to pick up, with issuance in the first half of 2011 exceeding that in all of 2010. Renewed investor interest in high-quality properties has also been evident in investment flows into, and the share prices for, equity real estate investment trusts, or REITs.

In the corporate equity market, combined gross issuance of seasoned and initial offerings continued in the first quarter of 2011 at the same solid pace seen throughout 2010. At the same time, however, volumes of equity retirements from share repurchases and cash-financed mergers and acquisitions remained high and continued to rise.

[7] The SCOOS is available on the Federal Reserve Board's website at www.federalreserve.gov/econresdata/releases/scoos.htm.

The Government Sector

Federal Government

The deficit in the federal unified budget remains elevated. The Congressional Budget Office (CBO) projects that the deficit for fiscal year 2011 will be close to $1.4 trillion, or roughly 9 percent of GDP—a level comparable to deficits recorded in 2009 and 2010 but sharply higher than the deficits recorded prior to the onset of the recession and financial crisis. The budget deficit continues to be boosted by the effects of the stimulus policies enacted in recent years, including the provisions of the American Recovery and Reinvestment Act of 2009 (ARRA) and the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010. In addition, the weakness in the economy continues to damp revenues and boost payments for income support.

Federal receipts have risen rapidly lately—they are up about 10 percent in the first eight months of fiscal 2011 compared with the same period in fiscal 2010. Nonetheless, the level of receipts remains low; indeed, the ratio of receipts to national income is less than 16 percent, near the lowest reading for this ratio in 60 years. The robust rise in revenues thus far this fiscal year is largely a result of strong growth in individual income tax receipts, likely reflecting some step-up in the growth of nominal wage and salary income and an increase in capital gains realizations. Corporate taxes in the first eight months of the fiscal year were up only about 5 percent from last year, as the effect of strong profits growth on receipts was partially offset by recent legislation providing more-favorable tax treatment for some business investment.

Total federal outlays have risen nearly 6 percent in the first eight months of fiscal 2011 relative to the comparable year-earlier period. Much of the increase in outlays this year relative to last has been related to financial transactions. In particular, repayments to the Treasury of obligations for the Troubled Asset Relief Program lowered measured outlays last year and hence reduced the base figure for this year's comparison. Excluding these transactions, outlays were up less than 2 percent this year. This relatively small increase in outlays reflects reductions in both ARRA spending and unemployment insurance payments as well as a subdued pace of defense spending. By contrast, net interest payments have increased sharply, while most other spending has increased at rates comparable to fiscal 2010.

As measured in the national income and product accounts (NIPA), real federal expenditures on consumption and gross investment—the part of federal spending that enters directly into the calculation of real GDP—fell at an annual rate of close to 8 percent in the first quarter. Defense spending, which tends to be erratic from quarter to quarter, plunged almost 12 percent and nondefense purchases were unchanged.

Federal Borrowing

Federal debt expanded at a somewhat slower pace in the first half of this year than in 2010. On May 16, the federal debt reached the $14.294 trillion limit, and the Treasury began to implement extraordinary measures to extend its ability to fund government operations.[8] The Treasury estimates that if the Congress does not raise the debt limit, the capacity of these extraordinary measures will be exhausted on August 2. Thus far, financial market participants do not seem to be pricing in significant odds of a "technical default." However, the risk of such a default has been noted by the rating agencies. In June, Moody's Investors Service, Fitch Ratings, and Standard & Poor's each indicated that they may downgrade, to varying degrees, the credit rating of some or all U.S. debt securities if principal or interest payments are missed. Moody's noted that even if default is avoided, its rating outlook would depend on the achievement of a credible agreement on substantial deficit reduction. In mid-April, Standard & Poor's revised its outlook for the federal government's AAA long-term and A-1+ short-term sovereign credit ratings to negative, citing "material risks" that policymakers might fail to reach an agreement within the next two years on how to address medium- and long-term fiscal imbalances.

Federal debt held by the public reached about 65 percent of nominal GDP in the second quarter of 2011 and, according to CBO projections, will surpass 70 percent of GDP in 2012. Despite continued high levels of federal government financing needs and the concerns raised by the debt limit, Treasury auctions have been generally well received so far this year. For the most part, bid-to-cover ratios and indicators of foreign participation at auctions fell within historical ranges. Demand for Treasury securities likely continued to be supported by heightened investor demand for relatively safe and liquid assets in light of fiscal troubles in some European countries. However, foreign net purchases of Treasury securities and the pace of growth of foreign custody holdings of Treasury securities at the Federal Reserve Bank of New York moderated, on net, during the first half of the year.

State and Local Government

State and local governments remained under significant fiscal pressure in the first half of 2011. Over the first six months of the year, these governments cut an average of 28,000 jobs per month, similar to the pace of job loss observed in 2010. Real construction expenditures have also declined. After falling modestly in 2010, real structures investment by state and local governments plunged in the first quarter of 2011, and available information on nominal construction through May suggests that construction spending continued to decline in recent months. Although federal stimulus funds have boosted construction expenditures on highways and other transportation infrastructure, other types of construction spending—most notably construction of schools—have been declining. Capital expenditures are not typically subject to balanced budget requirements. Nevertheless, the payments of principal and interest on the bonds used to finance capital projects are generally made out of operating budgets, which are subject to balanced budget constraints. As a result, state and local governments have had to make difficult choices even about this form of spending.

State and local revenues appear to have risen moderately over the first half of this year. Many states reported strong revenue collections during the income tax filing season, but federal stimulus grants, while still sizable, have begun to phase out. At the local level, property tax collections appear to be softening as the sharp declines in house prices increasingly show through to assessments and hence to collections. Thus, despite the recent good news on state revenues, the state and local sector is likely to continue to face considerable budgetary strain for a while. Moreover, many state and local governments will need to set aside money in coming years to rebuild their employee pension funds after the financial losses sustained over the past couple of years and to fund health-care benefits for their retired employees.

[8] On May 16, the Secretary of the Treasury declared a "debt issuance suspension period" for the Civil Service Retirement and Disability Fund, permitting the Treasury to redeem a portion of existing Treasury securities held by that fund as investments and to suspend issuance of new Treasury securities to that fund as investments. The Treasury also began suspending some of its daily reinvestment of Treasury securities held as investments by the Government Securities Investment Fund of the Federal Employees' Retirement System Thrift Savings Plan.

State and Local Government Borrowing

While conditions in the municipal bond market improved somewhat in the first half of the year, those conditions continue to reflect ongoing concerns over the financial health of state and local governments. On balance this year, yields on long-term general obligation bonds fell somewhat more than those on comparable-maturity Treasury securities; however, the ratio of municipal bond yields to Treasury yields remained high by historical standards. Credit default swap (CDS) spreads for many states narrowed to their lowest levels in at least a year but remain well above their pre-crisis levels, while downgrades of the credit ratings of state and local governments continued to outpace upgrades by a notable margin during the first half of the year.

Issuance of long-term securities by state and local governments dropped to multiyear lows in the first half of 2011. In part, the decline is a consequence of the outsized issuance seen in the fourth quarter of 2010, when states and municipalities rushed to issue long-term bonds before the expiration of the Build America Bond program at the end of the year.[9] However, the recent weakness likely also reflected tepid investor demand. Mutual funds that invest in long-term municipal bonds experienced heavy net outflows late last year and in January 2011. Net redemptions slowed substantially in subsequent months, and flows have been roughly flat since May.

The External Sector

Both real exports and imports of goods and services expanded at a solid pace in the first quarter of 2011. Real exports increased at an annual rate of 7½ percent, supported by continued robust foreign demand and the lower value of the dollar. Most major categories of exports rose, with industrial supplies, capital goods, and automotive products posting the largest gains. Across trading partners, exports to Canada, Mexico, and other emerging market economies (EMEs) were particularly strong, while exports to the European Union (EU) and China were about flat. Data for April and May suggest that exports continued to grow at a robust pace in the second quarter.

After moving up only modestly in the second half of 2010, real imports of goods and services accelerated noticeably in the first quarter of this year, increasing at an annual rate of almost 5¼ percent, reflecting a return to a more normal pace of expansion. Imports of all major categories increased, with these gains fairly broad based across trading partners. Data for April and May indicate that, despite some drag from the disruptions to automotive imports from Japan following the earthquake, imports of goods and services have continued to rise at a moderate pace.

All told, net exports made a small positive contribution of almost ¼ percentage point to real GDP growth in the first quarter of 2011. The current account deficit widened slightly from an average annual rate of $465 billion in the second half of 2010 to $477 billion, or about 3¼ percent of GDP, in the first quarter of this year; the widening resulted primarily from the increase in the price of imported oil.

The spot price of West Texas Intermediate (WTI) crude oil continued its ascent into the early months of 2011, rising sharply from around $90 per barrel at the beginning of the year to peak at almost $115 by late April. The increase over the first four months of the year likely reflected continued robust growth in global oil demand, particularly in the EMEs, coupled with supply disruptions and the potential for further disruptions due to the political unrest in the Middle East and North Africa (MENA) region. In recent weeks, the spot price of WTI has fallen back to under $100 per barrel because of increasing concerns that global activity might be decelerating. On June 23, the International Energy Agency decided to release 60 million barrels of oil from strategic reserves over the following 30 days. The price of the far-dated futures contracts for crude oil (that is, the contracts expiring in December 2019) mostly fluctuated in the neighborhood of $100 during the first half of the year, implying that the markets viewed the run-up in oil prices seen earlier in the year as partly transitory.

Over the first quarter, prices for a broad variety of nonfuel commodities also moved up significantly. As with oil, these increases were supported primarily by continued strength in global demand, especially from the EMEs. In addition, tight supply conditions played a significant role in pushing up prices for many food commodities. At the onset of the second quarter, prices stabilized and generally began to retreat amid growing uncertainty about the outlook for the global economy, falling back to around the elevated levels registered at the start of this year (see **box 1**).

[9] The Build America Bond program, authorized under the ARRA, allowed state and local governments to issue taxable bonds for capital projects and receive a subsidy payment from the Treasury for 35 percent of interest costs.

Box 1. Commodity Price Developments

Despite recent declines, nominal prices for many commodities are near record highs. The increase in commodity prices since 2002 runs counter to the trend over the prior two decades of declining real prices. The earlier trend decline in part reflected the aftermath of a spike in commodity prices in the 1970s, which eventually boosted supply and curtailed demand for commodities. The relatively low real commodity prices of the 1980s and 1990s, in turn, set the stage for the pickup in prices over the past decade, as underinvestment in new supply capacity left commodity markets ill-prepared to meet a surge in demand linked to rapid growth in global real gross domestic product (GDP). The pickup in world GDP growth was led by the emerging market economies (EMEs). As EME growth is relatively commodity intensive, the concentration of world GDP growth in these economies added to upward pressures on demand for commodities and thus their prices.

EME demand has been important for growth in global consumption of various commodities over the past decade. For oil, metals, and soybeans, the entire increase in consumption over the period is attributable to the EMEs, particularly China. For corn, increased U.S. ethanol production also has been an important factor in boosting consumption.

While demand for commodities has been strong, growth of supply has been relatively limited. For example, oil production over the past decade increased by only about half as much as was projected by the U.S. Department of Energy at the start of the decade. Production in the Organisation for Economic Co-operation and Development countries was depressed by lower-than-expected production in Mexico and the North Sea. The substantial miss in the forecasted production by the Organization of the Petroleum Exporting Countries (OPEC) in part reflects a surprising unresponsiveness of OPEC's supply to higher prices, suggesting that an upward shift in OPEC's perceived price target also held back supply growth. Likewise, for metals, industry groups were repeatedly overly optimistic in regard to projected supply growth, most notably for copper. For agricultural products, although yields and acreage increased over the past 10 years, unusually unfavorable weather has restrained supplies in recent years.

The current high level of commodity prices is likely to prompt an expansion of supply and a moderation in demand that could relieve some of the pressures currently boosting prices. For energy, nonconventional oil production continues to expand, including the Canadian oil sands and the recent developments in North Dakota's Bakken Shale. Similarly, for natural gas, new drilling technology has unlocked previously inaccessible deposits of shale gas, resulting in much higher U.S. natural gas production and lower prices. For agriculture, although harvested acres overseas have expanded briskly since 2000, yields for corn and some other crops are currently much lower than in the United States, suggesting the potential for further gains abroad.

Although there are reasons for optimism, the relative timing and magnitude of these supply and demand adjustments are uncertain. Commodity prices will continue to be affected by the general evolution of the global economy and by even less predictable factors, such as weather and political strife.

Prices of non-oil imported goods accelerated in the first quarter of 2011, surging at an annual rate of 7¼ percent, the fastest pace since the first half of 2008. This pickup was driven by a few factors, including the rise in commodity prices, significant increases in foreign inflation, and the depreciation of the dollar. In the second quarter of this year, with commodity prices apparently stabilizing, import price inflation likely moderated.

National Saving

Total U.S. net national saving—that is, the saving of U.S. households, businesses, and governments, excluding depreciation charges—remains extremely low by historical standards. After having reached nearly 4 percent of nominal GDP in early 2006, net national saving dropped over the subsequent three years, reaching a low of negative 3 percent in the third quarter of 2009. Since then, the national saving rate has edged up, on balance, but remains negative: Net national saving was negative 1.4 percent of nominal GDP in the first quarter of 2011 (the latest data available). The increase in the federal deficit more than accounts for the decline in the net national saving rate since 2006, as private saving rose considerably, on balance, over this period. National saving will likely remain relatively low this year in light of the continuing large federal budget deficit. If low levels of national saving persist over the longer run, they will likely be associated with both low rates of capital formation and heavy borrowing from abroad, limiting the rise in the standard of living of U.S. residents over time.

The Labor Market

Employment and Unemployment

Conditions in the labor market have improved only gradually and unevenly. In the first four months of 2011, private payroll employment increased an aver-

age of about 200,000 jobs per month, up from the average pace of 125,000 jobs per month recorded in the second half of 2010. However, private employment gains slowed in May and June, averaging only 65,000, with the step-downs widespread across industries. In addition, cutbacks in jobs continued at state and local governments.

The unemployment rate, which had appeared to be on a downward trajectory at the turn of the year, leveled off at around 9 percent in the early months of the year. Since then, it has edged up, and it reached 9.2 percent in June. Long-term joblessness has also remained elevated. In June, 44 percent of those unemployed had been out of work for more than six months (see **box 2**). Meanwhile, the labor force participation rate, which had declined gradually over 2009 and 2010, has remained roughly flat at a low level since the beginning of 2011.

Other labor market indicators also corroborate the view that the labor market remains weak. Initial claims for unemployment insurance, which had trended steadily downward over the first part of this year, backed up some in the second quarter. Measures of job vacancies edged up, on balance, over the first half of the year, but hiring has remained quite tepid.

Productivity and Labor Compensation

Labor productivity has risen less rapidly recently. Following an outsized increase of 6 percent in 2009, output per hour in the nonfarm business sector increased 2 percent in 2010 and at an annual rate of 1¾ percent in the first quarter of 2011. Available information suggests that labor productivity likely decelerated further in the second quarter.

Increases in hourly compensation continue to be restrained by the weak condition of the labor market. The 12-month change in the employment cost index for private industry workers, which measures both wages and the cost to employers of providing benefits, has been 2 percent or less since the start of 2009 after several years of increases in the neighborhood of 3 percent. Nominal compensation per hour in the nonfarm business sector—a measure derived from the labor compensation data in the NIPA—has also decelerated noticeably over the past couple of years; this measure rose just 2 percent over the year ending in the first quarter of 2011, well below the average increase of about 4 percent in the years before the recession. Similarly, average hourly earnings for all employees—the timeliest measure of wage developments—rose 1.9 percent in nominal terms over the 12 months ending in June.

Unit labor costs in the nonfarm business sector edged up ¾ percent over the year ending in the first quarter of 2011, as the rate of increase of nominal hourly compensation was just slightly higher than that of labor productivity. Over the preceding year, unit labor costs fell nearly 3 percent.

Prices

Inflation stepped up considerably in the first half of 2011. After rising less than 1¼ percent over the 12 months of 2010, the overall PCE chain-type price

Box 2. Long-Term Unemployment

The deep recession and subsequent slow improvement in the labor market have resulted in a sharp increase in the incidence of long-term unemployment, defined here as being out of work 27 weeks or longer. In the first quarter of this year, about 6 million persons (4 percent of the labor force) were long-term unemployed. The long-term unemployment rate is almost twice as high as its previous peak of about 2½ percent of the labor force following the recession of the early 1980s. Indeed, the long-term unemployed currently make up 44 percent of all unemployed, up from a previous peak of 25 percent in the early 1980s.

Although all unemployed persons experience a loss of income, the long-term unemployed often face particularly serious economic hardships. They are at greater risk of exhausting unemployment insurance benefits and drawing down savings and other assets, and thus they likely suffer a greater deterioration of living standards.

Even in good times, the likelihood of finding a new job is generally lower for those who have remained unemployed longer. During the most recent recession, job finding rates fell for workers at all unemployment durations. More recently, job finding rates have inched up some from their lows at the end of the recession, but they remain quite low at all durations.

In part, low job finding rates among the long-term unemployed reflect the fact that, at any given time, some attributes—including certain skills, locations, or other characteristics—are associated with greater difficulty in finding employment. In addition, long-term unemployment may compound the difficulty that some individuals have in finding a job by degrading their skills, employment networks, and reputations. Moreover, some who have been unsuccessful in their job search for a long period may permanently drop out of the labor force, in some cases by retiring earlier than planned or applying for disability benefits, thereby reducing aggregate employment for years to come.

index increased at an annual rate of more than 4 percent between December 2010 and May 2011 as energy prices soared and food prices accelerated. PCE prices excluding food and energy also accelerated over the first five months of the year, rising at an annual rate of 2¼ percent, compared with the extremely low rate of about ¾ percent over the 12 months of 2010. The recent increases in both overall inflation and inflation excluding food and energy appear to reflect influences that are likely to wane in coming months.

Consumer energy prices—particularly for motor fuel and home heating oil—rose sharply in the first few months of 2011 as the price of crude oil surged. Between December and April, the PCE price index for consumer energy items climbed almost 12 percent (not at an annual rate), and the national-average price of gasoline approached $4 per gallon. But consumer energy prices began to turn down in May in response to declines in the prices of crude oil and wholesale refined products; while the June reading on the PCE index is not yet available, survey-based information on retail gasoline prices suggests that consumer energy prices likely declined further last month.

After rising modestly last year, consumer prices for food and beverages accelerated this year, rising at an annual rate of more than 6 percent from December to May. Farm commodity prices increased sharply over the past year as the emerging recovery in the global economy coincided with poor harvests in several major producing countries, and this sharp increase has fed through to consumer prices for meats and a wide range of other more-processed foods. In addition, a freeze-related upswing in consumer prices for fruits and vegetables boosted PCE food prices earlier this year; these prices began to retreat in the spring.

Price inflation for consumer goods and services other than energy and food appears to have been boosted during the first five months of 2011 by higher prices of imported items as well as by cost pressures generated by increases in the prices of oil and other industrial commodities; given the apparent stabilization of commodity prices, these pressures should fade in coming months. In addition, prices of motor vehicles increased sharply when supplies of new models were curtailed by parts shortages associated with the earthquake in Japan. These shortages are expected to diminish in coming months as supply chain problems are alleviated and motor vehicle production increases.

Longer-term inflation expectations remained stable during the first half of the year. In the Thomson Reuters/University of Michigan Surveys of Consumers, median longer-term expectations were 3 percent in June, well within the range seen over the past several years. Moreover, the second-quarter reading of 10-year-ahead inflation expectations from the Survey of Professional Forecasters, conducted by the Federal Reserve Bank of Philadelphia, stood at 2¼ percent in the second quarter, only slightly higher than the 2 percent reading recorded in the fourth quarter of last year. Measures of inflation compensation derived from yields on nominal and inflation-indexed Treasury securities fluctuated over the first half of the year in response to changes in commodity prices and the outlook for economic growth. On balance, medium-term inflation compensation ended the first half of the year slightly higher, but compensation at longer-term horizons was little changed.

Survey-based measures of near-term inflation expectations moved up during the first half of the year, likely reflecting the run-up in energy and food prices. Median year-ahead inflation expectations in the Michigan survey, which had been relatively stable throughout much of 2010, stepped up markedly through April but then fell back a bit in May and June as prices for gasoline and food decreased.

Financial Developments

Financial market conditions became somewhat more supportive of economic growth, on balance, in the first half of 2011, reflecting in part continued monetary policy accommodation provided by the Federal Reserve. In the early part of the year, strong corporate profits and investors' perceptions that the economic recovery was firming supported a rise in equity prices and a narrowing of credit spreads. Since May, however, indications that the U.S. economic recovery was proceeding at a slower pace than previously anticipated, a perceived moderation in global growth, and mounting concerns about the persisting fiscal pressures in Europe weighed on investor sentiment, prompting some pullback from riskier financial assets.

Monetary Policy Expectations and Treasury Rates

On net over the first half of the year, amid indications of a slowing in the pace of economic recovery, market participants pushed out the date when they expect the target federal funds rate to first rise above its current range of 0 to ¼ percent and scaled back

their expectations of the pace at which monetary policy accommodation will be removed. Quotes on money market futures contracts imply that, as of early July 2011, investors expect the federal funds rate to rise above its current target range in the fourth quarter of 2012, about three quarters later than the date implied at the start of the year.[10] Investors also expect, on average, that the effective federal funds rate will be about 75 basis points by the middle of 2013, about 90 basis points lower than anticipated at the beginning of 2011. Over the first half of the year, investors coalesced around the view that the Federal Reserve would complete the $600 billion program of purchases of longer-term Treasury securities announced at the November 2010 meeting of the Federal Open Market Committee (FOMC); the program was completed at the end of June.

Yields on nominal Treasury securities declined, on balance, over the first half of 2011. Treasury yields initially rose in the first quarter amid signs that the U.S. economic recovery was on a firmer footing and that higher prices for energy and other commodities were boosting inflation and investor uncertainty about future inflation. However, yields subsequently more than reversed their earlier increases, as weaker-than-expected economic data pointed to a slower pace of economic recovery in the United States, commodity prices eased somewhat, and investors sought the relative safety and liquidity of Treasury securities in the face of heightened concerns about the ongoing fiscal strains in Europe. As of early July, yields on 2-, 5-, and 10-year Treasury notes had dropped about 20, 40, and 30 basis points, respectively, since the start of the year, reaching very low levels. Uncertainty about longer-term interest rates, as measured by the implied volatility on 10-year Treasury securities, declined, on balance, reflecting in part the resolution of uncertainty about the ultimate size and duration of the Federal Reserve's asset purchase program and the lower odds perceived by investors of a rapid removal of monetary policy accommodation. However, volatility increased for a time in mid-June as concerns escalated about the effects of Europe's fiscal problems on European banks. Thus far, the issues surrounding the statutory debt limit seem not to have affected either Treasury yields or implied volatility noticeably, suggesting that investors generally believe that policymakers will reach an agreement to raise the limit before the Treasury exhausts its capacity to borrow in early August.

Corporate Debt and Equity Markets

Yields on corporate bonds across the credit spectrum generally declined, on net, during the first half of the year by amounts broadly similar to those on comparable-maturity Treasury securities, leaving risk spreads little changed. After narrowing in the first four months of the year, spreads subsequently retraced, reflecting disappointing news about the strength of the economic recovery at home as well as the ongoing fiscal stresses in Europe. Nonetheless, bond spreads remained at the lower ends of their historical ranges. The term structure of corporate yield spreads indicated that the recent widening was concentrated in near-term forward spreads rather than far-term forward spreads. This information suggests that while investors have become a bit more concerned about near-term risks, there has been little if any change in their willingness to bear risk at longer horizons; in fact, far-term forward spreads, particularly for high-yield bonds, are close to their historical lows. In the secondary market for syndicated leveraged loans, the average bid price edged up further, reflecting strong demand from institutional investors for the asset class and a further improvement in fundamentals.

Broad equity price indexes posted hefty gains in the first quarter of 2011 because of strong earnings reports and expectations that the economic recovery was firming. Equity prices fell back somewhat in May and June as investors downgraded their expectations for economic growth and reacted to the situation in Europe, but the market subsequently rebounded as concerns about the near-term risks in Europe appeared to ease. On net, stock prices ended the first half of the year significantly higher. Implied volatility of the S&P 500 stock price index, as calculated from options prices, was slightly lower, on net, but fluctuated in response to various risk events during the first half of the year.

With some investors seeking to boost nominal returns in an environment of very low interest rates,

[10] When interest rates are close to zero, determining the point at which financial market quotes indicate that the federal funds rate will move above its current range can be challenging. The path described in the text is the mean of a distribution calculated from derivatives contracts on federal funds and Eurodollars. The asymmetry induced in this distribution by the zero lower bound causes the mean to be influenced strongly by changes in uncertainty regarding the policy path, complicating the interpretation of the expected path. Alternatively, one can use similar derivatives to calculate the most likely, or "modal," path of the federal funds rate, which tends to be more stable. This alternative measure has also moved down, on net, since the beginning of the year, but it suggests a flatter overall trajectory for the target federal funds rate, according to which the effective rate does not rise above its current target range until the second half of 2013.

monies continued to flow, on net, into mutual funds that invest in higher-yielding debt instruments (including speculative-grade corporate bonds and leveraged loans) in the first half of 2011. These inflows likely supported strong issuance and contributed to the easing of conditions in corporate bond markets. However, consistent with the subsequent downturn in risk sentiment, equity mutual funds experienced large net outflows in May and June—the first monthly outflows from such funds since October 2010. Money market mutual funds continued to have moderate net outflows amid the very low yields that these funds pay. Within the universe of money market funds, institutional prime money market funds experienced a stepped-up pace of outflows in June, likely reflecting in part some concerns about such funds' exposures to European financial institutions.

Market Functioning and Dealer-Intermediated Credit

Conditions in short-term funding markets were generally stable in the first half of 2011. Spreads of London interbank offered rates, or Libor, over comparable-maturity overnight index swap rates—a measure of stress in short-term bank funding markets—remained relatively narrow. However, forward agreements for short-term U.S. dollar funding starting three months hence jumped in mid-June as concerns increased regarding the exposures of some European banks to peripheral European sovereign debt. In addition, some European financial institutions faced reduced access to U.S. dollar funding, as evidenced by their declining issuance of commercial paper in the United States and rates on their paper that remain noticeably elevated compared with rates paid by other issuers. In commercial paper markets more broadly, spreads of yields on lower-quality A2/P2-rated paper over those on higher-quality AA-rated nonfinancial paper edged slightly higher, both at overnight and 30-day tenors; spreads of yields on AA-rated asset-backed commercial paper over those on AA-rated nonfinancial paper remained narrow.

In repurchase agreement (repo) transactions, haircuts on securities used as collateral were, on balance, little changed over the first half of the year. The Federal Deposit Insurance Corporation's implementation on April 1 of a change in its deposit insurance assessment system—which, for the first time, effectively assessed premiums on the nondeposit liabilities of large banks—reduced banks' demand for short-term funding, putting downward pressure on short-term rates.[11] Money market rates softened further in late June, with rates in secured funding markets near zero; investors pointed to a shortage of collateral and higher demand for safe, liquid assets as factors contributing to the decline.

Information from the Federal Reserve's quarterly SCOOS suggested a continued gradual easing in credit terms for most types of counterparties in securities financing and over-the-counter (OTC) derivatives markets in the first half of the year. Dealers indicated that the easing came primarily in response to more-aggressive competition from other institutions and an improvement in general market liquidity and functioning. The easing of terms occurred primarily for securities financing transactions, while nonprice terms on OTC derivatives transactions were little changed on balance. Dealers also reported a continued increase in demand for funding for most types of securities, excluding equities.

The use of dealer-intermediated leverage appears to have increased from its very low level reached during the financial crisis. Responses to special questions included in the SCOOS in March 2011 and June 2011 also tended to corroborate the view that dealer-intermediated leverage had increased somewhat over the past six months among both hedge funds and traditionally unlevered investors. Nonetheless, respondents to the June survey reported that the overall use of leverage remained at levels roughly midway between the pre-crisis peak and the post-crisis trough. That the usage of dealer-intermediated leverage is still well below the peak appears consistent with other evidence, including current triparty and securities lending activity, a lack of any meaningful issuance of structured finance products other than CLOs, and no sign of a pickup in financing instruments that embed significant leverage, such as total return swaps. Responses to another special question on the June 2011 SCOOS indicated that there was some unused funding capacity under existing agreements for all types of institutional clients, and that unused capacity had generally increased since the

[11] On April 1, 2011, the Federal Deposit Insurance Corporation implemented changes to its deposit insurance assessment system that broadened the definition of the assessment base and altered assessment rates, especially for large banks. Under the new system, insurance premiums are based on an insured depository institution's total assets less tangible capital—essentially all liabilities—rather than domestic deposits. The new assessment rate schedule continued to assign higher assessment rates to banks that pose greater risks to the insurance system. In the aggregate, the changes in the assessment system were intended to be revenue neutral.

beginning of 2011. This finding suggests that leverage is constrained by counterparties' risk appetites rather than funding availability. With the pullback from risk-taking and turn in market sentiment in June (after responses to the June SCOOS were filed), leverage use appears to have declined. Hedge funds saw an erosion of the returns posted during the first few months of the year, leaving their returns roughly flat for the year to date.

Measures of liquidity and functioning in most financial markets suggest that conditions were generally stable during the first half of 2011. In the Treasury market, various indicators, such as differences in the prices between alternative securities with similar remaining maturities and spreads between yields on on-the-run and off-the-run issues, suggest that the market continued to operate normally and that the implementation and subsequent completion of the Federal Reserve's program of purchases of longer-term Treasury securities did not have an adverse effect on market functioning. Bid-asked spreads and dealer transaction volumes were within historically normal ranges. Estimates of the bid-asked spreads in corporate bond markets were steady at low levels, and the dispersion of dealer quotes in the CDS market reached the lowest level since the financial crisis. In the secondary market for leveraged loans, bid-asked spreads also moved modestly lower, on net, over the first half of the year.

Banking Institutions

After a relatively positive first quarter, market sentiment toward the banking industry dimmed in the second quarter against the backdrop of the more guarded economic outlook and heightened uncertainty over future regulatory requirements for financial institutions. As a result, equity prices of commercial banks fell markedly, significantly underperforming the broader stock market over the first half of the year. Measures of the profitability of the banking industry in the first quarter remained at levels noticeably below those that prevailed before the financial crisis. A decline in pre-provision net revenue was about offset by a further reduction in loan loss provisions, which presumably reflected the improvement in most measures of the quality of banks' assets.[12] However, net charge-offs exceeded provisions for the fifth consecutive quarter, and loan loss reserves remained low relative to delinquent loans and charge-offs. Net interest margins slid a bit, while a decline in banks' income from deposit fees was offset by gains in income from trading activities. About 50 of the roughly 6,500 banks in the United States failed in the first half of the year, fewer than the approximately 70 failures in the second half of 2010.

Indicators of credit quality at commercial banks improved in the first quarter of 2011; the overall delinquency rate on loans held by such banks fell somewhat and charge-off rates declined. Median spreads on CDS written on banking institutions, which reflect investors' assessments of and willingness to bear the risk that those institutions will default on their debt obligations, were about unchanged, on net, for a group of six of the largest banks and slightly narrower for a group of nine other banks. CDS spreads for foreign banking organizations with a presence in U.S. markets widened some, owing to concerns about developments in Europe and the organizations' exposures to sovereign European debt.

Credit provided by domestic banks and the U.S. branches and agencies of foreign banks decreased slightly further in the first half of this year, as banks' holdings of securities were about flat and an increase in C&I loans to businesses was more than offset by declines in real estate loans and consumer loans. C&I loan balances rose vigorously over the first half of the year; most of this increase was concentrated at large domestic banks and branches and agencies of foreign banks, consistent with the easing of credit conditions for large corporate borrowers seen in other credit markets. In contrast, available proxies for lending to small businesses continued to suggest considerable weakness, likely reflecting constraints on both the demand for, and the supply of, such credit. CRE loans contracted sharply, especially those funding construction and land development activities. On the household side, banks' holdings of closed-end residential mortgages declined as banks sold large quantities of such loans to the GSEs. Moreover, originations trailed off with the end of the refinancing wave that occurred last fall, when interest rates declined in anticipation of the Federal Reserve's second round of large-scale asset purchases. Bank lending through home equity lines also remained extraordinarily weak, reflecting in part tight lending standards amid declines in home prices that cut further into home equity. Both credit card and other consumer loans from banks contracted, on balance, over the first half of the year, albeit at a much slower pace in the second quarter than in the first. Banks' holdings of securities were little changed over the first

[12] Pre-provision net revenue is the sum of net interest income and noninterest income less noninterest expense.

half of the year, as an increase in holdings of agency MBS was about offset by declines in holdings of Treasury and other securities.

Regulatory capital ratios of bank holding companies rose further as large institutions prepared to meet future requirements that are expected to be more stringent than those currently in place. The Basel III framework agreed to by the governors and heads of supervision of countries represented on the Basel Committee on Banking Supervision will raise required capital ratios, tighten the definition of regulatory capital, and increase the risk weights assigned to some assets and off-balance-sheet exposures. The Basel III framework will also strengthen banks' liquidity requirements. In addition, the Basel Committee is expected to release later this summer a proposal to require that global systemically important banks hold additional capital to reduce the potential economic and financial effect of the failure of such banks. This proposal would be consistent with the requirement of the Dodd-Frank Wall Street Reform and Consumer Protection Act that bank holding companies with more than $50 billion in assets be subject to additional capital and liquidity requirements.

Monetary Aggregates and the Federal Reserve's Balance Sheet

The M2 monetary aggregate expanded at a moderate annual rate of 5 percent in the first half of 2011.[13] Liquid deposits, the largest component of M2, continued to rise at a solid pace, while investors extended their reallocation away from other lower-yielding M2 assets. Balances held in small time deposits and retail money market mutual funds contracted to their lowest levels since 2005 as their yields remained extremely low. The currency component of the money stock increased at an annual rate of 10 percent in the first half of the year, likely driven by both further strong demand from abroad and solid domestic demand. The monetary base—which is roughly equal to the sum of currency in circulation and the reserve balances of depository institutions held at the Federal Reserve—increased rapidly in the first half of the year, reflecting an expansion of reserve balances that resulted from the Federal Reserve's longer-term security purchase program and a reduction in the Treasury Department's Supplementary Financing Account as well as the strong increase in currency.

The size of the Federal Reserve's balance sheet rose to $2.9 trillion as of July 6, 2011, about $450 billion more than at the end of 2010 (**table 1**). Holdings of Treasury securities rose more than $600 billion for the year to date as a result of the FOMC's decisions to reinvest the proceeds from paydowns of agency debt and agency MBS in longer-term Treasury securities, announced at the August 2010 FOMC meeting, and to purchase an additional $600 billion of longer-term Treasury securities by the end of the second quarter of 2011, announced at the November 2010 FOMC meeting. In contrast, holdings of agency debt and agency MBS declined about $115 billion as securities either matured or experienced principal prepayments related to mortgage refinancing activity.

Use of regular discount window lending facilities, such as the primary credit facility, continued to be minimal. Loans outstanding under the Term Asset-Backed Securities Loan Facility (TALF) declined from $25 billion at the end of 2010 to $12 billion in mid-2011 as improved conditions in securitization markets resulted in prepayments of loans made under the facility. The facility, which was established to assist financial markets in accommodating the credit needs of consumers and businesses by facilitating the issuance of ABS collateralized by a variety of consumer and business loans, was closed to new lending in June 2010. All remaining TALF loans are current on their payments and will mature no later than March 30, 2015.

In the first half of this year, the Federal Reserve reduced some of its exposures from lending facilities established during the financial crisis to support specific institutions. On January 14, 2011, in conjunction with the closing of a recapitalization plan that terminated the Federal Reserve's assistance to American International Group, Inc. (AIG), AIG repaid the credit extended by the Federal Reserve under the revolving credit line, and the Federal Reserve was paid in full for its preferred interests in the special purpose vehicles AIA Aurora LLC and ALICO

[13] M2 consists of (1) currency outside the U.S. Treasury, Federal Reserve Banks, and the vaults of depository institutions; (2) traveler's checks of nonbank issuers; (3) demand deposits at commercial banks (excluding those amounts held by depository institutions, the U.S. government, and foreign banks and official institutions) less cash items in the process of collection and Federal Reserve float; (4) other checkable deposits (negotiable order of withdrawal, or NOW, accounts and automatic transfer service accounts at depository institutions; credit union share draft accounts; and demand deposits at thrift institutions); (5) savings deposits (including money market deposit accounts); (6) small-denomination time deposits (time deposits issued in amounts of less than $100,000) less individual retirement account (IRA) and Keogh balances at depository institutions; and (7) balances in retail money market mutual funds less IRA and Keogh balances at money market mutual funds.

Table 1. Selected components of the Federal Reserve balance sheet, 2010–11

Millions of dollars

Balance sheet item	Dec. 29, 2010	July 6, 2011
Total assets	**2,423,457**	**2,874,049**
Selected assets		
Credit extended to depository institutions and dealers		
Primary credit	58	5
Central bank liquidity swaps	75	0
Credit extended to other market participants		
Term Asset-Backed Securities Loan Facility (TALF)	24,704	12,488
Net portfolio holdings of TALF LLC	665	757
Support of critical institutions		
Net portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC[1]	66,312	59,637
Credit extended to American International Group, Inc.	20,282	…
Preferred interests in AIA Aurora LLC and ALICO Holdings LLC	26,057	…
Securities held outright		
U.S. Treasury securities	1,016,102	1,624,515
Agency debt securities	147,460	115,070
Agency mortgage-backed securities (MBS)[2]	992,141	908,853
Total liabilities	**2,366,855**	**2,822,382**
Selected liabilities		
Federal Reserve notes in circulation	943,749	990,861
Reverse repurchase agreements	59,246	67,527
Deposits held by depository institutions	1,025,839	1,663,022
Of which: Term deposits	5,113	0
U.S. Treasury, general account	88,905	67,270
U.S. Treasury, Supplementary Financing Account	199,963	5,000
Total capital	**56,602**	**51,667**

Note: LLC is a limited liability company.

[1] The Federal Reserve has extended credit to several LLCs in conjunction with efforts to support critical institutions. Maiden Lane LLC was formed to acquire certain assets of the Bear Stearns Companies, Inc. Maiden Lane II LLC was formed to purchase residential mortgage-backed securities from the U.S. securities lending reinvestment portfolio of subsidiaries of American International Group, Inc. (AIG). Maiden Lane III LLC was formed to purchase multisector collateralized debt obligations on which the Financial Products group of AIG has written credit default swap contracts.

[2] Includes only MBS purchases that have already settled.

…Not applicable.

Source: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks."

Holdings LLC. Neither the revolving credit facility nor the preferred interests held in connection with the revolving credit facility generated any loss to the Federal Reserve or taxpayers. The portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC—entities that were created during the crisis to acquire certain assets from the Bear Stearns Companies, Inc., and AIG to avoid the disorderly failures of those institutions—declined, on net, primarily as a result of principal payments and asset sales. Of note, the Federal Reserve Bank of New York (FRBNY) sold a total of $10 billion in current face value of residential mortgage-backed securities out of the Maiden Lane II portfolio; competitive sales of these securities were conducted through the FRBNY's investment manager.[14] The estimated fair values of the portfolios of the three Maiden Lane LLCs continue to exceed the corresponding loan balances outstanding to each limited liability company from the FRBNY.

Only small draws on U.S. dollar liquidity swap arrangements between the Federal Reserve and foreign central banks have been made since their reestablishment in May 2010, and there have been no draws on them since early March of this year.

On the liability side of the Federal Reserve's balance sheet, reserve balances held by depository institutions rose about $640 billion over the first half of the year to $1.7 trillion as of July 6. Federal Reserve notes in circulation rose from $944 billion to $991 billion. The Treasury reduced the balance in its Supplementary Financing Account at the Federal Reserve to $5 billion early in the year as part of its efforts to maximize flexibility in its debt management as the statutory debt limit approached. Balances in the Treasury's general account at the Federal Reserve also declined. Reverse repurchase agreements executed with foreign official and international accounts were generally steady. As part of its ongoing program to expand the range of tools available to drain reserves, the Federal Reserve conducted three 28-day, $5 billion auctions of term deposits to depository institutions as well as a series of small-scale, real-value triparty reverse repurchase operations with eligible primary dealer and money market fund counterparties.

On March 22, the Federal Reserve System released audited financial statements for 2010 for the combined Federal Reserve Banks, the 12 individual Reserve Banks, the limited liability companies that were created to respond to strains in financial markets, and the Board of Governors. The Reserve Banks reported comprehensive income of close to $82 billion for the year ending December 31, 2010, an increase of $28 billion from 2009. The increase was attributable primarily to interest earnings on the Federal Reserve's holdings of agency debt and MBS, acquired largely in 2009. The Reserve Banks transferred $79 billion of the $82 billion in comprehensive income to the U.S. Treasury in 2010, a record high and $32 billion more than was transferred in 2009.

[14] Current face value is the remaining principal balance of the mortgage assets underlying the securities, after prepayments and amortizations.

International Developments

In the first half of the year, developments abroad have largely been dominated by several shocks, including the political turmoil in the MENA region, a major earthquake and tsunami in Japan, heightened fiscal stresses in Europe, and swings in commodity prices. In the face of these shocks, global financial markets were fairly resilient and foreign economic activity held up. Foreign real GDP accelerated in the first quarter, most notably in the EMEs, where performance has continued to outpace that in the advanced foreign economies (AFEs). Recent data indicate that foreign economic growth slowed in the second quarter, but the recovery from the global recession continued.

International Financial Markets

Spurred in part by monetary policy tightening abroad and fears that the pace of economic recovery in the United States was slowing, the foreign exchange value of the dollar declined over much of the first half of the year. The lower level of the dollar is consistent with a weakening of the safe-haven demands that had boosted it during the global financial crisis; however, the dollar has moved slightly higher since May on heightened concerns over the fiscal problems in Europe and uncertainties about global economic growth. On net, the dollar is about 3¾ percent lower on a trade-weighted basis against a broad set of currencies over the first half of the year. Following Japan's earthquake, as traders anticipated that Japanese investors would need to repatriate funds, the yen appreciated sharply, reaching a record high versus the dollar. In response, the Group of Seven (G-7) countries conducted coordinated sales of yen in the foreign exchange markets on March 18. The yen more than reversed its steep appreciation immediately following the intervention.

Ten-year sovereign yields in the AFEs generally rose early in the year on expectations that continued economic recovery and greater inflationary pressures would prompt monetary policy tightening. However, since April, yields have begun to retreat. On net, yields for Germany, Canada, and the United Kingdom are down slightly from the end of last year.

Fiscal and financial stresses worsened in Greece, Portugal, and Ireland over the first half of the year, with the major credit rating agencies downgrading significantly these countries' sovereign credit ratings. The spreads of yields on Greek, Portuguese, and Irish bonds over those on German bonds soared as market confidence in the ability of these three countries to meet their fiscal obligations diminished. Following a €78 billion rescue package by the EU and the International Monetary Fund (IMF) in early May, spreads for Portuguese bonds stabilized but soon rose again amid the high-profile discussions by European officials on a possible restructuring of Greek debt. In late June, Greece approved a new austerity and privatization package, opening the door for approval of a €12 billion EU–IMF disbursement needed to meet upcoming payments. Although spreads for Greek, Portuguese, and Irish bonds declined some following these developments, they have since risen as Moody's Investors Service downgraded Portugal's sovereign debt rating to junk status and EU officials continued to seek commitments from private creditors to roll over maturing Greek debt. Movements in spreads for the sovereign debts of Italy and Spain have been more muted, but they have moved up in recent months.

Equity prices in the AFEs generally continued to rise through the first few months of this year, falling sharply after Japan's earthquake on March 11 but, outside of Japan, recouping their losses afterward. By early May, increased uncertainties about global economic growth and heightened concerns over the sovereign debt problems in Europe prompted a pullback in equity prices. However, the passage of Greece's austerity and privatization legislations in late June, which assuaged market concerns about an imminent Greek default, prompted some renewed demand for risky assets; equity prices in most of the AFEs were, on net, at about their levels at the start of the year. In the EMEs, equity prices had also risen early in the year, but, as in the AFEs, they began to pull back by early May. On net, over the first half of the year, equity prices are down in Latin America but are up in emerging Asia.

Bank stock prices in Europe have declined nearly 9 percent since the start of the year. CDS premiums for European banks remained significantly higher than those of nonfinancial firms with similar credit ratings. European banks experienced large losses during the global financial crisis, and their lending exposure to Greece, Ireland, and other vulnerable European economies remains a concern. In addition, some banks in the core European countries, such as France and Germany, still have considerable dollar funding needs. Most peripheral European banks have only limited access to market funding and have relied on ECB funding instead. In Japan, banks have not experienced crisis-related losses nearly as large as those incurred by European institutions, but Japa-

nese bank profits have been persistently weaker, reflecting the fragile state of Japan's economy.

The newly created European Banking Authority is in the process of completing an EU-wide stress test of large European banks. The methodology used in this year's test is broadly similar to that of the stress tests conducted by the Committee of European Banking Supervisors last year. The results of the stress test are expected to be released on July 15 of this year. In anticipation of the test, some European banks took steps to raise additional capital in recent months.

The Financial Account

Net purchases of U.S. securities by foreign private investors slowed in the first quarter from the pace of 2010, in part because of reduced safe-haven demand for U.S. Treasury securities. Foreign investors, on net, sold both U.S. agency and corporate bonds in the first quarter, in contrast to purchases of these securities in the second half of last year, but they continued to make large purchases of U.S. equities. U.S. investors increased the pace of their purchases of foreign securities, especially foreign equities.

Banks located in the United States registered strong net inflows from abroad in the first quarter following small net inflows in the fourth quarter of last year. These recent net inflows primarily reflect increased net borrowing from affiliated banking offices abroad and are in marked contrast to sizable net lending abroad from U.S. banks in the first half of 2010, when dollar funding pressures in European interbank markets had contributed to increased reliance on funding from U.S. counterparties.

Inflows from foreign official investors eased somewhat in late 2010 and continued at a moderate pace in the first quarter this year. Such inflows continued to come primarily from countries seeking to counteract upward pressure on their currencies by purchasing U.S. dollars in foreign currency markets. These countries then used the proceeds to acquire U.S. assets, mainly Treasury and U.S. agency securities. Available data through May indicate that foreign official inflows slowed a bit further in the second quarter.

Advanced Foreign Economies

The pace of economic recovery in the AFEs picked up in early 2011 following a soft patch in the second half of 2010, but performance was uneven across countries. Real GDP rose at a solid pace in the first quarter in Canada, boosted by a surge in investment. In the euro area, economic activity was strong in Germany and France but remained generally weak in the peripheral countries, as concerns about sovereign debt sustainability continued to weigh on economic growth. In the United Kingdom, output rebounded in the first quarter of this year from a contraction in the fourth quarter of 2010, but the pace was restrained by declines in households' real incomes as inflation increased. Japan's economic activity was also bouncing back from its dip in the fourth quarter of last year until the earthquake and ensuing tsunami and nuclear disaster caused first-quarter real GDP to contract sharply.

The disaster in Japan damaged production facilities, disrupted supply chains, and reduced electricity generation capacity. In addition, spending on consumer durables and capital investment fell sharply, reflecting a substantial slump in consumer and business confidence. The Japanese authorities responded swiftly to support the economy. The Bank of Japan injected record amounts of liquidity into money markets, doubled the size of its asset purchase program to ¥10 trillion, set up a ¥1 trillion loan program for firms in disaster-hit areas, and expanded by ¥500 billion the funds for an existing program aimed at supporting economic growth. The Japanese Diet approved a ¥4 trillion supplementary budget to fund the construction of temporary housing, the restoration of damaged infrastructure, and the provision of low-interest loans to small businesses. Japan also requested a coordinated intervention of G-7 countries' central banks in foreign exchange markets to stem the appreciation of the yen. Supported by the various official actions, the financial system continued to operate smoothly and reconstruction activity has begun, setting the stage for an economic recovery in the second half of the year.

Supply disruptions due to the Japanese earthquake weighed on economic growth in other AFEs, and other incoming data corroborate that economic activity in the AFEs slowed in the second quarter. The composite purchasing managers indexes have moved lower in recent months across the AFEs. In addition, business confidence has turned down, and the underlying momentum in consumer spending has remained weak in the euro area.

A surge in energy and food prices and, in some cases, higher value-added taxes lifted headline inflation rates in the major foreign economies earlier in the year. Twelve-month headline inflation rose to 4½ percent in the United Kingdom and to about 3¾ percent

and 2¾ percent in Canada and the euro area, respectively. In Japan, the rise in commodity prices pushed inflation above zero. Excluding the effects of commodity price movements and tax changes, inflation in the AFEs has remained relatively subdued amid considerable economic resource slack. With the recent pullback in commodity prices, overall inflation also appears to be stabilizing.

Monetary policy remained accommodative in all the major AFEs, and market participants appear to expect only gradual tightening. After having kept its benchmark policy rate at 1 percent since May 2009, the ECB raised it twice—by 25 basis points in April and by another 25 basis points in early July—citing upside risks to the inflation outlook. The Bank of Canada, which began to tighten last year, has paused so far this year, maintaining its target for the overnight rate at 1 percent. The Bank of England kept its policy rate at 0.5 percent and the size of its Asset Purchase Facility at £200 billion.

Emerging Market Economies

The EMEs continued to expand at a strong pace in the first quarter of 2011, boosted by both exports and domestic demand. Exports were lifted by sustained global demand. Domestic demand was supported by macroeconomic policies that remained generally accommodative despite recent tightening and by robust household income amid strong labor market conditions. Recent data indicate that growth moderated in the second quarter, but to a still-solid pace, reflecting governments' policies to cool the economies that were running unsustainably fast, a deceleration in activity in the advanced economies, and spillover effects of the Japanese earthquake.

The Chinese economy expanded at a strong pace in the first half of 2011, although economic growth slowed a bit compared with the second half of last year, largely due to measures by authorities to rein in the economy. Headline consumer prices were up 6.4 percent in June from a year earlier, led by a rise in food prices. This year, Chinese authorities have raised required reserve ratios for all banks 300 basis points—the requirement for large banks now stands at 21.5 percent. Authorities have also raised the benchmark one-year bank lending rate ¾ percentage point. Over the first half of the year, the Chinese renminbi has appreciated, on net, about 2½ percent against the dollar. However, on a real multilateral, trade-weighted basis, which gauges the renminbi's value against the currencies of China's major trading partners and adjusts for differences in inflation rates, the renminbi has depreciated. Nonetheless, strong domestic demand led import growth in the first half of this year to exceed export growth, and consequently, China's trade surplus narrowed.

Elsewhere in emerging Asia, the vigorous Chinese economy provided impetus to exports for several countries, and domestic demand was also robust. Accordingly, economic activity was upbeat in the first quarter, with several countries, including Hong Kong, Singapore, and Taiwan, all posting double-digit annualized growth rates. Economic activity was also upbeat in India. Available indicators for the second quarter suggest that the pace of expansion slowed but remained solid.

In Mexico, a country with stronger economic linkages to the United States than most EMEs, performance continued to lag that of other EMEs. Reported first-quarter real GDP rose at an annual rate of only 2 percent. By contrast, first-quarter real GDP rose robustly in Brazil and in other South American countries, supported by generally accommodative macroeconomic policies and the tailwind from gains in commodity prices.

Higher food prices pushed up consumer price inflation in the EMEs earlier in the year. As food price pressures subsequently eased, 12-month inflation stabilized and began to retreat in several countries. In the midst of elevated inflation and strong economic growth, the stance of macroeconomic policy in the EMEs has been tightened further to mitigate the risks of overheating. In the first half of the year, many EMEs tightened monetary policy by raising policy rates and reserve requirement ratios several times, and progress was also made on the removal of the fiscal support measures enacted at the height of the global financial crisis.

Part 3
Monetary Policy: Recent Developments and Outlook

Monetary Policy over the First Half of 2011

To promote the economic recovery and price stability, the Federal Open Market Committee (FOMC) maintained a target range for the federal funds rate of 0 to ¼ percent throughout the first half of 2011. In the statement accompanying each FOMC meeting over the period, the Committee noted that economic conditions were likely to warrant exceptionally low levels for the federal funds rate for an extended period. At the end of June, the Federal Reserve con-

cluded its purchases of longer-term Treasury securities under the $600 billion purchase program announced in November 2010; that program was undertaken to support the economic recovery and to help ensure that inflation, over time, returns to levels consistent with the FOMC's mandate of maximum employment and price stability. In addition, throughout the first half of 2011, the Committee maintained its existing policy of reinvesting principal payments from its agency debt and agency mortgage-backed securities in longer-term Treasury securities. In its June statement, the Committee noted that it would regularly review the size and composition of its securities holdings and was prepared to adjust those holdings, as appropriate, to foster maximum employment and price stability.

The information reviewed at the January 25–26 FOMC meeting indicated that the economic recovery was gaining a firmer footing, though the expansion had not yet been sufficient to bring about a significant improvement in labor market conditions. Consumer spending had risen strongly in late 2010, and the ongoing expansion in business outlays for equipment and software appeared to have been sustained in recent months. Industrial production had increased solidly in November and December. However, construction activity in both the residential and nonresidential sectors remained weak. Modest gains in employment had continued, and the unemployment rate remained elevated. Conditions in financial markets were viewed by FOMC participants as having improved somewhat further over the intermeeting period, as equity prices had risen and credit spreads on the debt of nonfinancial corporations had continued to narrow, while yields on longer-term nominal Treasury securities were little changed.[15] Credit conditions were still tight for smaller, bank-dependent firms, although bank loan growth had picked up in some sectors. Despite further increases in commodity prices, measures of underlying inflation remained subdued and longer-run inflation expectations were stable.

The information received over the intermeeting period had increased Committee members' confidence that the economic recovery would be sustained, and the downside risks to both economic growth and inflation were viewed as having diminished. Nevertheless, members noted that the pace of the recovery was insufficient to bring about a significant improvement in labor market conditions and that measures of underlying inflation were trending down. Moreover, the economic projections submitted for this meeting indicated that unemployment was expected to remain above, and inflation to remain somewhat below, levels consistent with the Committee's objectives for some time. Accordingly, the Committee decided to maintain its existing policy of reinvesting principal payments from its securities holdings and reaffirmed its intention to purchase $600 billion of longer-term Treasury securities by the end of the second quarter of 2011. Members emphasized that the Committee would continue to regularly review the pace of its securities purchases and the overall size of the asset purchase program in light of incoming information and would adjust the program as needed to best foster maximum employment and price stability. In addition, the Committee maintained the target range of 0 to ¼ percent for the federal funds rate and reiterated its expectation that economic conditions were likely to warrant exceptionally low levels of the federal funds rate for an extended period.

The data presented at the March 15 FOMC meeting indicated that the economic recovery continued to proceed at a moderate pace, with a gradual improvement in labor market conditions. Looking through weather-related distortions in various indicators, measures of consumer spending, business investment, and employment continued to show expansion. Housing, however, remained depressed, and credit conditions were still uneven. Large firms with access to financial markets continued to find credit, including bank loans, available on relatively attractive terms; however, credit conditions reportedly remained tight for smaller, bank-dependent firms. Sizable increases in prices of crude oil and other commodities pushed up headline inflation, but measures of underlying inflation were subdued, and longer-run inflation expectations remained stable. A number of participants expected that slack in resource utilization would continue to restrain increases in labor costs and prices. Nonetheless, participants observed that rapidly rising commodity prices posed upside risks to the stability of longer-term inflation expectations, and thus to the outlook for inflation, even as they posed downside risks to the outlook for growth in consumer spending and business investment. In addition, participants noted that

[15] *Members* of the FOMC in 2011 consist of the members of the Board of Governors of the Federal Reserve System plus the presidents of the Federal Reserve Banks of Chicago, Dallas, Minneapolis, New York, and Philadelphia. *Participants* at FOMC meetings consist of the members of the Board of Governors of the Federal Reserve System and all Reserve Bank presidents.

unfolding events in the Middle East and North Africa, along with the tragic developments in Japan, had further increased uncertainty about the economic outlook.

In the FOMC's discussion of monetary policy for the period ahead, the members agreed that no changes to the Committee's asset purchase program or to its target range for the federal funds rate were warranted. The economic recovery appeared to be on a firmer footing, and overall conditions in the labor market were gradually improving. Although the unemployment rate had declined in recent months, it remained elevated relative to levels that the Committee judged to be consistent, over the longer run, with its statutory mandate to foster maximum employment and price stability. Similarly, measures of underlying inflation continued to be somewhat low relative to levels seen as consistent with the dual mandate over the longer run. With longer-term inflation expectations remaining stable and measures of underlying inflation subdued, members anticipated that recent increases in the prices of energy and other commodities would result in only a transitory increase in headline inflation. Given this economic outlook, the Committee agreed to maintain the existing policy of reinvesting principal payments from its securities holdings and reaffirmed its intention to purchase $600 billion of longer-term Treasury securities by the end of the second quarter of 2011 to promote a stronger pace of economic recovery and to help ensure that inflation, over time, was at levels consistent with the Committee's mandate. Members emphasized that the Committee would continue to regularly review the pace of its securities purchases and the overall size of the asset purchase program in light of incoming information and would adjust the program as needed to best foster maximum employment and price stability. The Committee maintained the target range for the federal funds rate at 0 to ¼ percent and continued to anticipate that economic conditions were likely to warrant exceptionally low levels for the federal funds rate for an extended period.

The information reviewed at the April 26–27 FOMC meeting indicated that, on balance, economic activity was expanding at a moderate pace and that labor market conditions were continuing to improve gradually. Headline consumer price inflation had been boosted by large increases in food and energy prices, but measures of underlying inflation were still subdued and longer-run inflation expectations remained stable. Participants observed that while construction activity was still anemic, measures of consumer spending and business investment continued to expand, and overall labor market conditions were improving, albeit gradually. Nevertheless, they agreed that the pace of economic growth in the first quarter had slowed unexpectedly. Participants viewed this weakness as likely to be largely transitory, influenced by unusually severe weather, increases in energy and other commodity prices, and lower-than-expected defense spending; as a result, they saw economic growth picking up later in the year. In addition, they noted that higher gasoline and food prices had weighed on consumer sentiment about near-term economic conditions but that underlying fundamentals pointed to continued moderate growth in spending. Activity in the industrial sector had expanded further and manufacturers remained upbeat, although automakers were reporting some difficulties in obtaining parts normally produced in Japan, which could damp motor vehicle production in the second quarter. Participants noted that financial conditions continued to improve. Equity prices had risen significantly since the beginning of the year, buoyed by an improved outlook for earnings. Although loan demand in general remained weak, banks reported an easing of their lending standards and terms on commercial and industrial loans. Consumer credit conditions also eased somewhat, although the demand for consumer credit other than auto loans reportedly changed little.

Meeting participants judged the information received over the intermeeting period as indicating that the economic recovery was proceeding at a moderate pace, although somewhat more slowly than had been anticipated earlier in the year. Overall conditions in the labor market were gradually improving, but the unemployment rate remained elevated relative to levels that the Committee judged to be consistent, over the longer run, with its statutory mandate of maximum employment and price stability. Significant increases in the prices of energy and other commodities had boosted overall inflation, but members expected this rise to be transitory. Indicators of medium-term inflation remained subdued and somewhat below the levels seen as consistent with the dual mandate as indicated by the Committee's longer-run inflation projections. Accordingly, the Committee agreed that no changes to its asset purchase program or to its target range for the federal funds rate were warranted at this meeting. Specifically, the Committee agreed to maintain its policy of reinvesting principal payments from its securities holdings and affirmed that it would complete purchases of

$600 billion of longer-term Treasury securities by the end of the second quarter. The Committee also agreed to maintain the target range of the federal funds rate at 0 to ¼ percent and anticipated that economic conditions would likely warrant exceptionally low levels for the federal funds rate for an extended period. Members agreed that the Committee would regularly review the size and composition of its securities holdings in light of incoming information and that they were prepared to adjust those holdings as needed to best foster maximum employment and price stability.

The information received ahead of the June 21–22 FOMC meeting indicated that the pace of the economic recovery had slowed in recent months and that conditions in the labor market had softened. Measures of inflation had picked up this year, reflecting in part higher prices for some commodities and imported goods. Longer-run inflation expectations, however, remained stable. In their discussion of the economic situation and outlook, meeting participants noted a number of transitory factors that were restraining growth, including the global supply chain disruptions in the wake of the earthquake in Japan, the unusually severe weather in some parts of the United States, a drop in defense spending, and the effect of increases in oil and other commodity prices on household purchasing power and spending. Participants expected that the expansion would gain strength as the effects of these temporary factors waned. Nonetheless, most participants judged that the pace of economic recovery was likely to be somewhat slower over coming quarters than they had projected in April, reflecting the persistent weakness in the housing market, the ongoing efforts by some households to reduce debt burdens, the recent sluggish growth of income and consumption, the fiscal contraction at all levels of government, and the effect of uncertainty regarding the economic outlook and future tax and regulatory policies on the willingness of firms to hire and invest. Changes in financial conditions since the April meeting suggested that investors had become more concerned about risk. Equity markets had seen a broad selloff, and risk spreads for many corporate borrowers had widened noticeably since April. Nonetheless, large businesses continued to enjoy ready access to credit.

In their discussion of monetary policy for the period ahead, members agreed that the Committee should complete its $600 billion asset purchase program at the end of the month and that no changes to the target range of the federal funds rate were warranted. The information received over the intermeeting period indicated that the economic recovery was continuing at a moderate pace, though somewhat more slowly than the Committee had expected, and that the labor market had been weaker than anticipated. Inflation had increased in recent months as a result of higher prices for some commodities, as well as supply chain disruptions related to the tragic events in Japan. Nonetheless, members saw the pace of the economic expansion as picking up over the coming quarters and the unemployment rate resuming its gradual decline toward levels consistent with the Committee's dual mandate. Moreover, with longer-term inflation expectations stable, members expected that inflation would subside to levels at or below those consistent with the Committee's dual mandate as the effects of past energy and other commodity price increases dissipate. However, many members saw the outlook for both employment and inflation as unusually uncertain. Against this backdrop, members agreed that it was appropriate to maintain the Committee's current policy stance and accumulate further information regarding the outlook for growth and inflation before deciding on the next policy step. A few members noted that, depending on how economic conditions evolve, the Committee might have to consider providing additional monetary policy stimulus, especially if economic growth remained too slow to meaningfully reduce the unemployment rate in the medium run. A few other members, however, viewed the increase in inflation risks as suggesting that economic conditions might evolve in a way that would warrant the Committee taking steps to begin removing policy accommodation sooner than currently anticipated.

Also at its June meeting, in light of ongoing strains in some foreign financial markets, the Committee approved an extension through August 1, 2012, of its temporary U.S. dollar liquidity swap arrangements with the Bank of Canada, the Bank of England, the European Central Bank, the Bank of Japan, and the Swiss National Bank. The authorization of the swap arrangements had been set to expire on August 1, 2011.

Tools and Strategies for the Withdrawal of Monetary Policy Accommodation

Although the FOMC continues to anticipate that economic conditions are likely to warrant exceptionally low levels of the federal funds rate for an extended period, the Federal Reserve will eventually need to remove policy accommodation to maintain a stance of policy that is consistent with its statutory

mandate to foster maximum employment and stable prices. The FOMC has several tools for smoothly and effectively exiting at the appropriate time from the current accommodative policy stance. One tool is the ability to pay interest on reserve balances; the Federal Reserve will be able to put significant upward pressure on short-term market interest rates by increasing the rate paid on excess reserves. Two other tools—executing triparty reverse repurchase agreements (RRPs) with primary dealers and other counterparties and issuing term deposits to depository institutions through the Term Deposit Facility (TDF)—will be capable of temporarily reducing the quantity of reserves held by the banking system and thereby tightening the relationship between the interest rate paid on reserves and short-term market interest rates.[16] Finally, the Federal Reserve could pare the size of its balance sheet over time by ceasing to reinvest principal payments from its securities holdings or by selling its securities holdings.

During the first half of 2011, the Federal Reserve continued to refine and test its temporary reserve draining tools. The Federal Reserve Bank of New York (FRBNY) took further steps to expand the range of counterparties for RRPs to include entities other than primary dealers in order to enhance the capacity of such operations. The FRBNY completed its third wave of counterparty expansions aimed at domestic money market funds in May, bringing the total number of RRP counterparties, including the primary dealers, to 110. In May, the FRBNY also set forth criteria for the acceptance of government-sponsored enterprises as eligible counterparties for the next counterparty expansion wave. During the first half of the year, the FRBNY conducted a series of small-scale triparty RRP transactions with its primary dealer and money market fund RRP counterparties. The Federal Reserve also conducted three 28-day, $5 billion auctions of term deposits. As a matter of prudent planning, these operations are intended to ensure the operational readiness of the TDF and RRP programs and to increase the familiarity of the participants with the auction procedures.

At its April and June meetings, the Committee discussed strategies for normalizing both the stance and conduct of monetary policy. Participants noted that their discussions of this topic were undertaken as part of prudent planning and did not imply that a move toward such normalization would necessarily begin sometime soon. Almost all participants agreed with the following principles to guide the exit process:

- The Committee will determine the timing and pace of policy normalization to promote its statutory mandate of maximum employment and price stability.
- To begin the process of policy normalization, the Committee will likely first cease reinvesting some or all payments of principal on the securities holdings in the System Open Market Account (SOMA).
- At the same time or sometime thereafter, the Committee will modify its forward guidance on the path of the federal funds rate and will initiate temporary reserve-draining operations aimed at supporting the implementation of increases in the federal funds rate when appropriate.
- When economic conditions warrant, the Committee's next step in the process of policy normalization will be to begin raising its target for the federal funds rate, and from that point on, changing the level or range of the federal funds rate target will be the primary means of adjusting the stance of monetary policy. During the normalization process, adjustments to the interest rate on excess reserves and to the level of reserves in the banking system will be used to bring the funds rate toward its target.
- Sales of agency securities from the SOMA portfolio will likely commence sometime after the first increase in the target for the federal funds rate. The timing and pace of sales will be communicated to the public in advance; that pace is anticipated to be relatively gradual and steady, but it could be adjusted up or down in response to material changes in the economic outlook or financial conditions.
- Once sales begin, the pace of sales is expected to be aimed at eliminating the SOMA's holdings of agency securities over a period of three to five years, thereby minimizing the extent to which the SOMA portfolio might affect the allocation of credit across sectors of the economy. Sales at this pace would be expected to normalize the size of the SOMA securities portfolio over a period of two to three years. In particular, the size of the securities portfolio and the associated quantity of bank reserves are expected to be reduced to the smallest

[16] In a triparty repurchase agreement, both parties to the agreement must have cash and collateral accounts at the same triparty agent, which is by definition also a clearing bank. The triparty agent will ensure that collateral pledged is sufficient and meets eligibility requirements, and all parties agree to use collateral prices supplied by the triparty agent.

levels that would be consistent with the efficient implementation of monetary policy.

- The Committee is prepared to make adjustments to its exit strategy if necessary in light of economic and financial developments.

FOMC Communications

Transparency is an essential principle of modern central banking because it appropriately contributes to the accountability of central banks to the government and to the public and because it can enhance the effectiveness of central banks in achieving their macroeconomic objectives. To this end, the Federal Reserve provides a considerable amount of information concerning the conduct of monetary policy. Immediately following each meeting of the FOMC, the Committee releases a statement that lays out the rationale for its policy decision, and detailed minutes of each FOMC meeting are made public three weeks following the meeting. Lightly edited transcripts of FOMC meetings are released to the public with a five-year lag.[17]

In recent years, the Federal Reserve has taken additional steps to enhance its communications regarding monetary policy decisions and deliberations. In November 2010, the FOMC directed a subcommittee, headed by Governor Yellen, to conduct a review of the Committee's communications guidelines with the aim of ensuring that the public is well informed about monetary policy issues while preserving the necessary confidentiality of policy discussions until their scheduled release. In a discussion on external communications at the January 25–26 FOMC meeting, participants noted the importance of fair and equal access by the public to information about future policy decisions. Several participants indicated that increased clarity of communications was a key objective, and some referred to the central role of communications in the monetary policy transmission process. Discussion focused on how to encourage dialogue with the public in an appropriate and transparent manner, and the subcommittee on communications was to consider providing further guidance in this area.

At the March 15 FOMC meeting, the Committee endorsed the communications subcommittee's recommendation that the Chairman conduct regular press conferences after the four FOMC meetings each year for which participants provide numerical projections of several key economic variables. While those projections are already made public with the minutes of the relevant FOMC meetings, press conferences were viewed as being helpful in explaining how the Committee's monetary policy strategy is informed by participants' projections of the rates of output growth, unemployment, and inflation likely to prevail during each of the next few years, and by their assessments of the values of those variables that would prove most consistent, over the longer run, with the Committee's mandate to promote both maximum employment and stable prices. It was agreed that the Chairman would begin holding press conferences effective with the April 26–27, 2011, FOMC meeting; the second press briefing was held on June 22 in conjunction with the forecasts that policymakers submitted at that FOMC meeting.

At its June 21–22 meeting, the Committee followed up on the discussions from its January meeting about policies to support effective communication with the public regarding the outlook for the economy and monetary policy. The Committee unanimously approved a set of principles, proposed by the subcommittee on communications, for Committee participants and for the Federal Reserve System staff to follow in their communications with the public in order to reinforce the public's confidence in the transparency and integrity of the monetary policy process.[18]

[17] FOMC statements, minutes, and transcripts, as well as other related information, are available on the Federal Reserve Board's website at www.federalreserve.gov/monetarypolicy/fomc.htm.

[18] The FOMC policies on external communications of Committee participants and of the Federal Reserve System staff are available on the Federal Reserve Board's website at www.federalreserve.gov/monetarypolicy/files/FOMC_ExtCommunicationParticipants.pdf and www.federalreserve.gov/monetarypolicy/files/FOMC_ExtCommunicationStaff.pdf, respectively.

2011

Monetary Policy and Economic Developments

As required by section 2B of the Federal Reserve Act, the Federal Reserve Board submits written reports to the Congress that contain discussions of "the conduct of monetary policy and economic developments and prospects for the future." The *Monetary Policy Report,* submitted semiannually to the Senate Committee on Banking, Housing, and Urban Affairs and to the House Committee on Banking and Financial Services, is delivered concurrently with testimony from the Federal Reserve Board Chairman.

The following discussion is a review of U.S. monetary policy and economic developments in 2012, based on the *Monetary Policy Report*s published in February 2013 and July 2012. Those complete reports are available on the Board's website at www.federalreserve.gov/monetarypolicy/files/20130226_mprfullreport.pdf (February 2013) and www.federalreserve.gov/monetarypolicy/files/20120717_mprfullreport.pdf (July 2012).

Other materials in this annual report related to the conduct of monetary policy include the minutes of the 2012 meetings of the Federal Open Market Committee (see the "Minutes" section on page 123) and statistical tables 1–4 (see the "Statistical Tables" section on page 289).

Monetary Policy Report of February 2013

Summary

The U.S. economy continued to expand at a moderate rate, on average, over the second half of 2012. The housing recovery appeared to gain additional traction, consumer spending rose moderately, and business investment advanced further. Financial conditions eased over the period but credit remained tight for many households and businesses, and concerns about the course of federal fiscal policy and the ongoing European situation likely restrained private-sector demand. In addition, total government purchases continued to move lower in an environment of budget restraint, while export growth was held back by slow foreign economic growth. All told, real gross domestic product (GDP) is estimated to have increased at an average annual rate of 1½ percent in the second half of the year, similar to the pace in the first half.

Conditions in the labor market gradually improved. Employment increased at an average monthly pace of 175,000 in the second half of the year, about the same as in the first half. The unemployment rate moved down from 8¼ percent last summer to a little below 8 percent in January. Even so, the unemployment rate was still well above levels observed prior to the recent recession. Moreover, it remained the case that a large share of the unemployed had been out of work for more than six months, and that a significant portion of the employed had part-time jobs because they were unable to find full-time employment. Meanwhile, consumer price inflation remained subdued amid stable long-term inflation expectations and persistent slack in labor markets. Over the second half of the year, the price index for personal consumption expenditures increased at an annual rate of 1½ percent.

During the summer and fall, the Federal Open Market Committee (FOMC) judged that the economic recovery would strengthen only gradually over time, as some of the factors restraining activity—including restrictive credit for some borrowers, continuing concerns about the domestic and international economic environments, and the ongoing shift toward tighter federal fiscal policy—were thought likely to recede only slowly. Moreover, the Committee judged that the possibility of an escalation of the financial crisis in Europe and uncertainty about the course of fiscal policy in the United States posed significant downside risks to the outlook for economic activity. However, the Committee expected that, with appropriate monetary accommodation, economic growth would proceed at a moderate pace, with the unemployment rate gradually declining toward levels consistent with

the FOMC's dual mandate of maximum employment and price stability. Against this backdrop, and with long-run inflation expectations well anchored, the FOMC projected that inflation would remain at or below the rate consistent with the Committee's dual mandate.

Accordingly, to promote its objectives, the FOMC provided additional monetary accommodation during the second half of 2012 by both strengthening its forward guidance regarding the federal funds rate and initiating additional asset purchases. In September, the Committee announced that it would continue its program to extend the average maturity of its Treasury holdings and would begin purchasing additional agency-guaranteed mortgage-backed securities (MBS) at a pace of $40 billion per month. The Committee also stated its intention to continue its purchases of agency MBS, undertake additional asset purchases, and employ its other policy tools as appropriate until the outlook for the labor market improves substantially in a context of price stability. The Committee agreed that in determining the size, pace, and composition of its asset purchases, it would, as always, take account of the likely efficacy and costs of such purchases. The Committee also modified its forward guidance regarding the federal funds rate at the September meeting, noting that exceptionally low levels for the federal funds rate were likely to be warranted at least through mid-2015, longer than had been indicated in previous FOMC statements. Moreover, the Committee stated its expectation that a highly accommodative stance of monetary policy would remain appropriate for a considerable time after the economic recovery strengthens.

In December, the Committee announced that in addition to continuing its purchases of agency MBS, it would purchase longer-term Treasury securities, initially at a pace of $45 billion per month, starting after the completion at the end of the year of its program to extend the maturity of its Treasury holdings. It also further modified its forward rate guidance, replacing the earlier date-based guidance with numerical thresholds for the unemployment rate and projected inflation. In particular, the Committee indicated that it expected the exceptionally low range for the federal funds rate would remain appropriate at least as long as the unemployment rate remains above 6½ percent, inflation between one and two years ahead is projected to be no more than ½ percentage point above the Committee's 2 percent longer-run goal, and longer-term inflation expectations continue to be well anchored.

Partly in response to this additional monetary accommodation, as well as to improved sentiment regarding the situation in Europe, broad financial conditions eased over the second half of 2012. Although yields on nominal Treasury securities rose, on net, yields on inflation-protected Treasury securities declined, and longer-term interest rates paid by households and firms generally fell. Yields on agency MBS and investment- and speculative-grade corporate bonds touched record lows, and broad equity price indexes rose. Conditions in short-term dollar funding markets eased over the summer and remained stable thereafter, and market sentiment toward the banking industry improved. Nonetheless, credit remained tight for borrowers with lower credit scores, and borrowing conditions for small businesses continued to improve more gradually than for large firms.

At the time of the most recent FOMC meeting in January, Committee participants saw the economic outlook as little changed or modestly improved from the time of their December meeting, when the most recent Summary of Economic Projections (SEP) was compiled. (The December SEP is included as Part 3 of the February 2013 *Monetary Policy Report* on pages 43–57; it is also included in the "Minutes" section of this annual report on page 272.) Participants generally judged that strains in global financial markets had eased somewhat, and that the downside risks to the economic outlook had lessened. Under the assumption of appropriate monetary policy—that is, policy consistent with the Committee's Statement on Longer-Run Goals and Monetary Policy Strategy (see box 1)—FOMC participants expected the economy to expand at a moderate pace, with the unemployment rate gradually declining and inflation remaining at or below the Committee's 2 percent longer-run goal.

Box 1. Statement on Longer-Run Goals and Monetary Policy Strategy

As amended effective on January 29, 2013

The Federal Open Market Committee (FOMC) is firmly committed to fulfilling its statutory mandate from the Congress of promoting maximum employment, stable prices, and moderate long-term interest rates. The Committee seeks to explain its monetary policy decisions to the public as clearly as possible. Such clarity facilitates well-informed decisionmaking by households and businesses, reduces economic and financial uncertainty, increases the effectiveness of monetary policy, and enhances transparency and accountability, which are essential in a democratic society.

Inflation, employment, and long-term interest rates fluctuate over time in response to economic and financial disturbances. Moreover, monetary policy actions tend to influence economic activity and prices with a lag. Therefore, the Committee's policy decisions reflect its longer-run goals, its medium-term outlook, and its assessments of the balance of risks, including risks to the financial system that could impede the attainment of the Committee's goals.

The inflation rate over the longer run is primarily determined by monetary policy, and hence the Committee has the ability to specify a longer-run goal for inflation. The Committee judges that inflation at the rate of 2 percent, as measured by the annual change in the price index for personal consumption expenditures, is most consistent over the longer run with the Federal Reserve's statutory mandate. Communicating this inflation goal clearly to the public helps keep longer-term inflation expectations firmly anchored, thereby fostering price stability and moderate long-term interest rates and enhancing the Committee's ability to promote maximum employment in the face of significant economic disturbances.

The maximum level of employment is largely determined by nonmonetary factors that affect the structure and dynamics of the labor market. These factors may change over time and may not be directly measurable. Consequently, it would not be appropriate to specify a fixed goal for employment; rather, the Committee's policy decisions must be informed by assessments of the maximum level of employment, recognizing that such assessments are necessarily uncertain and subject to revision. The Committee considers a wide range of indicators in making these assessments. Information about Committee participants' estimates of the longer-run normal rates of output growth and unemployment is published four times per year in the FOMC's Summary of Economic Projections. For example, in the most recent projections, FOMC participants' estimates of the longer-run normal rate of unemployment had a central tendency of 5.2 percent to 6.0 percent, unchanged from one year ago but substantially higher than the corresponding interval several years earlier.

In setting monetary policy, the Committee seeks to mitigate deviations of inflation from its longer-run goal and deviations of employment from the Committee's assessments of its maximum level. These objectives are generally complementary. However, under circumstances in which the Committee judges that the objectives are not complementary, it follows a balanced approach in promoting them, taking into account the magnitude of the deviations and the potentially different time horizons over which employment and inflation are projected to return to levels judged consistent with its mandate.

The Committee intends to reaffirm these principles and to make adjustments as appropriate at its annual organizational meeting each January.

Part 1 Recent Economic and Financial Developments

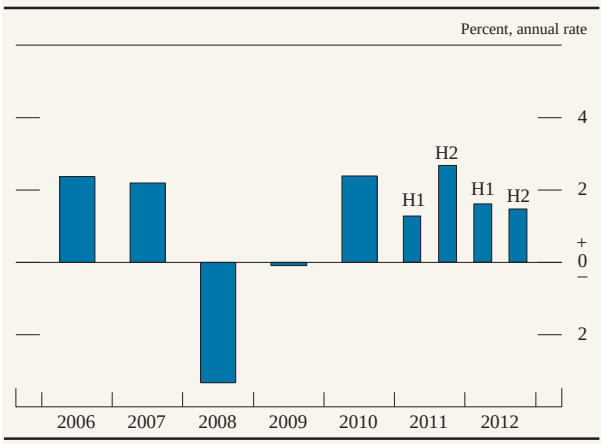
Real gross domestic product (GDP) increased at a moderate annual rate of 1½ percent, on average, in the second half of 2012—similar to the rate of increase in the first half—as various headwinds continued to restrain growth. Financial conditions eased over the second half in response to the additional monetary accommodation provided by the Federal Open Market Committee (FOMC) and to improved sentiment regarding the crisis in Europe. However, credit availability remained tight for many households and businesses. In addition, declines in real government purchases continued to weigh on economic activity, as did household and business concerns about the economic outlook, while weak foreign demand restrained exports. In this environment, conditions in the labor market continued to improve gradually but remained weak. At a little under 8 percent in January, the unemployment rate was still well above levels prevailing prior to the recent recession. Inflation remained subdued at the end of last year, with consumer prices rising at about a 1½ percent annual rate in the second half, and measures of longer-run inflation expectations remained in the narrow ranges seen over the past several years.

Domestic Developments

GDP increased moderately but continued to be restrained by various headwinds

Real GDP is estimated to have increased at an annual rate of 3 percent in the third quarter but to have been essentially flat in the fourth, as economic activity was

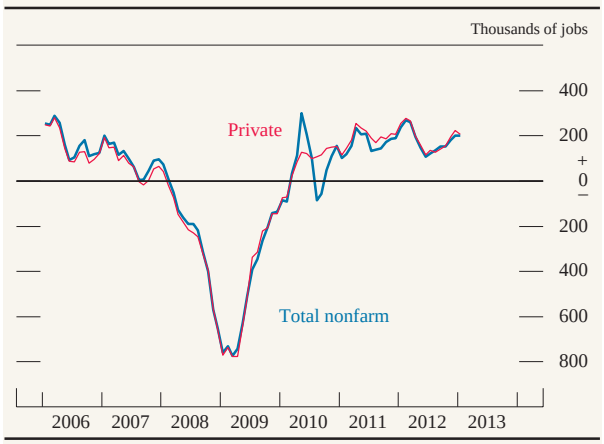
Figure 1. Change in real gross domestic product, 2006–12



Note: Here and in subsequent figures, except as noted, change for a given period is measured to its final quarter from the final quarter of the preceding period.

Source: Department of Commerce, Bureau of Economic Analysis.

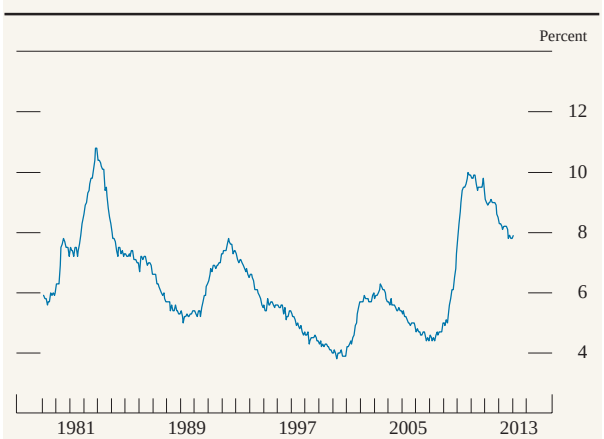
Figure 2. Net change in payroll employment, 2006–13



Note: The data are three-month moving averages and extend through January 2013.

Source: Department of Labor, Bureau of Labor Statistics.

Figure 3. Civilian unemployment rate, 1979–2013



Note: The data are monthly and extend through January 2013.

Source: Department of Labor, Bureau of Labor Statistics.

temporarily restrained by weather-related disruptions and declines in some erratic categories of spending, including inventory investment and federal defense spending.[1] On average, real GDP expanded at an annual rate of 1½ percent in the second half of 2012, similar to the pace of increase in the first half of the year (figure 1). The housing recovery gained additional traction, consumer spending continued to increase moderately, and business investment rose further. However, a severe drought in much of the country held down farm production, and disruptions from Hurricane Sandy also likely held back economic activity somewhat in the fourth quarter. More fundamentally, some of the same factors that restrained growth in the first half of last year likely continued to weigh on activity. Although financial conditions continued to improve overall, the financial system has not fully recovered from the financial crisis, and banks remained cautious in their lending to many households and businesses. In particular, restricted financing for home mortgages and new-home construction projects, along with the depressing effects on housing demand of an uncertain outlook for house prices and jobs, kept the level of activity in the housing sector well below longer-run norms. Budgetary pressures at all levels of government also continued to weigh on GDP growth. Moreover, businesses and households remained concerned about many aspects of the economic environment, including the uncertain course of U.S. fiscal policy at the turn of the year as well as the still-worrisome European situation and the slow recovery more generally.

The labor market improved somewhat, but the unemployment rate remained high

In this economic environment, firms increased their workforces moderately. Over the second half of last year, nonfarm payroll employment rose an average of about 175,000 per month, similar to the average increase in the first half (figure 2). These job gains helped lower the unemployment rate from 8.2 percent in the second quarter of last year to 7.9 percent in January (figure 3). Nevertheless, the unemployment rate remained much higher than it was prior to the recent recession, and long-term unemployment con-

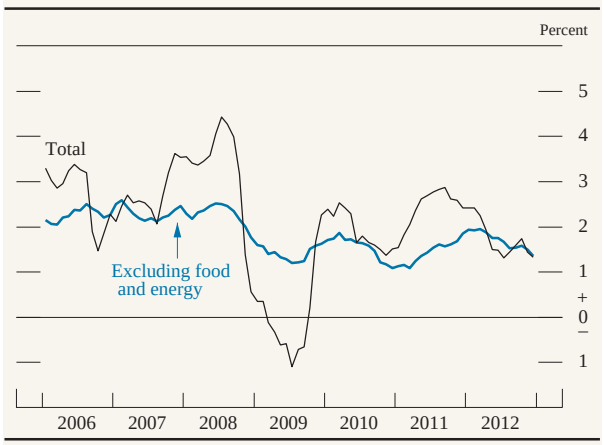
[1] Data for the fourth quarter of 2012 from the national income and product accounts reflect the advance estimate released on January 30, 2013.

tinued to be widespread. In the fourth quarter, about 40 percent of the unemployed had been out of work for more than six months. Moreover, the proportion of workers employed part time because they were unable to find full-time work remained elevated. Some of the increase in the unemployment rate since the beginning of the recent recession could reflect structural changes in the labor market—such as a greater mismatch between the types of jobs that are open and the skills of workers available to fill them—that would reduce the maximum sustainable level of employment. However, most of the economic analysis on this subject suggests that the bulk of the increase in unemployment probably reflects a deficiency in labor demand.[2] As a result, the unemployment rate likely remains well above levels consistent with maximum sustainable employment.

As described in the box "Assessing Conditions in the Labor Market" (see pages 8–9 of the February 2013 *Monetary Policy Report*), the unemployment rate appears to be a very good indicator of labor market conditions. That said, other indicators also provide important perspectives on the health of the labor market, and the most accurate assessment of labor market conditions can be obtained by combining the signals from many such indicators. Aside from the decline in the unemployment rate, probably the most important other pieces of evidence corroborating the gradual improvement in labor market conditions over the second half of last year were the gains in nonfarm payrolls noted earlier and the slight net reduction in initial claims for unemployment insurance.

Restrained by the ongoing weak conditions in the labor market, labor compensation has increased slowly. The employment cost index for private industry workers, which encompasses both wages and the cost to employers of providing benefits, increased only 2 percent over the 12 months of 2012, similar to the rate of gain since 2010. Similarly, nominal compensation per hour in the nonfarm business sector—a measure derived from the labor compensation data in the national income and product accounts

Figure 4. Change in the chain-type price index for personal consumption expenditures, 2006–12



Note: The data are monthly and extend through December 2012; changes are from one year earlier.

Source: Department of Commerce, Bureau of Economic Analysis.

(NIPA)—increased 2½ percent over the four quarters of 2012, well below average increases of close to 4 percent in the years prior to the recent recession. As a result of these modest gains, nominal compensation has increased only about as fast as consumer prices over the recovery.

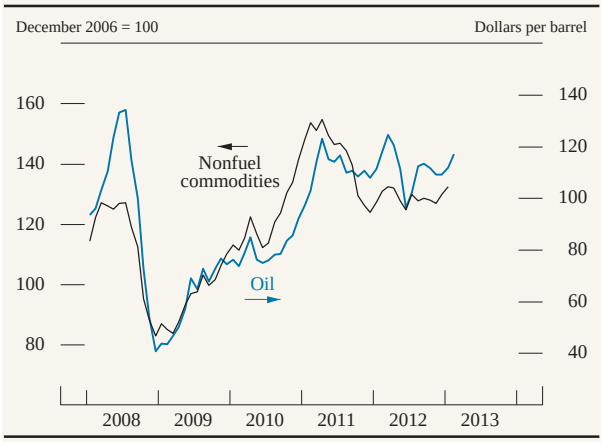
Inflation remained low . . .

Consumer price inflation was low over the second half of 2012. With considerable slack in labor markets and limited increases in labor costs, relatively stable prices for commodities and imports, and well-anchored longer-term inflation expectations, prices for personal consumption expenditures (PCE) increased at an annual rate of 1½ percent in the second half of the year, similar to the rate of increase in the first half (figure 4). Excluding food and energy prices, consumer prices increased only 1 percent in the second half of the year, down from 2 percent in the first half. A deceleration in prices of imported goods likely contributed to the low rate of inflation seen in the second half, though price increases for non-energy services were also low.

As noted, gains in labor compensation have been subdued given the weak conditions in labor markets, and unit labor costs—which measure the extent to which compensation rises in excess of productivity—have increased very little over the recovery. That said, compensation per hour rose more rapidly last year, and productivity growth, which has averaged 1½ percent per year over the recovery, was relatively low. As

[2] See, for example, Mary C. Daly, Bart Hobijn, Ayşegül Şahin, and Robert G. Valletta (2012), "A Search and Matching Approach to Labor Markets: Did the Natural Rate of Unemployment Rise?" *Journal of Economic Perspectives,* vol. 26 (Summer), pp. 3–26; Michael W. L. Elsby, Bart Hobijn, Ayşegül Şahin, and Robert G. Valletta (2011), "The Labor Market in the Great Recession—An Update to September 2011," *Brookings Papers on Economic Activity,* Fall, pp. 353–71; and Jesse Rothstein (2012), "The Labor Market Four Years into the Crisis: Assessing Structural Explanations," *ILRReview*, vol. 65 (July), pp. 467–500.

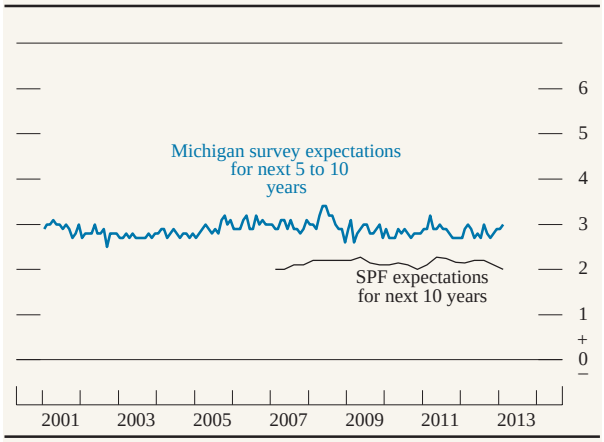
Figure 5. Prices of oil and nonfuel commodities, 2008–13



Note: The data are monthly. The oil price is the spot price of Brent crude oil, and the last observation is the average for February 1–21, 2013. The price of nonfuel commodities is an index of 45 primary-commodity prices and extends through January 2013.

Source: For oil, the Commodity Research Bureau; for nonfuel commodities, International Monetary Fund.

Figure 6. Median inflation expectations, 2001–13



Note: The Michigan survey data are monthly and extend from January 2001 through a preliminary estimate for February 2013. The SPF data are quarterly and extend from 2007:Q1 through 2013:Q1.

Source: Thomson Reuters/University of Michigan Surveys of Consumers and Survey of Professional Forecasters (SPF).

a result, unit labor costs rose 2 percent in 2012, well above average increases earlier in the recovery.

Global oil prices rose in early 2012 but subsequently gave up those gains and remained about flat through the later part of the year (figure 5). Developments related to Iran, including a tightening embargo on Iranian oil exports, likely put upward pressure on prices, but these pressures were apparently offset by continued concerns about weak global demand. However, in recent weeks, global oil prices have increased in response to generally positive demand indicators from China and some reductions in Saudi production. Partly in response to this rise, retail gasoline prices, which changed little, on net, over 2012, have moved up appreciably.

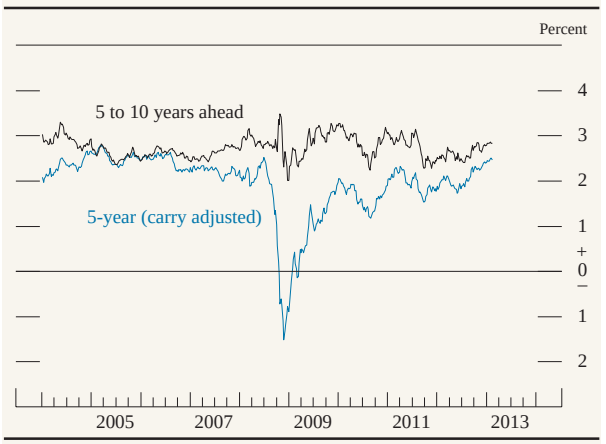
Nonfuel commodity prices have remained relatively flat over the past year despite significant movements in the prices of a few specific commodities. Of particular interest, prices for corn and soybeans eased some over the fall after having risen sharply during the summer as the scale of the drought affecting much of the United States became apparent. Given this easing and the small share of grain costs in the retail price of food, the effect of the drought on U.S. consumer food prices is likely to be modest: Consumer food prices rose at an annual rate of 2 percent in the fourth quarter following increases of less than 1 percent in the middle of last year.

In line with these flat overall commodity prices, as well as earlier dollar appreciation, prices for imported goods excluding oil were about unchanged on average over the last five months of 2012 and the early part of 2013.

. . . and longer-term inflation expectations stayed in their historical range

Survey measures of longer-term inflation expectations have changed little, on net, since last summer. Median expected inflation over the next 5 to 10 years, as reported in the Thomson Reuters/University of Michigan Surveys of Consumers, was 3 percent in early February, within the narrow range of the past 10 years (figure 6). In the Survey of Professional Forecasters, conducted by the Federal Reserve Bank of Philadelphia, the median expectation for the increase in the price index for PCE over the next 10 years was 2 percent in the first quarter of this year, similar to its level in recent years. A measure of 5-year inflation compensation derived from nominal and inflation-protected Treasury securities has increased 55 basis points since the end of June, while a similar measure of inflation compensation for the period 5 to 10 years ahead has increased about 30 basis points; both measures are within their respective ranges observed in the several years before the recent financial crisis (figure 7). While the increases in these measures could reflect changes in market participants' expectations of future inflation, they may also have been affected by improved investor risk sentiment and an associated reduction in

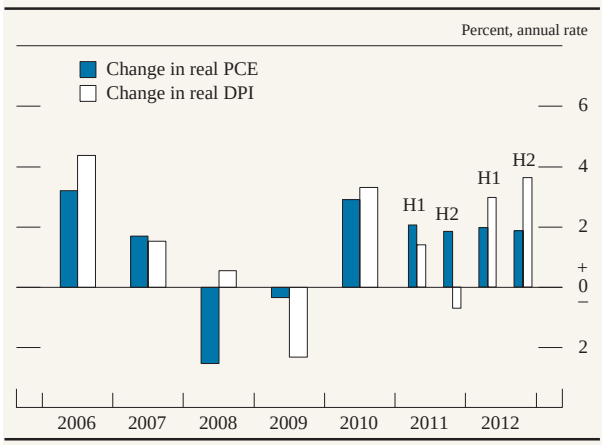
Figure 7. Inflation compensation, 2004–13



Note: The data are weekly averages of daily data and extend through February 15, 2013. Inflation compensation is the difference between yields on nominal Treasury securities and Treasury inflation-protected securities (TIPS) of comparable maturities, based on yield curves fitted to off-the-run nominal Treasury securities and on- and off-the-run TIPS. The 5-year measure is adjusted for the effect of indexation lags.

Source: Federal Reserve Bank of New York; Barclays; Federal Reserve Board staff estimates.

Figure 8. Change in real personal consumption expenditures and disposable personal income, 2006–12



Note: The data are quarterly and extend through 2012:Q4.

Source: Department of Commerce, Bureau of Economic Analysis.

demand for the relatively greater liquidity of nominal Treasury securities.

Consumer spending continued to increase moderately

Turning to some important components of final demand, real PCE increased at a moderate annual rate of 2 percent over the second half of 2012, similar to the rate of increase in the first half (figure 8). Household wealth—buoyed by increases in house prices and equity values—moved up over the second half of the year and provided some support for consumer spending. In addition, for those households with access to credit, low interest rates spurred spending on motor vehicles and other consumer durables, which increased at an annual rate of 11 percent over the second half of last year. But increases in real wages and salaries were modest over the second half of the year, and overall growth in consumer spending continued to be held back by concerns about the economic outlook and limited access to credit for some households. After rising earlier in the year, consumer sentiment—which reflects household views on their own financial situations as well as broader economic conditions—fell back at the end of the year and stood well below longer-run norms.

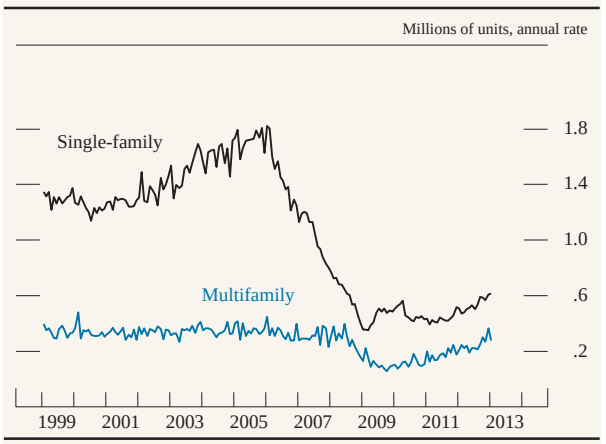
Real disposable personal income (DPI) rose at an annual rate of 3½ percent over the second half of 2012. However, much of this increase was a result of unusually large increases in dividends and employee bonuses, as many firms apparently shifted income disbursements into 2012 in anticipation of an increase in marginal tax rates for high-income households at the beginning of this year. Excluding these special payments, real DPI is estimated to have increased at a modest annual rate of 1¼ percent over the second half of the year, similar to the average pace of increase over the recovery. The surge in dividend and bonus payments also led the personal saving rate to jump from 3.8 percent in the second quarter to 4.7 percent in the fourth quarter. In their absence, the saving rate would have likely been little changed over the second half of the year.

Households continue to pay down debt and gain access to credit

Household debt—the sum of mortgage and consumer debt—edged down further in the third quarter of 2012 as a continued contraction in mortgage debt more than offset a solid expansion in consumer credit. With the reduction in household debt, low levels of most interest rates, and modest income growth, the household debt service ratio—the ratio of required principal and interest payments on outstanding household debt to DPI—decreased further and, at the end of the third quarter, stood at a level last seen in 1983.

Consumer credit expanded at an annual rate of about 5¼ percent in the second half of 2012. Nonrevolving credit (mostly auto loans and student loans), which accounts for about two-thirds of total consumer credit outstanding, drove the increase. Revolving consumer credit (primarily credit card lending) was

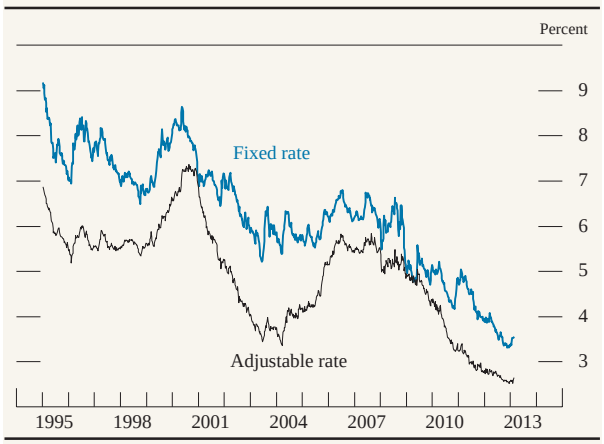
Figure 9. Private housing starts, 1999–2013



Note: The data are monthly and extend through January 2013.

Source: Department of Commerce, Bureau of the Census.

Figure 10. Mortgage interest rates, 1995–2013



Note: The data, which are weekly and extend through February 20, 2013, are contract rates on 30-year mortgages.

Source: Federal Home Loan Mortgage Corporation.

about flat on net. Overall, the increase in nonrevolving consumer credit is consistent with banks' recent responses to the Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS), which indicated that demand had strengthened and standards eased, on net, for auto loans.[3]

Changes in interest rates on consumer loans were mixed over the second half of 2012. Interest rates on auto loans declined a bit, as did most measures of the spreads of rates on these loans over yields on Treasury securities of comparable maturity. Interest rates on credit card debt quoted by banks generally declined slightly, while rates observed in credit card offer mailings continued to increase.

The housing market recovery gained traction . . .

The housing market has continued to recover. Housing starts, sales of new and existing homes, and builder and realtor sentiment all increased over the second half of last year, and residential investment rose at an annual rate of nearly 15 percent. Combined, single-family and multifamily housing starts rose from an average annual rate of 740,000 in the second quarter of last year to 900,000 in the fourth quarter (figure 9). Activity increased most noticeably in the smaller multifamily sector—where starts have nearly reached pre-recession levels—as demand for new housing has apparently shifted toward smaller rental units and away from larger, typically owner-occupied single-family units.

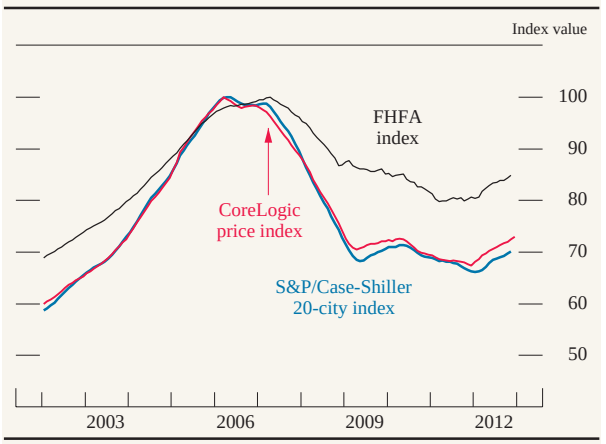
. . . as mortgage interest rates reached record lows and house prices rose . . .

Mortgage interest rates declined to historically low levels toward the end of 2012—importantly reflecting Federal Reserve policy actions—making housing quite affordable for households with good credit ratings (figure 10). However, the spread between mortgage rates and yields on agency-guaranteed mortgage-backed securities (MBS) remained elevated by historical standards. This unusually wide spread probably reflects still-elevated risk aversion and some capacity constraints among mortgage originators. Overall, refinance activity increased briskly over the second half of 2012—though it was still less than might have been expected, given the level of interest rates—while the pace of mortgage applications for home purchases remained sluggish. Recent responses to the SLOOS indicate that banks' lending standards for residential mortgage loans were little changed over the second half of 2012.

House prices, as measured by several national indexes, continued to increase in the second half of 2012. For example, the CoreLogic repeat-sales index rose 3½ percent (not an annual rate) over the last six months of the year to reach its highest level since late 2008 (figure 11). This recent improvement notwith-

[3] The SLOOS is available on the Federal Reserve Board's website at www.federalreserve.gov/boarddocs/SnLoanSurvey.

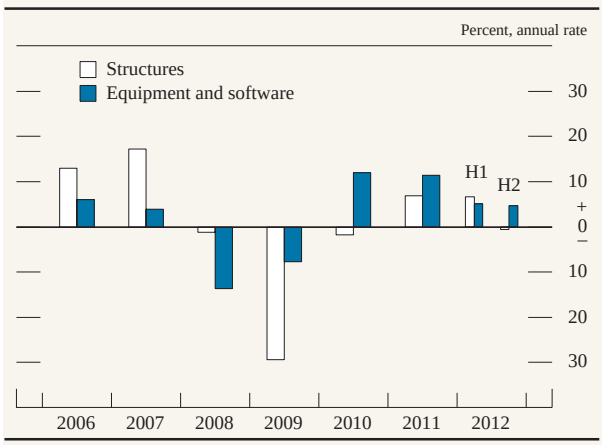
Figure 11. Prices of existing single-family houses, 2002–12



Note: The data are monthly and extend into 2012:Q4. Each index has been normalized so that its peak is 100. Both the CoreLogic price index and the FHFA index include purchase transactions only. The S&P/Case-Shiller index reflects all arm's-length sales transactions in selected metropolitan areas.

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

Figure 12. Change in real business fixed investment, 2006–12



Source: Department of Commerce, Bureau of Economic Analysis.

standing, this measure of house prices remained 27 percent below its peak in early 2006.

. . . but the level of new construction remained low, and mortgage delinquencies remained elevated

Despite the improvements seen over the second half of 2012, housing starts remained well below the 1960–2000 average of 1.5 million per year, as concerns about the job market and tight mortgage credit for less-credit-worthy households continued to restrain demand for housing. In addition, although the number of vacant homes for sale has declined significantly, the stock of vacant homes held off the market remained quite elevated. Once put on the market, this "shadow" inventory, which likely includes many bank-owned properties, may redirect some demand away from new homes and toward attractively priced existing homes. With home values depressed and unemployment still high, measures of late-stage mortgage delinquency, such as the inventory of properties in foreclosure, remained elevated, keeping high the risk of homes transitioning to vacant bank-owned properties.

Growth of business investment has slowed since earlier in the recovery

After increasing at double-digit rates in 2010 and 2011, business expenditures on equipment and software (E&S) decelerated in 2012 (figure 12). Pent-up demand for capital goods, an important contributor to earlier increases in E&S spending, has likely diminished as the recovery has aged. In addition, concerns about possible threats to economic growth and stability from U.S. fiscal policy and the situation in Europe may have contributed to soft investment spending in the middle of last year. As a result, despite a pickup in the pace of gains toward the end of the year, E&S investment increased at an annual rate of 5 percent in the second half of the year, similar to the first-half pace. As for business investment in structures, a sustained recovery has yet to take hold, as high vacancy rates, tight credit for new construction, and low prices for commercial real estate (CRE) are still hampering investment in new buildings. However, in the drilling and mining sector, elevated oil prices and new drilling technologies have kept investment in structures at a relatively high level.

Inventory investment remained at a moderate level in the second half of last year, as limited growth in final sales and the uncertain economic environment continued to limit firms' incentives to accumulate inventories. Census Bureau measures of book-value inventory-to-sales ratios, as well as surveys of private inventory satisfaction and plans, generally suggest that stocks were fairly well aligned with sales at the end of 2012.

Corporate earnings growth slowed, but firms' balance sheets remained strong

After having risen 6 percent over the first half of 2012, aggregate operating earnings per share for S&P 500 firms were about flat on a seasonally adjusted basis in the second half of 2012, held down, in part, by weak demand from Europe and some emerging market economies (EMEs). However, the ratio of

corporate profits to gross national product in the second half of 2012 hovered around its historical high, and cash flow remained solid. In addition, the ratio of liquid assets to total assets for nonfinancial corporations was close to its highest level in more than 20 years, and the aggregate debt-to-asset ratio remained low by historical standards.

With corporate credit quality remaining robust and interest rates at historically low levels, nonfinancial firms continued to raise funds at a strong pace in the second half of 2012. Bond issuance by both investment- and speculative-grade nonfinancial firms was extraordinarily strong, although much of the proceeds from bond issuance appeared to be earmarked for the refinancing of existing debt. Meanwhile, nonfinancial commercial paper (CP) outstanding was about unchanged. Issuance in the institutional segment of the syndicated leveraged loan market accelerated in the second half of the year, boosted by rapid growth of newly established collateralized loan obligations. Commercial and industrial (C&I) loans outstanding at commercial banking organizations in the United States continued to expand at a brisk pace in the second half of 2012. Moreover, according to the SLOOS, modest net fractions of banks continued to report having eased their lending standards on C&I loans over the second half of the year, and large net fractions of banks indicated having reduced the spread of rates on C&I loans over their cost of funds, largely in response to increased competition from other banks or nonbank lenders.

Gross public equity issuance by nonfinancial firms slowed a bit in the second half of 2012, held down by a moderate pace of initial public offerings. Meanwhile, data for the third quarter of 2012 indicate that net equity issuance remained deeply negative, as share repurchases and cash-financed mergers by nonfinancial firms remained robust.

Borrowing conditions for small businesses continued to improve, albeit more gradually than for large firms

Borrowing conditions for small businesses continued to improve over the second half of 2012, but as has been the case in recent years, the improvement was more gradual than for larger firms. Moreover, the demand for credit from small firms apparently remained subdued. C&I loans with original amounts of $1 million or less—a large share of which likely consist of loans to small businesses—rose slightly in the second half of 2012, at about the same rate that prevailed in the first half. Recent readings from the Survey of Terms of Business Lending indicate that the spreads charged by commercial banks on newly originated C&I loans with original amounts less than $1 million, while still quite elevated, continued to decline.[4]

According to surveys conducted by the National Federation of Independent Business during the second half of 2012, the fraction of small businesses with borrowing needs stayed low. The net percentage of respondents that found credit more difficult to obtain than three months prior edged up, on balance, over this period, as did the net percentage that expected tighter credit conditions over the next three months; both measures remained at relatively high levels in the January survey.

Financial conditions in the commercial real estate sector eased but remained relatively tight

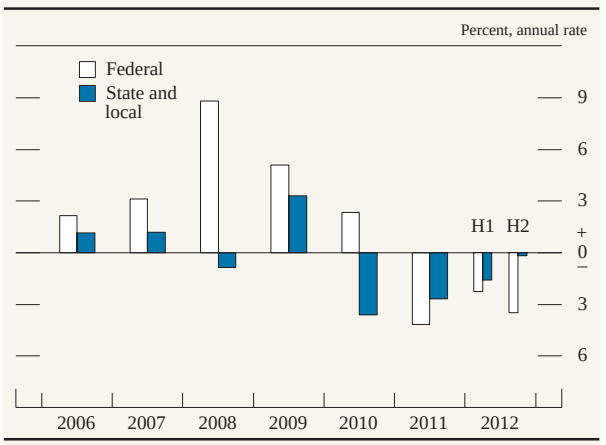
Financial conditions in the CRE sector continued to ease but remained relatively tight amid weak fundamentals. According to the SLOOS, a modest net fraction of banks reported having eased standards on CRE loans over the second half of last year, and a significant net fraction of banks reported increased demand for such loans. Consistent with these readings, the multiyear contraction in banks' holdings of CRE loans continued to slow and, indeed, came roughly to a halt as banks' holdings of CRE loans were about flat over the last quarter of 2012. Issuance of commercial mortgage-backed securities (CMBS) continued to increase over the second half of 2012 from the low levels observed in 2011. Nonetheless, the delinquency rate on loans in CMBS pools remained extremely high, as some borrowers with five-year loans issued in 2007 were unable to refinance upon the maturity of those loans because of high loan-to-value ratios. While delinquency rates for CRE loans at commercial banks continued to decline, they remained somewhat elevated, especially for construction and land development loans.

Budget strains for state and local governments eased, but federal purchases continued to decline

Strains on state and local government budgets appear to have lessened some since earlier in the recovery. Although federal grants provided to state governments in the American Recovery and Reinvestment Act have essentially phased out, state and local tax

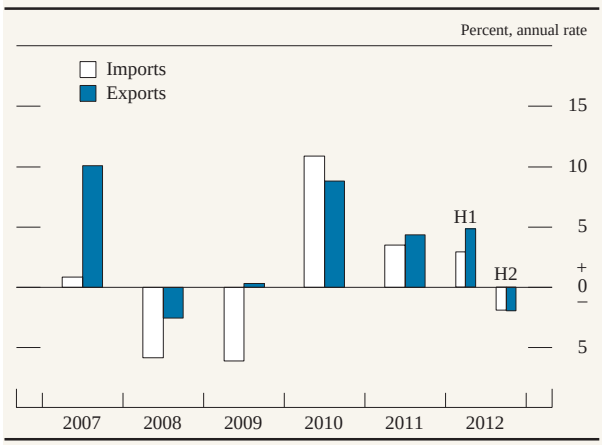
[4] Data releases for the Survey of Terms of Business Lending are available on the Federal Reserve Board's website at www.federalreserve.gov/releases/e2/default.htm.

Figure 13. Change in real government expenditures on consumption and investment, 2006–12



Source: Department of Commerce, Bureau of Economic Analysis.

Figure 14. Change in real imports and exports of goods and services, 2007–12



Source: Department of Commerce, Bureau of Economic Analysis.

receipts, which have been increasing since 2010, rose moderately further over the second half of last year. Accordingly, after declining at an annual rate of 1½ percent in the first half of last year, real government purchases at the state and local level changed little in the second half (figure 13). Similarly, employment levels at states and municipalities, which had been declining since 2009, changed little, on balance, over the second half of last year.

Federal purchases continued to decline over the second half of 2012, reflecting ongoing efforts to reduce the budget deficit and the scaling back of overseas military activities. As measured in the NIPA, real federal expenditures on consumption and gross investment—the part of federal spending included in the calculation of GDP—fell at an annual rate of 3½ percent over the second half of 2012. Real defense spending fell at an annual rate of a little over 6 percent, while nondefense purchases increased at an annual rate of 2 percent.

The deficit in the federal unified budget remains high. The budget deficit for fiscal year 2012 was $1.1 trillion, or 7 percent of nominal GDP, down from the deficit recorded in 2011 but still sharply higher than the deficits recorded prior to the onset of the last recession. The narrowing of the budget deficit relative to fiscal 2011 reflected an increase in tax revenues that largely stemmed from the gradual increase in economic activity as well as a decline in spending. Despite the rise in tax revenues, the ratio of federal receipts to national income, at 16 percent in fiscal 2012, remained near the low end of the range for this ratio over the past 60 years. The ratio of federal outlays to GDP declined but was still high by historical standards, at 23 percent. With deficits still large, federal debt held by the public rose to 73 percent of nominal GDP in the fourth quarter of 2012, 5 percentage points higher than at the end of 2011.

Net exports added modestly to real GDP growth

Real imports of goods and services contracted at an annual rate of nearly 2 percent over the second half of 2012, held back by the sluggish pace of U.S. demand (figure 14). The decline in imports was fairly broad based across major trading partners and categories of trade.

Real exports of goods and services also fell at an annual rate of about 2 percent in the second half despite continued expansion in demand from EMEs. Exports were dragged down by a steep falloff in demand from the euro area and declining export sales to Japan, consistent with weak economic conditions in those areas. In contrast, exports to Canada remained essentially flat. Across the major categories of exports, industrial supplies, automotive products, and agricultural goods contributed to the overall decrease.

Overall, real net exports added an estimated 0.1 percentage point to real GDP growth in the second half of 2012, according to the advance estimate of GDP from the Bureau of Economic Analysis, but data received since then suggest a somewhat larger positive contribution.

The nominal trade deficit shrank, on net, over the second half of 2012, contributing to the narrowing of

the current account deficit to 2¾ percent of GDP in the third quarter. The trade deficit as a share of GDP narrowed substantially in late 2008 and early 2009 when U.S. imports dropped sharply, in part reflecting the steep decline in oil prices. Since then, the trade deficit as a share of GDP has remained close to its 2009 level: Although imports recovered from their earlier drop, exports strengthened as well.

The current account deficit in the third quarter was financed by strong inflows from foreign official institutions and by foreign private purchases of Treasury securities and equities. More-recent data suggest continued strong foreign purchases of Treasury securities and equities in the fourth quarter of 2012. Consistent with improved market sentiment over the third quarter, U.S. investors also increased their holdings of foreign assets.

National saving is very low

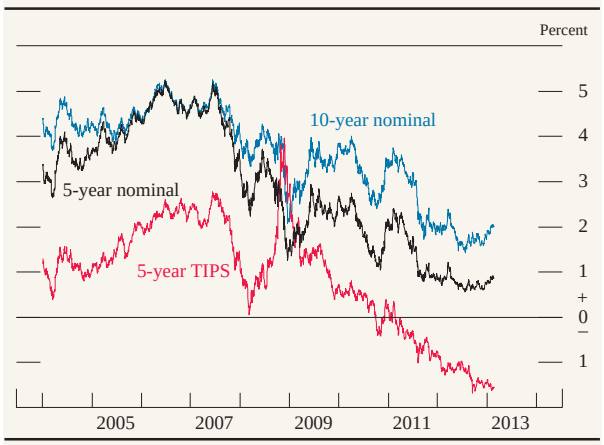
Total U.S. net national saving—that is, the saving of U.S. households, businesses, and governments, net of depreciation charges—remains extremely low by historical standards. In the third quarter of last year, net national saving as a percent of nominal GDP was close to zero. The relative flatness of the national saving rate over the past few years reflects the offsetting effects of a narrowing in the federal budget deficit as a share of nominal GDP and a downward movement in the private saving rate. National saving will likely remain low this year, in light of the still-large federal budget deficit. A portion of the decline in federal savings relative to pre-recession levels is cyclical and would be expected to reverse as the economy recovers. If low levels of national saving persist over the longer run, they will likely be associated with both low rates of capital formation and heavy borrowing from abroad, limiting the rise in the standard of living for U.S. residents over time.

Financial Developments

Expectations regarding the future stance of monetary policy reflected the additional accommodation provided by the Federal Open Market Committee . . .

In response to the steps taken by the FOMC to provide additional monetary policy accommodation over the second half of 2012, market participants pushed out the date when they expect the federal funds rate to first rise above its current target range of 0 to ¼ percent. In particular, interest rates on overnight index swaps indicate that investors currently anticipate that the effective federal funds rate will rise above its current target range around the fourth quarter of 2014, roughly four quarters later than they expected at the end of June 2012. Meanwhile, the modal target rate path—the most likely values for future federal funds rates derived from interest rate options—suggests that investors think the rate is most likely to remain in its current range through the first quarter of 2016. In addition, recent readings from the Survey of Primary Dealers conducted by the Open Market Desk at the Federal Reserve Bank of New York suggest that market participants expect the Federal Reserve to hold about $3.75 trillion of Treasury and agency securities at the end of 2014, roughly $1 trillion more than was expected in the middle of 2012.[5]

Figure 15. Interest rates on Treasury securities at selected maturities, 2004–13



Note: The data are daily and extend through February 21, 2013. Treasury inflation-protected securities (TIPS) are based on yield curves fitted by Federal Reserve staff to on- and off-the-run TIPS.

Source: Department of the Treasury; Barclays; Federal Reserve Board staff estimates.

. . . and held yields on longer-term Treasury securities and agency mortgage-backed securities near historic lows

Yields on nominal and inflation-protected Treasury securities remained near historic lows over the second half of 2012 and into 2013. Yields on longer-term nominal Treasury securities rose, on balance, over this period, while yields on inflation-protected securities fell (figure 15). These changes likely reflect the effects of additional monetary accommodation, a substantial improvement in sentiment regarding the crisis in Europe that reduced demand for the relative

[5] The Survey of Primary Dealers is available on the Federal Reserve Bank of New York's website at www.newyorkfed.org/markets/primarydealer_survey_questions.html.

safety and liquidity of nominal Treasury securities, and increases in the prices of key commodities since the end of June 2012. On balance, yields on 5-, 10-, and 30-year nominal Treasury securities increased roughly 15 basis points, 30 basis points, and 40 basis points, respectively, from their levels at the end of June 2012, while yields on 5- and 10-year inflation-protected securities decreased roughly 55 basis points and 15 basis points, respectively. Treasury auctions generally continued to be well received by investors, and the Desk's outright purchases and sales of Treasury securities did not appear to have a material adverse effect on liquidity or market functioning.

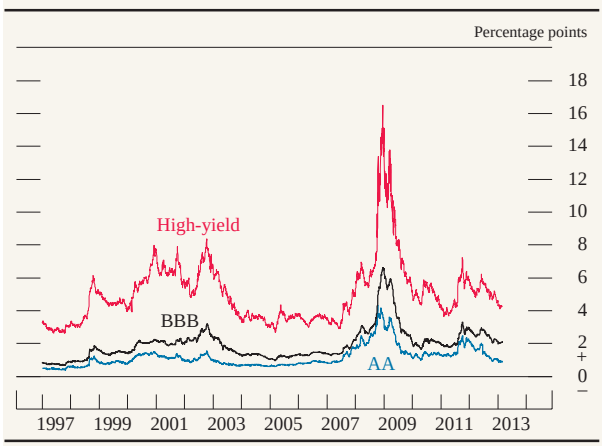
Yields on agency MBS were little changed, on net, over the second half of 2012 and into 2013. They fell sharply following the FOMC's announcement of additional agency MBS purchases in September but retraced over subsequent months. Spreads of yields on agency MBS over yields on nominal Treasury securities narrowed, largely reflecting the effects of the additional monetary accommodation. The Desk's outright purchases of agency MBS did not appear to have a material adverse effect on liquidity or market functioning, although implied financing rates for some securities in the MBS dollar roll market declined in the second half of 2012, and the Desk responded by postponing settlement of some purchases using dollar roll transactions.[6]

Yields on corporate bonds reached record lows, and equity prices increased

Yields on investment- and speculative-grade bonds reached record lows in the second half of 2012 and early 2013, respectively, partly reflecting the effects of the FOMC's additional monetary policy accommodation and increased investor appetite for bearing risk. Spreads to comparable-maturity Treasury securities also narrowed substantially but remained above the narrowest levels that they reached prior to the financial crisis (figure 16). Prices in the secondary market for syndicated leveraged loans have increased, on balance, since the middle of 2012.

Broad equity price indexes have increased about 10 percent since the end of June 2012, boosted by the same factors that contributed to the narrowing in bond spreads. Nevertheless, the spread between the

Figure 16. Spreads of corporate bond yields over comparable off-the-run Treasury yields, by securities rating, 1997–2013



Note: The data are daily and extend through February 21, 2013. The spreads shown are the yields on 10-year bonds less the 10-year Treasury yield.

Source: Derived from smoothed corporate yield curves using Merrill Lynch bond data.

12-month forward earnings–price ratio for the S&P 500 and a long-run real Treasury yield—a rough gauge of the equity risk premium—remained at the high end of its historical range. Implied volatility for the S&P 500 index, as calculated from option prices, spiked at times but is currently near the bottom end of the range it has occupied since the onset of the financial crisis.

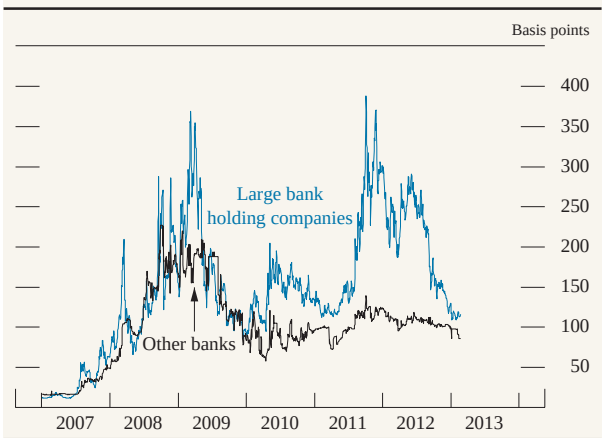
Conditions in short-term dollar funding markets improved some in the third quarter and remained stable thereafter

Measures of stress in unsecured dollar funding markets eased somewhat in the third quarter of 2012 and remained stable at relatively low levels thereafter, reflecting improved sentiment regarding the crisis in Europe. For example, the average maturity of unsecured financial CP issued by institutions with European parents increased, on net, to around the same length as such CP issued by institutions with U.S. parents.

Signs of stress were largely absent in secured short-term dollar funding markets. In the market for repurchase agreements (repos), bid–asked spreads and haircuts for most collateral types have changed little since the middle of 2012. However, repo rates continued to edge up over the second half of 2012, likely reflecting in part the financing of the increase in dealers' inventories of shorter-term Treasury securities that resulted from the maturity extension program (MEP). Following year-end, repo rates fell back

[6] Dollar roll transactions consist of a purchase or sale of agency MBS with the simultaneous agreement to sell or purchase substantially similar securities on a specified future date. The Committee directs the Desk to engage in these transactions as necessary to facilitate settlement of the Federal Reserve's agency MBS purchases.

Figure 17. Spreads on credit default swaps for selected U.S. banking organizations, 2007–13



Note: The data are daily and extend through February 21, 2013. Median spreads for six large bank holding companies and nine other banks.

Source: Markit.

as the MEP came to an end and the level of reserve balances began to increase. In asset-backed commercial paper (ABCP) markets, volumes outstanding declined a bit for programs with European and U.S. sponsors, while spreads on ABCP with European bank sponsors remained slightly above those on ABCP with U.S. bank sponsors.

Year-end pressures in short-term funding markets were generally modest and roughly in line with the experiences during other years since the financial crisis.

Market sentiment toward the banking industry improved as the profitability of banks increased

Market sentiment toward the banking industry improved in the second half of 2012, reportedly driven in large part by perceptions of reduced downside risks stemming from the European crisis. Equity prices for bank holding companies (BHCs) increased, outpacing the increases in broad equity price indexes, and BHC credit default swap (CDS) spreads declined (figure 17).

The profitability of BHCs increased in the second half of 2012 but continued to run well below the levels that prevailed before the financial crisis. Measures of asset quality generally improved further, as delinquency and charge-off rates decreased for almost all major loan categories, although the recent improvement in delinquency rates for consumer credit in part reflects a compositional shift of credit supply toward higher-credit-quality borrowers. Loan loss provisions were flat at around the slightly elevated levels seen prior to the crisis, though they continued to be outpaced by charge-offs. Regulatory capital ratios remained at high levels based on current standards, but the implementation of generally more stringent Basel III capital requirements will likely lead to some decline in reported regulatory capital ratios at the largest banks. Overall, banks remain well funded with deposits, and their reliance on short-term wholesale funding stayed near its low levels seen in recent quarters. The expiration of the Federal Deposit Insurance Corporation's Transaction Account Guarantee program on December 31, 2012, does not appear to have caused any significant change in the availability of deposit funding for banks.

Credit provided by commercial banking organizations in the United States increased in the second half of 2012 at about the same moderate pace as in the first half of the year. Core loans—the sum of C&I loans, real estate loans, and consumer loans—expanded modestly, with strong growth in C&I loans offsetting weakness in real estate and credit card loans. Banks' holdings of securities continued to rise moderately overall, as strong growth in holdings of Treasury and municipal securities more than offset modest declines in holdings of agency MBS.

Despite continued improvements in market conditions, risks to the stability of financial markets remain

While conditions in short-term dollar funding markets have improved, these markets remain vulnerable to potential stresses. Money market funds (MMFs) have sharply reduced their overall exposures to Europe since the middle of 2011, but prime fund exposures to Europe continue to be substantial. MMFs also remain susceptible to the risk of investor runs due to structural vulnerabilities posed by the rounding of net asset values and the absence of loss-absorbing capital.[7]

Dealer firms have reduced their wholesale short-term funding ratios and have increased their liquidity buffers in recent years, but they still heavily rely on wholesale short-term funding. As a result, they remain susceptible to swings in market confidence and a possible resurgence of anxiety regarding counterparty credit risk. Respondents to the Senior Credit Officer Opinion Survey on Dealer Financing Terms

[7] In November 2012, the Financial Stability Oversight Council proposed recommendations for structural reforms of U.S. MMFs to reduce their vulnerability to runs and mitigate associated risks to the financial system.

indicated that credit terms applicable to important classes of counterparties were little changed over the second half of 2012.[8] Dealers reported increased demand for funding of securitized products and indicated that the use of financial leverage among trading real estate investment trusts, or REITs, had increased somewhat. However, respondents continued to note an increase in the amount of resources and attention devoted to the management of concentrated exposures to central counterparties and other financial utilities as well as, to a smaller extent, dealers and other financial intermediaries.

With prospective returns on safe assets remaining low, some financial market participants appeared willing to take on more duration and credit risk to boost returns. The pace of speculative-grade corporate bond issuance has been rapid in recent months, and while most of this issuance appears to have been earmarked for the refinancing of existing debt, there has also been an increase in debt to facilitate transactions involving significant risks. In particular, in bonds issued to finance private equity transactions, there has been a reemergence of payment-in-kind options that permit the issuer to increase the face value of debt in lieu of a cash interest payment, and anecdotal reports indicate that bond covenants are becoming less restrictive. Similarly, issuance of bank loans to finance dividend recapitalization deals as well as covenant-lite loans was robust over the second half of the year. (For a discussion of regulatory steps taken related to financial stability, see the box "The Federal Reserve's Actions to Foster Financial Stability" on pages 30–31 of the February 2013 *Monetary Policy Report*.)

Federal Reserve assets increased, and the average maturity of its Treasury holdings lengthened . . .

Total assets of the Federal Reserve increased to $3,097 billion as of February 20, 2013, $231 billion more than at the end of June 2012 (table 1). The increase primarily reflects growth in Federal Reserve holdings of Treasury securities and agency MBS as a result of the purchase programs initiated at the September 2012 and December 2012 FOMC meetings. As of February 20, 2013, the par value of Treasury securities and agency MBS held by the Federal Reserve had increased $70 billion and $178 billion, respectively, since the end of June 2012. The composition of Treasury securities holdings also changed over the second half of 2012 as a result of the continuation of the MEP, which was announced at the June 2012 FOMC meeting. Under this program, between July and December, the Desk purchased $267 billion in Treasury securities with remaining maturities of 6 to 30 years and sold or redeemed an equal par value of Treasury securities with maturities of 3 years or less. As a result, the average maturity of the Federal Reserve's Treasury holdings increased 1.7 years over the second half of 2012 and into 2013 and, as of February 2013, stood at 10.5 years.

. . . while exposure to facilities established during the crisis continued to wind down

In the second half of 2012, the Federal Reserve continued to reduce its exposure to facilities established during the financial crisis to support specific institutions. The portfolio holdings of Maiden Lane LLC and Maiden Lane III LLC—entities that were created during the crisis to acquire certain assets from The Bear Stearns Companies, Inc., and American International Group, Inc., to avoid the disorderly failures of those institutions—declined $14 billion to approximately $1 billion, primarily reflecting the sale of the remaining securities in Maiden Lane III LLC that was announced in August 2012. These sales resulted in a net gain of $6.6 billion for the benefit of the U.S. public. The Federal Reserve's loans to Maiden Lane LLC and Maiden Lane III LLC had been fully repaid, with interest, as of June 2012. Loans outstanding under the Term Asset-Backed Securities Loan Facility (TALF) decreased $4 billion to under $1 billion because of prepayments and maturities of TALF loans. With accumulated fees collected through TALF exceeding the amount of TALF loans outstanding, the Federal Reserve and the Treasury agreed in January to end the backstop for TALF provided by the Troubled Asset Relief Program.

The improvement in offshore U.S. dollar funding markets over the second half of 2012 led to a decline in the outstanding amount of dollars provided through the temporary U.S. dollar liquidity swap arrangements with other central banks. As of February 20, 2013, draws on the liquidity swap lines were $5 billion, down from $27 billion at the end of June 2012. On December 13, 2012, the Federal Reserve announced the extension of these arrangements through February 1, 2014.

On the liability side of the Federal Reserve's balance sheet, deposits held by depository institutions

[8] The Senior Credit Officer Opinion Survey on Dealer Financing Terms is available on the Federal Reserve Board's website at www.federalreserve.gov/econresdata/releases/scoos.htm.

Table 1. Selected components of the Federal Reserve balance sheet, 2012–13
Millions of dollars

Balance sheet item	Feb. 22, 2012	June 27, 2012	Feb. 20, 2013
Total assets	**2,935,149**	**2,865,698**	**3,096,802**
Selected assets			
Credit extended to depository institutions and dealers			
Primary credit	3	18	8
Central bank liquidity swaps	107,959	27,059	5,192
Credit extended to other market participants			
Term Asset-Backed Securities Loan Facility (TALF)	7,629	4,773	439
Net portfolio holdings of TALF LLC	825	845	507
Support of critical institutions			
Net portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC[1]	30,822	15,031	1,483
Securities held outright			
U.S. Treasury securities	1,656,581	1,666,530	1,736,456
Agency debt securities	100,817	91,484	74,613
Agency mortgage-backed securities (MBS)[2]	853,045	854,979	1,032,712
Total liabilities	**2,880,556**	**2,811,029**	**3,041,820**
Selected liabilities			
Federal Reserve notes in circulation	1,048,004	1,067,917	1,127,723
Reverse repurchase agreements	89,824	83,737	93,121
Deposits held by depository institutions	1,622,800	1,491,988	1,668,383
Of which: Term deposits	0	0	0
U.S. Treasury, general account	36,033	117,923	40,703
U.S. Treasury, Supplementary Financing Account	0	0	0
Total capital	**54,594**	**54,669**	**54,982**

Note: LLC is a limited liability company.

[1] The Federal Reserve has extended credit to several LLCs in conjunction with efforts to support critical institutions. Maiden Lane LLC was formed to acquire certain assets of The Bear Stearns Companies, Inc. Maiden Lane II LLC was formed to purchase residential mortgage-backed securities from the U.S. securities lending reinvestment portfolio of subsidiaries of American International Group, Inc. (AIG). Maiden Lane III LLC was formed to purchase multisector collateralized debt obligations on which the Financial Products group of AIG has written credit default swap contracts.

[2] Includes only MBS purchases that have already settled.

Source: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks."

increased $176 billion since June 2012, while Federal Reserve notes in circulation rose $60 billion, reflecting solid demand both at home and abroad. M2 has increased at an annual rate of about 8 percent since June 2012. Holdings of M2 assets, including its largest component, liquid deposits, remain elevated relative to what would have been expected based on historical relationships with nominal income and interest rates, likely due to investors' continued preference to hold safe and liquid assets.

As part of its ongoing program to ensure the readiness of tools to manage reserves, the Federal Reserve conducted a series of small-value reverse repurchase transactions using all eligible collateral types with its expanded list of counterparties, as well as a few small-value repurchase agreements with primary dealers. In the same vein, the Federal Reserve continued to offer small-value term deposits through the Term Deposit Facility to provide eligible institutions with an opportunity to become familiar with term deposit operations.

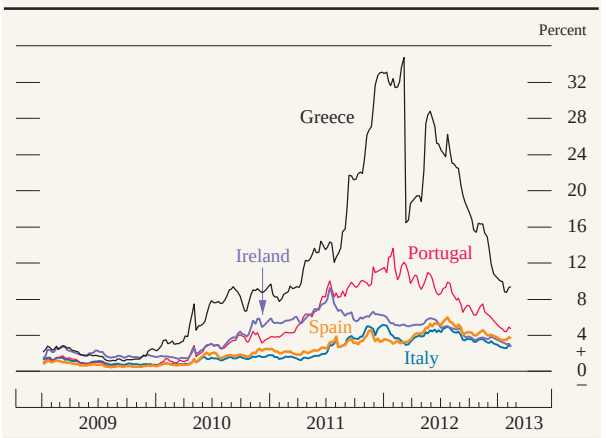
International Developments

Foreign financial market stresses abated . . .

Since mid-July, global financial market conditions have improved, on balance, in part reflecting reduced fears of a significant worsening of the European fiscal and financial crisis. Market sentiment was bolstered by a new European Central Bank (ECB) framework for purchases of sovereign debt known as Outright Monetary Transactions (OMT), agreements on continued official-sector support for Greece, progress by Spain in recapitalizing its troubled banks, and some steps toward fiscal and financial integration in Europe. Nevertheless, financial market stresses in Europe remained elevated, and policymakers still face significant challenges (see the box "An Update on the European Fiscal and Banking Crisis" on page 32 of the February 2013 *Monetary Policy Report*).

Reduced concerns about the European crisis contributed to an easing of funding conditions for European banks. Euro-area banks have relied somewhat less on

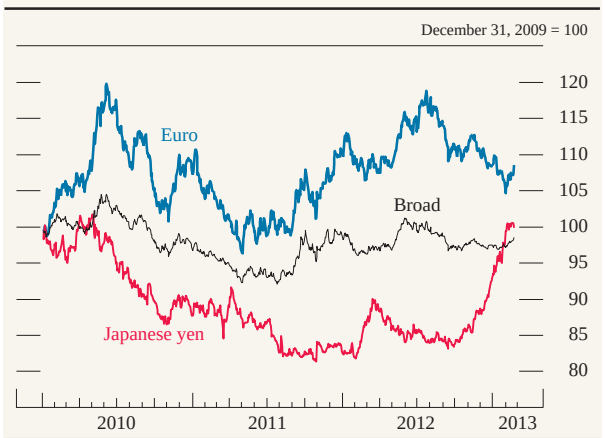
Figure 18. Government debt spreads for peripheral European economies, 2009–13



Note: The data are weekly. The last observation for each series is February 15, 2013. The spreads shown are the yields on 10-year bonds less the 10-year German bond yield.

Source: For Greece, Italy, Portugal, and Spain, Bloomberg; for Ireland, staff estimates using traded bond prices from Thomson Reuters and Bloomberg.

Figure 19. U.S. dollar exchange rate against broad index and selected major currencies, 2010–13



Note: The data, which are in foreign currency units per dollar, are daily. The last observation for each series is February 21, 2013.

Source: Federal Reserve Board, Statistical Release H.10, "Foreign Exchange Rates."

ECB funding in recent months, and use of central bank dollar liquidity swap lines declined significantly. Reflecting market views of the decreased risk of default, CDS premiums on the debt of many large banks in Europe dropped significantly, on net, especially for Italy and Spain, and euro-area bank stocks increased about 30 percent since mid-2012.

As risk sentiment improved, foreign equity indexes rose significantly: Over the second half of 2012 and into early 2013, equity indexes increased about 10 percent for the United Kingdom and Canada, about 15 percent in the euro area, and about 25 percent in Japan; equity indexes in EMEs also moved up across the board. Likewise, yields on 10-year government bonds in many countries increased moderately, though Japanese yields remained below 1 percent. Spreads of peripheral European sovereign yields over German bond yields of comparable maturity declined significantly as overall euro-area financial strains abated (figure 18). Corporate credit spreads also declined, and bond issuance picked up.

The U.S. dollar depreciated nearly 1 percent against a broad set of currencies over the second half of 2012 and into early 2013 (figure 19). Some of this depreciation reflected a reversal of flight-to-safety flows, in part stemming from the reduction in European financial stress. Indeed, the dollar depreciated 4 percent against the euro. In contrast, the dollar appreciated 17 percent against the Japanese yen. Most of this rise came in recent months, as Shinzo Abe, the newly elected prime minister of Japan, called for the Bank of Japan to employ "unlimited easing" of monetary policy to overcome deflation.

. . . but economic activity in the advanced foreign economies continued to weaken . . .

Despite the easing of financial stresses in the euro area and some improvement in global financial markets, activity in the advanced foreign economies (AFEs) continued to lose steam in the second half of 2012. The euro area fell further into recession, as fiscal austerity, rising unemployment, and depressed confidence restrained spending, especially in the countries at the center of the crisis. Real GDP also contracted in Japan, reflecting plummeting exports. In the United Kingdom, real GDP growth resumed in the third quarter, partly thanks to a temporary boost to demand from the London Olympics, but contracted again in the fourth quarter. Canadian real GDP growth remained positive but also weakened, largely owing to lower external demand. Survey indicators suggest that conditions in the AFEs improved only marginally around the turn of the year. Amid this weakness in economic activity and limited pressures from commodity prices, inflation readings for most AFEs remained contained.

Several foreign central banks expanded their balance sheets further and took other actions to support their economies. In addition to its introduction of the OMT, the ECB lowered its main policy rate. The Bank of England completed its latest round of asset

purchases, bringing its holdings to £375 billion, and began the implementation of its Funding for Lending Scheme, designed to boost lending to households and firms. The Bank of Japan took a number of steps. It introduced a new Stimulating Bank Lending Facility in October and raised its inflation target from 1 percent to 2 percent in January. In addition, it increased the size of its Asset Purchase Program by ¥30 trillion, to ¥101 trillion, by the end of 2013 and announced that purchases would be open ended beginning in 2014.

. . . even as economic growth stabilized in emerging market economies

After slowing earlier in the year, in part because of headwinds associated with Europe's troubles, economic growth in EMEs stabilized in the third quarter and appeared to pick up in the fourth. This modest pickup in economic activity in the face of continued weakness in exports to advanced economies was supported by monetary and fiscal policy stimulus.

In China, following slower growth in the first half of 2012, stimulus measures helped boost the pace of real GDP growth in the second half of the year. Improved economic conditions in China also provided a lift to other emerging Asian economies. GDP accelerated in Hong Kong and Taiwan in the third quarter; in the fourth quarter, exports and purchasing managers indexes moved higher in most of the region, and GDP growth rebounded in a number of economies.

After stagnating for about a year, economic activity in Brazil picked up in the third quarter to a still-lackluster pace of 2½ percent. Indicators for the fourth quarter suggest a further modest pickup, supported by accommodative policies. In contrast, GDP growth in Mexico continued to fall in the third quarter as the growth of U.S. manufacturing production slowed; however, Mexican growth picked up to 3 percent in the fourth quarter, boosted by services and the volatile agricultural sector.

Despite occasional spikes in food prices, inflation in most emerging Asian economies remained well contained as moderate output growth limited broader price pressures. India was a notable exception, with 12-month inflation around 10 percent in recent months. In some Latin American economies, increases in food prices had a greater effect on inflation than in Asia, leading to 12-month price increases of around 5½ percent in Brazil and around 4¼ percent in Mexico over the second half of last year.

Part 2
Monetary Policy

To promote the objectives given to it by the Congress, the Federal Open Market Committee (FOMC) provided additional monetary accommodation at its September 2012 and December 2012 meetings, by both strengthening its forward guidance regarding the federal funds rate and initiating additional asset purchases.

As discussed in Part 1, incoming economic data throughout the second half of 2012 and into 2013 indicated that economic activity was expanding at a moderate pace. Employment gains were modest, and although the unemployment rate declined somewhat over the period, it remained elevated relative to levels that almost all members of the FOMC viewed as consistent with the Committee's dual mandate. Inflation remained subdued, apart from some temporary variations that largely reflected fluctuations in commodities prices. Members generally attached an unusually high level of uncertainty to their assessments of the economic outlook. Moreover, they continued to judge that the risks to economic growth were tilted to the downside because of strains in financial markets stemming from the sovereign debt and banking situation in Europe, as well as the potential for a significant slowdown in global economic growth and for a sharper-than-anticipated fiscal contraction in the United States. With longer-term inflation expectations stable and still-considerable slack in resource markets, most members anticipated that inflation over the medium term would run at or below the Committee's longer-run goal of 2 percent.

Accordingly, to promote the FOMC's objectives of maximum employment and price stability, the Committee maintained a target range for the federal funds rate of 0 to ¼ percent throughout the second half of 2012 and provided additional monetary accommodation at its September and December meetings, by both strengthening its forward guidance regarding the federal funds rate and initiating additional purchases of longer-term securities. The Committee also completed at year-end the continuation of the program to extend the average maturity of its holdings of Treasury securities that was announced in June 2012 and continued its policy of reinvesting principal payments from its holdings of agency debt and agency-guaranteed mortgage-backed securities (MBS) into agency MBS.

Box 2. Efficacy and Costs of Large-Scale Asset Purchases

In order to provide additional monetary stimulus when short-term interest rates are near zero, the Federal Reserve has undertaken a series of large-scale asset purchase (LSAP) programs. Between late 2008 and early 2010, the Federal Reserve purchased approximately $1.7 trillion in longer-term Treasury securities, agency debt, and agency mortgage-backed securities (MBS). From late 2010 to mid-2011, a second round of LSAPs was implemented, consisting of purchases of $600 billion in longer-term Treasury securities. Between September 2011 and the end of 2012, the Federal Reserve implemented the maturity extension program and its continuation, under which it purchased approximately $700 billion in longer-term Treasury securities and sold or allowed to run off an equal amount of shorter-term Treasury securities. And in September and December 2012, the Federal Reserve announced flow-based purchases of agency MBS and longer-term Treasury securities at initial paces of $40 billion and $45 billion per month, respectively.

These purchases were undertaken in order to put downward pressure on longer-term interest rates, support mortgage markets, and help to make broader financial conditions more accommodative, thereby supporting the economic recovery. One mechanism through which asset purchases can affect financial conditions is the "portfolio balance channel," which is based on the premise that different financial assets may be reasonably close but imperfect substitutes in investors' portfolios. This assumption implies that changes in the supplies of various assets available to private investors may affect the prices or yields of those assets and the prices of assets that may be reasonably close substitutes. As a result, the Federal Reserve's asset purchases can push up the prices and lower the yields on the securities purchased and influence other asset prices as well. As investors further rebalance their portfolios, overall financial conditions should ease more generally, stimulating economic activity through channels similar to those for conventional monetary policy. In addition, asset purchases could also signal that the central bank intends to pursue a more accommodative policy stance than previously thought, thereby lowering investor expectations about the future path of the federal funds rate and putting additional downward pressure on longer-term yields.

A substantial body of empirical research finds that the Federal Reserve's asset purchase programs have significantly lowered longer-term Treasury yields.[1] More important, the effects of LSAPs do not

[1] For a selective list of references regarding the effect of the first LSAP, see the box "The Effects of Federal Reserve Asset Purchases" in Board of Governors of the Federal Reserve System (2011), ***Monetary Policy Report to the Congress*** (Washington: Board of Governors, March), www.federalreserve.gov/monetarypolicy/mpr_20110301_part2.htm. For additional references, including those that analyze the effect of the second LSAP as well as the maturity extension program, see, for example, Stefania D'Amico, William English, David López-Salido, and Edward Nelson (2012), "The Federal Reserve's Large-Scale Asset Purchase Programmes: Rationale and Effects," ***Economic Journal,*** vol. 122 (November), pp. F415–45; Arvind Krishnamurthy and Annette Vissing-Jorgensen (2011), "The Effects of Quantitative Easing on Interest Rates: Channels and Implications for Policy," Brookings Papers on Economic Activity, Fall, pp. 215–65; Canlin Li and Min Wei (2012), "Term Structure Modelling with Supply Factors and the Federal Reserve's Large Scale Asset Purchase Programs," Finance and Economics Discussion Series 2012-37 (Washington: Board of Governors of the Federal Reserve System, May), www.federalreserve.gov/pubs/feds/2012/201237/201237pap.pdf, and references in those studies. For work that specifically emphasizes the signaling channel of LSAPs, see, for example, Michael D. Bauer and Glenn D. Rudebusch (2012), "The Signaling Channel for Federal Reserve Bond Purchases," Working Paper Series 2011-21 (San Francisco: Federal Reserve Bank of San Francisco, August), www.frbsf.org/publications/economics/papers/2011/wp11-21bk.pdf. For work that focuses on the effects on credit default risk, see, for example, Simon Gilchrist and Egon Zakrajšek (2012), "The Impact of the Federal Reserve's Large-

(continued on next page)

At the September 12–13 meeting, the Committee agreed that the outlook called for additional monetary accommodation, and that such accommodation should be provided by both strengthening its forward guidance regarding the federal funds rate and initiating additional purchases of agency MBS at a pace of $40 billion per month. Along with the ongoing purchases of $45 billion per month of longer-term Treasury securities under the maturity extension program announced in June, these purchases increased the Committee's holdings of longer-term securities by about $85 billion each month through the end of the year. These actions were taken to put downward pressure on longer-term interest rates, support mortgage markets, and help make broader financial conditions more accommodative (see box 2, "Efficacy and Costs of Large-Scale Asset Purchases"). The Committee agreed that it would closely monitor incoming information on economic and financial developments in coming months, and that if the outlook for the labor market did not improve substantially, it would continue its purchases of agency MBS, undertake additional asset purchases, and employ its other policy tools as appropriate until such improvement is achieved in a context of price stability. The Committee also agreed that in determining the size, pace, and composition of its asset purchases, it would, as always, take appropriate account of the likely efficacy

Box 2. Efficacy and Costs of Large-Scale Asset Purchases—*continued*

seem to be restricted to Treasury yields. In particular, LSAPs have been found to be associated with significant declines in MBS yields and corporate bond yields as well as with increases in equity prices.

While there seems to be substantial evidence that LSAPs have lowered longer-term yields and eased broader financial conditions, obtaining accurate estimates of the effects of LSAPs on the macroeconomy is inherently difficult, as the counterfactual case—how the economy would have performed without LSAPs—cannot be directly observed. However, econometric models can be used to estimate the effects of LSAPs on the economy under the assumption that the economic effects of the easier financial conditions that are induced by LSAPs are similar to those that are induced by conventional monetary policy easing. Model simulations conducted at the Federal Reserve have generally found that asset purchases provide a significant boost to the economy. For example, a study based on the Federal Reserve Board's FRB/US model estimated that, as of 2012, the first two rounds of LSAPs had raised real gross domestic product almost 3 percent and increased private payroll employment by about 3 million jobs, while lowering the unemployment rate about 1.5 percentage points, relative to what would have been expected otherwise. These simulations also suggest that the program materially reduced the risk of deflation.[2]

Of course, all model-based estimates of the macroeconomic effects of LSAPs are subject to considerable statistical and modeling uncertainty and thus should be treated with caution. Indeed, while some other studies also report significant macroeconomic effects from asset purchases, other research finds smaller effects.[3] Nonetheless, a balanced reading of the evidence supports the conclusion that LSAPs have provided meaningful support to the economic recovery while mitigating deflationary risks.

Scale Asset Purchase Programs on Default Risk," paper presented at "Macroeconomics and Financial Intermediation: Directions since the Crisis," a conference held at the National Bank of Belgium, Brussels, December 9–10, 2011. Although the majority of research on the effects of LSAPs appears to support a significant influence on asset prices, the overall result of such programs is generally difficult to estimate precisely: Event studies can make only sharp predictions on the effects within a relatively short time horizon, whereas approaches based on time-series models tend to face challenges in isolating the effects of the programs from other economic developments. For a more skeptical view on the effect of LSAPs, see, for example, Daniel L. Thornton (2012), "Evidence on the Portfolio Balance Channel of Quantitative Easing," Working Paper Series 2012-015A (St. Louis: Federal Reserve Bank of St. Louis, October), http://research.stlouisfed.org/wp/2012/2012-015.pdf.

[2] These results are discussed further in Hess Chung, Jean-Philippe Laforte, David Reifschneider, and John C. Williams (2012), "Have We Underestimated the Likelihood and Severity of Zero Lower Bound Events?" ***Journal of Money, Credit and Banking***, vol. 44 (February supplement), pp. 47–82.

[3] For studies reporting significant macroeconomic effects from asset purchases, see, for example, Jeffrey C. Fuhrer and Giovanni P. Olivei (2011), "The Estimated Macroeconomic Effects of the Federal Reserve's Large-Scale Treasury Purchase Program," Public Policy Briefs 11-02 (Boston: Federal Reserve Bank of Boston, April), www.bos.frb.org/economic/ppb/2011/ppb112.pdf; and Christiane Baumeister and Luca Benati (2012), "Unconventional Monetary Policy and the Great Recession: Estimating the Macroeconomic Effects of a Spread Compression at the Zero Lower Bound," Working Papers 2012-21 (Ottawa: Bank of Canada, July), www.bankofcanada.ca/wp-content/uploads/2012/07/wp2012-21.pdf. Also, the Bank of England has implemented LSAPs similar to those undertaken by the Federal Reserve, and its staff research finds that the effects appear to be quantitatively similar to those in the United States.

For studies reporting smaller effects from asset purchases, see, for example, Michael T. Kiley (2012), "The Aggregate Demand Effects of Short- and Long-Term Interest Rates," Finance and Economics Discussion Series 2012-54 (Washington: Board of Governors of the Federal Reserve System, August), www.federalreserve.gov/pubs/feds/2012/201254/201254pap.pdf; and Han Chen, Vasco Curdia, and Andrea Ferrero (2012), "The Macroeconomic Effects of Large-Scale Asset Purchase Programmes," ***Economic Journal***, vol. 122 (November), pp. F289–315.

and costs of such purchases. This flexible approach was seen as allowing the Committee to tailor its policy over time in response to incoming information while clarifying its intention to improve labor market conditions, thereby enhancing the effectiveness of the action by helping to bolster business and consumer confidence.

The Committee also modified its forward guidance regarding the federal funds rate at the September meeting, noting that exceptionally low levels for the federal funds rate were likely to be warranted at least through mid-2015, longer than had been indicated in previous FOMC statements. Moreover, the Committee stated its expectation that a highly accommodative stance of monetary policy would remain appropriate for a considerable time after the economic recovery strengthens. The new language was meant to clarify that the Committee's anticipation that exceptionally low levels for the federal funds rate were likely to be warranted at least through mid-2015 did not reflect an expectation that the economy would remain weak, but rather reflected the Committee's determination to support a stronger economic recovery.

At the December 11–12 meeting, members judged that continued provision of monetary accommoda-

Box 2. Efficacy and Costs of Large-Scale Asset Purchases—*continued*

The potential benefits of LSAPs must be considered alongside their possible costs. One potential cost of conducting additional LSAPs is that the operations could lead to a deterioration in market functioning or liquidity in markets where the Federal Reserve is engaged in purchasing. More specifically, if the Federal Reserve becomes too dominant a buyer in a certain market, trading among private participants could decrease enough that market liquidity and price discovery become impaired. As the global financial system relies on deep and liquid markets for U.S. Treasury securities, significant impairment of this market would be especially costly; impairment of this market could also impede the transmission of monetary policy. Although the large volume of the Federal Reserve's purchases relative to the size of the markets for Treasury or agency securities could ultimately become an issue, few if any problems have been observed in those markets thus far.

A second potential cost of LSAPs is that they may undermine public confidence in the Federal Reserve's ability to exit smoothly from its accommodative policies at the appropriate time. Such a reduction in confidence might increase the risk that long-term inflation expectations become unanchored. The Federal Reserve is certainly aware of these concerns and accordingly has placed great emphasis on developing the necessary tools to ensure that policy accommodation can be removed when appropriate. For example, the Federal Reserve will be able to put upward pressure on short-term interest rates at the appropriate time by raising the interest rate it pays on reserves, using draining tools like reverse repurchase agreements or term deposits with depository institutions, or selling securities from the Federal Reserve's portfolio. To date, the expansion of the balance sheet does not appear to have materially affected long-term inflation expectations.

A third cost to be weighed is that of risks to financial stability. For example, some observers have raised concerns that, by driving longer-term yields lower, nontraditional policies could induce imprudent risk-taking by some investors. Of course, some risk-taking is a necessary element of a healthy economic recovery, and accommodative monetary policiescould even serve to reduce the risk in the system by strengthening the overall economy. Nonetheless, the Federal Reserve has substantially expanded its monitoring of the financial system and modified its supervisory approach to take a more systemic perspective.

There has been limited evidence so far of excessive buildups of duration, credit risk, or leverage, but the Federal Reserve will continue both its careful oversight and its implementation of financial regulatory reforms designed to reduce systemic risk.[4]

The Federal Reserve has remitted substantial income to the Treasury from its earnings on securities, totaling some $290 billion since 2009. However, if the economy continues to strengthen and policy accommodation is withdrawn, remittances will likely decline in coming years. Indeed, in some scenarios, particularly if interest rates were to rise quickly, remittances to the Treasury could be quite low for a time.[5] Even in such scenarios, however, average annual remittances over the period affected by the Federal Reserve's purchases are highly likely to be greater than the pre-crisis norm, perhaps substantially so. Moreover, if monetary policy promotes a stronger recovery, the associated reduction in the federal deficit would far exceed any variation in the Federal Reserve's remittances to the Treasury. That said, the Federal Reserve conducts monetary policy to meet its congressionally mandated objectives of maximum employment and price stability and not primarily for the purpose of turning a profit for the U.S. Department of the Treasury.

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[4] For additional details, see the box "The Federal Reserve's Actions to Foster Financial Stability" on page 30 of the February 2013 ***Monetary Policy Report***.

[5] For additional details, see Seth B. Carpenter, Jane E. Ihrig, Elizabeth C. Klee, Daniel W. Quinn, and Alexander H. Boote (2013), "The Federal Reserve's Balance Sheet and Earnings: A primer and projections," Finance and Economics Discussion Series 2013-01 (Washington: Board of Governors of the Federal Reserve System, January), www.federalreserve.gov/pubs/feds/2013/201301/201301abs.html.

tion was warranted in order to support further progress toward the Committee's goals of maximum employment and price stability. The Committee judged that, following the completion of the maturity extension program at the end of the year, such accommodation should be provided in part by continuing to purchase agency MBS at a pace of $40 billion per month and by purchasing longer-term Treasury securities at a pace initially set at $45 billion per month. The Committee also decided that, starting in January, it would resume rolling over maturing Treasury securities at auction.

With regard to its forward rate guidance, the Committee decided to indicate in the statement that it expects the highly accommodative stance of monetary policy to remain appropriate for a considerable time after the asset purchase program ends and the economic recovery strengthens. In addition, it replaced the date-based guidance for the federal

funds rate with numerical thresholds linked to the unemployment rate and projected inflation. In particular, the Committee indicated that it expected that the exceptionally low range for the federal funds rate would be appropriate at least as long as the unemployment rate remains above 6½ percent, inflation between one and two years ahead is projected to be no more than ½ percentage point above the Committee's 2 percent longer-run goal, and longer-term inflation expectations continue to be well anchored. These thresholds were seen as helping the public to more readily understand how the likely timing of an eventual increase in the federal funds rate would shift in response to unanticipated changes in economic conditions and the outlook. Accordingly, thresholds could increase the probability that market reactions to economic developments would move longer-term interest rates in a manner consistent with the Committee's assessment of the likely future path of short-term interest rates. The Committee indicated in its December statement that it viewed the economic thresholds, at least initially, as consistent with its earlier, date-based guidance. The new language noted that the Committee would also consider other information when determining how long to maintain the highly accommodative stance of monetary policy, including additional measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial developments.

At the conclusion of its January 29–30 meeting, the Committee made no changes to its target range for the federal funds rate, its asset purchase program, or its forward guidance for the federal funds rate. The Committee stated that, with appropriate policy accommodation, it expected that economic growth would proceed at a moderate pace and the unemployment rate would gradually decline toward levels the Committee judges consistent with its dual mandate. It noted that strains in global financial markets had eased somewhat, but that it continued to see downside risks to the economic outlook. The Committee continued to anticipate that inflation over the medium term likely would run at or below its 2 percent objective.

Monetary Policy Report of July 2012

Part 1
Overview: Monetary Policy and the Economic Outlook

The pace of economic recovery appears to have slowed during the first half of this year, with real gross domestic product (GDP) likely having risen at only a modest pace. In the labor market, the rate of job gains has diminished recently, and, following a period of improvement, the unemployment rate has been little changed at an elevated level since January. Meanwhile, consumer price inflation over the first five months of 2012 was lower, on net, than in 2011, and longer-term inflation expectations have remained stable. A number of factors will likely restrain economic growth in the period ahead, including weak economic growth abroad and a fiscal environment that looks set to become less accommodative. Uncertainty about these factors may also restrain household and business spending. In addition, credit conditions are likely to improve only gradually, as are still-elevated inventories of vacant and foreclosed homes. Moreover, the possibility of a further material deterioration of conditions in Europe, or of a particularly severe change in U.S. fiscal conditions, poses significant downside risks to the outlook.

Against this backdrop, the Federal Open Market Committee (FOMC) took steps to provide additional monetary policy accommodation during the first half of 2012. In particular, the Committee changed its forward guidance regarding the period over which it anticipates the federal funds rate to remain at exceptionally low levels and announced a continuation of its maturity extension program (MEP) through the end of the year. These policies put downward pressure on longer-term interest rates and made broad financial conditions more accommodative than they would otherwise be, thereby supporting the economic recovery.

The European fiscal and banking crisis has remained a major source of strain on global financial markets. Early in the year, financial stresses within the euro area moderated somewhat in light of a number of policy actions: The European Central Bank (ECB) provided ample liquidity to the region's banks, euro-area leaders agreed to increase the lending capacity of their rescue facilities, and a new assistance package for Greece was approved following a restructuring of Greek sovereign debt. However, tensions within the euro area increased again in the spring as political uncertainties rekindled fears of a disorderly Greek exit from the euro area and mounting losses at Spanish banks renewed questions about the sustainability of Spain's sovereign debt and the resiliency of the euro-area banking system. As yields on the government debt of Spain and other vulnerable European countries rose toward new highs, euro-area leaders responded with additional policy measures in late June, including increasing the flexibility of the region's financial backstops and making progress toward greater cooperation in the supervision and, as necessary, recapitalization of Europe's banks. Many critical details, however, remain to be worked out against a backdrop of continued economic weakness and political strain.

Financial markets were somewhat volatile over the first half of 2012 mostly due to fluctuating views regarding the crisis in the euro area and the likely pace of economic growth at home and abroad. As investors' concerns about the situation in Europe eased early in the year and with data releases generally coming in to the upside of market expectations, broad equity price indexes rose and risk spreads in several markets narrowed. Subsequently, however, market participants pulled back from riskier assets amid renewed concerns about the euro area and evidence of slowing global economic growth. Reflecting these developments but also owing to the lengthening of the forward rate guidance, continuation of the MEP, and increased expectations by market participants of additional balance sheet actions by the Federal Reserve, yields on longer-term Treasury securities and corporate debt as well as rates on residential mortgages declined, on net, and reached historically low levels at times during the first half of the year. On balance since the beginning of the year, broad equity prices rose as corporate earnings remained fairly resilient through the first quarter.

After rising at an annual rate of 2½ percent in the second half of 2011, real GDP increased at a 2 percent pace in the first quarter of 2012, and available indicators point to a still smaller gain in the second quarter. Private spending continues to be weighed down by a range of factors, including uncertainty about developments in Europe and the path for U.S. fiscal policy, concerns about the strength and sustainability of the recovery, the still-anemic state of the housing market, and the difficulties that many would-be borrowers continue to have in obtaining credit. Such considerations have made some businesses more cautious about increasing investment or

materially expanding their payrolls and have led households to remain quite pessimistic about their income and employment prospects. Smoothing through the effects of unseasonably warm weather this past winter, activity in the housing sector appears to have been a little stronger so far this year. However, the level of housing activity remains low and continues to be held down by tight mortgage credit. Meanwhile, the drag on real GDP growth from government purchases is likely to persist, as budgets for state and local governments remain strained and federal fiscal policy is likely to become more restrictive in 2013.

In the labor market, gains in private payroll employment averaged 225,000 jobs per month in the first quarter, up from 165,000 jobs per month in the second half of last year, but fell back in the second quarter to just 90,000 jobs per month. Although the slowing in the pace of net job creation may have been exaggerated by issues related to swings in the weather and to seasonal adjustment difficulties associated with the timing of the sharpest job losses during the recession, those factors do not appear to fully account for the slowdown. The unemployment rate declined from about 9 percent last summer to a still-elevated 8¼ percent in January, and it has remained close to that level since then. Likewise, long-term joblessness has shown little net improvement this year, with the share of those unemployed persons who have been jobless for six months or longer remaining around 40 percent. Further meaningful reductions in unemployment are likely to require some pickup in the pace of economic activity.

Consumer price inflation moved down, on net, during the first half of the year. The price index for overall personal consumption expenditures (PCE) rose rapidly in the first three months of the year, reflecting large increases in oil prices, but inflation turned down in the spring when oil prices more than reversed their earlier run-ups. In all, the PCE price index increased at an annual rate of about 1½ percent over the first five months of the year, compared with a rise of 2½ percent during 2011. Excluding food and energy, consumer prices rose at about a 2 percent rate over the first five months of the year, close to the pace recorded over 2011. In addition to the net decline in crude oil prices over the first half of the year, factors contributing to low consumer price inflation this year include the deceleration of non-oil import prices in the latter part of 2011, subdued labor costs associated with the weak labor market, and stable inflation expectations.

In the household sector, credit conditions have generally remained tight for all but highly rated borrowers; among other factors, this tightness reflects the uncertain economic outlook and the high unemployment rate. Total mortgage debt decreased further as the pace of mortgage applications to purchase a new home was sluggish. Refinancing activity increased over the course of the second quarter but remained below levels reached in previous refinancing booms despite historically low mortgage interest rates. The increase in refinancing was partially attributable to recent enhancements made to the Home Affordable Refinance Program that appeared to boost refinancing activity somewhat for borrowers with underwater mortgages—that is, for those who owed more on their mortgages than their homes were worth. Consumer credit expanded moderately mainly because of growth in federal student loans.

Firms in the nonfinancial corporate sector continued to raise funds at a generally moderate pace in the first half of the year. Those with access to capital markets took advantage of low interest rates to refinance existing debt. As a result, corporate debt issuance was solid over the first part of the year, although issuance of speculative-grade corporate bonds weakened notably in June as investors pulled back from riskier assets. Commercial and industrial loans on the books of banks expanded briskly, but borrowing conditions for small businesses have improved more slowly than have those for larger firms. Financing conditions for commercial real estate stayed relatively restrictive, and fundamentals in that sector showed few signs of improvement.

Market sentiment toward major global banks fluctuated in the first half of 2012. In March, the release of the results from the Comprehensive Capital Analysis and Review, which investors interpreted as indicating continued improvements in the health of domestic banks, provided a significant boost to the equity prices of U.S. financial institutions. Those gains partially reversed when market sentiment worsened in May, driven in large part by concerns about Europe and potential spillovers to the United States and its financial institutions. On balance, however, equity prices of banks rose significantly from relatively low levels at the start of the year. An index of credit default swap spreads for the large bank holding companies declined about 60 basis points, but those spreads remained at a high level. Despite the swings in market sentiment about global banking organizations, conditions in unsecured short-term dollar funding markets were fairly stable in the first half of

2012. European financial institutions have reduced their demand for dollar funding over recent quarters, and general funding pressures apparently were alleviated by the ECB's longer-term refinancing operations.

With the Committee anticipating only slow progress in bringing unemployment down toward levels that it judges to be consistent with its dual mandate and strains in global financial markets continuing to pose significant downside risks to the economic outlook, the FOMC took additional steps to augment the already highly accommodative stance for monetary policy during the first half of 2012. In January, the Committee modified its forward rate guidance, noting that economic conditions were likely to warrant exceptionally low levels for the federal funds rate at least through late 2014. And in June, the FOMC decided to continue the MEP until the end of the year rather than completing the program at the end of June as previously scheduled.

The June Summary of Economic Projections is presented in Part 4 of the July 2012 *Monetary Policy Report* on pages 43–55 (it is also included in the "Minutes" section of this annual report on page 203). At the time of the Committee's June meeting, FOMC participants (the 7 members of the Board of Governors and the presidents of the 12 Federal Reserve Banks) saw the economy expanding at a moderate pace over coming quarters and then picking up gradually under the assumption of appropriate monetary policy. Most participants marked down their projections for economic growth in 2012 and 2013 relative to what they anticipated in January and April largely as a result of the adverse developments in Europe and the associated effects on financial markets. Moreover, headwinds from the fiscal and financial situation in Europe, from the still-depressed housing market, and from tight credit for some borrowers were cited as likely to hold back the pace of economic expansion over the forecast period.

FOMC participants also projected slower progress in reducing unemployment than they had anticipated in January and April. Committee participants' projections for the unemployment rate had a central tendency of 8.0 to 8.2 percent in the fourth quarter of this year and then declined to 7.0 to 7.7 percent at the end of 2014; those levels are still generally well above participants' estimates of the longer-run normal rate of unemployment. Meanwhile, participants' projections for inflation had a central tendency of 1.2 to 1.7 percent for 2012 and 1.5 to 2.0 percent for both 2013 and 2014; these projections are lower, particularly in 2012, than participants reported in January and April, in part reflecting the effects of the recent drop in crude oil prices.

With the unemployment rate expected to remain elevated over the projection period and inflation generally expected to be at or under the Committee's 2 percent objective, most participants expected that, under their individual assessments of appropriate monetary policy, the federal funds rate would remain extraordinarily low for some time. In particular, 11 of the 19 participants placed the target federal funds rate at 0.75 percent or lower at the end of 2014; only 4 of them saw the appropriate rate at 2 percent or higher. All participants reported levels for the appropriate target federal funds rate at the end of 2014 that were well below their estimates of the level expected to prevail in the longer run. In addition to projecting only slow progress in bringing down unemployment, most participants saw the risks to the outlook as weighted mainly toward slower growth and higher unemployment. In particular, participants noted that strains in global financial markets, the prospect of reduced fiscal accommodation in the United States, and a general slowdown in global economic growth posed significant risks to the recovery and to a further improvement in labor market conditions.

Part 2
Recent Economic and Financial Developments

Economic activity appears to have expanded at a somewhat slower pace over the first half of 2012 than in the second half of 2011. After rising at an annual rate of 2½ percent in the second half of 2011, real gross domestic product (GDP) increased at a 2 percent pace in the first quarter of 2012, and available indicators point to a still smaller gain in the second quarter. An important factor influencing economic and financial developments this year is the unfolding fiscal and banking crisis in Europe. Indeed, the economic outlook for the second half of 2012 depends crucially on the extent to which current and potential disruptions in Europe directly reduce U.S. net exports and indirectly curtail private domestic spending through adverse spillover effects on U.S. financial markets and institutions and on household and business confidence. At the same time, the economy continues to face other headwinds, including restricted access to some types of household and small business credit, a still sizable inventory of vacant homes, and less-accommodative fiscal policy.

The labor market remains weak. Private payroll employment stepped up early in the year but then slowed in the second quarter (though those moves may have been exaggerated by issues related to swings in the weather and to seasonal adjustment), and the unemployment rate hovered around 8¼ percent after a significant decrease over the latter months of 2011 and in January. Meanwhile, consumer price inflation, in part buffeted by sharp swings in the price of gasoline, stepped up early in the year but subsequently turned down, and longer-term inflation expectations remained stable.

Financial markets were somewhat volatile over the first half of 2012 mostly due to fluctuating views regarding the crisis in the euro area and the likely pace of economic growth at home and abroad. Yields on longer-term Treasury securities have declined significantly, reflecting greater monetary policy accommodation, the weaker outlook, and safe-haven flows. Broad indexes of U.S. equity prices rose, on net, risk spreads on corporate bonds were generally unchanged or slightly lower, and unsecured short-term dollar funding markets were fairly stable. Debt issuance by U.S. corporations was solid, and bank lending to larger firms was brisk. In the household sector, consumer credit expanded and mortgage refinancing activity increased modestly, reflecting the decline in mortgage rates to historically low levels as well as recent changes to the Home Affordable Refinance Program (HARP).

Domestic Developments

The Household Sector

Consumer Spending and Household Finance

After rising at an annual rate of about 2 percent in the second half of 2011, real personal consumption expenditures (PCE) increased 2½ percent in the first quarter, but available information suggests that real PCE decelerated some in the second quarter. The first-quarter increase in spending occurred across a broad array of goods and services with the notable exception of outlays for energy services, which were held down by reduced demand for heating because of the unseasonably warm winter. Spending on energy services appears to have rebounded in the second quarter as the temperate winter gave way to a relatively more typical spring. In contrast, the pace of motor vehicle sales edged down in the second quarter, and reports on retail sales suggest that consumer outlays on a wide range of items rose less rapidly than they did in the first quarter. The moderate rise in consumer spending over the first half of the year occurred against the backdrop of the considerable economic challenges still facing many households, including high unemployment, sluggish gains in employment, tepid growth in income, still-stressed balanced sheets, tight access to some types of credit, and lingering pessimism about job and income prospects. With increases in spending outpacing growth in income so far this year, the personal saving rate continued to decline, on net, though it remained well above levels that prevailed before the recession.

Aggregate real disposable personal income (DPI)—personal income less personal taxes, adjusted for changes in prices—rose more rapidly over the first five months of the year than it did in 2011, in part because of declining energy prices. The wage and salary component of real DPI, which reflects both the number of hours worked and average hourly wages adjusted for inflation, rose at an annual rate of nearly 1¼ percent through May of this year after having increased at a similar pace in 2011. The increase in real wage and salary income so far in 2012 is largely attributable to the modest improvement in employment and hours worked; real average hourly earnings are little changed thus far this year.

The ratio of household net worth to income, in the aggregate, moved up slightly further in the first quarter, reflecting increases in both house prices and equity prices. Taking a longer view, this ratio has been on a slow upward trend since 2009, and while it remains far below levels seen in the years leading up to the recession, it is about equal to its average over the past 20 years. Household-level data through 2010 indicate that wealth losses were proportionately larger for the middle portion of the wealth distribution—not a surprising result, given the relative importance of housing among the assets of those households. Meanwhile, indicators of consumer sentiment are above their lows from last summer but have yet to return to pre-recession levels.

Household debt—the sum of mortgage and consumer debt—edged down again in the first quarter of 2012 as the continued contraction in mortgage debt was almost offset by solid expansion in consumer credit. With the reduction in household debt, low level of most interest rates, and modest growth of income, the debt-service ratio—the aggregate required principal and interest payments on existing household debt relative to income—decreased further, and, at the end of the first quarter, it stood at a level last seen in 1994.

Consumer credit expanded at an annual rate of about 6¼ percent in the first five months of 2012, driven by an increase in nonrevolving credit. This component accounts for about two-thirds of total consumer credit and primarily consists of auto and student loans. The rise in nonrevolving credit so far this year was primarily due to the strength in student loans, which were almost entirely originated and funded by the federal government. Meanwhile, auto loans maintained a steady pace of increase. Revolving consumer credit (primarily credit card lending) remained much more subdued in the first five months of the year in part because nonprime borrowers continued to face tight underwriting standards. Overall, the increase in consumer credit is consistent with recent responses to the Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS) indicating that demand had strengthened and standards had eased, on net, for all consumer loan categories.[1]

Interest rates on consumer loans generally edged down in the first half of 2012, and spreads on these loans relative to Treasury securities of comparable maturity held fairly steady. In particular, interest rates on new auto loans continued to be quite low. However, the spread of rates on credit card loans relative to the two-year Treasury yield has remained wide since the end of 2008 in part because of pricing adjustments made in response to provisions included in the Credit Card Accountability Responsibility and Disclosure Act of 2009.[2]

Aggregate indicators of consumer credit quality improved further in the first quarter of 2012. The delinquency rate on credit card loans registered its lowest level since the series began in 1991. The recent improvement importantly reflects an ongoing compositional shift in total credit card balances toward borrowers with higher credit scores, due in part to tighter lending standards. Charge-offs on credit card loans also declined, reaching levels last seen at the end of 2007. Delinquencies and charge-offs on nonrevolving consumer loans at commercial banks also edged lower, to levels slightly below their historical averages. In addition, the delinquency rate on auto loans at finance companies decreased slightly to a level that is near the middle of its historical range.

Issuance of consumer asset-backed securities (ABS) in the first half of 2012 exceeded issuance for the same period in 2011 but was still below pre-crisis levels. Issuances of securities backed by auto loans dominated the market for most of the first half, while student loan ABS issuance was about the same as in the past two years. In contrast, issuance of credit card ABS remained weak for most of the first half of 2012 as growth of credit card loans continued to be somewhat subdued and most major banks have chosen to fund such loans on their balance sheets. Yields on ABS and their spreads over comparable-maturity swap rates were little changed, on net, over the first half of 2012 and held steady in the low ranges that have prevailed since early 2010.

Housing Activity and Housing Finance

Activity in the housing sector appears to be on a gradual uptrend, albeit from a very depressed level. Sales of new and existing homes have risen so far this year, likely supported by the low level of house prices and by low interest rates for conventional mortgages. Nonetheless, the factors that have restrained demand for owner-occupied housing in recent years have yet to dissipate. Many potential buyers are reluctant to purchase homes because of ongoing concerns about future income, employment, and the direction of house prices. In addition, tight mortgage finance conditions preclude many borrowers from obtaining mortgage credit. Much of the home purchase demand that does exist has been channeled to the abundant stock of vacant houses, thereby limiting the response of new construction activity to such expansion of demand as has occurred. Given the large numbers of properties still in, or at risk of being in, foreclosure, this overhang seems likely to continue to weigh on new construction activity for some time.

Despite these factors, housing starts have risen gradually so far this year. From January to May, single-family houses were started at an annual rate of about 495,000 units, up from 450,000 in the second half of 2011 but less than half of the average pace of the past 50 years. Although the unseasonably warm winter may have contributed to the increase, the underlying pace of activity likely rose some as well. Indeed, data on single-family permit issuance, which is less likely to be affected by weather, also moved up a little from its level late last year. In the multifamily sector, demand has remained robust, as many individuals and families that are unable or unwilling to purchase homes have sought out rental units. As a result, the vacancy rate for rental housing has fallen

[1] The SLOOS is available on the Federal Reserve Board's website at www.federalreserve.gov/boarddocs/SnLoanSurvey.

[2] The act includes some provisions that place restrictions on issuers' ability to impose certain fees and to engage in risk-based pricing.

to its lowest level since 2002, putting upward pressure on rents and spurring new construction. Over the first five months of the year, new multifamily projects were started at an average annual rate of about 225,000 units, up from about 200,000 in the second half of 2011 but still below the 300,000-unit rate that prevailed for much of the previous decade.

House prices, as measured by several national indexes, turned up in recent months after edging down further, on balance, in 2011. For example, the CoreLogic repeat-sales index rose 4 percent (not an annual rate) over the first five months of the year. This recent improvement notwithstanding, this measure of house prices remains 30 percent below its peak in 2006. The same factors that are restraining single-family housing construction also continue to weigh on house prices, including the large inventory of vacant homes, tight mortgage credit conditions, and lackluster demand.

Mortgage rates declined to historically low levels during the first half of 2012. While significant, the drop in mortgage rates generally did not keep pace with the declines in the yields on Treasury and mortgage-backed securities (MBS), probably reflecting still-elevated risk aversion and some capacity constraints among mortgage originators. Despite the drop in mortgage rates, many potentially creditworthy borrowers have had difficulty obtaining mortgages or refinancing because of tight standards and terms (see the box "The Supply of Mortgage Credit" on pages 10–11 of the July 2012 *Monetary Policy Report*). Another factor impeding the ability of many borrowers to refinance, or to sell their home and purchase a new one, has been the prevalence of underwater mortgages. Overall, refinancing activity increased in the second quarter but was still less than might be expected, given the level of interest rates, and the pace of mortgage applications for home purchases remained sluggish. However, refinancing activity attributed to recent changes to the HARP—one of which eliminated caps on loan-to-value ratios for those who were refinancing mortgages already owned by government-sponsored enterprises (GSEs)—has picked up over the first half of the year.

Indicators of credit quality in the residential mortgage sector continued to reflect strains on homeowners confronting depressed home values and high unemployment. The fraction of current prime mortgages becoming delinquent remained at a high level but inched lower, on net, over the first five months of the year, likely reflecting in part stricter underwriting of more-recent originations. Additionally, measures of late-stage mortgage delinquency, such as the inventory of properties in foreclosure, continued to linger near the peak in the first quarter of 2012.

Gross issuance of MBS guaranteed by GSEs remained moderate in the first half of 2012, consistent with the slow pace of mortgage originations. In contrast, the securitization market for mortgage loans not guaranteed by a housing-related GSE or the Federal Housing Administration—an important source of funding before the crisis for prime-grade mortgages that exceeded the conforming loan size limit—continued to be essentially closed.

The Business Sector

Fixed Investment

Real business spending for equipment and software (E&S) rose at an annual rate of 3½ percent in the first quarter of 2012 after having risen at a double-digit pace, on average, in the second half of 2011. The slowdown in E&S investment growth in the first quarter was fairly widespread across categories of equipment and software. This deceleration in E&S spending along with the recent softening in indicators of investment demand, such as surveys of business sentiment and capital spending plans, may signal some renewed caution on the part of businesses, perhaps related to the situation in Europe.

After posting robust gains throughout much of 2011, investment in nonresidential structures edged up in the first quarter of this year. A drop in outlays for drilling and mining structures was probably related to the low level of natural gas prices. Outside of the drilling and mining segments, investment increased at an annual rate of 7 percent in the first quarter, broadly similar to its gain in the fourth quarter of 2011. Although financing conditions for existing properties have eased some, they remain tight; moreover, high vacancy rates, low commercial real estate prices, and difficult financing conditions for new construction will likely weigh on building activity for the foreseeable future.

Inventory Investment

Firms accumulated inventories in the first quarter at about the same pace as in the fourth quarter of last year. Motor vehicle inventories surged in the first quarter, as automakers rebuilt dealers' inventories to comfortable levels after natural disasters disrupted global supply chains in 2011. Stockbuilding outside of motor vehicles moderated somewhat from the

fourth-quarter pace of accumulation. Inventory-to-sales ratios for most industries covered by the Census Bureau's book-value data, as well as surveys of private inventory satisfaction and plans, generally suggest that stocks are fairly well aligned with the pace of sales.

Corporate Profits and Business Finance

Aggregate operating earnings per share for S&P 500 firms rose about 7 percent at a seasonally adjusted quarterly rate in the first quarter of 2012. Financial firms accounted for most of the gain, while profits for firms in the nonfinancial sector were about unchanged from the high level seen in the fourth quarter of last year. As of the end of June, private-sector analysts projected moderate earnings growth through the end of the year.

The ratio of corporate profits to gross national product in the first quarter of 2012 hovered around its historical high, and cash flow remained solid. In addition, the ratio of liquid assets to total assets continued to be near its highest level in more than 20 years, and the share of corporate cash flow needed to cover interest expenses remained low. Against this backdrop of generally strong corporate earnings and balance sheets, credit rating upgrades continued to outpace downgrades for nonfinancial corporations, and the bond default rate for nonfinancial firms remained low in the first half of the year. The delinquency rate on commercial and industrial (C&I) loans decreased further in the first quarter and approached the lower end of its historical range.

With corporate credit quality remaining robust, nonfinancial firms were able to continue to raise funds at a generally strong pace in the first half of the year. So far this year, nonfinancial commercial paper (CP) outstanding was about unchanged. Bond issuance by both investment- and speculative-grade nonfinancial firms was strong over the first four months of the year, but speculative-grade issuance weakened some in May and notably further in June. The institutional segment of the syndicated leveraged loan market remained solid in the first half of the year, reportedly supported by continued demand for loans from nonbank investors, such as pension plans and insurance companies. In addition, the volume of newly established collateralized loan obligations so far this year has already surpassed 2011 levels. Much of the bond and loan issuance was reportedly used to refinance, and likely also to extend the maturity of, existing debt, given the low level of long-term interest rates.

C&I loans outstanding at commercial banking organizations in the United States expanded at a brisk pace in the first half of 2012 despite declines in the holdings of such loans by U.S. branches and agencies of European institutions. The strength is consistent with a relatively large number of banks, on balance, that have reported stronger demand for C&I loans in the recent SLOOS. Moreover, in the April SLOOS, banks continued to report having eased both price and nonprice terms for C&I loans, largely in response to strong competition from other banks and nonbank lenders. The extent of easing generally has been greater for large and middle-market firms. That said, according to the Survey of Terms of Business Lending (STBL), spreads on C&I loans over banks' cost of funds, while continuing to trend down gradually in the February and May surveys, are still quite high in historical terms. Spreads on newly issued syndicated loans have also remained somewhat wide.

Borrowing conditions for small businesses generally have improved over the past few years but have done so much more gradually than have conditions for larger firms; moreover, the demand for credit from small firms apparently remains subdued. C&I loans with original amounts of $1 million or less—a large share of which likely consists of loans to small businesses—were about unchanged in the first quarter.[3] According to results from surveys conducted by the National Federation of Independent Business during the first half of this year, the fraction of firms with borrowing needs stayed low. The net percentage of respondents that found credit more difficult to obtain than three months earlier and that expected tighter credit conditions over the next three months have both declined, but they remained at relatively high levels in the June survey. In addition, recent readings from the STBL indicate that the spreads charged by commercial banks on newly originated C&I loans with original amounts less than $1 million remained quite high, even on loans with the strongest credit ratings.

Financial conditions in the commercial real estate (CRE) sector have eased some but stayed relatively tight amid weak fundamentals. According to the April SLOOS, some domestic banks reported having eased standards on CRE loans and, on balance, a significant number of domestic banks reported increased demand for such loans. While banks' hold-

[3] The original amount for a C&I loan is defined in the Call Report as the maximum of the amount of the loan or the amount of the total commitment.

ings of CRE loans continued to contract in the first half of this year, they did so at a slower pace than in the second half of last year. The weakest segment of CRE lending has been the portion supporting construction and land development; some other segments have recently expanded modestly. Issuance of commercial mortgage-backed securities (CMBS) has also increased recently from the low levels observed last year. Nonetheless, the delinquency rate on loans in CMBS pools continued to set new highs in June, as some five-year loans issued in 2007 at the height of the market were unable to refinance at maturity because of their high loan-to-value ratios. While delinquency rates for CRE loans at commercial banks improved slightly in the first quarter, they remained elevated, especially for construction and land development loans.

In the corporate equity market, gross public equity issuance by nonfinancial firms was strong in the first five months of 2012, boosted by a solid pace of initial public offerings (IPOs).[4] Data for the first quarter of 2012 indicate that share repurchases and cash-financed mergers by nonfinancial firms remained robust, and net equity issuance remained deeply negative. However, fewer mergers and new share repurchase programs were announced in the second quarter.

The Government Sector

Federal Government

The deficit in the federal unified budget remains elevated. The Congressional Budget Office projects that the deficit for fiscal year 2012 will be close to $1.2 trillion, or about 7½ percent of nominal GDP. Such a deficit would be a narrower share of GDP than those recorded over the past several years though still sharply higher than those recorded in the few years prior to the onset of the financial crisis and recession. The narrowing of the budget deficit expected to occur in the current fiscal year mostly reflects increases in tax revenues as the economy continues to recover, although the growth in outlays is being held back by the winding down of expansionary fiscal policies enacted in response to the recession, as well as some budgetary restraint in defense and other discretionary spending programs.

Federal receipts increased 5 percent in the first nine months of fiscal 2012 compared with the same period in fiscal 2011. Receipts were bolstered thus far this fiscal year by a robust rise in corporate tax revenues that is largely attributable to a scaling back in the favorable tax treatment of some business investment. In addition, individual income and payroll tax receipts have moved higher, reflecting increases in nominal wage and salary income. Nonetheless, at only about 15½ percent, the ratio of federal receipts to national income is near the lowest reading for this ratio over the past 60 years.

Total federal outlays moved sideways in the first nine months of fiscal 2012 relative to the comparable year-earlier period. Outlays were reduced by the winding down of stimulus-related programs (including the American Recovery and Reinvestment Act of 2009), lower payments for unemployment insurance, and falling defense expenditures. In addition, outlays for Medicaid so far this fiscal year were unusually weak, apparently reflecting in part the implementation of cost-containment measures by many state governments to reduce spending growth for that program. In contrast, Social Security outlays rose in part because of the first cost-of-living adjustments since 2009, and outlays for financial transactions were boosted by the revaluation of the expected cost of previous Troubled Asset Relief Program transactions and an increase in net outlays for deposit insurance.[5] Net interest payments increased moderately, reflecting the rising level of the federal debt.

As measured in the national income and product accounts (NIPA), real federal expenditures on consumption and gross investment—the part of federal spending included in the calculation of GDP—fell at an annual rate of close to 6 percent in the first quarter. Defense spending, which tends to be erratic from quarter to quarter, contracted more than 8 percent, and nondefense purchases edged down.

Federal debt held by the public rose to about 72 percent of nominal GDP in the second quarter of 2012, 3½ percentage points higher than at the end of last year. Treasury auctions generally continued to be well received by investors. Indicators of demand at Treas-

[4] Indeed, the second largest IPO on record began trading in mid-May. However, the price performance of those shares in the days following that offering was sharply negative on net, and IPO activity subsequently weakened significantly.

[5] The subsidy costs of outstanding Troubled Asset Relief Program assistance are reestimated annually by updating cash flows for actual experience and new assumptions about the future performance of the programs; any changes in these estimated subsidy costs are recorded in the federal budget in the current fiscal year.

ury auctions, such as bid-to-cover ratios and indirect bidding ratios, were within their historical ranges.

State and Local Government

State and local government budgets remain strained, but overall fiscal conditions for these governments may be slowly improving. In particular, state and local tax receipts appeared to increase moderately over the first half of this year. Census Bureau data indicate that state revenue collections rose 4 percent in the first quarter relative to a year earlier, and anecdotal evidence suggests that collections during April and May were well maintained. Moreover, only a few states reported budget shortfalls during fiscal 2012 (which ended on June 30 in most states). The improvement is less evident at the local level, where property tax receipts—the largest source of tax revenue for these governments—were roughly flat in 2011 and early 2012, reflecting the crosscutting effects of the earlier declines in home prices and increases in property tax rates. Moreover, federal aid to both state and local governments has declined as stimulus-related grants have been almost completely phased out.

One of the ways that state and local governments have addressed their tight budget situations has been through cuts in their employment and construction spending. After shedding jobs at an average pace of 19,000 per month in 2011, these governments reduced their employment over the first half of the year at a slower pace by trimming 3,000 jobs per month on average. However, real construction expenditures fell sharply in the first quarter after having edged down in the latter half of 2011, and available information on nominal construction spending through May points to continued declines in recent months. The decreases in employment and construction are evident in the Bureau of Economic Analysis (BEA) estimate for real state and local purchases, which fell at an annual rate of 2¾ percent in the first quarter, about the same pace as in 2011.

Gross issuance of bonds by states and municipalities picked up in the second quarter of 2012. Credit quality in the sector continued to deteriorate over the first half of the year. For instance, credit rating downgrades by Moody's Investors Service substantially outpaced upgrades, and credit default swap (CDS) indexes for municipal bonds rose on net. Yields on long-term general obligation municipal bonds were about unchanged over the first half of the year.

The External Sector

Exports and Imports

Both real exports and imports grew moderately in the first quarter of 2012. Real exports of goods and services rose at an annual rate of 4¼ percent, supported by relatively strong foreign economic growth. Exports of services, automobiles, computers, and aircraft expanded rapidly, while those of consumer goods declined. The rise in exports was particularly strong to Canada and Mexico. Data for April and May suggest that exports continued to rise at a moderate pace in the second quarter.

Real imports of goods and services rose a relatively modest 2¾ percent in the first quarter, reflecting slower growth in U.S. economic activity. Imports of services, automobiles, and computers rose significantly, while those of petroleum, aircraft, and consumer goods fell. The rise in imports was broadly based across major trading partners, with imports from Japan and Mexico showing particularly strong growth. April and May data suggest that import growth picked up in the second quarter.

Altogether, net exports made a small positive contribution of one-tenth of 1 percentage point to real GDP growth in the first quarter.

Commodity and Trade Prices

After increasing earlier in the year, oil prices have subsequently fallen back. Over much of the first quarter, an improved outlook for the global economy and increased geopolitical tensions—most notably with Iran—helped spur a run-up in the spot price of oil, with the Brent benchmark averaging $125 per barrel in March, about $15 above its January average. Since mid-March, however, oil prices have more than retraced their earlier gains amid an intensification of the crisis in Europe and increased concerns over the strength of economic growth in China. An easing of geopolitical tensions and increased crude oil supply—production by Saudi Arabia has been running at near-record high levels—have also likely contributed to the decline in oil prices. All told, the price of Brent has plunged $25 a barrel from March to about $100 per barrel in mid-July.

Prices of many nonfuel commodities followed a path similar to that shown by oil prices, albeit with less volatility. Early in 2012, commodity prices rallied, as global economic prospects and financial conditions

improved along with a temporary abatement of stresses in Europe. However, as with oil prices, broader commodity prices fell in the second quarter, reflecting growing pessimism regarding prospects for the global economy.

Prices for non-oil imported goods increased less than ¼ percent in the first quarter, with the modest pace of increase likely reflecting the lagged effects of both the appreciation of the dollar and the decline in commodity prices that occurred late last year. Moving into the second quarter, import price inflation appears to have remained subdued, consistent with a further appreciation of the dollar.

The Current and Financial Accounts

Largely reflecting the run-up in oil prices early in the year, the nominal trade deficit widened slightly in the first quarter. In addition, as the net investment income balance continued to decline, the current account deficit deteriorated from an annual average of $470 billion in 2011 to $550 billion in the first quarter, or 3½ percent of GDP.[6]

The financial flows that provide the financing of the current account deficit reflected the general trends in financial market sentiment and in reserve accumulation by emerging market economies (EMEs). Consistent with a temporary improvement in the tone of financial markets in the first quarter, foreign private investors slowed their net purchases of U.S. Treasury securities and resumed net purchases of U.S. equities, although they continued to sell other U.S. bonds. However, the tentative increase in foreign risk appetite abated early in the second quarter and foreign private investors showed renewed demand for U.S. Treasury securities and less demand for other U.S. securities.

U.S. investors' demand for foreign securities was flat, on net, in the first quarter and the early part of the second quarter, but this outcome nonetheless represents an increase relative to net sales of foreign securities in the fourth quarter of 2011.

Inflows from foreign official institutions strengthened in the first quarter as emerging market governments bought dollars to counter upward pressure on their currencies, resulting in increased accumulation of dollar-denominated reserves, which were then invested in U.S. securities. Partial data for the second quarter suggest that foreign official inflows remained strong despite renewed dollar appreciation against emerging market currencies. U.S. official assets registered a $51 billion inflow during the first quarter as drawings on the Federal Reserve's dollar swap lines with the European Central Bank (ECB) and the Bank of Japan (BOJ) were partially repaid.

National Saving

Total U.S. net national saving—that is, the saving of U.S. households, businesses, and governments, net of depreciation charges—remains extremely low by historical standards. Net national saving fell from 4 percent of nominal GDP in 2006 to negative 2 percent in 2009, as the federal budget deficit widened. The national saving rate subsequently increased to near zero, where it remained as of the first quarter of 2012 (the latest quarter for which data are available). The relative flatness of the saving rate over the past couple of years reflects the offsetting effects of a narrowing in the federal budget deficit as a share of nominal GDP and a downward movement in the private saving rate. National saving will likely remain low this year in light of the continuing large federal budget deficit. A portion of the decline in federal savings relative to pre-crisis levels is cyclical and would be expected to reverse as the economy recovers. However, if low levels of national saving persist over the longer run, they will likely be associated with both low rates of capital formation and heavy borrowing from abroad, limiting the rise in the standard of living for U.S. residents over time.

The Labor Market

Employment and Unemployment

Labor market conditions remain weak. After averaging 165,000 jobs per month in the second half of 2011, private payroll employment gains increased to 225,000 jobs per month over the first three months of the year and then fell back to 90,000 jobs per month over the past three months. The apparent slowing in the pace of net job creation may have been exaggerated by issues related to swings in the weather and to seasonal adjustment difficulties associated with the timing of the sharpest job losses during the recession. Moreover, employment gains during the second half of last year and into the early part of this year may have reflected some catch-up in hiring on the part of employers that aggressively pared their workforces during and just after the recession. The recent decel-

[6] In 1999, the BEA—while revisiting its methodology for the balance of payments accounts—redefined the current account to exclude capital transfers. In the process, the capital account was renamed the financial account, and a newly defined capital account was created to include capital transfers as well as the acquisition and disposal of nonproduced nonfinancial assets.

eration in employment may suggest that much of this catch-up has now taken place and that, consequently, more-rapid gains in economic activity will be required to achieve significant further increases in employment and declines in the unemployment rate.

The unemployment rate, though down from around 9 percent last summer, has held about flat at 8¼ percent since early this year and remains elevated relative to levels observed prior to the recent recession. Moreover, long-term unemployment also remains elevated. In June, around 40 percent of those unemployed had been out of work for more than six months. Meanwhile, the labor force participation rate has fluctuated around a low level so far this year after having moved down 2 percentage points since 2007.

Other labor market indicators were consistent with little change in overall labor market conditions during the first half of the year. Initial claims for unemployment insurance were not much changed, on net, although their average level over the first half of the year was lower than in the second half of 2011. Measures of job vacancies edged up, on balance, and households' labor market expectations largely reversed the steep deterioration from last summer. However, indicators of hiring activity remained subdued.

Productivity and Labor Compensation

Gains in labor productivity have continued to slow recently following an outsized increase in 2009 and a solid gain in 2010. According to the latest published data, output per hour in the nonfarm business sector rose just ½ percent in 2011 and declined in the first quarter of 2012. Although these data can be volatile from quarter to quarter, the moderation in productivity growth over the past two years suggests that firms have been adding workers not only to meet rising production needs but also to relieve pressures on their existing workforces, which were cut back sharply during the recession.

Increases in hourly compensation continue to be restrained by the very weak condition of the labor market. The 12-month change in the employment cost index for private industry workers, which measures both wages and the cost to employers of providing benefits, has been about 2 percent or less since the start of 2009 after several years of increases in the neighborhood of 3 percent. Nominal compensation per hour in the nonfarm business sector—a measure derived from the labor compensation data in the NIPA—also decelerated significantly over the past few years; this measure rose just 1¼ percent over the year ending in the first quarter of 2012, well below the average increase of about 4 percent in the years before the recession. Similarly, average hourly earnings for all employees—the timeliest measure of wage developments—rose about 2 percent in nominal terms over the 12 months ending in June. According to each of these measures, gains in hourly compensation failed to keep up with increases in consumer prices in 2011 and again in the first quarter of this year.

The change in unit labor costs faced by firms—which measures the extent to which nominal hourly compensation rises in excess of labor productivity—remained subdued. Unit labor costs in the nonfarm business sector rose 1 percent over the year ending in the first quarter of 2012. Over the preceding year, unit labor costs increased 1½ percent.

Prices

Consumer price inflation moved down, on net, during the first part of 2012. Overall PCE prices rose rapidly in the first three months of the year, reflecting large increases in oil prices, but inflation turned down in the spring as oil prices more than reversed their earlier run-ups. The overall chain-type PCE price index increased at an annual rate of about 1½ percent between December 2011 and May 2012, compared with a rise of 2½ percent over 2011. Excluding food and energy, consumer prices rose at a rate of about 2 percent over the first five months of the year, essentially the same pace as in 2011. In addition to the net decline in crude oil prices over the first half of the year, factors contributing to low consumer price inflation this year include the deceleration of non-oil import prices in the latter part of 2011, subdued labor costs associated with the weak labor market, and stable inflation expectations.

Consumer energy prices surged at an annual rate of over 20 percent in the first three months of 2012, as higher costs for crude oil were passed through to gasoline prices. In April, the national-average price for gasoline at the pump approached $4 per gallon. Since then, crude oil prices have tumbled, and gasoline prices have declined roughly in line with crude costs, more than reversing the earlier run-up. Consumer prices for natural gas plunged over the first five months of the year after falling late last year; this drop is attributable, at least in part, to the unseasonably warm winter, which reduced demand for natural gas. More recently, spot prices for natural gas have turned up as production has been cut back, but they

still remain substantially lower than they were last summer.

Consumer food price inflation has slowed noticeably so far this year, as the effect on retail food prices from last year's jump in farm commodity prices appears to have largely dissipated. Indeed, PCE prices for food and beverages only edged up slightly, rising at an annual rate of about ½ percent from December to May after increasing more than 5 percent in 2011. Although farm commodity prices were tempered earlier this year by expectations of a substantial increase in crop output this growing season, grain prices rose rapidly in late June and early July as a wide swath of the Midwest experienced a bout of hot, dry weather that farm analysts believe cut yield prospects considerably.

Survey-based measures of near-term inflation expectations have changed little, on net, so far this year. Median year-ahead inflation expectations, as reported in the Thomson Reuters/University of Michigan Surveys of Consumers (Michigan survey), rose in March when gasoline prices were high but then fell back as those prices reversed course. Longer-term expectations remained more stable. In the Michigan survey, median expected inflation over the next 5 to 10 years was 2.8 percent in early July, within the narrow range of the past 10 years. In the Survey of Professional Forecasters, conducted by the Federal Reserve Bank of Philadelphia, expectations for the increase in the price index for PCE over the next 10 years remained at 2¼ percent, in the middle of its recent range.

Measures of medium- and longer-term inflation compensation derived from nominal and inflation-protected Treasury securities—which not only reflect inflation expectations, but also can be affected by changes in investor risk aversion and by the different liquidity properties of the two types of securities—were little changed, on net, so far this year. These measures increased early in the period amid rising prices for oil and other commodities, but they subsequently declined as commodity prices fell back and as worries about domestic and global economic growth increased.

Financial Developments

Financial markets were somewhat volatile over the first half of 2012. Early in the year, broad equity price indexes rose and risk spreads in several markets narrowed as investor sentiment regarding short-term European prospects and the economic outlook improved. Those gains partially reversed when market participants became more pessimistic about the European situation and global growth prospects in May and June. Yields on longer-term Treasury securities declined, on balance, over the first half of the year. Conditions in unsecured short-term dollar funding markets generally remained stable as European financial institutions reduced their demand for dollar funding and general funding pressures were alleviated by the longer-term refinancing operations of the ECB. In the domestic banking sector, the release of the results from the Comprehensive Capital Analysis and Review (CCAR) in March provided a significant boost to the equity prices of U.S. financial institutions (see the box "The Capital and Liquidity Position of Large U.S. Banks" on pages 24–25 of the July 2012 *Monetary Policy Report*).

Monetary Policy Expectations and Treasury Rates

In response to the steps taken by the Federal Open Market Committee (FOMC) to provide additional monetary policy accommodation, and amid growing anxiety about the European crisis and a worsening of the economic outlook, investors pushed out further the date when they expect the federal funds rate to first rise above its current target range of 0 to ¼ percent. In addition, they apparently scaled back the pace at which they expect the federal funds rate subsequently to be increased. Market participants currently anticipate that the effective federal funds rate will be about 50 basis points by the middle of 2015, roughly 55 basis points lower than they expected at the beginning of 2012.

Yields on longer-term nominal Treasury securities declined, on balance, over the first half of 2012. Early in the year, longer-term Treasury yields rose, reflecting generally positive U.S. economic data, improved market sentiment regarding the crisis in Europe, and higher energy prices. More recently, however, longer-term yields have more than reversed their earlier increases. Investors sought the relative safety and liquidity of Treasury securities as the crisis in Europe intensified again and as weaker-than-expected economic data releases raised concerns about the pace of economic recovery both in the United States and abroad. In addition, those developments fostered expectations that the Federal Reserve would provide additional accommodation. And the Treasury yield curve flattened further following the FOMC's decision at its June meeting to continue the maturity extension program (MEP) through the end of 2012. On balance, yields on 5-, 10-, and

30-year nominal Treasury securities declined roughly 20, 40, and 35 basis points, respectively, from their levels at the start of this year. The Open Market Desk's outright purchases and sales of Treasury securities under the MEP did not appear to have any material adverse effect on Treasury market functioning.

Short-Term Funding Markets

Despite the reemergence of strains in Europe, conditions in unsecured short-term dollar funding markets have remained fairly stable in the first half of 2012. Measures of stress in short-term funding markets have eased somewhat, on balance, since the beginning of the year. A few factors seem to have contributed to the relative stability of those markets. European institutions apparently reduced their demand for funds in recent quarters by selling dollar-denominated assets and exiting from business lines requiring heavy dollar funding. In addition, European banks reportedly switched to secured funding supported by various types of collateral. Further, the availability of funds from the ECB through its longer-term refinancing operations likely helped reduce funding strains and the need to access interbank markets more generally. Reflecting these developments, the amount of dollar swaps outstanding between the Federal Reserve and the ECB has declined substantially from its peak earlier this year.

Conditions in the CP market were also fairly stable. On net, 30-day spreads of rates on unsecured A2/P2 CP over comparable-maturity AA-rated nonfinancial CP declined a bit. The volume outstanding of unsecured financial CP issued in the United States by institutions with European parents decreased slightly in the first half of the year. The average maturity of unsecured financial CP issued by institutions with both U.S. and European parents is about 50 days, a level that is near the middle of its historical range.

Signs of stress were also largely absent in secured short-term dollar funding markets. In the market for repurchase agreements, bid-asked spreads for most collateral types were little changed. However, short-term interest rates continued to edge up from the level observed around the turn of the year, likely reflecting in part the financing of the increase in dealers' inventories of shorter-term Treasury securities that resulted from the ongoing MEP and higher-than-expected bill issuance by the Treasury Department earlier in the year. In asset-backed commercial paper (ABCP) markets, volumes outstanding declined for programs with European sponsors, and spreads on ABCP with European bank sponsors remained a bit above those on ABCP with U.S. bank sponsors.

Respondents to the Senior Credit Officer Opinion Survey on Dealer Financing Terms (SCOOS) in both March and June indicated that credit terms applicable to important classes of counterparties have been relatively stable since the beginning of the year.[7] In addition, dealers reported that the use of financial leverage among hedge funds had decreased somewhat since the beginning of 2012. Moreover, respondents to the June SCOOS noted an increase in the amount of resources and attention devoted to the management of concentrated exposures to dealers and other financial intermediaries as well as central counterparties and other financial utilities. In response to a special question in the June SCOOS, dealers reported that despite the persistently low level of interest rates, only moderate fractions of their unlevered institutional clients had shown an increased appetite for credit risk or duration risk over the past year.

Financial Institutions

Market sentiment toward the banking industry fluctuated in the first half of 2012. Early in the year, after the actions of the European authorities to ease the euro-area crisis and the release of the results from the CCAR, equity prices for bank holding companies (BHCs) increased and their CDS spreads declined. In late spring—as investors reacted to concerns about Europe—equity prices reversed some of those gains, and CDS spreads rose for large BHCs, especially those with substantial investment-banking operations. More recently, Moody's downgraded the long- and short-term credit ratings of five of the six largest U.S. banks, but none of the banks lost their investment-grade status on long-term debt. The short-term debt ratings of some banks were downgraded to Prime-2, which may affect the ability of some to place significant amounts of CP with money market funds, but the market effect appears to have been muted so far, as those banks currently have limited demand for such funding. On balance, equity prices of banks rose significantly from relatively low levels at the start of the year; an index of CDS spreads for large BHCs declined about 60 basis points but remained at a high level.

[7] The SCOOS is available on the Federal Reserve Board's website at www.federalreserve.gov/econresdata/releases/scoos.htm.

The profitability of BHCs decreased slightly in the first quarter of 2012 and remained well below the levels that prevailed before the financial crisis. Litigation provisions taken by some large banks in connection with the mortgage settlement reached earlier this year accounted for some of the downward pressure on bank profitability. The variability in earnings due to accounting gains and losses related to changes in the market value of banks' own debt amplified recent swings of bank profits.[8] Smoothing through these special factors, profitability has been about flat in recent quarters. Net income continued to be supported by the release of loan loss reserves, albeit to a lesser extent than in the previous year, as charge-off rates decreased a bit further across most major asset classes. Still-subdued dividend payouts and share repurchases as well as reductions in risk-weighted assets pushed regulatory capital ratios higher in the first quarter of 2012 (see the box "Implementing the New Financial Regulatory Regime" on pages 28–29 of the July 2012 *Monetary Policy Report*).

Credit provided by commercial banking organizations in the United States increased in the first half of 2012 at about the same moderate pace as in the second half of 2011. Core loans—the sum of C&I loans, real estate loans, and consumer loans—expanded modestly; as noted earlier, the upturn in lending was particularly noticeable for C&I loans. The expansion in C&I lending has been broad based outside of U.S. branches and agencies of European banks and has been particularly evident at large domestic banks. This pattern is consistent with SLOOS results suggesting that a portion of the increase in C&I lending observed at large domestic banks reflected decreased competition from European banks and their affiliates and subsidiaries for either foreign or domestic customers. Banks' holdings of securities rose moderately, with purchases concentrated in Treasury securities and agency-guaranteed MBS. Given the still-depressed housing market, banks continued to be attracted by the government guarantee on agency securities, and some large banks may also have been accumulating government-backed securities to improve their liquidity positions.

[8] Under fair value accounting rules, changes in the creditworthiness of a BHC generate changes in the value of some of its liabilities. Those changes are then reflected as gains or losses on the income statement.

Corporate Debt and Equity Markets

Yields on investment-grade bonds reached record lows in June, partly reflecting the search by investors for relatively safe assets in light of rising concerns about Europe as well as the weakness in the domestic and global economic data releases. However, yields on speculative-grade corporate debt, which had reached record-low levels in February, rose somewhat in the second quarter reflecting those same concerns. The spread on investment-grade corporate bonds was about unchanged, on net, relative to the start of the year. Despite the backup in yields over the second quarter, spreads on speculative-grade corporate bonds decreased some, on balance, over the same period. Prices in the secondary market for syndicated leveraged loans have changed little, on balance, since the beginning of the year; demand from institutional investors for these mostly floating-rate loans has remained strong despite the reemergence of anxiety about developments in Europe.

Broad equity price indexes were boosted early in the year by improved sentiment stemming in part from relatively strong job gains as well as actions taken by major central banks to mitigate the financial strains emanating from Europe. However, equity price indexes subsequently reversed a portion of their earlier gains as concerns about the European banking and fiscal crisis intensified again and economic reports suggested slower growth, on balance, at home and abroad. The spread between the 12-month forward earnings-price ratio for the S&P 500 and a real long-run Treasury yield—a rough gauge of the equity risk premium—widened a bit more in the first half of 2012, and is now closer to the very high levels it reached in 2008 and again last fall. Implied volatility for the S&P 500 index, as calculated from option prices, spiked at times this year but is currently toward the bottom end of the range that this indicator has occupied since the onset of the financial crisis.

In the current environment of very low interest rates, mutual funds that invest in higher-yielding debt instruments (including speculative-grade corporate bonds and leveraged loans) continued to have significant inflows for most of the first half of 2012, while money market funds experienced outflows. Equity mutual funds also recorded modest outflows early in the year and, as market sentiment deteriorated, both

equity and high-yield mutual funds registered outflows in May.

Monetary Aggregates and the Federal Reserve's Balance Sheet

The growth rate of M2 slowed in the first half of 2012 to an annual rate of about 7 percent.[9] However, the levels of M2 and its largest component, liquid deposits, remain elevated relative to what would have been expected based on historical relationships with nominal income and interest rates, likely reflecting investors' continued preference to hold safe and liquid assets. Currency in circulation increased robustly, reflecting solid demand both at home and abroad. Retail money market funds and small time deposits continued to contract. At the same time as currency in circulation was increasing, reserve balances held at the Federal Reserve were decreasing; as a result, the monetary base—which is equal to the sum of these two items—changed little, on average, over the first half of the year.

Total assets of the Federal Reserve decreased to $2,868 billion as of July 11, 2012, about $60 billion less than at the end of 2011 (table 1). The small decrease since December largely reflects lower usage of foreign central bank liquidity swaps and declines in the net portfolio holdings of the Maiden Lane LLCs. The composition of Treasury security holdings changed over the course of the first half of this year as a result of the implementation of the MEP. As of July 13, 2012, the Open Market Desk at the Federal Reserve Bank of New York (FRBNY) had purchased $283 billion in Treasury securities with remaining maturities of 6 to 30 years and sold or redeemed $293 billion in Treasury securities with maturities of 3 years or less under the MEP.[10] Total

Table 1. Selected components of the Federal Reserve balance sheet, 2011–12

Millions of dollars

Balance sheet item	Dec. 28, 2011	Feb. 22, 2012	July 11, 2012
Total assets	**2,928,485**	**2,935,149**	**2,868,387**
Selected assets			
Credit extended to depository institutions and dealers			
Primary credit	42	3	8
Central bank liquidity swaps	**99,823**	**107,959**	**29,708**
Credit extended to other market participants			
Term Asset-Backed Securities Loan Facility (TALF)	9,013	7,629	4,504
Net portfolio holdings of TALF LLC	811	825	845
Support of critical institutions			
Net portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC [1]	34,248	30,822	15,388
Credit extended to American International Group, Inc.	…	…	…
Preferred interests in AIA Aurora LLC and ALICO Holdings LLC	…	…	…
Securities held outright			
U.S. Treasury securities	1,672,092	1,656,581	1,663,949
Agency debt securities	103,994	100,817	91,484
Agency mortgage-backed securities (MBS)[2]	837,295	853,045	855,044
Total liabilities	**2,874,686**	**2,880,556**	**2,813,713**
Selected liabilities			
Federal Reserve notes in circulation	1,034,520	1,048,004	1,073,732
Reverse repurchase agreements	88,674	89,824	89,689
Deposits held by depository institutions	1,569,267	1,622,800	1,527,556
Of which: term deposits	0	0	0
U.S. Treasury, general account	91,418	36,033	75,287
U.S. Treasury, Supplementary Financing Account	0	0	0
Total capital	**53,799**	**54,594**	**54,674**

Note: LLC is a limited liability company.

[1] The Federal Reserve has extended credit to several LLCs in conjunction with efforts to support critical institutions. Maiden Lane LLC was formed to acquire certain assets of The Bear Stearns Companies, Inc. Maiden Lane II LLC was formed to purchase residential mortgage-backed securities from the U.S. securities lending reinvestment portfolio of subsidiaries of American International Group, Inc. (AIG). Maiden Lane III LLC was formed to purchase multisector collateralized debt obligations on which the Financial Products group of AIG has written credit default swap contracts.

[2] Includes only MBS purchases that have already settled.

… Not applicable.

Source: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks."

Federal Reserve holdings of agency MBS increased about $18 billion as the policy of reinvesting principal payments from agency debt and agency MBS into agency MBS continued.

In the first half of 2012, the Federal Reserve continued to reduce its exposure to facilities established during the financial crisis to support specific institutions. The portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC—

[9] M2 consists of (1) currency outside the U.S. Treasury, Federal Reserve Banks, and the vaults of depository institutions; (2) traveler's checks of nonbank issuers; (3) demand deposits at commercial banks (excluding those amounts held by depository institutions, the U.S. government, and foreign banks and official institutions) less cash items in the process of collection and Federal Reserve float; (4) other checkable deposits (negotiable order of withdrawal, or NOW, accounts and automatic transfer service accounts at depository institutions; credit union share draft accounts; and demand deposits at thrift institutions); (5) savings deposits (including money market deposit accounts); (6) small-denomination time deposits (time deposits issued in amounts of less than $100,000) less individual retirement account (IRA) and Keogh balances at depository institutions; and (7) balances in retail money market mutual funds less IRA and Keogh balances at money market mutual funds.

[10] Between the MEP's announcement in September 2011 and the end of that year, the Desk had purchased $133 billion in longer-term Treasury securities and had sold $134 billion in shorter-term Treasury securities.

entities that were created during the crisis to acquire certain assets from The Bear Stearns Companies, Inc., and American International Group, Inc. (AIG), to avoid the disorderly failures of those institutions—declined, on net, primarily as a result of asset sales and principal payments. Of note, proceeds from the sales of all of the remaining assets in the Maiden Lane II LLC portfolio in January and February enabled the repayment of the entire remaining outstanding balance of the senior loan from the FRBNY to Maiden Lane II LLC in March, with interest and a $2.8 billion net gain. In addition, proceeds from the sales of assets from Maiden Lane LLC and Maiden Lane III LLC in April and May enabled the repayment, with interest, of the entire remaining outstanding balances of the senior loans from the FRBNY to Maiden Lane LLC and Maiden Lane III LLC in June. Proceeds from further asset sales from Maiden Lane III in June enabled repayment of the equity position of AIG in July. A net gain on the sale of the remaining assets in Maiden Lane III LLC is likely during the next few months. Sales of most of the remaining assets in Maiden Lane LLC should be completed by the end of the year, but a few legacy assets may take longer to dispose of. Loans outstanding under the Term Asset-Backed Securities Loan Facility (TALF) were slightly lower, reflecting, in part, the first maturity of a TALF loan with a three-year initial term.

On the liability side of the Federal Reserve's balance sheet, deposits held by depository institutions declined about $42 billion in the first half of 2012, while Federal Reserve notes in circulation increased roughly $39 billion. As part of its ongoing program to ensure the readiness of tools to drain reserves when doing so becomes appropriate, the Federal Reserve conducted a series of small-scale reverse repurchase transactions involving all eligible collateral types with its expanded list of counterparties. In the same vein, the Federal Reserve also continued to offer small-value term deposits through the Term Deposit Facility.

On March 20, the Federal Reserve System released its 2011 combined annual comparative audited financial statements. The Federal Reserve reported net income of about $77 billion for the year ending December 31, 2011, derived primarily from interest income on securities acquired through open market operations (Treasury securities, federal agency and GSE MBS, and GSE debt securities). The Reserve Banks transferred about $75 billion of the $77 billion in comprehensive income to the U.S. Treasury in 2011; though down slightly from 2011, the transfer to the U.S. Treasury remained historically very large.

International Developments

The European fiscal and banking crisis continued to affect international financial markets and foreign economic activity during the first half of 2012. Early in the year, aggressive action by the ECB and some progress in addressing the crisis by the region's leaders contributed to a temporary easing of financial stresses. (See the box "An Update on the European Fiscal and Banking Crisis" on pages 34–35 of the July 2012 *Monetary Policy Report*.) However, amid ongoing political uncertainty in Greece and increased concerns about the health of Spanish banks, financial conditions deteriorated again in the spring. Foreign economic growth picked up in the first quarter, but this acceleration largely reflected temporary factors, and recent data point to widespread slowing in the second quarter.

International Financial Markets

Foreign financial markets have been volatile. Initially in the first quarter, encouraging macroeconomic data and some easing of tensions within the euro area led to an improvement in global financial conditions. This improvement was reversed in the spring as the boost from previous policy measures, including the ECB's longer-term refinancing operations, faded and political and banking stresses in vulnerable European countries resurfaced. Euro-area leaders responded to the worsening of the crisis by announcing additional measures at a summit on June 28–29. The market reaction was positive but short-lived.

Increased uncertainty and greater volatility have pushed up the foreign exchange value of the dollar about 4¼ percent on a trade-weighted basis against a broad set of currencies since its low in early February, with most of the appreciation occurring in May. Typical of periods of flight to safety, the dollar has appreciated against most currencies but depreciated against the Japanese yen for most of the period. The Swiss franc has moved very closely with the euro as the Swiss National Bank has intervened to maintain a ceiling for the franc relative to the euro.

During the second quarter of this year, flight-to-safety flows and the deteriorating global economic outlook helped push government bond yields for Canada, Germany, and the United Kingdom to record lows. Likewise, Japanese yields on 10-year bonds fell well below 1 percent. By contrast, Spanish sovereign spreads over German bunds rose more

than 250 basis points between February and June due to escalating concerns over Spain's public finances. Italian sovereign spreads moved up as well over this period.

Equity prices abroad declined significantly in the second quarter, more so than in the United States. Indexes tumbled in the nations at the center of the euro-area fiscal and banking crisis, and the fall in value from their March peaks was more than 10 percent across the advanced foreign economies (AFEs). This fall was attenuated toward the end of the second quarter by the positive market reaction to the June summit. Equity markets in the EMEs were also markedly down in the second quarter.

European banks faced renewed stresses in recent months. In Greece, after inconclusive elections in early May, deposit outflows from banks accelerated, generating concerns that deposit flight could spread to banking systems in the rest of the euro area. News that Spain had partly nationalized the troubled lender Bankia and would need to inject an additional €19 billion into the bank and its holding company added to unease about the region, eventually leading to plans for an official aid package of up to €100 billion to recapitalize Spanish banks. Apprehension about bank health was widespread, with major institutions in Italy, Germany, and several other European countries receiving credit ratings downgrades. As a result, European bank stock prices have tumbled since mid-March. At the same time, reflecting market views of increased risk of default, the CDS premiums on the debt of many large banks in Europe have risen substantially, while issuance of unsecured bank debt, which had previously recovered, has fallen. Notwithstanding these developments, funding market stresses have remained relatively muted, as many banks accessed funds from the Eurosystem—the system formed by the ECB and the national central banks of the euro-area member states—rather than interbank markets. A standard measure of the cost of this interbank funding, the implied basis spread from euro–dollar swaps, was little changed at shorter maturities.

Advanced Foreign Economies

The European fiscal and banking crisis was at the center of economic developments in the AFEs. Euro-area real GDP was flat in the first quarter of 2012 following a contraction in late 2011. Within the euro area, output fell sharply in more vulnerable countries, including Italy and Spain, whereas other countries, especially Germany, performed better. Mounting financial tensions and fiscal austerity measures appear to have further restrained the euro-area economy in the second quarter, as evidenced by declining business confidence and a further drift of purchasing managers indexes into contractionary territory.

Economic performance in the other AFEs has been uneven. In the United Kingdom, real GDP continued to fall early in the year, and indicators point to further weakness fueled by tight fiscal policy and negative spillover effects from the euro area. In Japan, output rose at a robust pace in the first quarter, reflecting fiscal stimulus measures as well as a recovery from the shortage of parts supplies caused by the floods in Thailand last year, but recent data suggest that activity decelerated in the second quarter. The Canadian economy continued to expand moderately in the first three months of the year, supported by solid domestic demand and a resilient labor market.

In most AFEs, headline inflation rates—measured on a 12-month change basis—continued to decline in the first half of the year as the effects of the large run-up in commodity prices in early 2011 waned. The smaller run-up in energy prices that took place early this year exerted a less marked effect on consumer prices, though it helped keep 12-month inflation rates above 2 percent in the euro area and in the United Kingdom. Japan appears to be emerging from several years of deflation, but Japanese inflation remains below the 1 percent inflation goal introduced by the BOJ in February.

Several central banks eased further their monetary policy stances. The BOJ increased the size of its asset purchases from ¥30 trillion to ¥40 trillion in April, and then to ¥45 trillion in July. The ECB, after having conducted the second of its three-year longer-term refinancing operations in late February, cut its policy interest rates to record lows in early July. In late June, the Bank of England (BOE) activated its Extended Collateral Term Repo facility, offering six-month funds against a wide set of collateral. In addition, in July, the BOE increased the size of its asset purchase program from £325 billion to £375 billion, and, together with the U.K. Treasury, introduced a new Funding for Lending Scheme designed to boost lending to households and firms.

Emerging Market Economies

Following a disappointing performance at the end of last year, real GDP growth rebounded in the first quarter in most EMEs. Economic activity expanded

especially briskly in emerging Asia, largely reflecting the reconnection of supply chains damaged by the floods in Thailand. Economic growth, however, continued to slow in China and India. Moreover, recent indicators suggest that the pace of economic activity decelerated in most EMEs going into the second quarter amid headwinds associated with the European crisis and relatively subdued growth in China.

In China, real GDP increased at about a 7 percent pace in the first half of the year, down from an 8½ percent pace in the second half of last year. The slowdown reflected weaker demand for Chinese exports as well as domestic factors, including moderating consumer spending and the restraining effects on investment of previous government measures to cool activity in the property sector. Macroeconomic data for May and June suggest that economic activity was picking up a bit toward the end of the second quarter, with growth of investment, retail sales, and bank lending edging higher. Headline 12-month inflation fell to 2.2 percent in June, led by additional moderation in food prices. As inflationary pressures eased and concerns about growth mounted, the People's Bank of China lowered banks' reserve requirements by 50 basis points in both February and May and then reduced the benchmark one-year lending rate by 25 basis points in June and 31 basis points in July, the first changes in that rate since an increase in July of last year. Over the first half of the year, the renminbi was little changed, on net, against the dollar, but it appreciated about 1½ percent on a real trade-weighted basis, as the renminbi followed the dollar upward against China's other major trading partners.

In India, economic growth has also moderated as slow progress on fiscal and structural reforms and previous monetary tightening stalled investment. Noting rising vulnerabilities from the country's twin fiscal and current account deficits, some credit rating agencies warned that India's sovereign debt risks losing its investment-grade status.

In Mexico, economic activity rebounded briskly in the first quarter as the agricultural sector rebounded from the fourth-quarter drought, domestic demand gained momentum, and exports to the United States picked up. Economic indicators, however, suggest that growth moderated somewhat in the second quarter. On July 1, Enrique Peña Nieto of the Institutional Revolutionary Party, or PRI, won the Mexican presidential election, promising to pursue market-oriented reforms to bolster economic growth.

In Brazil, real GDP—restrained by flagging investment and weather-related problems in the agricultural sector—increased slightly in the first quarter, making it the fourth consecutive quarter of below-trend growth. Industrial production, which has been on a downward trend since early 2011, continued to fall through May, suggesting that economic activity in Brazil remained weak in the second quarter.

Headline inflation generally moderated in the EMEs reflecting lower food price pressures and weaker economic growth. In addition to China, several other central banks in the EMEs also loosened monetary policy, including those in Brazil, Chile, India, Indonesia, the Philippines, South Korea, and Thailand.

Part 3
Monetary Policy: Recent Developments and Outlook

Monetary Policy over the First Half of 2012

To promote the Federal Open Market Committee's (FOMC) objectives of maximum employment and price stability, the Committee maintained a target range for the federal funds rate of 0 to ¼ percent throughout the first half of 2012.[11] With the incoming data suggesting a somewhat slower pace of economic recovery than the Committee had anticipated, and with inflation seen as settling at levels at or below those consistent, over the long run, with its statutory mandate, the Committee took steps during the first half of 2012 to provide additional monetary accommodation in order to support a stronger economic recovery and to help ensure that inflation, over time, runs at levels consistent with its mandate. These steps included lengthening the horizon of the forward rate guidance regarding the Committee's expectations for the period over which economic conditions will warrant exceptionally low levels for the federal funds rate, continuing the Committee's maturity extension program (MEP) through the end of this year rather than completing the program in June as previously scheduled, retaining its existing policies regarding the reinvestment of principal payments on agency securities in agency-guaranteed mortgage-backed securities (MBS), and continuing to reinvest the proceeds of maturing Treasury securities.

[11] Members of the FOMC in 2012 consist of the members of the Board of Governors of the Federal Reserve System plus the presidents of the Federal Reserve Banks of Atlanta, Cleveland, New York, Richmond, and San Francisco. As of the June FOMC meeting, Governors Jerome H. Powell and Jeremy C. Stein joined the Board of Governors increasing the number of FOMC members to 12.

The information reviewed at the January 24–25 meeting indicated that U.S. economic activity had expanded moderately, while global growth appeared to be slowing. Labor market indicators pointed to some further improvement in labor market conditions, but progress was gradual and the unemployment rate remained elevated. Household spending had continued to advance at a moderate pace despite diminished growth in real disposable income, but growth in business fixed investment had slowed. The housing sector remained depressed. Inflation had been subdued in recent months, and longer-term inflation expectations had remained stable. Meeting participants observed that financial conditions had improved and financial market stresses had eased somewhat during the intermeeting period, in part because of the European Central Bank's (ECB) three-year refinancing operation. Nonetheless, participants expected that global financial markets would remain focused on the evolving situation in Europe, and they anticipated that further policy efforts would be required to fully address the fiscal and financial problems there.

With the economy facing continuing headwinds and growth slowing in several U.S. export markets, members generally expected a modest pace of economic growth over coming quarters, with the unemployment rate declining only gradually. At the same time, members thought that inflation would run at levels at or below those consistent with the Committee's dual mandate. Against this backdrop, members agreed to keep the target range for the federal funds rate at 0 to ¼ percent, to continue the program of extending the average maturity of the Federal Reserve's holdings of securities as announced in September, and to retain the existing policies regarding the reinvestment of principal payments from Federal Reserve holdings of securities. In light of the economic outlook, most members also agreed to indicate that the Committee anticipates that economic conditions are likely to warrant exceptionally low levels for the federal funds rate at least through late 2014, longer than had been indicated in recent FOMC statements. The Committee also stated that it is prepared to adjust the size and composition of its securities holdings as appropriate to promote a stronger economic recovery in a context of price stability.

The data in hand at the March 13 FOMC meeting indicated that U.S. economic activity had continued to expand moderately. Although the unemployment rate remained elevated, it had declined notably in recent months and payroll employment had increased. Household spending and business fixed investment had advanced. Signs of improvement or stabilization emerged in some local housing markets, but overall housing activity continued to be restrained by the substantial inventory of foreclosed and distressed properties, tight credit conditions for mortgage loans, and uncertainty about the economic outlook and future home prices. Inflation continued to be subdued, although prices of crude oil and gasoline had increased substantially. Longer-term inflation expectations had remained stable.

Many participants believed that policy actions in the euro area, notably the Greek debt swap and the ECB's longer-term refinancing operations, had helped ease strains in financial markets and reduced the downside risks to the U.S. and global economic outlook. Against that backdrop, equity prices had risen and conditions in credit markets improved, leading many meeting participants to see financial conditions as more supportive of economic growth than at the time of the January meeting.

Members viewed the information on U.S. economic activity as suggesting that the economy would continue to expand moderately. However, despite the easing of strains in global financial markets, members continued to perceive significant downside risks to economic activity. Members generally anticipated that the recent increase in oil and gasoline prices would push up inflation temporarily, but that inflation subsequently would run at or below the rate that the Committee judges most consistent with its mandate. As a result, the Committee decided to keep the target range for the federal funds rate at 0 to ¼ percent, to reiterate its anticipation that economic conditions were likely to warrant exceptionally low levels for the federal funds rate at least through late 2014, to continue the program of extending the average maturity of the Federal Reserve's holdings of securities that it had adopted in September, and to maintain the existing policies regarding the reinvestment of principal payments from Federal Reserve holdings of securities. The Committee again stated that it is prepared to adjust the size and composition of its securities holdings as appropriate to promote a stronger economic recovery in a context of price stability.

By the time of the April 24–25 FOMC meeting, the data again indicated that economic activity was expanding moderately. Payroll employment had continued to move up, and the unemployment rate, while still elevated, had declined a little further. Household

spending and business fixed investment had continued to expand. The housing sector showed signs of improvement but from a very low level of activity. Mainly reflecting the increase in the prices of crude oil and gasoline earlier this year, inflation had picked up somewhat; however, measures of long-run inflation expectations remained stable. Meeting participants judged that, in general, conditions in domestic credit markets had improved further, but noted that investors' concerns about the sovereign debt and banking situation in the euro area intensified during the intermeeting period. Many U.S. financial institutions had been taking steps to bolster their resilience, including expanding their capital levels and liquidity buffers and reducing their European exposures.

Members expected growth to be moderate over coming quarters and then to pick up over time. Strains in global financial markets stemming from the sovereign debt and banking situation in Europe as well as uncertainty about U.S. fiscal policy continued to pose significant downside risks to economic activity both here and abroad. Most members anticipated that the increase in inflation would prove temporary and that subsequently inflation would run at or below the rate that the Committee judges to be most consistent with its mandate. Against this backdrop, the Committee members reached the collective judgment that it would be appropriate to maintain the existing highly accommodative stance of monetary policy. In particular, the Committee agreed to keep the target range for the federal funds rate at 0 to ¼ percent, to continue the program of extending the average maturity of the Federal Reserve's holdings of securities as announced last September, and to retain the existing policies regarding the reinvestment of principal payments from Federal Reserve holdings of securities. The Committee left the forward guidance for the target federal funds rate unchanged at this meeting. Members emphasized that their forward guidance was conditional on expected economic developments, but they preferred adjusting the forward guidance only once they were more confident that the medium-term economic outlook or the risks to that outlook had changed significantly.

Data received over the period leading up to the June 19–20 FOMC meeting indicated that economic activity was expanding at a somewhat more modest pace than earlier in the year. Improvements in labor market conditions had slowed in recent months, and the unemployment rate seemed to have flattened out. Household spending appeared to be rising at a somewhat slower rate, and business investment had continued to advance. Despite some ongoing signs of improvement, the housing sector remained depressed. Consumer price inflation had declined, mainly reflecting lower prices of crude oil and gasoline, and longer-term inflation expectations remained well anchored. Meeting participants observed that financial markets were volatile over the intermeeting period and that investor sentiment was strongly influenced by the developments in Europe and evidence of slowing economic growth at home and abroad.

In the discussion of monetary policy, most members agreed that the outlook had deteriorated somewhat relative to the time of the April meeting, and that significant downside risks were present, importantly including the financial stresses in the euro area and uncertainty about the degree of fiscal restraint in the United States, and its effects on economic activity over the medium term. As a result, the Committee decided that providing additional monetary policy accommodation would be appropriate to support a stronger economic recovery and to help ensure that inflation, over time, was at a level consistent with the Committee's dual mandate. Specifically, the Committee agreed to continue the MEP through the end of the year, instead of ending the program in June as had been planned. In doing so, the Federal Reserve will purchase Treasury securities with remaining maturities of 6 years to 30 years and sell or redeem an equal par value of Treasury securities with remaining maturities of approximately 3 years or less. This continuation of the MEP will proceed at about the same pace as had been executed through the first phase of the program, increasing the Federal Reserve's holdings of longer-term Treasury securities by about $267 billion while reducing its holdings of shorter-term Treasury securities by the same amount. For the duration of this program, the Committee directed the Open Market Desk to suspend its current policy of rolling over maturing Treasury securities into new issues at auction (and instead purchase only additional longer-term securities with the proceeds of maturing securities). The Committee expected the continuation of the MEP to put downward pressure on longer-term interest rates and help make broader financial conditions more accommodative. In addition, the Committee decided to continue reinvesting principal payments from its holdings of agency debt and agency MBS in agency MBS. The Committee also decided to keep the target range for the federal funds rate at 0 to ¼ percent and to reaffirm its anticipation that economic conditions were likely to warrant exceptionally low levels for the federal funds rate at least through late 2014. In its state-

ment, the Committee noted that it was prepared to take further action as appropriate to promote stronger economic recovery and sustained improvement in labor market conditions in a context of price stability.

FOMC Communications

Transparency is an essential principle of modern central banking because it contributes to the accountability of central banks to the government and to the public and because it can enhance the effectiveness of central banks in achieving their macroeconomic objectives. To this end, the Federal Reserve provides to the public a considerable amount of information concerning the conduct of monetary policy. Following each meeting of the FOMC, the Committee immediately releases a statement that lays out the rationale for its policy decision and issues detailed minutes of the meeting about three weeks later. Lightly edited transcripts of FOMC meetings are released to the public with a five-year lag.[12] Moreover, beginning in April 2011, the Chairman has held press conferences on an approximately quarterly basis. At the press conferences, the Chairman presents the current economic projections of FOMC participants and provides additional context for the Committee's policy decisions.

The Committee continued to consider further improvements in its communications approach in the first half of 2012. At the January meeting, the FOMC released a statement of its longer-run goals and policy strategy in an effort to enhance the transparency, accountability, and effectiveness of monetary policy and to facilitate well-informed decision-making by households and businesses.[13] The statement did not represent a change in the Committee's policy approach, but rather was intended to help enhance the transparency, accountability, and effectiveness of monetary policy. The statement emphasizes the Federal Reserve's firm commitment to pursue its congressional mandate to promote maximum employment, stable prices, and moderate long-term interest rates. To clarify its longer-term objectives, the FOMC stated that inflation at the rate of 2 percent, as measured by the annual change in the price index for personal consumption expenditures, is most consistent over the longer run with the Federal Reserve's statutory mandate. While noting that the Committee's assessments of the maximum level of employment are necessarily uncertain and subject to revision, the statement indicated that the central tendency of FOMC participants' current estimates of the longer-run normal rate of unemployment is between 5.2 and 6.0 percent. It stressed that the Federal Reserve's statutory objectives are generally complementary, but when they are not, the Committee will follow a balanced approach in its efforts to return both inflation and employment to levels consistent with its mandate.

In addition, in light of a decision made at the December meeting, the Committee provided, starting in the January Summary of Economic Projections (SEP), information about each participant's assessment of appropriate monetary policy. Specifically, the SEP included information about participants' estimates of the appropriate level of the target federal funds rate in the fourth quarter of the current year and the next few calendar years, and over the longer run; the SEP also reported participants' current projections of the likely timing of the appropriate first increase in the target federal funds rate given their assessments of the economic outlook. The accompanying narrative described the key factors underlying those assessments and provided some qualitative information regarding participants' expectations for the Federal Reserve's balance sheet.

At the March meeting, participants discussed a range of additional steps that the Committee might take to help the public better understand the linkages between the evolving economic outlook and the Federal Reserve's monetary policy decisions, and thus the conditionality in the Committee's forward guidance. Participants discussed ways in which the Committee might include, in its postmeeting statements and other communications, additional qualitative or quantitative information that could convey a sense of how the Committee might adjust policy in response to changes in the economic outlook. However, participants also observed that the Committee had introduced several important enhancements to its policy communications over the past year or so; these included the Chairman's postmeeting press conference as well as changes to the FOMC statement and the SEP. Against this backdrop, some participants noted that additional experience with the changes

[12] FOMC statements, minutes, and transcripts, as well as other related information, are available on the Federal Reserve Board's website at www.federalreserve.gov/monetarypolicy/fomc.htm.

[13] The FOMC statement of longer-run goals and policy strategy is available on the Federal Reserve Board's website at www.federalreserve.gov/monetarypolicy/fomccalendars.htm.

implemented to date could be helpful in evaluating potential further enhancements.

At the April meeting, the Committee discussed the relationship between the postmeeting statement, which expresses the collective view of the Committee, and the policy projections of individual participants, which are included in the SEP. The Chairman asked the subcommittee on communications to consider possible enhancements and refinements to the SEP that might help clarify the link between economic developments and the Committee's view of the appropriate stance of monetary policy. Following up on this issue at the June meeting, participants discussed several possibilities for enhancing the clarity and transparency of the Committee's economic projections as well as the role they play in policy decisions and policy communications. Many participants indicated that if it were possible to construct a quantitative economic projection and associated path of appropriate policy that reflected the collective judgment of the Committee, such a projection could potentially be helpful in clarifying how the outlook and policy decisions are related. However, many participants noted that developing a quantitative forecast that reflects the Committee's collective judgment could be challenging, given the range of their views about the economy's structure and dynamics. Participants agreed to continue to explore ways to increase clarity and transparency in the Committee's policy communications, but many emphasized that further changes in those communications should be considered carefully.