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Monetary Policy Report to the Congress

July 21, 2009

Board of Governors of the Federal Reserve System

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Submitted pursuant to section 2B of the Federal Reserve Act

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Board of Governors of the Federal Reserve System

Letter of Transmittal

BOARD OF GOVERNORS OF THE
FEDERAL RESERVE SYSTEM

Washington, D.C., July 21, 2009

THE PRESIDENT OF THE SENATE
THE SPEAKER OF THE HOUSE OF REPRESENTATIVES

The Board of Governors is pleased to submit its *Monetary Policy Report to the Congress* pursuant to section 2B of the Federal Reserve Act.

Sincerely,

Ben Bernanke, Chairman

Contents

Part 1
Overview: Monetary Policy and the Economic Outlook

Amid a severe global economic downturn, the U.S. economy contracted further and labor market conditions worsened over the first half of 2009. In the early part of the year, economic activity deteriorated sharply, and strains in financial markets and pressures on financial institutions generally intensified. More recently, however, the downturn in economic activity appears to be abating and financial conditions have eased somewhat, developments that partly reflect the broad range of policy actions that have been taken to address the crisis. Nonetheless, credit conditions for many households and businesses remain tight, and financial markets are still stressed. In the labor market, employment declines have remained sizable—although the pace of job loss has diminished somewhat from earlier in the year—and the unemployment rate has continued to climb. Meanwhile, consumer price inflation has remained subdued.

U.S. real gross domestic product (GDP) fell sharply again in the first quarter of 2009, but the contraction in overall output looks to have moderated somewhat of late. Consumer spending—which has been supported recently by the boost to disposable income from the tax cuts and increases in various benefit payments that were implemented as part of the 2009 fiscal stimulus package—appears to be holding reasonably steady so far this year. And consumer sentiment is up from the historical lows recorded around the turn of the year. In the housing market, a leveling out of home sales and construction activity in the first half of 2009 suggests that the demand for new houses may be stabilizing following three years of steep declines. Businesses, however, have continued to cut capital spending and liquidate inventories in response to soft demand and excessive stocks. Economic activity abroad plummeted in the first quarter and has continued to fall, albeit more slowly, in recent months. Slumping foreign demand led to a sharp drop in U.S. exports during the first half of the year. However, the ongoing contraction in U.S. domestic demand triggered an even sharper drop in imports.

The further contraction in domestic economic activity during the first half of 2009 was accompanied by a significant deterioration in labor market conditions. Private-sector payroll employment fell at an average monthly rate of 670,000 jobs in the first four months of this year before declining by 312,000 jobs in May and 415,000 jobs in June. Meanwhile, the unemployment rate moved up steadily from 7¼ percent at the turn of the year to 9½ percent in June. With the sharp reductions in employment, the wage and salary incomes of households, adjusted for price changes, fell during this period.

Overall consumer price inflation, which slowed sharply late last year, remained subdued in the first half of this year as the margin of slack in labor and product markets widened considerably further and as prices of oil and other commodities retraced only a part of their earlier steep declines. All told, the 12-month change in the personal consumption expenditures (PCE) price index was close to zero in May, while the 12-month change in PCE prices excluding food and energy was 1¾ percent. Survey measures of longer-term inflation expectations have remained relatively stable this year and currently stand at about their average values in 2008.

During the first few months of 2009, pressures on financial firms, which had eased late last year, intensified again. Equity prices of banks and insurance companies fell amid reports of large losses in the fourth quarter of 2008, and market-based measures of the likelihood of default by those institutions rose. Broad equity price indexes also fell in the United States and abroad, and measures of volatility in such markets stayed at near-record levels. In addition, bank funding markets were strained, flows of credit to businesses and households were impaired, and many securitization markets remained shut.

The Federal Reserve and other government entities continued to respond forcefully to these adverse financial market developments. The Federal Reserve kept its target for the federal funds rate at a range between 0 and ¼ percent and purchased additional agency mortgage-backed securities (MBS) and agency debt. Throughout the first half of the year, the Federal Reserve also continued to provide funding to financial institutions and markets through a variety of credit and liquidity facilities. In February, the Treasury, the Feder-

Note: A list of abbreviations is available at the end of this report.

al Reserve, the Federal Deposit Insurance Corporation, the Office of the Comptroller of the Currency, and the Office of Thrift Supervision announced the Financial Stability Plan. The plan included, among other elements, a Capital Assistance Program designed to assess the capital needs of banking institutions under a range of economic scenarios (through the Supervisory Capital Assessment Program (SCAP), or stress test) and, if necessary, to assist banking institutions in strengthening the amount and quality of their capital. In early March, the Federal Reserve and the Treasury launched the Term Asset-Backed Securities Loan Facility (TALF), an initiative designed to catalyze the securitization markets by providing financing to investors to support their purchases of certain AAA-rated asset-backed securities. At the March meeting of the Federal Open Market Committee (FOMC), the Committee decided to expand its purchases of agency MBS and agency debt and to begin buying longer-term Treasury securities to help improve conditions in private credit markets. In May, the Federal Reserve announced an expansion of eligible collateral under the TALF program. In the same month, the results of the SCAP were announced and were positively received in financial markets.

These policy actions, and ones previously taken, have helped stabilize a number of financial markets and, in some cases, have led to significant improvements. In recent months, strains in short-term funding markets have eased, with some credit spreads in those markets returning close to pre-crisis levels. The narrowing in spreads likely reflects, in part, a decrease in the probability that market participants assign to extremely adverse outcomes for the economy in light of the apparent moderation in the rate of economic contraction. Global equity prices have recouped some of their earlier declines, and measures of volatility in equity and other financial markets have retreated somewhat, though they remain at elevated levels. Issuance in some securitization markets that were essentially shut down earlier has begun to increase. Although yields on longer-term Treasury securities have risen, some of these increases are likely attributable to improvement in the economic outlook and a reversal in flight-to-quality flows. Mortgage rates have risen about in line with Treasury yields, but corporate bond yields have continued to decline. By early June, the 10 banking organizations required by the SCAP to bolster their capital buffers had issued new common equity in amounts that either met or came close to meeting the SCAP requirements. Nonetheless, despite these notable improvements, strains remain in most financial markets, many financial institutions face the possibility of significant additional losses, and the flow of credit to some businesses and households remains constrained.

In conjunction with the June 2009 FOMC meeting, the members of the Board of Governors of the Federal Reserve System and presidents of the Federal Reserve Banks, all of whom participate in FOMC meetings, provided projections for economic growth, unemployment, and inflation; these projections are presented in Part 4 of this report. FOMC participants generally viewed the outlook for the economy as having improved modestly in recent months. Participants expected real GDP to bottom out in the second half of this year and then to move onto a path of gradual recovery, bolstered by an accommodative monetary policy, government efforts to stabilize financial markets, and fiscal stimulus. However, all participants expected that labor market conditions would continue to deteriorate during the remainder of this year and improve only slowly over the subsequent two years, with the unemployment rate still elevated at the end of 2011. FOMC participants expected total and core inflation to be lower in 2009 than during 2008 as a whole, in part because of the sizable amount of slack in resource utilization; inflation was forecast to remain subdued in 2010 and 2011.

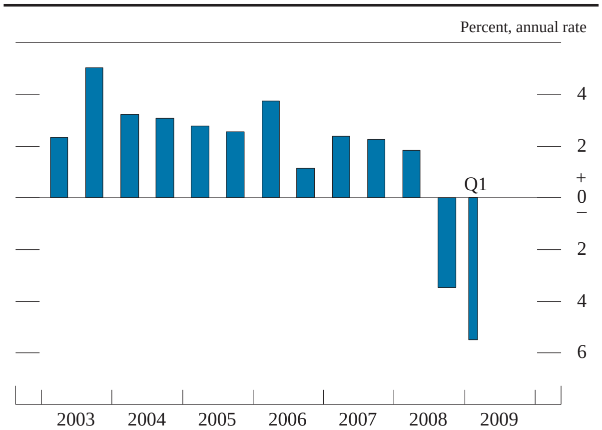
Participants generally judged that the degree of uncertainty surrounding the medium-term outlook for both economic activity and inflation exceeded historical norms. Participants viewed the risks to their projections of economic growth over the medium run as either balanced or tilted to the downside, and most saw the risk to their projections of medium-run inflation as balanced. Participants also reported their assessments of the rates to which key macroeconomic variables would be expected to converge in the longer run under appropriate monetary policy and in the absence of further shocks to the economy. Most participants expected real GDP to grow in the longer run at an annual rate of about 2½ percent, the unemployment rate to be about 5 percent, and the rate of consumer price inflation to be about 2 percent.

Part 2
Recent Financial and Economic Developments

Economic activity, which fell sharply in the fourth quarter of 2008, declined at nearly the same rate in the first quarter of 2009. (For the change in real gross domestic product (GDP) in recent years, see figure 1.) However, the pace of contraction appears to have moderated somewhat of late. To be sure, businesses have continued to cut back on investment spending, and firms have reacted to the abrupt rise in inventory-sales ratios around the turn of the year by cutting production and running down inventories at a more rapid pace, particularly in the motor vehicle sector. Nevertheless, consumer spending seems to have stabilized, on balance, in the first half of this year, and housing activity, while still quite depressed, has leveled off in recent months. And, while the recession abroad led to another sharp drop in export demand in the first quarter, the latest indicators suggest that the contraction in foreign activity has lessened, especially in emerging Asian economies. In the labor market, the pace of job loss has diminished in recent months from the rate earlier this year; nonetheless, employment declines have remained sizable, and the unemployment rate has risen sharply. Meanwhile, inflation remained subdued in the first half of this year (figure 2).

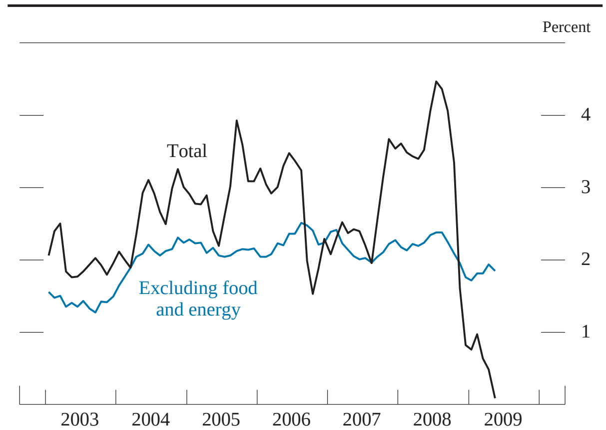
In early 2009, strains in some financial markets appeared to intensify from the levels seen in late 2008.

1. Change in real gross domestic product, 2003–09



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.

2. Change in the chain-type price index for personal consumption expenditures, 2003–09



Note: The data are monthly and extend through May 2009; changes are from one year earlier.
Source: Department of Commerce, Bureau of Economic Analysis.

Market participants' concerns about major financial institutions increased, equity prices for such institutions fell, and their credit default swap (CDS) spreads widened substantially. These developments spilled over to broader markets, with equity prices falling and spreads of yields on corporate bonds over those on comparable-maturity Treasury securities moving to near-record highs. Deterioration in the functioning of many financial markets restricted the flow of credit to businesses and households.

In response to these financial market stresses, the Federal Reserve and other government entities implemented additional policy initiatives to support financial stability and promote economic recovery. Federal Reserve initiatives included expanding direct purchases of agency debt and agency mortgage-backed securities (MBS), beginning direct purchases of longer-term Treasury securities, and providing loans against consumer and other asset-backed securities (ABS).[1] Other government entities also undertook new measures to support the financial sector, including the provision of

1. For more information, see Board of Governors of the Federal Reserve System (2009), *Federal Reserve System Monthly Report on Credit and Liquidity Programs and the Balance Sheet* (Washington: Board of Governors, July), www.federalreserve.gov/files/monthlyclbsreport200907.pdf.

more capital to banking institutions under the Capital Purchase Program, or CPP, and the announcement of programs to help banks manage their legacy assets. In addition, the bank supervisory agencies undertook a special assessment of the capital strength of the largest U.S. banking organizations (the Supervisory Capital Assessment Program, or SCAP).

Partly as a result of these efforts, conditions in financial markets began to show signs of improvement starting in March, although they remained strained. During the subsequent few months, both equity prices of financial firms and broad equity price indexes rose, on balance, and corporate bond spreads narrowed. Firms responded by substituting longer-term financing through the corporate bond market for shorter-term funding from bank loans and commercial paper (CP). Supported by the Federal Reserve's Term Asset-Backed Securities Loan Facility (TALF), issuance of consumer ABS began to approach pre-crisis levels. Short-term interbank funding markets also showed substantial improvement, and banking institutions involved in the SCAP were able to issue significant amounts of public equity and nonguaranteed debt. However, outstanding bank loans to households and nonfinancial businesses continued to decline amid expectations that borrower credit quality would deteriorate further, risk spreads in many markets that were still quite elevated, and financial conditions that remained somewhat strained.

Domestic Developments

The Household Sector

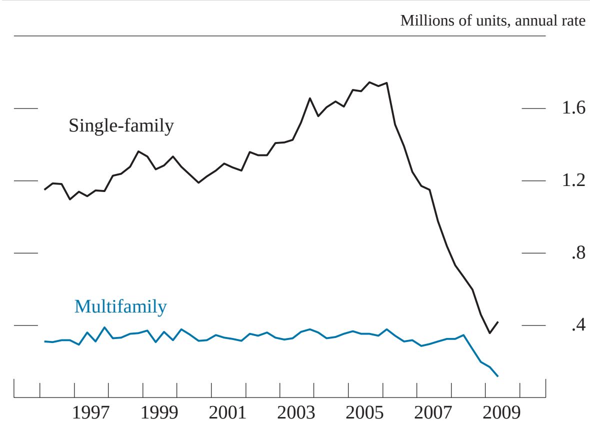
Residential Investment and Housing Finance

Although home prices have continued to fall, the steep declines in housing demand and construction that began in late 2005 appear to be abating. Sales of existing single-family homes have flattened out at a little more than 4 million units at an annual rate since late last year, and sales of new single-family homes have been little changed since January at a bit below 350,000 units. That said, the pace of sales for both new and existing homes is still very low by historical standards.

In the single-family housing sector, starts of new units appear to have firmed of late, though they remain at a depressed level (figure 3). With this restrained level of construction, months' supply of unsold new homes relative to sales has come down somewhat from its peak at the turn of the year, but it still remains quite high compared with earlier in the decade. Starts in the multifamily sector—which had held up well through the spring of 2008 even as single-family activity was plummeting—have deteriorated considerably over the past year. These declines have coincided with a substantial worsening of many of the economic and financial factors that influence construction in this sector, including reports of a pullback in the availability of credit for new projects and a sharp decline in the price of apartment buildings following a multiyear run-up.

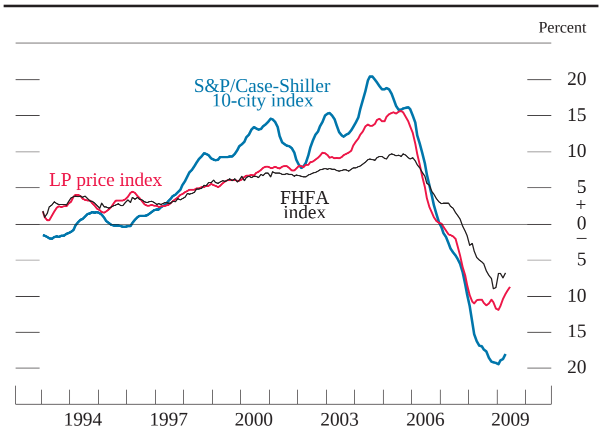
House prices continued to fall in the first part of this year. The latest readings from national indexes show price declines for existing homes over the past

3. Private housing starts, 1996–2009



NOTE: The data are quarterly and extend through 2009:Q2.
SOURCE: Department of Commerce, Bureau of the Census.

4. Change in prices of existing single-family houses, 1993–2009



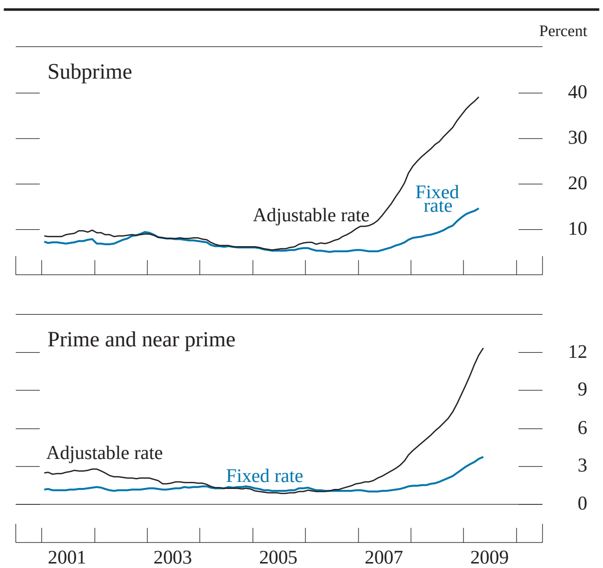
NOTE: The data are monthly and extend into 2009:Q2; changes are from one year earlier. The LP price index includes purchase transactions only. The FHFA index (formerly calculated by the Office of Federal Housing Enterprise Oversight) also includes purchase transactions only. The S&P/Case-Shiller index reflects all arm's-length sales transactions in the metropolitan areas of Boston, Chicago, Denver, Las Vegas, Los Angeles, Miami, New York, San Diego, San Francisco, and Washington, D.C.
SOURCE: For LP, LoanPerformance, a division of First American CoreLogic; for FHFA, Federal Housing Finance Agency; for S&P/Case-Shiller, Standard & Poor's.

12 months in the range of 7 to 18 percent (figure 4). One such measure with wide geographic coverage, the LoanPerformance repeat-sales price index, fell more than 9 percent over the 12 months ending in May and is now 20 percent below the peak that it achieved in mid-2006. Price declines have been particularly marked in areas of the country that have experienced a large number of foreclosure-related sales, such as Nevada, Florida, California, and Arizona. Lower prices improve the affordability of homeownership for potential new buyers and, all else being equal, should eventually help bolster housing demand. However, expectations of further declines in house prices can make potential buyers reluctant to enter the market. Although consumer surveys continue to suggest that a sizable portion of households expect house prices to fall in the coming year, the share of such households appears to have subsided in recent months.

With house prices still falling, conditions in the labor market deteriorating, and household financial conditions remaining weak, delinquency rates continued to rise across all categories of mortgage loans. As of April 2009, nearly 40 percent of adjustable-rate subprime loans and 15 percent of fixed-rate subprime loans were seriously delinquent (figure 5).[2] In May 2009, delinquency rates for prime and near-prime loans reached

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.

5. Mortgage delinquency rates, 2001–09



Note: The data are monthly and extend through April 2009 for subprime and May 2009 for prime and near prime. Delinquency rate is the percent of loans 90 days or more past due or in foreclosure.

Source: For subprime, LoanPerformance, a division of First American CoreLogic; for prime and near prime, Lender Processing Services, Inc.

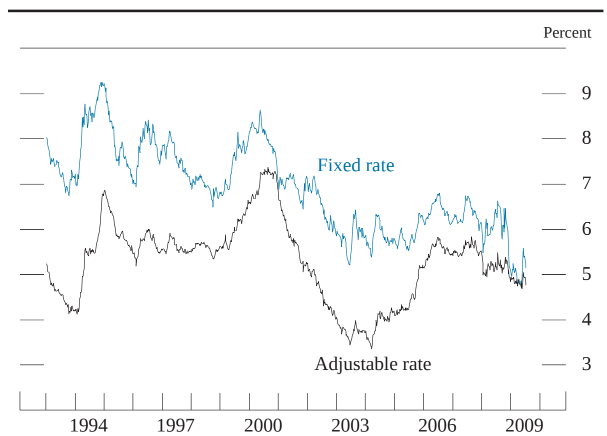
about 12 percent for adjustable-rate loans and 4 percent for fixed-rate loans, representing substantial increases over the past year to historic highs.

Foreclosures also jumped in 2009. Over the last three quarters of 2008, about 600,000 homes entered the foreclosure process each quarter. During the first quarter of 2009, about 750,000 homes entered the process. The increase may be related to the expiration of temporary foreclosure moratoriums that were put in place by some state and local governments, some private firms, and the government-sponsored enterprises (GSEs) late last year. The Treasury Department has recently established the Making Home Affordable program, which encompasses several efforts designed to lower foreclosure rates. The program includes a provision to allow borrowers to refinance easily into mortgages with lower payments and a provision to encourage mortgage lenders and servicers to modify delinquent mortgages.

Interest rates on 30-year fixed-rate conforming mortgages declined during early 2009; although those rates have risen more recently, about in line with increases in Treasury rates, mortgage rates remain at historically low levels (figure 6). Part of the decrease may have reflected expansion of the Federal Reserve's agency MBS purchase program. Early in the year, spreads of rates on conforming fixed-rate mortgages over long-term Treasury yields fell to their lowest levels in more than a year. Offer rates on nonconforming jumbo fixed-rate loans fell slightly but continued to be well above rates on conforming loans.[3] Although

3. Conforming mortgages are those eligible for purchase by Fannie Mae and Freddie Mac; they must be equivalent in risk to a prime mortgage with an 80 percent loan-to-value ratio, and they cannot exceed in size the conforming loan limit. The conforming loan limit

6. Mortgage interest rates, 1993–2009



Note: The data, which are weekly and extend through July 15, 2009, are contract rates on 30-year mortgages.

Source: Federal Home Loan Mortgage Corporation.

the declines in rates and spreads made borrowing relatively less expensive for those qualified for conforming mortgages, access to credit remained limited for many other borrowers. In the April 2009 Senior Loan Officer Opinion Survey on Bank Lending Practices, a majority of respondents indicated that they had tightened standards on residential mortgages over the preceding three months, an extension of the prevailing trend in earlier quarters, that about 40 percent of banks had reduced the size of existing home equity lines of credit, and that only a few of the banks reported having made subprime loans. The secondary market for conventional mortgage loans not guaranteed by Fannie Mae or Freddie Mac remained essentially shut.

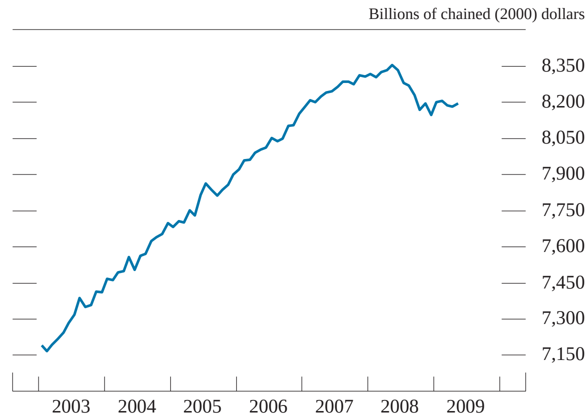
Mortgage debt outstanding was about flat in the first quarter of 2009, with the effects of the weakness in the housing market and relatively restricted access to credit offsetting the influence of lower mortgage rates. The available indicators suggest that mortgage debt likely remained very soft in the second quarter. Refinancing activity was somewhat elevated early in the year, probably due to low mortgage interest rates and the waiver of many fees and easing of many underwriting terms by the GSEs. However, such activity moderated considerably when interest rates rose during the past few months.

Consumer Spending and Household Finance

Consumer spending appears to have leveled off so far this year after falling sharply in the second half of last year (figure 7). Continued widespread job losses and the drag from large declines in household wealth have weighed on consumption; however, spending lately has been supported by the boost to household incomes from the fiscal stimulus package enacted in February. Measures of consumer sentiment, while still at depressed levels, have nonetheless moved up from the historical lows recorded around the turn of the year.

Real personal consumption expenditures (PCE), although variable from month to month, have essentially moved sideways since late last year. Sales of new light motor vehicles continued to contract early this year but have stabilized in recent months—at an average annual rate of 9.7 million units over the four months ending in June. Outlays on other goods, which

7. Real personal consumption expenditures, 2003–09

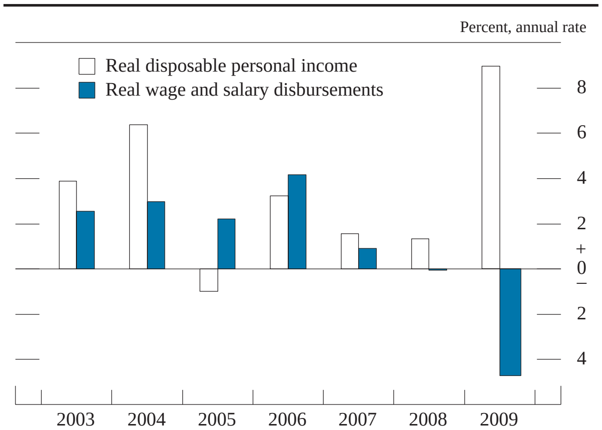


NOTE: The data are monthly and extend through May 2009.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

plunged in 2008, have remained at extremely low levels, while spending on services has only edged up so far this year.

Real disposable personal income, or DPI—that is, after-tax income adjusted for inflation—has risen at an annual rate of about 9 percent so far this year, a substantial pickup from the increase of 1¼ percent posted in 2008 (figure 8). Gains in after-tax income have been bolstered by the tax cuts and increases in social benefit payments that were implemented as part of the 2009 fiscal stimulus package. In contrast, nominal labor income has been declining steeply. Although nominal hourly compensation has risen at a faster pace than overall prices, sizable reductions in employment and the workweek have cut deeply into total hours worked and hence

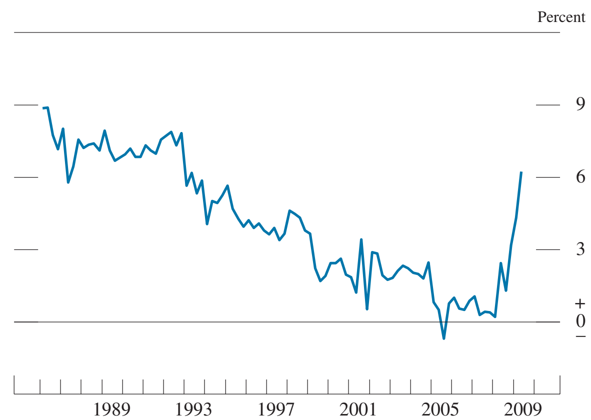
8. Change in real income and in real wage and salary disbursements, 2003–09



NOTE: Through 2008, change is from December to December; for 2009, change is from December to May.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

for a first mortgage on a single-family home in the contiguous United States is currently equal to the greater of $417,000 or 115 percent of the area's median house price; it cannot exceed $625,500. Jumbo mortgages are those that exceed the maximum size of a conforming loan; they are typically extended to borrowers with relatively strong credit histories.

9. Personal saving rate, 1986–2009

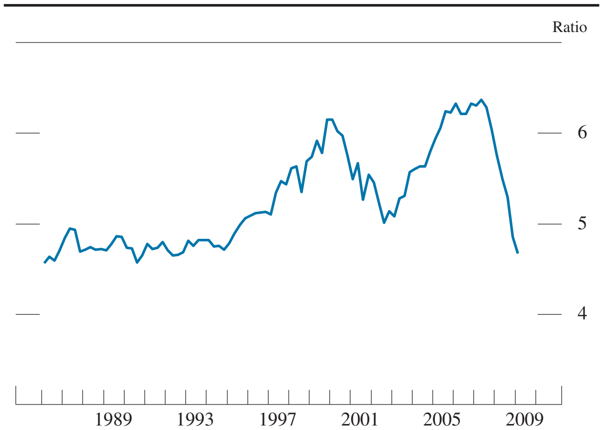


NOTE: The data are quarterly and extend through 2009:Q2; the reading for 2009:Q2 is the average for April and May.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

overall labor compensation. With real after-tax income up appreciably in the first half of the year and consumer outlays leveling off, the personal saving rate jumped during the spring, reaching nearly 7 percent in May compared with the 1¾ percent average recorded during 2008 (figure 9).

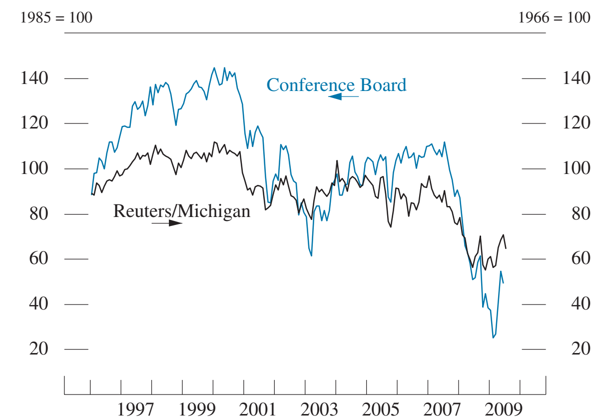
Household net worth continued to fall in the first quarter of this year as a result of the ongoing declines in house prices and a further drop in equity prices (figure 10). However, equity prices have recorded substantial gains since March, helping to offset continued declines in the value of real estate wealth. The recent stimulus-induced jump in real disposable income and the improvement in equity wealth since this spring appar-

10. Wealth-to-income ratio, 1986–2009



NOTE: The data are quarterly and extend through 2009:Q1. The wealth-to-income ratio is the ratio of household net worth to disposable personal income.
SOURCE: For net worth, Federal Reserve Board, flow of funds data; for income, Department of Commerce, Bureau of Economic Analysis.

11. Consumer sentiment, 1996–2009



NOTE: The Conference Board data are monthly and extend through June 2009. The Reuters/University of Michigan data are monthly and extend through a preliminary estimate for July 2009.
SOURCE: The Conference Board and Reuters/University of Michigan Surveys of Consumers.

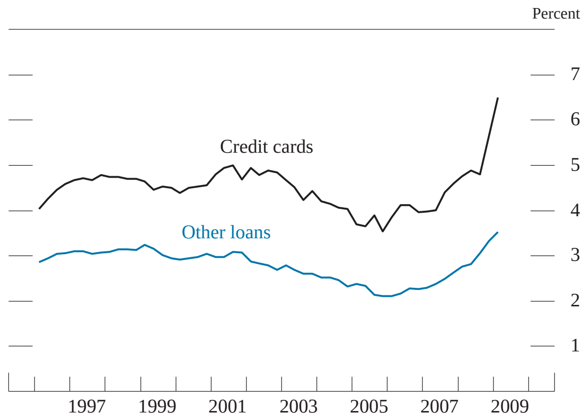
ently helped lift consumer sentiment somewhat from its earlier very low levels (figure 11).

Nonmortgage consumer debt outstanding is estimated to have fallen at an annual rate of 2 percent in the first half of 2009, extending a decline that began in the final quarter of 2008. The decreases likely reflect both reduced demand for loans as a result of the restrained pace of consumer spending and a restricted supply of credit. The April 2009 Senior Loan Officer Opinion Survey showed a further tightening of standards and terms on consumer loans over the preceding three months, actions that included lowering credit limits on existing credit card accounts.

The tightening in standards and terms likely reflected, in part, concerns by financial institutions about consumer credit quality. Delinquency rates on most types of consumer lending—credit card loans, auto loans, and other nonrevolving loans—continued to rise during the first half of 2009. The increase in credit card loan delinquency rates at banks was particularly sharp, and at 6½ percent as of the end of the first quarter of 2009, such delinquencies exceeded the level reached during the 2001 recession (figure 12). Household bankruptcy rates continued the upward trend that has been evident since the bankruptcy law reform in 2005; the recent increases likely reflect the deterioration in household financial conditions.

Changes in interest rates on consumer loans were mixed over the first half of the year. Auto loan rates were about flat, credit card rates ticked upward, and rates on other consumer loans showed a slight decline. Spreads of these rates over those on comparable-maturity Treasury securities remained at elevated levels.

12. Delinquency rates on consumer loans at commercial banks, 1996–2009



NOTE: The data are quarterly and extend through 2009:Q1. Delinquency rate is the percent of loans 30 days or more past due.
SOURCE: Federal Financial Institutions Examination Council, Consolidated Reports of Condition and Income (Call Report).

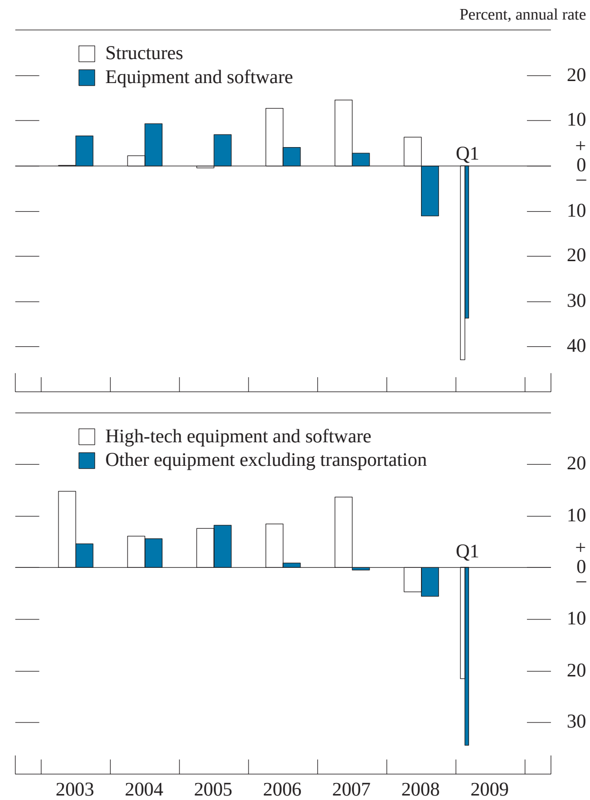
Before the onset of the financial crisis, the market for ABS provided significant support for consumer lending by effectively reducing the cost to lenders of providing such credit. The near-complete cessation of issuance in this market in the fourth quarter of 2008 thus likely contributed importantly to the curtailment of consumer credit. Issuance of credit card, auto, and student loan ABS began to pick up in March and approached pre-crisis levels in April and May. Spreads of yields on AAA-rated credit card and auto ABS over yields on swaps fell sharply in early 2009, although they remained at somewhat elevated levels. The increased issuance and falling spreads appeared to reflect importantly the TALF program, which had been announced in late 2008 and began operation in March 2009. Availability of loans to purchase automobiles, which had declined sharply at the end of 2008, rebounded in early 2009 as some auto finance companies accessed credit through the TALF and others received funding directly from the government.

The Business Sector

Fixed Investment

Businesses have continued to cut back capital spending, with declines broadly based across equipment, software, and structures. Real business fixed investment fell markedly in the final quarter of 2008 and the first quarter of this year (figure 13). The cutbacks in business investment were prompted by a deterioration late last year and early this year in the economic and financial conditions that influence capital expenditures: In

13. Change in real business fixed investment, 2003–09



NOTE: High-tech equipment consists of computers and peripheral equipment and communications equipment.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

particular, business output contracted steeply, corporate profits declined, and credit availability remained tight for many borrowers. More recently, it appears that the declines in capital spending may be abating, and financing conditions for businesses have improved somewhat.

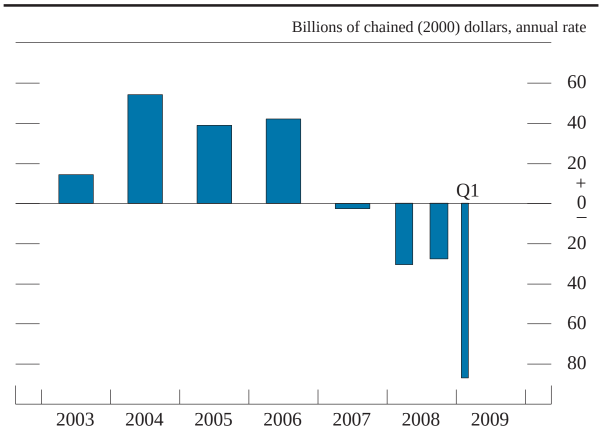
Real business outlays for equipment and software dropped at an annual rate of 34 percent in the first quarter of 2009 after falling nearly as rapidly in the fourth quarter. In both quarters, business purchases of motor vehicles plunged at annual rates of roughly 80 percent, and real spending on high-tech capital—computers, software, and communications equipment—fell at an annual rate of more than 20 percent. Real investment in equipment other than high tech and transportation, which accounts for nearly one-half of outlays for equipment and software, dropped at an annual rate of about 35 percent in the first quarter after falling at a 20 percent rate in the previous quarter. The available indicators suggest that real spending on equipment and software fell further in the second quarter, though at a much less precipitous pace: Although shipments of nondefense capital goods other than transportation items continued to fall in April and May, the rate of decline slowed from the first-quarter pace. In addition, business purchases of new trucks and cars appear to have stabilized in the second quarter (albeit at low levels), and recent surveys of business conditions have been generally less downbeat than earlier this year.

Real spending on nonresidential structures turned down late last year and fell sharply in the first quarter. Outlays for construction of commercial and office buildings declined appreciably late last year and have contracted further so far this year. Spending on drilling and mining structures, which had risen briskly for a number of years, has plunged this year in response to the substantial net decline in energy prices since last summer. In contrast, outlays on other energy-related projects—such as new power plants and the expansion and retooling of existing petroleum refineries—have been growing rapidly for some time now and continued to post robust gains through May. On balance, the recent data on construction expenditures suggest that declines in spending on nonresidential structures may have slowed in the second quarter. However, weak business output and profits, tight financing conditions, and rising vacancy rates likely will continue to weigh heavily on this sector.

Inventory Investment

Businesses ran off inventories aggressively in the first quarter, as firms entered the year with extremely high inventory-sales ratios despite having drawn down stocks throughout 2008 (figure 14). Much of the first-quarter liquidation occurred in the motor vehicle sector, where production was cut sharply and remained low in the second quarter. As a result, days' supply of domestic light vehicles dropped from its peak of about 100 days in February to less than 70 days at the end of June, closer to the automakers' preferred level.

14. Change in real business inventories, 2003–09



SOURCE: Department of Commerce, Bureau of Economic Analysis.

Firms outside of the motor vehicle sector also have been making significant production adjustments to bring down inventories. Factory output (excluding motor vehicles and parts) plunged in the first quarter, and inventories of nonfarm goods other than motor vehicles were drawn down noticeably in real terms. According to the available data, this pattern of production declines and inventory liquidation appears to have continued in the second quarter as well. Although inventory-sales ratios remain elevated in many industries, some recent business surveys suggest that firms have become more comfortable in recent months with the current level of inventories.

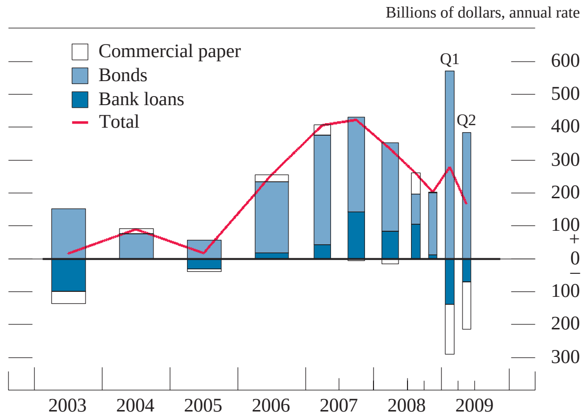
Corporate Profits and Business Finance

Operating earnings per share for S&P 500 firms in the first quarter were about 35 percent below their year-earlier levels. Profitability of both financial and nonfinancial firms showed steep declines. Analysts' forecasts suggest that the pace of profit declines moderated only slightly in the second quarter, although downward revisions to forecasts for earnings over the next two years have slowed recently.

Business financial conditions in the first half of the year were characterized by lower demand for funds, even as financial conditions eased somewhat on balance. Borrowing by domestic nonfinancial businesses fell slightly in the first half of 2009 after having slowed markedly in the second half of 2008 (figure 15). The composition of borrowing shifted, with net issuance of corporate bonds surging, while both commercial and industrial (C&I) loans and CP outstanding fell. This reallocation of borrowing may have reflected a desire by businesses to strengthen their balance sheets by substituting longer-term sources of financing for shorter-term sources during a period when the cost of bond financing was generally falling. In particular, yields on both investment- and speculative-grade corporate bonds dropped sharply, and their spreads over yields on comparable-maturity Treasury securities narrowed appreciably, as investors' concerns about the economic outlook eased. Nonetheless, bond spreads remained somewhat elevated by historical standards.

C&I and commercial real estate (CRE) lending by commercial banks were both quite weak in the first half of 2009, likely reflecting reduced demand for loans and a tighter lending stance on the part of banks. The results of the April 2009 Senior Loan Officer Opinion Survey

15. Selected components of net financing for nonfinancial corporate businesses, 2003–09

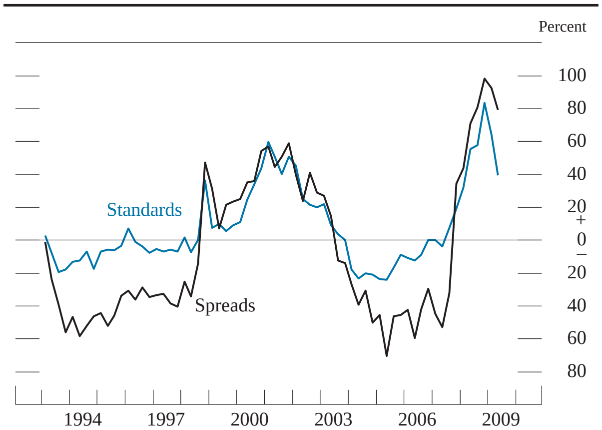


NOTE: The data for the components except bonds are seasonally adjusted. The data for 2009:Q2 are estimated.
SOURCE: Federal Reserve Board, flow of funds data.

indicated that commercial banks had tightened terms and standards on C&I and CRE loans over the preceding three months (figure 16). The market for commercial mortgage-backed securities (CMBS)—an important source of funding before the crisis—remained shut.

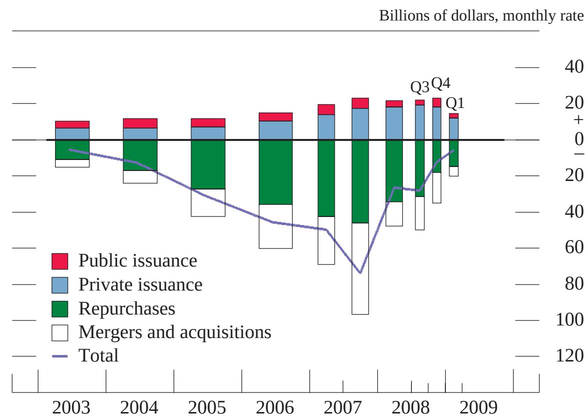
Both seasoned and initial equity offerings by nonfinancial corporations were modest over the first half of 2009 (figure 17). Equity retirements are estimated to have slowed in early 2009 from their rapid pace during

16. Net percentage of domestic banks tightening standards and increasing spreads on commercial and industrial loans to large and medium-sized borrowers, 1993–2009



NOTE: The data are drawn from a survey generally conducted four times per year; the last observation is from the April 2009 survey, which covers 2009:Q1. Net percentage is the percentage of banks reporting a tightening of standards or an increase in spreads less the percentage reporting an easing or a decrease. Spreads are measured as the loan rate less the bank's cost of funds. The definition for firm size suggested for, and generally used by, survey respondents is that large and medium-sized firms have annual sales of $50 million or more.
SOURCE: Federal Reserve Board, Senior Loan Officer Opinion Survey on Bank Lending Practices.

17. Components of net equity issuance, 2003–09



NOTE: Net equity issuance is the difference between equity issued by domestic companies in public or private markets and equity retired through share repurchases, domestic cash-financed mergers, or foreign takeovers of U.S. firms. Equity issuance includes funds invested by private equity partnerships and stock option proceeds.
SOURCE: Thomson Financial, Investment Benchmark Report; Money Tree Report by PricewaterhouseCoopers, National Venture Capital Association, and Venture Economics.

the second half of 2008. As a result, net equity issuance in the first quarter declined by the smallest amount since 2002.

The credit quality of nonfinancial firms continued to deteriorate in the first half of 2009. The pace of rating downgrades on corporate bonds increased, and upgrades were relatively few. Delinquency rates on banks' C&I loans continued to increase in the first quarter, while those on CRE loans rose substantially (figure 18). Delinquency rates on construction and land development loans for one- to four-family residential properties increased to more than 20 percent. Banks that responded to the Senior Loan Officer Opinion Survey conducted in April 2009 expected delinquency and charge-off rates on such loans to increase over the rest of 2009, assuming that economic activity progressed in line with consensus forecasts.

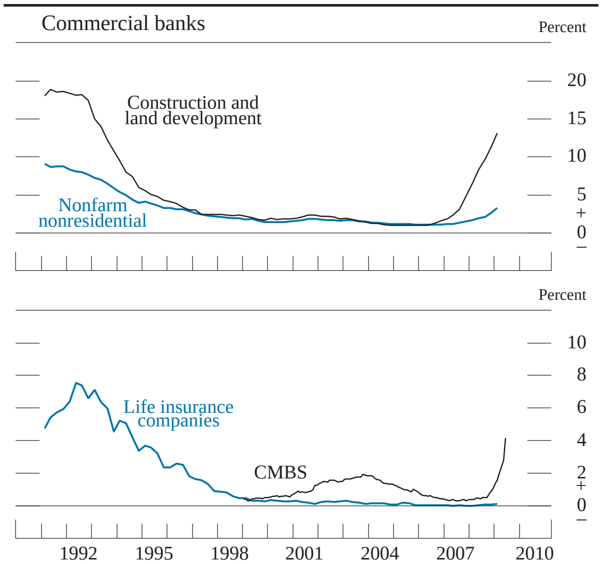
Financial firms issued bonds at a solid pace, including both debt issued under the Temporary Liquidity Guarantee Program of the Federal Deposit Insurance Corporation (FDIC) and debt issued without such guarantees. Equity issuance by such firms picked up substantially from a very low level following the completion of the SCAP reviews in May.

The Government Sector

Federal Government

The deficit in the federal unified budget has increased substantially during the current fiscal year. The budget

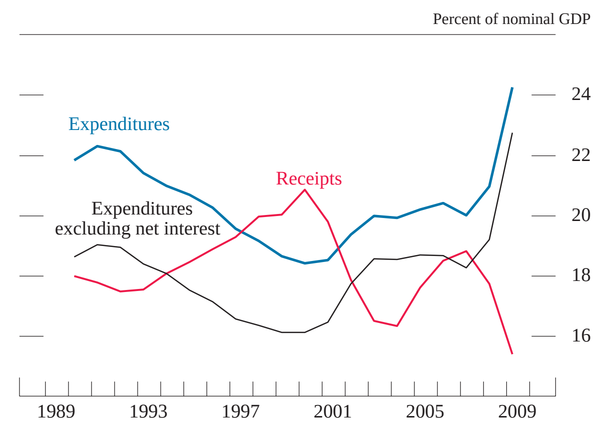
18. Delinquency rates on commercial real estate loans, 1991–2009



Note: The data for commercial banks and life insurance companies are quarterly and extend through 2009:Q1. The data for commercial mortgage-backed securities (CMBS) are monthly and extend through May 2009. The delinquency rates for commercial banks and CMBS are the percent of loans 30 days or more past due or not accruing interest. The delinquency rate for life insurance companies is the percent of loans 60 days or more past due or not accruing interest.

Source: For commercial banks, Federal Financial Institutions Examination Council, Consolidated Reports of Condition and Income (Call Report); for life insurance companies, American Council of Life Insurers; for CMBS, Citigroup.

19. Federal receipts and expenditures, 1989–2009



Note: Through 2008, receipts and expenditures are on a unified-budget basis and are for fiscal years (October through September); gross domestic product (GDP) is for the four quarters ending in Q3. For 2009, receipts and expenditures are for the 12 months ending in June, and GDP is the average of 2008:Q4 and 2009:Q1.

Source: Office of Management and Budget.

costs associated with the Troubled Asset Relief Program (TARP), the conservatorship of the mortgage-related GSEs, and the fiscal stimulus package enacted in February, along with the effects of the weak economy on outlays and revenues, have all contributed to the widening of the budget gap. Over the first nine months of fiscal year 2009—from October through June—the unified budget recorded a deficit of about $1.1 trillion. The deficit is expected to widen further over the rest of the fiscal year because of the continued slow pace of economic activity, additional spending increases and tax cuts associated with the fiscal stimulus legislation, and further costs related to financial stabilization programs. The budget released by the Office of Management and Budget in May, which included the effects of the President's budget proposals, calculated that the deficit for fiscal 2009 would total more than $1.8 trillion (13 percent of nominal GDP), significantly larger than the deficit in fiscal 2008 of $459 billion (3¼ percent of nominal GDP).[4]

The decline in economic activity has cut deeply into tax receipts so far this fiscal year (figure 19). After falling about 2 percent in fiscal 2008, federal receipts dropped about 18 percent in the first nine months of fiscal 2009 compared with the same period in fiscal 2008. The decline in revenue has been particularly pronounced for corporate receipts, which have plunged as corporate profits have contracted and as firms have presumably adjusted payments to take advantage of the bonus depreciation provisions contained in the Economic Stimulus Act of 2008 and the American Recovery and Reinvestment Act of 2009. Individual income and payroll tax receipts have also declined noticeably, reflecting the weakness in nominal personal income and reduced capital gains realizations.[5]

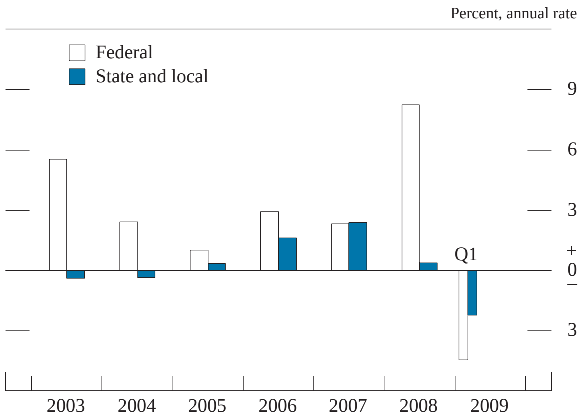
Nominal federal outlays have risen markedly of late. After having increased about 9 percent in fiscal 2008, outlays in the first nine months of fiscal 2009 were almost 21 percent higher than during the same period in fiscal 2008. Spending was boosted, in part, by $232 billion in outlays recorded for activities under the TARP and the conservatorship of the GSEs so far this fiscal year.[6] Spending for income support—particularly

4. The President's budget includes a placeholder for additional funds for financial stabilization programs that have not been enacted but have an estimated budget cost of $250 billion.

5. While the 2009 stimulus plan has reduced individual taxes by around $13 billion so far in fiscal 2009, the stimulus tax rebates in 2008 lowered individual taxes by about $50 billion during the same period last year. Thus, the tax cuts associated with fiscal stimulus have not contributed to the year-over-year decline in individual tax receipts.

6. In the Monthly Treasury Statements and the Administration's budget, both equity purchases and debt-related transactions under the TARP are recorded on a net-present-value basis, taking into account market risk, and the Treasury's purchases of the GSE's MBS are

20. Change in real government expenditures on consumption and investment, 2003–09



Source: Department of Commerce, Bureau of Economic Analysis.

for unemployment insurance benefits—has been pushed up by the deterioration in labor market conditions as well as by policy decisions to expand funding for a number of benefit programs. Meanwhile, federal spending on defense, Medicare, and Social Security also has recorded sizable increases. In contrast, net interest payments declined compared with the same year-earlier period, as the reduction in interest rates on Treasury debt more than offset the rise in Treasury debt.

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—fell at an annual rate of 4½ percent in the first quarter following its steep rise of more than 8 percent in 2008 (figure 20). Real defense spending more than accounted for the first-quarter contraction, as nondefense outlays increased slightly. However, in the second quarter, defense spending appears to have rebounded, and it is likely to rise further in coming quarters given currently enacted appropriations.

Federal Borrowing

Federal debt continued to increase in the first half of 2009, although at a slightly less rapid pace than had been posted in the second half of 2008. Despite the considerable issuance of Treasury securities in the first half of the year, demand at Treasury auctions generally kept pace, with bid-to-cover ratios within historical ranges. Foreign custody holdings of Treasury securities at the Federal Reserve Bank of New York grew steadily over the first half of the year. Fails-to-deliver of Treasury securities, which were elevated earlier in the year, generally decreased after the May 1 implementation of the Treasury Market Practices Group's recommendation of a mandatory charge for delivery failures.[7]

State and Local Government

The fiscal positions of state and local governments have deteriorated significantly over the past year, and budget strains are particularly acute in some states, as revenues have come in weaker than policymakers expected. At the state level, revenues from income, business, and sales taxes have declined sharply.[8] Plans by states to address widening projected budget gaps have included cutting planned spending, drawing down rainy day funds, and raising taxes and fees. In coming quarters, the grants-in-aid included in the fiscal stimulus legislation will likely mitigate somewhat the pressures on state budgets, but many states are still expecting significant budget gaps for the upcoming fiscal year. At the local level, revenues have held up fairly well; receipts from property taxes have continued to rise moderately, reflecting the typically slow response of property taxes to changes in home values.[9] Nevertheless, the sharp fall in house prices over the past two years is likely to put downward pressure on local revenues before long. Moreover, many state and local governments have experienced significant capital losses in their employee pension funds in the past year, and they will need to set aside money in coming years to rebuild pension assets.

recorded on a net-present-value basis. However, equity purchases from the GSEs in conservatorship are recorded on a cash-flow basis.

7. The fails charge is incurred when a party to a repurchase agreement or cash transaction fails to deliver the contracted Treasury security to the other party by the date agreed upon. The charge is a share of the value of the security, where the share is the greater of 3 percent (at an annual rate) minus the target federal funds rate (or the bottom of the range when the Federal Open Market Committee specifies a range) and zero. Previously, the practice was that a failed transaction was allowed to settle on a subsequent day at an unchanged invoice price; therefore, the cost of a fail was the lost interest on the funds owed in the transaction, which was minimal when short-term interest rates were very low. The new practice of a fails charge ensures that the total cost of a fail is at least 3 percent.

8. Sales taxes account for nearly one-half of the tax revenues collected by state governments.

9. The delay between changes in house prices and changes in property tax revenues likely occurs for three reasons. First, property taxes are based on assessed property values from the previous year. Second, in many jurisdictions, assessments are required to lag contemporaneous changes in market values (or they lag such changes for administrative reasons). Third, many localities are subject to state limits on the annual increases in total property tax payments and property value assessments. Thus, increases and decreases in market prices for houses tend not to be reflected in property tax bills for quite some time.

Outlays by state and local governments have been restrained by the pressures on their budgets. As measured in the NIPA, aggregate real expenditures on consumption and gross investment by state and local governments—the part of state and local spending that is a direct component of GDP—fell in both the fourth quarter of last year and the first quarter of this year, led by sharp declines in real construction spending. However, recent data on construction expenditures suggest that investment spending in the second quarter picked up, reversing a portion of the earlier declines. State and local employment has remained about flat over the past year, although some state and local governments are in the process of reducing outlays for compensation through wage freezes and mandatory furloughs that are not reflected in the employment figures.

State and Local Government Borrowing

On net, bond issuance by state and local governments picked up in the second quarter of 2009 after having been tepid during the first quarter. Issuance of short-term debt remained modest, although about in line with typical seasonal patterns. Issuance of long-term debt, which is generally used to fund capital spending projects or to refund existing long-term debt, increased from the sluggish pace seen in the second half of 2008. The composition of new issues continued to be skewed toward higher-rated borrowers.

Interest rates on long-term municipal bonds declined in April as investors' concerns about the credit quality of municipal bonds appeared to ease somewhat with the passage of the fiscal stimulus plan, which included a substantial increase in the amount of federal grants to states and localities. That bill also aided the finances of state and local governments by establishing Build America Bonds, taxable state and local government bonds whose interest payments are subsidized by the Treasury at a 35 percent rate. Yields on municipal securities rose somewhat in May and June, concomitant with the rise in other long-term interest rates over that period; even so, the ratio of municipal bond yields to those on comparable-maturity Treasury securities dropped to its lowest level in almost a year.

In contrast to long-term municipal bond markets, conditions in short-term municipal bond markets continued to exhibit substantial strains. Market participants continued to report that the cost of liquidity support and credit enhancement for variable-rate demand obligations (VRDOs)—bonds that combine long maturities with floating short-term interest rates—remained substantially higher than it had been a year earlier.[10] In addition, auctions of most remaining auction-rate securities failed. Some municipalities were able to issue new VRDOs, but many lower-rated issuers appeared to be either unwilling or unable to issue this type of debt at the prices that would be demanded of them. However, the seven-day Securities Industry and Financial Markets Association swap index, a measure of yields for high-grade VRDOs, declined to the lowest level on record, suggesting that the market was working well for higher-rated issuers.

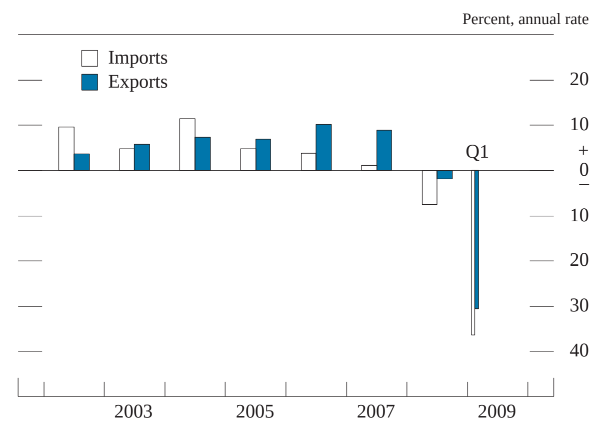
The External Sector

The demand for U.S. exports dropped sharply in the first quarter. However, U.S. demand for imports fell even more precipitously, softening the decline in real GDP.

Real exports of goods and services declined at an annual rate of 31 percent in the first quarter, exceeding even the 24 percent rate of decline in the fourth quarter of 2008 (figure 21). Exports in almost all major categories contracted, with exports of machinery, industrial supplies, automotive products, and services recording large decreases. (Exports of aircraft were the exception, with increases following the end of strike-related

10. VRDOs are taxable or tax-exempt bonds that combine long maturities with floating short-term interest rates that are reset on a weekly, monthly, or other periodic basis. VRDOs also have a contractual liquidity backstop, typically provided by a commercial or investment bank, that ensures that bondholders are able to redeem their investment at par plus accrued interest even if the securities cannot be successfully remarketed to other investors.

21. Change in real imports and exports of goods and services, 2002–09



NOTE: Data for 2009:Q1 are expressed as percent change from 2008:Q4.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

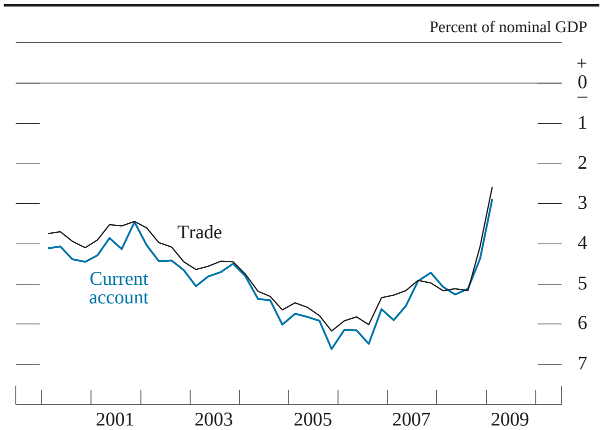
production disruptions in the fourth quarter.) All of our major trading partners reduced their demand for U.S. exports, with exports to Canada, Europe, and Mexico exhibiting especially significant declines. Data for April and May suggest that exports in the second quarter continued to fall, although more moderately, reflecting a slowing in the rate of contraction in foreign economic activity.

Real imports of goods and services fell at an annual rate of more than 36 percent in the first quarter. The drop in imports was widespread across U.S. trading partners, with large declines observed for imports from Canada, Europe, Japan, and Latin America. All major categories of imports fell, with imports of machinery, automotive products, and industrial supplies displaying particularly pronounced declines. The sharp fall in exports and imports of automotive products partly reflected cutbacks in North American production of motor vehicles, which relies heavily on flows of parts and finished vehicles among the United States, Canada, and Mexico.

In the first quarter of 2009, the U.S. current account deficit was $406 billion at an annual rate, or a bit less than 3 percent of GDP, considerably narrower than the $706 billion deficit recorded in 2008 (figure 22). The narrowing largely reflected the sharp reduction in the U.S. trade deficit, with the contraction in real imports described earlier being compounded by a steep fall in the value of nominal oil imports as oil prices declined.

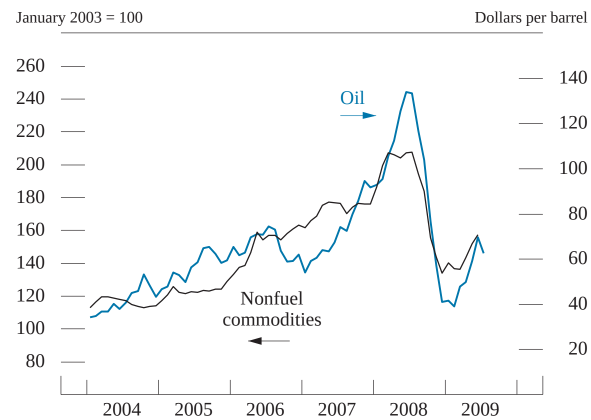
Import prices fell sharply in late 2008 and the first quarter of this year, but they have stabilized over the past few months. This pattern was influenced importantly by the swing in prices for oil and non-oil commodities, which turned back up in the second quarter. Prices for finished goods declined only slightly in the last quarter of 2008 and the first quarter of this year and have increased slightly in recent months.

22. U.S. trade and current account balances, 2000–09



NOTE: The data are quarterly and extend through 2009:Q1.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

23. Prices of oil and nonfuel commodities, 2004–09



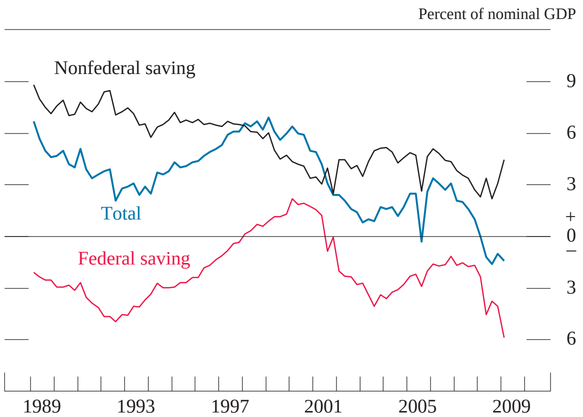
NOTE: The data are monthly. The oil price is the spot price of West Texas intermediate crude oil, and the last observation is the average for July 1–15, 2009. The price of nonfuel commodities is an index of 45 primary-commodity prices and extends through June 2009.
SOURCE: For oil, the Commodity Research Bureau; for nonfuel commodities, International Monetary Fund.

The price of crude oil in world markets rose considerably over the first half of this year (figure 23). After plunging from a record high of more than $145 per barrel in mid-July 2008 to a December average of about $40, the spot price of West Texas intermediate (WTI) crude oil rebounded to about $60 per barrel in mid-July of this year. The rebound in oil prices appears to reflect the view that the global demand for oil has begun to pick up once again. In addition, the ongoing effects of previous reductions in OPEC supply seem to be putting upward pressure on oil prices. The prices of longer-term futures contracts for crude oil have moved up to around $85 per barrel, reflecting the view that the market will continue to tighten as global demand strengthens over the medium term.

National Saving

Total net national saving—that is, the saving of households, businesses, and governments, excluding depreciation charges as measured in the NIPA—fell to a level of negative 1½ percent of nominal GDP in the first quarter of this year, its lowest reading in the post–World War II period (figure 24). After having reached 3½ percent of nominal GDP in early 2006, net national saving dropped over the subsequent three years as the federal budget deficit widened substantially and the fiscal positions of state and local governments deteriorated. In contrast, private saving has risen considerably, on balance, over this period, as a decline in business saving

24. Net saving, 1989–2009



Note: The data are quarterly and extend through 2009:Q1. Nonfederal saving is the sum of personal and net business saving and the net saving of state and local governments. GDP is gross domestic product.
Source: Department of Commerce, Bureau of Economic Analysis.

25. Net change in private payroll employment, 2003–09

Note: The data are monthly and extend through June 2009.
Source: Department of Labor, Bureau of Labor Statistics.

has been more than offset by the recent jump in personal saving. National saving will likely remain very low this year in light of the weak economy and the probable further widening of the federal budget deficit. Nonetheless, if not boosted over the longer run, persistent low levels of national saving will likely be associated with both low rates of capital formation and heavy borrowing from abroad, which would limit the rise in the standard of living of U.S. residents over time and hamper the ability of the nation to meet the retirement needs of an aging population.

The Labor Market

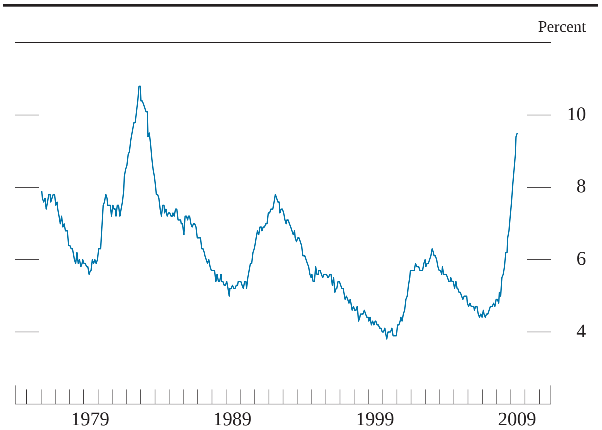
Employment and Unemployment

The labor market deteriorated significantly further in the first half of this year as employment continued to fall and the unemployment rate rose sharply. The job losses so far this year have been widespread across industries and have brought the cumulative decline in private employment since December 2007 to more than 6½ million jobs. In recent months, however, the pace of job loss has moderated somewhat. Private nonfarm payroll employment fell by 670,000 jobs, on average, per month from January to April, but the declines slowed to 312,000 in May and 415,000 in June (figure 25). In contrast, the civilian unemployment rate has continued to move up rapidly so far this year, climbing 2¼ percentage points between December 2008 and June to 9½ percent (figure 26).

Virtually all major industries experienced considerable job losses in the first few months of the year. More recently, employment declines in many industry groups have eased, and some industries have reported small gains. The May and June declines in construction jobs were the smallest since last fall, job declines in temporary help services slowed noticeably, and employment in nonbusiness services turned up in May and increased further in June. Meanwhile, in the manufacturing sector, employment declines have subsided a bit in recent months but still remain sizable; job losses in this sector have totaled 1.9 million since the start of the recession.

In addition to shedding jobs, firms have cut their labor input by shortening hours worked. Average weekly hours of production and nonsupervisory workers on private payrolls dropped sharply through June. In addition, the share of persons who reported that they were working part time for economic reasons—a group that

26. Civilian unemployment rate, 1976–2009



Note: The data are monthly and extend through June 2009.
Source: Department of Labor, Bureau of Labor Statistics.

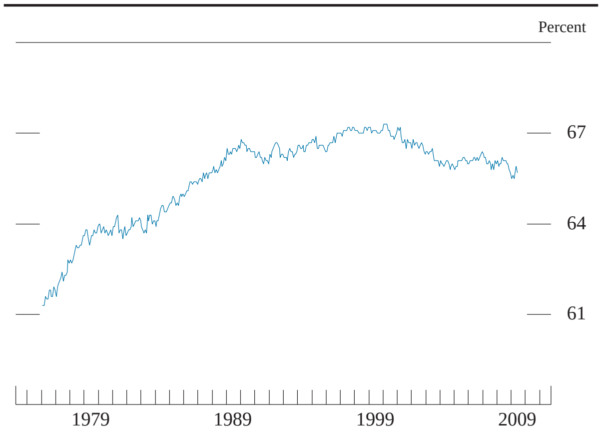
includes individuals whose hours have been cut by their employers as well as those who would like to move to full-time jobs but are unable to find them—is high.

Since the beginning of the recession in December 2007, the unemployment rate has risen more than 4½ percentage points. The rise in joblessness has been especially pronounced for those who lost their jobs permanently; these individuals tend to take longer to find new jobs than those on temporary layoffs or those who left their jobs voluntarily, and their difficulty in finding new jobs has been exacerbated by the ongoing weakness in hiring. Accordingly, the median duration of uncompleted spells of unemployment has increased from 8½ weeks in December 2007 to 18 weeks in June 2009, and the number of workers unemployed more than 15 weeks has moved up appreciably.

The labor force participation rate, which typically weakens during periods of rising unemployment, decreased gradually through March but has moved up somewhat, on balance, in recent months (figure 27). The emergency unemployment insurance programs that were introduced last July have likely contributed to the higher participation rate and unemployment rate by encouraging unemployed individuals to remain in the labor force to continue to look for work. In addition, anecdotes suggest that the impairment of household balance sheets during this recession may have led some workers to delay retirement and other workers to enter the labor force.

Other more recent indicators suggest that conditions in the labor market remain very weak. Initial claims for unemployment insurance, which rose dramatically earlier this year, have fallen noticeably from their peak but remain elevated, and the number of individuals receiving regular and emergency unemployment insurance benefits climbed, reaching nearly 10 million at the end of June.

27. Labor force participation rate, 1976–2009



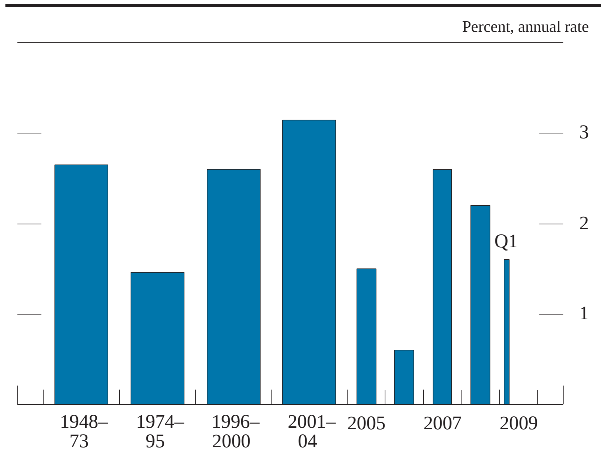
NOTE: The data are monthly and extend through June 2009.
SOURCE: Department of Labor, Bureau of Labor Statistics.

Productivity and Labor Compensation

Labor productivity has continued to increase at a surprising rate during the most recent downturn, in part because firms have responded to the contraction in aggregate demand by aggressively reducing employment and shortening the workweeks of their employees. According to the latest available published data, output per hour in the nonfarm business sector increased at an annual rate of about 1½ percent in the first quarter after rising 2¼ percent during all of 2008 (figure 28). If these productivity estimates prove to be accurate, they would suggest that the fundamental factors that have supported a solid trend in underlying productivity in recent years—such as the rapid pace of technological change and ongoing efforts by firms to use information technology to improve the efficiency of their operations—remain in place.

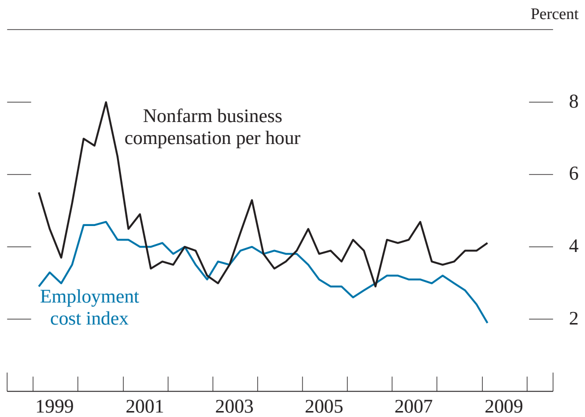
Alternative measures of nominal hourly compensation and wages suggest, on balance, that increases in labor costs have slowed this year in response to the sizable amount of slack in labor markets. The employment cost index (ECI) for private industry workers, which measures both wages and the cost to employers of providing benefits, has decelerated considerably over the past year (figure 29). This measure of compensation increased less than 2 percent in nominal terms between March 2008 and March 2009 after rising 3¼ percent in each of the preceding two years. Average hourly earn-

28. Change in output per hour, 1948–2009



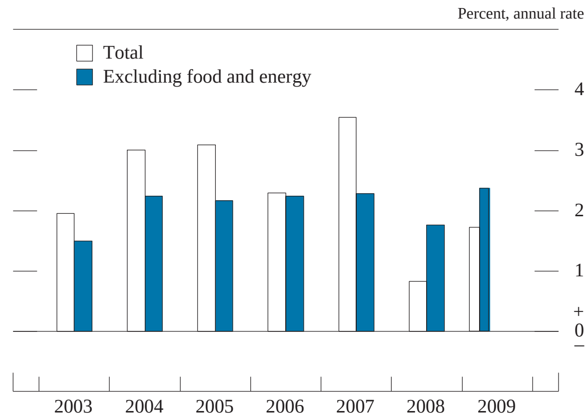
NOTE: Nonfarm business sector. Change for each multiyear period is measured to the fourth quarter of the final year of the period from the fourth quarter of the year immediately preceding the period.
SOURCE: Department of Labor, Bureau of Labor Statistics.

29. Measures of change in hourly compensation, 1999–2009



NOTE: The data are quarterly and extend through 2009:Q1. For nonfarm business compensation, change is over four quarters; for the employment cost index (ECI), change is over the 12 months ending in the last month of each quarter. The nonfarm business sector excludes farms, government, nonprofit institutions, and households. The sector covered by the ECI used here is the nonfarm business sector plus nonprofit institutions. A new ECI series was introduced for data as of 2001, but the new series is continuous with the old.
SOURCE: Department of Labor, Bureau of Labor Statistics.

30. Change in the chain-type price index for personal consumption expenditures, 2003–09



NOTE: Through 2008, change is from December to December; for 2009, change is from December to May.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

ings of production and nonsupervisory workers—a more timely, but narrower, measure of wage developments—have also decelerated significantly, especially in recent months. In contrast, compensation per hour (CPH) in the nonfarm business sector—an alternative measure of hourly compensation derived from the data in the NIPA—increased about 4 percent over the year ending in the first quarter of 2009, similar to the rate of increase seen during the past several years.

The much slower pace of overall consumer price inflation over the past year has supported real wage growth. Indeed, changes in both broad measures of hourly compensation—the ECI and CPH—have picked up in real terms over the past year, as has the inflation-adjusted increase in average hourly earnings. Nonetheless, as noted previously, with the sharp reduction in total hours worked, real wage and salary income of households has fallen over this period.

Prices

Headline consumer prices, which fell sharply late last year with the marked deterioration in economic activity and drop-off in the prices of crude oil and other commodities, have risen at a moderate pace so far this year. While the margin of slack in product and labor markets has widened considerably further this year, putting downward pressure on inflation, many commodity prices have retraced part of their earlier declines. All told, the chain-type price index for personal consumption expenditures increased at an annual rate of about 1¾ percent between December 2008 and May 2009, compared with its ¾ percent rise over the 12 months of 2008 (figure 30). The core PCE price index—which excludes the prices of energy items as well as those of food and beverages—also has increased at a moderate pace so far this year following especially low rates of increase late in 2008. Data for PCE prices in June are not yet available, but information from the consumer price index and other sources suggests that total PCE prices posted a relatively large increase that month as gasoline prices jumped; core consumer price increases were moderate.

Consumer energy prices flattened out, on balance, in the first five months of 2009 following their sharp drop late last year. However, crude oil prices have turned up again, with the spot price of WTI rising to around $60 per barrel in mid-July from about $40, on average, last December. The increase in crude costs has been putting upward pressure on the price of gasoline at the pump in recent months. In contrast, natural gas prices continued to plunge over the first half of this year in response to burgeoning supplies from new wells in Louisiana, North Dakota, Pennsylvania, and Texas that boosted inventories above historical midyear averages. Consumer prices for electricity have edged down so far this year—after rising briskly through the end of last year—as fossil fuel input costs have continued to decline.

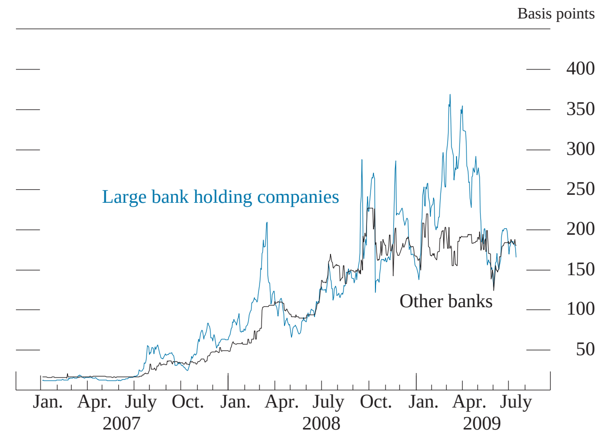
Food prices decelerated considerably in the first part of this year in response to the dramatic downturn in spot prices of crops and livestock in the second half of last year. After climbing nearly 6½ percent in 2008, the

PCE price index for food and beverages decreased at an annual rate of 1 percent between December 2008 and May 2009.

Core PCE prices rose at an annual rate of 2½ percent over the first five months of the year, compared with 1¾ percent over all of 2008. The pickup in core inflation during the first part of this year reflected, in part, a jump in the prices of tobacco products associated with large increases in federal and state excise taxes this spring; excluding tobacco prices—for which the large increases likely were one-off adjustments—core inflation was unchanged at 1¾ percent over this period. Aside from tobacco, prices for other core goods snapped back early this year—following heavy discounting at the end of last year in reaction to weak demand and excess inventories—but have been little changed for the most part in recent months. In contrast, prices for a wide range of non-energy services have decelerated noticeably further this year.

Survey-based measures of near-term inflation expectations declined late last year and early this year as actual headline inflation came down markedly, but, in recent months, some measures have moved back up close to their average levels of recent years. According to the Reuters/University of Michigan Surveys of Consumers, median expectations for year-ahead inflation stood at 3.0 percent in the preliminary estimate for July, up from about 2 percent around the turn of the year. Indicators of longer-term inflation expectations have been steadier over this period. These expectations in the Reuters/University of Michigan survey stood at 3.1 percent in the preliminary July release, about the measure's average value over all of 2008.

31. Spreads on credit default swaps for selected U.S. banks, 2007–09



NOTE: The data are daily and extend through July 15, 2009. Median spreads for 6 bank holding companies and 12 other banks.
SOURCE: Markit.

Strains in short-term funding markets persisted in January and February. A measure of stress in the interbank market, the spread of the London interbank offered rate (Libor) over the rate on comparable-maturity overnight index swaps (OIS), remained at elevated levels early in the year (figure 33). Required margins of collateral (also known as haircuts) and bid-asked spreads generally continued to be wide in the markets for repurchase agreements backed by many types of securities.

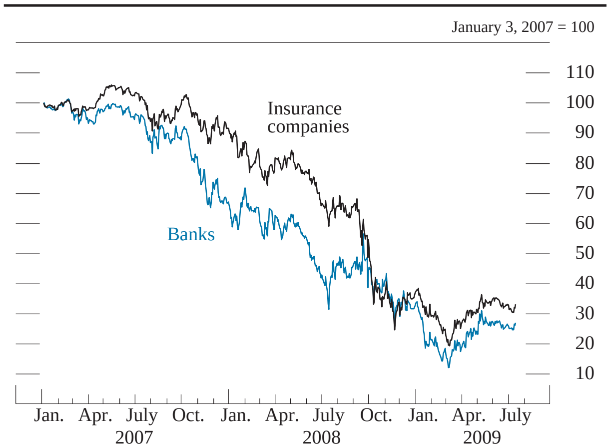
Other financial markets also continued to show signs of stress during the first two months of the year. In the leveraged loan market, bid prices remained

Financial Stability Developments

Evolution of the Financial Turmoil, Policy Actions, and the Market Response

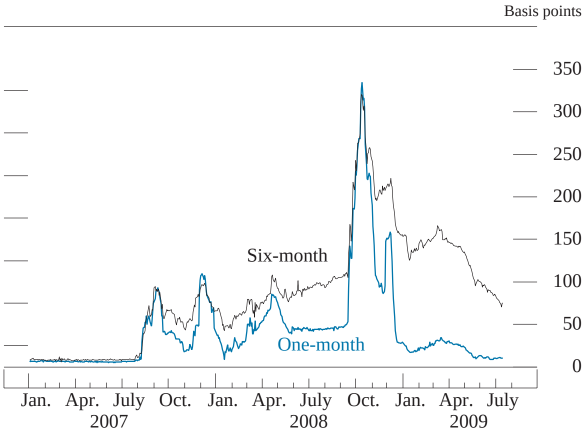
Stresses in financial markets intensified in the first few months of 2009 but have eased more recently. Credit default swap spreads for bank holding companies—which primarily reflect investors' assessments of the likelihood of those institutions defaulting on their debt obligations—rose sharply in early January on renewed concerns that some of those firms could face considerable capital shortfalls and liquidity difficulties (figure 31). Equity prices for banking and insurance companies fell in the first quarter of the year as a number of large financial institutions reported substantial losses for the fourth quarter of 2008 (figure 32).

32. Equity price indexes for banks and insurance companies, 2007–09



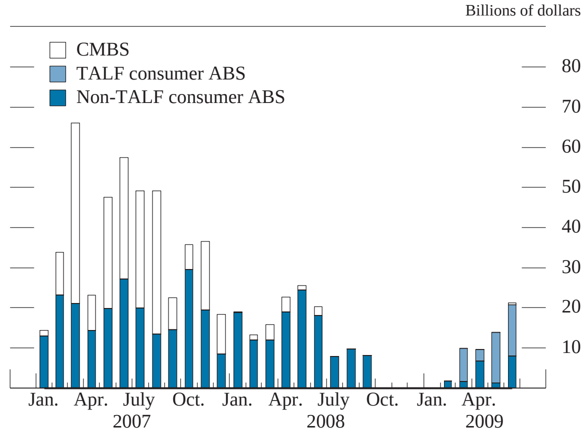
NOTE: The data are daily and extend through July 15, 2009.
SOURCE: Standard & Poor's.

33. Libor minus overnight index swap rate, 2007–09



NOTE: The data are daily and extend through July 15, 2009. An overnight index swap (OIS) is an interest rate swap with the floating rate tied to an index of daily overnight rates, such as the effective federal funds rate. At maturity, two parties 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. Libor is the London interbank offered rate.
SOURCE: For Libor, British Bankers' Association; for the OIS rate, Prebon.

35. Gross issuance of selected commercial mortgage- and asset-backed securities, 2007–09

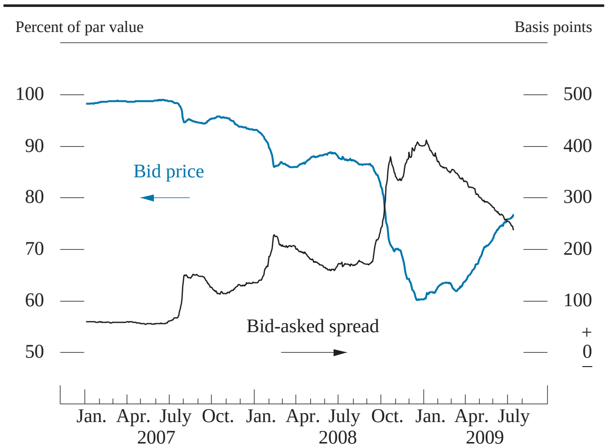


NOTE: CMBS are securities backed by commercial mortgages; consumer ABS (asset-backed securities) are securities backed by credit card loans, nonrevolving consumer loans, and auto loans. Data for consumer ABS show gross issuance facilitated by the Term Asset-Backed Securities Loan Facility (TALF) and such issuance outside the TALF.
SOURCE: For ABS, Bloomberg and the Federal Reserve Bank of New York; for CMBS, Commercial Mortgage Alert.

close to historical lows, and issuance—particularly of loans intended for nonbank lenders—dropped to very low levels (figure 34). Issuance of securities backed by credit card loans, nonrevolving consumer loans, and auto loans continued to be minimal in the first few months of the year, and there was no issuance of CMBS in the first half of 2009 (figure 35). An index based on CDS spreads on AAA-rated CMBS widened and neared the peak levels seen in November. Broad equity price indexes continued to fall, and measures of equity price volatility remained very high (figures 36 and 37).

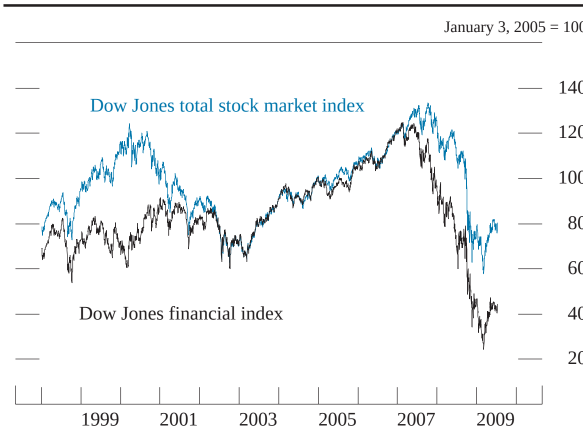
Nonetheless, a few financial markets showed signs of improvement early in the year. In the CP market, spreads on shorter-maturity A1/P1 nonfinancial and financial CP as well as on asset-backed commercial paper (ABCP) over AA nonfinancial CP declined modestly (figure 38). Although part of the improvement likely reflected greater demand from institutional investors as short-term Treasury yields declined to near zero on occasion, CP markets continued to be supported by the Federal Reserve's Commercial Paper Funding Facility (CPFF). More notably, spreads on shorter-maturity A2/P2 CP, which is not eligible for purchase under the

34. Secondary-market pricing for syndicated loans, 2007–09



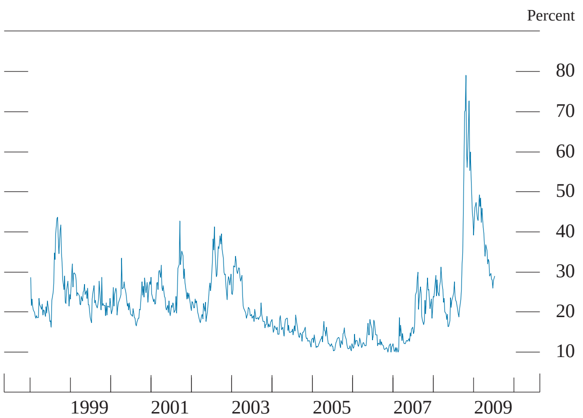
NOTE: The data are daily and extend through July 15, 2009.
SOURCE: LSTA/Thomson Reuters Mark-to-Market Pricing.

36. Stock price indexes, 1998–2009



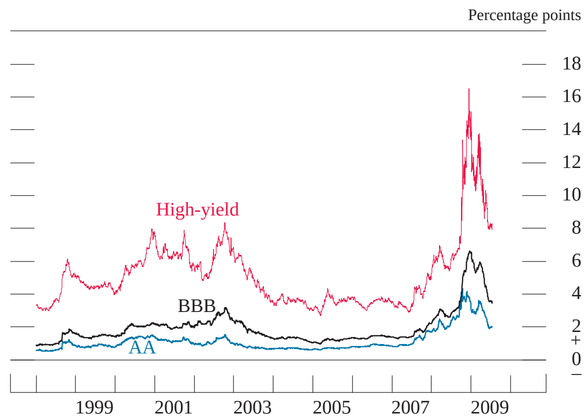
NOTE: The data are daily and extend through July 15, 2009.
SOURCE: Dow Jones Indexes.

37. Implied S&P 500 volatility, 1998–2009



NOTE: The data are weekly and extend through the week ending July 17, 2009. The final observation is an estimate based on data through July 15, 2009. The series shown—the VIX—is the implied 30-day volatility of the S&P 500 stock price index as calculated from a weighted average of options prices.
SOURCE: Chicago Board Options Exchange.

39. Spreads of corporate bond yields over comparable off-the-run Treasury yields, by securities rating, 1998–2009

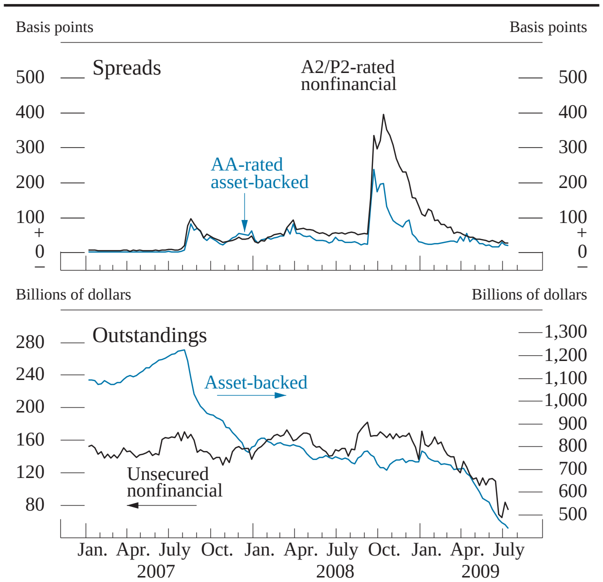


NOTE: The data are daily and extend through July 15, 2009. The spreads shown are the yields on 10-year bonds less the 10-year Treasury yield.
SOURCE: Derived from smoothed corporate yield curves using Merrill Lynch bond data.

CPFF, also fell. In the corporate bond market, spreads of yields on BBB-rated and speculative-grade bonds relative to yields on comparable-maturity Treasury securities narrowed in January and February, although they remained at historically high levels (figure 39). Spreads on 10-year Fannie Mae debt and option-adjusted spreads on Fannie Mae mortgage-backed securities over comparable-maturity Treasury securities dropped early in the year, reflecting, in part, the effects of Federal Reserve purchases of agency debt and agency MBS (figure 40). Interest rates on 30-year fixed rate conforming mortgages also fell.

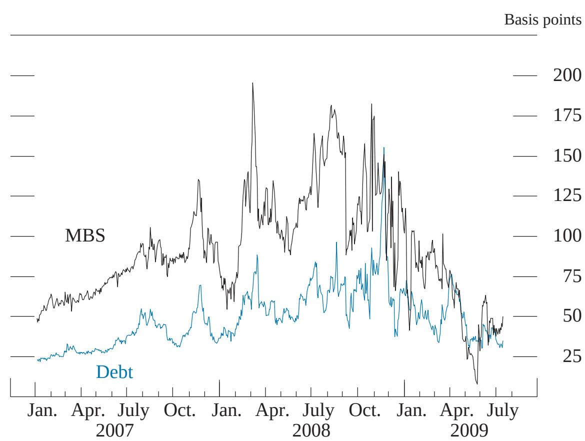
In an effort to help restore confidence in the strength of U.S. financial institutions and restart the flow of lending to businesses and households, on February 10, the Treasury, the Federal Reserve, the FDIC, the Office of the Comptroller of the Currency, and the Office of Thrift Supervision announced the Financial Stability

38. Commercial paper, 2007–09



NOTE: The data are weekly and extend through July 15, 2009. Commercial paper yield spreads are for an overnight maturity and are expressed relative to the AA nonfinancial rate. Outstandings are seasonally adjusted.
SOURCE: Depository Trust and Clearing Corporation.

40. Spreads on 10-year Fannie Mae debt and option-adjusted spreads on Fannie Mae mortgage-backed securities, 2007–09



NOTE: The data are daily and extend through July 15, 2009. The spreads are over Treasury securities of comparable maturities. MBS are mortgage-backed securities.
SOURCE: For MBS, Bloomberg; for debt, Merrill Lynch and the Federal Reserve Bank of New York.

Plan. The plan included the Capital Assistance Program (CAP), designed to assess the capital needs of depository institutions under a range of economic scenarios and to help increase the amount and strengthen the quality of their capital if necessary; a new Public-Private Investment Program, or PPIP, which would combine public and private capital with government financing to help banks dispose of legacy assets and strengthen their balance sheets, thereby supporting new lending; an expansion of the Federal Reserve's TALF program; and an extension of the senior debt portion of the FDIC's Temporary Liquidity Guarantee Program to October 31, 2009.

The announcement of the plan did not lead to an immediate improvement in financial market conditions. Bank and insurance company equity prices continued to decline, and CDS spreads of such institutions widened to levels above those observed the previous fall. Market participants were reportedly unclear about the methodology that would underlie the assessment of bank capital needs. The timing of the announcement of the results and the likely policy responses from this part of the CAP—formally named the SCAP, but popularly known as the stress test—were also sources of uncertainty. (CAP and SCAP are described in greater detail in the box titled "Capital Assistance Program and Supervisory Capital Assessment Program.") On March 2, American International Group, Inc. (AIG), reported losses of more than $60 billion for the fourth quarter of 2008, and the Treasury and the Federal Reserve announced a restructuring of the government assistance to AIG to enhance the company's capital and liquidity in order to facilitate the orderly completion of its global divestiture program.

On March 3, the Treasury and the Federal Reserve announced the launch of the TALF. In the initial phase of the program, the Federal Reserve offered to provide up to $200 billion of three-year loans on a nonrecourse basis secured by AAA-rated ABS backed by newly and recently originated auto loans, credit card loans, student loans, and loans guaranteed by the Small Business Administration. The Treasury's TARP would purchase $20 billion of subordinated debt in a special purpose vehicle (SPV) created by the Federal Reserve Bank of New York. The SPV would purchase and manage any assets received by the New York Fed in connection with any TALF loans. The demand for TALF funding was initially modest, reportedly on concerns that future changes in government policies could adversely affect TALF borrowers.

Financial markets began to show signs of improvement in early March when a few large banks indicated that they had been profitable in January and February. Sentiment continued to improve after the March 17–18 meeting of the Federal Open Market Committee (FOMC), at which, against a backdrop of weakening economic activity and significant financial market strains, the Committee announced that it would expand its purchases of agency MBS by $750 billion, and of agency debt by $100 billion; in addition, it would also purchase up to $300 billion of longer-term Treasury securities over the next six months. Yields on a wide range of longer-term debt securities dropped substantially within a day of the release of the Committee's statement. First-quarter earnings results preannounced by some large financial institutions were substantially better than expected, although some of the surprise was attributable to greater-than-anticipated effects of revisions in accounting rules.[11] Equity prices of banks and insurance companies rose, and CDS spreads for such institutions narrowed, although to still-elevated levels. Broad stock price indexes also climbed and measures of equity price volatility declined. Libor-OIS spreads began to edge down. Spreads on lower-rated investment-grade and speculative-grade corporate bonds over comparable-maturity Treasury securities also fell, though again to levels that remained high by historical standards. Bid-asked spreads on speculative-grade bonds declined. Similarly, bid-asked spreads narrowed in the leveraged loan market.

Conditions in financial markets continued to improve in the second quarter, aided in part by the emergence of more detail on the SCAP program and the release of its results on May 7. Market participants reportedly viewed the amount of additional capital that banks were required to raise in conjunction with the SCAP as relatively modest. With uncertainty about the SCAP results resolved, and amid the ongoing improvements in financial markets, market participants appeared to mark down the probability of extremely adverse financial market outcomes. Equity prices for many large banks and insurance companies rose even as substantial equity issuance by banks covered by the SCAP program added to supply. The secondary market for leveraged loans also showed improvement, with the average bid price

11. In early April, the Financial Accounting Standards Board issued new guidance related to fair value measurements and other-than-temporary impairments (OTTIs). The new fair value guidance reduces the emphasis to be placed on the "last transaction price" in valuing assets when markets are not active and transactions are likely to be forced or distressed. The new OTTI guidance will require impairment write-downs through earnings only for the credit-related portion of a debt security's fair value impairment when two criteria are met: (1) The institution does not have the intent to sell the debt security, and (2) it is unlikely that the institution will be required to sell the debt security before a forecasted recovery of its cost basis. The two changes have resulted in higher fair value estimates and reductions in impairments, improving institutions' reported first-quarter earnings.

Capital Assistance Program and Supervisory Capital Assessment Program

On February 10, 2009, the Treasury, Federal Reserve, Federal Deposit Insurance Corporation (FDIC), Office of the Comptroller of the Currency, and Office of Thrift Supervision announced a Capital Assistance Program (CAP) to ensure that the largest banking institutions would be appropriately capitalized with high-quality capital. As part of this program, the federal banking supervisors undertook a Supervisory Capital Assessment Program (SCAP) to evaluate the capital needs of the largest U.S. bank holding companies (BHCs) under a more challenging economic environment than generally anticipated. The Treasury and federal banking agencies believe it important for the largest BHCs to have a capital buffer sufficient to withstand losses and allow them to meet the credit needs of their customers if the economy were to weaken more than expected in order to help facilitate a broad and sustainable economic recovery.

The SCAP was initiated on February 25, 2009, and results were released publicly on May 7, 2009. U.S. BHCs with risk-weighted assets of more than $100 billion at the end of 2008 were required to participate. The objective of the exercise was to conduct a comprehensive and consistent assessment simultaneously on the largest BHCs using a common set of alternative macroeconomic scenarios and a common forward-looking conceptual framework. Extensive information was collected on the characteristics of the major loan, securities, and trading portfolios, revenues, and modeling methods of the institutions. With this information, supervisors were able to apply a consistent and systematic approach across firms to estimate losses, revenues, and reserves for 2009 and 2010, and to determine whether firms would need to raise capital to build a buffer to withstand larger-than-expected losses. The SCAP buffer for each BHC was sized to achieve a Tier 1 risk-based ratio of 6 percent and a Tier 1 Common risk-based ratio of 4 percent at the end of 2010 under a more severe macroeconomic scenario than expected.

Supervisors took the unusual step of publicly reporting the findings of the SCAP. The decision to depart from the standard practice of maintaining confidentiality of examination information stemmed from the belief that greater clarity around the SCAP process and findings would make the exercise more effective at reducing uncertainty and restoring confidence in financial institutions.[1]

Results of the SCAP indicated that 10 firms would need to augment their capital or improve the quality of the capital from 2008:Q4 levels; the combined amount totaled $185 billion, nearly all of which is required to meet the target Tier 1 Common risk-based ratio. Between the end of 2008 and the release of the results in May, many firms had already completed or contracted for asset sales or restructured existing capital instruments. After adjusting for these transactions and revenues that exceeded what had been assumed in the SCAP, the combined amount of additional capital needed to establish the buffer was $75 billion. The 10 firms are required to raise the additional capital by November 9, 2009.

Since the release of the results, almost all of the 10 firms that were asked to raise capital buffers issued new common equity in the public markets and raised about $40 billion; they also raised a substantial additional amount of capital by exchanging preferred shares to common shares and selling assets. Firms that do not meet their buffer requirement can issue mandatory convertible shares to the Treasury in an amount up to 2 percent of the institution's risk-weighted assets (or higher on request), as a bridge to private capital. In addition, firms can apply to the Treasury to exchange their existing Capital Purchase Program preferred stock to help meet their buffer requirement. To protect taxpayers, firms will be expected to have issued private capital before or simultaneously with the exchange.

The firms not asked to augment their capital also raised about $20 billion in common equity in May and early June. Most of these firms and others applied for and received approval from their supervisors to repay their outstanding Capital Purchase Program preferred stock. In early June, 10 large BHCs repaid about $68 billion to the Treasury. A number of banks have also been able to issue debt not guaranteed by the FDIC's Temporary Liquidity Guarantee Program.

1. A description of the methodology and a summary of results, including loss rates on major loan categories for each firm, is available at www.federalreserve.gov/bankinforeg/scap.htm.

rising considerably; issuance, however, particularly of institutional loans, remained very weak. Short-term interbank funding markets continued to improve, with Libor-OIS spreads at one-month tenors declining to near pre-crisis levels; spreads at longer tenors also fell but remained very high. Demand for TALF funds increased in May and June, particularly for securities backed by credit card and auto loans. Supported by the TALF, issuance of consumer ABS picked up further in May, and it began to approach pre-crisis levels. Also in May, the Federal Reserve announced that, starting in June, CMBS and securities backed by insurance premium finance loans would be eligible collateral under the TALF. Financial markets abroad also improved during the second quarter, reflecting improved global economic prospects and positive news from the banking sector (see "International Developments" for additional detail).

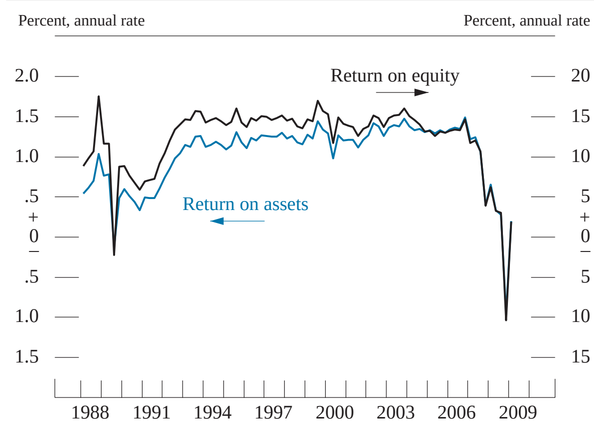
In early June, the Federal Reserve outlined the criteria it would use to evaluate applications to redeem Treasury capital from participants in the SCAP. On June 17, 10 banking institutions redeemed about $68 billion in Treasury capital. At about the same time, the 10 banking organizations that had been required under the SCAP to bolster their capital buffers all submitted plans that would provide sufficient capital to meet the required buffer under the assessment's more adverse scenario. On June 25, the Federal Reserve announced that while it would extend a number of its liquidity facilities through early 2010, in light of the improvement in financial conditions and reduced usage of some of its facilities, it would trim their size and adjust some of their terms.

Banking Institutions

Profitability of the commercial banking sector, as measured by return on assets and return on equity, recovered somewhat in the first quarter after having posted near-record lows in the fourth quarter of 2008 (figure 41). Profits were concentrated at the largest banks and were driven by a rebound in trading revenue as well as reduced noninterest expense related to smaller write-downs of intangible assets. Smaller banks, in contrast, continued to lose money amid mounting credit losses. Indeed, at the industry level, loan quality deteriorated substantially from the already poor levels recorded late last year, with delinquency rates on credit card loans reaching their highest level on record (back to 1991). Delinquency rates on residential mortgages held by banks soared to 8 percent. Regulatory capital ratios improved in the fourth quarter of 2008 and the first quarter of 2009 as commercial banks received substantial capital infusions—likely related to funds received by their parent bank holding companies under the Capital Purchase Program—while total assets declined. Despite a decline in loans outstanding, unused commitments to fund loans to both households and businesses shrank at an annual rate of more than 30 percent in the first quarter of 2009 (figure 42).

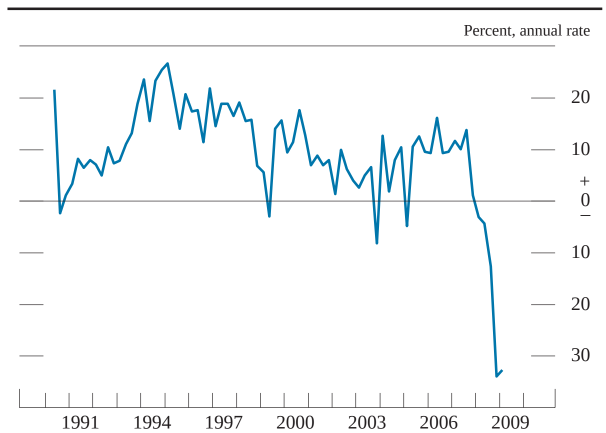
Commercial bank lending contracted at an annual rate of nearly 7 percent during the first half of 2009, reflecting weak loan demand and tight credit conditions. C&I loans fell at an annual rate of about 14 percent over this period, partly as a result of broad and sustained paydowns of outstanding loans amid weak

41. Commercial bank profitability, 1988–2009



NOTE: The data are quarterly and extend through 2009:Q1.
SOURCE: Federal Financial Institutions Examination Council, Consolidated Reports of Condition and Income (Call Report).

42. Change in unused bank loan commitments to businesses and households, 1990–2009



NOTE: The data, which are not seasonally adjusted, are quarterly and extend through 2009:Q1.
SOURCE: Federal Financial Institutions Examination Council, Consolidated Reports of Condition and Income (Call Report).

investment spending by businesses. Some of these paydowns also were likely related to increased issuance of longer-term corporate debt, as nonfinancial firms—especially those rated as investment grade—tapped the corporate bond market. CRE loans ran off steadily, likely a result of continued weakness in that sector. Bank loans to households also fell over the first half of the year, particularly in the spring, as banks reportedly sold or securitized large volumes of residential mortgages and consumer credit card loans. Loan loss reserves reported by large banks increased considerably in the second quarter, suggesting continued deterioration in credit quality and further pressure on earnings.

The Senior Loan Officer Opinion Survey conducted in April 2009 indicated that large fractions of banks continued to tighten standards and terms on loans to businesses and households over the preceding three months. For most loan categories, however, the fractions of banks that reported having done so decreased from the January survey. The majority of respondents to the April survey indicated that they expected the credit quality of their loan portfolios to worsen over the remainder of the year. Demand for most types of loans also reportedly weakened over the survey period, with the noticeable exception of demand from prime borrowers for mortgages to purchase homes—a development that coincided with a temporary rise in applications to refinance home mortgages.

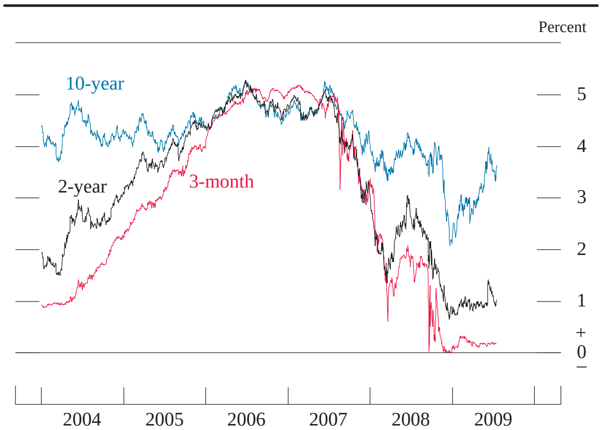
Data from the February and May Surveys of Terms of Business Lending indicated that the spreads of yields on C&I loans over those on comparable-maturity market instruments rose noticeably. The increase in the May survey was partly attributable to a steep increase in spreads on loans made under commitment, as a larger share of loans in the May survey were drawn from commitments arranged after the onset of the financial crisis.

Monetary Policy Expectations and Treasury Rates

The current target range for the federal funds rate, 0 to ¼ percent, is in line with the level that investors expected at the end of 2008. However, over the first half of 2009, investors marked down, on balance, their expectation for the path of the federal funds rate for the remainder of the year. Early in the year, the markdown was attributable to continued concerns about the health of financial institutions, weakness in the real economy, and a moderation in inflation pressures. Later in the period, FOMC communications indicating that the federal funds rate would likely remain low for an extended period reportedly also contributed to the downward revision to policy expectations. In contrast, investors marked up their expectations about the pace with which policy accommodation will be removed in 2010, likely in light of increased optimism about the economic outlook. Futures quotes currently suggest that investors expect the federal funds rate to remain within the current target range for the remainder of this year and then to rise in 2010. However, uncertainty about the size of term premiums and potential distortions created by the zero lower bound for the federal funds rate continue to make it difficult to obtain a definitive reading on the policy expectations of market participants from futures prices. Options prices suggest that investor uncertainty about the future path for policy increased, on balance, during the first half of 2009.

Yields on longer-maturity Treasury securities increased substantially, on net, over the first half of 2009, in response to better-than-expected economic data releases, declines in the weight investors attached to highly adverse economic outcomes, signs of thawing in the credit markets, technical factors related to the hedging of mortgage holdings, and the large increase in the expected supply of such securities (figure 43). The rise in Treasury yields has likely been mitigated somewhat by the implementation of the Federal Reserve's large-scale asset purchases, under which the Federal Reserve is conducting substantial purchases of agency debt, agency MBS, and longer-maturity Treasury securities. On net, yields on 2- and 10-year Treasury notes rose about 50 and 115 basis points, respectively, during the first half of 2009, with the rise concentrated in the second quarter, after having declined about 200 and 140 basis points, respectively, during the second half of 2008.

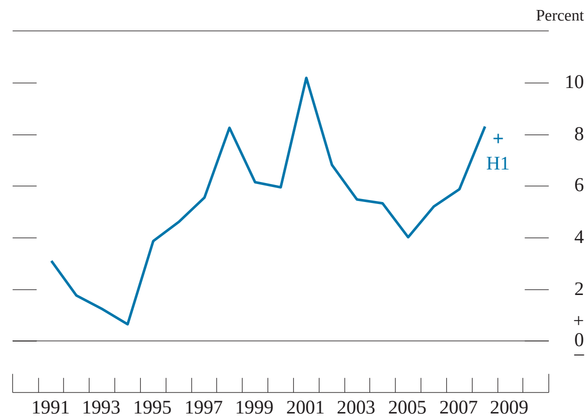
43. Interest rates on selected Treasury securities, 2004–09



NOTE: The data are daily and extend through July 15, 2009.
SOURCE: Department of the Treasury.

In contrast to yields on their nominal counterparts, yields on Treasury inflation-protected securities (TIPS) declined over the first half of 2009, which resulted in a noticeable increase in measured inflation compensation—the difference between comparable-maturity nominal yields and TIPS yields. Inferences about inflation expectations from inflation compensation have been difficult to make since the second half of 2008 because yields on nominal and TIPS issues appear to have been affected significantly by movements in liquidity premiums, and because other special factors have buffeted yields on nominal Treasury issues. Some of these special factors have begun to subside in recent months, suggesting that the increase in inflation compensation since year-end is partly due to an improvement in market functioning and other special factors, although near-term inflation expectations may have been boosted by rising energy prices.

44. M2 growth rate, 1991–2009



NOTE: The data extend through 2009:Q1 and are estimated for 2009:Q2. Through 2008, the data are annual on a fourth-quarter over fourth-quarter basis; the final observation refers to 2009:Q2 relative to 2008:Q4 at an annual rate. For definition of M2, see text note 13.

SOURCE: Federal Reserve Board, Statistical Release H.6, "Money Stock Measures."

Monetary Aggregates and the Federal Reserve's Balance Sheet

The M2 monetary aggregate expanded at an annual rate of 7¾ percent during the first half of 2009, reflecting robust growth in the first quarter and more moderate growth in the second (figure 44).[12] This expansion was due in part to the relatively small difference between market interest rates and the rates offered on M2 assets, as well as an increased desire of households and firms to hold safe and liquid assets because of the financial turmoil. Strong growth in liquid deposits was partially offset by rapid declines in small time deposits and retail money market mutual funds, as yields on the latter two assets dropped relative to rates on liquid deposits. The currency component of the money stock also increased, with a notable rise in the first quarter that appeared to reflect strong demand for U.S. banknotes from both foreign and domestic sources. The monetary base—essentially the sum of currency in the hands of the public and the reserve balances of depository institutions held at the Federal Reserve—continued to expand rapidly in the first quarter of 2009, albeit at a slower pace than in the second half of 2008. The expansion of the monetary base slowed further in the second quarter of 2009, as a decline in amounts outstanding under the Federal Reserve's credit and liquidity programs partially offset the effects on reserve balances of the Federal Reserve's large-scale asset purchases.

The nontraditional monetary policy actions employed by the Federal Reserve since the onset of the current episode of financial turmoil have resulted in a considerable expansion of the Federal Reserve's balance sheet (table 1). On December 31, 2007, prior to much of the financial market turmoil, the Federal Reserve's assets totaled nearly $920 billion, the bulk of which was Treasury securities. Its liabilities included nearly $800 billion in Federal Reserve notes (currency in circulation) and about $20 billion in reserve balances held by depository institutions.

By December 31, 2008, after the introduction of several new Federal Reserve policy initiatives, assets had more than doubled to about $2.2 trillion. Holdings of U.S. Treasury securities had declined by nearly one-half. At that point, the majority of Federal Reserve assets consisted of credit extended to depository institutions, other central banks, and primary dealers.[13] The Federal Reserve had extended about $330 billion in funding to the CPFF and was providing more than

12. 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.

13. Primary dealers are broker-dealers that trade in U.S. government securities with the Federal Reserve Bank of New York.

1. Selected components of the Federal Reserve balance sheet, 2007–09

Millions of dollars

Balance sheet item	Dec. 31, 2007	Dec. 31, 2008	July 15, 2009
Total assets	**917,922**	**2,240,946**	**2,074,822**
Selected assets			
Credit extended to depository institutions and dealers			
Primary credit	8,620	93,769	34,743
Term auction credit	40,000	450,219	273,691
Central bank liquidity swaps	24,000	553,728	111,641
Primary Dealer Credit Facility and other broker-dealer credit	...	37,404	0
Credit extended to other market participants			
Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility.	...	23,765	5,469
Net portfolio holdings of Commercial Paper Funding Facility LLC	...	334,102	111,053
Net portfolio holdings of LLCs funded through the Money Market Investor Funding Facility	...	0	0
Term Asset-Backed Securities Loan Facility	...	...	30,121
Support of critical institutions			
Net portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC[1]	...	73,925	60,546
Credit extended to American International Group, Inc.	...	38,914	42,871
Securities held outright			
U.S. Treasury securities	740,611	475,921	684,030
Agency debt securities	0	19,708	101,701
Agency mortgage-backed securities (MBS)[2]	...	...	526,418
MEMO			
Term Securities Lending Facility[3]	...	171,600	4,250
Total liabilities	**881,023**	**2,198,794**	**2,025,348**
Selected liabilities			
Federal Reserve notes in circulation	791,691	853,168	870,327
Reserve balances of depository institutions	20,767	860,000	808,824
U.S. Treasury, general account	16,120	106,123	65,234
U.S. Treasury, supplemental financing account	...	259,325	199,939
Total capital	**36,899**	**42,152**	**49,474**

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 multi-sector 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.

3. The Federal Reserve retains ownership of securities lent through the Term Securities Lending Facility.

... Not applicable.

SOURCE: Federal Reserve Board.

$100 billion in support of certain critical institutions. The growth in assets was largely funded by an increase in reserve balances, which, at $860 billion, slightly exceeded currency in circulation.

Over the first half of this year, total Federal Reserve assets decreased slightly, on net, to about $2.1 trillion, though there were large changes in the composition of those assets. Holdings of Treasury securities increased to nearly $685 billion, and holdings of agency debt and MBS rose to more than $625 billion as a result of large-scale asset purchases. Credit extended to depository institutions, primary dealers, and other market participants fell as market functioning improved. The decline importantly reflected a decrease in foreign central banks' draws on dollar liquidity swap lines and a runoff in credit extended through the CPFF and the Term Auction Facility (TAF). The amount of credit extended in support of certain critical institutions remained about unchanged. On the liability side, reserve balances fell somewhat, while currency in circulation rose.

International Developments

International Financial Markets

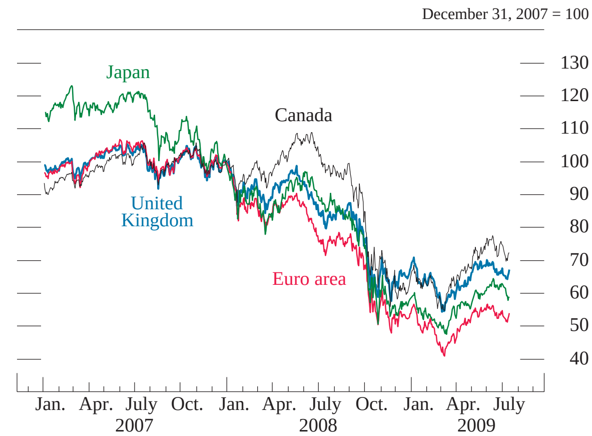
During most of the first quarter of 2009, fears that global economic activity would spiral further downward led to a sharp selloff in foreign equity markets and to rising spreads on foreign corporate debt. Stock indexes in Europe and Japan fell about 20 percent, and European bank shares fell more than 40 percent in response to weak earnings reports and rising fears about the exposure of many Western European banks to emerging Europe. Interbank funding markets were supported by government guarantees of bank debt and other policies put in place during 2008 to aid wholesale funding. These markets remained more stressed than before the financial crisis, but their functioning continued to gradually improve from the serious disarray that occurred last fall.

Rapidly easing monetary policies in many foreign economies, along with further safe-haven flows into Treasury securities, fueled continued dollar appreciation over the first two months of the year. The Federal Reserve's broadest measure of the nominal trade-weighted foreign exchange value of the dollar rose more than 6 percent during January and February (figure 45). However, beginning in March, the dollar depreciated as the global outlook improved a bit and investors accordingly shifted away from Treasury securities to riskier assets abroad, reversing the pattern observed in the fourth quarter of 2008. During the spring, the dollar fell most sharply against currencies of major commodity-producing economies such as Australia and Canada, as the improvement in the global outlook also boosted commodity prices (figure 46). On net, the Federal Reserve's broad measure of the nominal exchange value of the dollar is about 2 percent lower than it was

45. U.S. dollar nominal exchange rate, broad index, 2005–09

NOTE: The data, which are in foreign currency units per dollar, are daily. The last observation for the series is July 15, 2009. 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.

47. Equity indexes in selected advanced foreign economies, 2007–09

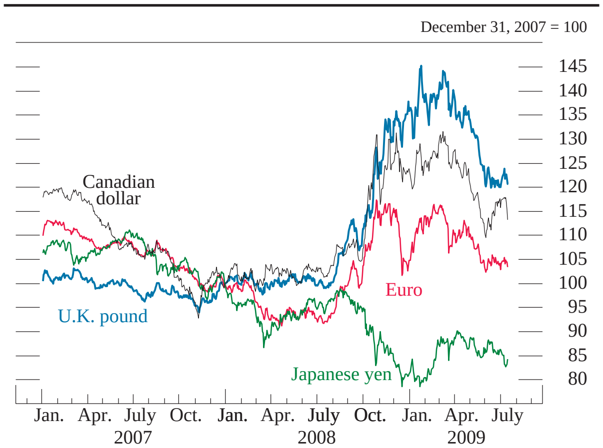


NOTE: The data are daily. The last observation for each series is July 15, 2009. Because the Tokyo Exchange was closed on December 31, 2007, the Japan index is scaled so that the December 28, 2007, closing value equals 100.
SOURCE: For euro area, Dow Jones Euro STOXX Index; for Canada, Toronto Stock Exchange 300 Composite Index; for Japan, Tokyo Stock Exchange (TOPIX); and for the United Kingdom, London Stock Exchange (FTSE 350), as reported by Bloomberg.

at the start of the year but remains well above its mid-2008 lows.

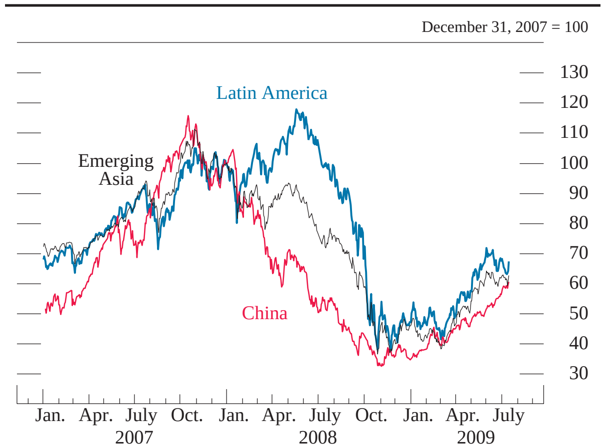
Stock markets around the world rebounded in the second quarter along with prospects for global growth (figure 47). Financial stocks led this rise in the advanced foreign economies as some large banks reported strong earnings growth, which benefited from the low interest rate environment. On net, headline European stock indexes are now about where they were at the start of the year. Equity prices in the emerging market economies, which were helped both by the improved outlook and by an increased willingness on the part of investors to hold riskier assets, are now 20 to 75 percent higher than at the start of the year (figure 48).

46. U.S. dollar exchange rate against selected major currencies, 2007–09



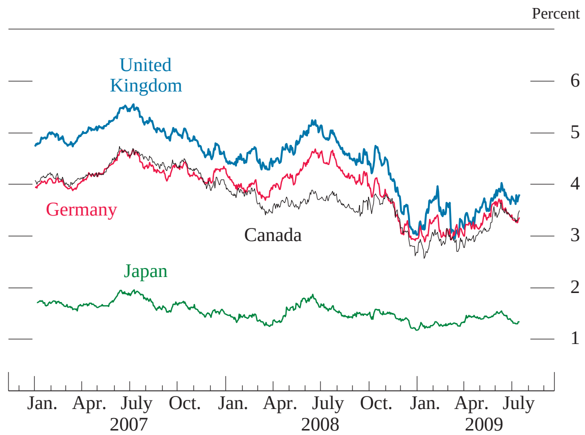
NOTE: The data, which are in foreign currency units per dollar, are daily. The last observation for each series is July 15, 2009.
SOURCE: Federal Reserve Board, Statistical Release H.10, "Foreign Exchange Rates."

48. Equity indexes in selected emerging market economies, 2007–09



NOTE: The data are daily. The last observation for each series is July 15, 2009. Because the Shanghai Stock Exchange was closed on December 31, 2007, the China index is scaled so that the December 28, 2007, closing value equals 100. The Latin American economies are Argentina, Brazil, Chile, Colombia, Mexico, and Peru. The emerging Asian economies are China, India, Indonesia, Malaysia, Pakistan, the Philippines, South Korea, Taiwan, and Thailand.
SOURCE: For Latin America and emerging Asia, Morgan Stanley Capital International (MSCI) index; for China, Shanghai Composite Index, as reported by Bloomberg.

49. Yields on benchmark government bonds in selected advanced foreign economies, 2007–09



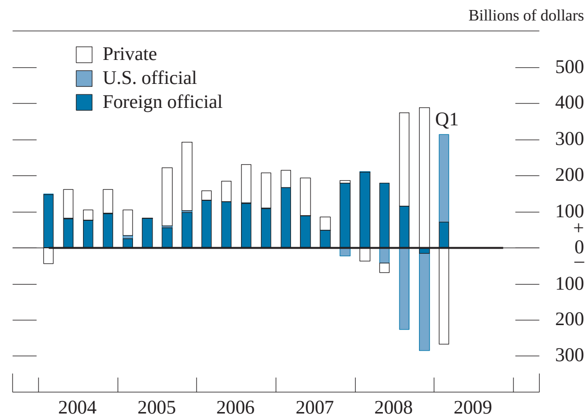
NOTE: The data, which are for 10-year bonds, are daily. The last observation for each series is July 15, 2009.
SOURCE: Bloomberg.

The decisions of several foreign central banks to engage in nontraditional monetary policies appeared to have some effect on longer-term interest rates (figure 49). Yields on long-term British gilts fell 60 basis points around the March 5 announcement by the Bank of England that it would begin purchasing government securities, and yields on European covered bonds fell nearly 30 basis points over the week following the May 7 announcement by the European Central Bank (ECB) that it would purchase covered bonds. However, as the economic outlook improved some in the second quarter, and amid concerns about mounting fiscal deficits and debts, yields on nominal benchmark bonds rose. On balance, nominal benchmark bond yields in major foreign countries are higher than at the start of the year, even as yields on inflation-protected bonds have fallen.

The Financial Account

The pattern of financial flows between the United States and the rest of the world was strongly affected by the intensification of financial turmoil in the fall of 2008 and, more recently, by the easing of strains in financial markets (figure 50). In the second half of 2008, U.S. investors withdrew to some extent from foreign securities, and foreigners slowed their purchases of U.S. assets. At the same time, foreigners noticeably shifted their purchases away from U.S. corporate and agency securities and toward safer U.S. Treasury securities (figure 51). For 2008 as a whole, the size of the purchases

50. U.S. net financial inflows, 2004–09



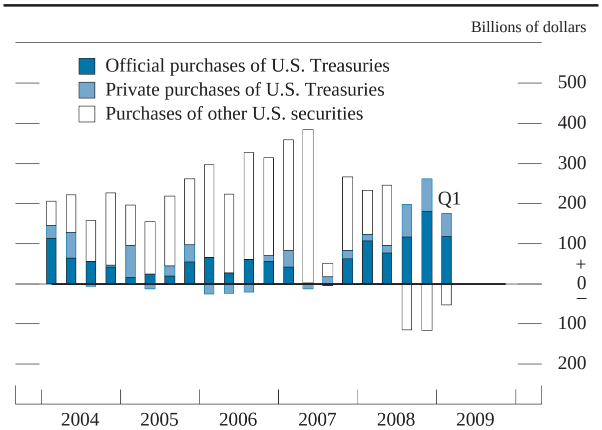
NOTE: U.S. official flows include foreign central banks' drawings on their swap lines with the Federal Reserve.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

of U.S. Treasury securities by foreigners was unprecedented, nearly doubling the previous record.

The pattern of flows has normalized somewhat this year. The pace of private foreign net Treasury purchases slowed in the first quarter, and in April flows turned to net sales, primarily of short-term Treasury securities, signaling some reversal of the flight to safety. Foreign demand for most other U.S. securities, however, remained extremely weak throughout the first part of 2009. Foreigners continued to sell U.S. corporate and agency securities through April, although they did show renewed interest in U.S. corporate stocks in March, April, and particularly May.

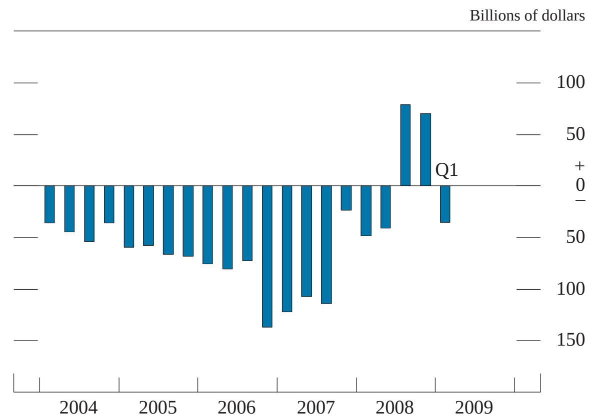
Foreign official institutions resumed strong net purchases of U.S. assets in the first several months of 2009, although acquisitions remained centered on U.S.

51. Net foreign purchases of U.S. securities, 2004–09



NOTE: Other U.S. securities include corporate equities and bonds, agency bonds, and municipal bonds.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

52. Net U.S. purchases of foreign securities, 2004–09



NOTE: Negative numbers indicate a balance-of-payments outflow associated with positive U.S. purchases of foreign securities.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

Treasury securities. This development followed net sales in the fourth quarter of 2008 as some countries sold reserves to support their currencies; although foreign official institutions made large net purchases of Treasury securities, they sold larger amounts of other U.S. assets. Foreign official acquisitions of Treasury securities were concentrated in short-term bills for some months during the winter, but official acquisitions of long-term notes and bonds have been similar to those of bills over the period since February.

Resumption of portfolio investment abroad by U.S. investors in 2009 also pointed to reduced risk aversion in financial markets. Following unprecedented net inflows in this category in 2008 resulting from U.S. residents bringing home their foreign investments, outflows resumed in early 2009 as U.S. investors returned to net purchases of foreign securities (figure 52). Finally, starting this year, improvements in the tone of interbank funding markets led to a resumption of net lending abroad by U.S. banks after a sharp contraction of lending in the fourth quarter. As private sources of dollar liquidity reemerged, foreign banks were able to repay the loans they had received from their central banks. These foreign central banks, in turn, reduced the outstanding amounts of U.S. dollars drawn on swap lines from the Federal Reserve.

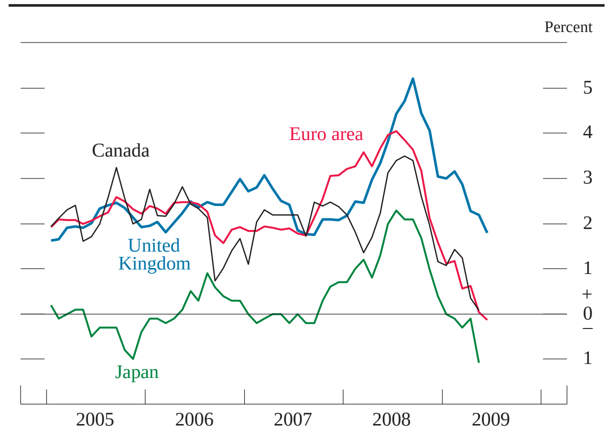
Advanced Foreign Economies

The contraction of economic activity in the major advanced foreign economies deepened in the first quarter, as financial turbulence, shrinking world trade, adverse wealth effects, and eroding business and consumer confidence continued to weigh on activity. GDP fell particularly sharply in Germany and Japan, which were hit hard by a contraction in manufacturing exports. Domestic demand plummeted across the advanced foreign economies, with double-digit declines in investment spending and sizable negative contributions of inventories to economic growth. Housing markets also continued to weaken in the first quarter, with prices and building activity declining. By the second quarter, however, monthly indicators of economic activity in these economies began to show some moderation in the pace of contraction. Purchasing managers indexes and surveys of business confidence rebounded in the second quarter from the exceptionally low levels reached in the first quarter, while industrial production stabilized somewhat.

Twelve-month consumer price inflation continued to decline during the first half of the year, driven down by the fall in oil and other commodity prices since mid-2008 and the significant increase in economic slack (figure 53). Headline inflation fell to near or below zero in all major economies except the United Kingdom, where the depreciation of the pound late last year contributed to keeping inflation around 2 percent. Excluding food and energy prices, the slowing in consumer prices in these economies was more limited.

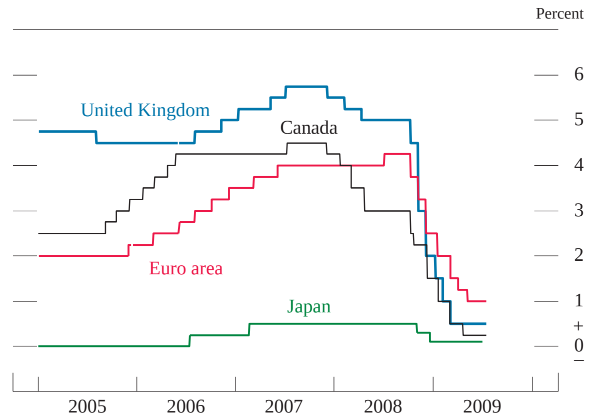
Foreign central banks responded to worsening economic conditions and reduced inflation by aggressively cutting policy rates and, in some cases, initiating unconventional monetary easing. The ECB and Bank of England each reduced its key policy rate 150 basis points over the first half of 2009, while the Bank of Canada

53. Change in consumer prices for major foreign economies, 2005–09



NOTE: The data are monthly, and the percent change is from one year earlier. The data extend through June 2009 for the euro area and the United Kingdom and May 2009 for Japan and Canada.
SOURCE: Haver Analytics.

54. Official or targeted interest rates in selected advanced foreign economies, 2005–09



NOTE: The data are daily and extend through July 15, 2009. The data shown are, for Canada, the overnight rate; for the euro area, the minimum bid rate on main refinancing operations; for Japan, the call money rate; and, for the United Kingdom, the official bank rate paid on commercial reserves.
SOURCE: The central bank of each area or country shown.

lowered its rate 125 basis points (figure 54). The Bank of Japan, which had already cut the overnight uncollateralized call rate to 10 basis points, kept rates at that minimal level. As policy rates fell to very low levels, central banks implemented nontraditional policies to provide further support to activity. The Bank of England established an Asset Purchase Facility to purchase up to £125 billion in government and corporate debt; the Bank of Japan announced that it would increase its purchase of Japanese government bonds, including longer-term bonds, and would purchase commercial paper outright; and the ECB announced plans to purchase as much as €60 billion in covered bonds over the next year and conducted its first one-year financing operations on June 24, allocating €442 billion.

Emerging Market Economies

The global financial crisis took its toll on the emerging market economies as well. After falling steeply in the fourth quarter, economic activity contracted sharply again in the first quarter. However, recent data on business sentiment, production, and retail sales suggest that economic activity may be starting to recover.

Among the larger developing economies, only China and India have maintained positive growth during the global slowdown. Chinese growth was supported in the first quarter and boosted significantly further in the second quarter by a large fiscal stimulus package, which focused on infrastructure investment, and by an enormous jump in credit growth. India's economy also was supported by fiscal stimulus and was relatively insulated from the negative global shock because it is less open. Elsewhere in emerging Asia, the economies of Hong Kong, Malaysia, Singapore, South Korea, Taiwan, and Thailand all contracted at double-digit annual rates in at least one quarter, in line with their deep trade and financial linkages with the global economy. More recently, however, indicators such as industrial production have turned up in some of these countries. In addition, exports, although they remain weak, have edged higher in some countries, partly because of stimulus-driven demand from China.

Economic activity in Mexico contracted sharply late last year and again in the first quarter, owing largely to Mexico's strong ties to the United States. The outbreak of the H1N1 virus was a significant drag on Mexican economic activity in the second quarter. In addition, the economies of Mexico and some other Latin American countries continued to be negatively affected by the sharp fall in commodity prices in the second half of last year. However, as in Asia, industrial production in several Latin American countries has recently turned higher. In Brazil, the automobile sector, which has received government support, appears to have led a rebound in output.

Several countries in emerging Europe continued to experience intense financial stress and sharp economic contractions in the first quarter, with activity declining at an especially precipitous rate in Latvia. The region has faced external financing difficulties as a result of large external imbalances and high dependence on foreign capital flows. Hungary, Latvia, Romania, and Ukraine are among the countries that have received official assistance from the International Monetary Fund.

As the global economy has slowed, inflation in emerging market economies has diminished. Inflation in emerging Asia has decreased significantly, especially in China where consumer prices in June were below their year-earlier levels. Reduced price pressures and weak economic growth prompted significant monetary easing in several Asian emerging market economies. Inflation in Latin America has fallen less sharply. Notably, Mexican inflation remains near its recent high, due in part to pass-through from the peso's depreciation earlier this year. In these circumstances, monetary easing has taken place in Latin America, but nominal interest rates remain somewhat higher than in Asia. Many emerging market economies have undertaken fiscal stimulus this year, although the degree has varied and all stimulus packages have been smaller than that in China.

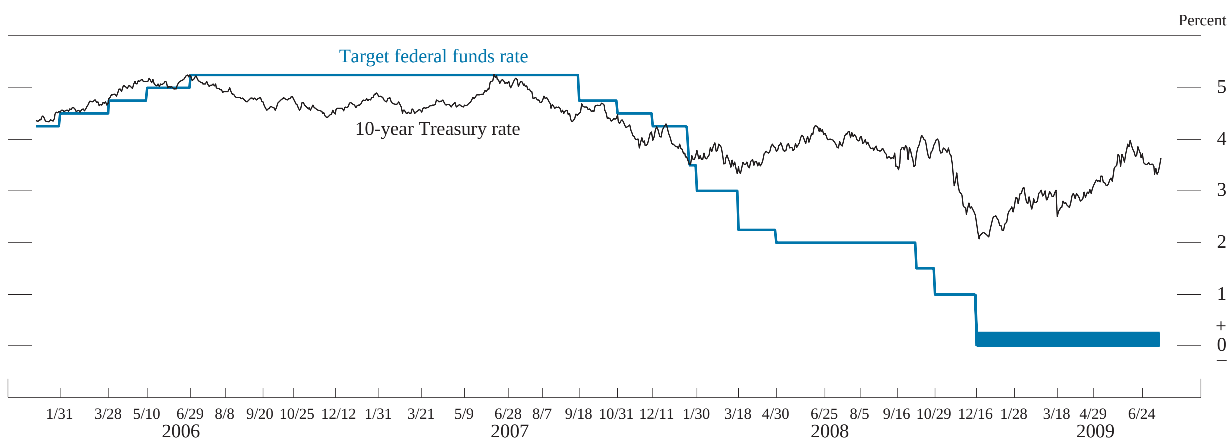
Part 3
Monetary Policy: Recent Developments and Outlook

Monetary Policy over the First Half of 2009

Over the second half of 2008, the Federal Open Market Committee (FOMC) eased the stance of monetary policy by decreasing its target for the federal funds rate from 2 percent to a range between 0 and ¼ percent and took a number of additional actions to increase liquidity and improve the functioning of financial markets (figure 55). During the first half of 2009, the FOMC maintained its target range for the federal funds rate of 0 to ¼ percent, and it extended and modified the nontraditional policy actions taken previously.

The data reviewed at the January 27–28 FOMC meeting indicated a continued sharp contraction in economic activity. The housing market remained on a steep downward trajectory, consumer spending continued its significant decline, the slowdown in business equipment investment intensified, and foreign demand had weakened. Conditions in the labor market had continued to deteriorate rapidly, and the drop in industrial production had accelerated. Headline consumer prices fell in November and December, reflecting declines in consumer energy prices; core consumer prices were about flat in those months. Although credit conditions generally had remained tight, some financial markets—particularly those that were receiving support from Federal Reserve liquidity facilities and other government actions—exhibited modest signs of improvement. Meeting participants—Federal Reserve Board governors and Federal Reserve Bank presidents—anticipated that a gradual recovery in U.S. economic activity would begin in the second half of the year in response to monetary easing, additional fiscal stimulus, relatively low energy prices, and continued efforts by the government to stabilize the financial sector and increase the availability of credit. Committee members agreed that keeping the target range for the federal funds rate at 0 to ¼ percent would be appropriate. In its January statement, the FOMC reiterated that the Federal Reserve would use all available tools to promote the resumption of sustainable economic growth and to preserve price stability. The Committee also stated that, in addition to the purchases of agency debt and mortgage-backed securities (MBS) already under way, it was prepared to purchase longer-term Treasury securities if evolving circumstances indicated that such transactions

55. Selected interest rates, 2006–09



NOTE: The data are daily and extend through July 15, 2009. The 10-year Treasury rate is the constant-maturity yield based on the most actively traded securities. The dates on the horizontal axis are those of regularly scheduled Federal Open Market Committee meetings.
SOURCE: Department of the Treasury and the Federal Reserve.

would be particularly effective in improving conditions in private credit markets. The Committee indicated that it would continue to monitor carefully the size and composition of the Federal Reserve's balance sheet in light of evolving financial market developments. It would also continue to assess whether expansions of, or modifications to, lending facilities would serve to further support credit markets and economic activity and help preserve price stability.

On February 7, 2009, the Committee met by conference call in a joint session with the Board of Governors to discuss the potential role of the Federal Reserve in the Treasury's forthcoming Financial Stability Plan. The Federal Reserve's primary direct role in the plan would be through an expansion of the previously announced Term Asset-Backed Securities Loan Facility (TALF), which would be supported by additional funds from the Treasury's Troubled Asset Relief Program (TARP). It was anticipated that such an expansion would provide additional assistance to financial markets and institutions in meeting the credit needs of households and businesses and thus would support overall economic activity.

At the March FOMC meeting, nearly all participants indicated that economic conditions had deteriorated relative to their expectations at the time of the January meeting. Economic activity continued to fall sharply, with widespread declines in payroll employment and industrial production. Consumer spending had remained flat at a low level, the housing market weakened further, and nonresidential construction fell. Business spending on equipment and software had continued to decline across a broad range of categories. Despite the cutbacks in production, inventory overhangs appeared to have worsened in a number of areas. Of particular note was the sharp fall in foreign economic activity, which was having a negative effect on U.S. exports. Both headline and core consumer prices had edged up in January and February. Credit conditions remained very tight, and financial markets continued to be fragile and unsettled, with pressures on financial institutions generally having intensified over the past few months. Overall, participants expressed concern about downside risks to an outlook for activity that was already weak. Nonetheless, looking beyond the very near term, participants saw a number of market forces and policies then in place as eventually leading to economic recovery. Notably, the low level of mortgage interest rates, reduced house prices, and the Administration's new programs to encourage mortgage refinancing and mitigate foreclosures ultimately could bring about a lower cost of homeownership, a sustained increase in home sales, and a stabilization of house prices.

In light of the deterioration in the economic situation and outlook, Committee members agreed that substantial additional purchases of longer-term assets would be appropriate. In its March statement, the Committee announced that, to provide greater support to mortgage lending and housing markets, it would increase the size of the Federal Reserve's balance sheet further by purchasing up to an additional $750 billion of agency MBS, bringing its total purchases of these securities to up to $1.25 trillion in 2009, and that it would increase its purchases of agency debt this year by up to $100 billion to a total of up to $200 billion. Moreover, to help improve conditions in private credit markets, the Committee decided to purchase up to $300 billion of longer-term Treasury securities over the next six months. The Committee decided to maintain the target range for the federal funds rate at 0 to ¼ percent and noted in its March statement that it anticipated that economic conditions were likely to warrant exceptionally low levels of the federal funds rate for an extended period. The Committee also noted that the Federal Reserve had launched the TALF to facilitate the extension of credit to households and small businesses, and it anticipated that the range of eligible collateral for this facility was likely to be expanded to include other financial assets. The Committee stated that it would continue to carefully monitor the size and composition of the Federal Reserve's balance sheet in light of evolving financial and economic developments.

On March 23, the Federal Reserve and the Treasury issued a joint statement on the role of the Federal Reserve in preserving financial and monetary stability. In the statement, the Federal Reserve and the Treasury agreed to continue to cooperate on measures to improve the stability and functioning of the financial system while minimizing the associated credit risk to the Federal Reserve and preserving the ability of the Federal Reserve to achieve its monetary policy objectives. The two government entities also agreed to work together with the Congress on a comprehensive resolution regime for systemically important financial institutions, and the Treasury promised to remove the emergency loans for systemically important institutions from the Federal Reserve's balance sheet over time to the extent its authorities permit.

At the FOMC meeting on April 28 and 29, participants noted that the pace of decline in some components of final demand appeared to have slowed. Consumer spending firmed in the first quarter after dropping markedly during the second half of 2008. Housing activity remained depressed but seemed to have leveled off in February and March. In contrast, businesses had cut production and employment substantially in recent months—reflecting, in part, inventory overhangs that had persisted into the early part of the year—and fixed investment continued to contract. Headline and core consumer prices rose at a moderate pace over the first three months of the year. Participants noted that financial market conditions had generally strengthened, and surveys and anecdotal reports pointed to a pickup in household and business confidence, which nonetheless remained at very low levels. Yields on Treasury and agency securities had fallen after the release of the March FOMC statement, which noted the increase in planned purchases of longer-term securities. However, this initial drop was subsequently reversed amid the improved economic outlook, an easing of concerns about financial institutions, and perhaps some unwinding of flight-to-quality flows. Participants anticipated that the acceleration in final demand and economic activity over the next few quarters would be modest, with growth of consumption expenditures likely to be restrained and business investment spending probably shrinking further. Looking further ahead, participants considered a number of factors that would be likely to restrain the pace of economic recovery over the medium term. Strains in credit markets were expected to recede only gradually as financial institutions continued to rebuild their capital and remained cautious in their approach to asset-liability management, especially given that the outlook for credit performance would probably remain weak. Households would likely continue to be cautious, and their desired saving rates would be relatively high over the extended period that would be required to bring their wealth back up to more normal levels relative to income. The stimulus from fiscal policy was expected to diminish over time as the government budget moved to a sustainable path. Demand for U.S. exports would also take time to revive, reflecting the gradual recovery of economic activity in our major trading partners.

Against this backdrop, the FOMC indicated that it would maintain the target range for the federal funds rate at 0 to ¼ percent and anticipated that economic conditions would be likely to warrant exceptionally low levels of the federal funds rate for an extended period. The Committee reiterated that, to provide support to mortgage lending and housing markets and to improve overall conditions in private credit markets, the Federal Reserve would purchase a total of up to $1.25 trillion of agency MBS and up to $200 billion of agency debt by the end of the year. In addition, the Federal Reserve would buy up to $300 billion of Treasury securities by autumn. The Committee would continue to evaluate the timing and overall amounts of its purchases of securities in light of the evolving economic outlook and conditions in financial markets. The Federal Reserve was facilitating the extension of credit to households and businesses and supporting the functioning of financial markets through a range of liquidity programs. The Committee indicated that it would continue to carefully monitor the size and composition of the Federal Reserve's balance sheet in light of financial and economic developments.

The information reviewed at the June 23–24 FOMC meeting suggested that the economy remained weak, though declines in activity seemed to be lessening. Consumer spending appeared to have stabilized, sales and starts of new homes flattened out, and the recent declines in capital spending did not look as severe as those that had occurred around the turn of the year. At the same time, labor markets and industrial production continued to deteriorate sharply. Apart from a tax-induced jump in tobacco prices, consumer price inflation was fairly quiescent in recent months, although an upturn in energy prices appeared likely to boost headline inflation in June. Conditions and sentiment in financial markets had continued to show signs of improvement since the last meeting. The results of the Supervisory Capital Assessment Program (SCAP) were positively received by financial markets, credit default swap spreads of banking organizations declined considerably, and the institutions involved in the SCAP were subsequently able to issue significant amounts of public equity and nonguaranteed debt. The functioning of short-term funding markets improved, broad stock price indexes increased, and spreads on corporate bonds continued to narrow. Nominal Treasury yields climbed steeply, reflecting investors' perceptions of an improved economic outlook, a reversal of flight-to-quality flows, and technical factors related to the hedging of mortgage holdings.

In its June statement, the FOMC reiterated that it would employ all available tools to promote economic recovery and preserve price stability. It noted that it would maintain its target range for the federal funds rate at 0 to ¼ percent and continued to anticipate that economic conditions would likely warrant exceptionally low levels of the federal funds rate for an extended period. The FOMC indicated that, as it had previously announced, to provide support to mortgage lending and housing markets and to improve overall conditions in private credit markets, the Federal Reserve would purchase a total of up to $1.25 trillion of agency MBS and up to $200 billion of agency debt by the end of the year. In addition, the Federal Reserve would buy up to $300 billion of Treasury securities by autumn. The Committee noted that it would continue to evaluate the timing and overall amounts of its purchases of securities in light of the evolving economic outlook and conditions in financial markets. The FOMC also stated that the Federal Reserve was monitoring the size and composition of its balance sheet and would make adjustments to its credit and liquidity programs as warranted.

Conditions in financial markets had improved notably by the end of June, although market functioning in many areas remained impaired and seemed likely to remain strained for some time. Usage of some of the Federal Reserve's liquidity programs had also decreased in recent months. Against this backdrop, on June 25, the Federal Reserve announced extensions of and modifications to a number of its liquidity programs (see table 2 for a summary of the changes).[14] The Federal Reserve noted that the Board and the FOMC would continue to monitor closely the condition of financial markets and the need for and effectiveness of the Federal Reserve's special liquidity facilities and arrangements. Should the recent improvements in market conditions continue, the Board and the FOMC anticipated that a number of the facilities might not need to be extended beyond February 1, 2010. However, if financial stresses did not moderate as expected, the Board and the FOMC were prepared to extend the terms of some or all of the facilities as needed to promote financial stability and economic growth. The public would receive timely notice of planned extensions, discontinuations, or modifications of Federal Reserve programs. The next section of this report, "Monetary Policy as the Economy Recovers," has further discussion related to the evolution of these programs.

Over the first half of the year, the Federal Reserve also undertook a number of initiatives to improve communications about its policy actions. These initiatives are described more fully in the box titled "Federal Reserve Initiatives to Increase Transparency."

Monetary Policy as the Economy Recovers

At present, the focus of monetary policy is on stimulating economic activity in order to limit the degree to which the economy falls short of full employment and to prevent a sustained decline in inflation below levels consistent with the Federal Reserve's legislated objectives. Economic conditions are likely to warrant accommodative monetary policy for an extended period. At some point, however, economic recovery will take hold, labor market conditions will improve, and the downward pressures on inflation will diminish. When this process has advanced sufficiently, the stance of policy will need to be tightened to prevent inflation from rising above levels consistent with price stability and to keep economic activity near its maximum sustainable level. The FOMC is confident that it has the necessary tools to withdraw policy accommodation, when such action becomes appropriate, in a smooth and timely manner.

Monetary policy actions taken over the past year have led to a considerable increase in the assets held by the Federal Reserve. This increase in assets reflects both the expansion of Federal Reserve liquidity facilities and the purchases of longer-term securities. On the margin, the extension of credit and acquisition of assets

14. For more details, see Board of Governors of the Federal Reserve System (2009), "Federal Reserve Announces Extensions of and Modifications to a Number of Its Liquidity Programs," press release, June 25, www.federalreserve.gov/newsevents/press/monetary/20090625a.htm.

2. Extensions and modifications of Federal Reserve liquidity programs

Liquidity program	Extension	Modification
Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF)	Extended to February 1, 2010	Money market mutual funds have to experience material outflows before being able to sell asset-backed commercial paper that would be eligible collateral for AMLF loans.
Central bank swap lines	Extended to February 1, 2010	...
Commercial Paper Funding Facility	Extended to February 1, 2010	...
Money Market Investor Funding Facility	Expiration date remains at October 30, 2009	...
Primary Dealer Credit Facility	Extended to February 1, 2010	...
Term Asset-Backed Securities Loan Facility	Expiration date remains at December 31, 2009	...
Term Auction Facility	No fixed expiration date	Auction amounts reduced initially to $125 billion.
Term Securities Lending Facility	Extended to February 1, 2010	Auctions backed by Schedule 1 collateral suspended effective July 1, 2009. Auctions backed by Schedule 2 collateral now conducted every four weeks. Total amount offered reduced initially to $75 billion.

… Not applicable.
Source: Federal Reserve Board.

Federal Reserve Initiatives to Increase Transparency

The Federal Reserve took a number of nontraditional policy actions during the current episode of financial turmoil. In late 2008, Chairman Bernanke asked Vice Chairman Kohn to lead a review of how Federal Reserve disclosure policies should be adapted to make more information about these programs available to the public and to the Congress. A guiding principle of the review was that the Federal Reserve would seek to provide to the public as much information and analysis as possible, consistent with its objectives of promoting maximum employment and price stability. The Federal Reserve subsequently created a separate section of its website devoted to providing data, explanations, and analyses of its lending programs and balance sheet.[1] Postings in the first half of 2009 included additional explanatory material and details about a number of Federal Reserve credit and liquidity programs, the annual financial statements of the 12 Federal Reserve Banks, the Board of Governors, and the limited liability companies (LLCs) created in 2008 to avert the disorderly failures of The Bear Stearns Companies, Inc., and American International Group, Inc., as well as the most recent reports to the Congress on the Federal Reserve's emergency lending programs.

On June 10, the Federal Reserve issued the first of a series of monthly reports to provide more information on its credit and liquidity programs.[2] For many of those programs, the new information provided in the report includes the number of borrowers and the amounts borrowed by type of institution, collateral by type and credit rating, and data on the concentration of borrowing. The report also includes information on liquidity swap usage by country, quarterly income earned on different classes of Federal Reserve assets, and asset distribution and other information on the LLCs. In addition, the report summarizes and discusses recent developments across a number of Federal Reserve programs. In addition to the new report, the Federal Reserve Bank of New York recently made available the investment management agreements related to its financial stability and liquidity activities.[3]

1. This section of the Board's website is available at www.federalreserve.gov/monetarypolicy/bst.htm.

2. See Board of Governors of the Federal Reserve System (2009), *Federal Reserve System Monthly Report on Credit and Liquidity Programs and the Balance Sheet* (Washington: Board of Governors, July), www.federalreserve.gov/files/monthlyclbsreport200907.pdf.

3. Federal Reserve Bank of New York (2009), "Vendor Information," www.newyorkfed.org/aboutthefed/vendor_information.html.

by the Federal Reserve has been funded by crediting the reserve accounts of depository institutions (henceforth referred to as banks). Thus, the increase in Federal Reserve assets has been associated with substantial growth in banks' reserve balances, leaving the level of reserves far above that typically observed when short-term interest rates were significantly greater than zero.

To some extent, a contraction in the stock of reserve balances will occur automatically as financial conditions improve. In particular, most of the liquidity facilities deployed by the Federal Reserve in the current period of financial turmoil are priced at a premium over normal interest rate spreads or have a minimum bid rate that is high enough to make them unattractive under normal market conditions. Thus, the sizes of these programs, as well as the stock of reserve balances they create, will tend to diminish automatically as financial strains abate. Indeed, as noted elsewhere in this report, total credit extended to banks and other market participants (excluding support of critical institutions) declined from about \$1.5 trillion as of December 31, 2008, to less than \$600 billion as of July 15, 2009, as financial conditions improved. In addition, redemptions of the Federal Reserve's holdings of agency debt, agency MBS, and longer-term Treasury securities are expected to occur at a rate of \$100 billion to \$200 billion per year over the next few years, leading to further reductions in reserve balances.

But even after lending facilities have wound down and holdings of long-term assets have begun to run off, the volume of assets on the Federal Reserve's balance sheet may remain very large for some time. Without additional actions, the level of bank reserves would continue to remain elevated as well.

Despite continued large holdings of assets, the Federal Reserve will have at its disposal two broad means of tightening monetary policy at the appropriate time. In principle, either of these methods would suffice to raise short-term interest rates; however, to ensure effectiveness, the two methods will most likely be used in combination.

The first method for tightening monetary policy relies on the authority that the Congress granted to the Federal Reserve last fall to pay interest on the balances maintained by banks. By raising the rate it pays on banks' reserve balances, the Federal Reserve will be able to tighten monetary policy by inducing increases in the federal funds rate and other short-term market interest rates. In general, banks will not supply funds to the money market at an interest rate lower than the rate they can earn risk free at the Federal Reserve. Moreover, they should compete to borrow any funds that are offered in the market at rates below the rate of interest paid by the Federal Reserve, as such borrowing allows them to earn a spread without any risk. Thus, raising the interest rate paid on balances that banks hold at the Federal Reserve should provide a powerful upward influence on short-term market interest rates, including the federal funds rate, without the need to drain reserve balances. A number of foreign central banks have been able to maintain overnight interbank interest rates at or above the level of interest paid on bank reserves even in the presence of unusually high levels of reserve balances (see the box titled "Foreign Experience with Interest on Reserves").

Despite this logic, the federal funds rate has been somewhat lower than the rate of interest banks earn on reserve balances; the gap was especially noticeable in October and November 2008, when payment of interest on reserves first began. This gap appears to have reflected several factors: First, the Federal Reserve is not allowed to pay interest on balances held by nondepository institutions, including some large lenders in the federal funds market such as the government-sponsored enterprises (GSEs). Such institutions may have an incentive to lend at rates below the rate that banks receive on reserve balances. Second, the payment of interest on reserves was a new policy at the time that the gap was particularly noticeable, and banks may not have had time to adjust their operations to the new regime. Third, the unusually strained conditions in financial markets at that time may have reduced the willingness of banks to arbitrage by borrowing in the federal funds market at rates below the rate paid on reserve balances and earning a higher rate by increasing their deposits at the Federal Reserve. The latter two factors are not likely to persist, particularly as the economy and financial markets recover. Moreover, if, as the economy recovers, large-scale lending in the federal funds market by nondepository institutions threatens to hold the federal funds rate below its target, the Federal Reserve has various options to deal with the problem. For example, it could offer these institutions the option of investing in reverse repurchase agreements. Under these transactions, the Federal Reserve sells securities from its portfolio, thereby removing funds from the market, and agrees to buy back the securities at a later date.[15] Eliminating the incentive of nondepository institutions to lend their excess funds into short-term money markets would help ensure that raising the rate of interest paid on reserves would raise the federal funds rate and tighten monetary conditions even if the level of reserve balances were to remain high.

The second method for tightening monetary policy, despite a high level of assets on the Federal Reserve's balance sheet, is to take steps to reduce the overall level of reserve balances. Policymakers have several options for reducing the level of reserve balances should such action be desired. First, the Federal Reserve could engage in large-scale reverse repurchase agreements with financial market participants, including the GSEs as well as other institutions. Reverse repurchase agreements are a traditional tool of Federal Reserve monetary policy implementation. Second, the Treasury could sell more bills and deposit the proceeds with the Federal Reserve. The Treasury has been conducting such operations since last fall; the resulting deposits are reported on the Federal Reserve balance sheet as the Supplementary Financing Account. One limitation on this option is that the associated Treasury debt is subject to the statutory debt ceiling. Also, to preserve monetary policy independence, the Federal Reserve must ensure that it can achieve its policy objectives without reliance on the Treasury if necessary. A third option is for the Federal Reserve to offer banks the opportunity to hold some of their balances as term deposits. Such deposits would pay interest but would not have the liquidity and transactions features of reserve balances. Term deposits could not be counted toward reserve requirements, nor could they be used to avoid overnight overdraft penalties in reserve accounts.[16] Each of these three policy options would allow a tightening of monetary policy by draining reserve balances and raising short-term interest rates. As noted earlier, measures to drain reserves will likely be used in conjunction with increases in the interest rate paid on reserves to tighten conditions in short-term money markets.

15. These transactions are referred to as reverse repurchase agreements to distinguish them from repurchase agreements in which the Federal Reserve is the investor.

16. To be successful, especially in a period of rising interest rates, such deposits likely would have to pay rates of interest above the overnight rate on reserve balances. To prevent banks from earning risk-free profits by borrowing from the Federal Reserve and investing the proceeds in term deposits, the rate of remuneration on term deposits would have to be kept lower than the rates the Federal Reserve charges on its lending facilities, such as the discount window.

Raising the rate of interest on reserve balances and draining reserves through the options just described would allow policy to be tightened even if the level of assets on the Federal Reserve's balance sheet remained very high. In addition, the Federal Reserve retains the option to reduce its stock of assets by selling off a portion of its holdings of longer-term securities before they mature. Asset sales by the Federal Reserve would serve to raise short-term interest rates and tighten monetary policy by reducing the level of reserve balances; in addition, such sales could put upward pressure on longer-term interest rates by expanding the supply of longer-term assets available to investors. In an environment of strengthening economic activity and rising inflation pressures, broad-based increases in interest rates could facilitate the achievement of the Federal Reserve's dual mandate.

In short, the Federal Reserve has a wide range of tools that can be used to tighten the stance of monetary policy at the point that the economic outlook calls for such action. However, economic conditions are not likely to warrant a tightening of monetary policy for an extended period. The timing and pace of any future tightening, together with the mix of tools employed, will be calibrated to best foster the Federal Reserve's dual objectives of maximum employment and price stability.

Foreign Experience with Interest on Reserves

Paying interest on excess reserve balances, either directly or by allowing banks to place excess balances into an interest-bearing account, is a standard tool used by major foreign central banks. Many have used interest on reserves, in combination with other tools, to maintain a floor under overnight interbank interest rates both in normal circumstances and during the period of financial turmoil. The European Central Bank (ECB), for example, has long allowed banks to place excess reserves into a deposit facility that pays interest at a rate below the ECB's main refinancing rate (its bellwether policy rate). The quantity of funds that banks hold in that facility increased sharply as the ECB expanded its liquidity-providing operations last fall and has remained well above pre-crisis levels; as a result, the euro-area overnight interbank rate fell from a level close to the main refinancing rate toward the rate the ECB pays on deposits—but, importantly, not below that rate. Since November 2008, the Bank of Japan (BOJ) on a temporary basis has paid interest on excess reserve balances, at a rate of 10 basis points per year, which is also its current target for the overnight uncollateralized call rate; the BOJ noted that its action was intended to keep the call rate close to the targeted level as it supplied additional liquidity to the banking system. Indeed, the overnight rate has traded near 10 basis points in recent months, even as reserve balances at the BOJ have risen substantially, returning to their level during much of 2002, when the BOJ was implementing its Quantitative Easing Policy and the call rate was trading at 1 basis point or below. The Bank of Canada and the Bank of England also have used their standing deposit facilities to help manage interbank interest rates.

Part 4
Summary of Economic Projections

The following material appeared as an addendum to the minutes of the June 23–24, 2009, meeting of the Federal Open Market Committee.

In conjunction with the June 23–24, 2009, FOMC meeting, the members of the Board of Governors and the presidents of the Federal Reserve Banks, all of whom participate in deliberations of the FOMC, submitted projections for output growth, unemployment, and inflation in 2009, 2010, 2011, and over the longer run. Projections were based on information available through the end of the meeting and on each participant's assumptions about factors likely to affect economic outcomes, including his or her assessment of appropriate monetary policy. "Appropriate monetary policy" is defined as the future path of policy that the participant deems most likely to foster outcomes for economic activity and inflation that best satisfy his or her interpretation of the Federal Reserve's dual objectives of maximum employment and stable prices. 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.

FOMC participants generally expected that, after declining over the first half of this year, output would expand sluggishly over the remainder of the year. Consequently, as indicated in table 1 and depicted in figure 1, all FOMC participants projected that real gross domestic product (GDP) would contract over the entirety of this year and that the unemployment rate would increase in coming quarters. All participants also expected that overall inflation would be somewhat slower this year than in recent years, and most projected that core inflation would edge down this year. Almost all participants viewed the near-term outlook for domestic output as having improved modestly relative to the projections they made at the time of the April FOMC meeting, reflecting both a slightly less severe contraction in the first half of 2009 and a moderately stronger, but still sluggish, recovery in the second half. With the strong adverse forces that have been acting on the economy likely to abate only slowly, participants generally expected the recovery to be gradual in 2010. Even though all participants had raised their near-term outlook for real GDP, in light of incoming data on labor markets, they increased their projections for the path of the unemployment rate from those published in April. Participants foresaw only a gradual improvement in labor market conditions in 2010 and 2011, leaving the unemployment rate at the end of 2011 well above the level they viewed as its longer-run sustainable rate. Participants projected low inflation this year. For 2010 and 2011, the central tendencies of the participants' inflation

Table 1. Economic projections of Federal Reserve Governors and Reserve Bank presidents, June 2009

Percent

Variable	Central tendency[1]				Range[2]			
	2009	2010	2011	Longer run	2009	2010	2011	Longer run
Change in real GDP	-1.5 to -1.0	2.1 to 3.3	3.8 to 4.6	2.5 to 2.7	-1.6 to -0.6	0.8 to 4.0	2.3 to 5.0	2.4 to 2.8
April projection	-2.0 to -1.3	2.0 to 3.0	3.5 to 4.8	2.5 to 2.7	-2.5 to -0.5	1.5 to 4.0	2.3 to 5.0	2.4 to 3.0
Unemployment rate	9.8 to 10.1	9.5 to 9.8	8.4 to 8.8	4.8 to 5.0	9.7 to 10.5	8.5 to 10.6	6.8 to 9.2	4.5 to 6.0
April projection	9.2 to 9.6	9.0 to 9.5	7.7 to 8.5	4.8 to 5.0	9.1 to 10.0	8.0 to 9.6	6.5 to 9.0	4.5 to 5.3
PCE inflation	1.0 to 1.4	1.2 to 1.8	1.1 to 2.0	1.7 to 2.0	1.0 to 1.8	0.9 to 2.0	0.5 to 2.5	1.5 to 2.1
April projection	0.6 to 0.9	1.0 to 1.6	1.0 to 1.9	1.7 to 2.0	-0.5 to 1.2	0.7 to 2.0	0.5 to 2.5	1.5 to 2.0
Core PCE inflation[3]	1.3 to 1.6	1.0 to 1.5	0.9 to 1.7		1.2 to 2.0	0.5 to 2.0	0.2 to 2.5	
April projection	1.0 to 1.5	0.7 to 1.3	0.8 to 1.6		0.7 to 1.6	0.5 to 2.0	0.2 to 2.5	

NOTE: Projections of change in real gross domestic product (GDP) and in 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 April projections were made in conjunction with the meeting of the Federal Open Market Committee on April 28–29, 2009.

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 consists of all participants' projections, from lowest to highest, for that variable in that year.

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

Figure 1. Central tendencies and ranges of economic projections, 2009–11 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.

forecasts pointed to fairly stable inflation that would be modestly below most participants' estimates of the rate consistent with the dual objectives; however, the divergence of participants' views about the inflation outlook remained wide. Most participants indicated that they expected the economy to take five or six years to converge to a longer-run path characterized by a sustainable rate of output growth and by rates of unemployment and inflation consistent with the Federal Reserve's dual objectives, but several said full convergence would take longer. In contrast to recent projections, a majority of participants perceived the risks to growth as roughly balanced, although several still viewed those risks as tilted to the downside. Most participants saw the risks surrounding their inflation outlook as roughly balanced, and fewer participants than in April characterized those risks as skewed to the downside. With few exceptions, participants judged that the projections for economic activity and inflation remained subject to a degree of uncertainty exceeding historical norms.

The Outlook

Participants' projections for the change in real GDP in 2009 had a central tendency of negative 1.5 percent to negative 1.0 percent, somewhat above the central tendency of negative 2.0 percent to negative 1.3 percent for their April projections. Participants noted that the data received between the April and June FOMC meetings pointed to a somewhat smaller decline in output during the first half of the year than they had anticipated at the time of the April meeting. Moreover, participants saw additional indications that the economic downturn in the United States and worldwide was moderating in the second quarter, and they continued to expect that sales and production would begin to recover gradually during the second half of the year, reflecting the effects of monetary and fiscal stimulus, measures to support credit markets, and diminishing financial stresses. As reasons for marking up their projections for near-term economic activity, participants pointed to a further improvement in financial conditions during the intermeeting period, signs of stabilization in consumer spending, and tentative indications of a leveling out of activity in the housing sector. In addition, they observed that aggressive inventory reductions during the first half of this year appeared to have left firms' stocks in better balance with sales, suggesting that production is likely to increase as sales stabilize and then start to turn up later this year. Participants expected, however, that recoveries in consumer spending and residential investment initially would be damped by further deterioration in labor markets, the continued repair of household balance sheets, persistently tight credit conditions, and still-weak housing demand. They also anticipated that very low capacity utilization, sluggish growth in sales, uncertainty about the economic environment, and a continued elevated cost and limited availability of financing would contribute to continued weakness in business fixed investment this year. Some participants noted that weak economic conditions in other countries probably would hold down growth in U.S. exports. A number of participants also saw recent increases in some long-term interest rates and in oil prices as factors that could damp a near-term economic recovery.

Looking further ahead, participants' projections for real GDP growth in 2010 and 2011 were not materially different from those provided in April. The projections for growth in 2010 had a central tendency of 2.1 to 3.3 percent, and those for 2011 had a central tendency of 3.8 to 4.6 percent. Participants generally expected that household financial positions would improve only gradually and that strains in credit markets and in the banking system would ebb slowly; hence, the pace of recovery would continue to be damped in 2010. But they anticipated that the upturn would strengthen in late 2010 and in 2011 to a pace exceeding the growth rate of potential GDP. Participants noted several factors contributing to this pickup, including accommodative monetary policy, fiscal stimulus, and continued improvement in financial conditions and household balance sheets. Beyond 2011, they expected that output growth would remain above that of potential GDP for a time, leading to a gradual elimination of slack in resource utilization. Over the longer run, most participants expected that, without further shocks, real GDP growth eventually would converge to a rate of 2.5 to 2.7 percent per year, reflecting longer-term trends in the growth of productivity and the labor force.

Even though participants raised their output growth forecasts, they also moved up their unemployment rate projections and continued to anticipate that labor market conditions would deteriorate further over the remainder of the year. Their projections for the average unemployment rate during the fourth quarter of 2009 had a central tendency of 9.8 to 10.1 percent, about ½ percentage point above the central tendency of their April projections and noticeably higher than the actual unemployment rate of 9.4 percent in May—the latest reading available at the time of the June FOMC meeting. All participants raised their forecasts of the unemployment rate at the end of this year, reflecting the sharper-than-expected rise in unemployment that occurred over the intermeeting period. With little material change in projected output growth in 2010 and 2011, participants still expected unemployment to decline in those years, but the projected unemployment rate in each year was about ½ percentage point above the April forecasts, reflecting the higher starting point of the projections. Most participants anticipated that output growth next year would not substantially exceed its longer-run sustainable rate and hence that the unemployment rate would decline only modestly in 2010; some also pointed to frictions associated with the reallocation of labor from shrinking economic sectors to expanding sectors as likely to restrain progress in reducing unemployment. The central tendency of the unemployment rate at the end of 2010 was 9.5 to 9.8 percent. With output growth and job creation generally projected to pick up appreciably in 2011, participants anticipated that joblessness would decline more noticeably, as evident from the central tendency of 8.4 to 8.8 percent for their projections of the unemployment rate in the fourth quarter of 2011. They expected that the unemployment rate would decline considerably further in subsequent years as it moved back toward its longer-run sustainable level, which most participants still saw as between 4.8 and 5.0 percent; however, a few participants raised their estimates of the longer-run unemployment rate.

The central tendency of participants' projections for personal consumption expenditures (PCE) inflation in 2009 was 1.0 to 1.4 percent, about ½ percentage point above the central tendency of their April projections. Participants noted that higher-than-expected inflation data over the intermeeting period and the anticipated influence of higher oil and commodity prices on consumer prices were factors contributing to the increase in their inflation forecasts. Looking beyond this year, participants' projections for total PCE inflation had central tendencies of 1.2 to 1.8 percent for 2010 and 1.1 to 2.0 percent for 2011, modestly higher than the central tendencies from the April projections. Reflecting the large increases in energy prices over the intermeeting period, the forecasts for core PCE inflation (which excludes the direct effects of movements in food and energy prices) in 2009 were raised by less than the projections for total PCE inflation, while the forecasts for core and total PCE inflation in 2010 and 2011 increased by similar amounts. The central tendency of projections for core inflation in 2009 was 1.3 to 1.6 percent; those for 2010 and 2011 were 1.0 to 1.5 percent and 0.9 to 1.7 percent, respectively. Most participants expected that sizable economic slack would continue to damp inflation pressures for the next few years and hence that total PCE inflation in 2011 would still be below their assessments of its appropriate longer-run level. Some thought that such slack would generate a decline in inflation over the next few years. Most, however, projected that, as the economy recovers, inflation would increase gradually and move closer to their individual assessments of the measured rate of inflation consistent with the Federal Reserve's dual mandate for maximum employment and price stability. Several participants, noting that the public's longer-run inflation expectations had not changed appreciably, expected that inflation would return more promptly to levels consistent with their judgments about longer-run inflation than these participants had projected in April. A few participants also anticipated that projected inflation in 2011 would be modestly above their longer-run inflation projections because of the possible effects of very low short-term interest rates and of the large expansion of the Federal Reserve's balance sheet on the public's inflation expectations. Overall, the range of participants' projections of inflation in 2011 remained quite wide.

As in April, the central tendency of projections of the longer-run inflation rate was 1.7 to 2.0 percent. Most participants judged that a longer-run PCE inflation rate of 2 percent would be consistent with the Federal Reserve's dual mandate; others indicated that inflation of 1½ percent or 1¾ percent would be appropriate. Modestly positive longer-run inflation would allow the Committee to stimulate economic activity and support employment by setting the federal funds rate temporarily below the inflation rate when the economy suffers a large negative shock to demands for goods and services.

Uncertainty and Risks

In contrast to the participants' views over the past several quarters, in June a majority of participants saw the risks to their projections for real GDP growth and the unemployment rate as broadly balanced. In explaining why they perceived a reduction in downside risks to the outlook, these participants pointed to the tentative signs of economic stabilization, indications of some effectiveness of monetary and fiscal policy actions, and improvements in financial conditions. In contrast, several participants still saw the risks to their GDP growth forecasts as skewed to the downside and the associated risks to unemployment as skewed to the upside. Almost all participants shared the judgment that their projections of future economic activity and unemployment continued to be subject to greater-than-average uncertainty.[17] Many participants again high-lighted the still-

17. Table 2 provides estimates of forecast uncertainty for the change in real GDP, the unemployment rate, and total consumer price inflation over the period from 1989 to 2008. At the end of this sum-

Table 2. Average historical projection error ranges
Percentage points

Variable	2009	2010	2011
Change in real GDP[1]	±1.0	±1.5	±1.6
Unemployment rate[1]	±0.4	±0.8	±1.0
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 1989 through 2008 that were released in the summer by various private and government forecasters. As described in the box titled "Forecast Uncertainty," 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.

considerable uncertainty about the future course of the financial crisis and the risk that a resurgence of financial turmoil could adversely impact the real economy. In addition, some noted the difficulty in gauging the macroeconomic effects of the credit-easing policies that have been employed by the Federal Reserve and other central banks, given the limited experience with such tools.

Most participants judged the risks to the inflation outlook as roughly balanced, with the number doing so higher than in April. A few participants continued to view these risks as skewed to the downside, and one saw the inflation risks as tilted to the upside. Some participants noted the risk that inflation expectations might drift downward in response to persistently low inflation outcomes and continued significant slack in resource utilization. Several participants pointed to the possibility of an upward shift in expected and actual inflation if the stimulative monetary policy measures and the attendant expansion of the Federal Reserve's balance sheet were not unwound in a timely fashion as the economy recovers. Most participants again saw the uncertainty surrounding their inflation projections as exceeding historical norms.

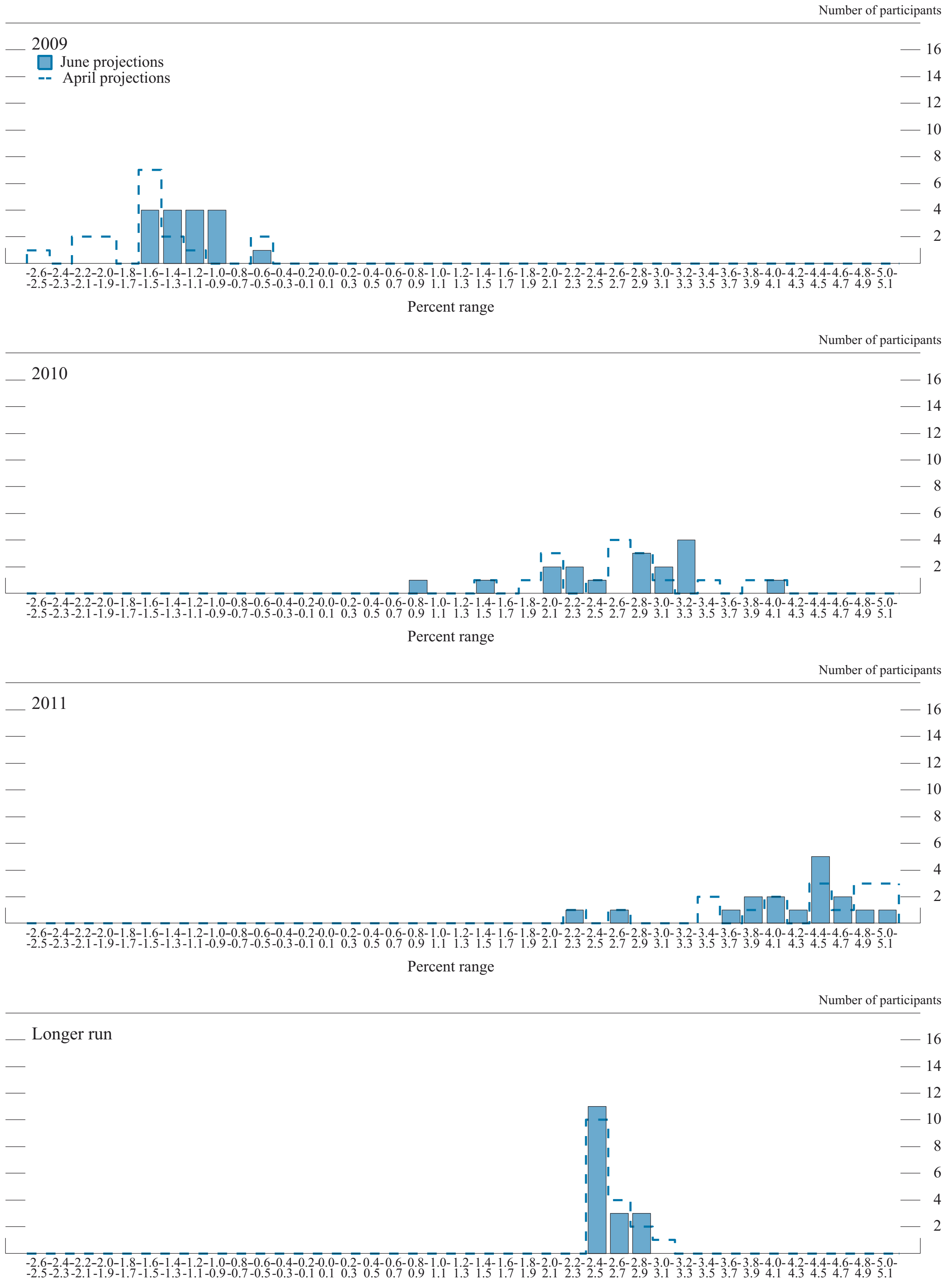
Diversity of Views

Figures 2.A and 2.B provide further details on the diversity of participants' views regarding likely outcomes for real GDP growth and the unemployment rate in 2009, 2010, 2011, and over the longer run. The dispersion in participants' June projections for the next three years reflects, among other factors, the diversity of their assessments regarding the effects of fiscal stimulus and nontraditional monetary policy actions as well as the likely pace of improvement in financial conditions. For real GDP growth, the distribution of projections for 2009 narrowed and shifted slightly higher, reflecting the somewhat better-than-expected data received during the intermeeting period. The distributions for 2010 and 2011 changed little. For the unemployment rate, the surprisingly large increases in unemployment reported during the intermeeting period prompted an upward shift in the distribution. Because of the persistence exhibited in many of the unemployment forecasts, there were similar upward shifts in the distributions for 2010 and 2011. The dispersion of these forecasts for all three years was roughly similar to that of April. The distribution of participants' projections of longer-run real GDP growth was about unchanged. A few participants raised their longer-run projections of the unemployment rate, widening the dispersion of these estimates, as they incorporated the effects of unexpectedly high recent unemployment data and of the reallocation of labor from declining sectors to expanding ones. The dispersion in participants' longer-run projections reflected differences in their estimates regarding the sustainable rates of output growth and unemployment to which the economy would converge under appropriate monetary policy and in the absence of any further shocks.

Figures 2.C and 2.D provide corresponding information about the diversity of participants' views regarding the inflation outlook. The distribution of the projections for total and core PCE inflation in 2009 moved upward, reflecting the higher inflation data released over the intermeeting period, while distributions for the projections in 2010 and 2011 did not change significantly. The dispersion in participants' projections for total and core PCE inflation for 2009, 2010, and 2011 illustrates their varying assessments of the effects on inflation and inflation expectations of persistent economic slack as well as of the recent expansion of the Federal Reserve's balance sheet. These varying assessments are especially evident in the wide dispersion of inflation projections for 2011. In contrast, the tight distribution of participants' projections for longer-run inflation illustrates their substantial agreement about the measured rate of inflation that is most consistent with the Federal Reserve's dual objectives of maximum employment and stable prices.

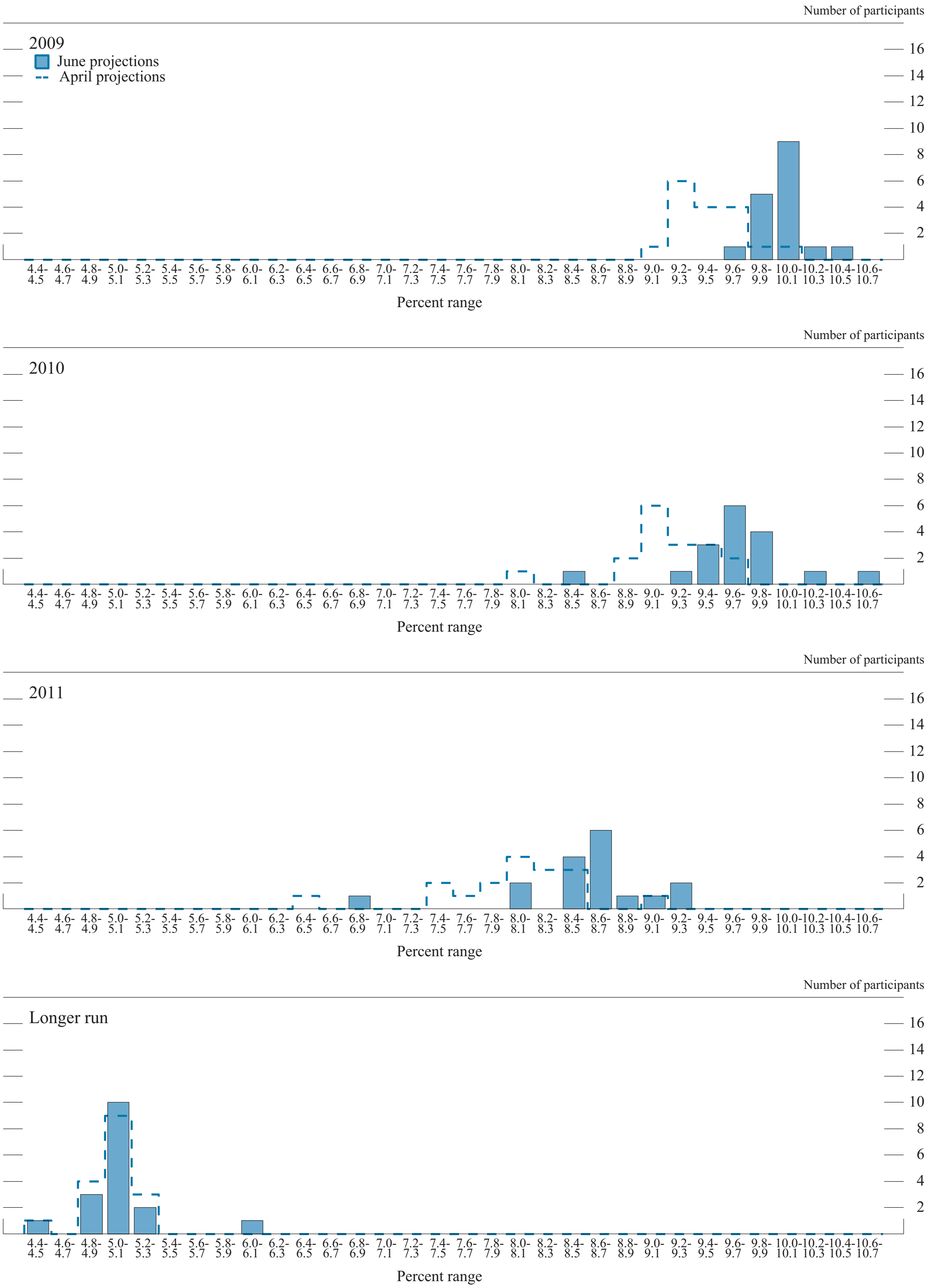
mary, the box titled "Forecast Uncertainty" discusses the sources and interpretation of uncertainty in economic forecasts and explains the approach used to assess the uncertainty and risks attending participants' projections.

Figure 2.A. Distribution of participants' projections for the change in real GDP, 2009–11 and over the longer run



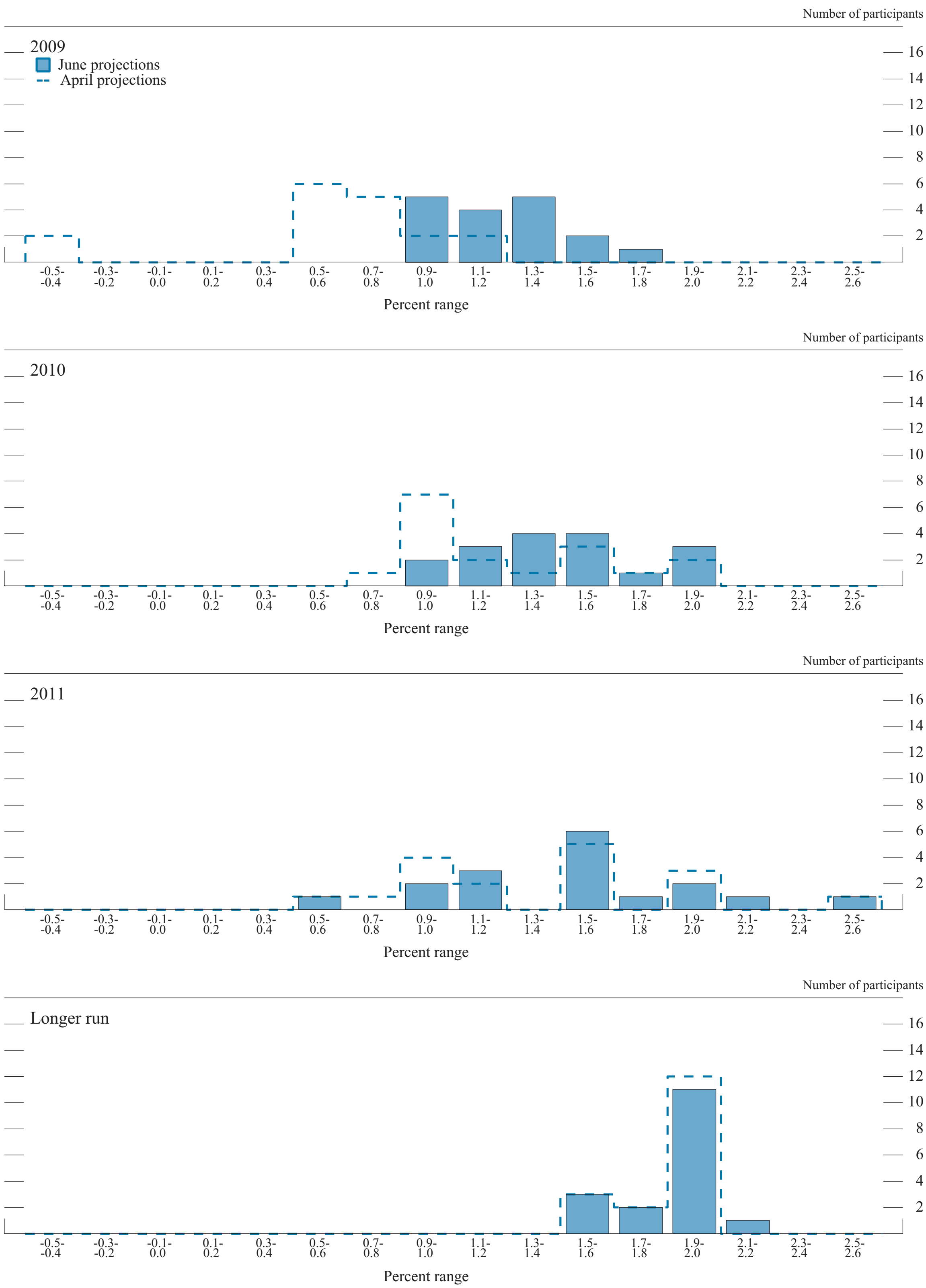
NOTE: Definitions of variables are in the general note to table 1.

Figure 2.B. Distribution of participants' projections for the unemployment rate, 2009–11 and over the longer run



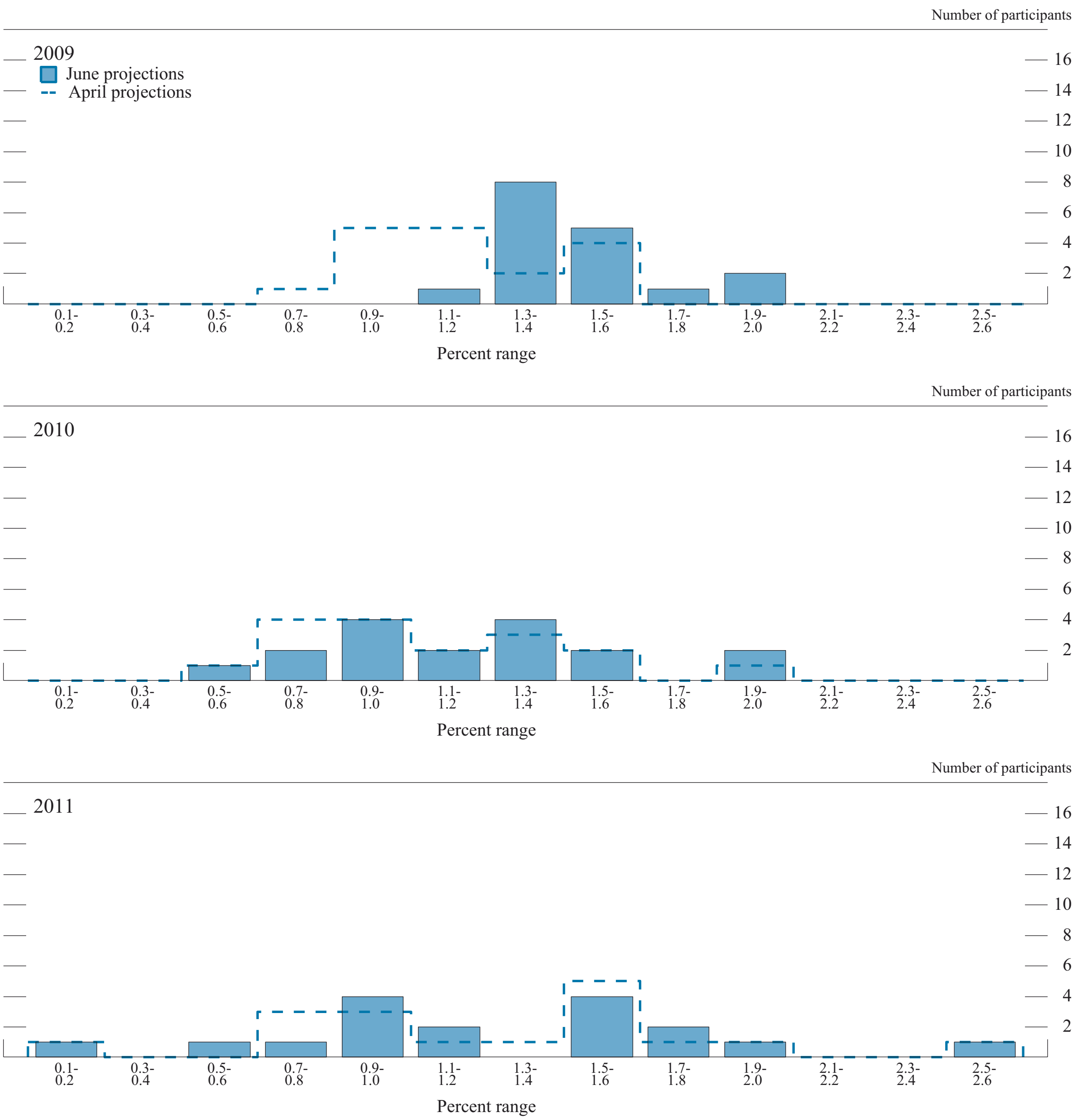
Note: Definitions of variables are in the general note to table 1.

Figure 2.C. Distribution of participants' projections for PCE inflation, 2009–11 and over the longer run



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

Figure 2.D. Distribution of participants' projections for core PCE inflation, 2009–11



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

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 Reports and those prepared by Federal Reserve Board 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 2.0 to 4.0 percent in the current year, 1.5 to 4.5 percent in the second year, and 1.4 to 4.6 percent 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.

Abbreviations

ABCP	asset-backed commercial paper
ABS	asset-backed securities
AIG	American International Group, Inc.
BHC	bank holding company
BOJ	Bank of Japan
CAP	Capital Assistance Program
CDS	credit default swap
C&I	commercial and industrial
CMBS	commercial mortgage-backed securities
CP	commercial paper
CPFF	Commercial Paper Funding Facility
CPH	compensation per hour
CPP	Capital Purchase Program
CRE	commercial real estate
DPI	disposable personal income
ECB	European Central Bank
ECI	employment cost index
FDIC	Federal Deposit Insurance Corporation
FOMC	Federal Open Market Committee; also, the Committee
GDP	gross domestic product
GSE	government-sponsored enterprise
IRA	individual retirement account
Libor	London interbank offered rate
LLC	limited liability company
MBS	mortgage-backed securities
NIPA	national income and product accounts
NOW	negotiable order of withdrawal
OCC	Office of the Comptroller of the Currency
OIS	overnight index swap
OTTI	other-than-temporary impairment
PCE	personal consumption expenditures
PPIP	Public-Private Investment Program
SCAP	Supervisory Capital Assessment Program
SPV	special purpose vehicle
TAF	Term Auction Facility
TALF	Term Asset-Backed Securities Loan Facility
TARP	Troubled Asset Relief Program
TIPS	Treasury inflation-protected securities
VRDO	variable-rate demand obligation
WTI	West Texas intermediate