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Monetary Policy Report to the Congress

July 15, 2008

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 15, 2008

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

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Boxes

Part 1
Overview: Monetary Policy and the Economic Outlook

The U.S. economy remained sluggish in the first half of 2008, and steep increases in commodity prices boosted consumer price inflation. The housing market continued to contract, weighing on overall economic activity. Against a backdrop of mounting losses incurred by major financial institutions, financial market conditions deteriorated sharply further toward the end of the first quarter—a development that threatened to severely impair the functioning of the overall financial system and to hinder economic growth. In response, the Federal Reserve undertook a number of significant actions to address liquidity pressures faced by banks and other financial institutions, thereby augmenting the liquidity-enhancing measures implemented in the second half of 2007. Taken together, these measures fostered some improvement in the functioning of financial markets, but considerable strains persist. In view of the implications of the substantial reduction in credit availability and the continuing decline in housing activity for the economic outlook, the Federal Open Market Committee (FOMC) further eased the stance of monetary policy. After cutting the target federal funds rate 100 basis points in the second half of 2007, the FOMC reduced rates another 225 basis points over the first four months of 2008. The further easing of policy was seen as consistent with fostering price stability over time, given the Committee's expectation that a flattening-out of energy prices and increasing economic slack would damp inflationary pressures.

The most recent economic projections of participants in FOMC meetings (Board members and Reserve Bank presidents) are presented in part 4 of this report. According to these projections, the economy is expected to expand slowly over the rest of this year. FOMC participants anticipate a gradual strengthening of economic growth over coming quarters as the lagged effects of past monetary policy actions, amid gradually improving financial market conditions, begin to provide additional lift to spending and as housing activity begins to stabilize. FOMC participants marked up their forecasts of inflation for 2008 as a whole, reflecting the upward pressure on inflation from rising commodity prices. However, with longer-run inflation expectations anticipated to remain reasonably well anchored, with futures markets indicating that commodity prices are expected to flatten out, and with pressures on resources likely to ease, inflation is projected to moderate appreciably in 2009. FOMC participants indicate that considerable uncertainty surrounds the outlook for economic growth and that they see the risks around that outlook as skewed to the downside. They also see prospects for inflation as unusually uncertain, and they view the risks surrounding their forecasts for inflation as skewed to the upside.

In the second half of 2007, the deteriorating performance of subprime mortgages in the United States triggered a reassessment of credit and liquidity risks across a broad range of assets, leading to widespread strains and turbulence in domestic and international financial markets. During the first quarter of 2008, reports of further losses and write-downs at major financial institutions intensified concerns about credit and liquidity risks and resulted in a further sharp reduction of market liquidity. Risk spreads—particularly for structured credit products—widened dramatically, and securitization activity all but shut down in a number of markets. By March, many securities dealers and other institutions that had relied heavily on short-term financing in markets for repurchase agreements were facing much more stringent borrowing conditions.

In mid-March, a major investment bank, The Bear Stearns Companies, Inc., was pushed to the brink of failure after suddenly losing access to short-term financing markets. The Federal Reserve judged that a disorderly failure of Bear Stearns would have threatened overall financial stability and would most likely have had significant adverse implications for the U.S. economy. After discussions with the Securities and Exchange Commission and in consultation with the Treasury, the Federal Reserve determined that it should invoke emergency authorities to provide special financing to facilitate the acquisition of Bear Stearns by JPMorgan Chase & Co. The Federal Reserve also used emergency authorities to establish the Term Securities Lending Facility and the Primary Dealer Credit Facility to support the liquidity of primary dealers and financial markets more generally, which would bolster the availability of credit to the overall economy.[1] (See the box entitled "The Federal Reserve's Liquidity Operations" in part 2, page 26.) Other steps taken by the Federal Reserve in recent months to address strains in financial markets include a further easing in the terms for bank borrowing at the discount window and an increase in the amount of credit made available to banks through the Term Auction Facility. The FOMC also authorized increases in its currency swap arrangements with the European Central Bank and the Swiss National Bank to facilitate an expansion of dollar lending operations to banks in their jurisdictions.

Over the second quarter, financial market conditions improved somewhat—credit spreads generally narrowed, liquidity pressures ebbed, and financial institutions made progress in raising new capital. Still, asset prices continue to be volatile, and many financial markets and institutions remain under considerable stress. Very recently, the share prices of Fannie Mae and Freddie Mac dropped sharply on investor concerns about their financial condition and capital position. The Treasury announced a legislative initiative to bolster the capital, access to liquidity, and regulatory oversight of the government-sponsored enterprises (GSEs). As a supplement to the Treasury's existing authority to lend to the GSEs, the Board of Governors established a temporary arrangement that allows the Federal Reserve to extend credit to Fannie Mae and Freddie Mac, if necessary.

The sluggish pace of economic activity in the first half of 2008 was accompanied by a further deterioration in the labor market. Private-sector payroll employment declined at an average monthly pace of 94,000, and the unemployment rate rose to 5½ percent. Moreover, real labor income appears to have been flat in the first half of the year. Although wages rose in nominal terms, the purchasing power of those nominal gains was eroded by the rapid increases in consumer prices. Declining employment, stagnant real wages, and lower equity and home values weighed on consumer sentiment and spending. In addition, amid falling house prices and rising foreclosures, activity in the housing sector continued to decrease. The resulting softness in business sales and profits also made the environment for capital spending less hospitable. The weakness in overall domestic demand was partly offset by strong growth of exports, which were supported by a sustained expansion of foreign activity and a lower dollar.

The substantial further rise this year in the prices of many commodities, especially oil and agricultural products, largely reflected strong growth of physical demand that outstripped supply in these markets. Although weakening economic activity and rising prices have tempered demand for commodities in many industrialized nations, demand has continued to grow in booming emerging market economies. However, supplies of commodities have generally not kept pace for a variety of reasons, including political tensions in some oil-producing nations, higher input costs, lags in the development of new capacity, and more recently, floods in the Midwest. To varying degrees, the resulting increases in materials prices have passed through into retail prices of energy, food, and some other items.

Overall consumer price inflation, as measured by the price index for personal consumption expenditures, remained elevated in the first half of 2008, largely because of the sharp increases in the prices of many commodities. The decline in the foreign exchange value of the dollar has boosted import prices more generally and thus has also put upward pressure on inflation. Nonetheless, increases in labor costs and core consumer prices (which exclude the direct effects of movements in energy and food prices) have remained moderate. The rapid advance in overall prices has boosted some measures of inflation expectations: Near-term inflation expectations have risen considerably in recent months, and some indicators of longer-term inflation expectations have also moved up—a development that will require close monitoring in the period ahead.

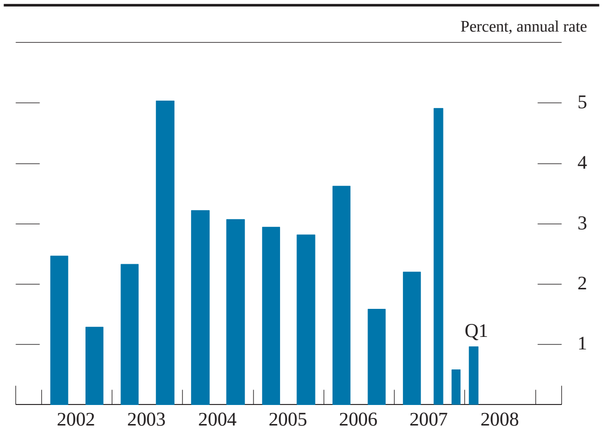
1. Primary dealers are firms that trade in U.S. government securities with the Federal Reserve Bank of New York. On behalf of the Federal Reserve System, the New York Fed's Open Market Desk engages in such trades to implement monetary policy.

Part 2
Recent Economic and Financial Developments

The growth of economic activity, which slowed sharply in the fourth quarter of 2007, remained subpar in the first half of 2008. Although the restraint on activity late in 2007 was concentrated in the housing sector, spillovers to other areas of the economy began to show through more clearly in the first half of 2008. Meanwhile, consumer price inflation has remained elevated this year, primarily because of steep increases in the prices of many commodities. Probably in response to the sizable rise in headline price indexes, some indicators of longer-term inflation expectations have risen in recent months. However, increases in labor costs and core prices have been fairly stable, reflecting in part the softening in aggregate activity.

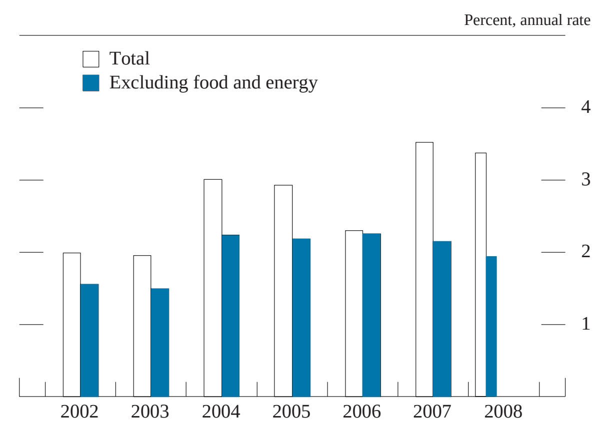
Financial market stress that had developed over the second half of last year intensified in the first quarter of this year. Increased concerns about the possibility of a global economic slowdown and a generalized flight from riskier assets contributed to sharply wider risk spreads, heightened volatility, and impaired liquidity across a range of markets. The Federal Reserve responded to these developments and their potential adverse implications for the economy by aggressively easing the stance of monetary policy and by taking a number of steps to bolster liquidity and enhance market functioning. Conditions in financial markets improved somewhat in the wake of these actions, but significant strains remain. With credit conditions tight, equity and home values falling, and rapidly rising commodity prices boosting costs and consumer prices, growth of household and business spending appears to have been sluggish over the first half of the year.

Change in real gross domestic product, 2002–08



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.

Change in the chain-type price index for personal consumption expenditures, 2002–08



NOTE: Through 2007, change is from December to December; for 2008, change is from December to May.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

The Household Sector

Residential Investment and Finance

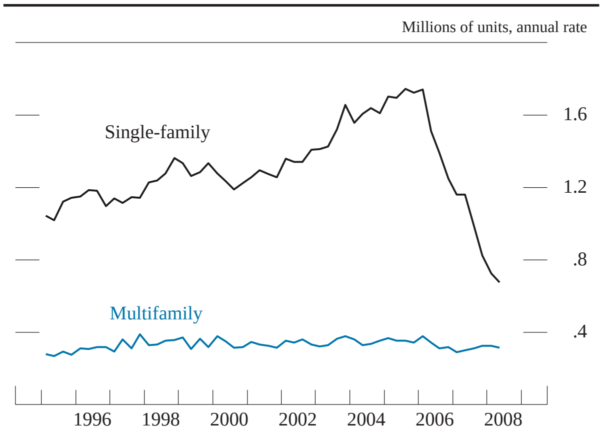
Housing demand, residential construction, and home prices have all continued to fall so far this year. Following a decline at an annual rate of 43 percent in the second half of 2007, sales of new homes decreased at an annual rate of 32 percent in the first five months of 2008. However, sales of single-family existing homes, which dropped at an annual rate of 26 percent in the second half of last year, have been about unchanged this year. Moreover, pending home sales, which provide a glimpse of the pace of existing home sales in the months ahead, on net leveled out in the spring, hinting at some stabilization in transactions in the resale market. Still, for the overall housing sector, the challenging mortgage lending environment and the concerns of prospective homebuyers about further declines in house prices are likely continuing to depress housing demand.

As new home sales have continued to decline, homebuilders have struggled to work down their substantial overhang of unsold houses. As a consequence, residential construction activity has been pared further this year. In the single-family housing sector, new units were started at an annual rate of 674,000 in May—down more than 13 percent this year and roughly 60 percent since the peak reached in the first quarter of 2006. Despite these deep production cuts, the stock of unsold homes has moved down only 20 percent from its record high in early 2006. When evaluated relative to the three-month average pace of sales, the months' supply of unsold new homes has continued to rise and stood at 10½ months in May. In the multifamily sector, starts averaged an annual rate of about 320,000 units during the first five months of 2008, a level of activity at the lower end of its range in the past several years. All told, the decline in residential investment trimmed the growth rate of real gross domestic product (GDP) about 1 percentage point in the first quarter of 2008 and appears to have held down the second-quarter growth rate by about the same amount.

House prices also have continued to fall. The monthly price index published by the Office of Federal Housing Enterprise Oversight dropped at a 6 percent annual rate in the first four months of 2008 (the latest available data), a slightly faster rate of decline than in the second half of 2007.[2] In May, the average price of existing

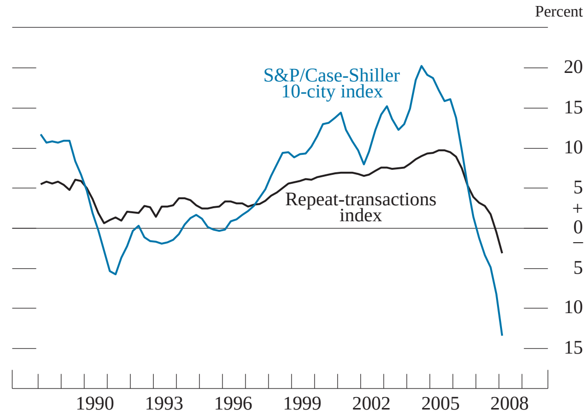
2. This index is the purchase-only version of the repeat-transactions price index for existing single-family homes published by the Office of Federal Housing Enterprise Oversight.

Private housing starts, 1995–2008



NOTE: The data are quarterly and extend through 2008:Q2; the readings for 2008:Q2 are the averages for April and May.
SOURCE: Department of Commerce, Bureau of the Census.

Change in prices of existing single-family houses, 1988–2008



NOTE: The data are quarterly and extend through 2008:Q1; changes are from one year earlier. For the years preceding 1991, the repeat-transaction index includes appraisals associated with mortgage refinancings; beginning in 1991, it 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 repeat transactions, Office of Federal Housing Enterprise Oversight; for S&P/Case-Shiller, Chicago Mercantile Exchange.

single-family homes sold—which does not control for changes in the mix of houses sold but is available on a more timely basis—was about 7¼ percent below that of a year earlier. Although lower prices should eventually help bolster housing demand, survey and anecdotal reports suggest that expectations of further house price declines are quite prevalent, a consideration that may make potential buyers reluctant to purchase homes until prices show signs of stabilizing.

The rising volume of foreclosures likely has contributed to falling house prices. Continuing the upward trend that began in late 2006, about 550,000 loans began the foreclosure process in the first quarter of 2008—more than double the average quarterly rate from 2003 to 2005. This rise in foreclosure starts will increase the supply of houses for sale unless borrowers can make up the missed payments or arrange with the lenders or mortgage servicers to have their loans modified.[3] Lenders and mortgage servicers have increasingly been working with borrowers to modify loans to allow borrowers to remain in their homes. However, some borrowers may not be able to afford even reduced monthly payments, and other borrowers may not wish to keep their properties in an environment of falling house prices. Thus, the share of foreclosure starts that

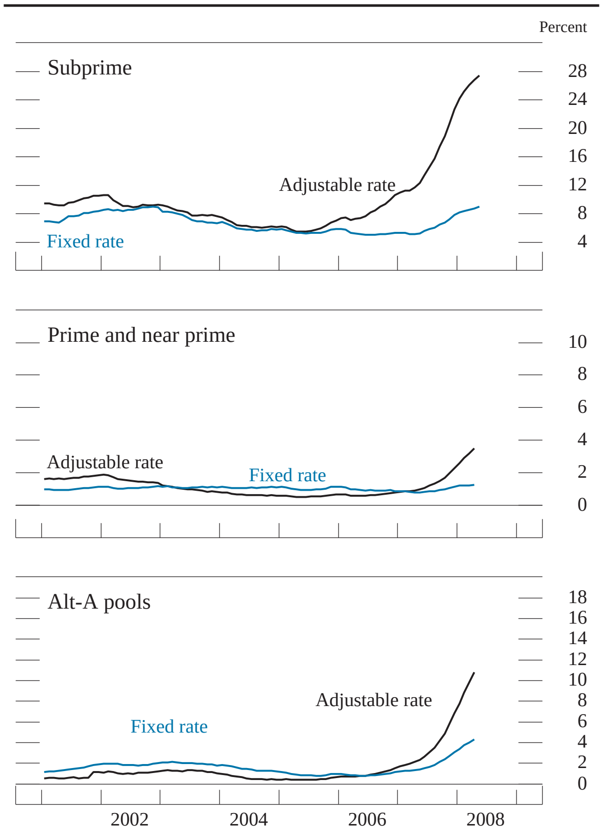
3. A loan may be modified by reducing the principal balance, reducing the interest rate, or extending the term so as to make monthly payments more affordable.

ultimately result in the loss of a home seems likely to be higher in the current episode than customarily has been the case. (See the box entitled “Recent Federal Reserve Initiatives to Address Problems in the Mortgage Market” on page 6.)

The rates of delinquency continued to rise in the first few months of 2008 across all categories of mortgage loans. Problems remained especially severe for subprime loans. However, the growth rate of subprime delinquencies has slowed this year, while that of prime and near-prime delinquencies—particularly on adjustable-rate loans—has picked up. Credit quality is strongly related to the origination date of mortgage loans, with loans originated in 2006 and 2007 much more likely to experience delinquency and default than loans originated in previous years. The poorer performance of the more recent loan vintages reflects a general deterioration in underwriting standards through early 2007 and the decline in house prices since 2007, which has increased the occurrence of negative homeowner equity for houses purchased near the peak of the real estate market.

New subprime mortgage loans remained largely unavailable in the first half of 2008, and borrowers with higher credit risk had to turn to government guarantee programs, such as that of the Federal Housing Administration, to obtain mortgage loans. The availability of prime mortgage credit has been held down by a further tightening of lending standards at many commercial banks, according to the Senior Loan Officer Opinion Survey on Bank Lending Practices conducted in January and April. Securitization of mortgages by the government-sponsored enterprises (GSEs), Fannie Mae and Freddie Mac, was robust through April, although the GSEs tightened standards and increased guarantee fees. For prime loans, interest rates on conforming fixed-rate mortgages were up slightly, on net, over the first half of 2008 after declining moderately late last year.[4] Rates on conforming adjustable-rate mortgages dropped in January but have since reversed a portion of that decline. Offered rates on jumbo fixed-rate loans—which ran up in the second half of last year as the securitization

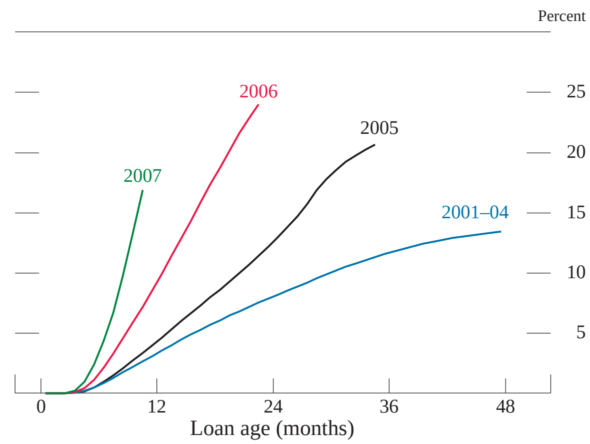
Mortgage delinquency rates, 2001–08



Note: The data are monthly. For subprime, prime, and near-prime mortgages, the data extend through April 2008; for mortgages in alt-A pools, which are a mix of prime, near-prime, and subprime mortgages, the data extend through March 2008. Delinquency rate is the percent of loans 90 days or more past due or in foreclosure.

Source: First American LoanPerformance.

Cumulative defaults on subprime 2/28 loans, by year of origination, 2001–07



Note: Figure is based on monthly data through March 2008. Each curve represents the fraction of loans originated in the indicated year that had defaulted by the indicated loan age; for example, roughly 8 percent of all loans originated sometime in the years 2001 to 2004 had defaulted by the time they were 24 months old. The last 9 points of the curves for 2005 through 2007 are based on incomplete data. A 2/28 loan is a 30-year loan with a fixed rate for the first 2 years and an adjustable rate for the remaining 28 years.

Source: Staff calculations based on data from First American LoanPerformance.

4. 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 the conforming loan limit.

Recent Federal Reserve Initiatives to Address Problems in the Mortgage Market

The high rate of mortgage foreclosures is creating personal, economic, and social distress for many homeowners and communities. The Federal Reserve is collaborating with other regulators, community groups, policy organizations, financial institutions, and public officials to identify solutions to prevent unnecessary foreclosures and their negative effects. The Federal Reserve also has taken a number of regulatory and supervisory actions to reduce the likelihood of such problems in the future.

In 2007, the Federal Reserve and other banking agencies called on mortgage lenders and mortgage servicers to work closely with borrowers who are having difficulty meeting their mortgage payment obligations. Foreclosure cannot always be avoided, but prudent loan workouts and other loss-mitigation techniques that help troubled borrowers can be less costly to lenders than foreclosure.

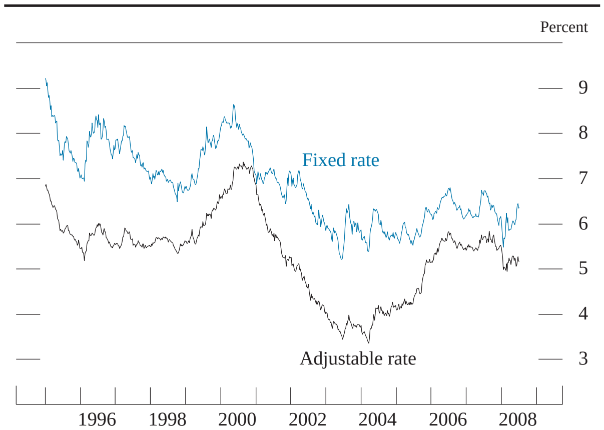
The Federal Reserve's Homeownership and Mortgage Initiatives reflect a comprehensive strategy across the Federal Reserve System to provide information and outreach to prevent unnecessary foreclosures and to stabilize communities. Under these initiatives, the Federal Reserve has been providing community coalitions, counseling agencies, and others with detailed analyses identifying neighborhoods at high risk of foreclosures. With this information, community leaders can target their scarce resources to borrowers in need of counseling and other interventions that may help prevent unnecessary foreclosures. One example of this effort is the online dynamic maps and data that illustrate nonprime loan conditions across the United States (available at www.newyorkfed.org/mortgagemaps). In addition, community affairs offices across the Federal Reserve System have sponsored or cosponsored more than 75 events related to foreclosures since January 2007, reaching more than 5,800 attendees including lenders, counselors, community development specialists, and policymakers.

The Federal Reserve also is helping to address the challenges that foreclosed homes present, such as decreased home values and vacant properties that can deteriorate from neglect. Toward this end, the Federal Reserve entered into a partnership this spring with NeighborWorks America, a national nonprofit organization, to work together in identifying strategies to mitigate the effect of foreclosures and vacant homes on communities. In June 2007, the Federal Reserve began hosting a series of forums in several cities across the country to examine the effects that foreclosures have on neighborhoods in both strong and weak housing markets and to

(continued on next page)

market for such loans dried up—remained elevated in the first half of 2008, and spreads between rates offered on these loans and on conforming loans stayed unusually wide.[5] To support the market for larger loans, the Congress raised the conforming loan limit temporarily for 2008, which allowed the GSEs to back these mortgages. However, because the prepayment characteristics of jumbo mortgage borrowers are different from those of other borrowers, the GSEs and other market participants decided not to pool these "jumbo conforming" mortgages with other mortgages when creating mortgage-backed securities (MBS). As a result, the secondary market for such mortgages has thus far failed to thrive. Concerns expressed by public policymakers persuaded Fannie Mae and Freddie Mac to make great-

Mortgage rates, 1995–2008



NOTE: The data, which are weekly and extend through July 9, 2008, are contract rates on 30-year mortgages.
SOURCE: Federal Home Loan Mortgage Corporation.

5. Jumbo mortgages are those that exceed the maximum size of a conforming loan; they are typically extended to borrowers with relatively strong credit histories.

(continued from preceding page)

assess the tools available to local communities to address the consequences of foreclosures.

The Federal Reserve is committed to fostering an environment that supports the homeownership goals of creditworthy borrowers with appropriate consumer protection and responsible lending practices. It is using its regulatory and supervisory authorities to help avoid future problems in mortgage markets. In coordination with other federal supervisory agencies and the Conference of State Bank Supervisors, the Federal Reserve issued principles-based guidance on specific types of adjustable-rate subprime mortgages in June 2007. The guidance is designed to help ensure that borrowers who choose an adjustable-rate mortgage get a loan that they can afford to repay and can refinance without prepayment penalty for a reasonable period before the first interest rate reset. The Federal Reserve issued similar guidance on nontraditional mortgages in 2006.

Strong uniform enforcement of the consumer protection regulations that govern mortgage lenders is critical to avoid future problems in mortgage markets. Together with other federal and state supervisory agencies, the Federal Reserve launched a pilot program to review consumer protection compliance and impose corrective or enforcement actions, as warranted, at selected nondepository lenders with significant subprime mortgage operations.

In December 2007, the Board proposed new rules under the Home Ownership and Equity Protection Act to ban unfair and deceptive mortgage lending practices. The Board received about 4,500 comments on the proposal and, taking into consideration these comments, issued new rules in July. For consumers receiving higher-priced mortgages, the final rules prohibit lenders from extending credit without regard to a borrower's ability to repay, require lenders to verify income and assets they rely upon in making loans, require lenders to establish escrow accounts for taxes and insurance, and prohibit prepayment penalties unless certain conditions are met. In addition, the rules also are designed to curtail deceptive mortgage advertising and to ensure that consumers receive mortgage disclosures at a time when the information is likely to be most useful to them.

Finally, the Board also is undertaking a broad and rigorous review of the Truth in Lending Act, which involves extensive consumer testing of mortgage disclosure documents. Clearer and easier-to-understand disclosures should help consumers better evaluate the loans that are offered to them and thus make more-appropriate choices when financing their homes.

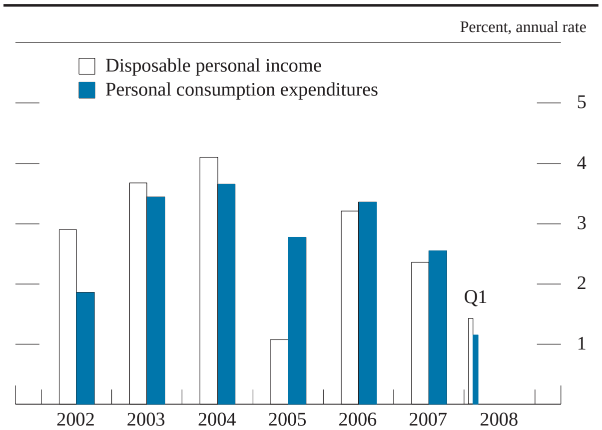
er efforts to jump-start trading in the market for jumbo conforming loans, and the GSEs have recently taken a variety of actions to encourage the development of that market.

The weakness in the housing market was associated with a sharp slowing in the growth of household mortgage debt to an annual rate of 3 percent in the first quarter of 2008, down from 6¾ percent in 2007 and 11¼ percent in 2006. The available indicators suggest that mortgage debt likely slowed further in the second quarter.

Consumer Spending and Household Finance

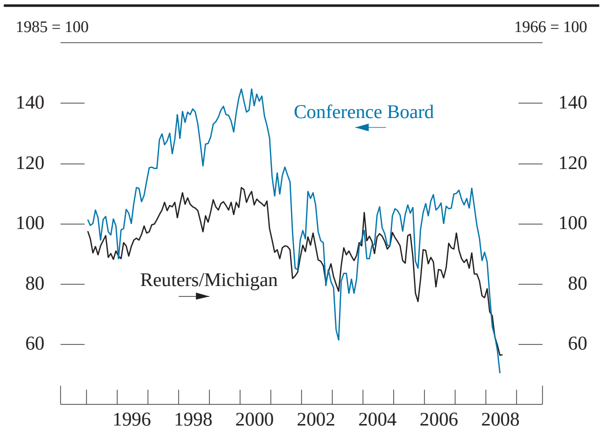
The growth rate of consumer spending slowed some in the first half of 2008 from its solid pace in the second half of 2007. The slowing reflected a number of restraining influences. The growth rate of real labor income has stepped down substantially since last summer as labor market conditions have weakened and as rising prices for food and energy have put a sizable

Change in real income and consumption, 2002–08



SOURCE: Department of Commerce, Bureau of Economic Analysis.

Consumer sentiment, 1995–2008



NOTE: The Conference Board data are monthly and extend through June 2008. The Reuters/University of Michigan data are monthly and extend through a preliminary estimate for July 2008.

SOURCE: The Conference Board and Reuters/University of Michigan Surveys of Consumers.

dent in consumers' purchasing power. At the same time, household wealth has been reduced by declining values of both equities and houses. In addition, borrowing at banks to finance outlays has become more difficult as terms and standards on consumer credit have been tightened. Although the tax rebates that households began receiving in the spring are likely cushioning these effects to some extent, consumers appear to be quite downbeat. Measures of consumer confidence, which had dropped sharply in the second half of 2007, plunged further in the first half of this year and now stand at or below the low levels reached in the early 1990s.

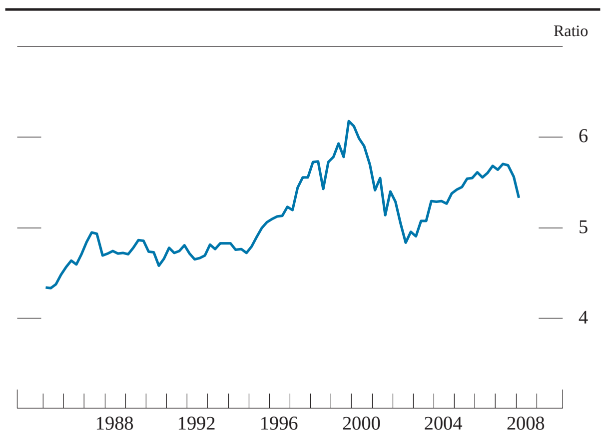
Real personal consumption expenditures (PCE) rose at a modest annual rate of 1 percent in the first quarter. The available data suggest that spending picked up in the second quarter, reportedly boosted by tax rebates. Spending on light motor vehicles was lackluster in the first half of the year, as high gasoline prices curbed demand for sport-utility vehicles and pickup trucks. Outlays for other types of goods fell slightly in the first quarter but appear to have turned back up in recent months. Spending on services has held up well in recent quarters.

Following a sharp deceleration in the second half of last year, real labor income has been flat so far this year, as nominal wage gains have been eroded by rising consumer prices. Average hourly earnings, a measure of wages for production or nonsupervisory workers, rose at the same rate as the PCE price index in the five months through May; thus, wages were unchanged in real terms. In the past couple of months, part of the strain on household incomes caused by the stagnation in real wages was likely alleviated temporarily by the tax rebates that were paid out in May and June. As a result of these rebates, growth in real disposable personal income (DPI)—that is, after-tax income adjusted for inflation—which was subpar in the fourth quarter of 2007 and the first quarter of 2008, likely jumped in the second quarter. Despite an increase in transfers reflecting the recently passed extension of unemployment insurance benefits, real DPI is likely to fall back in the third quarter as the disbursement of rebates slows considerably.

After several years of providing an impetus to spending, household wealth has been a negative influence this year. Changes in household net worth tend to influence consumer spending most heavily over a period of a year or two. Accordingly, the drop last year in the ratio of household net worth relative to income probably weighed on consumption outlays in the first half of 2008. Moreover, this year's declines in residential real estate values and in equity prices have exacerbated the situation. Flagging wealth has likely left households less inclined to raise their spending at a rate that exceeds income growth, and the personal saving rate has flattened out over the past few quarters. In May, the saving rate jumped to 5 percent, as the immediate effect of tax rebates in many households was to boost savings.

Overall household debt increased at an annual rate of about 3½ percent in the first quarter of 2008, a notable deceleration from the 6¾ percent advance in 2007. Household debt appears to have slowed further in the

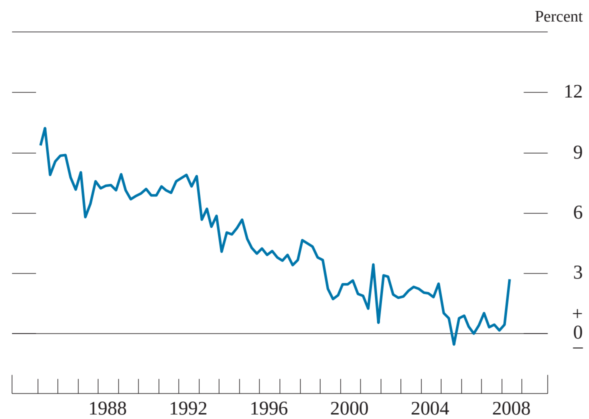
Wealth-to-income ratio, 1985–2008



NOTE: The data are quarterly and extend through 2008: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.

Personal saving rate, 1985–2008



NOTE: The data are quarterly and extend through 2008:Q2; the reading for 2008:Q2 is the average for April and May.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

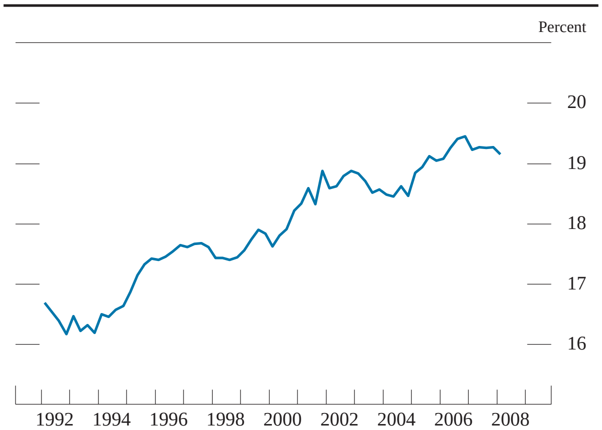
second quarter. Because the growth of household debt was slightly less than the growth in nominal DPI in the first quarter and interest rates on mortgage and consumer debt declined a bit, the ratio of financial obligations to DPI ticked down.

Consumer (nonmortgage) debt expanded at an annual rate of 5¾ percent in the first quarter, about the same pace as in 2007. Consumer debt growth held up despite a reported tightening of lending terms and standards at banks. In part, this pattern may reflect some substitution away from mortgage credit. Also, interest rates on auto loans and on credit cards generally declined in the first half of this year but by less than short-term market interest rates.

Overall credit quality of consumer loans has deteriorated somewhat in recent months. Delinquency rates on consumer loans at commercial banks and captive auto finance companies rose in the first quarter but stayed within the range experienced over the past 10 years. Although household bankruptcy filings remained low relative to the levels seen before the changes in bankruptcy law implemented in late 2005, the bankruptcy rate rose modestly in the first few months of 2008.

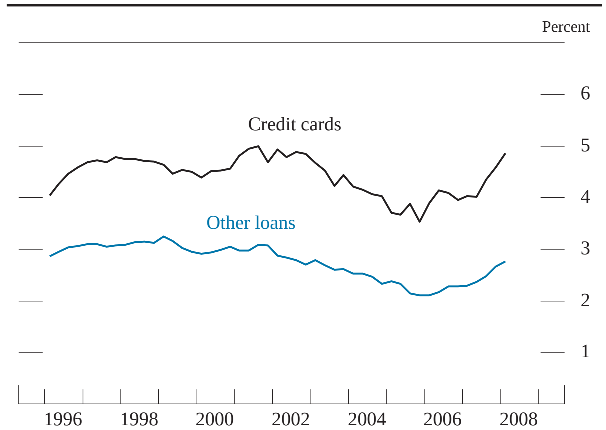
Secondary-market data suggest that funding for credit card and auto loans has been well maintained in recent months. Notably, issuance of asset-backed securities (ABS) tied to credit card loans and auto loans has remained robust, despite spreads of yields on these securities over comparable-maturity swap rates that continue to be near historically high levels. In contrast, pressures in secondary markets for student loan ABS have reportedly affected the availability of such credit. The reimbursement formula for government-guaranteed student loans did not adequately compensate lenders for the higher funding cost in securitization markets, and issuance of guaranteed student loan ABS dropped sharply early in 2008. Legislation enacted in May gave the Department of Education and the Treasury the authority to provide short-term liquidity to institutions that lend to students, and availability of student loans appears to have improved. However, concerns persist about access to loans by students at community and career colleges, as these loans tend to be less profitable for lenders.

Household financial obligations ratio, 1992–2008



NOTE: The data are quarterly and extend through 2008:Q1. The financial obligations ratio equals the sum of required payments on mortgage and consumer debt, automobile leases, rent on tenant-occupied property, homeowner's insurance, and property taxes, all divided by disposable personal income.
SOURCE: Federal Reserve Board.

Delinquency rates on consumer loans, 1996–2008



NOTE: The data are quarterly and extend through 2008: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).

The Business Sector

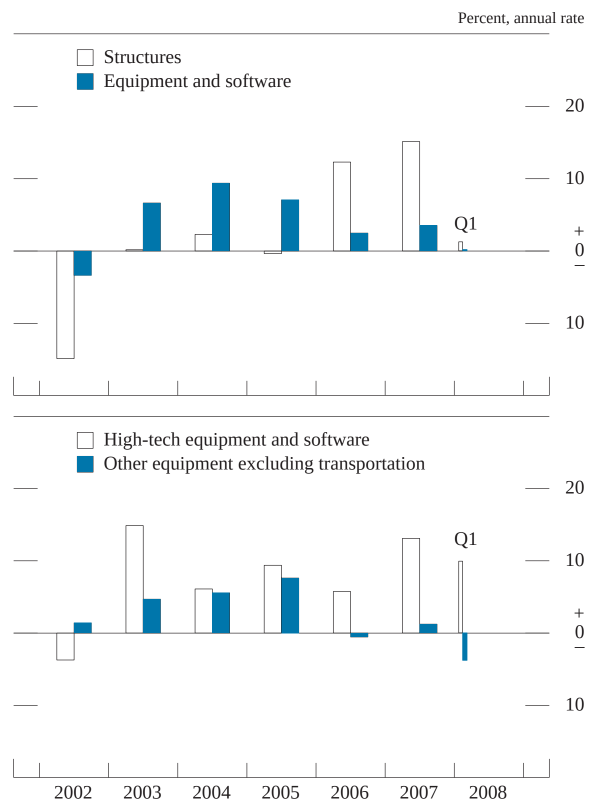
Fixed Investment

After having posted robust gains in the middle of last year, real business fixed investment lost some steam in the fourth quarter and eked out only a small advance in the first quarter of 2008. Economic and financial conditions that influence capital spending deteriorated appreciably late last year and early this year: Business sales slowed, corporate profits fell, and credit conditions for some borrowers tightened. In addition, the heightened concern about the economic outlook may have caused some firms to postpone or abandon plans for capital expansion this year.

Real business outlays for equipment and software were flat in the first quarter. Growth in real spending on high-tech equipment and software slowed to an annual rate of about 10 percent, down from the 13 percent pace recorded in 2007. In addition, business spending on motor vehicles tumbled. Investment in equipment other than high tech and transportation dropped at an annual rate of 3¾ percent in the first quarter after a smaller decline in the previous quarter. The available indicators suggest that capital spending on equipment and software fell in the second quarter: Business purchases of new motor vehicles reportedly slipped again; shipments of nondefense capital goods (adjusted to exclude both transportation items and goods that were sent abroad) were lower, on average, in April and May than in the first quarter; and the tone of recent surveys of business conditions remained downbeat.

Nonresidential construction activity, which exhibited considerable vigor in 2006 and 2007, slowed appreciably in the first quarter of 2008. Real outlays for new commercial buildings declined sharply in the first quarter, and increases in outlays for most other types of building stepped down. More-recent data on construction expenditures suggest that spending on nonresidential structures may have bounced back in the second quarter. However, deteriorating economic and financial conditions indicate that this rebound may be short-lived. In addition to the weakening of business sales and profits, vacancy rates turned up in the first quarter (the latest available data). Moreover, the financing environment has remained difficult; bank lending officers have reported a significant tightening of terms and standards for commercial real estate loans, and funding through the commercial mortgage-backed securities (CMBS) market has continued to be extremely limited.

Change in real business fixed investment, 2002–08

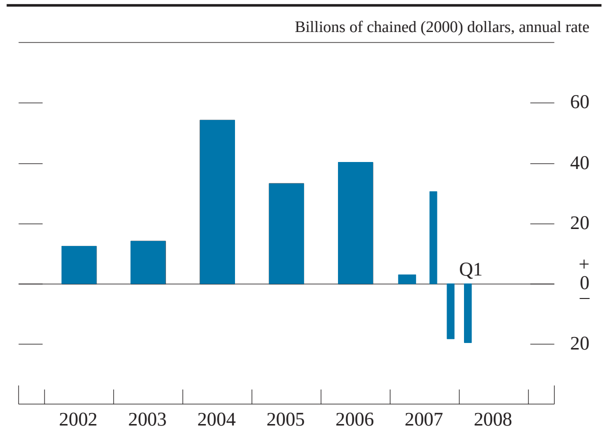


NOTE: High-tech equipment consists of computers and peripheral equipment and communications equipment.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

Inventory Investment

Despite sluggish final sales, inventories declined again in the first quarter of 2008 as firms acted promptly to

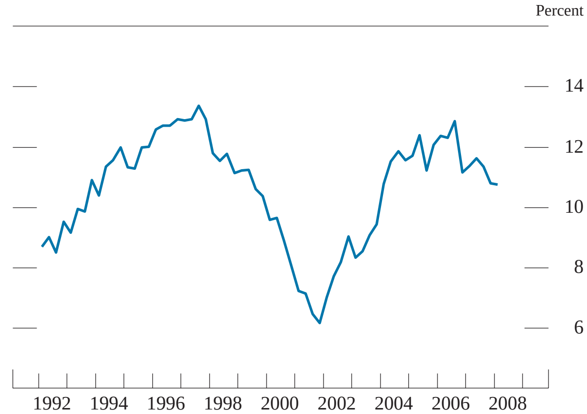
Change in real business inventories, 2002–08



SOURCE: Department of Commerce, Bureau of Economic Analysis.

prevent inventory imbalances from arising. Automakers, which had worked to bring days' supply down to a sustainable level last year, have moved aggressively to keep production aligned with demand in recent quarters. Excluding motor vehicles, real inventory investment fell in the fourth quarter of 2007 to its lowest level in several years and then turned negative in the first quarter of this year. According to the limited available data, nonauto businesses continued to liquidate real inventories early in the second quarter. Business surveys suggest that companies are generally comfortable with their current stock levels. Nonetheless, a few industries, most notably those producing construction supplies, are showing some evidence of inventory overhangs.

Before-tax profits of nonfinancial corporations as a percent of sector gross domestic product, 1992–2008



NOTE: The data are quarterly and extend through 2008:Q1. Profits are from domestic operations of nonfinancial corporations with adjustments for inventory valuation and capital consumption.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

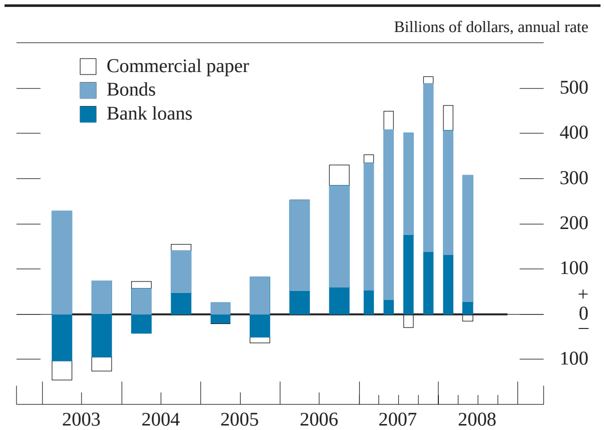
Corporate Profits and Business Finance

The sluggish pace of business investment in recent months is due in part to the weakening of domestic profitability and the tighter credit conditions faced by some businesses. In the first quarter of 2008, total economic profits for all U.S. corporations were down slightly from their level four quarters earlier; a nearly 20 percent rise in receipts from foreign subsidiaries was not sufficient to offset a 2½ percent fall in domestically generated profits. Although profits as a share of output in the nonfinancial corporate sector have declined in recent quarters, they remain well above previous cyclical lows. For companies in the S&P 500, operating earnings per share fell 17 percent over the year ending in the first quarter. This decline was more than accounted for by plummeting earnings at financial firms, which reported large write-downs on leveraged loans and mortgage-related assets.[6] For nonfinancial firms in the S&P 500, earnings rose nearly 11 percent over the four quarters ending in the first quarter of 2008; energy-sector firms had a strong 31 percent increase in earnings, whereas earnings at other nonfinancial firms rose 4½ percent.

Although credit has remained available to the business sector, yields on corporate bonds increased significantly over the first half of the year, and banks reported tighter terms and standards on commercial and industrial loans and on commercial real estate loans. All told, the growth rate of the debt of nonfinancial businesses fell from 11¾ percent in 2007 to 9¼ percent in the first quarter of 2008; the available data point to a further deceleration in the second quarter of this year.

On balance, the composition of borrowing by nonfinancial businesses has shifted this year toward longer-maturity debt. Net bond issuance by nonfinancial firms has been strong. Speculative-grade issuance, which dropped sharply late last year and was practically nil in the first quarter, rebounded markedly in the second quarter, while investment-grade issuance has continued to be robust. Spreads between yields on investment- and speculative-grade bonds and those on comparable-maturity Treasury securities climbed in January and then surged in March. After narrowing in April and

Selected components of net financing for nonfinancial corporate businesses, 2003–08



NOTE: The data for the components except bonds are seasonally adjusted. The data for 2008:Q2 are estimated.
SOURCE: Federal Reserve Board, flow of funds data.

6. Asset write-downs and capital losses are generally excluded from the calculation of economic profits but are included as an expense in the operating earnings per share of financial firms.

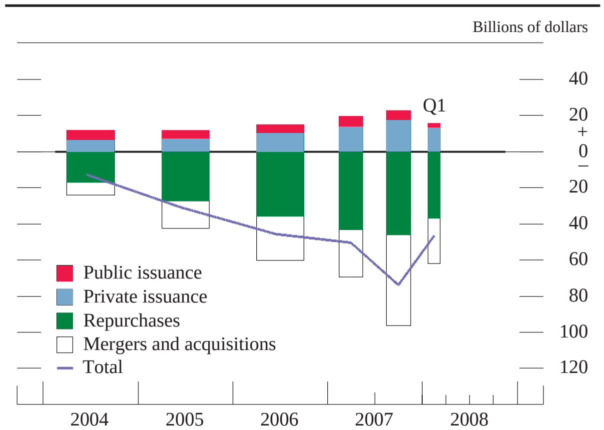
May, bond spreads jumped again in late June. Outstanding commercial paper (CP) for nonfinancial firms has been little changed, on net, this year. Yields on nonfinancial CP have moved down since the beginning of the year, roughly in line with other short-term interest rates, although spreads between yields on lower-rated and higher-rated nonfinancial CP remain well above the levels prevailing before the onset of the financial difficulties last summer.

Commercial and industrial (C&I) loans at banks expanded briskly in the first quarter and then slowed markedly in the second quarter. In the Senior Loan Officer Opinion Survey taken in January and April, considerable net fractions of banks reported that they had tightened credit standards and boosted spreads on C&I loans. According to the respondent banks, the move to a more stringent lending posture mainly reflected a less favorable or more uncertain economic outlook and a reduced tolerance for risk; a significant fraction also noted concerns about the capital position of their own bank as a reason for tightening standards. The secondary market for syndicated leveraged loans remained relatively weak, but loans associated with some prominent buyouts were sold, albeit at a discount.

Gross equity issuance by nonfinancial firms dipped in the first quarter and rebounded in the second quarter. A sharp decline in share repurchases and cash mergers led to a notable reduction of net equity retirement in the first quarter.

The credit quality of nonfinancial corporations generally has remained solid. The six-month trailing bond default rate was very low despite a small tick up in June. The delinquency rate on C&I loans at commercial banks continued the mild increase that began last year, but it remained subdued by historical standards. Ratings downgrades in the first five months of this year were modest, only slightly exceeding upgrades. Balance sheet liquidity at nonfinancial corporations remained

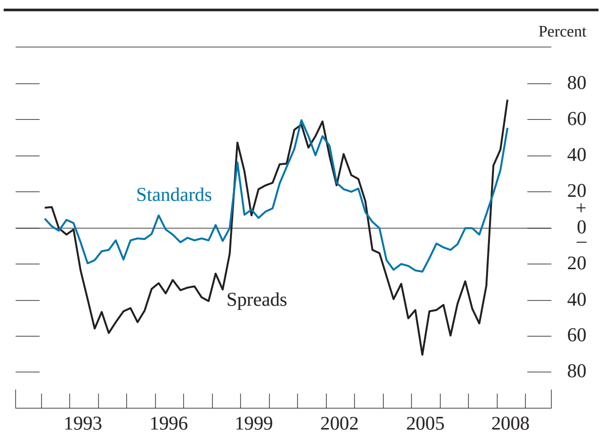
Components of net equity issuance, 2004–08



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: Federal Reserve Board, flow of funds data.

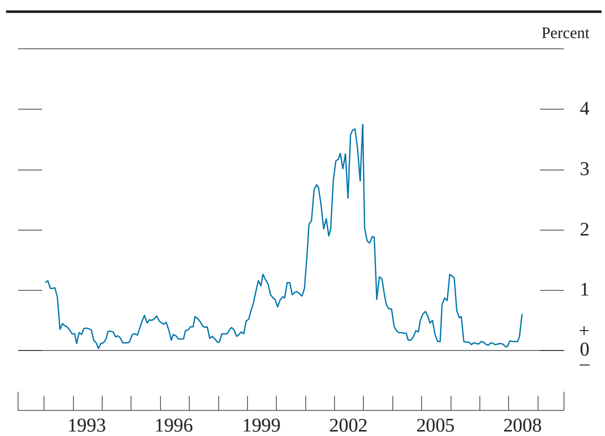
Net percentage of domestic banks tightening standards and increasing spreads on commercial and industrial loans to large and medium-sized borrowers, 1992–2008



NOTE: The data are drawn from a survey generally conducted four times per year; the last observation is from the April 2008 survey, which covers 2008: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.

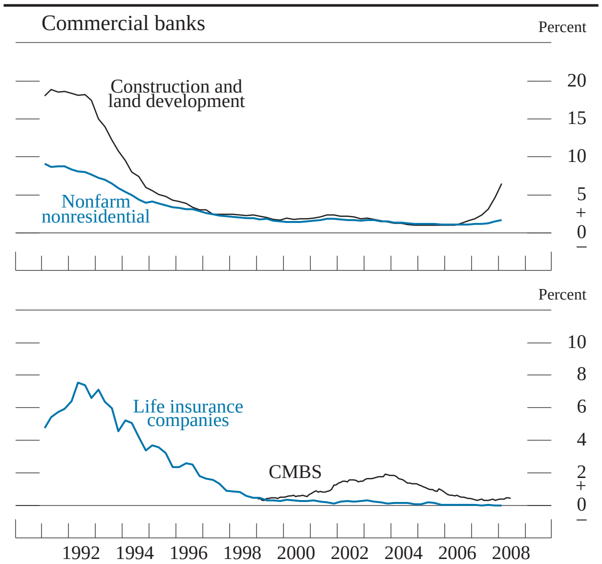
Default rate on outstanding corporate bonds, 1992–2008



NOTE: The data are monthly and extend through June 2008. The rate for a given month is the face value of bonds that defaulted in the six months ending in that month, multiplied by 2 to annualize the defaults and then divided by the face value of all bonds outstanding at the end of the calendar quarter immediately preceding the six-month period.

SOURCE: Moody's Investors Service.

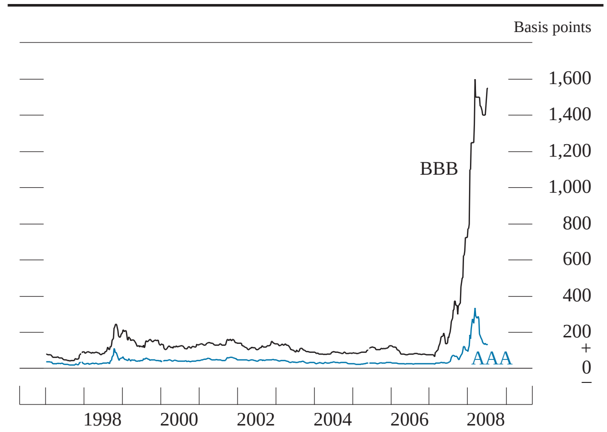
Delinquency rates on commercial real estate loans, 1991–2008



NOTE: The data for commercial banks and life insurance companies are quarterly and extend through 2008:Q1. The data for commercial mortgage-backed securities (CMBS) are monthly and extend through June 2008. 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.

Spreads of 10-year investment-grade commercial mortgage-backed securities over swaps, by securities rating, 1997–2008



NOTE: The data are weekly and extend through July 9, 2008.

SOURCE: Bloomberg.

high through the first quarter of 2008, and leverage stayed very low.

In the April 2008 Senior Loan Officer Opinion Survey, a large fraction of banks reported having tightened credit standards on commercial real estate loans. Delinquency rates on commercial real estate loans for construction and land development projects extended by commercial banks moved sharply higher in the first quarter of 2008 after rising noticeably last year. In contrast, delinquency rates on bank loans that finance existing commercial properties moved up only slightly. Delinquency rates on commercial mortgages held by life insurance companies and those in CMBS pools, which mostly finance existing commercial properties, remained low.

Despite the generally solid performance of commercial mortgages in securitized pools, spreads of yields on CMBS over comparable-maturity swap rates soared to unprecedented levels early in 2008. In recent months, these spreads have narrowed somewhat, but they remain well above levels seen before this year. The widening of spreads reportedly reflected heightened concerns regarding standards for underwriting commercial mortgages over the past few years and likely also investors' wariness of structured finance products more generally. After hitting a record level in early 2007, issuance of CMBS dropped sharply late last year and slowed to a trickle so far this year.

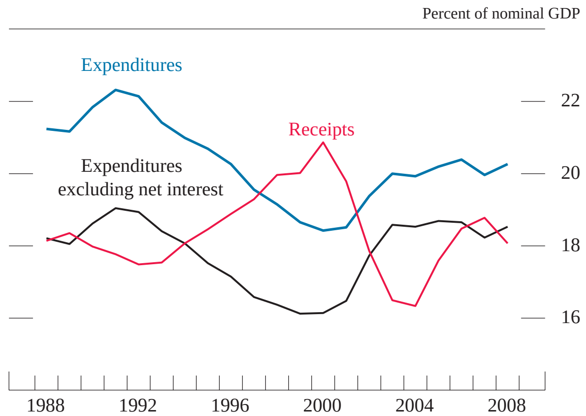
The Government Sector

Federal Government

The deficit in the federal unified budget has widened during the current fiscal year after having narrowed in the preceding few years. A substantial portion of the rebates authorized by the Economic Stimulus Act of 2008 was distributed in May and June, which caused a significant widening of the deficit. In addition, the growth of receipts has slowed in response to the weaker pace of economic activity, and the growth of outlays has stepped up. Over the first nine months of fiscal year 2008—from October through June—the unified budget recorded a deficit that was $148 billion greater than during the comparable period ending in June 2007. When measured relative to nominal GDP, the deficit moved up from 1¼ percent in fiscal 2007 to 2¼ percent during the 12 months ending in June 2008; a continued slow pace of economic activity and additional revenue losses associated with the Stimulus Act are expected to widen the deficit further in the final three months of fiscal 2008.

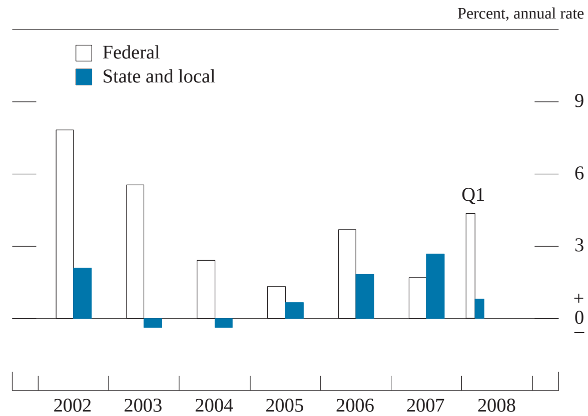
The Economic Stimulus Act is estimated to result in about $115 billion of rebates being sent to households

Federal receipts and expenditures, 1988–2008



Note: Through 2007, 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 2008, receipts and expenditures are for the 12 months ending in June, and GDP is the average of 2007:Q4 and 2008:Q1.
Source: Office of Management and Budget.

Change in real government expenditures on consumption and investment, 2002–08



Source: Department of Commerce, Bureau of Economic Analysis.

in 2008 and 2009. The rebates began to be distributed in the last few days of April, and by the end of June, approximately $80 billion worth of rebates had been disbursed, accounting for more than half of the widening of the budget deficit in the first nine months of fiscal 2008 relative to the same period in fiscal 2007.

The slower pace of economic activity has cut into receipts. Excluding the budgetary effects of stimulus rebates, federal revenues in the first nine months of fiscal 2008 were only 2 percent higher than in the same period in fiscal 2007, down from a rise of 6¾ percent in fiscal 2007 and considerably smaller than the double-digit gains recorded in fiscal 2005 and fiscal 2006. The slowdown in federal revenues has been most pronounced for corporate receipts, reflecting the decline in corporate profits since the middle of 2007. Individual income and payroll tax receipts—excluding the stimulus rebates—also have slowed, likely because of the smaller gains in personal income during the current fiscal year.

Nominal federal outlays in the first nine months of fiscal 2008 were 6½ percent above their level in the comparable period in fiscal 2007, a faster pace of increase than was recorded in fiscal 2007 but generally below the rapid increases seen in fiscal 2002 through 2006. So far this fiscal year, the growth of outlays for defense has stepped up relative to fiscal 2006 and 2007, and spending has continued to rise apace in most major nondefense categories. In the months ahead, outlays will be bumped up further by the extension of eligibility for unemployment insurance benefits to individuals who have exhausted their benefits.

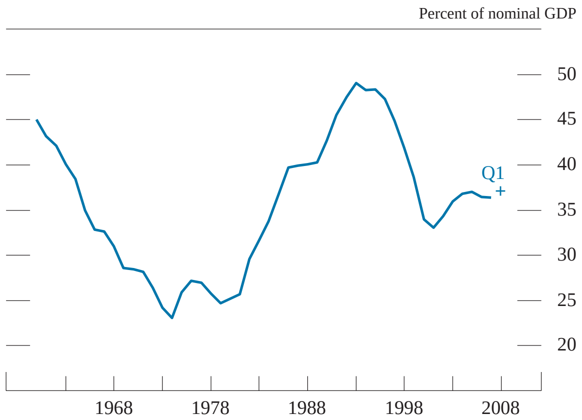
As measured in the national income and product accounts (NIPA), real federal expenditures on consumption and gross investment—the part of federal spending that is a direct component of GDP—increased at an annual rate of 4¼ percent in the first quarter, a contribution of 0.3 percentage point to real GDP growth. Real defense spending accounted for almost the entire rise, as nondefense outlays only edged up. In the second quarter, defense spending appears to have posted another sizable increase, and given currently enacted appropriations, it is likely to rise further in coming quarters.

Federal Borrowing

Federal debt rose at an annual rate of 7½ percent in the first two quarters of fiscal year 2008—from October through March—a notable step-up from the 4¼ percent pace in fiscal 2007. As of the end of March, the ratio of federal debt held by the public to nominal GDP was about 37 percent, slightly higher than in recent years.

The deterioration in the budget position of the federal government led the Treasury to reintroduce the one-year Treasury bill, which was last issued in 2001. The initial auction on June 3 was very well received, with a bid-to-cover ratio above 3. Issuance also increased for both shorter- and longer-maturity Treasury securities. The proportion of nominal coupon securities purchased at Treasury auctions by foreign investors changed little

Federal government debt held by the public, 1960–2008



Note: The data extend through 2008:Q1. The data for debt through 2007 are as of year-end, and the corresponding values for gross domestic product (GDP) are for Q4 at an annual rate; the final observation refers to debt at the end of 2008:Q1, and the corresponding value of GDP is for 2008:Q1 at an annual rate. Excludes securities held as investments of federal government accounts.

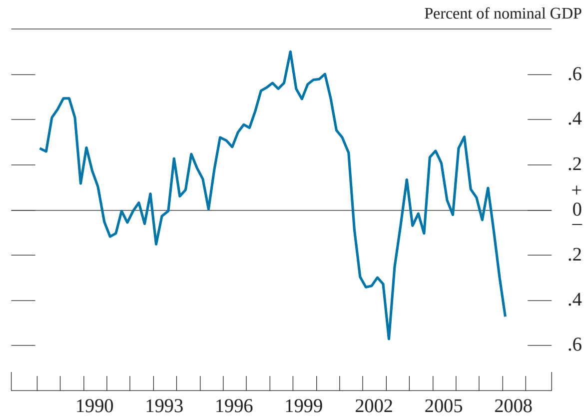
Source: Federal Reserve Board, flow of funds data.

over the first half of 2008 and remains in the range of 10 percent to 25 percent observed over the past several years. However, holdings of Treasury securities by foreign official institutions at the Federal Reserve Bank of New York increased more rapidly in the first half of 2008 than over any of the previous three years.

State and Local Government

The fiscal positions of state and local governments began to weaken last year and have continued to deteriorate in 2008. After having improved significantly from 2003 to 2006, net saving by the sector—which is broadly similar to the surplus in an operating budget—turned slightly negative in 2007, and this measure moved further into negative territory in the first quarter of 2008. The deterioration in budget conditions has occurred as increases in revenues have slowed while nominal expenditures have risen at a brisk pace. The slowdown in state income tax revenues has followed a pattern similar to the one that has emerged at the federal level. Corporate receipts have declined, and the rise in individual income taxes has become more subdued. At the same time, state receipts from sales taxes have softened markedly. At the local level, the decline in house prices has not yet begun to curb local property tax revenues appreciably, but increases in local receipts from this source seem likely to slow more noticeably in the next few years.

State and local government net saving, 1988–2008



Note: The data, which are quarterly, are on a national income and product account basis and extend through 2008:Q1.

Source: Department of Commerce, Bureau of Economic Analysis.

On the outlays side of the accounts, nominal spending has continued to rise, particularly for expenditures on health care and energy items. In real terms, expenditures on consumption and gross investment by state and local governments (as measured in the NIPA) rose only a bit in the first quarter, as increases in expenditures on current operations were largely offset by a decline in outlays on structures. However, construction expenditures are volatile from quarter to quarter, and the data through May suggest that real state and local expenditures for structures picked up in the second quarter. Meanwhile, state and local hiring remained elevated through June.

State and Local Government Borrowing

Bond issuance by state and local governments slowed moderately in the first quarter of 2008 as the cost of borrowing rose. Investors demanded higher returns, in part because of concerns about the strength of financial guarantors that insure many municipal bonds and in part because of concerns about the effect of a potential economic slowdown on state and local government revenues.[7] Beginning in February, these investor apprehen-

7. Concerns about the financial guarantors arose in 2007, but significant downgrades did not occur until early this year. In June, Moody's and Standard & Poor's downgraded MBIA and Ambac, two of the largest guarantors, from AAA to AA or lower. New bond insurance business has shifted to guarantors that are viewed as financially stronger, and some municipalities have stated their intention to dispense with guarantors and issue on the strength of their own ratings.

sions also led to widespread failures of rate-resetting auctions for auction rate securities (ARS) issued by state and local governments.[8] Pressures in the municipal securities market eased somewhat in the second quarter, along with the broader relaxation of financial market strains. In addition, ratings upgrades of municipalities greatly exceeded downgrades in the second quarter. Since March, municipal bond issuance has rebounded, and a significant fraction of failing ARS issues have been paid down with the proceeds of standard bond issues.

National Saving

Total net national saving—that is, the saving of households, businesses, and governments excluding depreciation charges—dipped below zero in the first quarter of 2008. After having stood at an already low rate of 1¾ percent of nominal GDP in the second quarter of 2007, the national saving rate declined steadily over the subsequent three quarters, as the federal budget deficit widened, the fiscal positions of state and local governments deteriorated, and business saving decreased. Accordingly, total national saving as a share of nominal GDP, which has been declining, on balance, since the late 1990s, has fallen to a historic low (apart from the third quarter of 2005, which was marked by sizable hurricane-related property losses). If not reversed over the longer run, persistent low levels of saving will be associated with either slower capital formation or continued heavy borrowing from abroad, either of which would retard 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 its aging population.

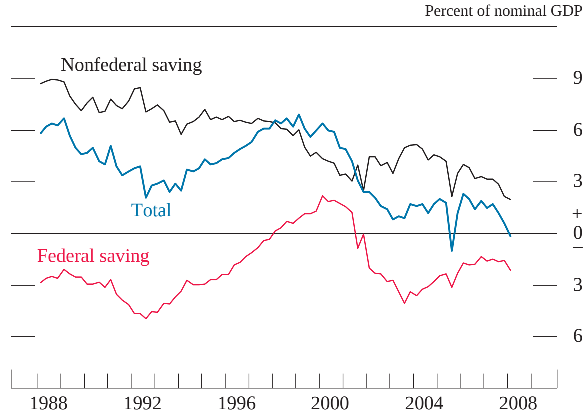
The External Sector

International Trade

Foreign demand has continued to be an important source of strength for the U.S. economy. Net exports contributed ¾ percentage point to the growth of real GDP in the first quarter of 2008 after adding a similar amount to growth in 2007. The growth of real exports of goods and services expanded at a 5½ percent pace in the first quarter, moderating from the 12½ percent surge recorded in the second half of 2007. Export growth in the first quarter was supported by higher exports of agricultural products, consumer goods, industrial supplies, and services. In contrast, exports of both aircraft and automobiles moved down after rising rapidly in the second half of 2007. Exports to Europe and Latin America rose robustly (in current dollars), while

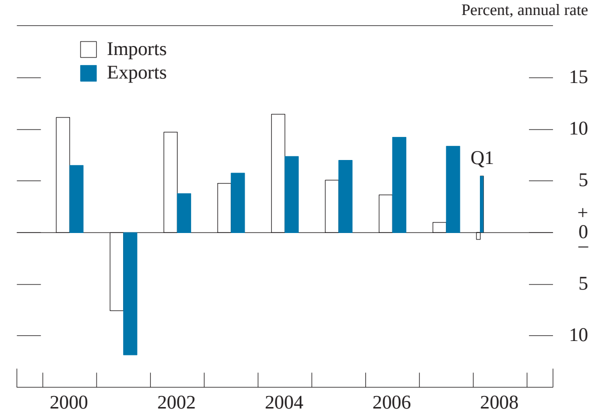
8. ARS are long-term securities whose interest rates are reset through regularly scheduled auctions, typically every 7, 28, or 35 days. As of the end of 2007, the size of the ARS market in the United States was about $330 billion, about half of which was accounted for by municipal securities. A resetting auction fails when investors do not bid for the entire issue at an interest rate below the contract maximum. Upon auction failure, the asset holders from before the auction retain ownership of the securities and receive a specified ceiling interest rate, which is usually, but not necessarily, equal to the maximum bid rate.

Net saving, 1988–2008



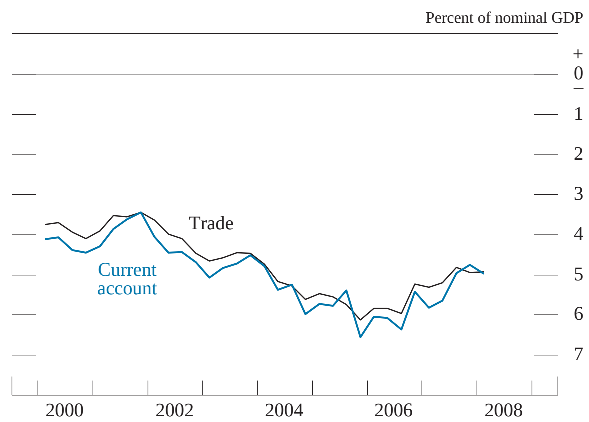
NOTE: The data are quarterly and extend through 2008:Q1. Nonfederal saving is the sum of personal and net business saving and the net saving of state and local governments.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

Change in real imports and exports of goods and services, 2000–08



NOTE: Data for 2008:Q1 are expressed as percent change from 2007:Q4.
SOURCE: Department of Commerce.

U.S. trade and current account balances, 2000–08

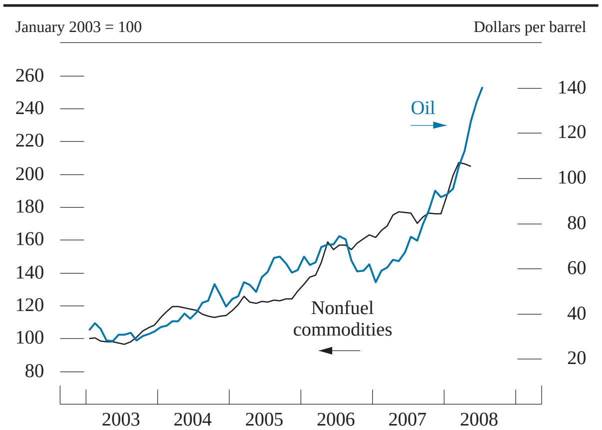


NOTE: The data are quarterly and extend through 2008:Q1.
SOURCE: Department of Commerce.

exports to Canada and to OPEC countries fell back. Data for April and May suggest that exports continued to expand in the second quarter, with exports of industrial supplies showing particular strength.

The positive contribution of net exports in the first quarter reflected, in part, a ¾ percent decline in real imports of goods and services. Imports of automotive products and consumer goods fell in line with slowing U.S. domestic demand, more than offsetting higher real imports of oil and a slight increase in imports of capital goods. Imports from China and Mexico declined (in current dollars), whereas imports from Canada, Japan, and OPEC countries expanded. After falling sharply

Prices of oil and nonfuel commodities, 2003–08



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 1–9, 2008. The price of nonfuel commodities is an index of 45 primary-commodity prices, and extends through May 2008.
SOURCE: For oil, the Commodity Research Bureau; for nonfuel commodities, International Monetary Fund.

in March, imports rebounded, on average, in April and May, as imports of capital equipment and consumer goods increased strongly.

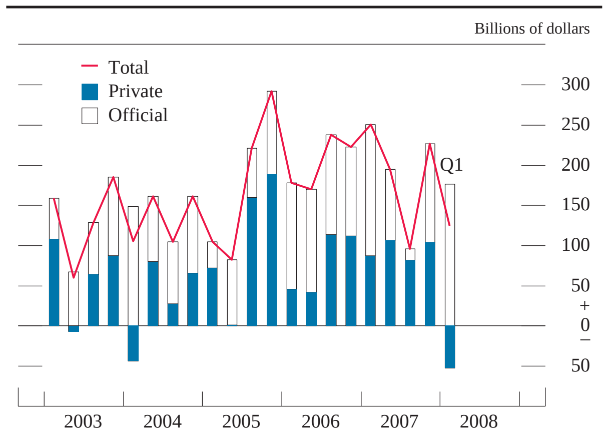
In the first quarter of 2008, the U.S. current account deficit was $706 billion at an annual rate, or 5 percent of GDP, $25 billion narrower than its level in 2007; the narrowing largely reflects higher net investment income. A large improvement in the non-oil trade deficit was offset by a sharp increase in the bill for imported oil, which resulted from the jump in oil prices.

Compared with 2007, prices for imports of both material-intensive and finished goods are increasing at much faster rates so far this year. Although import price increases also reflect the depreciation of the dollar, rising commodity prices (discussed in more detail in the box entitled “Commodity Prices” on page 18) have significantly boosted the rate of import price inflation. In the first quarter, prices of imported goods excluding oil and natural gas rose at an annual rate of about 7½ percent, a pace more than twice that of the previous year. Available data suggest that import price inflation was sharply higher in the second quarter.

The Financial Account

In late 2007 and the first quarter of 2008, the U.S. current account deficit was financed primarily by foreign purchases of U.S. securities, as has been the norm in recent years. The global financial turmoil has continued to leave an imprint on both the sources and composition of cross-border financial flows, including a net private outflow in the first quarter. Meanwhile, foreign official inflows provided all of the financing from abroad during the first quarter, driven by net purchases of U.S. Treasury and agency securities by Asian institutions.

U.S. net financial inflows, 2003–08



SOURCE: Department of Commerce.

Commodity Prices

Prices for crude oil and many other commodities continued to soar through the first half of 2008. After shooting up about 60 percent last year, the spot price of West Texas intermediate crude oil has increased an additional 50 percent thus far in 2008, climbing from $92 per barrel in December 2007 to about $140 recently. While weaker economic growth and the high level of prices appear to be damping oil demand in industrialized nations, demand from emerging market countries remains robust. The continued strength in emerging market demand reflects, in part, government subsidies that limit the pass-through of higher crude prices to retail products and thus mute the response to higher prices. Furthermore, on the supply side, incoming information since the beginning of the year has been decidedly downbeat, with non-OPEC production continuing to fall short of expectations. Despite additional investment, oil production capacity has not risen at a pace commensurate with the growth of global demand. The lack of spare capacity has led, in turn, to heightened sensitivity of oil prices to political developments, such as ongoing tensions in the Middle East and instability in Nigeria. The price of the far-dated NYMEX oil futures contract (currently for delivery in 2016) has also risen to about $140 per barrel and suggests that the balance of supply and demand is expected to remain tight for some time to come.

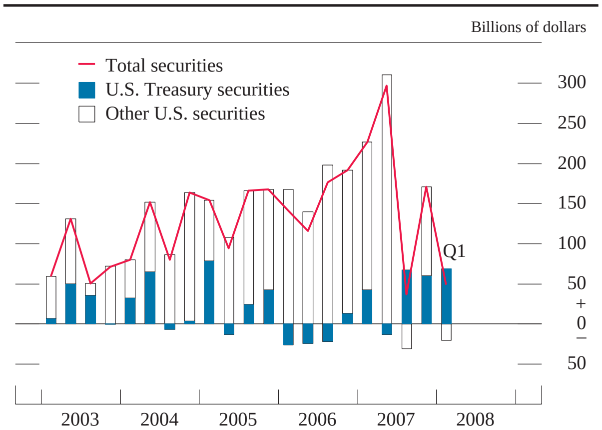
Nearer-term market pressures have been reflected in domestic inventories of both crude oil and refined oil products, which have declined notably in recent months and stand well below year-earlier levels. Inventories also appear to be tight in other countries (although data are less complete for emerging market countries). Lean inventories increase the vulnerability of petroleum markets to any disruptions in production, transportation, and refining, which is of particular concern during hurricane season. The tightness of inventories suggests that the recent increases in oil prices reflect near-term demand and supply pressures, rather than speculative hoarding.

Prices of nonfuel commodities were quite volatile in the first half of 2008. Through early

(continued on next page)

Unusually large net purchases of corporate securities also contributed to foreign official inflows, likely reflecting sovereign wealth fund activity.

Net private foreign purchases of U.S. securities, 2003–08



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

Foreign private demand appeared to remain robust for the safest U.S. investments—net private purchases of U.S. Treasury securities, which surged in the third quarter of 2007 when the turmoil began, remained at near-record levels through April 2008. In contrast, corporate bond purchases by foreign private investors have been weaker in each quarter of the turmoil than in any previous quarter since 2002. Corporate equity purchases have also been very weak in 2008 through April after a strong rebound in the fourth quarter of 2007. Overall, total inflows from foreign private acquisitions of U.S. securities were well below average in the first quarter of 2008 but slightly above the nine-year low set in the third quarter of 2007 as the turmoil began.

Inflows from private purchases of U.S. securities in the first quarter of 2008 were offset by strong outflows associated with U.S. direct investment abroad and by interbank flows. Somewhat surprisingly given the global financial turmoil, the strength seen in U.S. direct investment abroad in 2007 persisted through the fourth quarter and into the first quarter of 2008. In addition, net lending abroad by U.S.-resident banks, which

(continued from preceding page)

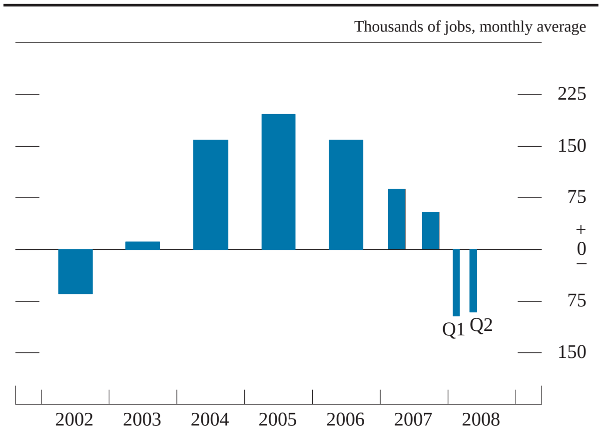
March, prices of many commodities rose sharply, including those for some foods (such as corn and wheat) and metals (in particular, copper and aluminum). This broad-based price increase appears to have been driven mainly by growth in global demand. More recently, however, price movements have been less uniform, and commodities such as wheat and nickel have seen sharp price declines. Nevertheless, some other food commodity prices have continued to soar, particularly the price of corn, which has been affected by weather-related concerns, including the recent floods in the Midwest. The price of rice has also increased sharply this year, which has led a number of rice-producing countries to enact export bans, adding to upward pressure on global prices. Through feed costs, increased grain prices also have been reflected in higher prices for meat and dairy products.

The supply response of farm crops to price increases typically has had a relatively short time lag, usually through increasing land under cultivation. Although increases in acreage devoted to one crop have recently come at the expense of other crops, yields have risen and should continue to do so as more-advanced seed varieties and cultivation techniques are employed.

In addition to supply and demand conditions in the physical markets, other factors have been cited as contributing to the rise in commodity prices in recent years, including depreciation of the dollar and lower interest rates. All else being equal, a lower value of the dollar implies a higher dollar price of commodities, but the causal relationships between the exchange value of the dollar and commodity prices are complex and run in both directions. The fact that commodity prices have risen significantly in terms of all major currencies suggests that factors other than the depreciation of the dollar have been important causes of the rise in prices. Similarly, the relationship between interest rates and commodity prices may depend on what is driving changes in interest rates. For example, to the extent that lower interest rates reflect a relatively weak economy and thus softer demand for commodities, interest rates and commodity prices may tend to move in the same direction. And irrespective of their cause, lower interest rates might also lead to a buildup in commodity inventories—as a result of reduced financing costs of holding inventories—potentially putting upward pressure on prices. However, inventory levels of key commodities have not risen this year, a fact that is at odds with such explanations of price increases that emphasize the role of interest rates.

tends to be quite volatile, has increased with unusual consistency since the turmoil began; these outflows, primarily from foreign-owned banks to their European affiliates, were particularly large in March as conditions in U.S. and European interbank funding markets re-intensified.

Net change in private payroll employment, 2002–08



Note: Nonfarm business sector.
Source: Department of Labor, Bureau of Labor Statistics.

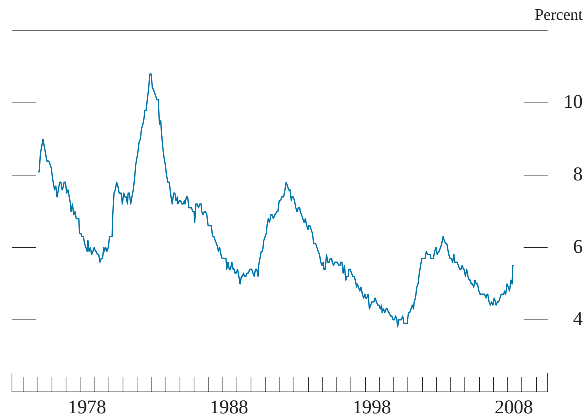
The Labor Market

Employment and Unemployment

The demand for labor has been contracting this year. After having increased 54,000 per month, on average, in the second half of 2007, private payroll employment declined at an average monthly pace of 94,000 in the first half of 2008. Over the same period, the civilian unemployment rate moved up more than ½ percentage point, to 5½ percent.

Job losses in the first half of 2008 were concentrated in the construction and manufacturing sectors. Although businesses in these industries have been trimming payrolls for more than two years, the downsizing has intensified during the past several months. In addition, job losses have begun to mount this year in the whole-

Civilian unemployment rate, 1975–2008



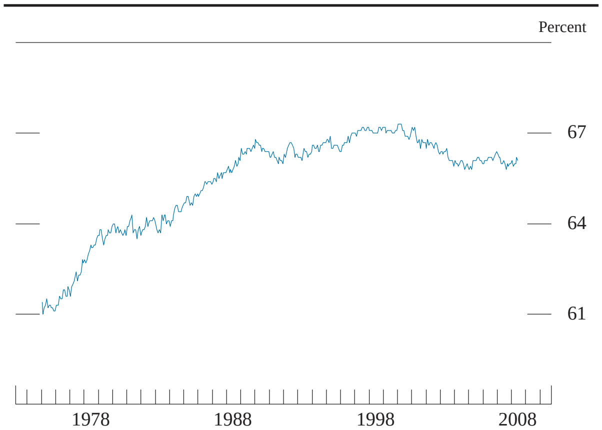
NOTE: The data are monthly and extend through June 2008.
SOURCE: Department of Labor, Bureau of Labor Statistics.

sale and retail trade sectors and in the professional and business services category. Even among the many sectors in which payrolls have continued to expand, such as technical services providers and eating and drinking establishments, job gains have been less robust so far this year than in 2007. A notable exception has been hiring by providers of health and education services, which has remained strong.

The unemployment rate, which rose ½ percentage point in 2007, increased another ½ percentage point in the first half of this year. Initial claims for unemployment insurance and the number of individuals receiving unemployment insurance benefits moved up considerably over the six months ending in June; accordingly, the share of unemployed workers who lost their last jobs (as opposed to those who voluntarily left their jobs or were new entrants to the labor force) rose, on net, this spring. In addition, the percentage of persons who reported that they were working part time for economic reasons increased sharply. Thus far, the labor force participation rate, which typically falls during periods of labor market weakness, has remained steady and stood at 66.1 percent in June, near the middle of the range that has prevailed since early 2007.

Other indicators also point to further deterioration in labor market conditions this year: Private surveys of businesses suggest that firms plan to continue cutting back on hiring in the near term. At the same time, according to surveys of consumers, assessments of labor market prospects in the year ahead, which had worsened late last year, slipped further in the first half of 2008.

Labor force participation rate, 1975–2008

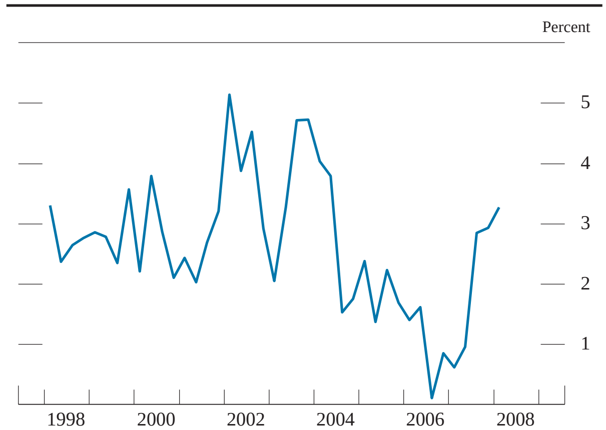


NOTE: The data are monthly and extend through June 2008.
SOURCE: Department of Labor, Bureau of Labor Statistics.

Productivity and Labor Compensation

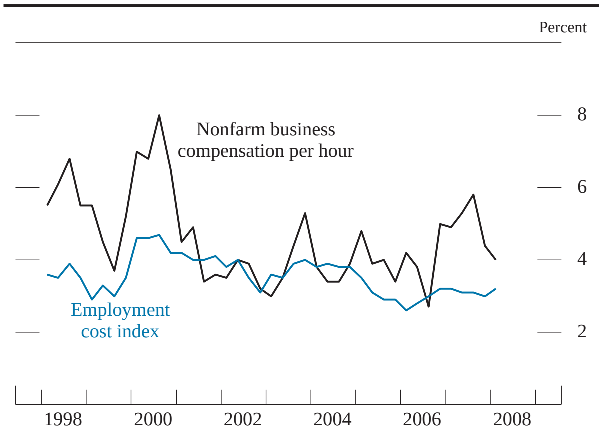
Gains in labor productivity have moved up significantly of late. According to the latest available published data, output per hour in the nonfarm business sector rose 3¼ percent during the year ending in the first quarter of 2008, up from the ½ percent increase recorded over the preceding four quarters. On average, the rise in productivity over the past two years, although less than the outsized increases posted earlier in the decade, suggest that the fundamental forces that in recent years have supported a solid uptrend in underlying productivity remain in place. Those forces include the rapid pace of technological change and the ongoing efforts by firms

Change in output per hour, 1998–2008



NOTE: Nonfarm business sector. The data are quarterly and extend through 2008:Q1. Change is over four quarters.
SOURCE: Department of Labor, Bureau of Labor Statistics.

Measures of change in hourly compensation, 1998–2008

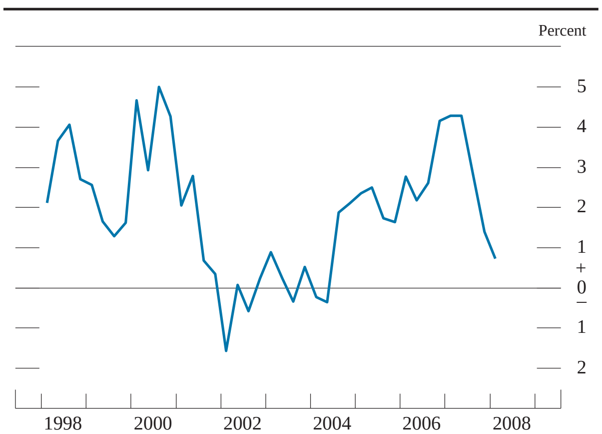


NOTE: The data are quarterly and extend through 2008:Q1. For nonfarm business compensation, change is over four quarters; for the employment cost index (ECI), change is over the 12 months ending in the last month of each quarter. The nonfarm business sector excludes farms, government, nonprofit institutions, 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.

to use information technology to improve the efficiency of their operations. Increases in the amount of capital, especially high-tech capital, available to each worker also appear to be providing considerable impetus to productivity growth.

Broad measures of hourly labor compensation have not kept pace with the rapid increases in both overall consumer prices and labor productivity, despite a labor market that, until recently, had been generally tight. The employment cost index (ECI) for private industry workers, which measures both wages and the cost to employers of providing benefits, rose 3¼ percent in nominal terms between March 2007 and March 2008 (the latest available data), the same gain as was recorded over the preceding 12 months. Although the increase in the wage and salary component of the ECI edged down, the rise in benefits costs picked up markedly. Benefits costs were pushed up by a sharp rise in employer contributions to retirement plans, which likely reflected, in part, the weak performance of the stock market and an atypically small increase in employer contributions in the preceding year.

Change in unit labor costs, 1998–2008



NOTE: Nonfarm business sector. The data are quarterly and extend through 2008:Q1. Change is over four quarters.
SOURCE: Department of Labor, Bureau of Labor Statistics.

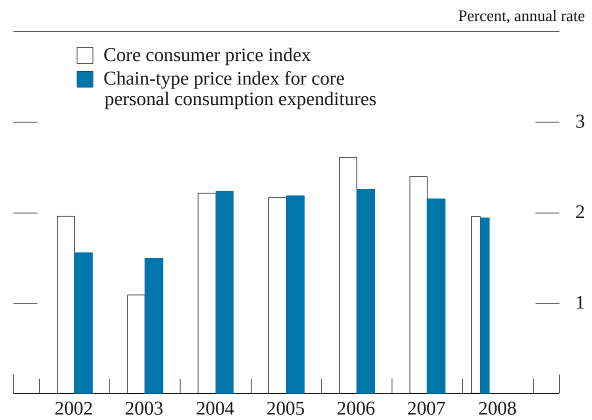
According to preliminary data, compensation per hour in the nonfarm business (NFB) sector—an alternative measure of hourly compensation derived from the data in the NIPA—rose 4 percent over the year ending in the first quarter of 2008, down from a 5 percent gain in the previous year. Because of the slower growth in NFB hourly compensation and the faster growth in productivity over the period, unit labor costs rose just ¾ percent over the year ending in the first quarter of 2008 after having increased 4¼ percent over the preceding year. On average, the rise in unit labor costs over the past two years is about on par with the increases recorded in the preceding two years.

Prices

Headline inflation remained elevated in the first half of 2008, as prices for both food and energy continued to surge. The chain-type price index for personal consumption expenditures increased at an annual rate of 3.4 percent between December 2007 and May 2008, about the same as the brisk pace registered over the 12 months of 2007. Excluding food and energy items, the PCE price index rose at an annual rate of 1.9 percent over the first 5 months of the year, down from the 2.2 percent increase over the 12 months of 2007.

Energy prices, which jumped 20 percent over 2007, continued to soar in the first five months of this year. Spurred by rising crude oil costs, motor fuel prices continued to move up through May, and increases in prices of heating fuel and natural gas also jumped appreciably. Furthermore, the pass-through of the record-high levels of crude oil prices into retail gasoline prices was only partial, and wholesale and retail margins were unusually compressed in May. As these margins return to more typical levels, retail prices are likely to rise further. Indeed, survey evidence suggests that prices at the pump jumped again in June and early July. The recent pickup in natural gas prices apparently reflected substitution by utilities and other users away from relatively

Change in core consumer prices, 2002–08



NOTE: Through 2007, change is from December to December; for 2008, change is from December to May.
SOURCE: For core consumer price index, Department of Labor, Bureau of Labor Statistics; for chain-type price index, Department of Commerce, Bureau of Economic Analysis.

Alternative measures of price change, 2007–08
Percent

Price measure	2007	2008
Chain-type (Q1 to Q1)		
Gross domestic product (GDP)	2.9	2.2
Excluding food and energy	2.9	1.9
Gross domestic purchases	2.6	3.2
Personal consumption expenditures (PCE)	2.3	3.4
Excluding food and energy	2.4	2.0
Market-based PCE excluding food and energy	2.2	1.8
Fixed-weight (Q2 to Q2)		
Consumer price index	4.0	3.8
Excluding food and energy	2.3	2.2

NOTE: Changes are based on quarterly averages of seasonally adjusted data. For the consumer price index, the 2008:Q2 value is calculated as the average for April and May compared with the average for the second quarter of 2007 and is expressed at an annual rate.
SOURCE: For chain-type measures, Department of Commerce, Bureau of Economic Analysis; for fixed-weight measures, Department of Labor, Bureau of Labor Statistics.

expensive crude oil as well as the unexpected shutdown of some production in the Gulf of Mexico during the spring.

Food prices have also picked up further this year. After climbing 4¾ percent in 2007, the PCE price index for food and beverages increased at an annual rate of more than 6 percent between December 2007 and May 2008. High grain prices and strong export demand have been primarily responsible for sizable increases in the retail prices of poultry, fish, eggs, cereal and bakery items, fats and oils, and a variety of other prepared foods. In addition, the index for fruits and vegetables rose at an annual rate of 7¼ percent over the first five months of the year, likely reflecting, in part, higher input costs. Although world grain production improved this spring, excessively wet weather and flooding in the Midwest boosted spot prices for corn and soybeans in June.

The small decline in core PCE price inflation this year masked some substantial—but largely offsetting—crosscurrents. Shelter costs have continued to decelerate as housing markets have softened further. In addition, a moderation in the pace of medical care price increases has also held down core price inflation this year. In contrast, prices of core services besides medical and shelter costs have increased more rapidly. Similarly, prices of core goods, which declined some in 2007, were about flat, on net, over the first five months of this year.

More fundamentally, increased slack in labor and product markets is likely damping price increases this year. However, a number of other factors are putting upward pressure on core inflation. Higher prices for energy and other industrial commodities continue to add to the cost of producing a wide variety of goods, and increases in the prices of non-oil imports have picked up appreciably. Moreover, inflation expectations, especially for the near term, have moved up since the turn of the year. Probably reflecting the elevated level of actual headline inflation, the median expectation for year-ahead inflation in the Reuters/University of Michigan Surveys of Consumers moved up to about 3½ percent at the end of 2007 and then continued to rise in 2008; it reached 5.3 percent in the preliminary July estimate. However, the upward movement in longer-run inflation expectations has been much less pronounced. According to the preliminary July result in the Reuters/University of Michigan survey, median 5- to 10-year inflation expectations were 3.4 percent for a third consecutive month, compared with the readings in the range of 3 percent to 3¼ percent that had prevailed for the preceding few years. Similarly, estimates of 10-year inflation compensation, as measured by the spreads of yields on nominal Treasury securities over those on their inflation-protected counterparts, have moved up about 20 basis points, on balance, since the turn of the year. However, most of that increase reflected higher inflation compensation over the next 5 years; estimates of inflation compensation 5 to 10 years ahead were up only 10 basis points by early July. According to the Survey of Professional Forecasters conducted by the Federal Reserve Bank of Philadelphia, expectations of inflation over the next 10 years ticked up in the first half of 2008, though they remain essentially unchanged since 1998.

Broader, NIPA-based measures of inflation, which are available only through the first quarter of this year, slowed relative to the pace of the past couple of years.

The latest data show a rise in the price index for GDP less food and energy of about 2 percent over the year ending in the first quarter, down about 1 percentage point from the figure for the year ending in the first quarter of 2007. In addition to a lower reading for core PCE inflation over the past four quarters, prices for some other components of final demand, especially construction, decelerated.

Financial Markets

The elevated risk spreads, high volatility, and impaired functioning that characterized domestic and international financial markets in the second half of 2007 continued through the first half of 2008. Spillovers from the slumping U.S. housing market were the largest direct source of these pressures, but a generalized flight from riskier assets—particularly structured credit products—and worries about a global economic slowdown also contributed to financial strains.[9] The Federal Reserve lowered the target federal funds rate an additional 225 basis points over the first four months of 2008 in response to a deteriorating outlook for economic activity.

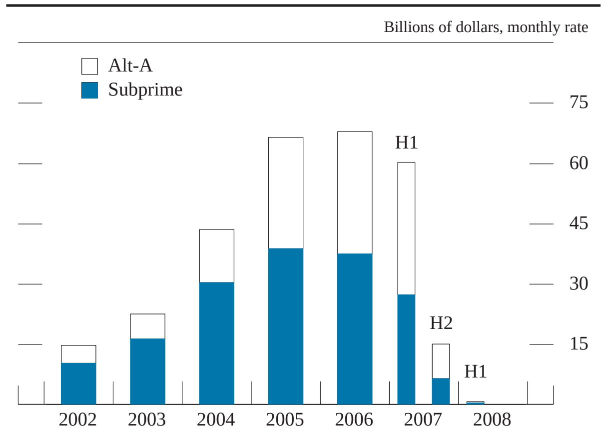
Financial strains increased significantly during the first quarter, leading to a liquidity crisis in March at The Bear Stearns Companies, Inc., a major investment bank, and to its subsequent acquisition by JPMorgan Chase & Co. Additional actions taken by the Federal Reserve to improve market functioning and liquidity, including the introduction of liquidity facilities for primary dealers, appeared to have an ameliorative effect, and tensions eased somewhat in the second quarter. (See the box entitled “The Federal Reserve’s Liquidity Operations” on page 26.) Nevertheless, conditions in a broad range of domestic and international financial markets remained strained relative to previous years. This week, the Board of Governors announced a temporary arrangement that allows the Federal Reserve to extend credit to Fannie Mae and Freddie Mac, if necessary.

Market Functioning and Financial Stability

The deteriorating performance of subprime mortgages in the United States prompted widespread strains and turbulence in domestic and international financial markets in the second half of 2007. Substantial losses on even the highest-rated structured products based on subprime mortgages caused market participants to reassess the risks associated with other structured financial instruments and raised concerns about the exposures of major financial institutions to these assets. As liquidity in markets for structured products evaporated, banks were forced, at least temporarily, to hold more assets on their balance sheets than they anticipated. In addition, banks’ losses on mortgage-related securities and other assets prompted credit concerns among counterparties. Both of these factors contributed to strains in bank funding markets. The resulting deleveraging in the financial sector reduced the availability of credit to the overall economy. By late 2007, U.S. house prices had begun to fall, residential investment was contracting sharply, and indicators of overall economic activity had softened noticeably. These developments induced investors to pull back from a broader range of financial assets, leading to impaired liquidity conditions in many markets, with widened risk spreads and elevated volatilities.

This market turbulence continued into early 2008, as liquidity in many financial markets continued to be impaired and risk spreads remained wide. After declining sharply late last year, issuance of non-agency-sponsored mortgage-backed securities essentially came to a halt by the beginning of 2008, and secondary-market trades of these assets were rare. Price indexes of non-agency-sponsored subprime MBS based on derivatives markets declined further. However, the unusual pressures that had been apparent in short-term

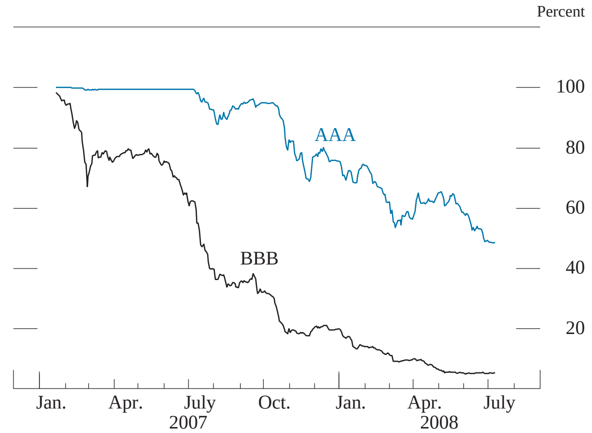
Gross issuance of securities backed by alt-A and subprime mortgage pools, 2002–08



NOTE: Mortgages in alt-A pools are a mix of prime, near-prime, and subprime mortgages; such loans are typically made to higher-quality borrowers but have nontraditional amortization structures or other nonstandard features.
SOURCE: *Inside MBS & ABS.*

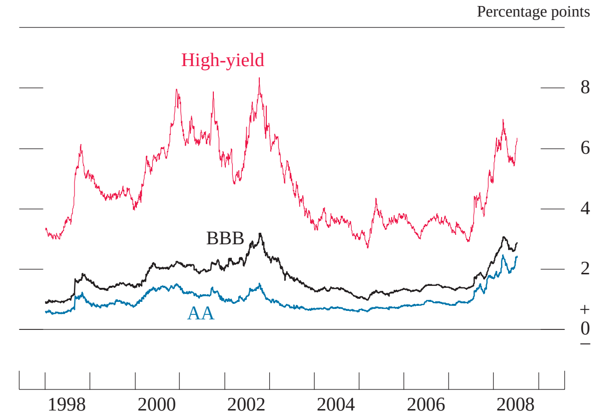
9. In a structured credit product, the credit risk of a portfolio of underlying exposures is segmented into tranches of varying seniority and risk exposure.

Price indexes of subprime mortgage-backed securities based on credit default swaps, 2007–08



NOTE: The data are daily and extend through July 9, 2008. The series shown refer to pools of mortgages that were originated in 2006:H2.
SOURCE: Markit.

Spreads of corporate bond yields over comparable off-the-run Treasury yields, by securities rating, 1998–2008



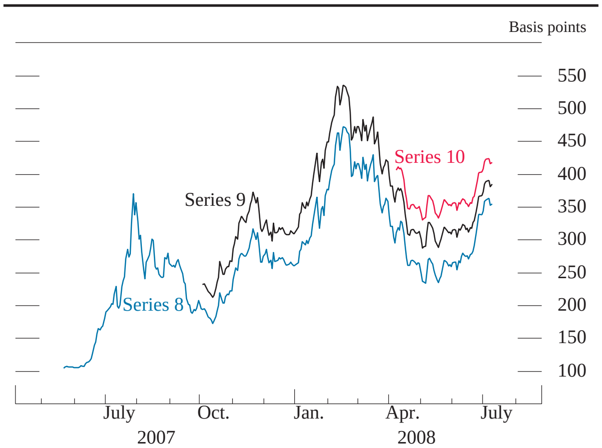
NOTE: The data are daily and extend through July 9, 2008. The spreads shown are the yields on 10-year bonds less the 10-year Treasury yield.
SOURCE: Derived from smoothed corporate yield curves using Merrill Lynch bond data.

investment-grade funding markets in December eased considerably in January, owing to a combination of the passing of year-end balance sheet concerns and the provision of additional liquidity by the Federal Reserve and foreign central banks.

In February and March, short- and long-term funding markets came under renewed pressure after reports of further losses and write-downs at major banks, broker-dealers, and the government-sponsored enterprises. Fears of a weakening economy exacerbated a generalized flight from all but the safest assets. Repurchase agreement (repo) market investors exhibited a marked preference for Treasury collateral and pushed rates on Treasury general collateral repos to historical lows that were well below the target federal funds rate. As liquidity for MBS not sponsored by the GSEs and for other private-label asset-backed securities dried up, the heightened uncertainty regarding values of these instruments led to an unprecedented increase in the margin, or "haircut," required on repos based on such collateral; the interest rate spread on these repos also rose. Spreads of corporate and GSE bond yields over yields on comparable-maturity Treasury securities jumped to multiyear highs. Ratios of yields on municipal bonds to yields on Treasury securities spiked, and failures were widespread in the auction rate securities markets for municipal securities, student loans, and other assets. Prices fell in the secondary market for leveraged loans, and implied spreads on indexes of loan-only credit default swaps, or LCDX, reached record levels in February. Liquidity was strained in many markets; for example, in the market for Treasury coupon securities, bid-asked spreads and spreads between yields on off-the-run and on-the-run securities reached multiyear highs. Bid-asked spreads in the leveraged loan market also widened noticeably. The orderly resolution of the Bear Stearns situation along with the implementation of the Primary Dealer Credit Facility and the Term Securities Lending Facility in March appeared to reduce strains in short-term funding markets and to relieve liquidity pressures more broadly across fixed-income markets (see the box entitled "The Federal Reserve's Liquidity Operations" on page 26).

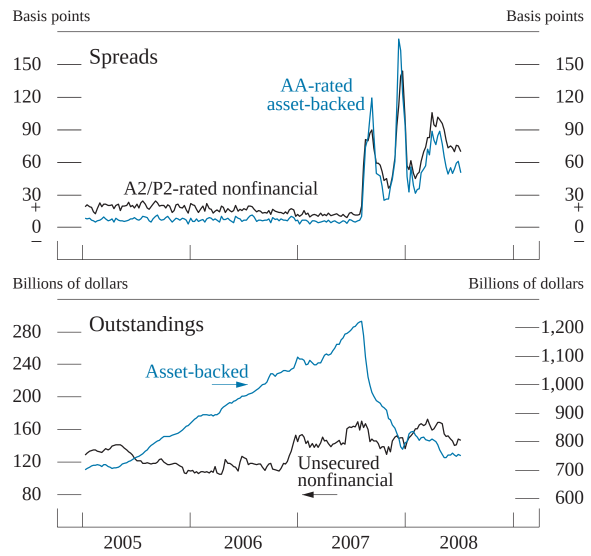
Even though conditions in several markets improved somewhat after mid-March, pressures in some short-

LCDX indexes, 2007–08



NOTE: The data are daily and extend through July 9, 2008. Each LCDX index consists of 100 single-name credit default swaps referencing entities with first-lien syndicated loans that trade in the secondary market for leveraged loans. Series 8 began trading on May 22, 2007, series 9 on October 3, 2007, and series 10 on April 8, 2008.
SOURCE: Markit.

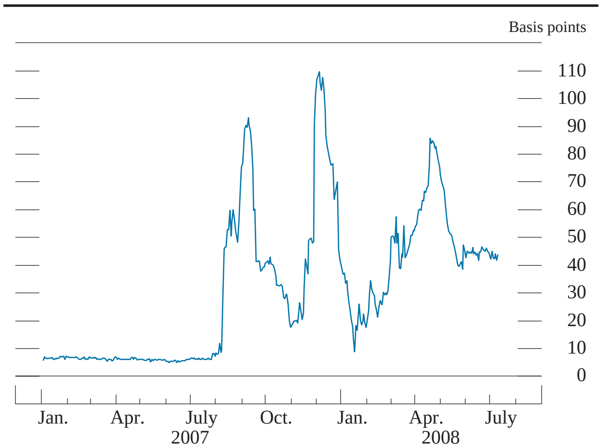
Commercial paper, 2005–08



NOTE: The data are weekly and extend through July 9, 2008. Commercial paper yield spreads are for a 30-day maturity and are expressed relative to the AA nonfinancial rate. Outstandings are seasonally adjusted.
SOURCE: Depository Trust and Clearing Corporation.

term funding markets continued to intensify into April. Yield spreads rose in April on unsecured financial, asset-backed, and lower-rated nonfinancial commercial paper. Interbank term funding pressures, as measured by spreads of term London interbank offered rates over comparable-maturity overnight index swap rates, peaked in April but have since moved somewhat

One-month Libor minus overnight index swap rate, 2007–08



NOTE: The data are daily and extend through July 10, 2008. 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.

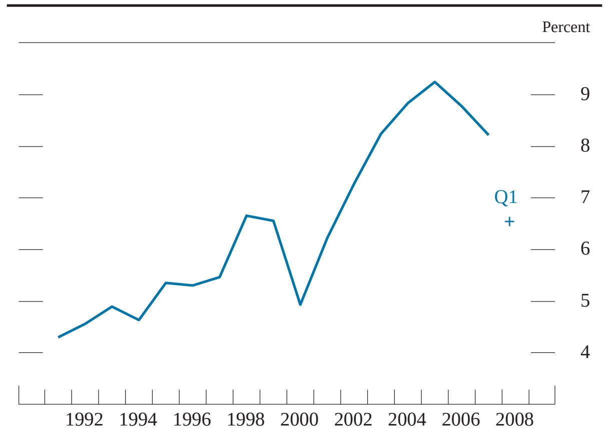
lower, at least for terms of three months and less. The expansion in May of the Federal Reserve's Term Auction Facility and of the associated swap lines with the European Central Bank and the Swiss National Bank appears to have contributed to this easing of pressures. However, for interbank funding at terms greater than three months, transaction volumes are reportedly low, and spreads remain high.

In longer-term financial markets, pressures generally eased in April and May. Spreads of conforming mortgage rates and corporate bond yields over yields on comparable-maturity Treasury securities narrowed, and prices and liquidity in the secondary market for leveraged loans increased. However, yield spreads for corporate bonds and mortgages moved higher in June. Equity prices of financial intermediaries, including the housing-related GSEs, Fannie Mae and Freddie Mac, dropped sharply in June and early July as concerns mounted both about their losses and longer-term profitability and about the prospects for earnings dilution given the considerable new capital that may need to be raised. Overall, indicators of financial market strains remain elevated compared with their levels in previous years.

Debt and Financial Intermediation

The total debt of the domestic nonfinancial sector expanded at an annual rate of 6½ percent in the first quarter of 2008, a somewhat slower pace than in 2007.

Change in total domestic nonfinancial debt, 1991–2008



NOTE: The data extend through 2008:Q1. Through 2007, the data are annual and are computed by dividing the annual flow for a given year by the level at the end of the preceding year; the final observation refers to 2008:Q1 at an annual rate.
SOURCE: Federal Reserve Board, flow of funds data.

The Federal Reserve's Liquidity Operations

In response to serious financial strains, the Federal Reserve has taken a number of steps since August 2007 to enhance liquidity and foster the improved functioning of financial markets and thereby promote its dual objectives of maximum employment and price stability.

The Federal Reserve eased the terms of access for borrowing by depository institutions under the regular primary credit program, or discount window. The spread of the primary credit rate over the target federal funds rate was narrowed from 100 basis points to 50 basis points in August 2007 and to 25 basis points in March. The maximum loan term was extended to 30 days in August 2007 and to 90 days in March; institutions have the option to renew term loans so long as they remain in sound financial condition. Over time, more institutions have used the discount window, and the more accommodative terms for borrowing at the window have reportedly improved confidence by assuring depository institutions that backstop liquidity will be available should they need it.

In December 2007, the Federal Reserve introduced the Term Auction Facility (TAF), through which predetermined amounts of discount window credit are auctioned every two weeks to eligible borrowers for terms of about one month. In effect, TAF auctions are similar to open market operations but are conducted with depository institutions rather than primary dealers and against a much broader range of collateral than is accepted in standard open market operations. The TAF appears to have overcome the reluctance to borrow associated with standard discount window lending because of its competitive auction format, the certainty that a large amount of credit would be made available, and the fact that it is not designed to meet urgent funding needs. Indeed, a large number of banks—ranging at various points in time from around 50 to more than 90—have participated in each of the 16 auctions held thus far. The size of individual TAF auctions was raised in several steps from an initial level of $20 billion at inception last December to $75 billion most recently; the amount of TAF credit currently outstanding is $150 billion.

In conjunction with the introduction of the TAF, the Federal Reserve also established swap lines with the European Central Bank and the Swiss National Bank to provide dollar funds to facilitate dollar lending by those central banks to banks in their jurisdictions. These swap lines have been enlarged over time and currently stand at $50 billion with the European Central Bank and $12 billion with the Swiss National Bank.

In response to the unprecedented pressures in short-term repurchase agreement (repo) markets earlier this year, the Federal Reserve initiated a special program of 28-day term repurchase agreements; $80 billion of such agreements are currently outstanding. These agreements were designed to enhance the ability of primary dealers to obtain term funding for any assets that are eligible as collateral in conventional open market operations. Also, on March 11, the Federal Reserve announced plans to create the Term Securities Lending Facility (TSLF), in which the Federal Reserve lends Treasury securities held in its portfolio at auction against the collateral of high-grade securities held by dealers. In addition to conventional open market operation collateral—Treasury securities, agency securities, and agency-sponsored mortgage-backed securities (MBS)—the Federal Reserve now accepts AAA-rated residential MBS, commercial MBS, and other asset-backed securities as collateral at the TSLF. The Federal Reserve sets a minimum

(continued on next page)

The moderation in borrowing was mainly accounted for by a slowdown in the growth of household debt, particularly mortgage debt. Borrowing by nonfinancial businesses also decelerated, but at a 9¼ percent pace, it was still high by historical standards. Preliminary data suggest that overall debt growth slowed further in the second quarter.

Commercial bank credit increased at an annual rate of 4¾ percent in the first half of 2008, down significantly from the 10¼ percent expansion registered in 2007.[10] Commercial and industrial loans decelerated sharply after growing at an annual rate of more than 25 percent in the fourth quarter of 2007. The surge in C&I loans late last year reportedly reflected, in part, the difficulties that banks faced in selling syndicated loans to nonbank investors; as a result, banks had to fund a

10. The growth rate of bank credit in 2007 has been adjusted to remove the effects of the conversion of a large commercial bank to a thrift institution.

(continued from preceding page)

bid rate for each TSLF auction. Bids submitted at most TSLF auctions have fallen short of the announced auction quantities. Nevertheless, market participants have indicated that the TSLF has contributed to improved functioning in repo markets.

Pressures in short-term funding markets worsened sharply in mid-March. On March 13, The Bear Stearns Companies, Inc., a prominent investment bank and primary dealer, advised the Federal Reserve and other government agencies that its liquidity position had deteriorated significantly and that it would be forced to file for bankruptcy the next day unless alternative sources of funds became available. A bankruptcy filing would have forced the secured creditors and counterparties of Bear Stearns to liquidate the underlying collateral, and given the illiquidity of markets, those creditors and counterparties might well have sustained substantial losses. If they had responded to losses or the unexpected illiquidity of their holdings by pulling back from providing secured financing to other firms and by dumping large volumes of illiquid assets on the market, a much broader financial crisis likely would have ensued with consequent harm to the overall economy. In such circumstances, the Federal Reserve Board judged that it was appropriate to use its emergency lending authorities under the Federal Reserve Act to avoid a disorderly closure of Bear Stearns. Accordingly, the Federal Reserve, after discussions with the Securities and Exchange Commission and in close consultation with the Treasury, agreed to provide short-term funding to Bear Stearns through JPMorgan Chase & Co. Over the following weekend, JPMorgan Chase agreed to purchase Bear Stearns and assume the company's financial obligations. The Federal Reserve, again in close consultation with the Treasury, agreed to supply term funding, secured by $30 billion in Bear Stearns assets, to facilitate the purchase. JPMorgan Chase completed the acquisition of Bear Stearns on June 26, and the Federal Reserve extended approximately $29 billion of funding on that date.

In a further effort to prevent a possible downward spiral in financial markets, the Federal Reserve also used its emergency authorities to create the Primary Dealer Credit Facility (PDCF) in mid-March. The PDCF allows primary dealers to borrow at the discount window against collateral that includes a broad range of investment-grade securities. In effect, the PDCF provides primary dealers with a liquidity backstop similar to the discount window that is available to depository institutions.

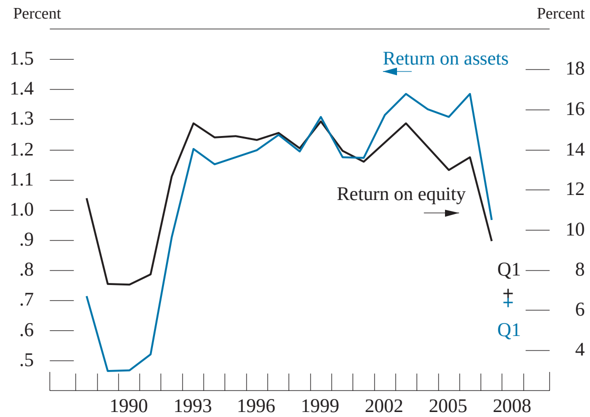
These liquidity measures appear to have contributed to some improvement in financial markets since late March.

Over recent days, the share prices of Fannie Mae and Freddie Mac dropped sharply on investor concerns about their financial condition and capital position. The Treasury announced a legislative initiative to bolster the capital, access to liquidity, and regulatory oversight of the government-sponsored enterprises (GSEs). As a supplement to the Treasury's existing authority to lend to the GSEs, the Board of Governors established a temporary arrangement that allows the Federal Reserve to extend credit to Fannie Mae and Freddie Mac, if necessary. In establishing this arrangement, the Board exercised its authority under section 13(13) of the Federal Reserve Act. Credit under this arrangement will be extended at the primary credit rate and secured by government and federal agency securities.

number of previously committed large syndicated deals on their balance sheets. In the first quarter of 2008, C&I loans grew at a lower but still quite fast rate of 16¼ percent, with part of the strength reportedly due to increased utilization of existing credit lines, the pricing of which reflected previous lending practices. In the second quarter, C&I lending moderated significantly further, a pattern consistent with reports from the April Senior Loan Officer Opinion Survey, which indicated a further tightening of credit standards and terms and weakening of demand for C&I loans. Commercial real estate loans grew at an annual rate of about 9¾ percent in the first half of 2008, only slightly slower than their pace in 2007.

After contracting sharply in the final quarter of 2007, the outstanding stock of residential mortgages at commercial banks rose 3½ percent in the first quarter, in part because of a sluggish pace of securitization. In the second quarter, however, banks' holdings of residential mortgage loans fell again, a pattern consistent

Commercial bank profitability, 1988–2008



NOTE: The data extend through 2008:Q1. The data are annual through 2007; the final observation refers to 2008:Q1 at an annual rate.
SOURCE: Federal Financial Institutions Examination Council, Consolidated Reports of Condition and Income (Call Report).

with the ongoing weakness in the housing market and the reduced availability of mortgage credit. Growth of home equity lines of credit picked up significantly in the first half of 2008, likely because of the decline in short-term market rates to which such loans are generally tied. However, commercial banks have taken steps to limit their exposure to these loans; according to the April Senior Loan Officer Opinion Survey, a significant portion of respondents indicated that they had tightened their credit standards for approving new applications for home equity lines of credit, and a notable proportion reported that they had also firmed lending terms on existing lines, mainly in response to declines in property values. Despite the reported tightening of credit conditions in the household sector, consumer loans grew at a moderate pace in the first half of 2008.

Profitability of the commercial banking sector improved somewhat in the first quarter of 2008 but remained well below the levels seen before the summer of 2007. Many large banks received a significant boost to their first-quarter profits as a result of their stakes in Visa—the initial public offering of which occurred in March. However, continued write-downs of mortgage-related assets and leveraged loans, along with increasing loan-loss provisions, held profits down in the first quarter. Concerns about recent and potential losses have weighed heavily on bank stock prices this year. The median spread on credit default swaps on the senior debt of major banks climbed from 50 basis points at the end of 2007 to more than 100 basis points in mid-March. After declining noticeably in April and May, it returned close to the March peak in late June.

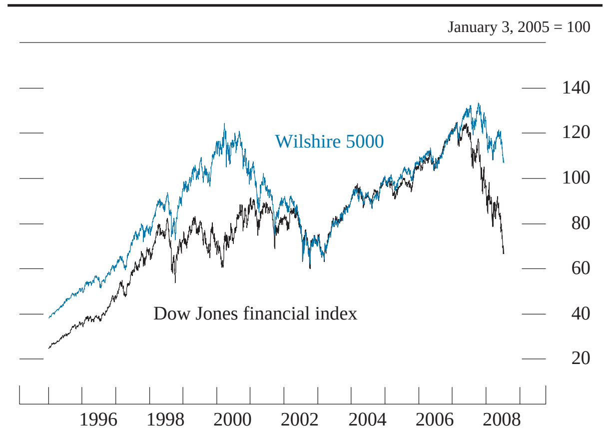
The overall delinquency rate on loans held by commercial banks rose in the first quarter to its highest level since the early 1990s, and the charge-off rate increased to the upper end of its range since 2000. The deterioration in credit quality was accounted for primarily by continued erosion in the performance of residential mortgages and a considerable worsening in construction and land development loans, but performance of most other types of loans also weakened. To bolster equity positions diminished by asset write-downs and loan-loss provisions, commercial banks raised a substantial volume of capital in the first half of 2008; some banks reduced dividends to further shore up their capital.

Equity Markets

Overall, share prices have dropped about 15 percent from the end of 2007. The declines were led by the financial sector, especially depository institutions and broker-dealers, which fell 37 percent and 41 percent, on average, respectively. The energy and basic materials sectors avoided the downtrend and have changed little on net.

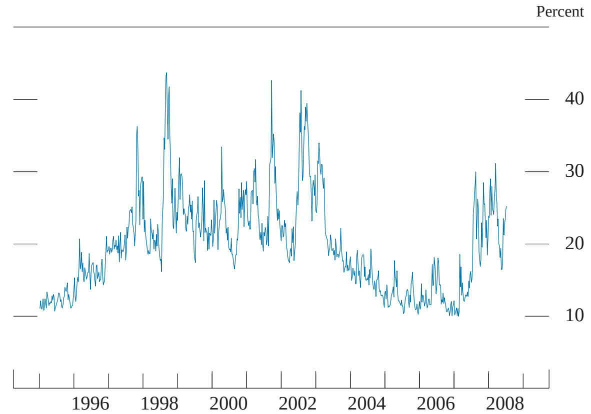
Actual and implied volatilities of broad equity price indexes shot up last year with the onset of financial strains. The partial easing of financial strains in the second quarter was associated with modest declines in the actual and implied volatilities of equity prices to levels still above those of the past few years. The 12-month-forward expected earnings-price ratio for S&P 500 firms jumped in the first half of 2008, while the long-term real Treasury yield rose only slightly. The difference between these two values—a rough measure of the premium that investors require for holding equity

Stock price indexes, 1995–2008



NOTE: The data are daily and extend through July 9, 2008.
SOURCE: Dow Jones Indexes.

Implied S&P 500 volatility, 1995–2008



NOTE: The data are weekly and extend through the week ending July 11, 2008. The final observation is an estimate based on data through July 9, 2008. 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.

shares—has reached the high end of its range over the past 20 years.

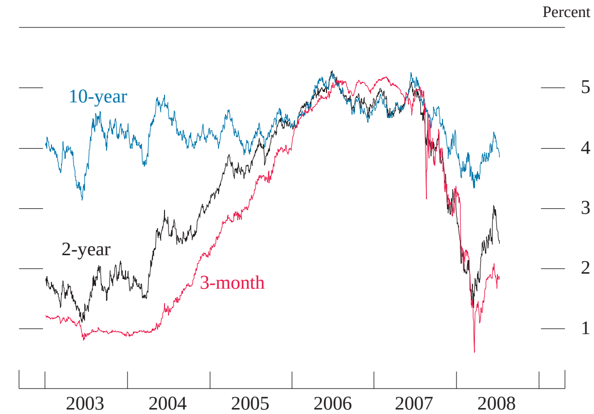
Policy Expectations and Interest Rates

The current target for the federal funds rate, at 2 percent, is substantially below the level that investors expected as of late December 2007. According to futures quotes at that time, market participants expected that the federal funds rate would be around 3½ percent by July. Looking forward, however, investors now expect that the next policy move will be up, and a small degree of tightening has been priced in by the end of 2008. Measures of uncertainty about the path of policy rose with the onset of financial turbulence last year and are currently near the high end of their range over the past 10 years.

Treasury yields fell sharply from the end of 2007 through March amid concerns about the health of financial firms, severe strains in financial markets, a weakening economic outlook, and lower expectations for future policy rates. Since late March, yields have risen across the curve as fears of a deep economic contraction have receded and concerns about the inflation outlook have increased. On net, 2-year yields are down 65 basis points, and 10-year yields are down 20 basis points since the start of the year.

Yields on Treasury inflation-protected securities largely moved in line with nominal yields—that is, they fell through mid-March and then rose—but the rise since March has been somewhat less than that of nominal yields. In addition, shifting liquidity conditions in

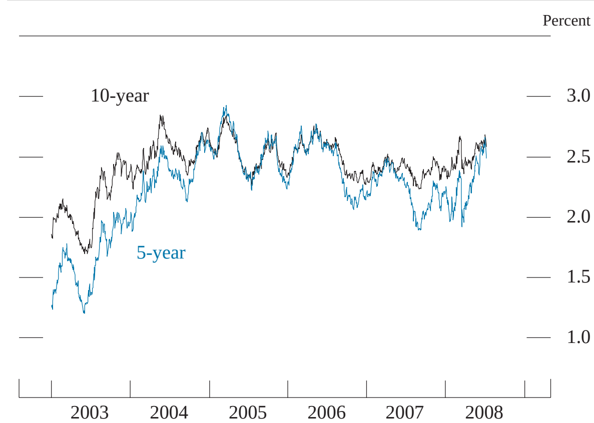
Interest rates on selected Treasury securities, 2003–08



NOTE: The data are daily and extend through July 9, 2008.
SOURCE: Department of the Treasury.

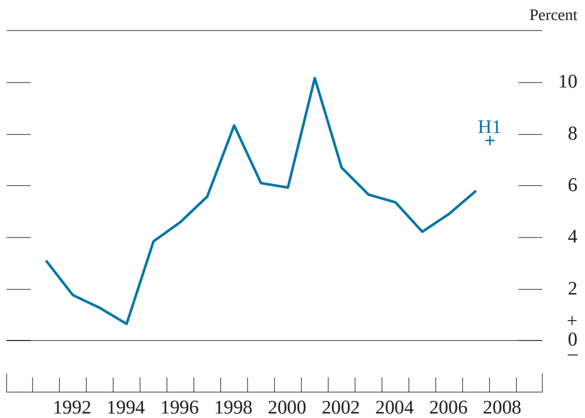
the markets for nominal and indexed Treasury securities at times affected the spreads between nominal and indexed yields, also known as inflation compensation. On net, 10-year inflation compensation has risen about 20 basis points since the end of 2007, suggesting some increase in investors' concerns about the inflation outlook. Inflation compensation rose over both the near term and the longer term, but the increase was larger over the near term, as compensation over the next 5 years rose about 30 basis points whereas compensation over the period from 5 years ahead to 10 years ahead rose only 10 basis points. In part because of a lag in the indexation of inflation-protected securities, near-term inflation compensation can be strongly affected by

TIPS-based inflation compensation, 2003–08



NOTE: The data are daily and extend through July 9, 2008. Based on a comparison of the yield curve for Treasury inflation-protected securities (TIPS) with the nominal off-the-run Treasury yield curve.
SOURCE: Federal Reserve Board calculations based on data provided by the Federal Reserve Bank of New York and Barclays.

M2 growth rate, 1991–2008



NOTE: The data extend through 2008:Q1 and are estimated for 2008:Q2. Through 2007, the data are annual on a fourth-quarter over fourth-quarter basis; the final observation refers to 2008:Q2 relative to 2007:Q4 at an annual rate. M2 consists of currency, traveler's checks, demand deposits, other checkable deposits, savings deposits (including money market deposit accounts), small-denomination time deposits, and balances in retail money market funds.

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

the latest movements in energy and food prices; these prices have risen sharply in recent months.

Money and Reserves

M2 is estimated to have expanded at an annual rate of 7¾ percent over the first half of 2008, notably faster than the likely growth rate of nominal GDP. Demand for money balances was supported by declines in the opportunity cost of holding money relative to other financial assets and by strong demand for safe and liquid assets amid volatility and strains in financial markets. Money market mutual fund shares grew particularly rapidly in the first quarter. However, growth of money market mutual funds dropped considerably in the second quarter, and small time deposits contracted; M2 slowed accordingly. Demand for currency continued to be lackluster for the most of the first half-year, but it picked up noticeably late in the second quarter as domestic demand grew and foreign demand was estimated to be less weak.

The strains in bank funding markets over recent months have posed challenges for the implementation of monetary policy. Banks generally have seemed more cautious in their activity in the federal funds market and less willing to take advantage of potential arbitrage opportunities in that market over the course of a day and across the days of a reserve maintenance period. In this environment, the Open Market Desk's decisions regarding the appropriate quantity of reserves to be supplied each day through open market operations have been complicated, and volatility in the federal funds rate has been elevated. The authority to pay interest on reserves could be helpful to the Federal Reserve in limiting the volatility in the federal funds rate. The ability to pay interest on reserves would also allow the Federal Reserve to manage its balance sheet more efficiently in circumstances in which promoting financial stability required the provision of substantial amounts of discount window credit to the financial sector. In light of these considerations, the Federal Reserve has asked the Congress to accelerate the effective date of statutory authority to pay interest on reserve balances, which is currently October 2011.

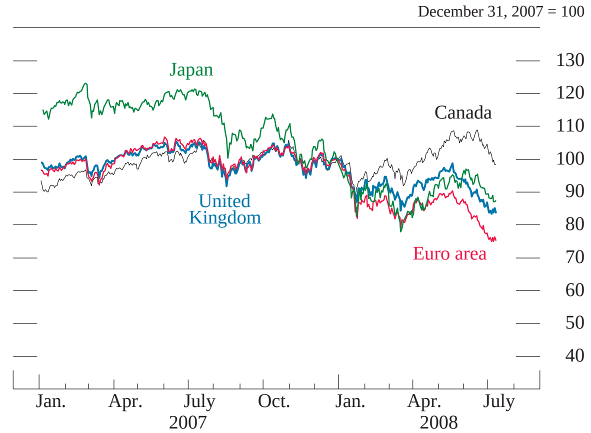
International Developments

International Financial Markets

Global financial markets remained distressed over the first half of 2008, primarily because of concerns about weakness in real estate and slowing global economic growth. Amid heightened market turbulence in March, the European Central Bank (ECB), Bank of England, Bank of Canada, and Swiss National Bank (SNB) announced a further set of joint actions with the Federal Reserve to help improve the functioning of short-term funding markets. The Federal Open Market Committee increased its temporary swap line to the ECB in March from $20 billion to $30 billion and its line to the SNB from $4 billion to $6 billion. In May, these amounts were increased further to $50 billion and $12 billion, respectively, and the lines were extended through January 2009. Meanwhile, the Bank of England and the Bank of Canada each introduced new term funding arrangements in their domestic currencies, and the Bank of England also established a facility to swap government bonds for banks' mortgage-backed securities for a term of one to three years. The ECB has also continued to offer longer-term funding in euros, auctioning three-month funds totaling €270 billion in the first quarter and €250 billion in the second quarter and adding a new long-term refinancing operation with a six-month maturity.

Market volatility has persisted in recent months, with ongoing concerns about the balance sheets of financial institutions. Since the middle of last year, European banks have announced about $200 billion in write-downs—largely as a result of indirect exposure to U.S. credit markets through both sponsorship of and investments in structured credit products—and further

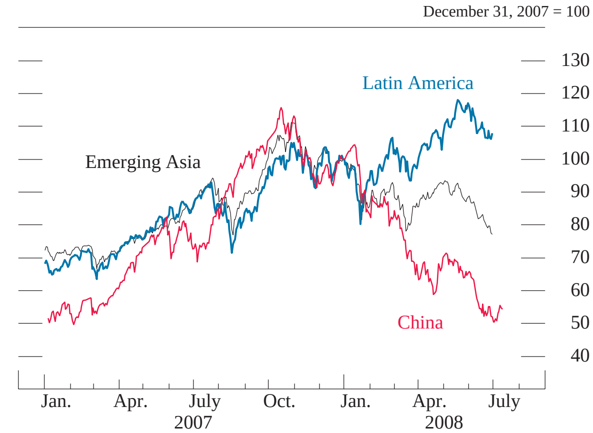
Equity indexes in selected advanced foreign economies, 2007–08



NOTE: The data are daily. The last observation for each series is July 9, 2008. 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.

Equity indexes in selected emerging market economies, 2007–08

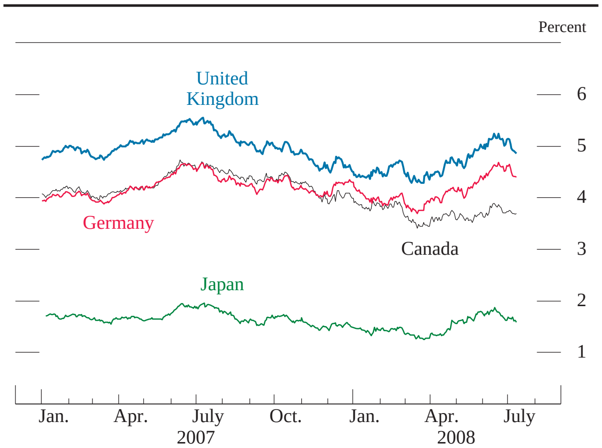


NOTE: The data are daily. The last observation for each series is July 9, 2008. Because the Shanghai Stock Exchange was closed on December 31, 2007, the China index is scaled so that the December 28, 2007, closing value equals 100. The Latin American economies are Argentina, Brazil, Chile, Colombia, 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.

losses may be recognized in second-quarter financial statements. In addition, mortgage lenders in the United Kingdom have been affected by weakness in property prices there and by reduced access to capital market funding. In general, the institutions that have recognized significant losses have taken prompt steps to replenish capital from a variety of sources; more than $140 billion had been raised by the end of June.

Yields on benchmark government bonds in selected advanced foreign economies, 2007–08



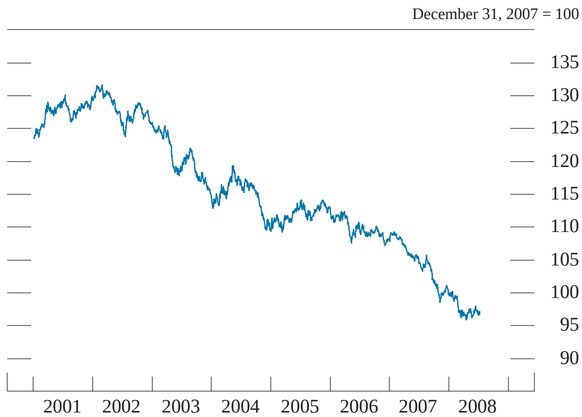
NOTE: The data, which are for 10-year bonds, are daily. The last observation for each series is July 9, 2008.

SOURCE: Bloomberg.

On net, most major equity indexes in the advanced foreign economies stand 12 percent to 25 percent lower in local currency terms compared with the end of 2007. European stock indexes were led lower by the stock prices of financial firms, which declined 34 percent (measured in euros); Japanese financial stocks are down 9 percent on the year. The financial turbulence has had less impact on Latin American stock prices. Equity indexes in Mexico and Brazil were virtually unchanged, on balance, over the first half of 2008. However, Chinese stock prices have tumbled 44 percent since the end of 2007, virtually erasing last year's gains, and other major emerging Asian equity indexes are also down, but to a lesser extent.

Liquidity in European government bond markets was impaired in March but seems to have improved in recent months. Long-term bond yields in the advanced foreign economies fell in the first quarter but have more than reversed these declines as investors no longer expect the ECB and the Bank of England to ease their policy rates. Since the end of 2007, long-term rates have risen, on net, 11 basis points in Germany, 38 basis points in the United Kingdom, and 12 basis points in Japan, and nominal yield curves have flattened. Meanwhile, implied long-term inflation compensation has increased 10 basis points in Japan and nearly 30 basis points in Germany and Canada.

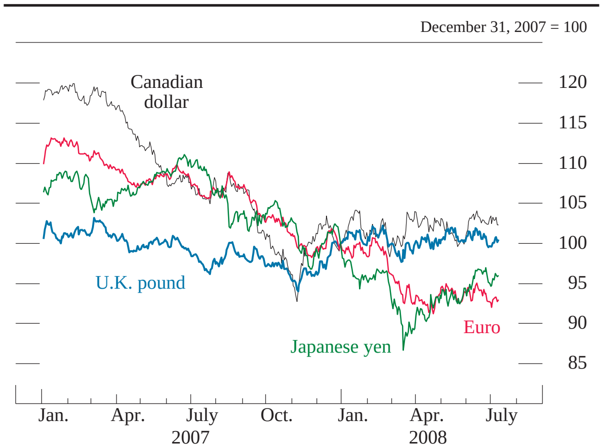
U.S. dollar nominal exchange rate, broad index, 2001–08



NOTE: The data, which are in foreign currency units per dollar, are daily. The last observation for the series is July 9, 2008. 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.

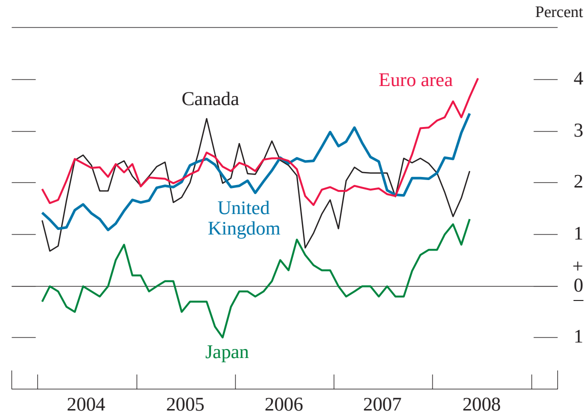
The Federal Reserve's broadest measure of the nominal trade-weighted foreign exchange value of the dollar has declined about 3 percent, on net, since the end of last year. Over the same period, the major currencies index of the dollar has also declined about 3 percent. The dollar depreciated sharply against the euro and the yen in February and March but has recovered some in recent months. On net thus far this year, the dollar is down about 4 percent against the yen and 7 percent against the euro. The dollar is 2 percent higher against the Canadian dollar and slightly higher against sterling.

U.S. dollar exchange rate against
selected major currencies, 2007–08



NOTE: The data, which are in foreign currency units per dollar, are daily. The last observation for each series is July 9, 2008.
SOURCE: Bloomberg.

Change in consumer prices for major foreign economies, 2004–08



NOTE: The data are monthly, and change is from one year earlier. The data extend through May 2008.
SOURCE: Haver.

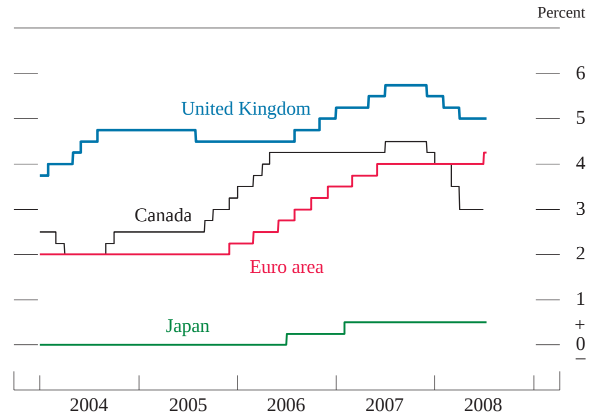
The dollar has declined 6 percent against the Chinese renminbi since the end of 2007.

Advanced Foreign Economies

Economic growth in the major advanced foreign economies appears to have slowed somewhat this year. Although both the euro area and Japan posted strong first-quarter GDP growth rates, recent monthly indicators have been more subdued. In other countries, growth rates declined in the first quarter, and first-quarter real GDP even contracted slightly in Canada, where trade and financial ties to the United States are strong. Surveys of banks in Europe show a further tightening of credit standards in the first half of 2008 for both households and businesses. Lending to businesses appears to have remained solid, but household borrowing has slowed. Housing markets in a number of countries—including Ireland, Spain, and the United Kingdom—have continued to soften.

Since the beginning of the year, headline rates of inflation have continued to move up, on balance, in most economies, mainly because of increasing prices for food and energy. The 12-month change in consumer prices in both the euro area and the United Kingdom increased further from January to mid-2008, while core inflation rates (which exclude the changes in the prices of energy and unprocessed food) have increased much less. In Canada, where food price increases have been muted, inflation is little changed, on balance, since the beginning of the year but has risen in the past couple of months. Japanese consumer prices are roughly

Official or targeted interest rates in selected advanced foreign economies, 2004–08



NOTE: The data are daily and extend through July 9, 2008. 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.

unchanged on a 12-month basis when both food and energy prices are excluded.

Over the first half of this year, the focus of the major foreign central banks appears to have shifted somewhat from the impact of financial market strains on growth to the effect of higher commodity prices on inflation. After initially lowering official interest rates, the Bank of Canada and the Bank of England have held their target rates steady since April, and the Bank of Japan has kept its policy rate unchanged at 0.5 percent all year. Recent inflation rates and statements from all of these central banks have led market participants to expect policy rates to increase slightly or to remain on hold. On July 3, the ECB raised its policy rate 25 basis points, to 4.25 percent, but it hinted that further rate hikes were not in the offing.

Emerging Market Economies

Recent data suggest that real GDP growth in China remained strong in the first half of this year. Although export growth slowed, domestic demand appears to have accelerated.

Elsewhere in emerging Asia, recent performance has varied but, on balance, indicators suggest that activity has remained solid in the region. In the first quarter, real GDP growth moderated in Korea, Malaysia, and Thailand but was strong in Hong Kong and Singapore. Exports of the region have generally slowed along with the deceleration in global economic activity; however, domestic demand strengthened in a number of countries.

Economic activity has decelerated in Latin America. In Mexico, output growth slowed to about 2 percent in the first quarter, in line with the step-down in the pace of activity in the United States that began toward the end of last year. In other Latin American countries, notably Brazil and Venezuela, growth also moderated.

Higher prices for food and energy have continued to exert upward pressures on inflation across emerging market economies. In China, headline inflation has risen, reaching roughly 8 percent in recent months. In response to the inflationary pressures, the Chinese authorities have allowed the renminbi to appreciate at a more rapid pace, and the People’s Bank of China has further tightened monetary policy. The Bank has raised the required reserve ratio five times this year by a total of 300 basis points, to 17½ percent. Elsewhere in emerging market economies, 12-month headline inflation in a number of countries continued to rise in recent months, thereby prompting many central banks to tighten monetary policy. In some cases, governments also instituted export restrictions or reduced import duties for some food products. The rising cost of energy subsidies has led governments in China, India, Malaysia, Indonesia, and Taiwan to raise administered gasoline prices roughly 10 percent to 40 percent in recent months.

Part 3
Monetary Policy over the First Half of 2008

After easing the stance of monetary policy 100 basis points over the second half of 2007, the Federal Open Market Committee (FOMC) lowered the target federal funds rate 225 basis points further in the first half of 2008.[11] The Federal Reserve also took a number of additional actions to increase liquidity and to improve the functioning of financial markets.

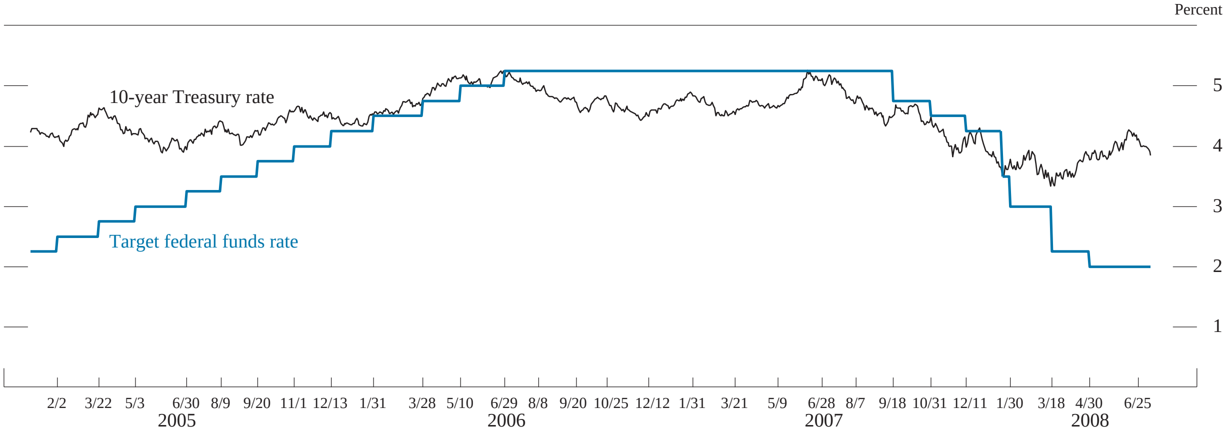
In a conference call on January 9, the Committee reviewed recent economic data and financial market developments. The information, which included weaker-than-expected data on home sales and employment for December as well as a sharp decline in equity prices since the beginning of the year, suggested that the downside risks to growth had increased significantly since the time of the December FOMC meeting. Participants cited concerns that the slowing of economic growth could lead to a further tightening of financial conditions, which in turn could reinforce the economic slowdown. However, core inflation had edged up in recent months, and considerable uncertainty surrounded the inflation outlook. On balance, participants were generally of the view that substantial additional policy easing might well be necessary to support economic activity and reduce the downside risks to growth, and they discussed the possible timing of such actions.

On January 21, the Committee held another conference call. Strains in some financial markets had intensified, and incoming evidence had reinforced the view that the outlook for economic activity was weak. Participants observed that investors apparently were becoming increasingly concerned about the economic outlook and downside risks to activity and that these developments could lead to an excessive pullback in credit availability. In light of these developments, all members judged that a substantial easing in policy was appropriate to foster moderate economic growth and reduce the downside risks to economic activity. The Committee decided to lower the target for the federal funds rate 75 basis points, to 3½ percent, and judged that appreciable downside risks to growth remained. Although inflation was expected to edge lower over the course of 2008, participants underscored their view that this assessment was conditioned upon inflation expectations remaining well anchored and stressed that the inflation situation should continue to be monitored carefully.

The data reviewed at the regularly scheduled FOMC meeting on January 29 and 30 confirmed a sharp decel-

11. *Members* of the FOMC in 2008 consist of members of the Board of Governors of the Federal Reserve System plus the presidents of the Federal Reserve Banks of Cleveland, Dallas, Minneapolis, New York, and Philadelphia. *Participants* at FOMC meetings consist of members of the Board of Governors and all Reserve Bank presidents.

Selected interest rates, 2005–08



Note: The data are daily and extend through July 9, 2008. 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.

eration in economic growth during the fourth quarter of 2007 and a continued tightening of financial conditions. With the contraction in the housing sector intensifying and a range of financial markets remaining under pressure, economic growth was expected to stay soft in the first half of 2008 before picking up strength in the second half. However, the ongoing weaknesses in home sales and house prices, as well as the tightening of credit conditions for households and businesses, were seen as posing downside risks to the near-term outlook for economic growth. Moreover, the potential for adverse feedback between the financial markets and the economy was a significant risk. Participants expressed some concern about the disappointing inflation data received over the latter part of 2007. Although many expected that a leveling-out of prices for energy and other commodities, such as that embedded in futures markets, and a period of below-trend growth would contribute to some moderation in inflation pressures over time, the Committee believed that it remained necessary to monitor inflation developments carefully. Against that backdrop, the FOMC decided to lower the target for the federal funds rate 50 basis points, to 3 percent. The Committee believed that this policy action, combined with those taken earlier, would help promote moderate growth over time and mitigate the risks to economic activity. However, members judged that downside risks to growth remained.

In a conference call on March 10, the Committee reviewed financial market developments and considered proposals aimed at supporting the liquidity and orderly functioning of those markets. In light of the sharp deterioration of some key money and credit markets, the Committee approved the establishment of the Term Securities Lending Facility, under which primary dealers would be able to borrow Treasury securities from the System Open Market Account for a term of approximately one month against any collateral eligible for open market operations and the highest-quality private residential mortgage-backed securities (MBS).[12] The new facility was designed to alleviate pressures in the financing markets for securities. In addition, the Committee agreed to expand the existing reciprocal currency agreements with the European Central Bank and the Swiss National Bank to $30 billion and $6 billion, respectively, and to extend the terms of these agreements through September 2008. Over the next few days, financial market strains intensified further. On March 16, the Federal Reserve announced emergency measures to bolster liquidity and promote orderly functioning in financial markets, including the approval of the financing arrangement associated with the acquisition of The Bear Stearns Companies, Inc., by JPMorgan Chase & Co. and the establishment of the Primary Dealer Credit Facility to improve the ability of primary dealers to provide financing to participants in securitization markets. In addition, the primary credit rate was lowered 25 basis points, and the maximum term of primary credit loans was extended to 90 days.

When the Committee met on March 18, financial markets continued to be under great stress, particularly the markets for short-term collateralized and uncollateralized funding. Spreads on interbank loans and lower-rated commercial paper had widened over the intermeeting period, and obtaining credit through repurchase agreements backed by agency and private-label MBS had become more difficult amid reports of increased margin, or "haircuts," being required by lenders. Yields on Treasury bills and repurchase agreements backed by Treasury securities had plummeted, reflecting investors' heightened demand for the safest assets.

Participants at the March 18 FOMC meeting noted that prospects for both economic activity and near-term inflation had deteriorated since January, and many thought that some contraction in economic activity in the first half of 2008 was likely. Although the economy was expected to recover in the second half and to grow further in 2009, considerable uncertainty surrounded this forecast. Some participants expressed concern that falling house prices and financial market stress might lead to a more severe and protracted downturn than anticipated. Recent readings on inflation had been elevated, and some indicators of inflation expectations had risen. However, a flattening-out of prices for oil and other commodities—as implied by futures prices—and the projected easing of pressures on resources were expected to contribute to some moderation in inflation. All in all, most members judged that a 75 basis point reduction in the target federal funds rate, to 2¼ percent, was appropriate to address the combination of risks of slowing economic growth, inflationary pressures, and financial market disruptions. In its statement, the Committee highlighted the further weakening in the outlook for economic activity, but it also emphasized the importance of monitoring inflation developments carefully.

The data reviewed at the meeting on April 29 and 30 indicated that economic growth had been weak in the first three months of 2008 and that core consumer price inflation had slowed, but that overall inflation had remained elevated. FOMC participants indicated that these developments had been broadly consistent with their expectations. Conditions across a number of financial markets were judged to have improved since the

12. By notation vote completed on March 20, AAA-rated commercial MBS were added to the list of acceptable collateral.

March meeting, but financial markets remained under considerable stress. Although the likelihood that economic activity would be severely disrupted by a sharp deterioration in financial markets had apparently receded, most participants thought that the risks to economic growth were still skewed to the downside. All participants expressed concern about upside risks to inflation posed by rising commodity prices and the depreciation of the dollar, but some participants noted that the downside risks to economic activity also implied that there were downside risks to price pressures as well. Participants expressed significant uncertainty concerning the appropriate stance of monetary policy in these circumstances. Some participants noted that the level of the federal funds target, especially when compared with the current rate of inflation, was relatively low by historical standards. Others noted that financial market strains and elevated risk spreads had offset much of the effects of policy easing on the cost of credit to borrowers. On balance, most members agreed that the target for the federal funds rate should be lowered 25 basis points, to 2 percent. The Committee expected that the policy easing would help to foster moderate growth over time without impeding a moderation in inflation. The Committee agreed that, in light of the substantial policy easing to date and the ongoing measures to foster financial market liquidity, the risks to growth were now more closely balanced by the risks to inflation.

In view of persisting strains in funding markets, the FOMC also approved proposals to expand the liquidity arrangements that had been put in place in previous months. The reciprocal currency agreements with the European Central Bank and Swiss National Bank were increased to $50 billion and $12 billion, respectively, and both were extended through January 2009. The collateral accepted by the Term Securities Lending Facility was expanded to include all AAA-rated asset-backed securities. In addition, Chairman Bernanke announced his intention to expand the Term Auction Facility to $150 billion under authority previously delegated by the Board of Governors.

At the time of the meeting held June 24 and 25, the available indicators suggested that economic activity in the first half of the year had not been as weak as had been expected in April. Nevertheless, several factors were viewed as likely to restrain activity in the near term, including the contraction in the housing sector, sharply higher energy prices, and continued tight credit conditions. Although financial market conditions generally appeared to have improved modestly since the April meeting, participants noted that the potential for adverse financial market developments still posed significant downside risks to economic activity. The further large increase in energy prices also prompted an upward revision of projections for overall inflation in the second half of 2008. Most participants expected that a leveling-out of energy prices and continued slack in resource utilization would lead inflation to moderate in 2009 and 2010, but the persistent tendency in recent years for commodity prices to exceed the trajectory implied by futures market prices engendered considerable uncertainty around the projected moderation of inflation. Members generally agreed that the downside risks to growth had eased somewhat since the previous FOMC meeting while the upside risks to inflation had intensified. Against this backdrop, most members judged that maintaining the current stance of policy at this meeting represented an appropriate balancing of the risks to the economic outlook. Nonetheless, policymakers recognized that circumstances could change quickly and noted that they might need to respond promptly to incoming information about the evolution of risks.

Part 4
Summary of Economic Projections

The following material appears as an addendum to the minutes of the June 24–25, 2008, meeting of the Federal Open Market Committee.

In conjunction with the June 2008 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, provided projections for economic growth, unemployment, and inflation in 2008, 2009, and 2010. Projections were based on information available through the conclusion of the June meeting, on each participant's assumptions regarding a range of factors likely to affect economic outcomes, and on his or her assessment of appropriate monetary policy. "Appropriate monetary policy" is defined as the future policy that, based on current information, is deemed most likely to foster outcomes for economic activity and inflation that best satisfy the participant's interpretation of the Federal Reserve's dual objectives of maximum employment and price stability.

FOMC participants generally expected that, over the remainder of this year, output would expand at a pace appreciably below its trend rate, owing primarily to continued weakness in housing markets, the substantial rise in energy prices in recent months, and the reduction in the availability of household and business credit resulting from continued strains in financial markets. As indicated in table 1 and figure 1, output growth further ahead was projected to pick up sufficiently to begin to reverse some of the increase in the unemployment rate by 2010. In light of the recent surge in the prices of oil and agricultural commodities, total inflation was expected to rise further in coming months and to be elevated for 2008 as a whole. However, many participants expected that persistent economic slack and a flattening out of energy and other commodity prices in line with futures market prices would cause overall inflation to decline noticeably in 2009 and 2010. Most participants judged that greater-than-normal uncertainty surrounded their projections for both output growth and inflation. A significant majority of participants viewed the risks to their forecasts for output growth as weighted to the downside, and a similar number saw the risks to the inflation outlook as skewed to the upside.

Table 1. Economic projections of Federal Reserve Governors and Reserve Bank presidents, June 2008

Percent

Variable	2008	2009	2010
	Central tendency[1]		
Change in real GDP	1.0 to 1.6	2.0 to 2.8	2.5 to 3.0
April projection	0.3 to 1.2	2.0 to 2.8	2.6 to 3.1
Unemployment rate	5.5 to 5.7	5.3 to 5.8	5.0 to 5.6
April projection	5.5 to 5.7	5.2 to 5.7	4.9 to 5.5
PCE inflation	3.8 to 4.2	2.0 to 2.3	1.8 to 2.0
April projection	3.1 to 3.4	1.9 to 2.3	1.8 to 2.0
Core PCE inflation	2.2 to 2.4	2.0 to 2.2	1.8 to 2.0
April projection	2.2 to 2.4	1.9 to 2.1	1.7 to 1.9
	Range[2]		
Change in real GDP	0.9 to 1.8	1.9 to 3.0	2.0 to 3.5
April projection	0.0 to 1.5	1.8 to 3.0	2.0 to 3.4
Unemployment rate	5.5 to 5.8	5.2 to 6.1	5.0 to 5.8
April projection	5.3 to 6.0	5.2 to 6.3	4.8 to 5.9
PCE inflation	3.4 to 4.6	1.7 to 3.0	1.6 to 2.1
April projection	2.8 to 3.8	1.7 to 3.0	1.5 to 2.0
Core PCE inflation	2.0 to 2.5	1.8 to 2.3	1.5 to 2.0
April projection	1.9 to 2.5	1.7 to 2.2	1.3 to 2.0

Note: Projections of change in real gross domestic product (GDP) and of inflation are from the fourth quarter of the previous year to the fourth quarter of the year indicated. PCE inflation and core PCE inflation are the percentage rates of change in, respectively, the price index for personal consumption expenditures (PCE) and the price index for PCE excluding food and energy. Projections for the unemployment rate are for the average civilian unemployment rate in the fourth quarter of the year indicated. Each participant's projections are based on his or her assessment of appropriate monetary policy.

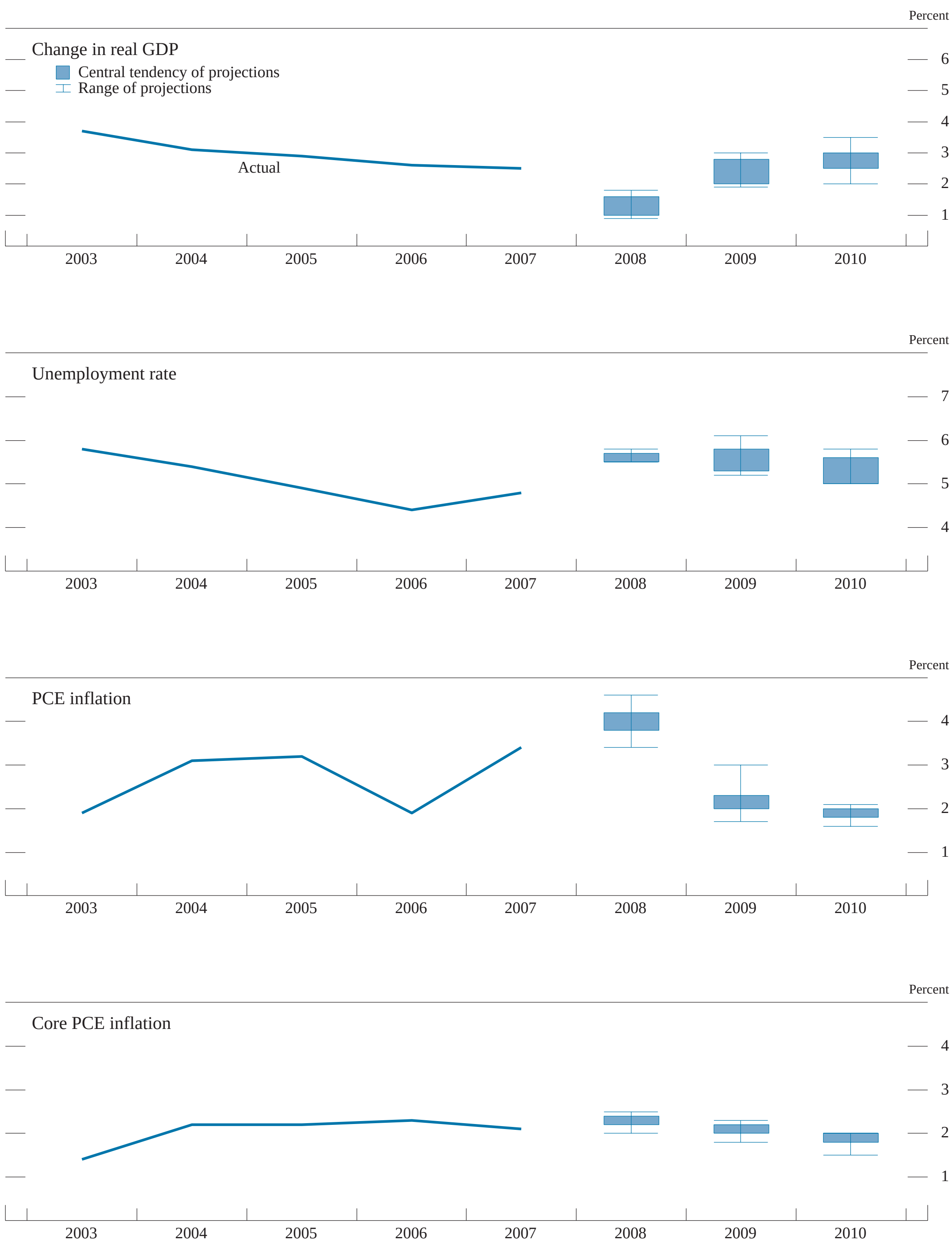
1. The central tendency excludes the three highest and three lowest projections for each variable in each year.

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

The Outlook

The central tendency of participants' projections for real GDP growth in 2008, at 1.0 percent to 1.6 percent, was noticeably higher than the central tendency of the projections provided in conjunction with the April FOMC meeting, which was 0.3 percent to 1.2 percent. The upward revision to the 2008 outlook stemmed primarily from better-than-expected data on consumer and business spending received between the April and June FOMC meetings. Nonetheless, several participants noted that the recent firmness in consumer spending could well prove transitory and that the ongoing housing market correction, tight credit conditions, and elevated energy prices would damp domestic demand in the second half of this year. Still, the substantial eas-

Figure 1. Central tendencies and ranges of economic projections, 2008–10



Note: Definitions of variables are in the notes to table 1. The data for the actual values of the variables are annual.

ing of monetary policy since last year and the continued strength in exports should help to support economic growth; in addition, strains had eased somewhat in some financial markets since April. Real GDP growth was expected to increase in 2009 as the adjustment in the housing sector ran its course, financial markets gradually resumed more-normal functioning, and the downward pressure on real incomes stemming from increases in energy and food prices in the first half of 2008 began to fade. In 2010, economic activity was projected to expand at or a little above participants' estimates of the rate of trend growth.

With output growth continuing to run below trend in the second half of 2008, most participants expected that the unemployment rate would move up somewhat over the remainder of this year. The central tendency of participants' projections for the average rate of unemployment in the fourth quarter of 2008 was 5.5 percent to 5.7 percent, unchanged from the central tendency of projections that were provided in conjunction with the April FOMC meeting and consistent with some slack in resource utilization. The central tendency of participants' projections was for the unemployment rate to stabilize in 2009 and to edge down in 2010 as output and employment growth pick up.

The surge in the prices of oil and agricultural commodities since April led participants to revise up noticeably their projections for total inflation in the near term. However, the central tendency of participants' projections for core PCE inflation in 2008 was 2.2 percent to 2.4 percent, unchanged from the central tendency in April, as lower-than-expected rates of core inflation over recent months offset the expectations of some pass-through of the recent surge in energy prices into core inflation over the next few months. Rates of both overall and core inflation were expected to decline over the next two years, reflecting a flattening out of the prices of oil and other commodities consistent with futures market prices, slack in resource utilization, and longer-term inflation expectations that were expected to remain generally well anchored.

The contour of participants' projections for output growth, unemployment, and inflation was importantly shaped by their judgments about the measured rates of inflation consistent with the Federal Reserve's dual mandate to promote maximum employment and price stability and about the time horizon over which policy should aim to attain those rates given current economic conditions. Most participants judged that it might take a substantial period of time for output and inflation to recover from the recent shocks, which had elevated inflation and damped economic activity. A number of participants projected that the rate of unemployment might remain slightly above its longer-run sustainable level even in 2010; total inflation in 2010 was also judged likely to continue to run a bit above levels that most participants saw as consistent with the price stability objective of the Federal Reserve's dual mandate. Most participants saw further declines in both unemployment and inflation as likely in the period beyond the forecast horizon. (See table 1 on page 39 and figure 1 on page 40).

Risks to the Outlook

Most participants viewed the risks to their projections for GDP growth as weighted to the downside and the associated risks to their projections for the unemployment rate as tilted to the upside. The possibility that house prices could decline more steeply than anticipated, further reducing households' wealth, restricting their access to credit, and eroding the capital of lending institutions, continued to be perceived as a significant downside risk to the outlook for economic growth. Although financial markets had shown some further improvement since April, conditions in those markets remained strained; a number of participants also pointed to the risk that further improvement could be quite slow and subject to relapse. The potential for current tight credit conditions to exert an unexpectedly large restraint on household and business spending was also viewed as a significant downside risk to economic activity. An adverse feedback loop, in which weaker economic activity led to a further worsening of financial conditions, which in turn could damp economic growth even further, continued to be viewed as a worrisome possibility, though less so than in April. Indeed, some participants pointed to the apparent resilience of the U.S. economy in the face of recent financial distress and suggested that the adverse effects of financial developments on economic activity outside of the housing sector could prove to be more modest than anticipated.

Most participants viewed the risks to their inflation projections as weighted to the upside. Recent sharp increases in energy and food prices and the pass-through of dollar depreciation into import prices could boost inflation in the near term by more than currently anticipated. Although participants generally assumed that commodity prices will flatten out, roughly in line with the trajectory implied by futures prices, the fact that futures markets had persistently underpredicted commodity prices in recent experience was viewed as an upside risk to the outlook for inflation. Participants also saw a risk that inflation expectations could become less firmly anchored, particularly if the current elevated rates of headline inflation did not moderate as quickly as they expected.

Participants continued to view uncertainty about the outlook for economic activity as higher than normal, with a number pointing to uncertainty about the duration and effects of the ongoing financial strains on real activity. In addition, participants expressed noticeably more uncertainty about their inflation projections than they had in January and April, a shift in perception that they attributed importantly to increased uncertainty about the future course of energy and food prices and to greater uncertainty about the extent of pass-through of changes in those prices into core inflation. (Table 2 provides estimates of forecast uncertainty for real GDP growth, unemployment, and inflation since 1987.[13])

Table 2. Average historical projection error ranges

Percentage points

Variable	2008	2009	2010
Change in real GDP[1]	±0.9	±1.3	±1.4
Unemployment rate[1]	±0.3	±0.7	±1.0
Total consumer prices[2]	±0.6	±1.0	±1.0

Note: Error ranges shown are measured as plus or minus the root mean squared error of projections that were released in the summer from 1987 through 2007 for the current and following two years by various private and government forecasters. As described in the box "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 (Board of Governors of the Federal Reserve System, November).

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

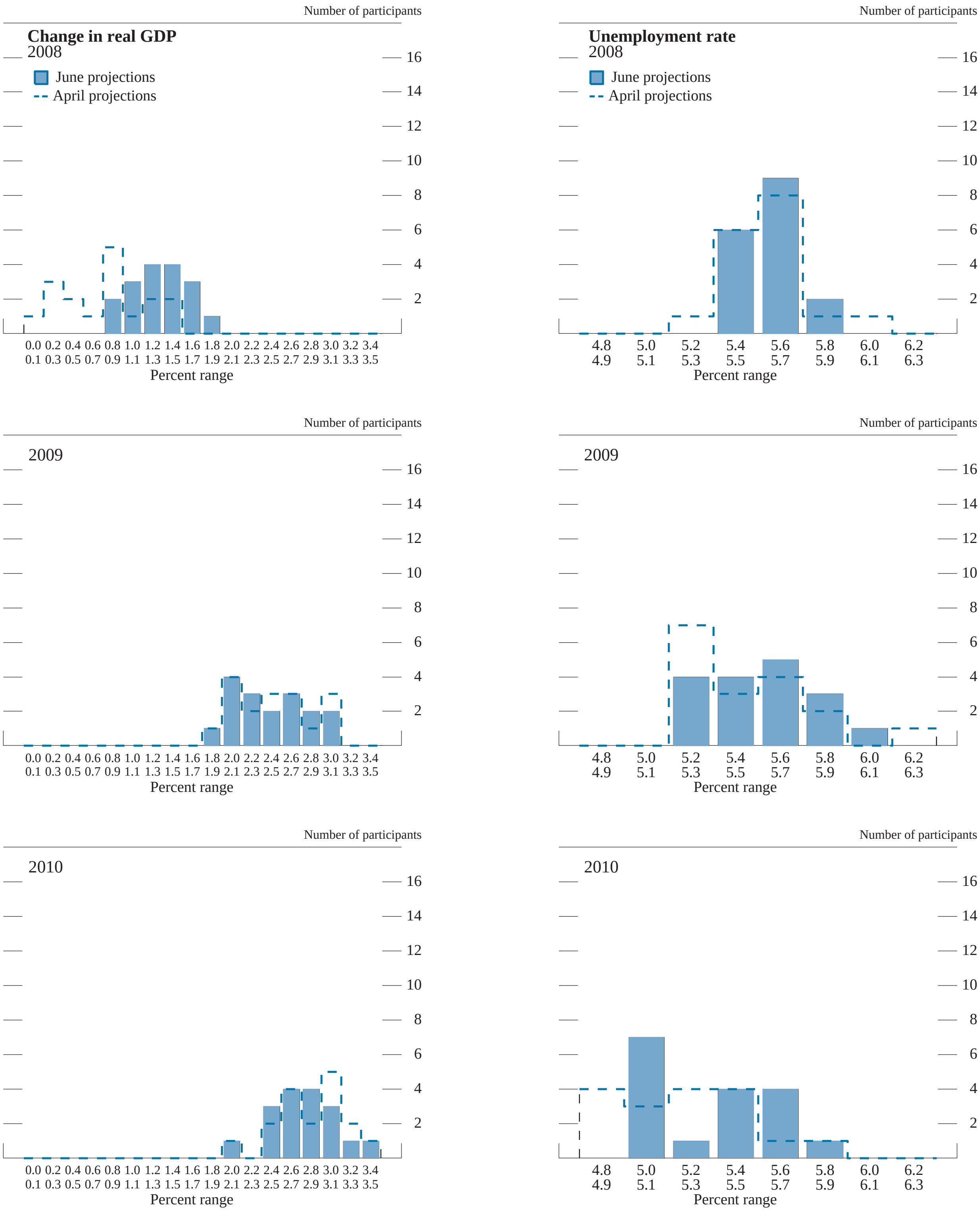
2. Measure is the overall consumer price index, the price measure that has been most widely used in government and private economic forecasts. Projection is percent change, fourth quarter of the previous year to the fourth quarter of the year indicated.

Diversity of Participants' Views

Figures 2.A and 2.B provide more detail on the diversity of participants' views regarding likely economic outcomes over the projection period. The dispersion of participants' projections for real GDP growth in 2008 was noticeably narrower than in the forecasts provided in April, reflecting primarily the accumulation of data about the actual performance of the economy in the first half of the year; their views about output growth in coming quarters and in 2009 continued to exhibit appreciable dispersion. The dispersion of participants' projections for real activity next year seemed largely to reflect differing assessments of the effects of adverse financial market conditions on economic growth, the speed with which credit conditions might improve, and the depth and duration of the correction in the housing market. Indeed, views differed notably on the pace at which output and employment would recover in 2009, with some participants expressing a concern that growth might be constrained by the persistence of financial strains over a considerable period. The dispersion of participants' longer-term projections was also affected to some degree by differences in their judgments about the economy's trend growth rate and the unemployment rate that would be consistent over time with maximum employment. The dispersion of the projections for PCE inflation in the near term reflected in large part differing views on the extent to which recent increases in energy and food prices would pass through into higher consumer prices. In addition, participants held differing views on the degree to which inflation expectations were anchored and the role that expectations might play in the inflation process over the short and medium term. Participants' inflation projections further ahead were shaped by the views of the rate of inflation consistent with the Federal Reserve's dual objectives and the time it would take to achieve these goals given current economic conditions and appropriate policy.

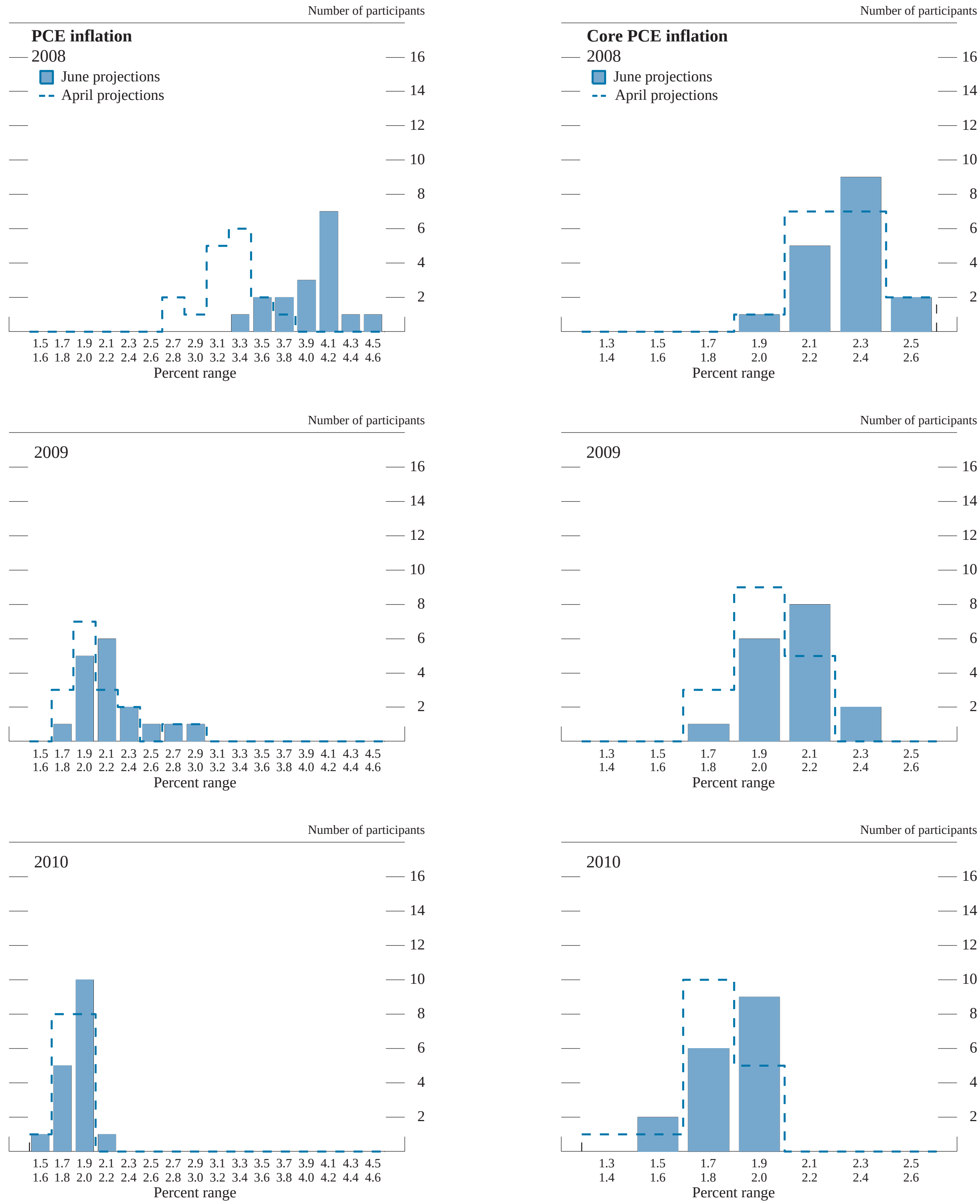
13. The box "Forecast Uncertainty" at the end of this summary discusses the sources and interpretation of uncertainty in economic forecasts and explains the approach used to assess the uncertainty and risks attending participants' projections.

Figure 2.A. Distribution of participants' projections for the change in real GDP and for the unemployment rate, 2008–10



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

Figure 2.B. Distribution of participants' projections for PCE inflation and for core PCE inflation, 2008–10



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 (see page 42) 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 2.1 percent to 3.9 percent in the current year, 1.7 percent to 4.3 percent in the second year, and 1.6 percent to 4.4 percent in the third year. The corresponding 70 percent confidence intervals for overall inflation would be 1.4 percent to 2.6 percent in the current year and 1.0 percent 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, 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.